MATLOCK BEND LANDFILL – PHASE I & PHASE II/IV UPGRADE
GROUNDWATER MONITORING REPORT
1st SEMI-ANNUAL EVENT - 2014

SANTEK PROJECT NO. 200-1410.1 & 200-1410.2

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

MAY 2014

SANTEK
WasteServices
650 25th Street, N.W., Suite 100
Cleveland, Tennessee 37311
(423) 303-7101
Email: mail@santekenviro.com
Internet: www.santekenviro.com

May 19, 2014

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

RE: Groundwater Monitoring Report – 1st Semi-Annual Event
Matlock Bend Landfill – Phase I
SNL #53-103-0203

Dear Mr. Miller:

Please find enclosed a copy of the groundwater monitoring report generated from the first semi-annual groundwater event of 2014 at the Matlock Bend Landfill – Phase I. 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,

Will Martin
Environmental Compliance Coordinator

Ron E. Vail, P.E.
V.P. of Engineering
TN. Registration No. 109716

Enclosures

cc: Steve Field, Loudon County Solid Waste Department Chairman
Robert D. Burnette., Executive V.P. of Engineering, Santek
Matt Dillard, Executive V.P. of Operations, Santek
Levi Higdon, Landfill Manager, Santek

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Leachate

MATLOCK BEND LANDFILL

PHASE I

MATLOCK BEND LANDFILL – PHASE I
GROUNDWATER MONITORING REPORT
1st SEMI-ANNUAL EVENT - 2014

SANTEK PROJECT NO. 200-1410.1

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

MAY 2014

1.0 INTRODUCTION

In accordance with the Tennessee Department of Environment and Conservation's Solid Waste Processing and Disposal Rule 1200-1-7-.04(7), Santek Environmental (Santek) is submitting the groundwater monitoring report for the first semi-annual event for 2014 at the Matlock Bend Landfill - Phase I. 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 MW-01, MW-1A, MW-02 and MW-03. Sampling and statistical analyses were performed by Santek. Santek contracted with Analytical Environmental Services, Inc. (AES) to perform all analytical testing.

1.1 SITE INFORMATION

Phase I of the Matlock Bend Landfill is located approximately five miles west of Loudon, TN, at latitude N 35° 44' 48" and longitude 84° 24' 43". The site consists of 23 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 on March 24 & 25, 2014. Samples were analyzed for Appendix I constituents, as well as the required additional 14 parameters. All samples were submitted to AES for analysis. A duplicate was obtained from MW-02. Field sampling logs are provided in Appendix A. Analytical results are provided in Appendix B. Data pertaining to leachate monitoring is provided in the appendix labeled Leachate.

3.0 STATISTICAL ANALYSIS

3.1 Statistical Analysis Method

Santek is submitting a control chart approach to satisfy the statistical analysis requirement. Well #03 is the upgradient (background) well. Wells #01, #1A and #02 are the downgradient (compliance) wells. The 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 Appendix I limits from pages .01-17, 18 of the regulations are used for additional comparison to indicate potentially elevated concentrations. 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
There were no inorganic or organic constituents detected above the report limits during this event.

MW-02
The control chart for MW-02 indicates zinc* is above the report limit and the background wells average. However, it is felt that the result of this constituent is not indicative of a release from the landfill, but rather attributable to local soil constituents.

MW-03
MW-03 is the upgradient (background) well.

4.0 FLOW DIRECTION AND RATES

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.

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 1.97×10^{-3} ft/day at MW-03 to 4.01×10^{-3} ft/day at MW-02. Groundwater flow rate and direction have been determined for each well and are included in Appendix D. A groundwater potentiometric contour map 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.

**Indicates Appendix I limit is not available.*

APPENDIX A

DATE: 3/24/14

FIELD SAMPLING LOG	WELL NO: MW-01
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/24/14 (Time) 2:27	Purge End: (Date) 3/24/14 (Time) 2:57
Purged by: Robert	
Depth Measurement Ref. Point* 830.87 ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: 45.00 (-)Orig. DTW: 7.80 (=) Wtr. Col. Thick: 37.20 .

(x) 2"=0.16 4"=0.65 6"=1.47 Gals./ft. (=) 6.0 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 18.0 Total Purge Gals.

GW elev. Ref. 830.87 ft.(-) DTW 7.80 ft. = 823.07 ft.

Purge/Sample Method: ☐ Pump (indicate type) _____.
☒ Bailer (indicate type) Poly/Disposable .

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: _____gpm
Weather: Sunny (50's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
2:28		-			14.87	-	0.235	4.2		Clear
2:37		6.0			14.46	-	0.532	254		Cloudy
2:46		12.0			15.02	-	0.539	146		Cloudy
2:57		18.0			15.24	-	0.532	>1000		Muddy

Average Linear velocity $v = \frac{Ki}{n}$ Where

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

v=[K_____ft/min. (x) GW elev._____ft. (-) GW elev. _____ft] -_____ .18 Clay/Silt
distance_____ft . 20 Silt w/sand
v=_____ft./min. = _____ft day .25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 0.0 NTU's. VOC's taken on 3/24/14 @ 2:58 p.m. Metals taken on 3/25/14 @ 12:30 p.m. pH meter malfunctioned while sampling this well. Allowed well to settle overnight.

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

DATE: 3/24/14

FIELD SAMPLING LOG	WELL NO: MW-1A
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/24/14 (Time) 3:28	Purge End: (Date) 3/24/14 (Time) 3:52
Purged by: Robert	
Depth Measurement Ref. Point* 805.13 ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: 38.00 (-)Orig. DTW: 13.80 (=) Wtr. Col. Thick: 24.20 .

(x) 2"=0.16 4"=0.65 6"=1.47 Gals./ft. (=) 3.9 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 11.7 Total Purge Gals.

GW elev. Ref. 805.13 ft.(-) DTW 13.80 ft. = 791.33 ft.

Purge/Sample Method: ☐ Pump (indicate type) _____.
☒ Bailer (indicate type) Poly/Disposable .

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: _____gpm
Weather: Sunny (50's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
3:30		-			15.06	-	0.652	0.0		Clear
3:36		4.0			15.58	-	0.538	68.5		Cloudy
3:42		8.0			15.09	-	0.719	180		Cloudy
3:46		10.0			14.80	-	0.739	217		Cloudy
3:52		12.0			14.70	-	0.742	238		Cloudy

Average Linear velocity $v = \frac{Ki}{n}$ Where

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

v=[K_____ft/min. (x) GW elev._____ft. (-) GW elev. _____ft] -_____ .18 Clay/Silt
distance_____ft . 20 Silt w/sand
v=_____ft./min. = _____ft day .25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 1.1 NTU's. VOC's taken on 3/24/14 @ 3:53 p.m. Metals taken on 3/25/14 @ 12:40 p.m. pH meter malfunctioned while sampling this well. Allowed well to settle overnight.

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

DATE: 3/25/14

FIELD SAMPLING LOG	WELL NO: MW-02
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/25/14 (Time) 9:13	Purge End: (Date) 3/25/14 (Time) 9:30
Purged by: Robert	
Depth Measurement Ref. Point* 825.20 ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: 43.10 (-)Orig. DTW: 11.72 (=) Wtr. Col. Thick: 31.38 .
11.80 (Water level on 3/24/14)

(x) 2"=0.16 4"=0.65 6"=1.47 Gals./ft. (=) 5.0 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 15.0 Total Purge Gals.

GW elev. Ref. 825.20 ft.(-) DTW 11.80 ft. = 813.40 ft.

Purge/Sample Method: ☐ Pump (indicate type) _____.
☒ Bailer (indicate type) Poly/Disposable .

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: _____gpm
Weather: Sunny (30's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
9:15		-			13.93	-	0.051	0.0		Clear
9:22		5.0			13.14	-	0.050	20.6		Clear
9:30		9.3			13.57	-	0.067	342		Murky, *purged dry

Average Linear velocity $v = \frac{Ki}{n}$ Where

*Purged dry at 9.3 gallons.

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

v=[K_____ft/min. (x) GW elev._____ft. (-) GW elev. _____ft] -_____
distance_____ft

v=_____ft./min. = _____ft day

.18 Clay/Silt
. 20 Silt w/sand
.25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 0.6 NTU's. VOC's taken on 3/25/14 @ 9:40 a.m. Metals taken on 3/25/14 @ 12:55 p.m. pH meter malfunctioned while sampling this well. Water level taken on 3/24/14. *Duplicate pulled here.

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

DATE: 3/25/14

FIELD SAMPLING LOG	WELL NO: MW-03
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/25/14 (Time) 10:22	Purge End: (Date) 3/25/14 (Time) 10:36
Purged by: Robert	
Depth Measurement Ref. Point* 867.86 ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: 41.60 (-)Orig. DTW: 13.39 (=) Wtr. Col. Thick: 28.21 .
13.55 (water level on 3/24/14)

(x) 2"=0.16 4"=0.65 6"=1.47 Gals./ft. (=) 4.5 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 13.5 Total Purge Gals.

GW elev. Ref. 867.86 ft.(-) DTW 13.55 ft. = 854.31 ft.

Purge/Sample Method: ☐ Pump (indicate type) .
☒ Bailer (indicate type) Poly/Disposable .

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: gpm
Weather: Cloudy (30's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
10:24		-			11.10	-	0.087	0.0		Clear
10:30		4.5			12.10	-	0.066	49.3		Clear
10:36		7.5			12.26	-	0.055	102		Cloudy, *purged dry

Average Linear velocity $v = \frac{Ki}{n}$ Where

*Purged dry at 7.5 gallons.

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

v=[K ft/min. (x) GW elev. ft. (-) GW elev. ft] - .18 Clay/Silt
distance ft . 20 Silt w/sand
v= ft./min. = ft day .25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 2.2 NTU's. VOC's taken on 3/25/14 @ 10:45 a.m. Metals taken on 3/25/14 @ 1:12 p.m. pH meter malfunctioned while sampling this well. Water level taken on 3/24/14.

*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.

April 15, 2014

Will Martin
Santek Environmental Inc.
650 25th Street NW, Suite 100
Cleveland TN 37311

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

RE: Loudon Co. (Matlock Bend LF) 1st Semi-Annual

Dear Will Martin: Order No: 1403M73

Analytical Environmental Services, Inc. received 6 samples on 3/26/2014 10:10:00 AM 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' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

CKKanhai

Chantelle Kanhai
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

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

CHAIN OF CUSTODY

Work Order: 140 3177 3

Date: 3/25/14 Page 1 of 1

COMPANY: SanTek Waste Services, Inc.

ADDRESS: 650 25th Street NW, Suite 100, Cleveland, TN 37311

PHONE: (423) 303-7101

FAX: (423) 479-1952

SAMPLED BY: R. Hudson

SIGNATURE: Robert Hudson

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	App. I Metals	Total Mercury	Inorganic Anions	App. I VOCs	Micro-Ext. VOCs	TDS	Total Metals by TCP/MS	Dissolved Metals by ICP/MS	Nitrogen, Ammonia	COD	TOC	Cyanide	REMARKS	No # of Containers
	PRESERVATION (See codes)																			
1	MW-02	3/25/14	9:40	X		GW			X	X	X	X		X	X	X	X	X		8
2	↳	3/25/14	12:55	X		GW	X	X					X							1
3	Leachate	3/25/14	1:30	X		O	X	X	X	X	X	X	X	X	X	X	X	X	Leachate	9
4	Duplicate	3/25/14		X		GW	X	X	X	X	X	X	X	X	X	X	X	X		9
5	MW-03	3/25/14	10:45	X		GW			X	X	X	X		X	X	X	X	X		8
6	↳	3/25/14	1:12	X		GW	X	X					X							1
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: Robert Hudson	3/25/14 4pm	1: Tam B	3/26/14 10.10
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Loudon Co. (Mattock Bend LF) 1st Semi-

PROJECT #: Annual GW Event 2014

SITE ADDRESS:

SEND REPORT TO: Will Martin

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

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):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: See Chantelle K. & Project History

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT (FedEx) UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION 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) WW = Waste Water

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 Co. (Matlock Bend LF) 1st Semi-Annual
Lab ID: 1403M73

Case Narrative

Sample Receiving Nonconformance:

Sample "LEACHATE" as received for Metals, Mercury, COD, TOC, Ammonia and Cyanide did not meet method specified pH range for the requested test methods. No attempt to further adjust the pH was made due to sample matrix.

Ion Chromatography Analysis by Method 300:

Due to sample matrix, sample 1403M73-003 required a dilution during preparation and/or analysis resulting in elevated reporting limits.

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1403M73-003 required dilution during preparation and/or analysis resulting in elevated reporting limits.

Mercury Analysis by Method 7470A:

Due to sample matrix, sample 1403M73-003 required dilution during preparation resulting in elevated reporting limits.

Metals Analysis by Method 6020:

Due to sample matrix, sample 1403M73-003 required dilution during analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Santek Work Order Number 1403M73

Checklist completed by [signature] 8/26/14
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? (4°C±2)*	Yes ✓	No __	

Cooler #1 3-2 Cooler #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 JB

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.

\\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M73

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M73-001A	MW-02	3/25/2014 9:40:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/31/2014	03/31/2014
1403M73-001B	MW-02	3/25/2014 9:40:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/29/2014
1403M73-001C	MW-02	3/25/2014 9:40:00AM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-001D	MW-02	3/25/2014 9:40:00AM	Groundwater	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-001D	MW-02	3/25/2014 9:40:00AM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-001D	MW-02	3/25/2014 9:40:00AM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M73-001E	MW-02	3/25/2014 9:40:00AM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M73-001F	MW-02	3/25/2014 9:40:00AM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M73-001F	MW-02	3/25/2014 9:40:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014
1403M73-003A	LEACHATE	3/25/2014 1:30:00PM	Aqueous	APPENDIX I VOLATILE ORGANICS		03/31/2014	04/01/2014
1403M73-003B	LEACHATE	3/25/2014 1:30:00PM	Aqueous	MICRO-EXTRACTABLE VOCs		03/28/2014	03/29/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	TOTAL MERCURY		04/01/2014	04/01/2014
1403M73-003D	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-003E	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-003E	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-003E	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Total Organic Carbon by SM5310B			04/10/2014
1403M73-003F	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Cyanide		03/29/2014	03/29/2014
1403M73-003G	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Inorganic Anions by IC			03/26/2014
1403M73-003G	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Inorganic Anions by IC			03/27/2014
1403M73-003G	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-004A	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/31/2014	04/01/2014
1403M73-004B	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/29/2014

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M73

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014
1403M73-004D	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-004E	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-004E	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-004E	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M73-004F	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M73-004G	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M73-004G	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-005A	MW-03	3/25/2014 10:45:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/31/2014	04/01/2014
1403M73-005B	MW-03	3/25/2014 10:45:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M73-005C	MW-03	3/25/2014 10:45:00AM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-005D	MW-03	3/25/2014 10:45:00AM	Groundwater	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-005D	MW-03	3/25/2014 10:45:00AM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-005D	MW-03	3/25/2014 10:45:00AM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M73-005E	MW-03	3/25/2014 10:45:00AM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M73-005F	MW-03	3/25/2014 10:45:00AM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M73-005F	MW-03	3/25/2014 10:45:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

April 15, 2014

Will Martin
Santek Environmental Inc.
650 25th Street NW, Suite 100
Cleveland TN 37311

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

RE: Loudon Co. (Matlock Bend LF) 1st Semi-Annual

Dear Will Martin: Order No: 1403M97

Analytical Environmental Services, Inc. received 6 samples on 3/26/2014 10:10:00 AM 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' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

CKanhai

Chantelle Kanhai
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: ~~M 403M97~~ JB3176114

Date: 3/25/14 Page 1 of 1

COMPANY:	ADDRESS:
Santek Waste Services, Inc.	650 25th Street NW, Suite 100, Cleveland, TN 37311
PHONE: (423) 303-7101	FAX: (423) 479-1952
SAMPLED BY: R. Hudson	SIGNATURE: Robert Hudson

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	App. I Metals by ICP/MS	Total Mercury	Inorganic Anions by IC	App. I VOCs	Micro-Ext. Volatiles	TDS	Total Metals by ICP/MS	Dissolved Metals by ICP/MS	Nitrogen, Ammonia	COD	TOC	Cyanide	REMARKS	No. # of Containers
	PRESERVATION (See codes)																			
1	Equipment Blank	3/25/14	3:05	X		W	X	X	X	X	X	X	X	X	X	X	X	X		9
2	Trip Blank	3/25/14	3:00	X		W	X	X	X	X	X	X	X	X	X	X	X	X		9
3	MW-1A	3/24/14	3:53	X		GW	X	X	X	X	X	X	X	X	X	X	X	X	RMB	8
4	↳	3/25/14	12:40	X		GW	X	X					X							1
5	MW-01	3/24/14	2:58	X		GW			X	X	X	X		X	X	X	X	X		8
6	↳	3/25/14	12:30	X		GW	X	X					X							1
7	MW-04R	3/24/14	12:42	X		GW			X	X	X									5
8	↳	3/25/14	11:20	X		GW	X	X												1
9	MW-05	3/24/14	11:53	X		GW			X	X	X									5
10	↳	3/25/14	11:08	X		GW	X	X												1
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: Robert Hudson	3/25/14 4pm	1: [signature]	3/26/14 10:10
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Loudon Co. (Matlock Bend LF) 1st Semi
PROJECT #: Annual GW Event 2014
SITE ADDRESS:
SEND REPORT TO: Will Martin
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT

Total # of Containers

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):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:
See Chantelle K. and Project History

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

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION 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) WW = Waste Water

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

Analytical Environmental Services, Inc

Date: 15-Apr-14

Client:	Santek Environmental Inc.
Project:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab ID:	1403M97

Case Narrative

All of the samples listed on the Chain of Custody except for "MW-04R" and "MW-05" were analyzed in this work order.

Nitrate Analysis by Method 300:

Sample 1403M97-005 was extracted and analyzed outside holding time of 48 hours. The holding time was missed by the laboratory. The client was notified on 3/26/2014 via email

Ion Chromatography Analysis by Method 300:

Due to sample matrix, sample 1403M97-003 required a dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Santek Waste Services Work Order Number 1403M97

Checklist completed by JB 3/26/14
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? (4°C±2)* Yes ✓ No __

Cooler #1 3.2 Cooler #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 JB

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.

\\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M97

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M97-001A	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-001B	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	TOTAL MERCURY		04/01/2014	04/01/2014
1403M97-001D	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M97-001E	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Nitrogen, Ammonia (as N)		03/28/2014	03/31/2014
1403M97-001E	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-001E	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Total Organic Carbon by SM5310B			04/10/2014
1403M97-001F	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Cyanide		03/29/2014	03/29/2014
1403M97-001G	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Inorganic Anions by IC			03/26/2014
1403M97-001G	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-002A	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-002B	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	TOTAL MERCURY		04/01/2014	04/01/2014
1403M97-002D	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M97-002E	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Nitrogen, Ammonia (as N)		03/28/2014	03/31/2014
1403M97-002E	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-002E	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Total Organic Carbon by SM5310B			04/10/2014
1403M97-002F	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Cyanide		03/29/2014	03/29/2014
1403M97-002G	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Inorganic Anions by IC			03/26/2014
1403M97-002G	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-003A	MW-1A	3/24/2014 3:53:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-003B	MW-1A	3/24/2014 3:53:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-003C	MW-1A	3/24/2014 3:53:00PM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M97

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M97-003D	MW-1A	3/24/2014 3:53:00PM	Groundwater	Nitrogen, Ammonia (as N)		03/28/2014	03/31/2014
1403M97-003D	MW-1A	3/24/2014 3:53:00PM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-003D	MW-1A	3/24/2014 3:53:00PM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M97-003E	MW-1A	3/24/2014 3:53:00PM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M97-003F	MW-1A	3/24/2014 3:53:00PM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M97-003F	MW-1A	3/24/2014 3:53:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014
1403M97-005A	MW-01	3/24/2014 2:58:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-005B	MW-01	3/24/2014 2:58:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-005C	MW-01	3/24/2014 2:58:00PM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M97-005D	MW-01	3/24/2014 2:58:00PM	Groundwater	Nitrogen, Ammonia (as N)		04/01/2014	04/01/2014
1403M97-005D	MW-01	3/24/2014 2:58:00PM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-005D	MW-01	3/24/2014 2:58:00PM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M97-005E	MW-01	3/24/2014 2:58:00PM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M97-005F	MW-01	3/24/2014 2:58:00PM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M97-005F	MW-01	3/24/2014 2:58:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014

Analytical Environmental Services, Inc Date: 15-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 2:58:00 PM
Lab ID:	1403M97-005	**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	R265279	1	04/10/2014 14:23	GR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	348	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	189067	1	04/01/2014 18:19	ME
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.202		ug/L	188940	1	03/31/2014 12:20	SH
1,2-Dibromoethane	BRL	0.050		ug/L	188940	1	03/31/2014 12:20	SH
Surr: 4-Bromofluorobenzene	103	60-120		%REC	188940	1	03/31/2014 12:20	SH
Inorganic Anions by IC E300.0								
Chloride	20.2	5.00		mg/L	R264165	5	03/26/2014 21:53	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 16:36	GR
Nitrogen, Nitrate (As N)	BRL	10.0	H	mg/L	R264165	1	03/26/2014 16:36	GR
Sulfate	2.22	1.00		mg/L	R264165	1	03/26/2014 16:36	GR
Dissolved Metals by ICP/MS SW6020A				**(SW3005A)**				
Manganese	BRL	10.0		ug/L	189056	1	04/01/2014 17:38	MR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	55.5	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 22:23	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 22:23	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 22:23	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 22:23	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 22:23	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 2:58:00 PM
Lab ID:	1403M97-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 22:23	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 22:23	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 22:23	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 22:23	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 22:23	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 22:23	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 22:23	AR
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 22:23	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 22:23	AR
Surr: 4-Bromofluorobenzene	88.2	66.2-120		%REC	189053	1	03/28/2014 22:23	AR
Surr: Dibromofluoromethane	106	79.5-121		%REC	189053	1	03/28/2014 22:23	AR
Surr: Toluene-d8	99.2	77-117		%REC	189053	1	03/28/2014 22:23	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 12:30:00 PM
Lab ID:	1403M97-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020A				**(SW3005A)**				
Calcium	46700	100		ug/L	188891	1	04/01/2014 01:07	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 01:07	MR
Magnesium	26800	100		ug/L	188891	1	04/01/2014 01:07	MR
Potassium	2260	500		ug/L	188891	1	04/01/2014 01:07	MR
Sodium	7980	500		ug/L	188891	1	04/01/2014 01:07	MR
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 13:03	CG
APPENDIX I METALS SW6020A				**(SW3005A)**				
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 01:07	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 01:07	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 01:07	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 01:07	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 19:08	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 01:07	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 19:08	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 19:08	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 01:07	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 19:08	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 19:08	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 19:08	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 01:07	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 01:07	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 19:08	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 3:53:00 PM
Lab ID:	1403M97-003	**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	R265279	1	04/10/2014 14:05	GR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	416	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188927	1	03/31/2014 18:44	ME
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.206		ug/L	188940	1	03/31/2014 11:51	SH
1,2-Dibromoethane	BRL	0.052		ug/L	188940	1	03/31/2014 11:51	SH
Surr: 4-Bromofluorobenzene	105	60-120		%REC	188940	1	03/31/2014 11:51	SH
Inorganic Anions by IC E300.0								
Chloride	59.8	20.0		mg/L	R264165	20	03/26/2014 22:39	GR
Fluoride	BRL	20.0		mg/L	R264165	5	03/26/2014 15:34	GR
Nitrogen, Nitrate (As N)	BRL	50.0		mg/L	R264165	5	03/26/2014 15:34	GR
Sulfate	20.4	5.00		mg/L	R264165	5	03/26/2014 15:34	GR
Dissolved Metals by ICP/MS SW6020A				**(SW3005A)**				
Manganese	BRL	10.0		ug/L	189056	1	04/01/2014 17:33	MR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	22.2	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 21:58	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 21:58	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 21:58	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 21:58	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 21:58	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 3:53:00 PM
Lab ID:	1403M97-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 21:58	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 21:58	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 21:58	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 21:58	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 21:58	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 21:58	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 21:58	AR
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 21:58	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 21:58	AR
Surr: 4-Bromofluorobenzene	92.1	66.2-120		%REC	189053	1	03/28/2014 21:58	AR
Surr: Dibromofluoromethane	95.5	79.5-121		%REC	189053	1	03/28/2014 21:58	AR
Surr: Toluene-d8	91.4	77-117		%REC	189053	1	03/28/2014 21:58	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 12:40:00 PM
Lab ID:	1403M97-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	58600	100		ug/L	188891	1	04/01/2014 01:02	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 01:02	MR
Magnesium	24800	100		ug/L	188891	1	04/01/2014 01:02	MR
Potassium	8630	500		ug/L	188891	1	04/01/2014 01:02	MR
Sodium	22200	500		ug/L	188891	1	04/01/2014 01:02	MR
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 13:01	CG
APPENDIX I METALS SW6020A					(SW3005A)			
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 01:02	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 01:02	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 01:02	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 01:02	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 19:02	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 01:02	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 19:02	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 19:02	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 01:02	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 19:02	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 19:02	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 19:02	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 01:02	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 01:02	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 19:02	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 9:40:00 AM
Lab ID:	1403M73-001	**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	R265279	1	04/10/2014 12:42	GR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	43	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188875	1	03/27/2014 18:08	LV
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.200		ug/L	188940	1	03/29/2014 04:46	SH
1,2-Dibromoethane	BRL	0.050		ug/L	188940	1	03/29/2014 04:46	SH
Surr: 4-Bromofluorobenzene	103	60-120		%REC	188940	1	03/29/2014 04:46	SH
Inorganic Anions by IC E300.0								
Chloride	2.32	1.00		mg/L	R264165	1	03/26/2014 17:06	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 17:06	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 17:06	GR
Sulfate	BRL	1.00		mg/L	R264165	1	03/26/2014 17:06	GR
Dissolved Metals by ICP/MS SW6020A				**(SW3005A)**				
Manganese	88.6	10.0		ug/L	189056	1	04/01/2014 16:52	MR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	22.2	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189057	1	03/31/2014 19:19	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
1,1-Dichloroethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189057	1	03/31/2014 19:19	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189057	1	03/31/2014 19:19	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189057	1	03/31/2014 19:19	AR
2-Butanone	BRL	10		ug/L	189057	1	03/31/2014 19:19	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 9:40:00 AM
Lab ID:	1403M73-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
2-Hexanone	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Acetone	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Acrylonitrile	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Benzene	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
Bromochloromethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Bromodichloromethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Bromoform	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Bromomethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Carbon disulfide	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Carbon tetrachloride	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
Chlorobenzene	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Chloroethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Chloroform	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Chloromethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189057	1	03/31/2014 19:19	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Dibromochloromethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Dibromomethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Ethylbenzene	BRL	700		ug/L	189057	1	03/31/2014 19:19	AR
Iodomethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Methylene chloride	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
Styrene	BRL	100		ug/L	189057	1	03/31/2014 19:19	AR
Tetrachloroethene	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
Toluene	BRL	1000		ug/L	189057	1	03/31/2014 19:19	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189057	1	03/31/2014 19:19	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Trichloroethene	BRL	5.0		ug/L	189057	1	03/31/2014 19:19	AR
Trichlorofluoromethane	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Vinyl acetate	BRL	10		ug/L	189057	1	03/31/2014 19:19	AR
Vinyl chloride	BRL	2.0		ug/L	189057	1	03/31/2014 19:19	AR
Xylenes, Total	BRL	10000		ug/L	189057	1	03/31/2014 19:19	AR
Surr: 4-Bromofluorobenzene	96.1	66.2-120		%REC	189057	1	03/31/2014 19:19	AR
Surr: Dibromofluoromethane	104	79.5-121		%REC	189057	1	03/31/2014 19:19	AR
Surr: Toluene-d8	97.8	77-117		%REC	189057	1	03/31/2014 19:19	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 12:55:00 PM
Lab ID:	1403M73-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	1660	100		ug/L	188891	1	04/01/2014 00:21	MR
Iron	193	100		ug/L	188891	1	04/01/2014 00:21	MR
Magnesium	1320	100		ug/L	188891	1	04/01/2014 00:21	MR
Potassium	2380	500		ug/L	188891	1	04/01/2014 00:21	MR
Sodium	2380	500		ug/L	188891	1	04/01/2014 00:21	MR
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:40	CG
APPENDIX I METALS SW6020A					(SW3005A)			
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:21	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:21	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:21	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:21	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:31	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:21	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:31	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:31	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:21	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:31	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:31	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:31	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:21	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:21	MR
Zinc	0.269	0.0200		mg/L	188891	1	04/03/2014 18:31	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014
Lab ID:	1403M73-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	3.39	1.00		mg/L	R265279	1	04/10/2014 13:11	GR
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	1650	100		ug/L	188891	1	04/01/2014 00:31	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 00:31	MR
Magnesium	1330	100		ug/L	188891	1	04/01/2014 00:31	MR
Potassium	2380	500		ug/L	188891	1	04/01/2014 00:31	MR
Sodium	2430	500		ug/L	188891	1	04/01/2014 00:31	MR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	270	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1					(E350.1)			
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188875	1	03/27/2014 18:09	LV
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011					(SW8011)			
1,2-Dibromo-3-chloropropane	BRL	0.206		ug/L	188940	1	03/29/2014 05:43	SH
1,2-Dibromoethane	BRL	0.052		ug/L	188940	1	03/29/2014 05:43	SH
Surr: 4-Bromofluorobenzene	100	60-120		%REC	188940	1	03/29/2014 05:43	SH
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:50	CG
Inorganic Anions by IC E300.0								
Chloride	2.41	1.00		mg/L	R264165	1	03/26/2014 16:51	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 16:51	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 16:51	GR
Sulfate	BRL	1.00		mg/L	R264165	1	03/26/2014 16:51	GR
Dissolved Metals by ICP/MS SW6020A					(SW3005A)			
Manganese	81.6	10.0		ug/L	189056	1	04/01/2014 17:02	MR
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	15.5	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B					(SW5030B)			
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
1,1,1-Trichloroethane	BRL	200		ug/L	189057	1	04/01/2014 01:02	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014
Lab ID:	1403M73-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
1,1-Dichloroethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
1,1-Dichloroethene	BRL	7.0		ug/L	189057	1	04/01/2014 01:02	NP
1,2,3-Trichloropropane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
1,2-Dichlorobenzene	BRL	600		ug/L	189057	1	04/01/2014 01:02	NP
1,2-Dichloroethane	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
1,2-Dichloropropane	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
1,4-Dichlorobenzene	BRL	75		ug/L	189057	1	04/01/2014 01:02	NP
2-Butanone	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
2-Hexanone	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
4-Methyl-2-pentanone	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Acetone	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Acrylonitrile	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Benzene	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
Bromochloromethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Bromodichloromethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Bromoform	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Bromomethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Carbon disulfide	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Carbon tetrachloride	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
Chlorobenzene	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Chloroethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Chloroform	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Chloromethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
cis-1,2-Dichloroethene	BRL	70		ug/L	189057	1	04/01/2014 01:02	NP
cis-1,3-Dichloropropene	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Dibromochloromethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Dibromomethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Ethylbenzene	BRL	700		ug/L	189057	1	04/01/2014 01:02	NP
Iodomethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Methylene chloride	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
Styrene	BRL	100		ug/L	189057	1	04/01/2014 01:02	NP
Tetrachloroethene	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
Toluene	BRL	1000		ug/L	189057	1	04/01/2014 01:02	NP
trans-1,2-Dichloroethene	BRL	100		ug/L	189057	1	04/01/2014 01:02	NP
trans-1,3-Dichloropropene	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Trichloroethene	BRL	5.0		ug/L	189057	1	04/01/2014 01:02	NP
Trichlorofluoromethane	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP
Vinyl acetate	BRL	10		ug/L	189057	1	04/01/2014 01:02	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014
Lab ID:	1403M73-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Vinyl chloride	BRL	2.0		ug/L	189057	1	04/01/2014 01:02	NP
Xylenes, Total	BRL	10000		ug/L	189057	1	04/01/2014 01:02	NP
Surr: 4-Bromofluorobenzene	90.8	66.2-120		%REC	189057	1	04/01/2014 01:02	NP
Surr: Dibromofluoromethane	113	79.5-121		%REC	189057	1	04/01/2014 01:02	NP
Surr: Toluene-d8	104	77-117		%REC	189057	1	04/01/2014 01:02	NP
APPENDIX I METALS SW6020A				**(SW3005A)**				
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:31	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:31	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:31	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:31	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:42	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:31	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:42	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:42	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:31	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:42	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:42	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:42	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:31	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:31	MR
Zinc	0.294	0.0200		mg/L	188891	1	04/03/2014 18:42	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 10:45:00 AM
Lab ID:	1403M73-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	2.11	1.00		mg/L	R265279	1	04/10/2014 13:25	GR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	62	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1				(E350.1)				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188875	1	03/27/2014 18:11	LV
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				(SW8011)				
1,2-Dibromo-3-chloropropane	BRL	0.202		ug/L	188940	1	03/31/2014 09:35	SH
1,2-Dibromoethane	BRL	0.051		ug/L	188940	1	03/31/2014 09:35	SH
Surr: 4-Bromofluorobenzene	108	60-120		%REC	188940	1	03/31/2014 09:35	SH
Inorganic Anions by IC E300.0								
Chloride	16.7	5.00		mg/L	R264165	5	03/26/2014 22:08	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 17:21	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 17:21	GR
Sulfate	1.86	1.00		mg/L	R264165	1	03/26/2014 17:21	GR
Dissolved Metals by ICP/MS SW6020A				(SW3005A)				
Manganese	162	10.0		ug/L	189056	1	04/01/2014 17:07	MR
Cyanide SW9014				(SW9010C)				
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	19.9	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,1,1-Trichloroethane	BRL	200		ug/L	189057	1	04/01/2014 14:35	NP
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
1,1-Dichloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,1-Dichloroethene	BRL	7.0		ug/L	189057	1	04/01/2014 14:35	NP
1,2,3-Trichloropropane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,2-Dichlorobenzene	BRL	600		ug/L	189057	1	04/01/2014 14:35	NP
1,2-Dichloroethane	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
1,2-Dichloropropane	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
1,4-Dichlorobenzene	BRL	75		ug/L	189057	1	04/01/2014 14:35	NP
2-Butanone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 10:45:00 AM
Lab ID:	1403M73-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
2-Hexanone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
4-Methyl-2-pentanone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Acetone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Acrylonitrile	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Benzene	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Bromochloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Bromodichloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Bromoform	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Bromomethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Carbon disulfide	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Carbon tetrachloride	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Chlorobenzene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Chloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Chloroform	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Chloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
cis-1,2-Dichloroethene	BRL	70		ug/L	189057	1	04/01/2014 14:35	NP
cis-1,3-Dichloropropene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Dibromochloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Dibromomethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Ethylbenzene	BRL	700		ug/L	189057	1	04/01/2014 14:35	NP
Iodomethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Methylene chloride	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Styrene	BRL	100		ug/L	189057	1	04/01/2014 14:35	NP
Tetrachloroethene	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Toluene	BRL	1000		ug/L	189057	1	04/01/2014 14:35	NP
trans-1,2-Dichloroethene	BRL	100		ug/L	189057	1	04/01/2014 14:35	NP
trans-1,3-Dichloropropene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Trichloroethene	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Trichlorofluoromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Vinyl acetate	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Vinyl chloride	BRL	2.0		ug/L	189057	1	04/01/2014 14:35	NP
Xylenes, Total	BRL	10000		ug/L	189057	1	04/01/2014 14:35	NP
Surr: 4-Bromofluorobenzene	91.2	66.2-120		%REC	189057	1	04/01/2014 14:35	NP
Surr: Dibromofluoromethane	104	79.5-121		%REC	189057	1	04/01/2014 14:35	NP
Surr: Toluene-d8	96.5	77-117		%REC	189057	1	04/01/2014 14:35	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 1:12:00 PM
Lab ID:	1403M73-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020A				(SW3005A)				
Calcium	1520	100		ug/L	188891	1	04/01/2014 00:36	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 00:36	MR
Magnesium	838	100		ug/L	188891	1	04/01/2014 00:36	MR
Potassium	821	500		ug/L	188891	1	04/01/2014 00:36	MR
Sodium	11400	500		ug/L	188891	1	04/01/2014 00:36	MR
Mercury, Total SW7470A				(SW7470A)				
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:56	CG
APPENDIX I METALS SW6020A				(SW3005A)				
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:36	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:36	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:36	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:36	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:47	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:36	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:47	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:47	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:36	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:47	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:47	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:47	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:36	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:36	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 18:47	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:05:00 PM
Lab ID:	1403M97-001	**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	R265279	1	04/10/2014 13:37	GR
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	BRL	100		ug/L	188891	1	04/01/2014 00:52	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 00:52	MR
Magnesium	BRL	100		ug/L	188891	1	04/01/2014 00:52	MR
Potassium	BRL	500		ug/L	188891	1	04/01/2014 00:52	MR
Sodium	BRL	500		ug/L	188891	1	04/01/2014 00:52	MR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	15	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1					(E350.1)			
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188927	1	03/31/2014 18:41	ME
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011					(SW8011)			
1,2-Dibromo-3-chloropropane	BRL	0.204		ug/L	188940	1	03/31/2014 10:50	SH
1,2-Dibromoethane	BRL	0.051		ug/L	188940	1	03/31/2014 10:50	SH
Surr: 4-Bromofluorobenzene	109	60-120		%REC	188940	1	03/31/2014 10:50	SH
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:57	CG
Inorganic Anions by IC E300.0								
Chloride	BRL	1.00		mg/L	R264165	1	03/26/2014 17:36	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 17:36	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 17:36	GR
Sulfate	BRL	1.00		mg/L	R264165	1	03/26/2014 17:36	GR
Dissolved Metals by ICP/MS SW6020A					(SW3005A)			
Manganese	BRL	10.0		ug/L	189056	1	04/01/2014 17:12	MR
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B					(SW5030B)			
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 20:21	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:05:00 PM
Lab ID:	1403M97-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 20:21	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 20:21	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 20:21	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 20:21	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 20:21	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 20:21	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 20:21	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 20:21	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 20:21	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:05:00 PM
Lab ID:	1403M97-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 20:21	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 20:21	AR
Surr: 4-Bromofluorobenzene	93.1	66.2-120		%REC	189053	1	03/28/2014 20:21	AR
Surr: Dibromofluoromethane	102	79.5-121		%REC	189053	1	03/28/2014 20:21	AR
Surr: Toluene-d8	98.3	77-117		%REC	189053	1	03/28/2014 20:21	AR
APPENDIX I METALS SW6020A				**(SW3005A)**				
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:52	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:52	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:52	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:52	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:52	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:52	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:52	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:52	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:52	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:52	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:52	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:52	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:52	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:52	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 18:52	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:00:00 PM
Lab ID:	1403M97-002	**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	R265279	1	04/10/2014 13:49	GR
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	BRL	100		ug/L	188891	1	04/01/2014 00:57	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 00:57	MR
Magnesium	BRL	100		ug/L	188891	1	04/01/2014 00:57	MR
Potassium	BRL	500		ug/L	188891	1	04/01/2014 00:57	MR
Sodium	BRL	500		ug/L	188891	1	04/01/2014 00:57	MR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	5	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1					(E350.1)			
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188927	1	03/31/2014 18:42	ME
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011					(SW8011)			
1,2-Dibromo-3-chloropropane	BRL	0.204		ug/L	188940	1	03/31/2014 11:18	SH
1,2-Dibromoethane	BRL	0.051		ug/L	188940	1	03/31/2014 11:18	SH
Surr: 4-Bromofluorobenzene	114	60-120		%REC	188940	1	03/31/2014 11:18	SH
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:59	CG
Inorganic Anions by IC E300.0								
Chloride	BRL	1.00		mg/L	R264165	1	03/26/2014 17:52	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 17:52	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 17:52	GR
Sulfate	BRL	1.00		mg/L	R264165	1	03/26/2014 17:52	GR
Dissolved Metals by ICP/MS SW6020A					(SW3005A)			
Manganese	BRL	10.0		ug/L	189056	1	04/01/2014 17:17	MR
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B					(SW5030B)			
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 20:45	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:00:00 PM
Lab ID:	1403M97-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 20:45	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 20:45	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 20:45	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 20:45	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 20:45	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 20:45	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 20:45	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 20:45	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 20:45	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:00:00 PM
Lab ID:	1403M97-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 20:45	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 20:45	AR
Surr: 4-Bromofluorobenzene	92.2	66.2-120		%REC	189053	1	03/28/2014 20:45	AR
Surr: Dibromofluoromethane	104	79.5-121		%REC	189053	1	03/28/2014 20:45	AR
Surr: Toluene-d8	99	77-117		%REC	189053	1	03/28/2014 20:45	AR
APPENDIX I METALS SW6020A				**(SW3005A)**				
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:57	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:57	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:57	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:57	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:57	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:57	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:57	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:57	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:57	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:57	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:57	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:57	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:57	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:57	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 18:57	MR

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

APPENDIX C

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #01

INORGANIC	APPENDIX I LIMITS	3-23-94	6-2-94	**7-13-94	10-18-94	12-1-94	3-2-95	10-30-95	4-12-96	11-2-96	3-21-97	9-29-97	05-19-98	10-29-98	3-16-99	9-16-99	03-23-00	09-06-00	4-25-01	9-18-01	4-17-02	9-30-02	4-21-03	9-30-03	4-28-04	9-22-04	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	4-6-10	10-5-10	1-4-11	10-4-11	3-14-12	10-2-12	3-27-13	9-24-13	3-24-14	MW-01 AVG	MW-03 AVG
Antimony	6	1	1	1	1	5.4	1	1	3	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	5.10	5.02
Arsenic	50	2	2	9.4	8.9	7.9	4	2	20	20	20	20	20	20	20	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	36.65	37.71
Barium	2000	23	16	280	110	68	33	60	41	50	60	30	30	50	55	139	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	1357.44	1357.07
Beryllium	4	3	3	18	8.5	3	3	4	3	4	4	4	4	4	4	7	11	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	4.48	3.82
Cadmium	5	5	5	19	2.5	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	5.26	5.02
Chromium	100	8.5	10	93	43	21	10	11	10	10	10	10	10	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	72.74	71.58
Cobalt	NA	10	10	78	30	10	10	10	10	10	10	10	10	10	10	10	29	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	12.32	14.44
Copper	NA	8.1	10	140	59	24	10	17	10	10	10	10	10	10	10	12	39	19.2	10	10	13.5	10.2	10.0	10.0	10.0	10.0	10.0	10.0	11.6	10.0	10.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	15.40	21.91
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	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	2.60	2.63
Lead	†15	1	1	44	59	32	8	21	12	20	10	10	10	30	10	27	94	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	29.97	42.67
Mercury	2	0.3	*	2.4	0.83	0.44	0.2	0.5	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	1.65	1.56
Nickel	100	8.1	10	190	73	35	20	22	10	20	20	10	10	40	12.7	40	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	78.24	76.35
Selenium	10	2	2	2.5	2	2	2	2	2	20	20	20	20	20	20	20	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	10.54	10.53
Silver	50	8	8	ND	8	8	8	8	6	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	36.11	35.47
Thallium	2	1	1	2.6	1	1	1	2	4	2	2	2	2	2	2	2.35	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	1.93	2.10
Vanadium	NA	8.4	10	200	74	40	13	31	10	30	10	10	10	30	10	10	75	27.8	10	10	20.5	23.2	10	10	10	10	10	23.8	10.0	10.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	20.37	13.98
Zinc	15000	110	42	1700	620	270	78	818	89	180	190	40	110	230	47.4	287	611	179	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	42.60	28.50	20	20	20.9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	159.16	70.57

† = 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	5-02-94	**7-13-94	10-18-94	12-1-94	3-02-95	10-30-95	4-12-96	11-2-96	3-21-97	9-30-97	05-19-98	10-29-98	3-16-99	9-16-99	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	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	4-6-10	10-5-10	1-4-11	10-4-11	3-14-12	10-2-12	3-27-13	9-24-13	3-24-14
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #1A

INORGANIC	APPENDIX I 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	MW-1A AVG	MW-03 AVG
Antimony	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6.00	5.02
Arsenic	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50.00	37.71
Barium	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000.00	1357.07
Beryllium	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.00	3.82
Cadmium	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.00	5.02
Chromium	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.00	71.58
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	10.00	14.44
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	10.00	21.91
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	4.00	2.63
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	22.78	42.67
Mercury	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.00	1.56
Nickel	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.00	76.35
Selenium	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.00	10.53
Silver	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50.00	35.47
Thallium	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.00	2.10
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	10.00	13.98
Zinc	‡5000	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	23.46	70.57

† = 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
Acetone	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
Benzene	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
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform; Tribomomethane	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
Carbon tetrachloride	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
Chloroethane; Ethyl chloride	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
Dibromochloromethane; Chlorodibromomethane	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
1,2-Dibromoethane	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
p-Dichlorobenzene; 1,4-Dichlorobenzene	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
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
1,2-Dichloroethane; Ethylene dichloride	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
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
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
1,2-Dichloropropane; Propylene dichloride	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
trans-1,3-Dichloropropene	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
2-Hexanone; Methyl butyl ketone	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
Methyl chloride; Chloromethane	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
Methylene chloride; Dichloromethane	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
Methyl iodide; Iodomethane	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
Styrene	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
1,1,2,2-Tetrachloroethane	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
Toluene	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
1,1,2-Trichloroethane	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
Trichlorofluoromethane; CFC-11	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
Vinyl acetate	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
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #02

INORGANIC	APPENDIX I 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	9-30-97	05-19-98	10-29-98	3-16-99	9-16-99	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	4-11-05	9-29-05	3-28-06	8-16-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-2-09	10-2-09	4-7-10	10-5-10	1-5-11	10-5-11	3-15-12	10-3-12	3-28-13	9-25-13	3-25-14	MW-02 AVG	MW-03 AVG
Antimony	6	1	1	1	1	1	1	1	3	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	5.18	5.02
Arsenic	50	2	2	4.4	7.8	4.6	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	38.79	37.71
Barium	2000	94	67	420	350	290	92	73	33	50	20	50	130	59	36.7	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	1373.50	1357.07
Beryllium	4	3	3	33	23	25	5	6	3	4	4	4	14	4	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	6.05	3.82
Cadmium	5	3.1	1.2	33	22	15	5	5	5	5	5	5	6	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	6.12	5.02
Chromium	100	36	26	130	110	110	23	12	10	10	10	10	42	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	79.09	71.58
Cobalt	NA	10	10	62	54	45	10	10	10	10	10	10	30	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	13.53	14.44
Copper	NA	140	10	200	150	120	30	17	10	10	10	10	60	10	10	10	10	10	10	10	16.7	18.8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	24.72	21.91
Fluoride**	4	0.05	0.26	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	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	2.60	2.63
Lead	115	22	6.4	420	290	200	45	32	10	20	10	20	90	20	10	10	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	49.23	42.67
Mercury	2	0.2	1	1.6	2.6	0.2	0.2	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	1.64	1.56
Nickel	100	130	20	340	290	280	80	45	20	30	10	30	120	33	20.6	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	99.21	76.35
Selenium	10	2	2	2	2	2	2	2	20	20	20	20	20	20	20	20	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	10.53	10.53
Silver	50	8	8	8	8	8	8	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	35.47	35.47
Thallium	2	1	1	2.7	2.6	3.2	1	2	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	2.28	2.10
Vanadium	NA	14	14	250	200	180	48	24	10	20	10	10	70	10	10	10	10	10	10	10	11.5	24.2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	26.57	13.98
Zinc	35000	560	160	6200	12000	9900	1760	1130	351	650	120	570	2490	240	322	265	458	167	149	181	570	589	224	256	140	284	209	589	221	267	254	280	299	236	223	262	262	251	65.2	243.0	256.0	208.0	243.0	287.0	271.0	269.0	1049.14	70.57

† = 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	5-2-94	**7-13-94	10-18-94	12-1-94	3-2-95	10-30-95	4-12-96	11-2-96	3-21-97	9-30-97	05-19-98	10-29-98	3-16-99	9-16-99	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	4-11-05	9-29-05	3-28-06	8-16-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-2-09	10-1-09	4-7-10	10-5-10	1-4-11	10-4-11	3-15-12	10-3-12	3-28-13	9-25-13	3-25-14
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

LOUDON COUNTY
(UPGRADIENT) BACKGROUND WELL
MONITORING WELL #03

INORGANIC	APPENDIX I 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	9-26-97	05-19-98	10-29-98	3-16-99	9-16-99	03-23-00	9-6-00	2-19-01	4-25-01	9-18-01	4-17-02	9-30-02	4-21-03	9-30-03	4-26-04	9-22-04	4-11-05	9-29-05	3-27-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-2-09	4-7-10	10-6-10	1-5-11	10-5-11	3-13-12	10-3-12	3-28-13	9-25-13	3-25-14	MW-03 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	5.02
Arsenic	50	3.2	2	8.8	7.8	3.2	10	2	20	20	20	20	20	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	37.71
Barium	2000	149	10	300	160	50	40	57	63	40	50	30	69	50	39.1	39	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	1357.07
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	3.82
Cadmium	5	4.4	5	6.6	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
Chromium	100	27	10	42	32	10	10	10	10	10	10	10	10	10	12	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	71.58
Cobalt	NA	24	10	69	39	10	10	10	13	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	10	14.44
Copper	NA	43	10	150	150	26	10	10	25	10	10	10	10	20	10	10	10	20.4	10	10	10	13.6	18.0	10	26.4	10.0	23.6	10.0	49.8	50.0	50.0	10.0	10.0	10.0	10.0	10	10	10	10	10	10	10	10	10	10	10	21.91
Fluoride***	4	0.05	0.22	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	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	2.63
Lead	115	45	8.7	350	67	32	25	17	34	20	10	10	10	40	10	10	50	50	50	50	50	50	50	135	50	95.4	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	42.67
Mercury	2	0.2	*	0.83	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	1.56
Nickel	100	33	10	100	57	23	20	12	20	10	10	10	20	50	50	11	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	76.35
Selenium	10	2	2	2	2	2	2	2	20	20	20	20	20	20	20	20	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	10.53
Silver	50	8	6	6	8	8	8	8	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	35.47
Thallium	2	1	1	2.4	1	1	1	3	2	2	2	2	2	2	10	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	2.10
Vanadium	NA	25	10	79	40	15	10	10	16	10	10	10	20	20	10	10	10	13.3	10	10	10	10	14.6	10	15.6	10.0	16.3	10.0	24.1	10.0	10.0	10.0	10.0	10.0	10	10	10	10	10	10	10	10	10	10	10	13.93
Zinc	15000	170	33	420	240	95	50	164	114	70	50	50	190	150	24.4	54	36	99.1	20	27.1	47.6	93.6	131	45.8	93.0	26.6	71.3	33.6	155.0	28.5	25.9	47.0	42.9	20.0	20.1	20.0	20.0	25.8	20.0	21.2	20.0	20.0	20.0	20.0	20.0	70.57

† = 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	5-02-94	**7-13-94	10-18-94	12-1-94	3-02-95	10-30-95	4-12-96	11-2-96	3-21-97	9-26-97	05-19-98	10-29-98	3-16-99	9-16-99	03-23-00	9-6-00	2-19-01	4-25-01	9-18-01	4-17-02	9-30-02	4-21-03	9-30-03	4-26-04	9-22-04	4-11-05	9-29-05	3-27-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-2-09	4-7-10	10-6-10	1-5-11	10-4-11	3-14-12	10-3-12	3-28-13	9-25-13	3-25-14
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
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
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
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
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
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
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
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
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
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	10	10	2	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
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
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
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
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
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
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
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	10	10	2	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
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
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	10	10	2	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

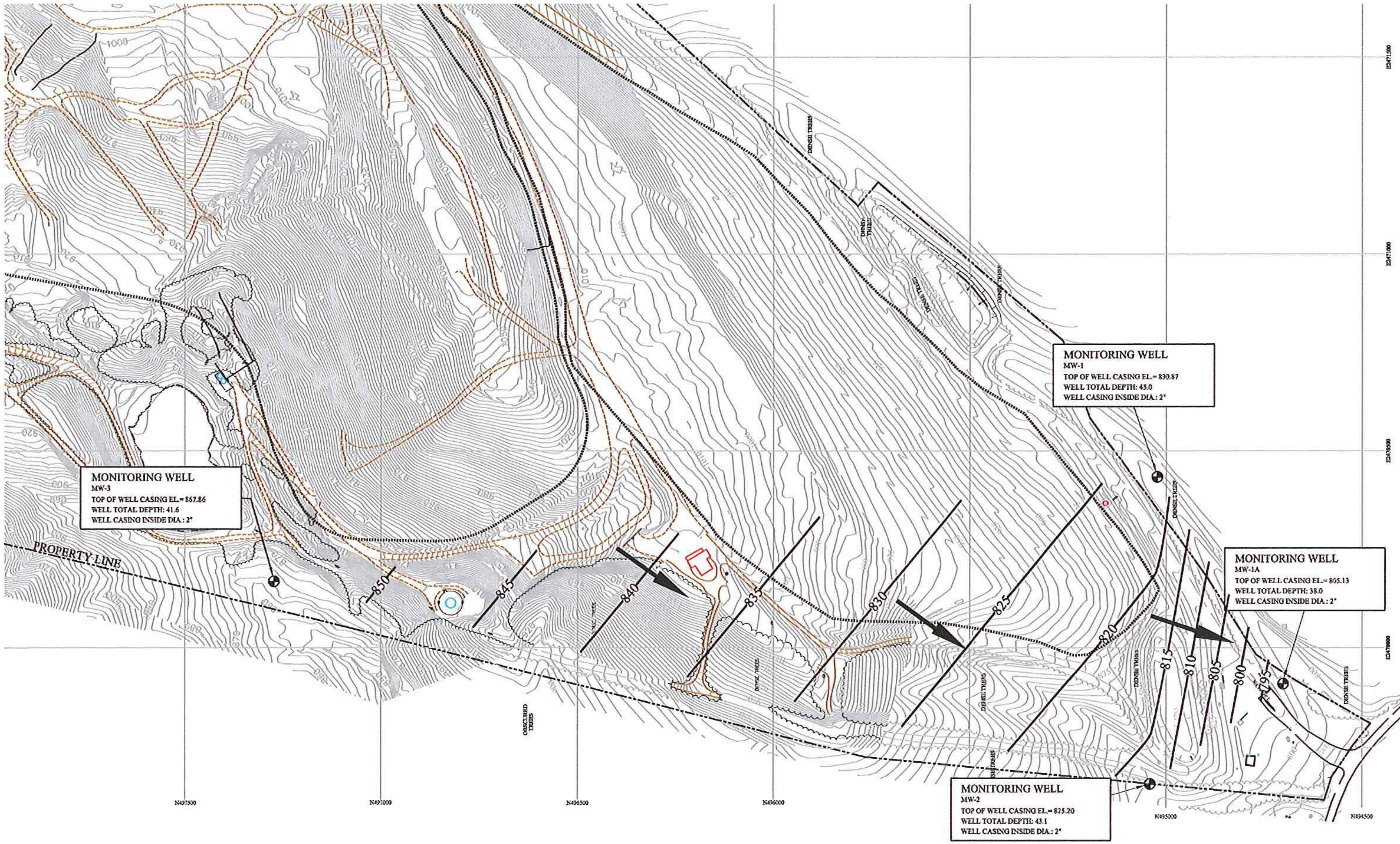
APPENDIX D

GROUNDWATER DATA
Matlock Bend Landfill (Phase I)
March 24, 2014

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	7.80	823.07	820	35	4.70E-06	0.18	8.77E-02	2.29E-06	3.30E-03	SW
MW-1A*	805.13	13.80	791.33	795	50	3.93E-06	0.18	7.34E-02	1.60E-06	2.31E-03	SW
MW-02	825.20	11.80	813.40	810	40	5.90E-06	0.18	8.50E-02	2.79E-06	4.01E-03	SW
MW-03	867.86	13.55	854.31	850	210	1.20E-05	0.18	2.05E-02	1.37E-06	1.97E-03	SW

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

APPENDIX E



LEGEND:

— · — · —	PROPERTY BOUNDARY
——842——	WATER TABLE CONTOURS (INFERRED)
———	AERIAL CONTOUR
- - - - -	ROAD
········	WASTE MANAGEMENT UNIT BOUNDARY
⊕	GROUNDWATER MONITORING WELL
➞	GROUNDWATER FLOW DIRECTION

NOTES:

1. POTENTIOMETRIC CONTOURS DEVELOPED FROM WATER ELEVATIONS TAKEN MARCH 24, 2014.
2. TOPOGRAPHIC CONTOURS SHOWN WERE PROVIDED BY CONTINENTAL AERIAL SURVEYS, ALCOA, TENNESSEE PHOTO DATED SEPTEMBER 20, 2013.

GW.WELL NO.	WATER ELEV.
MW-1	823.07
MW-1A	791.33
MW-2	813.40
MW-3	854.31

RON VAIL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00109716
STATE OF TENNESSEE
5/19/14

0' 150' 300' 450'

DATE	DRWN	CHKD	REVISION

2014 SEMI-ANNUAL (SPRING) GROUNDWATER POTENTIOMETRIC CONTOUR MAP

MATLOCK BEND LANDFILL-PHASE I
LOUDON COUNTY, TENNESSEE

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

SCALE: 1"=300'
DATE: 4/23/14
DRAWN BY: RH
CHECKED BY: WM
APPROVED BY: RV
FILE: 1410-S1
JOB NO: 200-1410

S-1

MATLOCK BEND LANDFILL

PHASE II/IV

SANTEK
WasteServices
650 25th Street, N.W., Suite 100
Cleveland, Tennessee 37311
(423) 303-7101
Email: mail@santekenviro.com
Internet: www.santekenviro.com

May 19, 2014

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

RE: Groundwater Monitoring Report – 1st Semi-Annual Event
Matlock Bend Landfill – Phase II/IV Upgrade
SNL #53-103-0203

Dear Mr. Miller:

Please find enclosed a copy of the groundwater monitoring report generated from the first semi-annual groundwater event of 2014 at the Matlock Bend Landfill – Phase II/IV. 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,

Will Martin
Environmental Compliance Coordinator

Ron E. Vail, P.E.
V.P. of Engineering
TN. Registration No. 109716

Enclosures

cc: Steve Field, Loudon County Solid Waste Department Chairman
Robert D. Burnette, Executive V.P. of Engineering, Santek
Matt Dillard, Executive V.P. of Operations, Santek
Levi Higdon, Landfill Manager, Santek

MATLOCK BEND LANDFILL – PHASE II/IV UPGRADE
GROUNDWATER MONITORING REPORT
1st SEMI-ANNUAL EVENT 2014

SANTEK PROJECT NO. 200-1410.2

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

MAY 2014

1.0 INTRODUCTION

In accordance with the Tennessee Department of Environment and Conservation's Solid Waste Processing and Disposal Rule 1200-1-7-.04(7), Santek Waste Services, Inc. (Santek) is submitting the groundwater monitoring report for the first semi-annual event for 2014 at the Matlock Bend Landfill - Phase II/IV Upgrade. 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 MW-03, MW-4R and MW-05. According to the letter from TDEC dated December 11, 2008, Santek replaced MW-04 with MW-4R in the groundwater detection monitoring network. MW-04 is no longer being monitored. Historic results for MW-04 were taken between 11/2/96 through 3/27/08 and are included in the MW-4R control chart. Santek performed sampling and statistical analyses. Santek contracted with Analytical Environmental Services, Inc. (AES) to perform all analytical testing.

1.1 SITE INFORMATION

Phase II/IV Upgrade is located along the northwest border of Phase I as a portion of the Matlock Bend Landfill. The area is approximately five miles west of Loudon, TN, on Tennessee Highway 72, at latitude N 35° 44' 48" and longitude W 84° 24' 43".

2.0 SAMPLING AND ANALYTICAL

The groundwater sampling event was performed on March 24 & 25, 2014. Samples were analyzed for Appendix I constituents. All samples were submitted to AES for analysis. 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 #03 and #05 are the downgradient (compliance) wells. The 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 wells, then no significant increase is indicated. If the average background concentration is less than the results for the compliance well, then the Appendix I limits from pages .01-17,18 of the regulations are used for

additional comparison to indicate potentially elevated concentrations. Control charts are provided in Appendix C.

3.2 Statistical Analysis Summary

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

4.0 FLOW DIRECTION AND RATES

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 direction of Phase II/IV locally flows towards the northwest and will ultimately flow to the Tennessee River. The groundwater flow rate ranges from 3.31×10^{-3} ft/day at MW-03 to 5.37×10^{-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 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.

**Indicates Appendix I limit is not available.*

APPENDIX A

DATE: 3/25/14

FIELD SAMPLING LOG	WELL NO: MW-03
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/25/14 (Time) 10:22	Purge End: (Date) 3/25/14 (Time) 10:36
Purged by: Robert	
Depth Measurement Ref. Point* 867.86 ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: 41.60 (-)Orig. DTW: 13.39 (=) Wtr. Col. Thick: 28.21 .
13.55 (water level on 3/24/14)

(x) 2"=0.16 4"=0.65 6"=1.47 Gals./ft. (=) 4.5 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 13.5 Total Purge Gals.

GW elev. Ref. 867.86 ft.(-) DTW 13.55 ft. = 854.31 ft.

Purge/Sample Method: ☐ Pump (indicate type) .
☒ Bailer (indicate type) Poly/Disposable .

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: gpm
Weather: Cloudy (30's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
10:24		-			11.10	-	0.087	0.0		Clear
10:30		4.5			12.10	-	0.066	49.3		Clear
10:36		7.5			12.26	-	0.055	102		Cloudy, *purged dry

Average Linear velocity $v = \frac{Ki}{n}$ Where

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

*Purged dry at 7.5 gallons.

v=[K ft/min. (x) GW elev. ft. (-) GW elev. ft] - .18 Clay/Silt
distance ft . 20 Silt w/sand
v= ft./min. = ft day .25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 2.2 NTU's. VOC's taken on 3/25/14 @ 10:45 a.m. Metals taken on 3/25/14 @ 1:12 p.m. pH meter malfunctioned while sampling this well. Water level taken on 3/24/14.

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

DATE: 3/24/14

FIELD SAMPLING LOG	WELL NO: MW-4R
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/24/14 (Time) 12:22	Purge End: (Date) 3/24/14 (Time) 12:41
Purged by: Robert	
Depth Measurement Ref. Point* 992.32 ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: 106.50 (-)Orig. DTW: 95.28 (=) Wtr. Col. Thick: 11.22 .

(x) 2"=0.16 4"=0.65 6"=1.47 Gals./ft. (=) 1.8 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 5.4 Total Purge Gals.

GW elev. Ref. 992.32 ft.(-) DTW 95.28 ft. = 897.04 ft.

Purge/Sample Method: ☐ Pump (indicate type) _____.
☒ Bailer (indicate type) Poly/Disposable .

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: _____gpm
Weather: Sunny (50's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
12:24		-			14.44	-	0.119	0.0		Clear
12:30		2.0			14.72	-	0.115	727		Murky
12:36		3.5			15.00	-	0.145	511		Murky
12:41		5.0			15.25	-	0.186	604		Murky, *purged dry

Average Linear velocity $v = \frac{Ki}{n}$ Where

Purged dry at 5.0 gallons

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

v=[K_____ft/min. (x) GW elev._____ft. (-) GW elev. _____ft] -_____ distance_____ft

v=_____ft./min. = _____ft day

.18 Clay/Silt
.20 Silt w/sand
.25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 0.0 NTU's. VOC's taken on 3/24/14 @ 12:42 p.m. Metals taken on 3/25/14 @ 11:20 a.m. pH meter malfunctioned while sampling this well. Allowed well to settle overnight.

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

DATE: 3/24/14

FIELD SAMPLING LOG	WELL NO: MW-05
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/24/14 (Time) 10:30	Purge End: (Date) 3/24/14 (Time) 11:52
Purged by: Robert	
Depth Measurement Ref. Point* 936.84 ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: 172.71 (-)Orig. DTW: 82.45 (=) Wtr. Col. Thick: 90.26 .

(x) 2"=0.16 4"=0.65 6"=1.47 Gals./ft. (=) 14.4 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 43.2 Total Purge Gals.

GW elev. Ref. 936.84 ft.(-) DTW 82.45 ft. = 854.39 ft.

Purge/Sample Method: ☐ Pump (indicate type) _____.
☒ Bailer (indicate type) Poly/Disposable .

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: _____gpm
Weather: Sunny (40's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
10:37		-			14.11	-	0.278	0.0		Clear
11:03		14.5			14.65	-	0.287	26.7		Clear
11:26		29.0			14.73	-	0.288	131		Cloudy
11:52		43.5			14.81	-	0.283	98.7		Cloudy

Average Linear velocity $v = \frac{Ki}{n}$ Where

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

v=[K _____ ft/min. (x) GW elev. _____ ft. (-) GW elev. _____ ft] - _____
distance _____ ft
v= _____ ft./min. = _____ ft day

.18 Clay/Silt
. 20 Silt w/sand
.25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 0.0 NTU's. VOC's taken on 3/24/14 @ 11:53 a.m. Metals taken on 3/25/14 @ 11:08 a.m. pH meter malfunctioned while sampling this well. Allowed well to settle overnight.

*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.

April 15, 2014

Will Martin
Santek Environmental Inc.
650 25th Street NW, Suite 100
Cleveland TN 37311

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

RE: Loudon Co. (Matlock Bend LF) 1st Semi-Annual

Dear Will Martin: Order No: 1403M97

Analytical Environmental Services, Inc. received 6 samples on 3/26/2014 10:10:00 AM 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' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

CKanhai

Chantelle Kanhai
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: M-H03M97 JB3/26/14

Date: 3/25/14 Page 1 of 1

COMPANY:	ADDRESS:
Santek Waste Services, Inc.	650 25th Street NW, Suite 100, Cleveland, TN 37311
PHONE: (423) 303-7101	FAX: (423) 479-1952
SAMPLED BY: R. Hudson	SIGNATURE: Robert Hudson

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	App. I Metals	Total Mercury	Inorganic Anions	App. I VOCs	Micro-Ext.	TDS	Total Metals	Dissolved Metals	Nitrogen, Ammonia	COD	TOC	Cyanide	REMARKS	No. of Containers
							PRESERVATION (See codes)													
1	Equipment Blank	3/25/14	3:05	X		W	X	X	X	X	X	X	X	X	X	X	X	X		9
2	Trip Blank	3/25/14	3:00	X		W	X	X	X	X	X	X	X	X	X	X	X	X		9
3	MW-1A	3/24/14	3:53	X		GW	X	X	X	X	X	X	X	X	X	X	X	X	RMB	8
4	↳	3/25/14	12:40	X		GW	X	X					X							1
5	MW-01	3/24/14	2:58	X		GW			X	X	X	X		X	X	X	X	X		8
6	↳	3/25/14	12:30	X		GW	X	X					X							1
7	MW-04R	3/24/14	12:42	X		GW			X	X	X									5
8	↳	3/25/14	11:20	X		GW	X	X												1
9	MW-05	3/24/14	11:53	X		GW			X	X	X									5
10	↳	3/25/14	11:08	X		GW	X	X												1
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: Robert Hudson	3/25/14 4pm	1: Ann B	3/26/14 10:10
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: Loudon Co. (Matlock Bend LF) 1st Semi-
PROJECT #: Annual GW Event 2014
SITE ADDRESS:
SEND REPORT TO: Will Martin
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers

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):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:
See Chantelle K. and Project History

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

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION 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) WW = Waste Water
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

Analytical Environmental Services, Inc

Date: 15-Apr-14

Client:	Santek Environmental Inc.
Project:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab ID:	1403M97

Case Narrative

All of the samples listed on the Chain of Custody except for "MW-04R" and "MW-05" were analyzed in this work order.

Nitrate Analysis by Method 300:

Sample 1403M97-005 was extracted and analyzed outside holding time of 48 hours. The holding time was missed by the laboratory. The client was notified on 3/26/2014 via email

Ion Chromatography Analysis by Method 300:

Due to sample matrix, sample 1403M97-003 required a dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Santek Waste Services Work Order Number 1403M97

Checklist completed by [signature] 3/26/14
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? (4°C±2)*	Yes ✓	No __	

Cooler #1 3.2 Cooler #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 JB

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.

\\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M97

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M97-001A	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-001B	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-001C	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	TOTAL MERCURY		04/01/2014	04/01/2014
1403M97-001D	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M97-001E	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Nitrogen, Ammonia (as N)		03/28/2014	03/31/2014
1403M97-001E	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-001E	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Total Organic Carbon by SM5310B			04/10/2014
1403M97-001F	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Cyanide		03/29/2014	03/29/2014
1403M97-001G	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Inorganic Anions by IC			03/26/2014
1403M97-001G	EQUIPMENT BLANK	3/25/2014 3:05:00PM	Aqueous	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-002A	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-002B	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-002C	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	TOTAL MERCURY		04/01/2014	04/01/2014
1403M97-002D	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M97-002E	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Nitrogen, Ammonia (as N)		03/28/2014	03/31/2014
1403M97-002E	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-002E	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Total Organic Carbon by SM5310B			04/10/2014
1403M97-002F	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Cyanide		03/29/2014	03/29/2014
1403M97-002G	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Inorganic Anions by IC			03/26/2014
1403M97-002G	TRIP BLANK	3/25/2014 3:00:00PM	Aqueous	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-003A	MW-1A	3/24/2014 3:53:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-003B	MW-1A	3/24/2014 3:53:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-003C	MW-1A	3/24/2014 3:53:00PM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M97

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M97-003D	MW-1A	3/24/2014 3:53:00PM	Groundwater	Nitrogen, Ammonia (as N)		03/28/2014	03/31/2014
1403M97-003D	MW-1A	3/24/2014 3:53:00PM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-003D	MW-1A	3/24/2014 3:53:00PM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M97-003E	MW-1A	3/24/2014 3:53:00PM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M97-003F	MW-1A	3/24/2014 3:53:00PM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M97-003F	MW-1A	3/24/2014 3:53:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-004A	MW-1A	3/25/2014 12:40:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014
1403M97-005A	MW-01	3/24/2014 2:58:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403M97-005B	MW-01	3/24/2014 2:58:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M97-005C	MW-01	3/24/2014 2:58:00PM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M97-005D	MW-01	3/24/2014 2:58:00PM	Groundwater	Nitrogen, Ammonia (as N)		04/01/2014	04/01/2014
1403M97-005D	MW-01	3/24/2014 2:58:00PM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M97-005D	MW-01	3/24/2014 2:58:00PM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M97-005E	MW-01	3/24/2014 2:58:00PM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M97-005F	MW-01	3/24/2014 2:58:00PM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M97-005F	MW-01	3/24/2014 2:58:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M97-006A	MW-01	3/25/2014 12:30:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

April 15, 2014

Will Martin
Santek Environmental Inc.
650 25th Street NW, Suite 100
Cleveland TN 37311

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

RE: Loudon Co. (Matlock Bend LF) 1st Semi-Annual

Dear Will Martin: Order No: 1403M73

Analytical Environmental Services, Inc. received 6 samples on 3/26/2014 10:10:00 AM 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' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

CKKanhai

Chantelle Kanhai
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 140 3177 3

Date: 3/25/14 Page 1 of 1

COMPANY:	Santek Waste Services, Inc.
ADDRESS:	650 25th Street NW, Suite 100, Cleveland, TN 37311
PHONE:	(423) 303-7101
FAX:	(423) 479-1952
SAMPLED BY:	R. Hudson
SIGNATURE	Robert Hudson

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	App. I Metals	# Total Mercury	Inorganic Anions	App. I VOCs	Micro-Ext. VOCs	TDS	Total Metals by FCP/MS	Dissolved Metals by FCP/MS	Nitrogen, Ammonia	COD	TOC	Cyanide	REMARKS	No # of Containers
1	MW-02	3/25/14	9:40	X		GW		X	X	X	X	X		X	X	X	X	X			8
2	↳	3/25/14	12:55	X		GW	X	X					X								1
3	Leachate	3/25/14	1:30	X		O	X	X	X	X	X	X	X	X	X	X	X	X	X	Leachate	9
4	Duplicate	3/25/14		X		GW	X	X	X	X	X	X	X	X	X	X	X	X	X		9
5	MW-03	3/25/14	10:45	X		GW			X	X	X	X		X	X	X	X	X			8
6	↳	3/25/14	1:12	X		GW	X	X					X								1
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: Robert Hudson	3/25/14 4pm	1: Tan B	3/26/14 10.10
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: London Co. (Mattock Bend LF) 1st Semi-
PROJECT #: Annual GW Event 2014
SITE ADDRESS:
SEND REPORT TO: Will Martin
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT

Total # of Containers:

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):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:
See Chantelle K. & Project History

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

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION 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) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice 1 = 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 Co. (Matlock Bend LF) 1st Semi-Annual
Lab ID: 1403M73

Case Narrative

Sample Receiving Nonconformance:

Sample "LEACHATE" as received for Metals, Mercury, COD, TOC, Ammonia and Cyanide did not meet method specified pH range for the requested test methods. No attempt to further adjust the pH was made due to sample matrix.

Ion Chromatography Analysis by Method 300:

Due to sample matrix, sample 1403M73-003 required a dilution during preparation and/or analysis resulting in elevated reporting limits.

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1403M73-003 required dilution during preparation and/or analysis resulting in elevated reporting limits.

Mercury Analysis by Method 7470A:

Due to sample matrix, sample 1403M73-003 required dilution during preparation resulting in elevated reporting limits.

Metals Analysis by Method 6020:

Due to sample matrix, sample 1403M73-003 required dilution during analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Santek Work Order Number 1403M73

Checklist completed by Signature 8/26/14 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? (4°C±2)* Yes ✓ No __

Cooler #1 3-2 Cooler #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 JB

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.

\\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M73

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M73-001A	MW-02	3/25/2014 9:40:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/31/2014	03/31/2014
1403M73-001B	MW-02	3/25/2014 9:40:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/29/2014
1403M73-001C	MW-02	3/25/2014 9:40:00AM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-001D	MW-02	3/25/2014 9:40:00AM	Groundwater	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-001D	MW-02	3/25/2014 9:40:00AM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-001D	MW-02	3/25/2014 9:40:00AM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M73-001E	MW-02	3/25/2014 9:40:00AM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M73-001F	MW-02	3/25/2014 9:40:00AM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M73-001F	MW-02	3/25/2014 9:40:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-002A	MW-02	3/25/2014 12:55:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014
1403M73-003A	LEACHATE	3/25/2014 1:30:00PM	Aqueous	APPENDIX I VOLATILE ORGANICS		03/31/2014	04/01/2014
1403M73-003B	LEACHATE	3/25/2014 1:30:00PM	Aqueous	MICRO-EXTRACTABLE VOCs		03/28/2014	03/29/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-003C	LEACHATE	3/25/2014 1:30:00PM	Aqueous	TOTAL MERCURY		04/01/2014	04/01/2014
1403M73-003D	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-003E	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-003E	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-003E	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Total Organic Carbon by SM5310B			04/10/2014
1403M73-003F	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Cyanide		03/29/2014	03/29/2014
1403M73-003G	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Inorganic Anions by IC			03/26/2014
1403M73-003G	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Inorganic Anions by IC			03/27/2014
1403M73-003G	LEACHATE	3/25/2014 1:30:00PM	Aqueous	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-004A	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/31/2014	04/01/2014
1403M73-004B	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/29/2014

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403M73

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-004C	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014
1403M73-004D	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-004E	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-004E	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-004E	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M73-004F	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M73-004G	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M73-004G	DUPLICATE	3/25/2014 12:00:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-005A	MW-03	3/25/2014 10:45:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/31/2014	04/01/2014
1403M73-005B	MW-03	3/25/2014 10:45:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403M73-005C	MW-03	3/25/2014 10:45:00AM	Groundwater	Dissolved Metals by ICP/MS		04/01/2014	04/01/2014
1403M73-005D	MW-03	3/25/2014 10:45:00AM	Groundwater	Nitrogen, Ammonia (as N)		03/27/2014	03/27/2014
1403M73-005D	MW-03	3/25/2014 10:45:00AM	Groundwater	Chemical Oxygen Demand (COD)			03/28/2014
1403M73-005D	MW-03	3/25/2014 10:45:00AM	Groundwater	Total Organic Carbon by SM5310B			04/10/2014
1403M73-005E	MW-03	3/25/2014 10:45:00AM	Groundwater	Cyanide		03/29/2014	03/29/2014
1403M73-005F	MW-03	3/25/2014 10:45:00AM	Groundwater	Inorganic Anions by IC			03/26/2014
1403M73-005F	MW-03	3/25/2014 10:45:00AM	Groundwater	Residue, Dissolved (TDS) by SM2540C		03/29/2014	03/28/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	Total Metals by ICP/MS		03/28/2014	04/01/2014
1403M73-006A	MW-03	3/25/2014 1:12:00PM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

April 09, 2014

Will Martin
Santek Environmental Inc.
650 25th Street NW, Suite 100
Cleveland TN 37311

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

RE: Loudon Co. (Matlock Bend LF) 1st Semi-Annual

Dear Will Martin:

Order No: 1403N06

Analytical Environmental Services, Inc. received 4 samples on 3/26/2014 10:10:00 AM 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' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Chantelle Kanhai
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1403N06

Date: 3/25/14 Page 1 of 1

COMPANY:	ADDRESS:
Santek Waste Services, Inc.	650 25th Street NW, Suite 100, Cleveland, TN 37311
PHONE: (423) 303-7101	FAX: (423) 479-1952
SAMPLED BY: R. Hudson	SIGNATURE: Robert Hudson

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	App. I Metals	Total Mercury	Inorganic Anions	App. I VOCs	Misc-Ext.	TDS	Total Metals	Dissolved Metals	Nitrogen, Ammonia	COD	TOC	Cyanide	REMARKS	No # of Containers
	PRESERVATION (See codes)																			
1	Equipment Blank	3/25/14	3:05	X		W	X	X	X	X	X	X	X	X	X	X	X	X		9
2	Trip Blank	3/25/14	3:00	X		W	X	X	X	X	X	X	X	X	X	X	X	X		9
3	MW-1A	3/24/14	3:53	X		GW	X	X	X	X	X	X	X	X	X	X	X	X	RUSH	8
4	↳	3/25/14	12:40	X		GW	X	X					X							1
5	MW-01	3/24/14	2:58	X		GW			X	X	X	X		X	X	X	X	X		8
6	↳	3/25/14	12:30	X		GW	X	X					X							1
7	MW-04R	3/24/14	12:42	X		GW			X	X	X									5
8	↳	3/25/14	11:20	X		GW	X	X												1
9	MW-05	3/24/14	11:53	X		GW			X	X	X									5
10	↳	3/25/14	11:08	X		GW	X	X												1
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: Robert Hudson	3/25/14 4pm	1: Ann B	3/26/14 10:10
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: Loudon Co. (Matlock Bend LF) 1st Semi
PROJECT #: Annual GW Event 2014
SITE ADDRESS:
SEND REPORT TO: Will Martin
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers:

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):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:
See Chantelle K. and Project History

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

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION 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) WW = Waste Water
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

Analytical Environmental Services, Inc

Date: 9-Apr-14

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab ID: 1403N06

Case Narrative

Only samples "MW-04R" and "MW-05" from the Chain of Custody were analyzed in this work order.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Santek Waste Services Work Order Number 1403N06

Checklist completed by Signature 3/26/14 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? (4°C±2)* Yes ✓ No __

Cooler #1 3.1° Cooler #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 JB

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.

\\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Santek Environmental Inc.
Project: Loudon Co. (Matlock Bend LF) 1st Semi-Annual
Lab Order: 1403N06

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1403N06-001A	MW-04R	3/24/2014 12:42:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403N06-001B	MW-04R	3/24/2014 12:42:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403N06-001C	MW-04R	3/24/2014 12:42:00PM	Groundwater	Inorganic Anions by IC			03/31/2014
1403N06-002A	MW-04R	3/25/2014 11:20:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403N06-002A	MW-04R	3/25/2014 11:20:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403N06-002A	MW-04R	3/25/2014 11:20:00AM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014
1403N06-003A	MW-05	3/24/2014 11:53:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		03/28/2014	03/28/2014
1403N06-003B	MW-05	3/24/2014 11:53:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		03/28/2014	03/31/2014
1403N06-003C	MW-05	3/24/2014 11:53:00AM	Groundwater	Inorganic Anions by IC			03/29/2014
1403N06-004A	MW-05	3/25/2014 11:08:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/01/2014
1403N06-004A	MW-05	3/25/2014 11:08:00AM	Groundwater	APPENDIX I METALS		03/28/2014	04/03/2014
1403N06-004A	MW-05	3/25/2014 11:08:00AM	Groundwater	TOTAL MERCURY		04/01/2014	04/01/2014

Analytical Environmental Services, Inc **Date:** 15-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 10:45:00 AM
Lab ID:	1403M73-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	2.11	1.00		mg/L	R265279	1	04/10/2014 13:25	GR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	62	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188875	1	03/27/2014 18:11	LV
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.202		ug/L	188940	1	03/31/2014 09:35	SH
1,2-Dibromoethane	BRL	0.051		ug/L	188940	1	03/31/2014 09:35	SH
Surr: 4-Bromofluorobenzene	108	60-120		%REC	188940	1	03/31/2014 09:35	SH
Inorganic Anions by IC E300.0								
Chloride	16.7	5.00		mg/L	R264165	5	03/26/2014 22:08	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 17:21	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 17:21	GR
Sulfate	1.86	1.00		mg/L	R264165	1	03/26/2014 17:21	GR
Dissolved Metals by ICP/MS SW6020A				**(SW3005A)**				
Manganese	162	10.0		ug/L	189056	1	04/01/2014 17:07	MR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	19.9	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,1,1-Trichloroethane	BRL	200		ug/L	189057	1	04/01/2014 14:35	NP
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
1,1-Dichloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,1-Dichloroethene	BRL	7.0		ug/L	189057	1	04/01/2014 14:35	NP
1,2,3-Trichloropropane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
1,2-Dichlorobenzene	BRL	600		ug/L	189057	1	04/01/2014 14:35	NP
1,2-Dichloroethane	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
1,2-Dichloropropane	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
1,4-Dichlorobenzene	BRL	75		ug/L	189057	1	04/01/2014 14:35	NP
2-Butanone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 10:45:00 AM
Lab ID:	1403M73-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
2-Hexanone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
4-Methyl-2-pentanone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Acetone	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Acrylonitrile	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Benzene	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Bromochloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Bromodichloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Bromoform	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Bromomethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Carbon disulfide	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Carbon tetrachloride	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Chlorobenzene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Chloroethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Chloroform	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Chloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
cis-1,2-Dichloroethene	BRL	70		ug/L	189057	1	04/01/2014 14:35	NP
cis-1,3-Dichloropropene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Dibromochloromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Dibromomethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Ethylbenzene	BRL	700		ug/L	189057	1	04/01/2014 14:35	NP
Iodomethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Methylene chloride	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Styrene	BRL	100		ug/L	189057	1	04/01/2014 14:35	NP
Tetrachloroethene	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Toluene	BRL	1000		ug/L	189057	1	04/01/2014 14:35	NP
trans-1,2-Dichloroethene	BRL	100		ug/L	189057	1	04/01/2014 14:35	NP
trans-1,3-Dichloropropene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Trichloroethene	BRL	5.0		ug/L	189057	1	04/01/2014 14:35	NP
Trichlorofluoromethane	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Vinyl acetate	BRL	10		ug/L	189057	1	04/01/2014 14:35	NP
Vinyl chloride	BRL	2.0		ug/L	189057	1	04/01/2014 14:35	NP
Xylenes, Total	BRL	10000		ug/L	189057	1	04/01/2014 14:35	NP
Surr: 4-Bromofluorobenzene	91.2	66.2-120		%REC	189057	1	04/01/2014 14:35	NP
Surr: Dibromofluoromethane	104	79.5-121		%REC	189057	1	04/01/2014 14:35	NP
Surr: Toluene-d8	96.5	77-117		%REC	189057	1	04/01/2014 14:35	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 1:12:00 PM
Lab ID:	1403M73-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	1520	100		ug/L	188891	1	04/01/2014 00:36	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 00:36	MR
Magnesium	838	100		ug/L	188891	1	04/01/2014 00:36	MR
Potassium	821	500		ug/L	188891	1	04/01/2014 00:36	MR
Sodium	11400	500		ug/L	188891	1	04/01/2014 00:36	MR
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:56	CG
APPENDIX I METALS SW6020A					(SW3005A)			
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:36	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:36	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:36	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:36	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:47	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:36	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:47	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:47	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:36	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:47	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:47	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:47	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:36	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:36	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 18:47	MR

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: 9-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-04R
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 12:42:00 PM
Lab ID:	1403N06-001	**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	188940	1	03/31/2014 12:48	SH
1,2-Dibromoethane	BRL	0.050		ug/L	188940	1	03/31/2014 12:48	SH
Surr: 4-Bromofluorobenzene	105	60-120		%REC	188940	1	03/31/2014 12:48	SH
Inorganic Anions by IC E300.0								
Fluoride	BRL	4.00		mg/L	R264499	1	03/31/2014 21:24	GR
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 22:48	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 22:48	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 22:48	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 22:48	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 22:48	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 22:48	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	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:** 9-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-04R
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 12:42:00 PM
Lab ID:	1403N06-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 22:48	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 22:48	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 22:48	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 22:48	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 22:48	AR
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 22:48	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 22:48	AR
Surr: 4-Bromofluorobenzene	91.3	66.2-120		%REC	189053	1	03/28/2014 22:48	AR
Surr: Dibromofluoromethane	106	79.5-121		%REC	189053	1	03/28/2014 22:48	AR
Surr: Toluene-d8	103	77-117		%REC	189053	1	03/28/2014 22:48	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:** 9-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-04R
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 11:20:00 AM
Lab ID:	1403N06-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 13:05	CG
APPENDIX I METALS SW6020A					**(SW3005A)**			
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 01:12	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 01:12	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 01:12	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 01:12	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 19:13	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 01:12	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 19:13	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 19:13	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 01:12	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 19:13	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 19:13	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 19:13	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 01:12	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 01:12	MR
Zinc	0.0241	0.0200		mg/L	188891	1	04/03/2014 19:13	MR

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:** 9-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 11:53:00 AM
Lab ID:	1403N06-003	**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	0.203		ug/L	188940	1	03/31/2014 13:16	SH
1,2-Dibromoethane	BRL	0.051		ug/L	188940	1	03/31/2014 13:16	SH
Surr: 4-Bromofluorobenzene	111	60-120		%REC	188940	1	03/31/2014 13:16	SH
Inorganic Anions by IC E300.0								
Fluoride	BRL	4.00		mg/L	R264452	1	03/29/2014 10:26	GR
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 23:13	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 23:13	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 23:13	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 23:13	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 23:13	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 23:13	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	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:** 9-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/24/2014 11:53:00 AM
Lab ID:	1403N06-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 23:13	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 23:13	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 23:13	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 23:13	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 23:13	AR
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 23:13	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 23:13	AR
Surr: 4-Bromofluorobenzene	97.4	66.2-120		%REC	189053	1	03/28/2014 23:13	AR
Surr: Dibromofluoromethane	101	79.5-121		%REC	189053	1	03/28/2014 23:13	AR
Surr: Toluene-d8	94.7	77-117		%REC	189053	1	03/28/2014 23:13	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:** 9-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 11:08:00 AM
Lab ID:	1403N06-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 13:07	CG
APPENDIX I METALS SW6020A					**(SW3005A)**			
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 01:17	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 01:17	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 01:17	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 01:17	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 19:28	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 01:17	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 19:28	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 19:28	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 01:17	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 19:28	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 19:28	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 19:28	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 01:17	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 01:17	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 19:28	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:05:00 PM
Lab ID:	1403M97-001	**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	R265279	1	04/10/2014 13:37	GR
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	BRL	100		ug/L	188891	1	04/01/2014 00:52	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 00:52	MR
Magnesium	BRL	100		ug/L	188891	1	04/01/2014 00:52	MR
Potassium	BRL	500		ug/L	188891	1	04/01/2014 00:52	MR
Sodium	BRL	500		ug/L	188891	1	04/01/2014 00:52	MR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	15	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1					(E350.1)			
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188927	1	03/31/2014 18:41	ME
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011					(SW8011)			
1,2-Dibromo-3-chloropropane	BRL	0.204		ug/L	188940	1	03/31/2014 10:50	SH
1,2-Dibromoethane	BRL	0.051		ug/L	188940	1	03/31/2014 10:50	SH
Surr: 4-Bromofluorobenzene	109	60-120		%REC	188940	1	03/31/2014 10:50	SH
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:57	CG
Inorganic Anions by IC E300.0								
Chloride	BRL	1.00		mg/L	R264165	1	03/26/2014 17:36	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 17:36	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 17:36	GR
Sulfate	BRL	1.00		mg/L	R264165	1	03/26/2014 17:36	GR
Dissolved Metals by ICP/MS SW6020A					(SW3005A)			
Manganese	BRL	10.0		ug/L	189056	1	04/01/2014 17:12	MR
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B					(SW5030B)			
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 20:21	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:05:00 PM
Lab ID:	1403M97-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 20:21	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 20:21	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 20:21	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 20:21	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 20:21	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 20:21	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 20:21	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 20:21	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:21	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 20:21	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 20:21	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:05:00 PM
Lab ID:	1403M97-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 20:21	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 20:21	AR
Surr: 4-Bromofluorobenzene	93.1	66.2-120		%REC	189053	1	03/28/2014 20:21	AR
Surr: Dibromofluoromethane	102	79.5-121		%REC	189053	1	03/28/2014 20:21	AR
Surr: Toluene-d8	98.3	77-117		%REC	189053	1	03/28/2014 20:21	AR
APPENDIX I METALS SW6020A				**(SW3005A)**				
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:52	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:52	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:52	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:52	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:52	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:52	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:52	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:52	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:52	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:52	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:52	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:52	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:52	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:52	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 18:52	MR

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:00:00 PM
Lab ID:	1403M97-002	**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	R265279	1	04/10/2014 13:49	GR
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	BRL	100		ug/L	188891	1	04/01/2014 00:57	MR
Iron	BRL	100		ug/L	188891	1	04/01/2014 00:57	MR
Magnesium	BRL	100		ug/L	188891	1	04/01/2014 00:57	MR
Potassium	BRL	500		ug/L	188891	1	04/01/2014 00:57	MR
Sodium	BRL	500		ug/L	188891	1	04/01/2014 00:57	MR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	5	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1					(E350.1)			
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	188927	1	03/31/2014 18:42	ME
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011					(SW8011)			
1,2-Dibromo-3-chloropropane	BRL	0.204		ug/L	188940	1	03/31/2014 11:18	SH
1,2-Dibromoethane	BRL	0.051		ug/L	188940	1	03/31/2014 11:18	SH
Surr: 4-Bromofluorobenzene	114	60-120		%REC	188940	1	03/31/2014 11:18	SH
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	189034	1	04/01/2014 12:59	CG
Inorganic Anions by IC E300.0								
Chloride	BRL	1.00		mg/L	R264165	1	03/26/2014 17:52	GR
Fluoride	BRL	4.00		mg/L	R264165	1	03/26/2014 17:52	GR
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R264165	1	03/26/2014 17:52	GR
Sulfate	BRL	1.00		mg/L	R264165	1	03/26/2014 17:52	GR
Dissolved Metals by ICP/MS SW6020A					(SW3005A)			
Manganese	BRL	10.0		ug/L	189056	1	04/01/2014 17:17	MR
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R264278	1	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B					(SW5030B)			
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,1,1-Trichloroethane	BRL	200		ug/L	189053	1	03/28/2014 20:45	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:00:00 PM
Lab ID:	1403M97-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
1,1-Dichloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,1-Dichloroethene	BRL	7.0		ug/L	189053	1	03/28/2014 20:45	AR
1,2,3-Trichloropropane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
1,2-Dichlorobenzene	BRL	600		ug/L	189053	1	03/28/2014 20:45	AR
1,2-Dichloroethane	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
1,2-Dichloropropane	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
1,4-Dichlorobenzene	BRL	75		ug/L	189053	1	03/28/2014 20:45	AR
2-Butanone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
2-Hexanone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
4-Methyl-2-pentanone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Acetone	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Acrylonitrile	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Benzene	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Bromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Bromodichloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Bromoform	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Bromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Carbon disulfide	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Carbon tetrachloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Chlorobenzene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Chloroethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Chloroform	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Chloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	189053	1	03/28/2014 20:45	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Dibromochloromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Dibromomethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Ethylbenzene	BRL	700		ug/L	189053	1	03/28/2014 20:45	AR
Iodomethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Methylene chloride	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Styrene	BRL	100		ug/L	189053	1	03/28/2014 20:45	AR
Tetrachloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Toluene	BRL	1000		ug/L	189053	1	03/28/2014 20:45	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	189053	1	03/28/2014 20:45	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Trichloroethene	BRL	5.0		ug/L	189053	1	03/28/2014 20:45	AR
Trichlorofluoromethane	BRL	10		ug/L	189053	1	03/28/2014 20:45	AR
Vinyl acetate	BRL	10		ug/L	189053	1	03/28/2014 20:45	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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 3:00:00 PM
Lab ID:	1403M97-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Vinyl chloride	BRL	2.0		ug/L	189053	1	03/28/2014 20:45	AR
Xylenes, Total	BRL	10000		ug/L	189053	1	03/28/2014 20:45	AR
Surr: 4-Bromofluorobenzene	92.2	66.2-120		%REC	189053	1	03/28/2014 20:45	AR
Surr: Dibromofluoromethane	104	79.5-121		%REC	189053	1	03/28/2014 20:45	AR
Surr: Toluene-d8	99	77-117		%REC	189053	1	03/28/2014 20:45	AR
APPENDIX I METALS SW6020A				**(SW3005A)**				
Antimony	BRL	0.00600		mg/L	188891	1	04/01/2014 00:57	MR
Arsenic	BRL	0.0500		mg/L	188891	1	04/01/2014 00:57	MR
Barium	BRL	2.00		mg/L	188891	1	04/01/2014 00:57	MR
Beryllium	BRL	0.00400		mg/L	188891	1	04/01/2014 00:57	MR
Cadmium	BRL	0.00500		mg/L	188891	1	04/03/2014 18:57	MR
Chromium	BRL	0.100		mg/L	188891	1	04/01/2014 00:57	MR
Cobalt	BRL	0.0100		mg/L	188891	1	04/03/2014 18:57	MR
Copper	BRL	0.0100		mg/L	188891	1	04/03/2014 18:57	MR
Lead	BRL	0.0150		mg/L	188891	1	04/01/2014 00:57	MR
Nickel	BRL	0.100		mg/L	188891	1	04/03/2014 18:57	MR
Selenium	BRL	0.0100		mg/L	188891	1	04/03/2014 18:57	MR
Silver	BRL	0.0500		mg/L	188891	1	04/03/2014 18:57	MR
Thallium	BRL	0.00200		mg/L	188891	1	04/01/2014 00:57	MR
Vanadium	BRL	0.0100		mg/L	188891	1	04/01/2014 00:57	MR
Zinc	BRL	0.0200		mg/L	188891	1	04/03/2014 18:57	MR

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

APPENDIX C

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #03

INORGANIC	APPENDIX F LIMITS	3-23-94	6-2-94	**7-13-94	10-18-94	12-1-94	3-2-95	10-30-95	4-12-96	11-2-96	3-21-97	9-30-97	05-19-98	10-29-98	3-16-99	9-16-99	03-23-00	9-6-00	2-16-01	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	3-27-06	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	4-5-11	10-5-11	3-15-12	10-3-12	3-28-13	9-25-13	3-25-14	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	5.02	5.95
Arsenic	50	3.2	2	8.8	7.8	3.2	10	2	20	20	20	20	20	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	37.71	47.80
Barium	2000	140	10	300	100	50	40	57	63	43	50	30	60	50	39.1	39	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	1357.07	1524.16
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	3.82	7.32
Cadmium	5	4.4	5	8.6	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	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	71.58	85.37
Cobalt	NA	24	10	69	39	10	10	10	13	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	50.6	10.0	26.0	10.0	48.4	10.0	10.0	10.0	10.0	10.0	10.0	10	10	10	10	10	10	10	10	10	10	14.44	15.75
Copper	43	10	10	150	150	26	10	10	25	10	10	10	10	20	10	10	10	20.4	10	10	10	13.6	18.0	10.0	26.4	10.0	23.6	10.0	49.8	50.0	50.0	10.0	10.0	10.0	10	10	10	10	10	10	10	10	10	10	21.91	18.63
Fluoride***	4	0.05	0.22	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	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	2.63	2.95
Lead	115	45	8.7	350	97	32	25	17	34	20	10	10	10	40	10	10	50	50	50	50	50	50	50	50	135	50	95.4	50.0	111.0	50.0	50.0	50.0	15.0	15.0	15	15	15	15	15	15	15	15	15	15	42.67	41.15
Mercury	2	0.2	*	0.83	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	1.56	1.74
Nickel	100	33	10	160	57	23	20	12	20	10	10	10	20	50	50	11	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	78.35	100.28
Selenium	10	2	2	2	2	2	2	2	20	20	20	20	20	20	20	20	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	10.53	12.44
Silver	50	8	8	8	8	8	8	8	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	35.47	39.05
Thallium	2	1	1	2.4	1	1	1	3	2	2	2	2	2	2	10	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	2.10	3.20
Vanadium	NA	25	10	79	43	15	10	10	16	10	10	10	20	20	10	10	10	13.3	10	10	10	14.6	10.0	15.6	10.0	16.3	10.0	24.1	10.0	10.0	10.0	10.0	10.0	10	10	10	10	10	10	10	10	10	10	10	10	13.93	22.93
Zinc	15000	170	33	420	240	95	50	164	114	70	50	50	190	150	24.4	54	36	99.1	20	27.1	47.6	68.6	131	46	98.0	26.6	71.3	33.6	155.0	28.6	29.9	47.0	42.9	20.0	20.1	20.0	20.0	25.8	20.0	21.2	20.0	20.0	20.0	20.0	20.0	70.57	215.97

† = 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	6-02-94	**7-13-94	10-18-94	12-1-94	3-02-95	10-30-95	4-12-96	11-2-96	3-21-97	9-30-97	05-19-98	10-29-98	3-16-99	9-16-99	03-23-00	9-6-00	2-16-01	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	3-27-06	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	4-5-11	10-4-11	3-14-12	10-3-12	3-28-13	9-25-13	3-25-14
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

LOUDON COUNTY
BACKGROUND WELL
MONITORING WELL #4R

INORGANIC	APPENDIX I LIMITS	11-2-96	12-13-96	12-19-96	12-30-96	3-21-97	10-10-97	05-19-98	11-6-98	3-16-99	9-16-99	03-23-00	2-16-01	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	3-27-06	10-04-06	1-3-07	3-22-07	11-1-07	3-27-08	6-25-08	8-29-08	10-2-08	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	MW-4R AVG.
Antimony	6	5	13	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	DRY	6	6	DRY	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5.95
Arsenic	50	130	40	60	50	20	20	20	30	20	20	50	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	47.50
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	2000	DRY	2000	2000	DRY	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1524.16
Beryllium	4	54	16	40	25	14	4	4	11	4	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	7.32
Cadmium	5	6	5	5	7	5	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	5.07
Chromium	100	130	50	80	40	30	10	10	30	10	10	100	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	85.37
Cobalt	NA	70	30	50	30	20	10	10	20	10	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	15.75
Copper	NA	140	50	90	60	30	20	10	30	10	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	18.63
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	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	2.56
Lead	115	200	70	140	80	60	20	10	60	17.9	10	50	58.8	50	50	50	50	50	50	50	50	50	50	50	DRY	50	50	DRY	15	15	15	15	15	15	15	15	15	15	15	15	15	15	41.15
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	2	DRY	2	2	DRY	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.74
Nickel	100	310	110	210	120	90	30	20	90	21.3	10	100	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	100.28
Selenium	10	20	20	20	20	20	20	20	20	20	20	10	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	12.44
Silver	50	6	6	6	5	5	5	5	5	5	5	50	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	39.05
Thallium	2	18	8	17	9	6	2	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	3.20
Vanadium	NA	200	70	130	80	50	10	10	60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	DRY	10	10	DRY	10	10	10	10	10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	22.93
Zinc	15000	1950	700	1370	740	490	330	240	520	58	69	129	128	79.4	230.0	143.0	305.0	57.4	91.0	37.3	20.0	56.7	144.0	76.2	DRY	68.7	81.1	DRY	43.9	32.1	54.3	20.0	66.0	83.9	100.0	29.4	20.0	74.8	41.3	20.0	32.0	82.4	20.0	24.1	215.97

*ALL DATA IN UG/L EXCEPT FLUORIDE (MG/L)
† = TREATMENT TECHNIQUE ACTION LEVEL
‡ = NATIONAL SECONDARY DRINKING WATER STANDARD
Note: Results from 11-2-96 to 3-27-08 were taken from MW-04. MW-04 was replaced by MW-4R.

ORGANIC	11-2-96	12-13-96	12-19-96	12-30-96	3-21-97	10-10-97	05-19-98	11-6-98	3-16-99	9-16-99	03-23-00	2-16-01	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	3-27-06	10-04-06	1-3-07	3-22-07	11-1-07	3-27-08	6-25-08	8-29-08	8-29-08	8-29-08	4-1-09	10-1-09	4-6-10	10-5-10	1-4-11	10-4-11	3-14-12	10-2-12	3-27-13	9-24-13	3-24-14
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
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
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
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
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
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
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	69	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	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	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #05

INORGANIC	APPENDIX I 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	9-29-05	3-27-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-2-09	4-7-10	10-6-10	10-6-10	1-5-11	10-5-11	3-15-12	10-3-12	3-28-13	9-25-13	3-25-14	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	6.00	5.95
Arsenic	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	50.00	47.80
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	2000.00	1524.16
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	4.15	7.32
Cadmium	5	5	5.35	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	5.01	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	100.00	85.37
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	10.50	15.75
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	10.44	18.63
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	3.87	2.96
Lead	115	50	77.4	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	33.41	41.15
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	2.00	1.74
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	100.00	100.28
Selenium	10	10	10	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	15.33	12.44
Silver	50	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	44.67	39.05
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	2.06	3.20
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	10.89	22.93
Zinc	‡5000	258	693	361	260	360	288	231	20	20	195	91.4	109.0	116.0	61.2	64.7	138.0	39.9	91.0	88.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	123.51	215.97

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

ORGANIC	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	9-29-05	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	10-5-10	1-4-11	10-4-11	3-14-12	10-2-12	3-27-13	9-24-13	3-24-14
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
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
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
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
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
Bromoform; Tribomomethane	ND	ND	ND	ND	ND	ND	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
Xylenes	ND	ND	ND	ND	ND	ND									ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

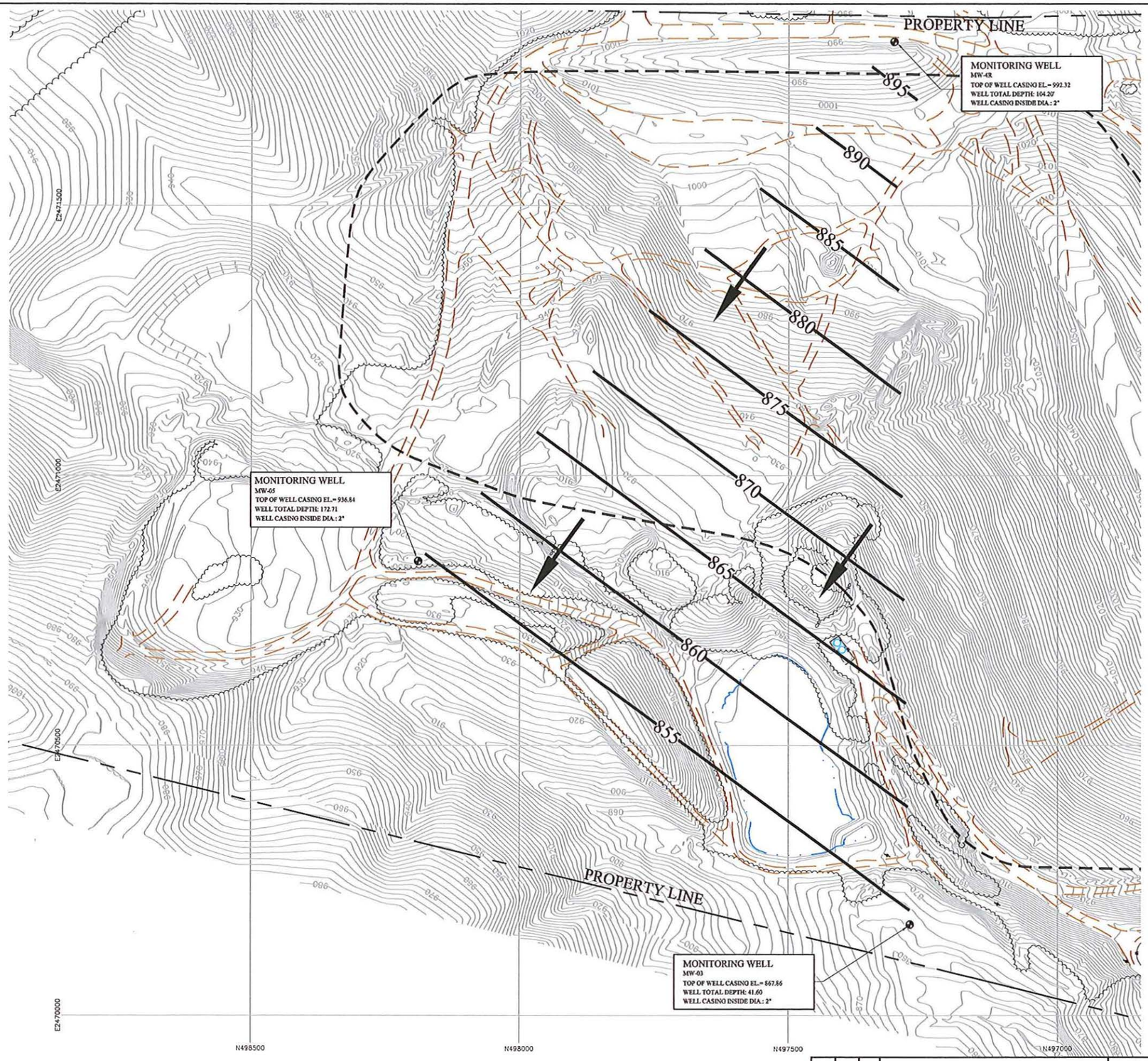
APPENDIX D

GROUNDWATER DATA
Matlock Bend Landfill (Phase II/IV)
March 24, 2014

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-03	867.86	13.55	854.31	855	20	1.20E-05	0.18	3.45E-02	2.30E-06	3.31E-03	NW
MW-4R*	992.32	95.28	897.04	895	60	1.90E-05	0.18	3.40E-02	3.59E-06	5.17E-03	NW
MW-05	936.84	82.45	854.39	855	20	2.20E-05	0.18	3.05E-02	3.73E-06	5.37E-03	NW

*-Hydraulic conductivity for MW-4R is from MW-04

APPENDIX E



LEGEND:

- PROPERTY BOUNDARY
- 880 WATER TABLE CONTOURS (INFERRED)
- 950 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 MARCH 24, 2014.
2. TOPOGRAPHIC CONTOURS SHOWN WERE PROVIDED BY CONTINENTAL AERIAL SURVEYS, ALCOA, TENNESSEE DATED SEPTEMBER 20, 2013.

G.W. WELL NO.	WATER ELEV.
MW-03	854.31
MW-4R	897.04
MW-05	854.39

0' 100' 200' 300'

DATE	DRWN	CHKD	REVISION

2014 SEMI-ANNUAL (SPRING) GROUNDWATER POTENTIOMETRIC CONTOUR MAP

MATLOCK BEND LANDFILL-PHASE II / IV
LOUDON COUNTY, TENNESSEE

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

SCALE: 1"=200'	
DATE: 4/23/14	
DRAWN BY: RH	
CHECKED BY: WM	
APPROVED BY: RV	
FILE: 1410-52	
JOB NO. 200-1410	

S-2
sheet number

G:\WORK\LOUDON\For Maps\1410-52.dwg, 5/16/2014 9:32:41 AM, \\WOBYBELL-PC\HP Deskjet 9680 Printer (Copy 2)

LEACHATE

LEACHATE FIELD LOG

DATE: 3/25/14

FIELD SAMPLING LOG	WELL NO: Leachate
Location: Loudon County	Site: Matlock Bend
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 3/25/14 (Time) 1:30	Purge End: (Date) (Time)
Purged by: Robert	
Depth Measurement Ref. Point* N/A ft	Well Csg. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Solinst pH Horiba Cond. Horiba T° Horiba .

Measure Well TD: N/A (-)Orig. DTW: (=) Wtr. Col. Thick: .

(x) **2"=0.16** 4"=0.65 6"=1.47 Gals./ft. (=) Gals./Csg. Vol. (x) Csg. Vol. (=) Total Purge Gals.

GW elev. Ref. N/A ft.(-) DTW ft. = ft.

Purge/Sample Method: ☒ Directly into bottles

Decon. Method: Distilled Rinse
Purge Wtr. Containerized ? (N) Avg Purge Rate: gpm
Weather: Partly Cloudy (40's °F)

Actual Time	Elapsed Time	Vol. Purged (Gals)	Depth to Wtr (ft)	Depth of Pump Intake (ft)	Temp (°C)	pH	Cond. (umhos) mS/cm	Turbidity (NTU)	Other	Comments
1:30					12.50	6.20	20.2	99.2		Black, cloudy, strong odor

Average Linear velocity $v = \frac{Ki}{n}$ Where

K= Hydraulic Conductivity (ft/min)
i = Gradient (ft/ft)
n = effective porosity

v=[K ft/min. (x) GW elev. ft. (-) GW elev. ft] - .18 Clay/Silt
distance ft .20 Silt w/sand
v= ft./min. = ft day .25 sand
.3 sand and gravel

Comments: Metals Sample Turbidity = 99.2 NTU's.

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

LEACHATE ANALYTICAL DATA

Analytical Environmental Services, Inc Date: 15-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	LEACHATE
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 1:30:00 PM
Lab ID:	1403M73-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	1170	100		mg/L	R265279	100	04/10/2014 12:57	GR
Total Metals by ICP/MS SW6020A					(SW3005A)			
Calcium	99900	1000		ug/L	188891	10	04/01/2014 00:26	MR
Iron	11800	1000		ug/L	188891	10	04/01/2014 00:26	MR
Magnesium	100000	1000		ug/L	188891	10	04/01/2014 00:26	MR
Potassium	480000	5000		ug/L	188891	10	04/01/2014 00:26	MR
Sodium	914000	5000		ug/L	188891	10	04/01/2014 00:26	MR
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	6240	1		mg/L	188981	1	03/28/2014 12:00	KB
Nitrogen, Ammonia (as N) E350.1					(E350.1)			
Nitrogen, Ammonia (As N)	1620	40.0		mg/L	188875	200	03/27/2014 18:18	LV
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011					(SW8011)			
1,2-Dibromo-3-chloropropane	BRL	0.197		ug/L	188940	1	03/29/2014 05:15	SH
1,2-Dibromoethane	BRL	0.049		ug/L	188940	1	03/29/2014 05:15	SH
Surr: 4-Bromofluorobenzene	84.4	60-120		%REC	188940	1	03/29/2014 05:15	SH
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00800		mg/L	189034	1	04/01/2014 12:48	CG
Inorganic Anions by IC E300.0								
Chloride	1370	500		mg/L	R264165	500	03/26/2014 22:23	GR
Fluoride	BRL	400		mg/L	R264165	100	03/26/2014 18:07	GR
Nitrogen, Nitrate (As N)	BRL	500		mg/L	R264165	50	03/27/2014 09:23	GR
Sulfate	BRL	50.0		mg/L	R264165	50	03/27/2014 09:23	GR
Dissolved Metals by ICP/MS SW6020A					(SW3005A)			
Manganese	1770	100		ug/L	189056	10	04/01/2014 16:57	MR
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	188979	1	03/29/2014 12:50	EH
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	3440	50.0		mg/L	R264278	5	03/28/2014 11:30	MG
APPENDIX I VOLATILE ORGANICS SW8260B					(SW5030B)			
1,1,1,2-Tetrachloroethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
1,1,1-Trichloroethane	BRL	2000		ug/L	189057	10	04/01/2014 03:31	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	LEACHATE
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 1:30:00 PM
Lab ID:	1403M73-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,2,2-Tetrachloroethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
1,1,2-Trichloroethane	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
1,1-Dichloroethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
1,1-Dichloroethene	BRL	70		ug/L	189057	10	04/01/2014 03:31	NP
1,2,3-Trichloropropane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
1,2-Dichlorobenzene	BRL	6000		ug/L	189057	10	04/01/2014 03:31	NP
1,2-Dichloroethane	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
1,2-Dichloropropane	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
1,4-Dichlorobenzene	BRL	750		ug/L	189057	10	04/01/2014 03:31	NP
2-Butanone	3800	100	*	ug/L	189057	10	04/01/2014 03:31	NP
2-Hexanone	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
4-Methyl-2-pentanone	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Acetone	2000	100		ug/L	189057	10	04/01/2014 03:31	NP
Acrylonitrile	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Benzene	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
Bromochloromethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Bromodichloromethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Bromoform	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Bromomethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Carbon disulfide	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Carbon tetrachloride	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
Chlorobenzene	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Chloroethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Chloroform	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Chloromethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
cis-1,2-Dichloroethene	BRL	700		ug/L	189057	10	04/01/2014 03:31	NP
cis-1,3-Dichloropropene	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Dibromochloromethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Dibromomethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Ethylbenzene	BRL	7000		ug/L	189057	10	04/01/2014 03:31	NP
Iodomethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Methylene chloride	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
Styrene	BRL	1000		ug/L	189057	10	04/01/2014 03:31	NP
Tetrachloroethene	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
Toluene	BRL	10000		ug/L	189057	10	04/01/2014 03:31	NP
trans-1,2-Dichloroethene	BRL	1000		ug/L	189057	10	04/01/2014 03:31	NP
trans-1,3-Dichloropropene	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
trans-1,4-Dichloro-2-butene	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Trichloroethene	BRL	50		ug/L	189057	10	04/01/2014 03:31	NP
Trichlorofluoromethane	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP
Vinyl acetate	BRL	100		ug/L	189057	10	04/01/2014 03:31	NP

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-Apr-14

Client:	Santek Environmental Inc.	**Client Sample ID:**	LEACHATE
Project Name:	Loudon Co. (Matlock Bend LF) 1st Semi-Annual	**Collection Date:**	3/25/2014 1:30:00 PM
Lab ID:	1403M73-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Vinyl chloride	BRL	20		ug/L	189057	10	04/01/2014 03:31	NP
Xylenes, Total	BRL	100000		ug/L	189057	10	04/01/2014 03:31	NP
Surr: 4-Bromofluorobenzene	90.2	66.2-120		%REC	189057	10	04/01/2014 03:31	NP
Surr: Dibromofluoromethane	121	79.5-121		%REC	189057	10	04/01/2014 03:31	NP
Surr: Toluene-d8	108	77-117		%REC	189057	10	04/01/2014 03:31	NP
APPENDIX I METALS SW6020A				**(SW3005A)**				
Antimony	BRL	0.0600		mg/L	188891	10	04/01/2014 00:26	MR
Arsenic	BRL	0.500		mg/L	188891	10	04/01/2014 00:26	MR
Barium	BRL	20.0		mg/L	188891	10	04/01/2014 00:26	MR
Beryllium	BRL	0.0400		mg/L	188891	10	04/01/2014 00:26	MR
Cadmium	BRL	0.0500		mg/L	188891	10	04/03/2014 18:37	MR
Chromium	BRL	1.00		mg/L	188891	10	04/01/2014 00:26	MR
Cobalt	BRL	0.100		mg/L	188891	10	04/03/2014 18:37	MR
Copper	BRL	0.100		mg/L	188891	10	04/03/2014 18:37	MR
Lead	BRL	0.150		mg/L	188891	10	04/01/2014 00:26	MR
Nickel	BRL	1.00		mg/L	188891	10	04/03/2014 18:37	MR
Selenium	BRL	0.100		mg/L	188891	10	04/03/2014 18:37	MR
Silver	BRL	0.500		mg/L	188891	10	04/03/2014 18:37	MR
Thallium	BRL	0.0200		mg/L	188891	10	04/01/2014 00:26	MR
Vanadium	0.108	0.100		mg/L	188891	10	04/01/2014 00:26	MR
Zinc	0.922	0.200		mg/L	188891	10	04/03/2014 18:37	MR

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

LEACHATE CONTROL CHART

LOUDON COUNTY
LEACHATE

INORGANIC	APPENDIX I LIMITS	4-17-02	4-29-04	4-11-05	3-27-06	3-22-07	3-27-08	4-2-09	4-7-10	1-5-11	3-15-12	3-28-13	3-25-14	Leachate AVG
Antimony	6	6	6	6	6	6	6	6	60	6	6	8.75	60.00	15.23
Arsenic	50	50	224	168	79.3	50.7	50.0	50.0	500.0	50.0	50.0	69.7	500.0	153.48
Barium	2000	2000	2610	2790	2000	2000	2000	2000	20000	2000	2000	2000	2000	3616.67
Beryllium	4	4	4	4	4	4	4	4	40	4	4	4	4	7.00
Cadmium	5	5	5	5	5	5	5	5	50	5	5	5	5	8.75
Chromium	100	100	106	145	100	100	100	100	1000	100	100	136	1000	257.25
Cobalt	NA	19.5	36.5	53.0	40.1	30.6	25.5	14.4	1000.0	37.2	10.0	87.1	100.0	121.16
Copper	NA	10	31.9	14.6	10	10	10	10	1000	10	10	15.9	100.0	102.70
Flouride*	4	4	4	4	4	4	80	80	40	400	40	40	400	91.67
Lead	†15	50	57.1	50	50	50	15	15	150	15	15	15	150	52.68
Mercury	2	2	2	2	2	2	2	2	2	2	2	2	2	2.00
Nickel	100	100	100	144	114	100	100	100	1000	100	100	258	1000	268.00
Selenium	10	10	10	10.5	20.2	12.2	21.3	10.0	100.0	12.8	10.0	14.1	100.0	27.59
Silver	50	50	50	50	50	50	50	50	500	50	50	50	500	125.00
Thallium	2	2	3.5	2	2	10.5	2.0	2.0	20.0	2.0	2.0	2.0	20.0	5.83
Vanadium	NA	10	55.4	34.3	14.2	14.2	11.4	10.0	100.0	25.5	10.0	48.5	108.0	36.79
Zinc	‡5000	44.4	918	209	66.5	32.5	66.8	67.5	420.0	176.0	191.0	1640.0	922.0	396.14

*ALL DATA IN UG/L EXCEPT FLUORIDE (MG/L)
† = TREATMENT TECHNIQUE ACTION LEVEL
‡ = NATIONAL SECONDARY DRINKING WATER STANDARD
4/7/10 reporting limits for some constituents are elevated due to a high dilution factor

ORGANIC	4-17-02	4-29-04	4-11-05	3-27-06	3-22-07	3-27-08	4-2-09	4-7-10	1-5-11	3-15-12	3-28-13	3-25-14
Acetone	ND	360	140	25	130	160	230	1300	230	1500	2000	2000
Acrylonitrile	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
Bromochloromethane	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
Bromoform; Tribomomethane	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
Carbon tetrachloride	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
Chloroethane; Ethyl chloride	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
Dibromochloromethane; Chlorodibromomethane	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
1,2-Dibromoethane	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
p-Dichlorobenzene; 1,4-Dichlorobenzene	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
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	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
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	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
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	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
cis-1,3-Dichloropropene	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
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	26	10	ND	ND	ND
Methyl bromide; Bromomethane	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
Methylene bromide; Dibromomethane	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
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	200	1900	420	3200	3500	3800
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	180	110	ND	37	11	ND	20	ND	ND	ND	ND
Styrene	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
1,1,2,2-Tetrachloroethane	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
Toluene	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
1,1,2-Trichloroethane	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
Trichlorofluoromethane; CFC-11	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
Vinyl acetate	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
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND