

## Pelton, Jason M (DEC)

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**From:** Brian Caldwell <bcaldwell@Ensafe.com>  
**Sent:** Friday, February 23, 2018 12:11 PM  
**To:** Pelton, Jason M (DEC); Hesler, Donald (DEC); Karpinski, Steven (HEALTH); Lovejoy, John (NASSAU); thantu.lorenzo@epa.gov; Garbarini.Doug@epa.gov  
**Cc:** Fly, Lora B CIV NAVFAC MIDLANT, IPTNE (lora.fly@navy.mil); brian.s.murray@navy.mil  
**Subject:** Bethpage OU2 - 4Q 2017 Form 1 results  
**Attachments:** Form 1\_022018.pdf

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All:

Per discussions between the Navy and NYSDEC, NYSDEC requested that analytical data be made available as soon as validation is complete. On behalf of the Navy, attached are the Form 1 validated data for Fourth Quarter 2017 from the following wells:

- o Outpost well BPOW 5-7
- o Outpost well cluster BPOW 6 (BPOW 6-1, 6-2, 6-3, 6-4, 6-5 and 6-6)

Navy monitoring Wells

- o RE124D1, RE124D2
- o RE133D1, RE133D2

Form 1 data includes both VOCs and 1,4-dioxane results.

Samples were collected between 12/12/17 and 12/18/17 by Arcadis (Northrop Grumman contractor) on behalf of the Navy.

Remaining Navy monitoring wells and outpost wells sampled by Arcadis later during the Fourth Quarter 2017 will be provided in near future once validation is complete.

### **Brian Caldwell, PG CPG**

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## Report of Analysis

Client Sample ID:	RE133D1	Date Sampled:	12/12/17
Lab Sample ID:	JC57298-1	Date Received:	12/13/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B78119.D	1	12/22/17 15:04	HT	n/a	n/a	V4B3205
Run #2							

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

## VOA OU2 GW 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	
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	
75-00-3	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	
75-34-3	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	
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	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> RE133D1	<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57298-1	<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C	
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	103%		80-120%

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

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

4.1  
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## Report of Analysis

<b>Client Sample ID:</b> RE133D1 <b>Lab Sample ID:</b> JC57298-1 <b>Matrix:</b> AQ - Ground Water <b>Method:</b> SW846 8270D BY SIM SW846 3510C <b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	<b>Date Sampled:</b> 12/12/17 <b>Date Received:</b> 12/13/17 <b>Percent Solids:</b> n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P64626.D	1	01/12/18 15:07	RK	12/16/17 17:00	OP8726A	E3P3058
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	54%		29-124%		
321-60-8	2-Fluorobiphenyl	55%		23-122%		
1718-51-0	Terphenyl-d14	50%		22-130%		

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

4.1  
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## Report of Analysis

Client Sample ID:	RE133D2	Date Sampled:	12/12/17
Lab Sample ID:	JC57298-2	Date Received:	12/13/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B78120.D	1	12/22/17 15:32	HT	n/a	n/a	V4B3205
Run #2							

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

## VOA OU2 GW 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	
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	
75-00-3	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	
75-34-3	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	
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	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> RE133D2		<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57298-2		<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	104%		80-120%

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

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

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## Report of Analysis

<b>Client Sample ID:</b> RE133D2 <b>Lab Sample ID:</b> JC57298-2 <b>Matrix:</b> AQ - Ground Water <b>Method:</b> SW846 8270D BY SIM SW846 3510C <b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	<b>Date Sampled:</b> 12/12/17 <b>Date Received:</b> 12/13/17 <b>Percent Solids:</b> n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P64627.D	1	01/12/18 15:39	RK	12/16/17 17:00	OP8726A	E3P3058
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	57%		29-124%		
321-60-8	2-Fluorobiphenyl	60%		23-122%		
1718-51-0	Terphenyl-d14	53%		22-130%		

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

4.2  
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# Report of Analysis

<b>Client Sample ID:</b> FB121217JC1		
<b>Lab Sample ID:</b> JC57298-3		<b>Date Sampled:</b> 12/12/17
<b>Matrix:</b> AQ - Field Blank Water		<b>Date Received:</b> 12/13/17
<b>Method:</b> SW846 8260C		<b>Percent Solids:</b> n/a
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B78121.D	1	12/22/17 16:00	HT	n/a	n/a	V4B3205
Run #2							

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

### VOA OU2 GW 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	
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	
75-00-3	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	
75-34-3	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	
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	

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

4.3  
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## Report of Analysis

<b>Client Sample ID:</b> FB121217JC1		<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57298-3		<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Field Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	97%		81-124%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	104%		80-120%

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

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

4.3  
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## Report of Analysis

<b>Client Sample ID:</b> FB121217JC1 <b>Lab Sample ID:</b> JC57298-3 <b>Matrix:</b> AQ - Field Blank Water <b>Method:</b> SW846 8270D BY SIM SW846 3510C <b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	<b>Date Sampled:</b> 12/12/17 <b>Date Received:</b> 12/13/17 <b>Percent Solids:</b> n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P64625.D	1	01/12/18 14:34	RK	12/16/17 17:00	OP8726A	E3P3058
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	57%		29-124%		
321-60-8	2-Fluorobiphenyl	60%		23-122%		
1718-51-0	Terphenyl-d14	53%		22-130%		

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

4.3  
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## Report of Analysis

Client Sample ID: TB121217AR1		Date Sampled: 12/12/17
Lab Sample ID: JC57298-4		Date Received: 12/13/17
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260C		
Project: Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B78125.D	1	12/22/17 17:51	HT	n/a	n/a	V4B3205
Run #2							

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

VOA OU2 GW 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	
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	
75-00-3	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	
75-34-3	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	
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	

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

4.4  
4

## Report of Analysis

<b>Client Sample ID:</b> TB121217AR1		<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57298-4		<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	103%		80-120%

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

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

4.4  
4

## Report of Analysis

<b>Client Sample ID:</b>	RE124D1	<b>Date Sampled:</b>	12/14/17
<b>Lab Sample ID:</b>	JC57500-1	<b>Date Received:</b>	12/15/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A177342.D	1	12/27/17 15:41	GA	n/a	n/a	V1A7532
Run #2							

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

## VOA OU2 GW 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	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.34	1.0	0.34	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.24	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	
75-34-3	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	1.1	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	61.0	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	0.59	1.0	0.50	ug/l	J
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	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> RE124D1		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57500-1		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene	3.9	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	105%		80-120%
17060-07-0	1,2-Dichloroethane-D4	95%		81-124%
2037-26-5	Toluene-D8	92%		80-120%
460-00-4	4-Bromofluorobenzene	97%		80-120%

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

4.1  
4

## Report of Analysis

<b>Client Sample ID:</b> RE124D1		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57500-1		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270D BY SIM SW846 3510C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	3P64658.D	1	01/14/18 06:52	SB	12/20/17 06:45	OP8766	E3P3059
Run #2 <sup>b</sup>	4P25130.D	1	01/18/18 13:06	SB	01/10/18 10:00	OP9189A	E4P1404

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2	1000 ml	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane <sup>a</sup>	<del>ND</del>	<del>0.10</del>	<del>0.050</del>	<del>ug/l</del>	R

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>c</sup>	61%	29-124%
321-60-8	2-Fluorobiphenyl	0% <sup>c</sup>	54%	23-122%
1718-51-0	Terphenyl-d14	2% <sup>c</sup>	61%	22-130%

- (a) Surrogate recovery indicates possible low bias. Sample reextracted outside holding time.
- (b) Confirmation run.
- (c) Outside of in house control limits.

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

4.1  
4

## Report of Analysis

4.2  
4

<b>Client Sample ID:</b>	RE124D2	<b>Date Sampled:</b>	12/14/17
<b>Lab Sample ID:</b>	JC57500-2	<b>Date Received:</b>	12/15/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A177315.D	1	12/27/17 01:10	GA	n/a	n/a	V1A7531
Run #2							

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

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	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	
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	
75-00-3	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	
75-34-3	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	
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	

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



## Report of Analysis

<b>Client Sample ID:</b> RE124D2		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57500-2		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene <sup>a</sup>	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	101%		80-120%
17060-07-0	1,2-Dichloroethane-D4	92%		81-124%
2037-26-5	Toluene-D8	92%		80-120%
460-00-4	4-Bromofluorobenzene	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.

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

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> RE124D2	<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57500-2	<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270D BY SIM SW846 3510C	
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M73278.D	1	01/03/18 08:04	CS	12/20/17 01:30	OP8766	E3M3517
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		29-124%
321-60-8	2-Fluorobiphenyl	44%		23-122%
1718-51-0	Terphenyl-d14	37%		22-130%

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

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> FB121417AR1	
<b>Lab Sample ID:</b> JC57500-3	<b>Date Sampled:</b> 12/14/17
<b>Matrix:</b> AQ - Field Blank Water	<b>Date Received:</b> 12/15/17
<b>Method:</b> SW846 8260C	<b>Percent Solids:</b> n/a
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A177316.D	1	12/27/17 01:40	GA	n/a	n/a	V1A7531
Run #2							

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

### VOA OU2 GW List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	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	
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	
75-00-3	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	
75-34-3	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	
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	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> FB121417AR1		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57500-3		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Field Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene <sup>a</sup>	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	93%		81-124%
2037-26-5	Toluene-D8	92%		80-120%
460-00-4	4-Bromofluorobenzene	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.

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

4.3  
4

## Report of Analysis

<b>Client Sample ID:</b> FB121417AR1	<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57500-3	<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Field Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270D BY SIM SW846 3510C	
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M73279.D	1	01/03/18 08:35	CS	12/20/17 01:30	OP8766	E3M3517
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.11	0.054	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	91%		29-124%
321-60-8	2-Fluorobiphenyl	64%		23-122%
1718-51-0	Terphenyl-d14	69%		22-130%

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

4.3  
4

# Report of Analysis

<b>Client Sample ID:</b> TB121417JC1	
<b>Lab Sample ID:</b> JC57500-4	<b>Date Sampled:</b> 12/14/17
<b>Matrix:</b> AQ - Trip Blank Water	<b>Date Received:</b> 12/15/17
<b>Method:</b> SW846 8260C	<b>Percent Solids:</b> n/a
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A177317.D	1	12/27/17 02:10	GA	n/a	n/a	V1A7531
Run #2							

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

### VOA OU2 GW List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	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	
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	
75-00-3	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	
75-34-3	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	
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	

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

4.4  
4

## Report of Analysis

<b>Client Sample ID:</b> TB121417JC1		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57500-4		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260C		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

**VOA OU2 GW List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethene <sup>a</sup>	ND	1.0	0.27	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	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	104%		80-120%
17060-07-0	1,2-Dichloroethane-D4	92%		81-124%
2037-26-5	Toluene-D8	92%		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.

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

4.4  
4

## Report of Analysis

<b>Client Sample ID:</b>	BPOW 6-1	<b>Date Sampled:</b>	12/12/17
<b>Lab Sample ID:</b>	JC57292-1	<b>Date Received:</b>	12/13/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 524.2 REV 4.1		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	1B113069.D	1	12/19/17 19:24	BK	n/a	n/a	V1B5401
Run #2							

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

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> BPOW 6-1		<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57292-1		<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	87%		70-130%
460-00-4	4-Bromofluorobenzene	83%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

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

<b>Client Sample ID:</b> BPOW 6-2		<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57292-2		<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	1B113070.D	1	12/19/17 19:56	BK	n/a	n/a	V1B5401
Run #2							

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

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

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

## Report of Analysis

<b>Client Sample ID:</b> BPOW 6-2		<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57292-2		<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	93%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

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

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> TB121217PP1	<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57292-3	<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1	
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	1B113071.D	1	12/19/17 20:28	BK	n/a	n/a	V1B5401
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB121217PP1		<b>Date Sampled:</b> 12/12/17
<b>Lab Sample ID:</b> JC57292-3		<b>Date Received:</b> 12/13/17
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	84%		70-130%
460-00-4	4-Bromofluorobenzene	76%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

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

4.3  
4

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

SDG Number: JC57292X  
 Lab Sample ID: 440179001  
  
 Client ID: BPOW 6-1  
 Batch ID: 1728612  
 Run Date: 01/02/2018 23:13  
 Prep Date: 01/02/2018 08:40  
 Data File: s010218.B\s6a0215.D

Date Collected: 12/12/2017 13:50  
 Date Received: 12/15/2017 09:05  
 Client: ACTL003  
 Method: EPA 522  
 Inst: MSD6.I  
 Analyst: JMB3  
 Aliquot: 100 mL  
 Rx-624

Matrix: WATER  
  
 Project: ACTL00316  
 SOP Ref: GL-OA-E-073  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 2 mL

CAS No.	Parname	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: JC57292X  
 Lab Sample ID: 440179002  
  
 Client ID: BPOW 6-2  
 Batch ID: 1728612  
 Run Date: 01/03/2018 00:07  
 Prep Date: 01/02/2018 08:40  
 Data File: s010218.B\s6a0217.D

Date Collected: 12/12/2017 13:55  
 Date Received: 12/15/2017 09:05  
 Client: ACTL003  
 Method: EPA 522  
 Inst: MSD6.I  
 Analyst: JMB3  
 Aliquot: 100 mL  
 Rx-624

Matrix: WATER  
  
 Project: ACTL00316  
 SOP Ref: GL-OA-E-073  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 2 mL

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

2

## Report of Analysis

<b>Client Sample ID:</b>	BPOW 6-4	<b>Date Sampled:</b>	12/14/17
<b>Lab Sample ID:</b>	JC57497-1	<b>Date Received:</b>	12/15/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 524.2 REV 4.1		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	1B113072.D	1	12/19/17 21:00	BK	n/a	n/a	V1B5401
Run #2							

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

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> BPOW 6-4		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57497-1		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	90%		70-130%
460-00-4	4-Bromofluorobenzene	83%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

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

4.1  
4

## Report of Analysis

<b>Client Sample ID:</b> BPOW 6-3		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57497-2		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	1B113073.D	1	12/19/17 21:31	BK	n/a	n/a	V1B5401
Run #2							

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

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

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

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> BPOW 6-3		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57497-2		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	93%		70-130%
460-00-4	4-Bromofluorobenzene	83%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

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

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b>	TB121417PP1	<b>Date Sampled:</b>	12/14/17
<b>Lab Sample ID:</b>	JC57497-3	<b>Date Received:</b>	12/15/17
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 524.2 REV 4.1		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	1B113074.D	1	12/19/17 22:03	BK	n/a	n/a	V1B5401
Run #2							

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

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB121417PP1		<b>Date Sampled:</b> 12/14/17
<b>Lab Sample ID:</b> JC57497-3		<b>Date Received:</b> 12/15/17
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	91%		70-130%
460-00-4	4-Bromofluorobenzene	81%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

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

4.3  
4

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

SDG Number: JC57497X  
 Lab Sample ID: 440303001  
  
 Client ID: BPOW 6-4  
 Batch ID: 1729872  
 Run Date: 01/10/2018 04:46  
 Prep Date: 01/09/2018 10:00  
 Data File: s010918.B\s6a0924.D

Date Collected: 12/14/2017 15:15  
 Date Received: 12/19/2017 09:50  
 Client: ACTL003  
 Method: EPA 522  
 Inst: MSD6.I  
 Analyst: JMB3  
 Aliquot: 100 mL  
 Rx-624

Matrix: WATER  
  
 Project: ACTL00316  
 SOP Ref: GL-OA-E-073  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 2 mL

CAS No.	Parname	Qualifier	Result	Units	MDL	LOD	LOQ
123-91-1	1,4-Dioxane	J	0.141	ug/L	0.100	0.100	0.200

2

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

SDG Number: JC57497X  
 Lab Sample ID: 440303002  
  
 Client ID: BPOW 6-3  
 Batch ID: 1729872  
 Run Date: 01/10/2018 06:04  
 Prep Date: 01/09/2018 10:00  
 Data File: s010918.B\s6a0926.D

Date Collected: 12/14/2017 15:20  
 Date Received: 12/19/2017 09:50  
 Client: ACTL003  
 Method: EPA 522  
 Inst: MSD6.I  
 Analyst: JMB3  
 Aliquot: 100 mL  
 Rx-624

Matrix: WATER  
  
 Project: ACTL00316  
 SOP Ref: GL-OA-E-073  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 2 mL

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

2

## Report of Analysis

<b>Client Sample ID:</b> BPOW 5-7		<b>Date Sampled:</b> 12/18/17
<b>Lab Sample ID:</b> JC57674-1		<b>Date Received:</b> 12/19/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	4D84511.D	1	12/22/17 18:53	BK	n/a	n/a	V4D3646
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane <sup>b</sup>	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> BPOW 5-7		<b>Date Sampled:</b> 12/18/17
<b>Lab Sample ID:</b> JC57674-1		<b>Date Received:</b> 12/19/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
2199-69-1	1,2-Dichlorobenzene-d4	78%		70-130%		
460-00-4	4-Bromofluorobenzene	75%		70-130%		
CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q	
	system artifact	5.12	.66	ug/l	J	
	Total TIC, Volatile		0	ug/l		

- (a) EPA 524.2 is not a certified method for non-potable water samples.
- (b) This compound in BS is outside in house QC limits bias high.

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

4.1  
4

## Report of Analysis

<b>Client Sample ID:</b>	TB121817AD1	<b>Date Sampled:</b>	12/18/17
<b>Lab Sample ID:</b>	JC57674-2	<b>Date Received:</b>	12/19/17
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 524.2 REV 4.1		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	4D84512.D	1	12/22/17 19:25	BK	n/a	n/a	V4D3646
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane <sup>b</sup>	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB121817AD1		<b>Date Sampled:</b> 12/18/17
<b>Lab Sample ID:</b> JC57674-2		<b>Date Received:</b> 12/19/17
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	78%		70-130%
460-00-4	4-Bromofluorobenzene	75%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

(b) This compound in BS is outside in house QC limits bias high.

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

4.2  
4

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

SDG Number: JC57674X  
 Lab Sample ID: 440529001  
  
 Client ID: BPOW 5-7  
 Batch ID: 1730571  
 Run Date: 01/12/2018 00:39  
 Prep Date: 01/11/2018 11:30  
 Data File: s011118.B\s6a1127.D

Date Collected: 12/18/2017 15:40  
 Date Received: 12/21/2017 09:55  
 Client: ACTL003  
 Method: EPA 522  
 Inst: MSD6.I  
 Analyst: JMB3  
 Aliquot: 100 mL  
 Rtx-624

Matrix: WATER  
  
 Project: ACTL00316  
 SOP Ref: GL-OA-E-073  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 2 mL

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

2

## Report of Analysis

<b>Client Sample ID:</b> BPOW 6-5		<b>Date Sampled:</b> 12/18/17
<b>Lab Sample ID:</b> JC57675-1		<b>Date Received:</b> 12/19/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	4D84513.D	1	12/22/17 19:58	BK	n/a	n/a	V4D3646
Run #2							

Run	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane <sup>b</sup>	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	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

<b>Client Sample ID:</b> BPOW 6-5		<b>Date Sampled:</b> 12/18/17
<b>Lab Sample ID:</b> JC57675-1		<b>Date Received:</b> 12/19/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	78%		70-130%
460-00-4	4-Bromofluorobenzene	74%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

(b) This compound in BS is outside in house QC limits bias high.

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

4.1  
4

## Report of Analysis

<b>Client Sample ID:</b>	BPOW 6-6	<b>Date Sampled:</b>	12/18/17
<b>Lab Sample ID:</b>	JC57675-2	<b>Date Received:</b>	12/19/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 524.2 REV 4.1		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	4D84514.D	1	12/22/17 20:30	BK	n/a	n/a	V4D3646
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane <sup>b</sup>	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> BPOW 6-6		<b>Date Sampled:</b> 12/18/17
<b>Lab Sample ID:</b> JC57675-2		<b>Date Received:</b> 12/19/17
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	74%		70-130%
460-00-4	4-Bromofluorobenzene	75%		70-130%

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

(a) EPA 524.2 is not a certified method for non-potable water samples.

(b) This compound in BS is outside in house QC limits bias high.

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

4.2  
4



## Report of Analysis

<b>Client Sample ID:</b>	TB121817PP1	<b>Date Sampled:</b>	12/18/17
<b>Lab Sample ID:</b>	JC57675-3	<b>Date Received:</b>	12/19/17
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 524.2 REV 4.1		
<b>Project:</b>	Northrup Grumman, Navy Wells OU2, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	4D84515.D	1	12/22/17 21:02	BK	n/a	n/a	V4D3646
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	
78-93-3	2-Butanone	ND	5.0	2.5	ug/l	
71-43-2	Benzene	ND	0.50	0.26	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	0.36	ug/l	
75-25-2	Bromoform	ND	0.50	0.40	ug/l	
74-83-9	Bromomethane <sup>b</sup>	ND	0.50	0.081	ug/l	
75-15-0	Carbon disulfide	ND	0.50	0.39	ug/l	
108-90-7	Chlorobenzene	ND	0.50	0.27	ug/l	
75-00-3	Chloroethane	ND	0.50	0.071	ug/l	
67-66-3	Chloroform	ND	0.50	0.33	ug/l	
74-87-3	Chloromethane	ND	0.50	0.39	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	0.13	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.28	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	0.29	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	0.094	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	0.098	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.26	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.14	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.25	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.26	ug/l	
76-13-1	Freon 113	ND	1.0	0.27	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.3	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.37	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	2.0	1.5	ug/l	
100-42-5	Styrene	ND	0.50	0.21	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.12	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.099	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.12	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.12	ug/l	
108-88-3	Toluene	ND	0.50	0.13	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB121817PP1		<b>Date Sampled:</b> 12/18/17
<b>Lab Sample ID:</b> JC57675-3		<b>Date Received:</b> 12/19/17
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 524.2 REV 4.1		
<b>Project:</b> Northrup Grumman, Navy Wells OU2, Bethpage, NY		

### VOA OU2 Outpost List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	0.50	0.11	ug/l	
75-01-4	Vinyl chloride	ND	0.50	0.056	ug/l	
	m,p-Xylene	ND	0.50	0.26	ug/l	
95-47-6	o-Xylene	ND	0.50	0.24	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
2199-69-1	1,2-Dichlorobenzene-d4	74%		70-130%		
460-00-4	4-Bromofluorobenzene	76%		70-130%		
CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q	
	system artifact	5.15	.81	ug/l	J	
	Total TIC, Volatile		0	ug/l		

- (a) EPA 524.2 is not a certified method for non-potable water samples.
- (b) This compound in BS is outside in house QC limits bias high.

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

4.3  
4

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

SDG Number: JC57675X  
 Lab Sample ID: 440526001  
  
 Client ID: BPOW 6-5  
 Batch ID: 1731657  
 Run Date: 01/15/2018 18:33  
 Prep Date: 01/15/2018 11:45  
 Data File: s011518.B\s6a1507.D

Date Collected: 12/18/2017 16:00  
 Date Received: 12/21/2017 09:55  
 Client: ACTL003  
 Method: EPA 522  
 Inst: MSD6.I  
 Analyst: JMB3  
 Aliquot: 100 mL  
 Rtx-624

Matrix: WATER  
  
 Project: ACTL00316  
 SOP Ref: GL-OA-E-073  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 2 mL

CAS No.	Parname	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: JC57675X  
 Lab Sample ID: 440526002  
  
 Client ID: BPOW 6-6  
 Batch ID: 1730571  
 Run Date: 01/11/2018 23:48  
 Prep Date: 01/11/2018 11:30  
 Data File: s011118.B\s6a1125.D

Date Collected: 12/18/2017 16:10  
 Date Received: 12/21/2017 09:55  
 Client: ACTL003  
 Method: EPA 522  
 Inst: MSD6.I  
 Analyst: JMB3  
 Aliquot: 100 mL  
 Rtx-624

Matrix: WATER  
  
 Project: ACTL00316  
 SOP Ref: GL-OA-E-073  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 2 mL

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

2