

Pelton, Jason M (DEC)

From: Zahradnik, Art <Art.Zahradnik@arcadis.com>
Sent: Friday, November 22, 2019 6:56 PM
To: Pelton, Jason M (DEC)
Cc: Scharf, Steven (DEC); Hesler, Donald (DEC); Hannon, ED [US] (AS); Stern, David; Wolfert, Mike; brian.s.murray@navy.mil; Brayack, David; Wu, Ernie
Subject: DELIVERABLE - Form 1 Data - Northrop Grumman Bethpage - OU2 3Q-2019 Groundwater Sampling
Attachments: Form 1_111119.pdf

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Dear Jason,

On behalf of Northrop Grumman, Arcadis is submitting the attached Form 1 data. As per discussions between Northrop Grumman and NYSDEC, NYSDEC requested that Northrop Grumman submit the validated Form 1s as soon as the information is available.

The attached Form 1's are for the OU2 3Q 2019 routine sampling event (samples collected between 09/09/19 and 09/12/19) per the OU2 Groundwater Monitoring Plan (Arcadis 2016).

Have a good weekend and please let us know if you have any questions.

-Art

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Report of Analysis

| | | | |
|-------------------|------------------------------|-----------------|----------|
| Client Sample ID: | BPOW2-1 | Date Sampled: | 09/09/19 |
| Lab Sample ID: | JC94722-1 | Date Received: | 09/10/19 |
| Matrix: | AQ - Ground Water | Percent Solids: | n/a |
| Method: | EPA 524.2 REV 4.1 | | |
| Project: | Navy Wells OU2, Bethpage, NY | | |

| Run # | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---------------------|------------|----|----------------|----|-----------|------------|------------------|
| Run #1 ^a | 1B120888.D | 1 | 09/11/19 16:57 | BK | n/a | n/a | V1B5844 |
| 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 | 2.5 | ug/l | |
| 78-93-3 | 2-Butanone | ND | 5.0 | 0.43 | ug/l | |
| 71-43-2 | Benzene | ND | 0.50 | 0.16 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 0.50 | 0.13 | ug/l | |
| 75-25-2 | Bromoform ^b | ND | 0.50 | 0.27 | ug/l | |
| 74-83-9 | Bromomethane | ND | 0.50 | 0.18 | ug/l | |
| 75-15-0 | Carbon disulfide | ND | 0.50 | 0.18 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 0.50 | 0.093 | ug/l | |
| 75-00-3 | Chloroethane | ND | 0.50 | 0.080 | ug/l | |
| 67-66-3 | Chloroform | ND | 0.50 | 0.17 | ug/l | |
| 74-87-3 | Chloromethane | ND | 0.50 | 0.13 | ug/l | |
| 56-23-5 | Carbon tetrachloride ^b | ND | 0.50 | 0.24 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 0.50 | 0.19 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.50 | 0.18 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.50 | 0.19 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 0.50 | 0.14 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 0.50 | 0.21 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 0.50 | 0.14 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.50 | 0.18 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.50 | 0.16 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 0.50 | 0.076 | ug/l | |
| 76-13-1 | Freon 113 | ND | 1.0 | 0.34 | ug/l | |
| 591-78-6 | 2-Hexanone | ND | 2.0 | 0.24 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 0.50 | 0.37 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 2.0 | 0.22 | ug/l | |
| 100-42-5 | Styrene | ND | 0.50 | 0.069 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.50 | 0.13 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.50 | 0.19 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 0.50 | 0.23 | ug/l | |
| 108-88-3 | Toluene | ND | 0.50 | 0.11 | 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

| | |
|---|---|
| Client Sample ID: BPOW2-1 Lab Sample ID: JC94722-1 Matrix: AQ - Ground Water Method: EPA 524.2 REV 4.1 Project: Navy Wells OU2, Bethpage, NY | Date Sampled: 09/09/19 Date Received: 09/10/19 Percent Solids: n/a |
|---|---|

VOA OU2 Outpost List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---------|-----------------------------|--------|------|-------|-------|---|
| 79-01-6 | Trichloroethylene | ND | 0.50 | 0.20 | ug/l | |
| 75-01-4 | Vinyl chloride ^c | ND | 0.50 | 0.15 | ug/l | |
| | m,p-Xylene | ND | 0.50 | 0.14 | ug/l | |
| 95-47-6 | o-Xylene | ND | 0.50 | 0.076 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|-----------|------------------------|--------|--------|---------|
| 2199-69-1 | 1,2-Dichlorobenzene-d4 | 100% | | 70-130% |
| 460-00-4 | 4-Bromofluorobenzene | 88% | | 70-130% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---------|----------------------------------|-----------------|----------------|-----------------|----------------|
| | Silanol, trimethyl | 9.49 | 2.1 | ug/l | J R |
| | Total TIC, Volatile | | 2.1 | ug/l | J R |

- (a) EPA 524.2 is not a certified method for non-potable water samples.
- (b) Associated CCV and BS outside of control limits high, sample was ND.
- (c) This compound in BS is outside in house QC limits bias high.

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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4

Report of Analysis

| | | | |
|-------------------|------------------------------|-----------------|----------|
| Client Sample ID: | BPOW2-2 | Date Sampled: | 09/09/19 |
| Lab Sample ID: | JC94722-2 | Date Received: | 09/10/19 |
| Matrix: | AQ - Ground Water | Percent Solids: | n/a |
| Method: | EPA 524.2 REV 4.1 | | |
| Project: | Navy Wells OU2, Bethpage, NY | | |

| Run # | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---------------------|------------|----|----------------|----|-----------|------------|------------------|
| Run #1 ^a | 1B120889.D | 1 | 09/11/19 17:28 | BK | n/a | n/a | V1B5844 |
| 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 | 2.5 | ug/l | |
| 78-93-3 | 2-Butanone | ND | 5.0 | 0.43 | ug/l | |
| 71-43-2 | Benzene | ND | 0.50 | 0.16 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 0.50 | 0.13 | ug/l | |
| 75-25-2 | Bromoform ^b | ND | 0.50 | 0.27 | ug/l | |
| 74-83-9 | Bromomethane | ND | 0.50 | 0.18 | ug/l | |
| 75-15-0 | Carbon disulfide | ND | 0.50 | 0.18 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 0.50 | 0.093 | ug/l | |
| 75-00-3 | Chloroethane | ND | 0.50 | 0.080 | ug/l | |
| 67-66-3 | Chloroform | ND | 0.50 | 0.17 | ug/l | |
| 74-87-3 | Chloromethane | ND | 0.50 | 0.13 | ug/l | |
| 56-23-5 | Carbon tetrachloride ^b | ND | 0.50 | 0.24 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 0.50 | 0.19 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.50 | 0.18 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.50 | 0.19 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 0.50 | 0.14 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 0.50 | 0.21 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 0.50 | 0.14 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.50 | 0.18 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.50 | 0.16 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 0.50 | 0.076 | ug/l | |
| 76-13-1 | Freon 113 | ND | 1.0 | 0.34 | ug/l | |
| 591-78-6 | 2-Hexanone | ND | 2.0 | 0.24 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 0.50 | 0.37 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 2.0 | 0.22 | ug/l | |
| 100-42-5 | Styrene | ND | 0.50 | 0.069 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.50 | 0.13 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.50 | 0.19 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 0.50 | 0.23 | ug/l | |
| 108-88-3 | Toluene | ND | 0.50 | 0.11 | 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

| | |
|---|---|
| Client Sample ID: BPOW2-2 Lab Sample ID: JC94722-2 Matrix: AQ - Ground Water Method: EPA 524.2 REV 4.1 Project: Navy Wells OU2, Bethpage, NY | Date Sampled: 09/09/19 Date Received: 09/10/19 Percent Solids: n/a |
|---|---|

VOA OU2 Outpost List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---------|-----------------------------|--------|------|-------|-------|---|
| 79-01-6 | Trichloroethylene | ND | 0.50 | 0.20 | ug/l | |
| 75-01-4 | Vinyl chloride ^c | ND | 0.50 | 0.15 | ug/l | |
| | m,p-Xylene | ND | 0.50 | 0.14 | ug/l | |
| 95-47-6 | o-Xylene | ND | 0.50 | 0.076 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|-----------|------------------------|--------|--------|---------|
| 2199-69-1 | 1,2-Dichlorobenzene-d4 | 100% | | 70-130% |
| 460-00-4 | 4-Bromofluorobenzene | 87% | | 70-130% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|-----------|----------------------------------|-----------------|----------------|-----------------|-----------------|
| | system artifact | 3.67 | 7.5 | ug/l | J |
| 1066-40-6 | Silanol, trimethyl- | 9.49 | 2.4 | ug/l | JN R |
| | Total TIC, Volatile | | 2.4 | ug/l | I R |

- (a) EPA 524.2 is not a certified method for non-potable water samples.
- (b) Associated CCV and BS outside of control limits high, sample was ND.
- (c) This compound in BS is outside in house QC limits bias high.

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

| | |
|--|---|
| Client Sample ID: TB090919BW Lab Sample ID: JC94722-3 Matrix: AQ - Trip Blank Water Method: EPA 524.2 REV 4.1 Project: Navy Wells OU2, Bethpage, NY | Date Sampled: 09/09/19 Date Received: 09/10/19 Percent Solids: n/a |
|--|---|

| Run # | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---------------------|------------|----|----------------|----|-----------|------------|------------------|
| Run #1 ^a | 1B120887.D | 1 | 09/11/19 16:25 | BK | n/a | n/a | V1B5844 |
| 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 | 6.5 | 5.0 | 2.5 | ug/l | |
| 78-93-3 | 2-Butanone | ND | 5.0 | 0.43 | ug/l | |
| 71-43-2 | Benzene | ND | 0.50 | 0.16 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 0.50 | 0.13 | ug/l | |
| 75-25-2 | Bromoform ^b | ND | 0.50 | 0.27 | ug/l | |
| 74-83-9 | Bromomethane | ND | 0.50 | 0.18 | ug/l | |
| 75-15-0 | Carbon disulfide | ND | 0.50 | 0.18 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 0.50 | 0.093 | ug/l | |
| 75-00-3 | Chloroethane | ND | 0.50 | 0.080 | ug/l | |
| 67-66-3 | Chloroform | ND | 0.50 | 0.17 | ug/l | |
| 74-87-3 | Chloromethane | ND | 0.50 | 0.13 | ug/l | |
| 56-23-5 | Carbon tetrachloride ^b | ND | 0.50 | 0.24 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 0.50 | 0.19 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.50 | 0.18 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.50 | 0.19 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 0.50 | 0.14 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 0.50 | 0.21 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 0.50 | 0.14 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.50 | 0.18 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.50 | 0.16 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 0.50 | 0.076 | ug/l | |
| 76-13-1 | Freon 113 | ND | 1.0 | 0.34 | ug/l | |
| 591-78-6 | 2-Hexanone | ND | 2.0 | 0.24 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 0.50 | 0.37 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | 0.78 | 2.0 | 0.22 | ug/l | J |
| 100-42-5 | Styrene | ND | 0.50 | 0.069 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.50 | 0.13 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.50 | 0.19 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 0.50 | 0.23 | ug/l | |
| 108-88-3 | Toluene | ND | 0.50 | 0.11 | 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
4

Report of Analysis

| | | |
|---------------------------------------|--|-------------------------|
| Client Sample ID: TB090919BW | | Date Sampled: 09/09/19 |
| Lab Sample ID: JC94722-3 | | Date Received: 09/10/19 |
| Matrix: AQ - Trip Blank Water | | Percent Solids: n/a |
| Method: EPA 524.2 REV 4.1 | | |
| Project: Navy Wells OU2, Bethpage, NY | | |

VOA OU2 Outpost List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|-----------|----------------------------------|--------|------------|---------|-------|---|
| 79-01-6 | Trichloroethylene | ND | 0.50 | 0.20 | ug/l | |
| 75-01-4 | Vinyl chloride ^c | ND | 0.50 | 0.15 | ug/l | |
| | m,p-Xylene | ND | 0.50 | 0.14 | ug/l | |
| 95-47-6 | o-Xylene | ND | 0.50 | 0.076 | ug/l | |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits | | |
| 2199-69-1 | 1,2-Dichlorobenzene-d4 | 97% | | 70-130% | | |
| 460-00-4 | 4-Bromofluorobenzene | 86% | | 70-130% | | |
| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q | |
| | system artifact | 3.68 | 1.2 | ug/l | J | |
| 1066-40-6 | Silanol, trimethyl- | 9.49 | 160 | ug/l | JN | |
| | unknown | 11.67 | .78 | ug/l | J N | |
| | Total TIC, Volatile | | 160.78 | ug/l | J N | |

- (a) EPA 524.2 is not a certified method for non-potable water samples.
- (b) Associated CCV and BS outside of control limits high, sample was ND.
- (c) This compound in BS is outside in house QC limits bias high.

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: JC94722X
 Lab Sample ID: 490388001

 Client ID: BPOW2-1
 Batch ID: 1917493
 Run Date: 10/01/2019 13:34
 Prep Date: 09/30/2019 13:30
 Data File: s100119.B\s6j0111.D

Date Collected: 09/09/2019 11:35
 Date Received: 09/17/2019 08:45
 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 | | 1.22 | ug/L | 0.100 | 0.100 | 0.200 |

2

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

SDG Number: JC94722X
 Lab Sample ID: 490388002

 Client ID: BPOW2-2
 Batch ID: 1917493
 Run Date: 10/01/2019 14:51
 Prep Date: 09/30/2019 13:30
 Data File: s100119.B\s6j0114.D

Date Collected: 09/09/2019 12:00
 Date Received: 09/17/2019 08:45
 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 | | 0.738 | ug/L | 0.100 | 0.100 | 0.200 |

2

Report of Analysis

| | |
|---------------------------------------|-------------------------|
| Client Sample ID: BPOW 2-3 | Date Sampled: 09/12/19 |
| Lab Sample ID: JC95055-2 | Date Received: 09/13/19 |
| Matrix: AQ - Ground Water | Percent Solids: n/a |
| Method: EPA 524.2 REV 4.1 | |
| Project: Navy Wells OU2, Bethpage, NY | |

| Run # | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---------------------|------------|----|----------------|----|-----------|------------|------------------|
| Run #1 ^a | 1B120931.D | 1 | 09/18/19 12:59 | BK | n/a | n/a | V1B5848 |
| 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 | 2.5 | ug/l | |
| 78-93-3 | 2-Butanone | ND | 5.0 | 0.43 | ug/l | |
| 71-43-2 | Benzene | ND | 0.50 | 0.16 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 0.50 | 0.13 | ug/l | |
| 75-25-2 | Bromoform | ND | 0.50 | 0.27 | ug/l | |
| 74-83-9 | Bromomethane | ND | 0.50 | 0.18 | ug/l | |
| 75-15-0 | Carbon disulfide | ND | 0.50 | 0.18 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 0.50 | 0.093 | ug/l | |
| 75-00-3 | Chloroethane | ND | 0.50 | 0.080 | ug/l | |
| 67-66-3 | Chloroform | ND | 0.50 | 0.17 | ug/l | |
| 74-87-3 | Chloromethane | ND | 0.50 | 0.13 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 0.50 | 0.24 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 0.50 | 0.19 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.50 | 0.18 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.50 | 0.19 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 0.50 | 0.14 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 0.50 | 0.21 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 0.50 | 0.14 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.50 | 0.18 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.50 | 0.16 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 0.50 | 0.076 | ug/l | |
| 76-13-1 | Freon 113 | ND | 1.0 | 0.34 | ug/l | |
| 591-78-6 | 2-Hexanone | ND | 2.0 | 0.24 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 0.50 | 0.37 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 2.0 | 0.22 | ug/l | |
| 100-42-5 | Styrene | ND | 0.50 | 0.069 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.50 | 0.13 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.50 | 0.19 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 0.50 | 0.23 | ug/l | |
| 108-88-3 | Toluene | ND | 0.50 | 0.11 | 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

| | |
|--|---|
| Client Sample ID: BPOW 2-3 Lab Sample ID: JC95055-2 Matrix: AQ - Ground Water Method: EPA 524.2 REV 4.1 Project: Navy Wells OU2, Bethpage, NY | Date Sampled: 09/12/19 Date Received: 09/13/19 Percent Solids: n/a |
|--|---|

VOA OU2 Outpost List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|-----------|----------------------------------|--------|------------|---------|-------|---|
| 79-01-6 | Trichloroethylene | ND | 0.50 | 0.20 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 0.50 | 0.15 | ug/l | |
| | m,p-Xylene | ND | 0.50 | 0.14 | ug/l | |
| 95-47-6 | o-Xylene | ND | 0.50 | 0.076 | ug/l | |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits | | |
| 2199-69-1 | 1,2-Dichlorobenzene-d4 | 95% | | 70-130% | | |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 70-130% | | |
| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q | |
| 1066-40-6 | Silanol, trimethyl- | 9.31 | 7.3 | ug/l | JN | |
| | Total TIC, Volatile | | 7.3 | ug/l | JN | |

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

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

| | | |
|--|--|--------------------------------|
| Client Sample ID: TB091219MW1 | | Date Sampled: 09/12/19 |
| Lab Sample ID: JC95055-3 | | Date Received: 09/13/19 |
| Matrix: AQ - Trip Blank Water | | Percent Solids: n/a |
| Method: EPA 524.2 REV 4.1 | | |
| Project: Navy Wells OU2, Bethpage, NY | | |

| Run # | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---------------------|------------|----|----------------|----|-----------|------------|------------------|
| Run #1 ^a | 1B120932.D | 1 | 09/18/19 13:31 | BK | n/a | n/a | V1B5848 |
| 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 | 2.5 | ug/l | |
| 78-93-3 | 2-Butanone | ND | 5.0 | 0.43 | ug/l | |
| 71-43-2 | Benzene | ND | 0.50 | 0.16 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 0.50 | 0.13 | ug/l | |
| 75-25-2 | Bromoform | ND | 0.50 | 0.27 | ug/l | |
| 74-83-9 | Bromomethane | ND | 0.50 | 0.18 | ug/l | |
| 75-15-0 | Carbon disulfide | ND | 0.50 | 0.18 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 0.50 | 0.093 | ug/l | |
| 75-00-3 | Chloroethane | ND | 0.50 | 0.080 | ug/l | |
| 67-66-3 | Chloroform | ND | 0.50 | 0.17 | ug/l | |
| 74-87-3 | Chloromethane | ND | 0.50 | 0.13 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 0.50 | 0.24 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 0.50 | 0.19 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.50 | 0.18 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.50 | 0.19 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 0.50 | 0.14 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 0.50 | 0.21 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 0.50 | 0.14 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.50 | 0.18 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.50 | 0.16 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 0.50 | 0.076 | ug/l | |
| 76-13-1 | Freon 113 | ND | 1.0 | 0.34 | ug/l | |
| 591-78-6 | 2-Hexanone | ND | 2.0 | 0.24 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 0.50 | 0.37 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 2.0 | 0.22 | ug/l | |
| 100-42-5 | Styrene | ND | 0.50 | 0.069 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.50 | 0.13 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.50 | 0.19 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 0.50 | 0.23 | ug/l | |
| 108-88-3 | Toluene | ND | 0.50 | 0.11 | 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
4

Report of Analysis

| | |
|---|---|
| Client Sample ID: TB091219MW1 Lab Sample ID: JC95055-3 Matrix: AQ - Trip Blank Water Method: EPA 524.2 REV 4.1 Project: Navy Wells OU2, Bethpage, NY | Date Sampled: 09/12/19 Date Received: 09/13/19 Percent Solids: n/a |
|---|---|

VOA OU2 Outpost List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|-----------|----------------------------------|--------|------------|---------|-------|---|
| 79-01-6 | Trichloroethylene | ND | 0.50 | 0.20 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 0.50 | 0.15 | ug/l | |
| | m,p-Xylene | ND | 0.50 | 0.14 | ug/l | |
| 95-47-6 | o-Xylene | ND | 0.50 | 0.076 | ug/l | |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits | | |
| 2199-69-1 | 1,2-Dichlorobenzene-d4 | 96% | | 70-130% | | |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 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 | 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: JC95055X
 Lab Sample ID: 490386001

 Client ID: BPOW 2-3
 Batch ID: 1917493
 Run Date: 10/01/2019 13:10
 Prep Date: 09/30/2019 13:30
 Data File: s100119.B\s6j0110.D

Date Collected: 09/12/2019 11:15
 Date Received: 09/17/2019 08:45
 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 | | 3.90 | ug/L | 0.100 | 0.100 | 0.200 |

2