Pelton, Jason M (DEC)

From: Stern, David <David.Stern@arcadis.com>
Sent: Wednesday, January 24, 2018 11:10 AM
To: Pelton, Jason M (DEC)
Cc: Edward Hannon (Edward.Hannon@ngc.com); Hesler, Donald (DEC); San Giovanni, Carlo; Wolfert, Mike
Subject: DELIVERABLE: OU3 Form 1 Submittal to NYSDEC
Attachments: Form 1 October-November 2017 (OU3 Phase 2).pdf

Good morning Jason:

On behalf of Northrop Grumman, Arcadis is submitting the attached Form 1 groundwater sampling data. As per discussions between Northrop Grumman and NYSDEC, NYSDEC requested that Northrop Grumman submit the validated Form 1s. The attached Form 1's are for the final data associated with OU3 routine sampling events conducted in October and November 2017.

Thank you!

Dave

David E. Stern, PG | Certified Project Manager | David.stern@arcadis.com
Arcadis | Arcadis U.S., Inc.
Two Huntington Quadrangle, Suite 1S10, Melville, NY | 11747 | USA
T. +1 631 391 5284 | M. + 1 516 369 7440

Licensed Environmental Professional / CT-LEP, #440
Professional Geologist / NY-PG, #000586

Report of Analysis

Client Sample ID:	MW-116-5		
Lab Sample ID:	JC53654-1	**Date Sampled:**	10/20/17
Matrix:	AQ - Ground Water	**Date Received:**	10/20/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A175419.D	5	10/27/17 14:38	OI	n/a	n/a	V1A7449
Run #2	1A175420.D	50	10/27/17 15:08	OI	n/a	n/a	V1A7449

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/l	
71-43-2	Benzene	ND	2.5	0.87	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.1	ug/l	
75-25-2	Bromoform	ND	5.0	2.1	ug/l	
74-83-9	Bromomethane	ND	10	6.9	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
106-99-0	1,3-Butadiene	ND	25	2.1	ug/l	
75-15-0	Carbon disulfide	ND	10	1.2	ug/l	
56-23-5	Carbon tetrachloride	2.0	5.0	1.7	ug/l	J
108-90-7	Chlorobenzene	ND	5.0	1.2	ug/l	
75-45-6	Chlorodifluoromethane	ND	25	11	ug/l	
75-00-3	Chloroethane	ND	5.0	3.0	ug/l	
67-66-3	Chloroform	ND	5.0	1.4	ug/l	
74-87-3	Chloromethane	ND	5.0	2.7	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	0.82	ug/l	
75-71-8	Dichlorodifluoromethane [a]	ND	10	9.3	ug/l	
75-34-3	1,1-Dichloroethane	4.3	5.0	1.0	ug/l	J
107-06-2	1,2-Dichloroethane	14.7	5.0	1.0	ug/l	
75-35-4	1,1-Dichloroethene	6.7	5.0	2.4	ug/l	
156-59-2	cis-1,2-Dichloroethene	261	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	2.0	ug/l	
78-87-5	1,2-Dichloropropane	4.0	5.0	1.2	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.1	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.1	ug/l	
76-13-1	Freon 113	ND	25	6.2	ug/l	
591-78-6	2-Hexanone	ND	25	16	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	25	15	ug/l	
75-09-2	Methylene chloride	ND	10	5.0	ug/l	
100-42-5	Styrene	ND	5.0	1.2	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	0.84	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.5	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-116-5		
Lab Sample ID:	JC53654-1	**Date Sampled:**	10/20/17
Matrix:	AQ - Ground Water	**Date Received:**	10/20/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	5.0	1.2	ug/l	
71-55-6	1,1,1-Trichloroethane	2.0	5.0	1.3	ug/l	J
79-00-5	1,1,2-Trichloroethane	2.3	5.0	1.2	ug/l	J
79-01-6	Trichloroethene	1650 [b]	50	13	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.1	ug/l	
75-68-3	1-chloro-1,1-difluoroethane	ND	25		ug/l	
	m,p-Xylene	ND	5.0	2.1	ug/l	
95-47-6	o-Xylene	ND	5.0	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	104%	80-120%
17060-07-0	1,2-Dichloroethane-D4	104%	107%	81-124%
2037-26-5	Toluene-D8	95%	95%	80-120%
460-00-4	4-Bromofluorobenzene	97%	98%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits low.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB102017AD1		
Lab Sample ID:	JC53654-2	**Date Sampled:**	10/20/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/20/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A175418.D	1	10/27/17 14:08	OI	n/a	n/a	V1A7449
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
106-99-0	1,3-Butadiene	ND	5.0	0.41	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-45-6	Chlorodifluoromethane	ND	5.0	2.1	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
75-71-8	Dichlorodifluoromethane [a]	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB102017AD1		
Lab Sample ID:	JC53654-2	**Date Sampled:**	10/20/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/20/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
75-68-3	1-chloro-1,1-difluoroethane	ND	5.0		ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		81-124%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	98%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-116-5
Lab Sample ID: JC55933-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Northrop Grumman, OU3 Hydro, Bethpage, NY

Date Sampled: 11/20/17
Date Received: 11/21/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B77440.D	2	12/01/17 12:00	HT	n/a	n/a	V4B3177
Run #2	4B77441.D	20	12/01/17 12:28	HT	n/a	n/a	V4B3177

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.35	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.43	ug/l	
75-25-2	Bromoform	ND	2.0	0.85	ug/l	
74-83-9	Bromomethane	ND	4.0	2.7	ug/l	
78-93-3	2-Butanone (MEK)	ND	20	9.5	ug/l	
106-99-0	1,3-Butadiene [a]	ND	10	0.82	ug/l	
75-15-0	Carbon disulfide	ND	4.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	2.2	2.0	0.67	ug/l	
108-90-7	Chlorobenzene	ND	2.0	0.48	ug/l	
75-45-6	Chlorodifluoromethane	ND	10	4.3	ug/l	
75-00-3	Chloroethane	ND	2.0	1.2	ug/l	
67-66-3	Chloroform	13.3	2.0	0.57	ug/l	
74-87-3	Chloromethane	ND	2.0	1.1	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.33	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	3.7	ug/l	
75-34-3	1,1-Dichloroethane	3.7	2.0	0.41	ug/l	
107-06-2	1,2-Dichloroethane	12.5	2.0	0.40	ug/l	
75-35-4	1,1-Dichloroethene	7.1	2.0	0.95	ug/l	
156-59-2	cis-1,2-Dichloroethene	253	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.6	2.0	0.80	ug/l	J
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
76-13-1	Freon 113 [a]	ND	10	2.5	ug/l	
591-78-6	2-Hexanone	ND	10	6.5	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	10	6.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
100-42-5	Styrene	ND	2.0	0.48	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.34	ug/l	
127-18-4	Tetrachloroethene	1.4	2.0	1.0	ug/l	J

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-116-5		
Lab Sample ID:	JC55933-1	**Date Sampled:**	11/20/17
Matrix:	AQ - Ground Water	**Date Received:**	11/21/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	1.8	2.0	0.50	ug/l	J
79-00-5	1,1,2-Trichloroethane	1.9	2.0	0.48	ug/l	J
79-01-6	Trichloroethene	1650 [b]	20	5.3	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.2	ug/l	
75-68-3	1-chloro-1,1-difluoroethane [a]	ND	10		ug/l	
	m,p-Xylene	ND	2.0	0.85	ug/l	
95-47-6	o-Xylene	ND	2.0	0.43	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	92%	80-120%
17060-07-0	1,2-Dichloroethane-D4	91%	90%	81-124%
2037-26-5	Toluene-D8	90%	93%	80-120%
460-00-4	4-Bromofluorobenzene	96%	96%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB112017AD1		
Lab Sample ID:	JC55933-2	**Date Sampled:**	11/20/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/21/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B77392.D	1	11/30/17 11:40	HT	n/a	n/a	V4B3175
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
106-99-0	1,3-Butadiene [a]	ND	5.0	0.41	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-45-6	Chlorodifluoromethane	ND	5.0	2.1	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene [a]	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB112017AD1		
Lab Sample ID:	JC55933-2	**Date Sampled:**	11/20/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/21/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
75-68-3	1-chloro-1,1-difluoroethane	ND	5.0		ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		80-120%
17060-07-0	1,2-Dichloroethane-D4	90%		81-124%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-109-3
Lab Sample ID: JC56014-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Northrop Grumman, OU3 Hydro, Bethpage, NY

Date Sampled: 11/21/17
Date Received: 11/22/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B77450.D	1	12/01/17 17:07	HT	n/a	n/a	V4B3177
Run #2	4B77449.D	10	12/01/17 16:11	HT	n/a	n/a	V4B3177

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
106-99-0	1,3-Butadiene [a]	ND	5.0	0.41	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-45-6	Chlorodifluoromethane	ND	5.0	2.1	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	4.1	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	2.6	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	0.69	1.0	0.20	ug/l	J
75-35-4	1,1-Dichloroethene	0.73	1.0	0.47	ug/l	J
156-59-2	cis-1,2-Dichloroethene	198	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.9	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	1.7	1.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-109-3		
Lab Sample ID:	JC56014-1	**Date Sampled:**	11/21/17
Matrix:	AQ - Ground Water	**Date Received:**	11/22/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	305 [b]	10	2.7	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
75-68-3	1-chloro-1,1-difluoroethane [a]	ND	5.0		ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%	92%	80-120%
17060-07-0	1,2-Dichloroethane-D4	86%	88%	81-124%
2037-26-5	Toluene-D8	95%	95%	80-120%
460-00-4	4-Bromofluorobenzene	97%	93%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TB11217AD1
Lab Sample ID: JC56014-2
Matrix: AQ - Trip Blank Water
Method: SW846 8260C
Project: Northrop Grumman, OU3 Hydro, Bethpage, NY

Date Sampled: 11/21/17
Date Received: 11/22/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B77409.D	1	11/30/17 19:34	HT	n/a	n/a	V4B3175
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
106-99-0	1,3-Butadiene [a]	ND	5.0	0.41	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-45-6	Chlorodifluoromethane	ND	5.0	2.1	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene [a]	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB11217AD1		
Lab Sample ID:	JC56014-2	**Date Sampled:**	11/21/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/22/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
75-68-3	1-chloro-1,1-difluoroethane	ND	5.0		ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		80-120%
17060-07-0	1,2-Dichloroethane-D4	89%		81-124%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	93%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: FB112117AD1
Lab Sample ID: JC56014-3
Matrix: AQ - Field Blank Water
Method: SW846 8260C
Project: Northrop Grumman, OU3 Hydro, Bethpage, NY

Date Sampled: 11/21/17
Date Received: 11/22/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B77410.D	1	11/30/17 20:02	HT	n/a	n/a	V4B3175
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
106-99-0	1,3-Butadiene [a]	ND	5.0	0.41	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-45-6	Chlorodifluoromethane	ND	5.0	2.1	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene [a]	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB112117AD1		
Lab Sample ID:	JC56014-3	**Date Sampled:**	11/21/17
Matrix:	AQ - Field Blank Water	**Date Received:**	11/22/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
75-68-3	1-chloro-1,1-difluoroethane	ND	5.0		ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
17060-07-0	1,2-Dichloroethane-D4	93%		81-124%
2037-26-5	Toluene-D8	90%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	REP112117AD1		
Lab Sample ID:	JC56014-4	**Date Sampled:**	11/21/17
Matrix:	AQ - Ground Water	**Date Received:**	11/22/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B77450A.D	1	12/01/17 17:35	HT	n/a	n/a	V4B3177
Run #2	4B77451.D	10	12/01/17 18:03	HT	n/a	n/a	V4B3177

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
106-99-0	1,3-Butadiene [a]	ND	5.0	0.41	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-45-6	Chlorodifluoromethane	ND	5.0	2.1	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	4.5	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	2.7	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	0.67	1.0	0.20	ug/l	J
75-35-4	1,1-Dichloroethene	0.73	1.0	0.47	ug/l	J
156-59-2	cis-1,2-Dichloroethene	212 [b]	10	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.9	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	1.5	1.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	REP112117AD1		
Lab Sample ID:	JC56014-4	**Date Sampled:**	11/21/17
Matrix:	AQ - Ground Water	**Date Received:**	11/22/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	287 [b]	10	2.7	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
75-68-3	1-chloro-1,1-difluoroethane [a]	ND	5.0		ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%	93%	80-120%
17060-07-0	1,2-Dichloroethane-D4	90%	92%	81-124%
2037-26-5	Toluene-D8	92%	92%	80-120%
460-00-4	4-Bromofluorobenzene	94%	95%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-111-4
Lab Sample ID: JC56014-5
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Northrop Grumman, OU3 Hydro, Bethpage, NY

Date Sampled: 11/21/17
Date Received: 11/22/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B77452.D	1	12/01/17 18:31	HT	n/a	n/a	V4B3177
Run #2	4B77453.D	10	12/01/17 18:59	HT	n/a	n/a	V4B3177

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
106-99-0	1,3-Butadiene [a]	ND	5.0	0.41	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-45-6	Chlorodifluoromethane	ND	5.0	2.1	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	2.5	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	8.7	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	3.4	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	6.0	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	658 [b]	10	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	8.1	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	0.94	1.0	0.24	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	11.7	1.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-111-4		
Lab Sample ID:	JC56014-5	**Date Sampled:**	11/21/17
Matrix:	AQ - Ground Water	**Date Received:**	11/22/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Northrop Grumman, OU3 Hydro, Bethpage, NY		

VOA OU3 Phase 2 List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	1.4	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.78	1.0	0.24	ug/l	J
79-01-6	Trichloroethene	1640 [b]	10	2.7	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
75-68-3	1-chloro-1,1-difluoroethane [a]	ND	5.0		ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	94%	80-120%
17060-07-0	1,2-Dichloroethane-D4	91%	93%	81-124%
2037-26-5	Toluene-D8	93%	92%	80-120%
460-00-4	4-Bromofluorobenzene	93%	93%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

2

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**JC53654X**	**Date Collected:**	**10/20/2017 12:00**	**Matrix:**	**WATER**
Lab Sample ID:	**436242001**	**Date Received:**	**10/25/2017 09:00**		
		Client:	**ACTL003**	**Project:**	**ACTL00316**
Client ID:	**MW-116-5**	**Method:**	**EPA 522**	**SOP Ref:**	**GL-OA-E-073**
Batch ID:	**1713120**	**Inst:**	**MSD6.I**	**Dilution:**	**10**
Run Date:	**10/26/2017 18:39**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**10/26/2017 09:00**	**Aliquot:**	**100 mL**	**Final Volume:**	**2 mL**
Data File:	**s102617.B\s6i2617.D**		**Rtx-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL	LOD	LOQ
123-91-1	1,4-Dioxane	J	37.1	ug/L	1.00	1.00	2.00

2

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**JC55933X**	**Date Collected:**	**11/20/2017 15:00**	**Matrix:**	**WATER**
Lab Sample ID:	**438687001**	**Date Received:**	**11/28/2017 08:55**		
		Client:	**ACTL003**	**Project:**	**ACTL00316**
Client ID:	**MW-116-5**	**Method:**	**EPA 522**	**SOP Ref:**	**GL-OA-E-073**
Batch ID:	**1723304**	**Inst:**	**MSD6.I**	**Dilution:**	**10**
Run Date:	**12/13/2017 08:34**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/12/2017 10:00**	**Aliquot:**	**100 mL**	**Final Volume:**	**2 mL**
Data File:	**s121217.B\s6L1240.D**		**Rtx-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL	LOD	LOQ
123-91-1	1,4-Dioxane	J	41.8	ug/L	1.00	1.00	2.00

2

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**JC56014X**	**Date Collected:**	**11/21/2017 11:00**	**Matrix:**	**WATER**
Lab Sample ID:	**438686001**	**Date Received:**	**11/28/2017 08:55**		
		Client:	**ACTL003**	**Project:**	**ACTL00316**
Client ID:	**MW-109-3**	**Method:**	**EPA 522**	**SOP Ref:**	**GL-OA-E-073**
Batch ID:	**1723304**	**Inst:**	**MSD6.I**	**Dilution:**	**1**
Run Date:	**12/12/2017 16:15**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/12/2017 10:00**	**Aliquot:**	**100 mL**	**Final Volume:**	**2 mL**
Data File:	**s121217.B\s6L1209.D**		**Rtx-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL	LOD	LOQ
123-91-1	1,4-Dioxane		6.26	ug/L	0.100	0.100	0.200

2

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**JC56014X**	**Date Collected:**	**11/21/2017 08:30**	**Matrix:**	**WATER**
Lab Sample ID:	**438686002**	**Date Received:**	**11/28/2017 08:55**		
		Client:	**ACTL003**	**Project:**	**ACTL00316**
Client ID:	**FB12117AD1**	**Method:**	**EPA 522**	**SOP Ref:**	**GL-OA-E-073**
Batch ID:	**1723304**	**Inst:**	**MSD6.I**	**Dilution:**	**1**
Run Date:	**12/12/2017 17:17**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/12/2017 10:00**	**Aliquot:**	**100 mL**	**Final Volume:**	**2 mL**
Data File:	**s121217.B\s6L1211.D**		**Rtx-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL	LOD	LOQ
123-91-1	1,4-Dioxane	U	0.100	ug/L	0.100	0.100	0.200

2

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**JC56014X**	**Date Collected:**	**11/21/2017 12:00**	**Matrix:**	**WATER**
Lab Sample ID:	**438686003**	**Date Received:**	**11/28/2017 08:55**		
		Client:	**ACTL003**	**Project:**	**ACTL00316**
Client ID:	**REP112117AD1**	**Method:**	**EPA 522**	**SOP Ref:**	**GL-OA-E-073**
Batch ID:	**1723304**	**Inst:**	**MSD6.I**	**Dilution:**	**1**
Run Date:	**12/12/2017 18:21**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/12/2017 10:00**	**Aliquot:**	**100 mL**	**Final Volume:**	**2 mL**
Data File:	**s121217.B\s6L1213.D**		**Rtx-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL	LOD	LOQ
123-91-1	1,4-Dioxane		6.58	ug/L	0.100	0.100	0.200

2

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**JC56014X**	**Date Collected:**	**11/21/2017 13:50**	**Matrix:**	**WATER**
Lab Sample ID:	**438686004**	**Date Received:**	**11/28/2017 08:55**		
		Client:	**ACTL003**	**Project:**	**ACTL00316**
Client ID:	**MW-111-4**	**Method:**	**EPA 522**	**SOP Ref:**	**GL-OA-E-073**
Batch ID:	**1723304**	**Inst:**	**MSD6.I**	**Dilution:**	**10**
Run Date:	**12/13/2017 08:07**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/12/2017 10:00**	**Aliquot:**	**100 mL**	**Final Volume:**	**2 mL**
Data File:	**s121217.B\s6L1239.D**		**Rtx-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL	LOD	LOQ
123-91-1	1,4-Dioxane		44.6	ug/L	1.00	1.00	2.00