



130 Allen Brook Ln., Williston, VT 05495 USA  
1.800.723.4432 / 802.878.5138 Fax: 802.878.6765  
www.analyticalservices.com

09/26/2023

Baltimore, City of  
Deneen Gordon  
Laboratory Technical Administrator  
Ashburton Filtration Plant  
3001 Druid Park Drive  
Baltimore, MD 21215

Subject: Finished Reservoirs/ASI #71404

Dear: Deneen Gordon, Technical Admin.

Enclosed please find the test result(s) for sample(s) received at Analytical Services, Inc. (ASI) on 09/20/2023.

Please note: One *Cryptosporidium* oocyst was detected in the Druid Lake Finished Water Effluent sample. EPA Method 1623.1 does not determine the host organism or the viability of detected cysts and oocysts. Photomicrographs were taken and will be sent as an addendum to this report

Thank you for using ASI for your testing needs. For additional information regarding this report, please contact ASI Client Services at 800-723-4432.

Sincerely,  
ANALYTICAL SERVICES, INC.

A handwritten signature in black ink, appearing to read 'Harry D. Christman'.

Harry D. Christman, PhD  
Technical Director

Laboratory ID: NH-ELAP #2065





### USEPA Method 1623.1 Analytical Report

Baltimore, City of  
 Deneen Gordon  
 Laboratory Technical Administrator  
 Ashburton Filtration Plant  
 3001 Druid Park Drive  
 Baltimore, MD 21215

Analysis Start: 09/21/2023 9:07  
 Analysis End: 09/25/2023 0:00  
 Analyst: Kyle Masters

ASI Sample ID No.: 71404-01

Method 1623.1 Batch No.: 2524 1623.1  
 Cryptosporidium QC ID No.: 5804  
 Giardia QC ID No.: 5805

Sample Information	
PWS or Client Name:	BALTIMORE CITY
PWS ID:	MD030002
Facility Name:	ASHBURTON LAKE EFFLUENT
Facility ID:	TP2
Sample Collection Point Name:	ASHBURTON LAKE EFFLUENT
Sample Collection Point ID:	No Data
Matrix:	Water-Finished
Method:	EPA 1623.1
Analysis Type:	Field
Date / Time Collected:	09/19/2023 10:42
Turbidity (NTU):	0.3

Volume and Filtration Information	
Filter Type:	Envirochek HV
No of Filters Used:	1
Volume Filtered (L):	10.61
Packed Pellet Volume (mL):	0.01
Total Resuspended Concentrate Volume (mL):	5.0
Total Resuspended Concentrate Volume to IMS (mL):	5.0
Number of Sub-samples:	1
Total Sample Volume Examined (L):	10.61

Analytical Results		Matrix Spike Results		
Analyte	Total (Oo) cysts/L	Recovered (Oo) cysts/L	Spike Dose (Oo) cysts/L	Percent Recovery
<i>Giardia</i>	0.00	N/A	N/A	N/A
<i>Cryptosporidium</i>	0.00	N/A	N/A	N/A

Method: Samples processed, stained and examined using USEPA Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA (USEPA Jan. 2012: EPA 816-R-12-001) (ASI SOP 224-9).

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**USEPA Method 1623.1 Analytical Report**

 Baltimore, City of  
 Deneen Gordon  
 Laboratory Technical Administrator  
 Ashburton Filtration Plant  
 3001 Druid Park Drive  
 Baltimore, MD 21215

 Analysis Start: 09/21/2023 9:07  
 Analysis End: 09/25/2023 16:06  
 Analyst: Kyle Masters

**ASI Sample ID No.: 71404-02**

 Method 1623.1 Batch No.: 2524 1623.1  
 Cryptosporidium QC ID No.: 5804  
 Giardia QC ID No.: 5805

Sample Information	
PWS or Client Name:	BALTIMORE CITY
PWS ID:	MD030002
Facility Name:	DRUID LAKE EFFLUENT
Facility ID:	TP3
Sample Collection Point Name:	DRUID LAKE EFFLUENT
Sample Collection Point ID:	No Data
Matrix:	Water-Finished
Method:	EPA 1623.1
Analysis Type:	Field
Date / Time Collected:	09/19/2023 11:49
Turbidity (NTU):	0.6

Volume and Filtration Information	
Filter Type:	Gelman HV
No of Filters Used:	1
Volume Filtered (L):	10.67
Packed Pellet Volume (mL):	0.10
Total Resuspended Concentrate Volume (mL):	5.0
Total Resuspended Concentrate Volume to IMS (mL):	5.0
Number of Sub-samples:	1
Total Sample Volume Examined (L):	10.67

Analytical Results		Matrix Spike Results		
Analyte	Total (Oo) cysts/L	Recovered (Oo) cysts/L	Spike Dose (Oo) cysts/L	Percent Recovery
<i>Giardia</i>	0.00	N/A	N/A	N/A
<i>Cryptosporidium</i>	0.09	N/A	N/A	N/A

Method: Samples processed, stained and examined using USEPA Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA (USEPA Jan. 2012: EPA 816-R-12-001) (ASI SOP 224-9).

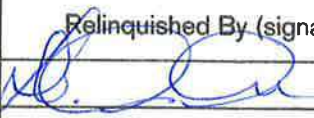
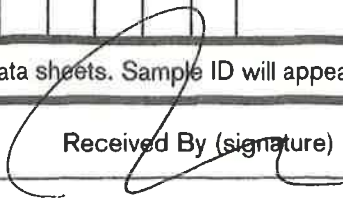
## CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management  
 Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 Web site: [www.analyticalservices.com](http://www.analyticalservices.com)

Submitted By: <u>City of Baltimore</u> <u>Ashburton WA Laboratory</u> <u>3001 Druid Park Drive</u> <u>Baltimore, MD. 21215</u> Phone: <u>410-396-0150</u> Email: <u>deneen.gordon@baltimorecity.gov</u>		Report To: <u>Deneen Gordon</u> <u>City of Baltimore Ashburton WA Laboratory</u> <u>3001 Druid Park Drive</u> <u>Baltimore, MD. 21215</u> Phone: <u>410-396-0150</u> Email: <u>deneen.gordon@baltimorecity.gov</u>	
Project Name	<u>CRYPTO/GIARDIA</u>	Invoice To:	<u>City of Baltimore</u> <u>Bureau of Accounting &amp; Payroll Services</u> <u>401 E. PAYETTE Street 15<sup>th</sup> floor</u> <u>Baltimore, MD. 21202</u> Phone: _____ Email: _____
Job Site	<u>ASHBURTON LAKE EFFLUENT</u>		
P.O. Number	<u>PO-013091</u>		

Sample Identification*	Sample Collection			Sample Matrix							Analysis Requested	Lab Use Only Temp (°C)
	Date (Start)	Time (Start)	Sampler Initials	check one								
				Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other			
<u>Ashburton Lake</u> <u>"Finish water" EFFLUENT</u>	<u>9/19/23</u>	<u>10:42AM</u>			<input checked="" type="checkbox"/>						<u>CRYPTO/GIARDIA</u> <u>method #1623</u>	<u>10.4</u>

\*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature) 	Date/Time <u>9/19/23, 12:35pm</u>	Received By (signature) 	Date/Time <u>9/20/23 10:00</u>
Field Comments:		Lab Comments:  <u>4/r</u>	

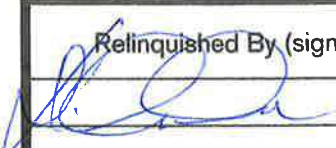
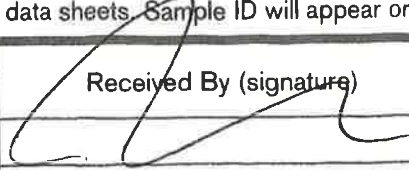
**CHAIN OF CUSTODY RECORD**

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management  
 Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 Web site: [www.analyticalservices.com](http://www.analyticalservices.com)

Submitted By: <u>City of Baltimore</u> <u>Ashburton WA Laboratory</u> <u>3001 Druid Park Drive</u> <u>Baltimore, MD. 21215</u>		Report To: <u>Deneen Gordon</u> <u>City of Baltimore Ashburton WA Laboratory</u> <u>3001 DRUID PARK DRIVE</u> <u>Baltimore, MD. 21215</u>	
Phone: <u>410-376-0150</u> Email: <u>deneen.gordon@baltimorecity.gov</u>		Phone: <u>410-376-0150</u> Email: <u>deneen.gordon@baltimorecity.gov</u>	
Project Name	<u>CRYPTO / GIARDIA</u>	Invoice To:	<u>City of Baltimore</u> <u>Bureau of Accounting &amp; Payroll Services</u> <u>401 E. Fayette Street 15th floor</u> <u>Baltimore, MD. 21202</u>
Job Site	<u>DRUID LAKE EFFLUENT</u>	Phone:	
P.O. Number	<u>PO - 013091</u>	Email:	

Sample Identification*	Sample Collection			Sample Matrix							Analysis Requested	Lab Use Only Temp (°C)
	Date (Start)	Time (Start)	Sampler Initials	check one								
				Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other			
<u>DRUID LAKE</u> <u>"FINISHED WATER" EFFLUENT</u>	<u>9/19/23</u>	<u>11:49 AM</u>			<input checked="" type="checkbox"/>						<u>CRYPTO / GIARDIA</u> <u>METHOD # 1623</u>	<u>10.4</u>

\*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature) 	Date/Time <u>9/19/23, 12:35 PM</u>	Received By (signature) 	Date/Time <u>9/20/23 1:00</u>
Field Comments:		Lab Comments:  <u>5/1-</u>	

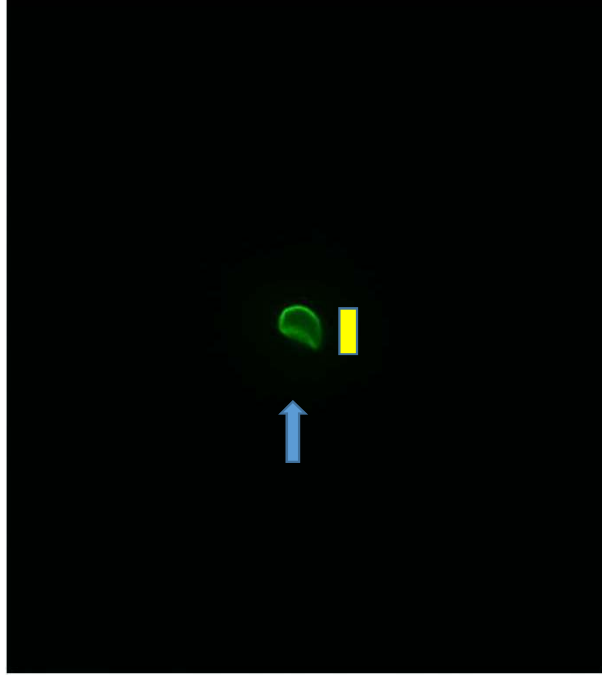
## Addendum to ASI Report 71404: Photomicrographs

Client: Baltimore, City of. Sample ID: 71404-02; Druid Lake Finished Water Effluent

- Sample collected on 19 Sep 2023
- Received at Analytical Services, Inc. (ASI) on 20 Sep 2023
- Reported to City of Baltimore on 26 Sep 2023
- ASI Sample #71404-02
- Analyzed using EPA Method 1623.1
- Photomicrographs taken under fluorescein isothiocyanate (FITC), 4',6-diamidino-2-phenylindole (DAPI) and differential interference contrast (DIC) microscopy at 1000X using a Zeiss Axioskop microscope equipped with a Spot RT3 imaging system.
- Reported organism sizes were measured using a calibrated stage micrometer. The scale bars and image measurements included herein are for visual reference only.

*Cryptosporidium* oocyst under FITC (Baltimore: “Druid Lake FW Effluent”, ASI: #71404-02).

The yellow scale represents approximately 5 microns (for perspective only, not a measurement device).  
Image captured at 1000X, shows fold in left side wall.



*Cryptosporidium* oocyst under DAPI (Baltimore: “Druid Lake FW Effluent”, ASI: #71404-02).  
The yellow scale represents approximately 5 microns (for perspective only, not a measurement device).  
Image captured at 1000X.

