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Technical Report for

# Hydro-Environmental Technology, Inc.

8060.00 Indigo-Desoto Parish, LA

SGS Job Number: LA49128

Sampling Date: 10/22/18

Report to:

Hydro-Environmental Technology
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Total number of pages in report: 77

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Ralph Frye 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-15-7), WV(257)

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# Sample Summary

Hydro-Environmental Technology, Inc.

8060.00 Indigo-Desoto Parish, LA

**Job No:** LA49128

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| LA49128-1 | 10/22/18 | 13:40 | LV/EM | 10/25/18 | AQ | Water | 031-9313Z (MCCLARY 235' WATER WELL) |
| LA49128-1F | 10/22/18 | 13:40 | LV/EM | 10/25/18 | AQ | Water Filtered | 031-9313Z (MCCLARY 235' WATER WELL) |
| LA49128-2 | 10/22/18 | 14:15 | LV/EM | 10/25/18 | AQ | Water | 031-9342Z (MCCLARY 300' WATER WELL) |
| LA49128-2F | 10/22/18 | 14:15 | LV/EM | 10/25/18 | AQ | Water Filtered | 031-9342Z (MCCLARY 300' WATER WELL) |
| LA49128-3 | 10/22/18 | 10:30 | LV/EM | 10/25/18 | AQ | Field Blank Water | FIELD BLANK |
| LA49128-4 | 10/22/18 | 07:00 | LV/EM | 10/25/18 | AQ | Trip Blank Water | TRIP BLANK |

## Sample Results

Report of Analysis

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9313Z (MCCLARY 235' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-1 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | C0039929.D | 1 | 10/31/18 07:01 | IK | 10/29/18 07:19 | OP12657 | EC1681 |
| Run #2 | | | | | | | |

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

**ABN RECAP LIST**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 0.0050 | mg/l | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 0.0050 | mg/l | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 0.0050 | mg/l | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 0.020 | mg/l | |
| 100-02-7 | 4-Nitrophenol | ND | 0.025 | mg/l | |
| 87-86-5 | Pentachlorophenol | ND | 0.0010 | mg/l | |
| 108-95-2 | Phenol | ND | 0.0050 | mg/l | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 0.0050 | mg/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 0.0050 | mg/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 0.0050 | mg/l | |
| 83-32-9 | Acenaphthene | ND | 0.00020 | mg/l | |
| 208-96-8 | Acenaphthylene | ND | 0.00020 | mg/l | |
| 62-53-3 | Aniline | ND | 0.0050 | mg/l | |
| 120-12-7 | Anthracene | ND | 0.00020 | mg/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.00020 | mg/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.00020 | mg/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.00020 | mg/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.00020 | mg/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 0.010 | mg/l | |
| 85-68-7 | Butyl Benzyl Phthalate | ND | 0.0050 | mg/l | |
| 106-47-8 | 4-Chloroaniline [a] | ND | 0.0050 | mg/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 0.0050 | mg/l | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 0.0050 | mg/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 0.0050 | mg/l | |
| 218-01-9 | Chrysene | ND | 0.00020 | mg/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.00020 | mg/l | |
| 132-64-9 | Dibenzofuran | ND | 0.0050 | mg/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 0.010 | mg/l | |
| 84-66-2 | Diethyl Phthalate | ND | 0.0050 | mg/l | |
| 131-11-3 | Dimethyl Phthalate | ND | 0.0050 | mg/l | |
| 117-84-0 | Di-n-octyl Phthalate | ND | 0.0050 | mg/l | |
| 99-65-0 | 1,3-Dinitrobenzene | ND | 0.0050 | mg/l | |

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9313Z (MCCLARY 235' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-1 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**ABN RECAP LIST**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 121-14-2 | 2,4-Dinitrotoluene | ND | 0.0050 | mg/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 0.0050 | mg/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 0.0050 | mg/l | |
| 206-44-0 | Fluoranthene | ND | 0.00020 | mg/l | |
| 86-73-7 | Fluorene | ND | 0.00020 | mg/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.0010 | mg/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 0.00050 | mg/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 0.010 | mg/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.00020 | mg/l | |
| 78-59-1 | Isophorone | ND | 0.0050 | mg/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 0.00020 | mg/l | |
| 91-20-3 | Naphthalene | ND | 0.00020 | mg/l | |
| 88-74-4 | 2-Nitroaniline | ND | 0.0050 | mg/l | |
| 99-09-2 | 3-Nitroaniline | ND | 0.0050 | mg/l | |
| 100-01-6 | 4-Nitroaniline | ND | 0.0050 | mg/l | |
| 98-95-3 | Nitrobenzene | ND | 0.0010 | mg/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 0.0050 | mg/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 0.0050 | mg/l | |
| 85-01-8 | Phenanthrene | ND | 0.00020 | mg/l | |
| 129-00-0 | Pyrene | ND | 0.00020 | mg/l | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 0.0010 | mg/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.0050 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 47% | | 23-85% |
| 4165-62-2 | Phenol-d5 | 32% | | 10-69% |
| 118-79-6 | 2,4,6-Tribromophenol | 84% | | 48-138% |
| 4165-60-0 | Nitrobenzene-d5 | 87% | | 51-128% |
| 321-60-8 | 2-Fluorobiphenyl | 92% | | 55-122% |
| 1718-51-0 | Terphenyl-d14 | 86% | | 43-138% |

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

ND = Not detected
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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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9313Z (MCCLARY 235' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-1 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | MADEP VPH REV 1.1 | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | LC381175.D | 1 | 10/28/18 00:37 | SV | n/a | n/a | GLC1882 |
| Run #2 | | | | | | | |

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

**Volatile Petroleum Hydrocarbons (VPH)**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics C6-C8 (Unadj.) | ND | 0.15 | mg/l | |
| | Aliphatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |
| | Aromatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 615-59-8 | 2,5-Dibromotoluene | 104% [a] | | 70-130% |
| 615-59-8 | 2,5-Dibromotoluene | 100% [b] | | 70-130% |

(a) Recovery from Aromatics fraction.
(b) Recovery from Aliphatics fraction.

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9313Z (MCCLARY 235' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-1 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | MADEP EPH REV 1.1 SW846 3511 | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | X0005574.D | 1 | 10/30/18 02:00 | JT | 10/26/18 14:00 | OP12635 | GLB1651 |
| Run #2 | Y0005574.D | 1 | 10/30/18 02:01 | JT | 10/26/18 14:00 | OP12635 | GLB1652 |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 54.3 ml | 4.0 ml |
| Run #2 | 54.3 ml | 4.0 ml |

**Louisiana EPH Ranges**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics > C10-C12 (Unadj.) | ND [a] | 0.14 | mg/l | |
| | Aliphatics > C12-C16 (Unadj.) | ND [a] | 0.14 | mg/l | |
| | Aliphatics > C16-C35 (Unadj.) | ND [a] | 0.14 | mg/l | |
| | Aromatics > C10-C12 (Unadj.) | ND | 0.14 | mg/l | |
| | Aromatics > C12-C16 (Unadj.) | ND | 0.14 | mg/l | |
| | Aromatics > C16-C21 (Unadj.) | ND | 0.14 | mg/l | |
| | Aromatics > C21-C35 (Unadj.) | ND | 0.14 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 3386-33-2 | 1-Chlorooctadecane | | 85% | 40-140% |
| 84-15-1 | o-Terphenyl | 82% | | 40-140% |
| 321-60-8 | 2-Fluorobiphenyl | 86% | | 40-140% |

(a) Result is from Run# 2

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9313Z (MCCLARY 235' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-1 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| | | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**Total Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12.2 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Arsenic | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Barium | 0.123 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Cadmium | < 0.0050 | 0.0050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Calcium | 2.19 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Chromium | 0.0178 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Iron | 14.1 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Lead | 0.0107 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Magnesium | 2.57 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Manganese | 0.233 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Mercury | < 0.00020 | 0.00020 | mg/l | 1 | 10/29/18 | 10/29/18 | SA | SW846 7470A [2] | SW846 7470A [4] |
| Potassium | 3.79 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Selenium | < 0.050 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Silver | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Sodium | 245 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Strontium | 0.142 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Zinc | 0.0580 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9313Z (MCCLARY 235' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-1 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| | | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Alkalinity, Bicarbonate [a] | 319 | 5.0 | mg/l | 1 | 10/29/18 16:00 | ATX | SM18 2320B |
| Alkalinity, Carbonate [a] | 10.7 | 5.0 | mg/l | 1 | 10/29/18 16:00 | ATX | SM18 2320B |
| Alkalinity, Total as CaCO3 [a] | 330 | 5.0 | mg/l | 1 | 10/29/18 16:00 | ATX | SM 2320B-2011 |
| Bromide [a] | < 0.50 | 0.50 | mg/l | 1 | 11/07/18 00:42 | ATX | SW846 9056A |
| Chloride [a] | 46.8 | 2.5 | mg/l | 5 | 11/06/18 23:52 | ATX | SW846 9056A |
| Silica, Dissolved [a] | 5.6 | 0.70 | mg/l | 10 | 11/01/18 | ATX | SM4500SIO2 C-2011 |
| Solids, Total Dissolved [a] | 563 | 10 | mg/l | 1 | 10/29/18 | ATX | SM 2540C-2011 |
| Specific Conductivity [b] | 912 | 1.0 | umhos/cm | 1 | 10/29/18 14:20 | ATX | EPA 120.1 |
| Sulfate [a] | 0.80 | 0.50 | mg/l | 1 | 11/07/18 00:42 | ATX | SW846 9056A |

(a) Analysis performed at SGS Houston, TX.
(b) Conductivity results corrected to 25 degrees Celsius. Analysis performed at SGS Houston, TX.

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9313Z (MCCLARY 235' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-1F | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water Filtered | **Date Received:** | 10/25/18 |
| | | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 1.87 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Arsenic | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Barium | 0.0274 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Cadmium | < 0.0050 | 0.0050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Calcium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Chromium | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Iron | 1.84 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Lead | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Magnesium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Manganese | 0.0359 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Mercury | < 0.00020 | 0.00020 | mg/l | 1 | 10/29/18 | 10/29/18 | SA | SW846 7470A [2] | SW846 7470A [4] |
| Potassium | 1.15 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Selenium | < 0.050 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Silver | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Sodium | 221 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Strontium | 0.0551 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Zinc | < 0.050 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9342Z (MCCLARY 300' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-2 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | C0039930.D | 1 | 10/31/18 07:23 | IK | 10/29/18 07:19 | OP12657 | EC1681 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1040 ml | 1.0 ml |
| Run #2 | | |

**ABN RECAP LIST**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 0.0048 | mg/l | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 0.0048 | mg/l | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 0.0048 | mg/l | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 0.019 | mg/l | |
| 100-02-7 | 4-Nitrophenol | ND | 0.024 | mg/l | |
| 87-86-5 | Pentachlorophenol | ND | 0.00096 | mg/l | |
| 108-95-2 | Phenol | ND | 0.0048 | mg/l | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 0.0048 | mg/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 0.0048 | mg/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 0.0048 | mg/l | |
| 83-32-9 | Acenaphthene | ND | 0.00019 | mg/l | |
| 208-96-8 | Acenaphthylene | ND | 0.00019 | mg/l | |
| 62-53-3 | Aniline | ND | 0.0048 | mg/l | |
| 120-12-7 | Anthracene | ND | 0.00019 | mg/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.00019 | mg/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.00019 | mg/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.00019 | mg/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.00019 | mg/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 0.0096 | mg/l | |
| 85-68-7 | Butyl Benzyl Phthalate | ND | 0.0048 | mg/l | |
| 106-47-8 | 4-Chloroaniline [a] | ND | 0.0048 | mg/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 0.0048 | mg/l | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 0.0048 | mg/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 0.0048 | mg/l | |
| 218-01-9 | Chrysene | ND | 0.00019 | mg/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.00019 | mg/l | |
| 132-64-9 | Dibenzofuran | ND | 0.0048 | mg/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 0.0096 | mg/l | |
| 84-66-2 | Diethyl Phthalate | ND | 0.0048 | mg/l | |
| 131-11-3 | Dimethyl Phthalate | ND | 0.0048 | mg/l | |
| 117-84-0 | Di-n-octyl Phthalate | ND | 0.0048 | mg/l | |
| 99-65-0 | 1,3-Dinitrobenzene | ND | 0.0048 | mg/l | |

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9342Z (MCCLARY 300' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-2 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**ABN RECAP LIST**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 121-14-2 | 2,4-Dinitrotoluene | ND | 0.0048 | mg/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 0.0048 | mg/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 0.0048 | mg/l | |
| 206-44-0 | Fluoranthene | ND | 0.00019 | mg/l | |
| 86-73-7 | Fluorene | ND | 0.00019 | mg/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.00096 | mg/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 0.00048 | mg/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 0.0096 | mg/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.00019 | mg/l | |
| 78-59-1 | Isophorone | ND | 0.0048 | mg/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 0.00019 | mg/l | |
| 91-20-3 | Naphthalene | ND | 0.00019 | mg/l | |
| 88-74-4 | 2-Nitroaniline | ND | 0.0048 | mg/l | |
| 99-09-2 | 3-Nitroaniline | ND | 0.0048 | mg/l | |
| 100-01-6 | 4-Nitroaniline | ND | 0.0048 | mg/l | |
| 98-95-3 | Nitrobenzene | ND | 0.00096 | mg/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 0.0048 | mg/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 0.0048 | mg/l | |
| 85-01-8 | Phenanthrene | ND | 0.00019 | mg/l | |
| 129-00-0 | Pyrene | ND | 0.00019 | mg/l | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 0.00096 | mg/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.0048 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 44% | | 23-85% |
| 4165-62-2 | Phenol-d5 | 30% | | 10-69% |
| 118-79-6 | 2,4,6-Tribromophenol | 85% | | 48-138% |
| 4165-60-0 | Nitrobenzene-d5 | 86% | | 51-128% |
| 321-60-8 | 2-Fluorobiphenyl | 91% | | 55-122% |
| 1718-51-0 | Terphenyl-d14 | 86% | | 43-138% |

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

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9342Z (MCCLARY 300' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-2 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | MADEP VPH REV 1.1 | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | LC381183.D | 1 | 10/28/18 06:32 | SV | n/a | n/a | GLC1882 |
| Run #2 | | | | | | | |

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

**Volatile Petroleum Hydrocarbons (VPH)**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics C6-C8 (Unadj.) | ND | 0.15 | mg/l | |
| | Aliphatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |
| | Aromatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 615-59-8 | 2,5-Dibromotoluene | 103% [a] | | 70-130% |
| 615-59-8 | 2,5-Dibromotoluene | 99% [b] | | 70-130% |

(a) Recovery from Aromatics fraction.
(b) Recovery from Aliphatics fraction.

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9342Z (MCCLARY 300' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-2 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| **Method:** | MADEP EPH REV 1.1 SW846 3511 | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | X0005575.D | 1 | 10/30/18 02:24 | JT | 10/26/18 14:00 | OP12635 | GLB1651 |
| Run #2 | Y0005575.D | 1 | 10/30/18 02:25 | JT | 10/26/18 14:00 | OP12635 | GLB1652 |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 53.6 ml | 4.0 ml |
| Run #2 | 53.6 ml | 4.0 ml |

**Louisiana EPH Ranges**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics > C10-C12 (Unadj.) | ND [a] | 0.14 | mg/l | |
| | Aliphatics > C12-C16 (Unadj.) | ND [a] | 0.14 | mg/l | |
| | Aliphatics > C16-C35 (Unadj.) | ND [a] | 0.14 | mg/l | |
| | Aromatics > C10-C12 (Unadj.) | ND | 0.14 | mg/l | |
| | Aromatics > C12-C16 (Unadj.) | ND | 0.14 | mg/l | |
| | Aromatics > C16-C21 (Unadj.) | ND | 0.14 | mg/l | |
| | Aromatics > C21-C35 (Unadj.) | ND | 0.14 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 3386-33-2 | 1-Chlorooctadecane | | 88% | 40-140% |
| 84-15-1 | o-Terphenyl | 81% | | 40-140% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | | 40-140% |

(a) Result is from Run# 2

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9342Z (MCCLARY 300' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-2 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| | | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**Total Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Arsenic | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Barium | 0.0252 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Cadmium | < 0.0050 | 0.0050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Calcium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Chromium | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Iron | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Lead | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Magnesium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Manganese | < 0.020 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Mercury | < 0.00020 | 0.00020 | mg/l | 1 | 10/29/18 | 10/29/18 | SA | SW846 7470A [2] | SW846 7470A [4] |
| Potassium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Selenium | < 0.050 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Silver | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Sodium | 278 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Strontium | 0.0572 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Zinc | < 0.050 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9342Z (MCCLARY 300' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-2 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water | **Date Received:** | 10/25/18 |
| | | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Alkalinity, Bicarbonate [a] | 381 | 5.0 | mg/l | 1 | 10/29/18 16:00 | ATX | SM18 2320B |
| Alkalinity, Carbonate [a] | 8.6 | 5.0 | mg/l | 1 | 10/29/18 16:00 | ATX | SM18 2320B |
| Alkalinity, Total as CaCO3 [a] | 390 | 5.0 | mg/l | 1 | 10/29/18 16:00 | ATX | SM 2320B-2011 |
| Bromide [a] | < 0.50 | 0.50 | mg/l | 1 | 11/07/18 14:05 | ATX | SW846 9056A |
| Chloride [a] | 52.9 | 2.5 | mg/l | 5 | 11/06/18 17:22 | ATX | SW846 9056A |
| Silica, Dissolved [a] | 6.2 | 0.70 | mg/l | 10 | 11/01/18 | ATX | SM4500SIO2 C-2011 |
| Solids, Total Dissolved [a] | 613 | 10 | mg/l | 1 | 10/29/18 | ATX | SM 2540C-2011 |
| Specific Conductivity [b] | 947 | 1.0 | umhos/cm | 1 | 10/29/18 14:20 | ATX | EPA 120.1 |
| Sulfate [a] | < 0.50 | 0.50 | mg/l | 1 | 11/07/18 14:05 | ATX | SW846 9056A |

(a) Analysis performed at SGS Houston, TX.
(b) Conductivity results corrected to 25 degrees Celsius. Analysis performed at SGS Houston, TX.

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | 031-9342Z (MCCLARY 300' WATER WELL) | | |
| **Lab Sample ID:** | LA49128-2F | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Water Filtered | **Date Received:** | 10/25/18 |
| | | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Arsenic | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Barium | 0.0109 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Cadmium | < 0.0050 | 0.0050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Calcium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Chromium | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Iron | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Lead | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Magnesium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Manganese | < 0.020 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Mercury | < 0.00020 | 0.00020 | mg/l | 1 | 10/29/18 | 10/29/18 | SA | SW846 7470A [2] | SW846 7470A [4] |
| Potassium | < 1.0 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Selenium | < 0.050 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Silver | < 0.010 | 0.010 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Sodium | 244 | 1.0 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Strontium | 0.0424 | 0.020 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |
| Zinc | < 0.050 | 0.050 | mg/l | 10 | 10/26/18 | 10/29/18 | RT | SW846 6020A [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | FIELD BLANK | | |
| **Lab Sample ID:** | LA49128-3 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Field Blank Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1I040685.D | 1 | 10/30/18 00:43 | LS | n/a | n/a | V1I1896 |
| Run #2 | | | | | | | |

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

**VOA RECAP List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 0.050 | mg/l | |
| 71-43-2 | Benzene | ND | 0.0050 | mg/l | |
| 75-27-4 | Bromodichloromethane | ND | 0.0010 | mg/l | |
| 75-25-2 | Bromoform | ND | 0.0010 | mg/l | |
| 75-15-0 | Carbon Disulfide | ND | 0.0010 | mg/l | |
| 56-23-5 | Carbon Tetrachloride | ND | 0.0010 | mg/l | |
| 108-90-7 | Chlorobenzene | ND | 0.0010 | mg/l | |
| 75-00-3 | Chloroethane | ND | 0.0010 | mg/l | |
| 67-66-3 | Chloroform | ND | 0.0010 | mg/l | |
| 124-48-1 | Dibromochloromethane | ND | 0.0010 | mg/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 0.0010 | mg/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 0.0010 | mg/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 0.0010 | mg/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 0.0010 | mg/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.0010 | mg/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.0010 | mg/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 0.0010 | mg/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 0.0010 | mg/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 0.0010 | mg/l | |
| 540-59-0 | 1,2-Dichloroethene (total) | ND | 0.0010 | mg/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.0010 | mg/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.0010 | mg/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.0010 | mg/l | |
| 542-75-6 | 1,3-Dichloropropene (total) | ND | 0.0010 | mg/l | |
| 100-41-4 | Ethylbenzene | ND | 0.0050 | mg/l | |
| 67-72-1 | Hexachloroethane | ND | 0.0010 | mg/l | |
| 78-83-1 | Isobutyl Alcohol | ND | 0.10 | mg/l | |
| 74-83-9 | Methyl Bromide | ND | 0.0010 | mg/l | |
| 74-87-3 | Methyl Chloride | ND | 0.0010 | mg/l | |
| 75-09-2 | Methylene Chloride | ND | 0.0010 | mg/l | |
| 78-93-3 | Methyl Ethyl Ketone | ND | 0.013 | mg/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.013 | mg/l | |

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | FIELD BLANK | | |
| **Lab Sample ID:** | LA49128-3 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Field Blank Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**VOA RECAP List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 0.0050 | mg/l | |
| 100-42-5 | Styrene | ND | 0.0010 | mg/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | 0.0010 | mg/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.00050 | mg/l | |
| 127-18-4 | Tetrachloroethylene | ND | 0.0010 | mg/l | |
| 108-88-3 | Toluene | ND | 0.0050 | mg/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.0010 | mg/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.0010 | mg/l | |
| 79-01-6 | Trichloroethylene | ND | 0.0010 | mg/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.0010 | mg/l | |
| 75-01-4 | Vinyl Chloride | ND | 0.0010 | mg/l | |
| | m,p-Xylene | ND | 0.0050 | mg/l | |
| 95-47-6 | o-Xylene | ND | 0.0050 | mg/l | |
| 1330-20-7 | Xylene (total) | ND | 0.0050 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 123% | | 84-124% |
| 2037-26-5 | Toluene-D8 | 100% | | 83-115% |
| 460-00-4 | 4-Bromofluorobenzene | 94% | | 89-111% |

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | FIELD BLANK | | |
| **Lab Sample ID:** | LA49128-3 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Field Blank Water | **Date Received:** | 10/25/18 |
| **Method:** | MADEP VPH REV 1.1 | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | LC381181.D | 1 | 10/28/18 05:03 | SV | n/a | n/a | GLC1882 |
| Run #2 | | | | | | | |

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

**Volatile Petroleum Hydrocarbons (VPH)**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics C6-C8 (Unadj.) | ND | 0.15 | mg/l | |
| | Aliphatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |
| | Aromatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 615-59-8 | 2,5-Dibromotoluene | 103% [a] | | 70-130% |
| 615-59-8 | 2,5-Dibromotoluene | 98% [b] | | 70-130% |

(a) Recovery from Aromatics fraction.
(b) Recovery from Aliphatics fraction.

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | LA49128-4 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2G090287.D | 1 | 10/31/18 21:17 | LS | n/a | n/a | V2G4705 |
| Run #2 | | | | | | | |

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

**VOA RECAP List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 0.050 | mg/l | |
| 71-43-2 | Benzene | ND | 0.0050 | mg/l | |
| 75-27-4 | Bromodichloromethane | ND | 0.0010 | mg/l | |
| 75-25-2 | Bromoform | ND | 0.0010 | mg/l | |
| 75-15-0 | Carbon Disulfide | ND | 0.0010 | mg/l | |
| 56-23-5 | Carbon Tetrachloride | ND | 0.0010 | mg/l | |
| 108-90-7 | Chlorobenzene | ND | 0.0010 | mg/l | |
| 75-00-3 | Chloroethane | ND | 0.0010 | mg/l | |
| 67-66-3 | Chloroform | ND | 0.0010 | mg/l | |
| 124-48-1 | Dibromochloromethane | ND | 0.0010 | mg/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 0.0010 | mg/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 0.0010 | mg/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 0.0010 | mg/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 0.0010 | mg/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.0010 | mg/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.0010 | mg/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 0.0010 | mg/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 0.0010 | mg/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 0.0010 | mg/l | |
| 540-59-0 | 1,2-Dichloroethene (total) | ND | 0.0010 | mg/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.0010 | mg/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.0010 | mg/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.0010 | mg/l | |
| 542-75-6 | 1,3-Dichloropropene (total) | ND | 0.0010 | mg/l | |
| 100-41-4 | Ethylbenzene | ND | 0.0050 | mg/l | |
| 67-72-1 | Hexachloroethane | ND | 0.0010 | mg/l | |
| 78-83-1 | Isobutyl Alcohol | ND | 0.10 | mg/l | |
| 74-83-9 | Methyl Bromide | ND | 0.0010 | mg/l | |
| 74-87-3 | Methyl Chloride | ND | 0.0010 | mg/l | |
| 75-09-2 | Methylene Chloride | ND | 0.0010 | mg/l | |
| 78-93-3 | Methyl Ethyl Ketone | ND | 0.013 | mg/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.013 | mg/l | |

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | LA49128-4 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 10/25/18 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

**VOA RECAP List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 0.0050 | mg/l | |
| 100-42-5 | Styrene | ND | 0.0010 | mg/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | 0.0010 | mg/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.00050 | mg/l | |
| 127-18-4 | Tetrachloroethylene | ND | 0.0010 | mg/l | |
| 108-88-3 | Toluene | ND | 0.0050 | mg/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.0010 | mg/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.0010 | mg/l | |
| 79-01-6 | Trichloroethylene | ND | 0.0010 | mg/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.0010 | mg/l | |
| 75-01-4 | Vinyl Chloride | ND | 0.0010 | mg/l | |
| | m,p-Xylene | ND | 0.0050 | mg/l | |
| 95-47-6 | o-Xylene | ND | 0.0050 | mg/l | |
| 1330-20-7 | Xylene (total) | ND | 0.0050 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | | 84-124% |
| 2037-26-5 | Toluene-D8 | 99% | | 83-115% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | | 89-111% |

ND = Not detected
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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | LA49128-4 | **Date Sampled:** | 10/22/18 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 10/25/18 |
| **Method:** | MADEP VPH REV 1.1 | **Percent Solids:** | n/a |
| **Project:** | 8060.00 Indigo-Desoto Parish, LA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | LC381182.D | 1 | 10/28/18 05:47 | SV | n/a | n/a | GLC1882 |
| Run #2 | | | | | | | |

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

**Volatile Petroleum Hydrocarbons (VPH)**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics C6-C8 (Unadj.) | ND | 0.15 | mg/l | |
| | Aliphatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |
| | Aromatics > C8-C10 (Unadj.) | ND | 0.15 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 615-59-8 | 2,5-Dibromotoluene | 103% [a] | | 70-130% |
| 615-59-8 | 2,5-Dibromotoluene | 100% [b] | | 70-130% |

(a) Recovery from Aromatics fraction.
(b) Recovery from Aliphatics fraction.

ND = Not detected
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

## Misc. Forms

### Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
Environmental Consultants
P.O. Box 60295
Lafayette, LA 70596-0295
Phone (337) 261-1963 FAX (337) 261-1953

LA49128

# SAMPLE CHAIN-OF-CUSTODY RECORD

*Laboratory:* SGS Lafayette
*Project Name:* Indigo
*Collected By:* LV/EM
*Project Number:* 8060.00
*Company:* Hydro-Environmental Technology, Inc.
*Project Location:* DeSoto Parish, Louisiana
*Date:* 10/22/2018

| | Sample I.D. | Type | Date/Time Sampled | | Containers | Analysis Requested/Method | Comments | |
|---|---|---|---|---|---|---|---|---|
| 1 | 031-9313Z (Mcclary 235' Water Well) | AQ | 10/22/2018 | 13:40 | (4) 40mL Glass HCl<br>(3) 60mL Amber Glass HCl<br>(1) L Amber Glass<br>(1) 500mL Plastic<br>(2) 250mL Plastic HNO3 | SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals* | 4°C<br>Field filtered: Dissolved metals | 18 |
| 2 | 031-9342Z (Mcclary 300' Water Well) | AQ | 10/22/2018 | 14:15 | (4) 40mL Glass HCl<br>(3) 60mL Amber Glass HCl<br>(1) L Amber Glass<br>(1) 500mL Plastic<br>(2) 250mL Plastic HNO4 | SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals* | 4°C<br>Field filtered: Dissolved metals | 18 |
| 3 | Field Blank | AQ | 10/22/2018 | 10:30 | (8) 40mL Glass HCL | VOC 8260, VPH | 4°C | 6 |
| 4 | Trip Blank | AQ | 10/22/2018 | 7:00 | (8) 40mL Glass HCL | VOC 8260, VPH | 4°C | 6 |
| | | | | | | | | |

*Metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, strontium, zinc
*Cations: aluminum, calcium, iron, magnesium, manganese, potassium, sodium
*Anions: bromide, sulfate, carbonate alkalinity, bicarbonate alkalinity

| | |
|---|---|
| Relinquished By: [signature]<br>Date/Time: 10/24/18 1300 | Received By: Ken J. Cole<br>Date/Time: 10/24/18 1300 |
| Relinquished By: Ken J. Cole<br>Date/Time: 10/25/18 1445 | Received By: Walter Newman<br>Date/Time: 10.25.18 / 1445 |
| Analysis Due: Verbal: Email 10/25/18 1445<br>Written: NO CS T2.8 (DV441) | |

Page 1 of 1

LA49128: Chain of Custody
Page 1 of 2

# SGS Sample Receipt Summary

**Job Number:** LA49128 **Client:** HYDRO ENV **Project:** INDIGO

**Date / Time Received:** 10/25/2018 2:45:00 PM **Delivery Method:** Accutest Courier **Airbill #'s:**

**Cooler Temps:** #1: (2.8/2.8);

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☐ | | ☑ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☐ | | ☑ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | IR Gun | | |
| 3. Cooler media: | Ice (direct contact) | | |
| 4. No. Coolers: | 1 | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☑ | | ☐ | ☐ |
| 2. Trip Blank listed on COC: | ☑ | | ☐ | ☐ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☑ | | ☐ | ☐ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments: FB and TB rec'd 6 vials per ID coc states 8.

Responded to by: RF Response Date: 10/26/2018

No issue

## LA49128: Chain of Custody
## Page 2 of 2

## MS Volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Method Blank Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA



| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1I1896-MB2 | 1I040653.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-3

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 50 | ug/l | |
| 71-43-2 | Benzene | ND | 1.0 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 1.0 | ug/l | |
| 75-25-2 | Bromoform | ND | 1.0 | ug/l | |
| 75-15-0 | Carbon Disulfide | ND | 1.0 | ug/l | |
| 56-23-5 | Carbon Tetrachloride | ND | 1.0 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 1.0 | ug/l | |
| 75-00-3 | Chloroethane | ND | 1.0 | ug/l | |
| 67-66-3 | Chloroform | ND | 1.0 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 1.0 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 1.0 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 1.0 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 1.0 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 1.0 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 1.0 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 1.0 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 1.0 | ug/l | |
| 540-59-0 | 1,2-Dichloroethene (total) | ND | 1.0 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 1.0 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 1.0 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 1.0 | ug/l | |
| 542-75-6 | 1,3-Dichloropropene (total) | ND | 1.0 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 1.0 | ug/l | |
| 78-83-1 | Isobutyl Alcohol | ND | 100 | ug/l | |
| 74-83-9 | Methyl Bromide | ND | 1.0 | ug/l | |
| 74-87-3 | Methyl Chloride | ND | 1.0 | ug/l | |
| 75-09-2 | Methylene Chloride | ND | 1.0 | ug/l | |
| 78-93-3 | Methyl Ethyl Ketone | ND | 13 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 13 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | ug/l | |
| 100-42-5 | Styrene | ND | 1.0 | ug/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | 1.0 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.50 | ug/l | |

# Method Blank Summary

**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA



| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1I1896-MB2 | 1I040653.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-3

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 127-18-4 | Tetrachloroethylene | ND | 1.0 | ug/l | |
| 108-88-3 | Toluene | ND | 1.0 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 1.0 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 1.0 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 1.0 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 1.0 | ug/l | |
| 75-01-4 | Vinyl Chloride | ND | 1.0 | ug/l | |
| | m,p-Xylene | ND | 2.0 | ug/l | |
| 95-47-6 | o-Xylene | ND | 1.0 | ug/l | |
| 1330-20-7 | Xylene (total) | ND | 2.0 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | 84-124% |
| 2037-26-5 | Toluene-D8 | 99% | 83-115% |
| 460-00-4 | 4-Bromofluorobenzene | 94% | 89-111% |

# Method Blank Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2G4705-MB2 | 2G090283.D | 1 | 10/31/18 | LS | n/a | n/a | V2G4705 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-4

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 50 | ug/l | |
| 71-43-2 | Benzene | ND | 1.0 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 1.0 | ug/l | |
| 75-25-2 | Bromoform | ND | 1.0 | ug/l | |
| 75-15-0 | Carbon Disulfide | ND | 1.0 | ug/l | |
| 56-23-5 | Carbon Tetrachloride | ND | 1.0 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 1.0 | ug/l | |
| 75-00-3 | Chloroethane | ND | 1.0 | ug/l | |
| 67-66-3 | Chloroform | ND | 1.0 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 1.0 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 1.0 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 1.0 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 1.0 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 1.0 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 1.0 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 1.0 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 1.0 | ug/l | |
| 540-59-0 | 1,2-Dichloroethene (total) | ND | 1.0 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 1.0 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 1.0 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 1.0 | ug/l | |
| 542-75-6 | 1,3-Dichloropropene (total) | ND | 1.0 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 1.0 | ug/l | |
| 78-83-1 | Isobutyl Alcohol | ND | 100 | ug/l | |
| 74-83-9 | Methyl Bromide | ND | 1.0 | ug/l | |
| 74-87-3 | Methyl Chloride | ND | 1.0 | ug/l | |
| 75-09-2 | Methylene Chloride | 0.48 | 1.0 | ug/l | J |
| 78-93-3 | Methyl Ethyl Ketone | ND | 13 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 13 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | ug/l | |
| 100-42-5 | Styrene | ND | 1.0 | ug/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | 1.0 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.50 | ug/l | |

# Method Blank Summary

**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA



| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2G4705-MB2 | 2G090283.D | 1 | 10/31/18 | LS | n/a | n/a | V2G4705 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-4

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 127-18-4 | Tetrachloroethylene | ND | 1.0 | ug/l | |
| 108-88-3 | Toluene | ND | 1.0 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 1.0 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 1.0 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 1.0 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 1.0 | ug/l | |
| 75-01-4 | Vinyl Chloride | ND | 1.0 | ug/l | |
| | m,p-Xylene | ND | 2.0 | ug/l | |
| 95-47-6 | o-Xylene | ND | 1.0 | ug/l | |
| 1330-20-7 | Xylene (total) | ND | 2.0 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | 84-124% |
| 2037-26-5 | Toluene-D8 | 97% | 83-115% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | 89-111% |

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1I1896-BS1 | 1I040647.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |
| V1I1896-BSD1 | 1I040649.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 50 | 43.8 | 88 | 44.2 | 88 | 1 | 38-178/30 |
| 71-43-2 | Benzene | 20 | 19.1 | 96 | 19.6 | 98 | 3 | 82-119/30 |
| 75-27-4 | Bromodichloromethane | 20 | 18.4 | 92 | 19.1 | 96 | 4 | 79-120/30 |
| 75-25-2 | Bromoform | 20 | 15.5 | 78 | 15.9 | 80 | 3 | 68-128/30 |
| 75-15-0 | Carbon Disulfide | 20 | 18.3 | 92 | 19.2 | 96 | 5 | 64-133/30 |
| 56-23-5 | Carbon Tetrachloride | 20 | 17.7 | 89 | 18.3 | 92 | 3 | 69-132/30 |
| 108-90-7 | Chlorobenzene | 20 | 18.5 | 93 | 19.0 | 95 | 3 | 85-120/30 |
| 75-00-3 | Chloroethane | 20 | 18.6 | 93 | 19.2 | 96 | 3 | 33-170/30 |
| 67-66-3 | Chloroform | 20 | 17.8 | 89 | 18.6 | 93 | 4 | 80-122/30 |
| 124-48-1 | Dibromochloromethane | 20 | 17.3 | 87 | 17.7 | 89 | 2 | 73-125/30 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 20 | 13.6 | 68 | 13.8 | 69 | 1 | 67-131/30 |
| 541-73-1 | m-Dichlorobenzene | 20 | 19.4 | 97 | 19.8 | 99 | 2 | 84-121/30 |
| 95-50-1 | o-Dichlorobenzene | 20 | 19.6 | 98 | 20.2 | 101 | 3 | 83-120/30 |
| 106-46-7 | p-Dichlorobenzene | 20 | 18.9 | 95 | 18.7 | 94 | 1 | 83-122/30 |
| 75-34-3 | 1,1-Dichloroethane | 20 | 17.7 | 89 | 18.6 | 93 | 5 | 78-124/30 |
| 107-06-2 | 1,2-Dichloroethane | 20 | 18.5 | 93 | 19.1 | 96 | 3 | 74-127/30 |
| 75-35-4 | 1,1-Dichloroethylene | 20 | 17.0 | 85 | 17.7 | 89 | 4 | 70-134/30 |
| 156-59-2 | cis-1,2-Dichloroethylene | 20 | 19.0 | 95 | 19.8 | 99 | 4 | 78-122/30 |
| 156-60-5 | trans-1,2-Dichloroethylene | 20 | 17.0 | 85 | 17.6 | 88 | 3 | 75-127/30 |
| 540-59-0 | 1,2-Dichloroethene (total) | 40 | 36.1 | 90 | 37.4 | 94 | 4 | 78-123/30 |
| 78-87-5 | 1,2-Dichloropropane | 20 | 18.9 | 95 | 19.4 | 97 | 3 | 82-120/30 |
| 10061-01-5 | cis-1,3-Dichloropropene | 20 | 17.4 | 87 | 17.7 | 89 | 2 | 79-122/30 |
| 10061-02-6 | trans-1,3-Dichloropropene | 20 | 17.2 | 86 | 17.7 | 89 | 3 | 78-124/30 |
| 542-75-6 | 1,3-Dichloropropene (total) | 40 | 34.6 | 87 | 35.4 | 89 | 2 | 50-150/30 [a] |
| 100-41-4 | Ethylbenzene | 20 | 19.6 | 98 | 20.1 | 101 | 3 | 84-117/30 |
| 67-72-1 | Hexachloroethane | 20 | 14.9 | 75 | 15.3 | 77 | 3 | 53-141/30 |
| 78-83-1 | Isobutyl Alcohol | 200 | 180 | 90 | 182 | 91 | 1 | 20-175/30 |
| 74-83-9 | Methyl Bromide | 20 | 19.1 | 96 | 19.4 | 97 | 2 | 37-198/30 |
| 74-87-3 | Methyl Chloride | 20 | 15.7 | 79 | 16.5 | 83 | 5 | 50-136/30 |
| 75-09-2 | Methylene Chloride | 20 | 18.7 | 94 | 19.4 | 97 | 4 | 71-130/30 |
| 78-93-3 | Methyl Ethyl Ketone | 50 | 48.7 | 97 | 50.2 | 100 | 3 | 59-149/30 |
| 108-10-1 | 4-Methyl-2-pentanone | 50 | 42.0 | 84 | 43.4 | 87 | 3 | 74-131/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | 20 | 19.5 | 98 | 19.2 | 96 | 2 | 70-126/30 |
| 100-42-5 | Styrene | 20 | 18.7 | 94 | 19.1 | 96 | 2 | 79-128/30 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 20 | 19.1 | 96 | 19.9 | 100 | 4 | 84-120/30 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20 | 19.0 | 95 | 19.2 | 96 | 1 | 77-126/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA



| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1I1896-BS1 | 1I040647.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |
| V1I1896-BSD1 | 1I040649.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 127-18-4 | Tetrachloroethylene | 20 | 18.3 | 92 | 19.1 | 96 | 4 | 75-133/30 |
| 108-88-3 | Toluene | 20 | 18.4 | 92 | 19.0 | 95 | 3 | 80-121/30 |
| 71-55-6 | 1,1,1-Trichloroethane | 20 | 18.1 | 91 | 18.8 | 94 | 4 | 74-126/30 |
| 79-00-5 | 1,1,2-Trichloroethane | 20 | 18.9 | 95 | 19.5 | 98 | 3 | 80-123/30 |
| 79-01-6 | Trichloroethylene | 20 | 19.3 | 97 | 19.6 | 98 | 2 | 62-125/30 |
| 75-69-4 | Trichlorofluoromethane | 20 | 15.8 | 79 | 16.6 | 83 | 5 | 62-148/30 |
| 75-01-4 | Vinyl Chloride | 20 | 17.2 | 86 | 17.9 | 90 | 4 | 67-130/30 |
| | m,p-Xylene | 40 | 41.4 | 104 | 42.6 | 107 | 3 | 82-121/30 |
| 95-47-6 | o-Xylene | 20 | 18.2 | 91 | 18.8 | 94 | 3 | 84-119/30 |
| 1330-20-7 | Xylene (total) | 60 | 59.5 | 99 | 61.4 | 102 | 3 | 81-122/30 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 90% | 91% | 84-124% |
| 2037-26-5 | Toluene-D8 | 101% | 101% | 83-115% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 101% | 89-111% |

(a) Advisory control limits.

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2G4705-BS1 | 2G090277.D | 1 | 10/31/18 | LS | n/a | n/a | V2G4705 |
| V2G4705-BSD1 | 2G090279.D | 1 | 10/31/18 | LS | n/a | n/a | V2G4705 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-4

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 50 | 84.1 | 168 | 82.0 | 164 | 3 | 38-178/30 |
| 71-43-2 | Benzene | 20 | 18.7 | 94 | 19.5 | 98 | 4 | 82-119/30 |
| 75-27-4 | Bromodichloromethane | 20 | 21.7 | 109 | 22.2 | 111 | 2 | 79-120/30 |
| 75-25-2 | Bromoform | 20 | 22.9 | 115 | 22.5 | 113 | 2 | 68-128/30 |
| 75-15-0 | Carbon Disulfide | 20 | 18.9 | 95 | 19.6 | 98 | 4 | 64-133/30 |
| 56-23-5 | Carbon Tetrachloride | 20 | 20.8 | 104 | 21.4 | 107 | 3 | 69-132/30 |
| 108-90-7 | Chlorobenzene | 20 | 19.4 | 97 | 20.6 | 103 | 6 | 85-120/30 |
| 75-00-3 | Chloroethane | 20 | 19.7 | 99 | 18.6 | 93 | 6 | 33-170/30 |
| 67-66-3 | Chloroform | 20 | 19.8 | 99 | 20.2 | 101 | 2 | 80-122/30 |
| 124-48-1 | Dibromochloromethane | 20 | 22.1 | 111 | 22.6 | 113 | 2 | 73-125/30 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 20 | 22.3 | 112 | 22.2 | 111 | 0 | 67-131/30 |
| 541-73-1 | m-Dichlorobenzene | 20 | 19.7 | 99 | 20.1 | 101 | 2 | 84-121/30 |
| 95-50-1 | o-Dichlorobenzene | 20 | 20.2 | 101 | 20.5 | 103 | 1 | 83-120/30 |
| 106-46-7 | p-Dichlorobenzene | 20 | 19.8 | 99 | 19.8 | 99 | 0 | 83-122/30 |
| 75-34-3 | 1,1-Dichloroethane | 20 | 19.1 | 96 | 19.1 | 96 | 0 | 78-124/30 |
| 107-06-2 | 1,2-Dichloroethane | 20 | 20.2 | 101 | 19.9 | 100 | 1 | 74-127/30 |
| 75-35-4 | 1,1-Dichloroethylene | 20 | 18.3 | 92 | 18.5 | 93 | 1 | 70-134/30 |
| 156-59-2 | cis-1,2-Dichloroethylene | 20 | 18.1 | 91 | 18.1 | 91 | 0 | 78-122/30 |
| 156-60-5 | trans-1,2-Dichloroethylene | 20 | 17.7 | 89 | 18.2 | 91 | 3 | 75-127/30 |
| 540-59-0 | 1,2-Dichloroethene (total) | 40 | 35.9 | 90 | 36.2 | 91 | 1 | 78-123/30 |
| 78-87-5 | 1,2-Dichloropropane | 20 | 18.3 | 92 | 18.4 | 92 | 1 | 82-120/30 |
| 10061-01-5 | cis-1,3-Dichloropropene | 20 | 20.7 | 104 | 20.7 | 104 | 0 | 79-122/30 |
| 10061-02-6 | trans-1,3-Dichloropropene | 20 | 21.5 | 108 | 21.9 | 110 | 2 | 78-124/30 |
| 542-75-6 | 1,3-Dichloropropene (total) | 40 | 42.3 | 106 | 42.6 | 107 | 1 | 50-150/30 [a] |
| 100-41-4 | Ethylbenzene | 20 | 19.6 | 98 | 20.3 | 102 | 4 | 84-117/30 |
| 67-72-1 | Hexachloroethane | 20 | 22.6 | 113 | 23.0 | 115 | 2 | 53-141/30 |
| 78-83-1 | Isobutyl Alcohol | 200 | 196 | 98 | 189 | 95 | 4 | 20-175/30 |
| 74-83-9 | Methyl Bromide | 20 | 17.4 | 87 | 20.7 | 104 | 17 | 37-198/30 |
| 74-87-3 | Methyl Chloride | 20 | 15.3 | 77 | 15.3 | 77 | 0 | 50-136/30 |
| 75-09-2 | Methylene Chloride | 20 | 18.5 | 93 | 19.6 | 98 | 6 | 71-130/30 |
| 78-93-3 | Methyl Ethyl Ketone | 50 | 62.1 | 124 | 63.4 | 127 | 2 | 59-149/30 |
| 108-10-1 | 4-Methyl-2-pentanone | 50 | 55.5 | 111 | 55.6 | 111 | 0 | 74-131/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | 20 | 19.7 | 99 | 19.6 | 98 | 1 | 70-126/30 |
| 100-42-5 | Styrene | 20 | 20.2 | 101 | 20.9 | 105 | 3 | 79-128/30 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 20 | 22.3 | 112 | 22.4 | 112 | 0 | 84-120/30 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20 | 18.8 | 94 | 19.4 | 97 | 3 | 77-126/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2G4705-BS1 | 2G090277.D | 1 | 10/31/18 | LS | n/a | n/a | V2G4705 |
| V2G4705-BSD1 | 2G090279.D | 1 | 10/31/18 | LS | n/a | n/a | V2G4705 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-4

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 127-18-4 | Tetrachloroethylene | 20 | 20.6 | 103 | 22.0 | 110 | 7 | 75-133/30 |
| 108-88-3 | Toluene | 20 | 19.1 | 96 | 19.9 | 100 | 4 | 80-121/30 |
| 71-55-6 | 1,1,1-Trichloroethane | 20 | 20.7 | 104 | 21.5 | 108 | 4 | 74-126/30 |
| 79-00-5 | 1,1,2-Trichloroethane | 20 | 20.4 | 102 | 20.0 | 100 | 2 | 80-123/30 |
| 79-01-6 | Trichloroethylene | 20 | 20.4 | 102 | 21.5 | 108 | 5 | 62-125/30 |
| 75-69-4 | Trichlorofluoromethane | 20 | 22.3 | 112 | 22.3 | 112 | 0 | 62-148/30 |
| 75-01-4 | Vinyl Chloride | 20 | 18.6 | 93 | 19.0 | 95 | 2 | 67-130/30 |
| | m,p-Xylene | 40 | 40.4 | 101 | 42.3 | 106 | 5 | 82-121/30 |
| 95-47-6 | o-Xylene | 20 | 21.2 | 106 | 21.9 | 110 | 3 | 84-119/30 |
| 1330-20-7 | Xylene (total) | 60 | 61.6 | 103 | 64.2 | 107 | 4 | 81-122/30 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | 99% | 84-124% |
| 2037-26-5 | Toluene-D8 | 100% | 98% | 83-115% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | 103% | 89-111% |

(a) Advisory control limits.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| LA49176-5MS | 1I040713.D | 5 | 10/31/18 | LS | n/a | n/a | V1I1896 |
| LA49176-5MSD | 1I040715.D | 5 | 10/31/18 | LS | n/a | n/a | V1I1896 |
| LA49176-5 | 1I040659.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-3

| CAS No. | Compound | LA49176-5 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | 250 | 172 | 69 | 250 | 179 | 72 | 4 | 39-164/27 |
| 71-43-2 | Benzene | ND | | 100 | 99.6 | 100 | 100 | 104 | 104 | 4 | 31-161/15 |
| 75-27-4 | Bromodichloromethane | ND | | 100 | 102 | 102 | 100 | 105 | 105 | 3 | 64-122/36 |
| 75-25-2 | Bromoform | ND | | 100 | 78.0 | 78 | 100 | 82.3 | 82 | 5 | 43-125/37 |
| 75-15-0 | Carbon Disulfide | ND | | 100 | 98.9 | 99 | 100 | 103 | 103 | 4 | 38-138/36 |
| 56-23-5 | Carbon Tetrachloride | ND | | 100 | 97.8 | 98 | 100 | 102 | 102 | 4 | 53-133/36 |
| 108-90-7 | Chlorobenzene | ND | | 100 | 97.2 | 97 | 100 | 98.8 | 99 | 2 | 74-122/34 |
| 75-00-3 | Chloroethane | ND | | 100 | 118 | 118 | 100 | 119 | 119 | 1 | 14-181/43 |
| 67-66-3 | Chloroform | ND | | 100 | 97.9 | 98 | 100 | 101 | 101 | 3 | 65-130/24 |
| 124-48-1 | Dibromochloromethane | ND | | 100 | 88.1 | 88 | 100 | 93.1 | 93 | 6 | 57-121/36 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 100 | 63.2 | 63 | 100 | 71.1 | 71 | 12 | 46-135/25 |
| 541-73-1 | m-Dichlorobenzene | ND | | 100 | 101 | 101 | 100 | 102 | 102 | 1 | 70-120/35 |
| 95-50-1 | o-Dichlorobenzene | ND | | 100 | 98.6 | 99 | 100 | 102 | 102 | 3 | 72-120/35 |
| 106-46-7 | p-Dichlorobenzene | ND | | 100 | 95.3 | 95 | 100 | 97.8 | 98 | 3 | 68-120/35 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 100 | 98.0 | 98 | 100 | 101 | 101 | 3 | 56-138/32 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 100 | 108 | 108 | 100 | 111 | 111 | 3 | 51-141/39 |
| 75-35-4 | 1,1-Dichloroethylene | ND | | 100 | 92.9 | 93 | 100 | 95.6 | 96 | 3 | 48-139/37 |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | 100 | 98.1 | 98 | 100 | 101 | 101 | 3 | 56-133/15 |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | 100 | 95.5 | 96 | 100 | 96.1 | 96 | 1 | 59-128/37 |
| 540-59-0 | 1,2-Dichloroethene (total) | ND | | 200 | 194 | 97 | 200 | 197 | 99 | 2 | 54-134/30 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 100 | 98.6 | 99 | 100 | 101 | 101 | 2 | 68-124/32 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 100 | 84.2 | 84 | 100 | 87.1 | 87 | 3 | 62-120/35 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 100 | 90.8 | 91 | 100 | 94.6 | 95 | 4 | 64-119/36 |
| 542-75-6 | 1,3-Dichloropropene (total) | ND | | 200 | 175 | 88 | 200 | 182 | 91 | 4 | 50-150/30 [a] |
| 100-41-4 | Ethylbenzene | ND | | 100 | 105 | 105 | 100 | 107 | 107 | 2 | 47-146/30 |
| 67-72-1 | Hexachloroethane | ND | | 100 | 69.1 | 69 | 100 | 71.5 | 72 | 3 | 32-128/39 |
| 78-83-1 | Isobutyl Alcohol | ND | | 1000 | 855 | 86 | 1000 | 885 | 89 | 3 | 33-142/54 |
| 74-83-9 | Methyl Bromide | ND | | 100 | 104 | 104 | 100 | 107 | 107 | 3 | 1-150/64 |
| 74-87-3 | Methyl Chloride | ND | | 100 | 90.4 | 90 | 100 | 93.4 | 93 | 3 | 16-146/29 |
| 75-09-2 | Methylene Chloride | ND | | 100 | 115 | 115 | 100 | 116 | 116 | 1 | 55-134/36 |
| 78-93-3 | Methyl Ethyl Ketone | ND | | 250 | 230 | 92 | 250 | 235 | 94 | 2 | 54-142/39 |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | 250 | 233 | 93 | 250 | 236 | 94 | 1 | 60-140/40 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 100 | 99.0 | 99 | 100 | 99.6 | 100 | 1 | 52-146/32 |
| 100-42-5 | Styrene | ND | | 100 | 96.3 | 96 | 100 | 98.8 | 99 | 3 | 67-128/35 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | | 100 | 104 | 104 | 100 | 106 | 106 | 2 | 67-121/35 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 100 | 104 | 104 | 100 | 103 | 103 | 1 | 64-133/38 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| LA49176-5MS | 1I040713.D | 5 | 10/31/18 | LS | n/a | n/a | V1I1896 |
| LA49176-5MSD | 1I040715.D | 5 | 10/31/18 | LS | n/a | n/a | V1I1896 |
| LA49176-5 | 1I040659.D | 1 | 10/29/18 | LS | n/a | n/a | V1I1896 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

LA49128-3

| CAS No. | Compound | LA49176-5 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 127-18-4 | Tetrachloroethylene | ND | | 100 | 97.4 | 97 | 100 | 101 | 101 | 4 | 58-135/37 |
| 108-88-3 | Toluene | ND | | 100 | 97.0 | 97 | 100 | 99.3 | 99 | 2 | 36-155/17 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 100 | 101 | 101 | 100 | 103 | 103 | 2 | 63-128/36 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 100 | 102 | 102 | 100 | 102 | 102 | 0 | 61-138/17 |
| 79-01-6 | Trichloroethylene | ND | | 100 | 98.9 | 99 | 100 | 103 | 103 | 4 | 57-131/36 |
| 75-69-4 | Trichlorofluoromethane | ND | | 100 | 103 | 103 | 100 | 105 | 105 | 2 | 31-156/36 |
| 75-01-4 | Vinyl Chloride | ND | | 100 | 95.7 | 96 | 100 | 97.6 | 98 | 2 | 22-155/49 |
| | m,p-Xylene | ND | | 200 | 224 | 112 | 200 | 230 | 115 | 3 | 35-159/31 |
| 95-47-6 | o-Xylene | ND | | 100 | 93.3 | 93 | 100 | 96.6 | 97 | 3 | 50-144/35 |
| 1330-20-7 | Xylene (total) | ND | | 300 | 318 | 106 | 300 | 327 | 109 | 3 | 41-154/29 |

| CAS No. | Surrogate Recoveries | MS | MSD | LA49176-5 | Limits |
|---|---|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | 100% | 110% | 84-124% |
| 2037-26-5 | Toluene-D8 | 98% | 99% | 99% | 83-115% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | 102% | 94% | 89-111% |

(a) Advisory control limits.

* = Outside of Control Limits.

## MS Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Method Blank Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12657-MB | C0039827.D | 1 | 10/29/18 | IK | 10/29/18 | OP12657 | EC1678 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

LA49128-1, LA49128-2

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 5.0 | ug/l | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 5.0 | ug/l | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 5.0 | ug/l | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 20 | ug/l | |
| 100-02-7 | 4-Nitrophenol | ND | 25 | ug/l | |
| 87-86-5 | Pentachlorophenol | ND | 10 | ug/l | |
| 108-95-2 | Phenol | ND | 5.0 | ug/l | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 5.0 | ug/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 5.0 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 5.0 | ug/l | |
| 83-32-9 | Acenaphthene | ND | 0.20 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.20 | ug/l | |
| 62-53-3 | Aniline | ND | 5.0 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.20 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.20 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.20 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.20 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.20 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 10 | ug/l | |
| 85-68-7 | Butyl Benzyl Phthalate | ND | 5.0 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 5.0 | ug/l | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 5.0 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 5.0 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.20 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.20 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 10 | ug/l | |
| 84-66-2 | Diethyl Phthalate | ND | 5.0 | ug/l | |
| 131-11-3 | Dimethyl Phthalate | ND | 5.0 | ug/l | |
| 117-84-0 | Di-n-octyl Phthalate | ND | 5.0 | ug/l | |
| 99-65-0 | 1,3-Dinitrobenzene | ND | 5.0 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 5.0 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 5.0 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 5.0 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.20 | ug/l | |

# Method Blank Summary

**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12657-MB | C0039827.D | 1 | 10/29/18 | IK | 10/29/18 | OP12657 | EC1678 |



**The QC reported here applies to the following samples:** **Method:** SW846 8270D

LA49128-1, LA49128-2

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 86-73-7 | Fluorene | ND | 0.20 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 5.0 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 5.0 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 10 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.20 | ug/l | |
| 78-59-1 | Isophorone | ND | 5.0 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 0.20 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.20 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 5.0 | ug/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 5.0 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.20 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.20 | ug/l | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 5.0 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 49% | 23-85% |
| 4165-62-2 | Phenol-d5 | 35% | 10-69% |
| 118-79-6 | 2,4,6-Tribromophenol | 88% | 48-138% |
| 4165-60-0 | Nitrobenzene-d5 | 89% | 51-128% |
| 321-60-8 | 2-Fluorobiphenyl | 93% | 55-122% |
| 1718-51-0 | Terphenyl-d14 | 91% | 43-138% |

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12657-BS | C0039828.D | 1 | 10/29/18 | IK | 10/29/18 | OP12657 | EC1678 |
| OP12657-BSD | C0039829.D | 1 | 10/29/18 | IK | 10/29/18 | OP12657 | EC1678 |



**The QC reported here applies to the following samples:** **Method:** SW846 8270D

LA49128-1, LA49128-2

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | 50 | 38.7 | 77 | 33.7 | 67 | 14 | 63-104/19 |
| 120-83-2 | 2,4-Dichlorophenol | 50 | 44.0 | 88 | 37.8 | 76 | 15 | 68-112/19 |
| 105-67-9 | 2,4-Dimethylphenol | 50 | 44.4 | 89 | 35.6 | 71 | 22* [a] | 64-110/20 |
| 51-28-5 | 2,4-Dinitrophenol | 50 | 44.8 | 90 | 40.4 | 81 | 10 | 51-121/30 |
| 100-02-7 | 4-Nitrophenol | 50 | 18.4 | 37 | 16.0 | 32 | 14 | 20-68/23 |
| 87-86-5 | Pentachlorophenol | 50 | 43.0 | 86 | 35.0 | 70 | 21 | 52-120/29 |
| 108-95-2 | Phenol | 50 | 18.2 | 36 | 16.6 | 33 | 9 | 18-67/20 |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 50 | 52.0 | 104 | 44.4 | 89 | 16 | 67-121/21 |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | 52.0 | 104 | 44.9 | 90 | 15 | 67-119/21 |
| 88-06-2 | 2,4,6-Trichlorophenol | 50 | 45.6 | 91 | 39.2 | 78 | 15 | 67-120/21 |
| 83-32-9 | Acenaphthene | 50 | 46.0 | 92 | 40.5 | 81 | 13 | 67-114/28 |
| 208-96-8 | Acenaphthylene | 50 | 46.9 | 94 | 38.2 | 76 | 20 | 67-119/26 |
| 62-53-3 | Aniline | 50 | 28.5 | 57 | 27.8 | 56 | 2 | 40-114/40 |
| 120-12-7 | Anthracene | 50 | 42.2 | 84 | 37.1 | 74 | 13 | 68-121/24 |
| 56-55-3 | Benzo(a)anthracene | 50 | 44.1 | 88 | 38.5 | 77 | 14 | 69-113/20 |
| 50-32-8 | Benzo(a)pyrene | 50 | 44.4 | 89 | 38.8 | 78 | 13 | 71-124/22 |
| 205-99-2 | Benzo(b)fluoranthene | 50 | 45.1 | 90 | 39.4 | 79 | 13 | 72-120/22 |
| 207-08-9 | Benzo(k)fluoranthene | 50 | 44.8 | 90 | 40.8 | 82 | 9 | 71-124/21 |
| 92-52-4 | 1,1'-Biphenyl | 50 | 47.0 | 94 | 40.8 | 82 | 14 | 65-122/29 |
| 85-68-7 | Butyl Benzyl Phthalate | 50 | 40.5 | 81 | 37.1 | 74 | 9 | 73-123/21 |
| 106-47-8 | 4-Chloroaniline | 50 | 43.9 | 88 | 40.3 | 81 | 9 | 58-113/51 |
| 111-44-4 | bis(2-Chloroethyl)ether | 50 | 44.2 | 88 | 39.2 | 78 | 12 | 50-118/28 |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | 50 | 49.0 | 98 | 44.0 | 88 | 11 | 43-138/21 |
| 91-58-7 | 2-Chloronaphthalene | 50 | 45.9 | 92 | 40.9 | 82 | 12 | 64-114/30 |
| 218-01-9 | Chrysene | 50 | 44.4 | 89 | 39.0 | 78 | 13 | 70-115/20 |
| 53-70-3 | Dibenzo(a,h)anthracene | 50 | 46.8 | 94 | 41.6 | 83 | 12 | 70-124/21 |
| 132-64-9 | Dibenzofuran | 50 | 50.3 | 101 | 44.2 | 88 | 13 | 67-117/27 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 50 | 41.2 | 82 | 36.4 | 73 | 12 | 69-122/38 |
| 84-66-2 | Diethyl Phthalate | 50 | 48.2 | 96 | 42.9 | 86 | 12 | 71-123/21 |
| 131-11-3 | Dimethyl Phthalate | 50 | 48.1 | 96 | 43.4 | 87 | 10 | 69-119/20 |
| 117-84-0 | Di-n-octyl Phthalate | 50 | 40.3 | 81 | 35.6 | 71 | 12 | 66-121/22 |
| 99-65-0 | 1,3-Dinitrobenzene | 50 | 50.4 | 101 | 45.9 | 92 | 9 | 71-122/21 |
| 121-14-2 | 2,4-Dinitrotoluene | 50 | 52.0 | 104 | 47.1 | 94 | 10 | 73-122/21 |
| 606-20-2 | 2,6-Dinitrotoluene | 50 | 49.5 | 99 | 44.2 | 88 | 11 | 72-121/21 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 50 | 39.2 | 78 | 34.1 | 68 | 14 | 68-126/21 |
| 206-44-0 | Fluoranthene | 50 | 43.8 | 88 | 38.0 | 76 | 14 | 73-120/21 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12657-BS | C0039828.D | 1 | 10/29/18 | IK | 10/29/18 | OP12657 | EC1678 |
| OP12657-BSD | C0039829.D | 1 | 10/29/18 | IK | 10/29/18 | OP12657 | EC1678 |



**The QC reported here applies to the following samples:** **Method:** SW846 8270D

LA49128-1, LA49128-2

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 86-73-7 | Fluorene | 50 | 49.8 | 100 | 43.9 | 88 | 13 | 69-118/25 |
| 118-74-1 | Hexachlorobenzene | 50 | 43.0 | 86 | 38.0 | 76 | 12 | 67-117/23 |
| 87-68-3 | Hexachlorobutadiene | 50 | 41.1 | 82 | 36.6 | 73 | 12 | 42-120/35 |
| 77-47-4 | Hexachlorocyclopentadiene | 50 | 41.0 | 82 | 38.0 | 76 | 8 | 35-123/48 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 50 | 43.6 | 87 | 38.6 | 77 | 12 | 70-123/21 |
| 78-59-1 | Isophorone | 50 | 52.6 | 105 | 46.3 | 93 | 13 | 70-119/19 |
| 91-57-6 | 2-Methylnaphthalene | 50 | 41.6 | 83 | 36.6 | 73 | 13 | 65-113/27 |
| 91-20-3 | Naphthalene | 50 | 40.9 | 82 | 35.6 | 71 | 14 | 63-114/23 |
| 88-74-4 | 2-Nitroaniline | 50 | 46.7 | 93 | 42.0 | 84 | 11 | 68-125/21 |
| 99-09-2 | 3-Nitroaniline | 50 | 46.7 | 93 | 42.1 | 84 | 10 | 69-117/23 |
| 100-01-6 | 4-Nitroaniline | 50 | 44.7 | 89 | 40.2 | 80 | 11 | 67-122/19 |
| 98-95-3 | Nitrobenzene | 50 | 53.7 | 107 | 47.2 | 94 | 13 | 69-116/21 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 50 | 49.6 | 99 | 43.8 | 88 | 12 | 67-120/20 |
| 86-30-6 | N-Nitrosodiphenylamine | 50 | 39.2 | 78 | 34.1 | 68 | 14 | 67-119/25 |
| 85-01-8 | Phenanthrene | 50 | 43.3 | 87 | 38.4 | 77 | 12 | 70-117/23 |
| 129-00-0 | Pyrene | 50 | 43.7 | 87 | 39.0 | 78 | 11 | 70-119/21 |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 50 | 53.9 | 108 | 46.2 | 92 | 15 | 55-117/35 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 41.4 | 83 | 36.2 | 72 | 13 | 56-111/30 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 47% | 43% | 23-85% |
| 4165-62-2 | Phenol-d5 | 34% | 32% | 10-69% |
| 118-79-6 | 2,4,6-Tribromophenol | 88% | 77% | 48-138% |
| 4165-60-0 | Nitrobenzene-d5 | 93% | 84% | 51-128% |
| 321-60-8 | 2-Fluorobiphenyl | 93% | 83% | 55-122% |
| 1718-51-0 | Terphenyl-d14 | 88% | 81% | 43-138% |

(a) High RPD. Analyte not detected in associated samples.

* = Outside of Control Limits.

## GC Volatiles

6

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Method Blank Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| GLC1882-MB1 | LC381160.D | 1 | 10/27/18 | SV | n/a | n/a | GLC1882 |

**The QC reported here applies to the following samples:** **Method:** MADEP VPH REV 1.1

LA49128-1, LA49128-2, LA49128-3, LA49128-4

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics C6-C8 (Unadj.) | ND | 30 | ug/l | |
| | Aliphatics > C8-C10 (Unadj.) | ND | 50 | ug/l | |
| | Aromatics > C8-C10 (Unadj.) | ND | 50 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 615-59-8 | 2,5-Dibromotoluene | 101% [a] | 70-130% |
| 615-59-8 | 2,5-Dibromotoluene | 100% [b] | 70-130% |

(a) Recovery from Aromatics fraction.
(b) Recovery from Aliphatics fraction.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| GLC1882-BS1 | LC381158.D | 1 | 10/27/18 | SV | n/a | n/a | GLC1882 |
| GLC1882-BSD1 | LC381159.D | 1 | 10/27/18 | SV | n/a | n/a | GLC1882 |

**The QC reported here applies to the following samples:** **Method:** MADEP VPH REV 1.1

LA49128-1, LA49128-2, LA49128-3, LA49128-4

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| | Aliphatics C6-C8 (Unadj.) | 150 | 123 | 82 | 132 | 88 | 7 | 70-130/30 |
| | Aliphatics > C8-C10 (Unadj.) | 250 | 214 | 86 | 209 | 84 | 2 | 70-130/30 |
| | Aromatics > C8-C10 (Unadj.) | 250 | 221 | 88 | 221 | 88 | 0 | 70-130/30 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 615-59-8 | 2,5-Dibromotoluene | 105% [a] | 103% [a] | 70-130% |
| 615-59-8 | 2,5-Dibromotoluene | 106% [b] | 114% [b] | 70-130% |

(a) Recovery from Aromatics fraction.
(b) Recovery from Aliphatics fraction.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| LA49116-1MS | LC381164.D | 5 | 10/27/18 | SV | n/a | n/a | GLC1882 |
| LA49116-1MSD | LC381165.D | 5 | 10/27/18 | SV | n/a | n/a | GLC1882 |
| LA49116-1 | LC381161.D | 1 | 10/27/18 | SV | n/a | n/a | GLC1882 |

**The QC reported here applies to the following samples:** **Method:** MADEP VPH REV 1.1

LA49128-1, LA49128-2, LA49128-3, LA49128-4

| CAS No. | Compound | LA49116-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Aliphatics C6-C8 (Unadj.) | ND | | 750 | 769 | 103 | 750 | 721 | 96 | 6 | 70-130/50 |
| | Aliphatics > C8-C10 (Unadj.) | ND | | 1250 | 1240 | 99 | 1250 | 1270 | 102 | 2 | 70-130/50 |
| | Aromatics > C8-C10 (Unadj.) | ND | | 1250 | 1300 | 104 | 1250 | 1310 | 105 | 1 | 70-130/50 |

| CAS No. | Surrogate Recoveries | MS | MSD | LA49116-1 | Limits |
|---|---|---|---|---|---|
| 615-59-8 | 2,5-Dibromotoluene | 105% [a] | 104% [a] | 100% [a] | 70-130% |
| 615-59-8 | 2,5-Dibromotoluene | 105% [b] | 104% [b] | 101% [b] | 70-130% |

(a) Recovery from Aromatics fraction.
(b) Recovery from Aliphatics fraction.

* = Outside of Control Limits.

## GC/LC Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Method Blank Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12635-MB | X0005563.D | 1 | 10/29/18 | JT | 10/26/18 | OP12635 | GLB1651 |

**The QC reported here applies to the following samples:** **Method:** MADEP EPH REV 1.1

LA49128-1, LA49128-2

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aromatics > C10-C12 (Unadj.) | ND | 140 | ug/l | |
| | Aromatics > C12-C16 (Unadj.) | ND | 140 | ug/l | |
| | Aromatics > C16-C21 (Unadj.) | ND | 140 | ug/l | |
| | Aromatics > C21-C35 (Unadj.) | ND | 140 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 84-15-1 | o-Terphenyl | 73% | 40-140% |
| 321-60-8 | 2-Fluorobiphenyl | 73% | 40-140% |

# Method Blank Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12635-MB | Y0005563.D | 1 | 10/29/18 | JT | 10/26/18 | OP12635 | GLB1652 |

**The QC reported here applies to the following samples:** **Method:** MADEP EPH REV 1.1

LA49128-1, LA49128-2

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | Aliphatics > C10-C12 (Unadj.) | ND | 140 | ug/l | |
| | Aliphatics > C12-C16 (Unadj.) | ND | 140 | ug/l | |
| | Aliphatics > C16-C35 (Unadj.) | ND | 140 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 3386-33-2 | 1-Chlorooctadecane | 84% | 40-140% |

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12635-BS | X0005564.D | 1 | 10/29/18 | JT | 10/26/18 | OP12635 | GLB1651 |
| OP12635-BSD | X0005565.D | 1 | 10/29/18 | JT | 10/26/18 | OP12635 | GLB1651 |

**The QC reported here applies to the following samples:** **Method:** MADEP EPH REV 1.1

LA49128-1, LA49128-2

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| | Aromatics > C10-C12 (Unadj.) | 461 | 340 | 74 | 339 | 73 | 0 | 40-140/30 |
| | Aromatics > C12-C16 (Unadj.) | 1380 | 1030 | 74 | 1020 | 73 | 1 | 40-140/30 |
| | Aromatics > C16-C21 (Unadj.) | 2310 | 1860 | 81 | 1900 | 82 | 2 | 40-140/30 |
| | Aromatics > C21-C35 (Unadj.) | 3690 | 3090 | 84 | 3140 | 85 | 2 | 40-140/30 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 75% | 75% | 40-140% |
| 321-60-8 | 2-Fluorobiphenyl | 76% | 76% | 40-140% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** LA49128
**Account:** HETILAL Hydro-Environmental Technology, Inc.
**Project:** 8060.00 Indigo-Desoto Parish, LA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP12635-BS | Y0005564.D | 1 | 10/29/18 | JT | 10/26/18 | OP12635 | GLB1652 |
| OP12635-BSD | Y0005565.D | 1 | 10/29/18 | JT | 10/26/18 | OP12635 | GLB1652 |

**The QC reported here applies to the following samples:** **Method:** MADEP EPH REV 1.1

LA49128-1, LA49128-2

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| | Aliphatics > C10-C12 (Unadj.) | 461 | 351 | 76 | 369 | 80 | 5 | 40-140/30 |
| | Aliphatics > C12-C16 (Unadj.) | 923 | 699 | 76 | 741 | 80 | 6 | 40-140/30 |
| | Aliphatics > C16-C35 (Unadj.) | 4150 | 2980 | 72 | 3130 | 75 | 5 | 40-140/30 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 3386-33-2 | 1-Chlorooctadecane | 79% | 82% | 40-140% |

* = Outside of Control Limits.

## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 100 | 6.9 | 9.3 | -1.7 | <100 |
| Antimony | 1.0 | .043 | .34 | | |
| Arsenic | 1.0 | .062 | .26 | -0.021 | <1.0 |
| Barium | 1.0 | .033 | .46 | -0.035 | <1.0 |
| Beryllium | 1.0 | .0077 | .28 | | |
| Boron | 20 | 1.3 | 2.9 | | |
| Cadmium | 0.50 | .011 | .12 | 0.032 | <0.50 |
| Calcium | 100 | 5.7 | 20 | -15 | <100 |
| Cerium | 1.0 | .0041 | .16 | | |
| Chromium | 1.0 | .11 | .15 | -0.028 | <1.0 |
| Cobalt | 1.0 | .012 | .14 | | |
| Copper | 1.0 | .91 | .74 | | |
| Iron | 100 | 48 | 16 | -21 | <100 |
| Lanthanum | 1.0 | .0038 | .41 | | |
| Lithium | 2.0 | .1 | .61 | | |
| Lead | 1.0 | .0081 | .13 | -0.12 | <1.0 |
| Magnesium | 100 | 1.6 | 11 | -11 | <100 |
| Manganese | 2.0 | .48 | .53 | -0.028 | <2.0 |
| Molybdenum | 1.0 | .048 | .89 | | |
| Nickel | 1.0 | .037 | .2 | | |
| Potassium | 100 | 3.4 | 7.6 | -9.0 | <100 |
| Selenium | 5.0 | .38 | 3.1 | 0.18 | <5.0 |
| Silver | 1.0 | .0047 | .13 | -0.080 | <1.0 |
| Silicon | 500 | 6.6 | 130 | | |
| Sodium | 100 | 24 | 9.9 | -13 | <100 |
| Strontium | 2.0 | .12 | .27 | 0.027 | <2.0 |
| Thallium | 1.0 | .021 | .86 | | |
| Tin | 2.0 | .034 | .19 | | |
| Titanium | 1.0 | .15 | .77 | | |
| Uranium | 1.0 | .0048 | .17 | | |
| Vanadium | 1.0 | .027 | .1 | | |
| Zinc | 5.0 | 1.5 | 1.1 | -0.37 | <5.0 |

Associated samples MP13153: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

| Metal | LA49128-1 Original | MS | Spikelot MPICPMS6 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | 12200 | 18100 | 5100 | 115.7 | 75-125 |
| Antimony | | | | | |
| Arsenic | 3.7 | 122 | 100 | 118.3 | 75-125 |
| Barium | 123 | 239 | 100 | 116.0 | 75-125 |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | 0.63 | 116 | 100 | 115.4 | 75-125 |
| Calcium | 2190 | 7730 | 5000 | 110.8 | 75-125 |
| Cerium | | | | | |
| Chromium | 17.8 | 133 | 100 | 115.2 | 75-125 |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | 14100 | 20700 | 5000 | 132.0N(a | 75-125 |
| Lanthanum | | | | | |
| Lithium | | | | | |
| Lead | 10.7 | 123 | 100 | 112.3 | 75-125 |
| Magnesium | 2570 | 8470 | 5000 | 118.0 | 75-125 |
| Manganese | 233 | 360 | 100 | 127.0N(a | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | 3790 | 9170 | 5000 | 107.6 | 75-125 |
| Selenium | 0.0 | 594 | 500 | 118.8 | 75-125 |
| Silver | 0.0 | 100 | 100 | 100.0 | 75-125 |
| Silicon | | | | | |
| Sodium | 245000 | 259000 | 5000 | 280.0(b) | 75-125 |
| Strontium | 142 | 267 | 100 | 125.0 | 75-125 |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Uranium | | | | | |
| Vanadium | | | | | |
| Zinc | 58.0 | 175 | 100 | 117.0 | 75-125 |

Associated samples MP13153: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| Metal | LA49128-1 Original MS | Spikelot MPICPMS6 % Rec | QC Limits |
|---|---|---|---|

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference or sample non-homogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| Metal | LA49128-1 Original | MSD | Spikelot MPICPMS6 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | 12200 | 15100 | 5100 | 56.9N(a) | 18.1 | 20 |
| Antimony | | | | | | |
| Arsenic | 3.7 | 101 | 100 | 97.3 | 18.8 | 20 |
| Barium | 123 | 198 | 100 | 75.0 | 18.8 | 20 |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | 0.63 | 96.1 | 100 | 95.5 | 18.8 | 20 |
| Calcium | 2190 | 6620 | 5000 | 88.6 | 15.5 | 20 |
| Cerium | | | | | | |
| Chromium | 17.8 | 111 | 100 | 93.2 | 18.0 | 20 |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | 14100 | 16800 | 5000 | 54.0N(a) | 20.8 (b) | 20 |
| Lanthanum | | | | | | |
| Lithium | | | | | | |
| Lead | 10.7 | 105 | 100 | 94.3 | 15.8 | 20 |
| Magnesium | 2570 | 6920 | 5000 | 87.0 | 20.1 (b) | 20 |
| Manganese | 233 | 292 | 100 | 59.0N(a) | 20.9 (b) | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | 3790 | 7750 | 5000 | 79.2 | 16.8 | 20 |
| Selenium | 0.0 | 482 | 500 | 96.4 | 20.8 (b) | 20 |
| Silver | 0.0 | 84.7 | 100 | 84.7 | 16.6 | 20 |
| Silicon | | | | | | |
| Sodium | 245000 | 212000 | 5000 | -660.0(c | 20.0 | 20 |
| Strontium | 142 | 221 | 100 | 79.0 | 18.9 | 20 |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Uranium | | | | | | |
| Vanadium | | | | | | |
| Zinc | 58.0 | 146 | 100 | 88.0 | 18.1 | 20 |

Associated samples MP13153: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| Metal | LA49128-1 Original MSD | Spikelot MPICPMS6 % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference or sample non-homogeneity.
(b) Outside control limits due to matrix interference.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

| Metal | BSP Result | Spikelot MPICPMS6 | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | 5310 | 5100 | 104.1 | 80-120 |
| Antimony | | | | |
| Arsenic | 103 | 100 | 103.0 | 80-120 |
| Barium | 110 | 100 | 110.0 | 80-120 |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | 103 | 100 | 103.0 | 80-120 |
| Calcium | 5440 | 5000 | 108.8 | 80-120 |
| Cerium | | | | |
| Chromium | 105 | 100 | 105.0 | 80-120 |
| Cobalt | | | | |
| Copper | | | | |
| Iron | 5230 | 5000 | 104.6 | 80-120 |
| Lanthanum | | | | |
| Lithium | | | | |
| Lead | 107 | 100 | 107.0 | 80-120 |
| Magnesium | 5130 | 5000 | 102.6 | 80-120 |
| Manganese | 105 | 100 | 105.0 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | 5320 | 5000 | 106.4 | 80-120 |
| Selenium | 500 | 500 | 100.0 | 80-120 |
| Silver | 105 | 100 | 105.0 | 80-120 |
| Silicon | | | | |
| Sodium | 5010 | 5000 | 100.2 | 80-120 |
| Strontium | 106 | 100 | 106.0 | 80-120 |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Uranium | | | | |
| Vanadium | | | | |
| Zinc | 100 | 100 | 100.0 | 80-120 |

Associated samples MP13153: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| Metal | BSP Result | Spikelot MPICPMS6 % Rec | QC Limits |
|---|---|---|---|

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| Metal | LA49128-1 Original | SDL 10:50%DIF | | QC Limits |
|---|---|---|---|---|
| Aluminum | 12200 | 8430 | 30.8*(a) | 0-10 |
| Antimony | | | | |
| Arsenic | 3.66 | 0.00 | 100.0(b) | 0-10 |
| Barium | 123 | 80.4 | 34.6*(a) | 0-10 |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | 0.627 | 2.48 | 296.3(b) | 0-10 |
| Calcium | 2190 | 585 | 73.3 (b) | 0-10 |
| Cerium | | | | |
| Chromium | 17.8 | 13.7 | 23.1 (b) | 0-10 |
| Cobalt | | | | |
| Copper | | | | |
| Iron | 14100 | 9770 | 30.8 (b) | 0-10 |
| Lanthanum | | | | |
| Lithium | | | | |
| Lead | 10.7 | 2.31 | 78.4*(a) | 0-10 |
| Magnesium | 2570 | 1400 | 45.6*(a) | 0-10 |
| Manganese | 233 | 178 | 23.8 (b) | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | 3790 | 2210 | 41.6*(a) | 0-10 |
| Selenium | 0.00 | 0.00 | NC | 0-10 |
| Silver | 0.00 | 0.00 | NC | 0-10 |
| Silicon | | | | |
| Sodium | 245000 | 187000 | 23.9*(a) | 0-10 |
| Strontium | 142 | 110 | 22.9*(a) | 0-10 |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Uranium | | | | |
| Vanadium | | | | |
| Zinc | 58.0 | 0.00 | 100.0(b) | 0-10 |

Associated samples MP13153: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

| | LA49128-1 | QC |
|---|---|---|
| Metal | Original SDL 10:50%DIF | Limits |

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

| Metal | Sample ml | Final ml | LA49128-1 Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 0.2 | 10 | 12180 | 243.6 | 6480 | 0.125 | 408 | 5100 | 122.3 | 75-125 |
| Antimony | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cerium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | 0.2 | 10 | 14110 | 282.2 | 6355 | 0.025 | 2000 | 5000 | 121.5 | 75-125 |
| Lanthanum | | | | | | | | | | |
| Lithium | | | | | | | | | | |
| Magnesium | 0.2 | 10 | 2570 | 51.4 | 6209 | 0.025 | 2000 | 5000 | 123.2 | 75-125 |
| Manganese | 0.2 | 10 | 233 | 4.66 | 127.7 | 0.1 | 10 | 100 | 123.0 | 75-125 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Selenium | 0.2 | 10 | | | 633.2 | 0.1 | 50 | 500 | 126.6*(a | 75-125 |
| Silicon | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Uranium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |

Associated samples MP13153: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference or sample non-homogeneity.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.20 | .06 | .081 | 0.00070 | <0.20 |

Associated samples MP13159: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

| Metal | LA49190-2 Original | MS | Spikelot HGSPIKE1 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 0.0 | 4.4 | 5 | 88.0 | 75-125 |

Associated samples MP13159: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

| Metal | LA49190-2 Original | MSD | Spikelot HGSPIKE1 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 0.0 | 4.4 | 5 | 88.0 | 0.0 | 20 |

Associated samples MP13159: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

| Metal | BSP Result | Spikelot HGSPIKE1 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 4.6 | 5 | 92.0 | 80-120 |

Associated samples MP13159: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49128
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

| Metal | LA49190-2 Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Mercury | 0.00 | 0.00 | NC | 0- |

Associated samples MP13159: LA49128-1, LA49128-2, LA49128-1F, LA49128-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

## Misc. Forms

### Custody Documents and Other Forms

(SGS Houston, TX)

Includes the following where applicable:

- Chain of Custody

# CHAIN OF CUSTODY

SGS

Cooler 2

Page 1 of 1

TX

500 Ambassador Caffery Parkway, Scott, LA 70583
Phone: 800-304-5227 Fax: 337-237-7838

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # LA49128

**Client / Reporting Information**

Company Name: SGS North America Inc.

Street Address: 500 Ambassador Caffery Parkway

City: Scott State: LA Zip: 70583

Project Contact: ralph.frye@sgs.com E-mail:

Phone #: 800-304-5227 Fax #:

Sampler(s) Name(s): LV/EM Phone:

**Project Information**

Project Name: 8060.00 (RL) Indigo-Desoto Parish, LA

Street:

City: State:

Project #:

Client Purchase Order #:

Project Manager:

**Billing Information ( if different from Report to)**

Company Name:

Street Address:

City: State: Zip:

Attention:

**Requested Analysis ( see TEST CODE sheet)**

BROIC9056,CHLIC9056,SCON,SIL,SO4IC9056,TDS
,XCARBICALK

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

| SGS Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 031-9313Z (MCCLARY 235' WATER W | | 10/22/18 | 1:40:00 PM | LV/EM | AQ | | | | | | | | | | X |
| 2 | 031-9342Z (MCCLARY 300' WATER W | | 10/22/18 | 2:15:00 PM | LV/EM | AQ | | | | | | | | | | X |

Turnaround Time ( Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 11/5/2018

Emergency & Rush T/A data available VIA Lablink

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULLT1 ( Level 3+4 )
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other
- [X] COMMB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

2-500ml ung

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 10/26/18 | | | 0245 | |
| 2 | | | | | | |
| 3 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| | | | 10-26-18 | 10-26-18 | 2320 | 10/26/18 2320 |
| 4 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not intact | Preserved where applicable / On Ice / Cooler Temp |
| 5 | | | | | | 7.8 |

# SGS Sample Receipt Summary



**Job Number:** LA49128 **Client:** SGS **Project:** 8060.00 RL INDIGO

**Date / Time Received:** **Delivery Method:** **Airbill #'s:**

**No. Coolers:** 1 **Therm ID:** IR-3; **Temp Adjustment Factor:** 0;

**Cooler Temps (Initial/Adjusted):** #1: (2.8/2.8);

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | | | |
| 3. Cooler media: | Ice (Bag) | | |

| Quality Control Preservation | Y | or | N | N/A | WTB | STB |
|---|---|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ | ☐ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ | | |
| 3. Samples preserved properly: | ☑ | | ☐ | | | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ | | |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments



## LA49128: Chain of Custody
## Page 2 of 3

# Sample Receipt Log

**Job #:** LA49128 **Date / Time Received:** 10/26/2018 11:20:00 PM **Initials:** DS

**Client:** SGS

| Cooler # | Sample ID: | Vol | Bot # | Location | Pres | pH | Therm ID | Initial Temp | Therm CF | Corrected Temp |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LA49128-1 | 500ml | 1 | M1A | N/P | Note #2 - Preservative check not applicable. | IR-3 | 2.8 | 0 | 2.8 |
| 1 | LA49128-2 | 500ml | 1 | M1A | N/P | Note #2 - Preservative check not applicable. | IR-3 | 2.8 | 0 | 2.8 |



**LA49128: Chain of Custody**
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General Chemistry

## QC Data Summaries

(SGS Houston, TX)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA49128
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Bicarbonate | GN93922 | 5.0 | 2.0 | mg/l | | | | |
| Alkalinity, Carbonate | GN93923 | 5.0 | 0.0 | mg/l | | | | |
| Alkalinity, Total as CaCO3 | GN93920 | 5.0 | 0.0 | mg/l | 100 | 104 | 104.0 | 90-100% |
| Bromide | GP50318/GN94140 | 0.50 | 0.0 | mg/l | 10 | 10.4 | 104.0 | 90-110% |
| Bromide | GP50320/GN94143 | 0.50 | 0.0 | mg/l | 10 | 10.6 | 106.0 | 90-110% |
| Chloride | GP50318/GN94140 | 0.50 | 0.0 | mg/l | 10 | 10.1 | 101.0 | 90-110% |
| Chloride | GP50320/GN94143 | 0.50 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 90-110% |
| Fluoride | GP50318/GN94140 | 0.50 | 0.0 | mg/l | 10 | 10.5 | 105.0 | 90-110% |
| Fluoride | GP50320/GN94143 | 0.50 | 0.0 | mg/l | 10 | 10.8 | 108.0 | 90-110% |
| Nitrogen, Nitrate | GP50318/GN94140 | 0.50 | 0.0 | mg/l | 10 | 10.0 | 100.0 | 90-110% |
| Nitrogen, Nitrate | GP50320/GN94143 | 0.50 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 90-110% |
| Nitrogen, Nitrite | GP50318/GN94140 | 0.50 | 0.0 | mg/l | 10 | 10.4 | 104.0 | 90-110% |
| Nitrogen, Nitrite | GP50320/GN94143 | 0.50 | 0.0 | mg/l | 10 | 10.7 | 107.0 | 90-110% |
| Silica, Dissolved | GN93969 | 0.070 | 0.0 | mg/l | 1.07 | 0.97 | 90.7 | 80-120% |
| Solids, Total Dissolved | GN93903 | 10 | 0.0 | mg/l | 500 | 479 | 95.8 | 88-110% |
| Specific Conductivity | GN93897 | 1.0 | <1.0 | umhos/cm | | | | |
| Sulfate | GP50318/GN94140 | 0.50 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 90-110% |
| Sulfate | GP50320/GN94143 | 0.50 | 0.0 | mg/l | 10 | 10.6 | 106.0 | 90-110% |

Associated Samples:
Batch GN93897: LA49128-1, LA49128-2
Batch GN93903: LA49128-1, LA49128-2
Batch GN93920: LA49128-1, LA49128-2
Batch GN93922: LA49128-1, LA49128-2
Batch GN93923: LA49128-1, LA49128-2
Batch GN93969: LA49128-1, LA49128-2
Batch GP50318: LA49128-2
Batch GP50320: LA49128-1, LA49128-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA49128
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Bicarbonate | GN93922 | LA49146-1 | mg/l | 621 | 621 | 0.0 | 0-10% |
| Alkalinity, Carbonate | GN93923 | LA49146-1 | mg/l | 3.5 | 3.3 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN93920 | LA49146-1E | mg/l | 625 | 625 | 0.0 | 0-10% |
| Bromide | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 0.0 | 0.0 | 0-19% |
| Bromide | GP50320/GN94143 | LA49128-1 | mg/l | 0.45 | 0.45 | 0.0 | 0-19% |
| Chloride | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 0.0 | 0.0 | 0-13% |
| Chloride | GP50320/GN94143 | LA49128-1 | mg/l | 46.8 | 46.7 | 0.2 | 0-13% |
| Fluoride | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 0.0 | 0.0 | 0-12% |
| Nitrogen, Nitrate | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 0.0 | 0.0 | 0-14% |
| Nitrogen, Nitrite | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 0.0 | 0.0 | 0-10% |
| Silica, Dissolved | GN93969 | LA49190-5 | mg/l | 5.6 | 0.0 | 0.0 | 0-20% |
| Solids, Total Dissolved | GN93903 | LA49126-2 | mg/l | 638 | 630 | 1.3 | 0-5% |
| Specific Conductivity | GN93897 | LA49116-9 | umhos/cm | 882 | 882 | 0.0 | 0-10% |
| Sulfate | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 0.0 | 0.0 | 0-20% |
| Sulfate | GP50320/GN94143 | LA49128-1 | mg/l | 0.80 | 0.82 | 2.5 | 0-20% |

Associated Samples:
Batch GN93897: LA49128-1, LA49128-2
Batch GN93903: LA49128-1, LA49128-2
Batch GN93920: LA49128-1, LA49128-2
Batch GN93922: LA49128-1, LA49128-2
Batch GN93923: LA49128-1, LA49128-2
Batch GN93969: LA49128-1, LA49128-2
Batch GP50318: LA49128-2
Batch GP50320: LA49128-1, LA49128-2
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA49128
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN93920 | LA49146-1E | mg/l | 625 | 25 | 650 | 100.0 | 75-117% |
| Bromide | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 10 | 10.4 | 104.0 | 80-120% |
| Bromide | GP50320/GN94143 | LA49128-1 | mg/l | 0.45 | 10 | 10.8 | 103.5 | 80-120% |
| Chloride | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 10 | 10.1 | 101.0 | 80-120% |
| Chloride | GP50320/GN94143 | LA49128-1 | mg/l | 46.8 | 50 | 104 | 114.4 | 80-120% |
| Fluoride | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 10 | 10.5 | 105.0 | 80-120% |
| Nitrogen, Nitrate | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 10 | 10.1 | 101.0 | 80-120% |
| Nitrogen, Nitrite | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 10 | 10.5 | 105.0 | 80-120% |
| Silica, Dissolved | GN93969 | LA49190-5 | mg/l | 5.6 | 1.07 | 0.85 | 79.0 | 75-125% |
| Sulfate | GP50318/GN94140 | LA49114-8 | mg/l | 0.0 | 10 | 10.4 | 104.0 | 80-120% |
| Sulfate | GP50320/GN94143 | LA49128-1 | mg/l | 0.80 | 10 | 11.3 | 105.0 | 80-120% |

Associated Samples:
Batch GN93920: LA49128-1, LA49128-2
Batch GN93969: LA49128-1, LA49128-2
Batch GP50318: LA49128-2
Batch GP50320: LA49128-1, LA49128-2
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits