Gulf Coast ACCUTEST LABORATORIES

09/12/14

# Technical Report for

## Weston Solutions

CES- Chemical Spill/4904 Griggs, Houston, TX

Accutest Job Number: TC54038

Sampling Date: 08/28/14

Report to:

Weston Solutions

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Total number of pages in report: **65**

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Laboratory Director

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# Sample Summary

Weston Solutions

**Job No:** TC54038

CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| TC54038-1 | 08/28/14 | 13:52 | | 08/29/14 | AQ | Water | VB-620 |

# Summary of Hits

**Job Number:** TC54038
**Account:** Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX
**Collected:** 08/28/14

| Lab Sample ID<br>Analyte | Client Sample ID | Result/<br>Qual | MQL | SDL | Units | Method |
|---|---|---|---|---|---|---|
| **TC54038-1** | **VB-620** | | | | | |
| Ethylbenzene [a] | | 3.3 J | 10 | 3.2 | ug/l | SW846 8260C |
| Xylene (total) [a] | | 9.8 J | 30 | 8.7 | ug/l | SW846 8260C |
| m,p-Xylene [a] | | 9.8 J | 20 | 5.9 | ug/l | SW846 8260C |
| bis(2-Ethylhexyl)phthalate [b] | | 33.4 | 11 | 3.2 | ug/l | SW846 8270D |
| Endosulfan-I [c] | | 6.5 | 5.0 | 0.92 | ug/l | SW846 8081A |
| TPH (> C12-C28) | | 36.0 | 2.4 | 0.83 | mg/l | TNRCC 1005 |
| TPH (> C28-C35) | | 32.1 | 2.4 | 0.83 | mg/l | TNRCC 1005 |
| TPH (C6-C35) | | 68.1 | 2.4 | 0.76 | mg/l | TNRCC 1005 |
| Aluminum | | 0.118 J | 0.20 | 0.018 | mg/l | SW846 6010B |
| Antimony | | 0.0013 J | 0.0050 | 0.0011 | mg/l | SW846 6010B |
| Barium | | 0.292 | 0.20 | 0.00039 | mg/l | SW846 6010B |
| Calcium | | 51.0 | 5.0 | 0.034 | mg/l | SW846 6010B |
| Chromium | | 0.0012 J | 0.010 | 0.00062 | mg/l | SW846 6010B |
| Cobalt | | 0.0062 J | 0.050 | 0.00023 | mg/l | SW846 6010B |
| Copper | | 0.0042 J | 0.020 | 0.0029 | mg/l | SW846 6010B |
| Iron | | 11.9 | 0.10 | 0.030 | mg/l | SW846 6010B |
| Lead | | 0.0080 | 0.0030 | 0.00077 | mg/l | SW846 6010B |
| Magnesium | | 7.62 | 5.0 | 0.019 | mg/l | SW846 6010B |
| Manganese | | 0.581 | 0.015 | 0.00025 | mg/l | SW846 6010B |
| Nickel | | 0.0263 J | 0.040 | 0.00040 | mg/l | SW846 6010B |
| Potassium | | 10.8 | 5.0 | 0.052 | mg/l | SW846 6010B |
| Sodium | | 21.7 | 5.0 | 0.023 | mg/l | SW846 6010B |
| Vanadium | | 0.0012 J | 0.050 | 0.00051 | mg/l | SW846 6010B |
| Zinc | | 0.214 | 0.020 | 0.0015 | mg/l | SW846 6010B |
| Heat Content, BTU [d] | | 434 | 100 | | BTU/lb | ASTM D240-92 |
| Ignitability (Flashpoint) | | > 200 | | | Deg. F | SW846 1010 |
| Sulfide | | 1.0 | 0.20 | 0.025 | mg/l | SM 4500S+ F |
| pH [e] | | 7.14 | | | su | SM 4500H+ B/9040 |

(a) Dilution required due to excessive foaming.
(b) Elevated reporting limits due to matrix interference. Dilution required due to high concentration of non-target compounds.
(c) Sample extracted beyond hold time.
(d) Analysis performed at Accutest Laboratories, Dayton, NJ.
(e) Field analysis required. Received out of hold time and analyzed by request.TEMP 21.9 C

Gulf Coast ACCUTEST LABORATORIES



## Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8260C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | Z044064.D | 10 | 09/04/14 | EM | n/a | n/a | VZ4400 |
| Run #2 | | | | | | | |

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

**VOA 8260 List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 100 U | 500 | 100 | ug/l | |
| 71-43-2 | Benzene | 3.4 U | 10 | 3.4 | ug/l | |
| 108-86-1 | Bromobenzene | 2.9 U | 10 | 2.9 | ug/l | |
| 74-97-5 | Bromochloromethane | 4.2 U | 10 | 4.2 | ug/l | |
| 75-27-4 | Bromodichloromethane | 3.4 U | 10 | 3.4 | ug/l | |
| 75-25-2 | Bromoform | 4.4 U | 10 | 4.4 | ug/l | |
| 104-51-8 | n-Butylbenzene | 3.9 U | 10 | 3.9 | ug/l | |
| 135-98-8 | sec-Butylbenzene | 4.5 U | 10 | 4.5 | ug/l | |
| 98-06-6 | tert-Butylbenzene | 4.5 U | 10 | 4.5 | ug/l | |
| 108-90-7 | Chlorobenzene | 2.7 U | 10 | 2.7 | ug/l | |
| 75-00-3 | Chloroethane | 7.2 U | 10 | 7.2 | ug/l | |
| 67-66-3 | Chloroform | 3.5 U | 10 | 3.5 | ug/l | |
| 95-49-8 | o-Chlorotoluene | 3.6 U | 10 | 3.6 | ug/l | |
| 106-43-4 | p-Chlorotoluene | 3.1 U | 10 | 3.1 | ug/l | |
| 75-15-0 | Carbon disulfide | 3.6 U | 10 | 3.6 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 4.3 U | 10 | 4.3 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 3.4 U | 10 | 3.4 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 4.5 U | 10 | 4.5 | ug/l | |
| 563-58-6 | 1,1-Dichloropropene | 6.2 U | 10 | 6.2 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 16 U | 20 | 16 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | 3.4 U | 10 | 3.4 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 3.5 U | 10 | 3.5 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 3.3 U | 10 | 3.3 | ug/l | |
| 142-28-9 | 1,3-Dichloropropane | 3.2 U | 10 | 3.2 | ug/l | |
| 594-20-7 | 2,2-Dichloropropane | 5.1 U | 10 | 5.1 | ug/l | |
| 124-48-1 | Dibromochloromethane | 3.7 U | 10 | 3.7 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane | 15 U | 20 | 15 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 4.0 U | 10 | 4.0 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.9 U | 10 | 2.9 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 3.3 U | 10 | 3.3 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 2.8 U | 10 | 2.8 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 3.2 U | 10 | 3.2 | ug/l | |

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8260C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**VOA 8260 List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 156-60-5 | trans-1,2-Dichloroethylene | 4.7 U | 10 | 4.7 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 3.2 U | 10 | 3.2 | ug/l | |
| 100-41-4 | Ethylbenzene | 3.3 | 10 | 3.2 | ug/l | J |
| 591-78-6 | 2-Hexanone | 26 U | 100 | 26 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 4.9 U | 10 | 4.9 | ug/l | |
| 98-82-8 | Isopropylbenzene | 4.0 U | 10 | 4.0 | ug/l | |
| 99-87-6 | p-Isopropyltoluene | 3.6 U | 10 | 3.6 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | 22 U | 100 | 22 | ug/l | |
| 74-83-9 | Methyl bromide | 5.1 U | 10 | 5.1 | ug/l | |
| 74-87-3 | Methyl chloride | 6.3 U | 10 | 6.3 | ug/l | |
| 74-95-3 | Methylene bromide | 4.5 U | 10 | 4.5 | ug/l | |
| 75-09-2 | Methylene chloride | 16 U | 50 | 16 | ug/l | |
| 78-93-3 | Methyl ethyl ketone | 27 U | 100 | 27 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 3.0 U | 10 | 3.0 | ug/l | |
| 91-20-3 | Naphthalene | 16 U | 50 | 16 | ug/l | |
| 103-65-1 | n-Propylbenzene | 3.5 U | 10 | 3.5 | ug/l | |
| 100-42-5 | Styrene | 2.9 U | 10 | 2.9 | ug/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 3.7 U | 10 | 3.7 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 4.3 U | 10 | 4.3 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 4.0 U | 10 | 4.0 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 3.5 U | 10 | 3.5 | ug/l | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 4.2 U | 10 | 4.2 | ug/l | |
| 96-18-4 | 1,2,3-Trichloropropane | 4.6 U | 10 | 4.6 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 4.1 U | 10 | 4.1 | ug/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 3.2 U | 10 | 3.2 | ug/l | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 3.5 U | 10 | 3.5 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 4.6 U | 10 | 4.6 | ug/l | |
| 108-88-3 | Toluene | 3.3 U | 10 | 3.3 | ug/l | |
| 79-01-6 | Trichloroethylene | 4.9 U | 10 | 4.9 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | 7.5 U | 10 | 7.5 | ug/l | |
| 75-01-4 | Vinyl chloride | 7.9 U | 10 | 7.9 | ug/l | |
| 1330-20-7 | Xylene (total) | 9.8 | 30 | 8.7 | ug/l | J |
| | m,p-Xylene | 9.8 | 20 | 5.9 | ug/l | J |
| 95-47-6 | o-Xylene | 2.8 U | 10 | 2.8 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 94% | | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 88% | | 68-124% |
| 2037-26-5 | Toluene-D8 | 93% | | 80-119% |

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8260C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**VOA 8260 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 89% | | 72-126% |

(a) Dilution required due to excessive foaming.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | P35351.D | 2 | 09/04/14 | SC | 09/03/14 | OP33775 | EP1703 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 930 ml | 1.0 ml |
| Run #2 | | |

**ABN Full List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | 22 U | 43 | 22 | ug/l | |
| 95-57-8 | 2-Chlorophenol | 2.1 U | 11 | 2.1 | ug/l | |
| 59-50-7 | 4-Chloro-3-methyl phenol | 2.5 U | 11 | 2.5 | ug/l | |
| 120-83-2 | 2,4-Dichlorophenol | 2.4 U | 11 | 2.4 | ug/l | |
| 105-67-9 | 2,4-Dimethylphenol | 2.3 U | 11 | 2.3 | ug/l | |
| 51-28-5 | 2,4-Dinitrophenol | 22 U | 54 | 22 | ug/l | |
| 534-52-1 | 4,6-Dinitro-o-cresol | 12 U | 22 | 12 | ug/l | |
| 95-48-7 | 2-Methylphenol | 2.1 U | 11 | 2.1 | ug/l | |
| | 3&4-Methylphenol | 2.3 U | 11 | 2.3 | ug/l | |
| 88-75-5 | 2-Nitrophenol | 2.4 U | 11 | 2.4 | ug/l | |
| 100-02-7 | 4-Nitrophenol | 15 U | 54 | 15 | ug/l | |
| 87-86-5 | Pentachlorophenol | 22 U | 54 | 22 | ug/l | |
| 108-95-2 | Phenol | 3.1 U | 11 | 3.1 | ug/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.1 U | 11 | 2.1 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.4 U | 11 | 2.4 | ug/l | |
| 83-32-9 | Acenaphthene | 2.6 U | 11 | 2.6 | ug/l | |
| 208-96-8 | Acenaphthylene | 2.5 U | 11 | 2.5 | ug/l | |
| 62-53-3 | Aniline | 2.8 U | 11 | 2.8 | ug/l | |
| 120-12-7 | Anthracene | 3.0 U | 11 | 3.0 | ug/l | |
| 92-87-5 | Benzidine | 21 U | 54 | 21 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 3.2 U | 11 | 3.2 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 2.9 U | 11 | 2.9 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 2.6 U | 11 | 2.6 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 3.2 U | 11 | 3.2 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 3.3 U | 11 | 3.3 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | 2.5 U | 11 | 2.5 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | 2.7 U | 11 | 2.7 | ug/l | |
| 100-51-6 | Benzyl Alcohol | 1.9 U | 11 | 1.9 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | 2.8 U | 11 | 2.8 | ug/l | |
| 106-47-8 | 4-Chloroaniline | 2.3 U | 11 | 2.3 | ug/l | |
| 86-74-8 | Carbazole | 3.0 U | 11 | 3.0 | ug/l | |
| 218-01-9 | Chrysene | 3.4 U | 11 | 3.4 | ug/l | |

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**ABN Full List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 111-91-1 | bis(2-Chloroethoxy)methane | 2.5 U | 11 | 2.5 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | 2.0 U | 11 | 2.0 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 1.9 U | 11 | 1.9 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 2.7 U | 11 | 2.7 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | 2.3 U | 11 | 2.3 | ug/l | |
| 122-66-7 | 1,2-Diphenylhydrazine | 2.9 U | 11 | 2.9 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | 2.4 U | 11 | 2.4 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | 2.3 U | 11 | 2.3 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | 2.7 U | 11 | 2.7 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | 2.2 U | 11 | 2.2 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | 2.8 U | 22 | 2.8 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 2.9 U | 11 | 2.9 | ug/l | |
| 132-64-9 | Dibenzofuran | 2.7 U | 11 | 2.7 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | 2.9 U | 11 | 2.9 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | 2.5 U | 11 | 2.5 | ug/l | |
| 84-66-2 | Diethyl phthalate | 3.0 U | 11 | 3.0 | ug/l | |
| 131-11-3 | Dimethyl phthalate | 3.0 U | 11 | 3.0 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 33.4 | 11 | 3.2 | ug/l | |
| 206-44-0 | Fluoranthene | 3.0 U | 11 | 3.0 | ug/l | |
| 86-73-7 | Fluorene | 2.6 U | 11 | 2.6 | ug/l | |
| 118-74-1 | Hexachlorobenzene | 3.3 U | 11 | 3.3 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 2.6 U | 11 | 2.6 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | 2.6 U | 22 | 2.6 | ug/l | |
| 67-72-1 | Hexachloroethane | 2.7 U | 11 | 2.7 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 2.2 U | 11 | 2.2 | ug/l | |
| 78-59-1 | Isophorone | 2.6 U | 11 | 2.6 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 2.3 U | 11 | 2.3 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 2.6 U | 11 | 2.6 | ug/l | |
| 88-74-4 | 2-Nitroaniline | 2.8 U | 11 | 2.8 | ug/l | |
| 99-09-2 | 3-Nitroaniline | 2.7 U | 11 | 2.7 | ug/l | |
| 100-01-6 | 4-Nitroaniline | 2.9 U | 11 | 2.9 | ug/l | |
| 91-20-3 | Naphthalene | 2.2 U | 11 | 2.2 | ug/l | |
| 98-95-3 | Nitrobenzene | 2.5 U | 11 | 2.5 | ug/l | |
| 62-75-9 | n-Nitrosodimethylamine | 2.2 U | 11 | 2.2 | ug/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | 2.3 U | 11 | 2.3 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | 3.1 U | 11 | 3.1 | ug/l | |
| 85-01-8 | Phenanthrene | 3.2 U | 11 | 3.2 | ug/l | |
| 129-00-0 | Pyrene | 3.1 U | 11 | 3.1 | ug/l | |
| 110-86-1 | Pyridine | 2.7 U | 11 | 2.7 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.3 U | 11 | 2.3 | ug/l | |

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**ABN Full List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 28% | | 10-66% |
| 4165-62-2 | Phenol-d5 | 19% | | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 78% | | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 70% | | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 69% | | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 84% | | 23-138% |

(a) Elevated reporting limits due to matrix interference. Dilution required due to high concentration of non-target compounds.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8151 SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | DD773137.D | 1 | 09/11/14 | FO | 09/08/14 | OP33837 | GDD2395 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 950 ml | 10.0 ml |
| Run #2 | | |

**Herbicide List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 94-75-7 | 2,4-D | 0.21 U | 1.1 | 0.21 | ug/l | |
| 93-72-1 | 2,4,5-TP (Silvex) | 0.042 U | 0.21 | 0.042 | ug/l | |
| 93-76-5 | 2,4,5-T | 0.035 U | 0.21 | 0.035 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 19719-28-9 | 2,4-DCAA | 157% | | 40-168% |

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8081A SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | NN176756.D | 5 | 09/11/14 | SC | 09/08/14 | OP33839 | GNN1482 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 100 ml | 10.0 ml |
| Run #2 | | |

**Pesticide TCL List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 309-00-2 | Aldrin | 0.50 U | 2.5 | 0.50 | ug/l | |
| 319-84-6 | alpha-BHC | 1.1 U | 2.5 | 1.1 | ug/l | |
| 319-85-7 | beta-BHC | 0.58 U | 2.5 | 0.58 | ug/l | |
| 319-86-8 | delta-BHC | 0.50 U | 2.5 | 0.50 | ug/l | |
| 58-89-9 | gamma-BHC (Lindane) | 0.86 U | 2.5 | 0.86 | ug/l | |
| 5103-71-9 | alpha-Chlordane | 0.54 U | 2.5 | 0.54 | ug/l | |
| 5103-74-2 | gamma-Chlordane | 0.53 U | 2.5 | 0.53 | ug/l | |
| 60-57-1 | Dieldrin | 1.0 U | 5.0 | 1.0 | ug/l | |
| 72-54-8 | 4,4'-DDD | 1.6 U | 5.0 | 1.6 | ug/l | |
| 72-55-9 | 4,4'-DDE | 1.2 U | 5.0 | 1.2 | ug/l | |
| 50-29-3 | 4,4'-DDT | 1.9 U | 5.0 | 1.9 | ug/l | |
| 72-20-8 | Endrin | 1.0 U | 5.0 | 1.0 | ug/l | |
| 1031-07-8 | Endosulfan sulfate | 1.0 U | 5.0 | 1.0 | ug/l | |
| 7421-93-4 | Endrin aldehyde | 1.8 U | 5.0 | 1.8 | ug/l | |
| 53494-70-5 | Endrin ketone | 1.5 U | 5.0 | 1.5 | ug/l | |
| 959-98-8 | Endosulfan-I | 6.5 | 5.0 | 0.92 | ug/l | |
| 33213-65-9 | Endosulfan-II | 1.0 U | 5.0 | 1.0 | ug/l | |
| 76-44-8 | Heptachlor | 0.50 U | 2.5 | 0.50 | ug/l | |
| 1024-57-3 | Heptachlor epoxide | 0.57 U | 2.5 | 0.57 | ug/l | |
| 72-43-5 | Methoxychlor | 6.4 U | 25 | 6.4 | ug/l | |
| 8001-35-2 | Toxaphene | 6.2 U | 25 | 6.2 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 65% | | 39-122% |
| 2051-24-3 | Decachlorobiphenyl | 20% [b] | | 28-123% |

(a) Sample extracted beyond hold time.
(b) Outside control limits due to dilution.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | SW846 8082 SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | MM071622.D | 25 | 09/10/14 | SC | 09/08/14 | OP33838 | GMM477 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 920 ml | 10.0 ml |
| Run #2 | | |

**PCB List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 5.7 U | 14 | 5.7 | ug/l | |
| 11104-28-2 | Aroclor 1221 | 5.4 U | 14 | 5.4 | ug/l | |
| 11141-16-5 | Aroclor 1232 | 4.6 U | 14 | 4.6 | ug/l | |
| 53469-21-9 | Aroclor 1242 | 3.3 U | 14 | 3.3 | ug/l | |
| 12672-29-6 | Aroclor 1248 | 2.7 U | 14 | 2.7 | ug/l | |
| 11097-69-1 | Aroclor 1254 | 2.7 U | 14 | 2.7 | ug/l | |
| 11096-82-5 | Aroclor 1260 | 3.3 U | 14 | 3.3 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 0% [b] | | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 0% [b] | | 27-119% |

(a) Elevated reporting limits due to matrix interference.
(b) Outside control limits due to dilution.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| **Method:** | TNRCC 1005 TX1005 | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | LB104399.D | 1 | 09/05/14 | ZL | 09/03/14 | OP33783 | GLB1544 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 31.9 ml | 3.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 0.76 U | 2.4 | 0.76 | mg/l | |
| | TPH (> C12-C28) | 36.0 | 2.4 | 0.83 | mg/l | |
| | TPH (> C28-C35) | 32.1 | 2.4 | 0.83 | mg/l | |
| | TPH (C6-C35) | 68.1 | 2.4 | 0.76 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 81% | | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 79% | | 70-130% |

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| | | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**Total Metals Analysis**

| Analyte | Result | MQL | SDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 0.118 J | 0.20 | 0.018 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Antimony | 0.0013 J | 0.0050 | 0.0011 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Arsenic | 0.0047 U | 0.0050 | 0.0047 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Barium | 0.292 | 0.20 | 0.00039 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Beryllium | 0.00018 U | 0.0040 | 0.00018 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cadmium | 0.00023 U | 0.0040 | 0.00023 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Calcium | 51.0 | 5.0 | 0.034 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Chromium | 0.0012 J | 0.010 | 0.00062 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cobalt | 0.0062 J | 0.050 | 0.00023 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Copper | 0.0042 J | 0.020 | 0.0029 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Iron | 11.9 | 0.10 | 0.030 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Lead | 0.0080 | 0.0030 | 0.00077 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Magnesium | 7.62 | 5.0 | 0.019 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Manganese | 0.581 | 0.015 | 0.00025 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Mercury | 0.000050 U | 0.00020 | 0.000050 | mg/l | 1 | 09/05/14 | 09/05/14 | CC | SW846 7470A [2] | SW846 7470A [4] |
| Nickel | 0.0263 J | 0.040 | 0.00040 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Potassium | 10.8 | 5.0 | 0.052 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Selenium | 0.0024 U | 0.0050 | 0.0024 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Silver | 0.00059 U | 0.010 | 0.00059 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Sodium | 21.7 | 5.0 | 0.023 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Thallium | 0.0021 U | 0.010 | 0.0021 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Vanadium | 0.0012 J | 0.050 | 0.00051 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Zinc | 0.214 | 0.020 | 0.0015 | mg/l | 1 | 09/02/14 | 09/03/14 | NS | SW846 6010B [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA10097
(2) Instrument QC Batch: MA10113
(3) Prep QC Batch: MP24120
(4) Prep QC Batch: MP24148

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | VB-620 | | |
| **Lab Sample ID:** | TC54038-1 | **Date Sampled:** | 08/28/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 08/29/14 |
| | | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**General Chemistry**

| Analyte | Result | MQL | SDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.0050 U | 0.0050 | 0.0050 | mg/l | 1 | 09/04/14 14:05 | CV | EPA 335.4/SW 9012 |
| Heat Content, BTU [a] | 434 | 100 | | BTU/lb | 1 | 09/05/14 | ANJ | ASTM D240-92 |
| Ignitability (Flashpoint) | > 200 | | | Deg. F | 1 | 09/05/14 13:00 | DP | SW846 1010 |
| Sulfide | 1.0 | 0.20 | 0.025 | mg/l | 1 | 09/03/14 16:00 | DP | SM 4500S+ F |
| pH [b] | 7.14 | | | su | 1 | 09/02/14 | JG | SM 4500H+ B/9040 |

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.
(b) Field analysis required. Received out of hold time and analyzed by request.TEMP 21.9 C

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Gulf Coast ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST Laboratories

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking #: 
Bottle Order Control #: 
Accutest Quote #: 
Accutest Job #: TC54038

**Client / Reporting Information**

Company Name: Weston Solutions, Inc.
Street Address: 5599 San Felipe, Suite 700
City / State / Zip: Houston, TX 77056
Project Contact / E-mail: Tom Walzer/Kristi Warr
Phone # / Fax #: 
Sampler(s) Name(s) / Phone #: 

**Project Information**

Project Name: CES -
Street: 4904 Griggs
City / State: Houston TX
Project #: 
Client Purchase Order #: 
Project Manager: Derrick Cobb

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

Company Name: Weston Solutions
Street Address: 5599 San Felipe Suite 700
City / State / Zip: Houston, TX 77056
Attention: Kristi Warr

**Requested Analyses** / 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

| Accutest Sample # | Field ID / Point of Collection | Collection Date | Time | Sampled By | Matrix | # of bottles | HCl | NaOH | ZA/NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | TSP | NaHSO4 | ENCORE | OTHER | Totals VOCs | Totals SVOCs | Total Metal & Hg | Total Pesticide | Total Herbicide | Total Cyanide | Total Sulfides | TPH | PCBs | Flash Point/Ignit. | BTU | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | VB-620 | 8/28/14 | 1352 | DC | ww | 13 | | | | | | | | | | | | | X | X | X | X | X | X | X | X | X | X | X | |

Turnaround Time ( Business days)

- Standard
- 5 Day *RUSH*
- 4 Day *RUSH*
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- Commercial "A" (Level 1)
- Commercial "B" ( Level 2)
- FULT1 ( Level 3+4 )
- REDT1 ( Level 3+4 )
- Commercial "C"
- TRRP
- EDD Format
- Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

**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 | 8/29/14 1430 | Blanka | 2 | | 2 |
| Relinquished by Sampler: 3 | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| Relinquished by: 5 | Date Time: | Received By: 5 | Custody Seal # | ☐ Intact ☐ Not intact | Preserved where applicable ☐ | On Ice ☐ | Cooler Temp. |

4.1
4

**TC54038: Chain of Custody**
**Page 1 of 3**

# Accutest Laboratories Sample Receipt Summary



**Accutest Job Number:** TC54038 **Client:** WESTON SOLUTIONS **Project:** CES

**Date / Time Received:** 8/29/2014 **Delivery Method:** **Airbill #'s:**

**No. Coolers:** 1 **Therm ID:** IR-5; **Temp Adjustment Factor:** 0;

**Cooler Temps (Initial/Adjusted):** #1: (1.2/1.2);

| 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

Accutest Laboratories
V:713.271.4700
10165 Harwin Drive
F: 713.271.4770
Houston, TX 77036
www/accutest.com

# Sample Receipt Log

**Job #:** TC54038 **Date / Time Received:** 8/29/2014 2:30:00 PM **Initials:** bh

**Client:** WESTON SOLUTIONS

| Cooler # | Sample ID: | Vol | Bot # | Location | Pres | pH | Therm ID | Initial Temp | Therm CF | Corrected Temp |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TC54038-1 | LAG | 1 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | LAG | 2 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | LAG | 3 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | LAG | 4 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | LAG | 5 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | LAG | 6 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | LAG | 7 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | 40ml | 8 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | 40ml | 9 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | 40ml | 10 | 4QQ | N/P | Note #2 - Preservative check not applicable. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | 40ml | 11 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | 40ml | 12 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR-5 | 1.2 | 0 | 1.2 |
| 1 | TC54038-1 | 40ml | 13 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR-5 | 1.2 | 0 | 1.2 |

Gulf Coast ACCUTEST LABORATORIES



# GC/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:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VZ4400-MB | Z044042.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |



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

TC54038-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 50 | 10 | ug/l | |
| 71-43-2 | Benzene | ND | 1.0 | 0.34 | ug/l | |
| 108-86-1 | Bromobenzene | ND | 1.0 | 0.29 | ug/l | |
| 74-97-5 | Bromochloromethane | ND | 1.0 | 0.42 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 1.0 | 0.34 | ug/l | |
| 75-25-2 | Bromoform | ND | 1.0 | 0.44 | ug/l | |
| 104-51-8 | n-Butylbenzene | ND | 1.0 | 0.39 | ug/l | |
| 135-98-8 | sec-Butylbenzene | ND | 1.0 | 0.45 | ug/l | |
| 98-06-6 | tert-Butylbenzene | ND | 1.0 | 0.45 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 1.0 | 0.27 | ug/l | |
| 75-00-3 | Chloroethane | ND | 1.0 | 0.72 | ug/l | |
| 67-66-3 | Chloroform | ND | 1.0 | 0.35 | ug/l | |
| 95-49-8 | o-Chlorotoluene | ND | 1.0 | 0.36 | ug/l | |
| 106-43-4 | p-Chlorotoluene | ND | 1.0 | 0.31 | ug/l | |
| 75-15-0 | Carbon disulfide | ND | 1.0 | 0.36 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 1.0 | 0.43 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.34 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 1.0 | 0.45 | ug/l | |
| 563-58-6 | 1,1-Dichloropropene | ND | 1.0 | 0.62 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 1.6 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.34 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.35 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 1.0 | 0.33 | ug/l | |
| 142-28-9 | 1,3-Dichloropropane | ND | 1.0 | 0.32 | ug/l | |
| 594-20-7 | 2,2-Dichloropropane | ND | 1.0 | 0.51 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 1.0 | 0.37 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane | ND | 2.0 | 1.5 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 1.0 | 0.40 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 1.0 | 0.29 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 1.0 | 0.33 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 1.0 | 0.28 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 1.0 | 0.32 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 1.0 | 0.47 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 1.0 | 0.32 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.32 | ug/l | |
| 591-78-6 | 2-Hexanone | ND | 10 | 2.6 | ug/l | |

# Method Blank Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VZ4400-MB | Z044042.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |



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

TC54038-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.49 | ug/l | |
| 98-82-8 | Isopropylbenzene | ND | 1.0 | 0.40 | ug/l | |
| 99-87-6 | p-Isopropyltoluene | ND | 1.0 | 0.36 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 10 | 2.2 | ug/l | |
| 74-83-9 | Methyl bromide | ND | 1.0 | 0.51 | ug/l | |
| 74-87-3 | Methyl chloride | ND | 1.0 | 0.63 | ug/l | |
| 74-95-3 | Methylene bromide | ND | 1.0 | 0.45 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 1.6 | ug/l | |
| 78-93-3 | Methyl ethyl ketone | ND | 10 | 2.7 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.30 | ug/l | |
| 91-20-3 | Naphthalene | ND | 5.0 | 1.6 | ug/l | |
| 103-65-1 | n-Propylbenzene | ND | 1.0 | 0.35 | ug/l | |
| 100-42-5 | Styrene | ND | 1.0 | 0.29 | ug/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | 1.0 | 0.37 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 1.0 | 0.43 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 1.0 | 0.40 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 1.0 | 0.35 | ug/l | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 1.0 | 0.42 | ug/l | |
| 96-18-4 | 1,2,3-Trichloropropane | ND | 1.0 | 0.46 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 1.0 | 0.41 | ug/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 1.0 | 0.32 | ug/l | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 1.0 | 0.35 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 1.0 | 0.46 | ug/l | |
| 108-88-3 | Toluene | ND | 1.0 | 0.33 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 1.0 | 0.49 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 1.0 | 0.75 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 1.0 | 0.79 | ug/l | |
| 1330-20-7 | Xylene (total) | ND | 3.0 | 0.87 | ug/l | |
| | m,p-Xylene | ND | 2.0 | 0.59 | ug/l | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.28 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 94% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 89% | 68-124% |

# Method Blank Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VZ4400-MB | Z044042.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |

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

TC54038-1

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 92% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 91% | 72-126% |

# Blank Spike Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VZ4400-BS | Z044040.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |



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

TC54038-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 125 | 98.5 | 79 | 46-129 |
| 71-43-2 | Benzene | 25 | 24.0 | 96 | 68-119 |
| 108-86-1 | Bromobenzene | 25 | 24.2 | 97 | 71-119 |
| 74-97-5 | Bromochloromethane | 25 | 24.1 | 96 | 71-118 |
| 75-27-4 | Bromodichloromethane | 25 | 23.2 | 93 | 72-118 |
| 75-25-2 | Bromoform | 25 | 22.8 | 91 | 54-123 |
| 104-51-8 | n-Butylbenzene | 25 | 24.3 | 97 | 66-123 |
| 135-98-8 | sec-Butylbenzene | 25 | 24.6 | 98 | 72-123 |
| 98-06-6 | tert-Butylbenzene | 25 | 23.3 | 93 | 70-124 |
| 108-90-7 | Chlorobenzene | 25 | 23.2 | 93 | 74-120 |
| 75-00-3 | Chloroethane | 25 | 28.6 | 114 | 61-132 |
| 67-66-3 | Chloroform | 25 | 23.7 | 95 | 73-122 |
| 95-49-8 | o-Chlorotoluene | 25 | 22.9 | 92 | 71-122 |
| 106-43-4 | p-Chlorotoluene | 25 | 23.7 | 95 | 73-120 |
| 75-15-0 | Carbon disulfide | 25 | 25.8 | 103 | 55-140 |
| 56-23-5 | Carbon tetrachloride | 25 | 24.2 | 97 | 68-133 |
| 75-34-3 | 1,1-Dichloroethane | 25 | 24.9 | 100 | 72-121 |
| 75-35-4 | 1,1-Dichloroethylene | 25 | 25.9 | 104 | 67-140 |
| 563-58-6 | 1,1-Dichloropropene | 25 | 26.7 | 107 | 73-130 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 25 | 21.7 | 87 | 47-133 |
| 106-93-4 | 1,2-Dibromoethane | 25 | 22.8 | 91 | 69-121 |
| 107-06-2 | 1,2-Dichloroethane | 25 | 22.4 | 90 | 68-121 |
| 78-87-5 | 1,2-Dichloropropane | 25 | 23.9 | 96 | 72-116 |
| 142-28-9 | 1,3-Dichloropropane | 25 | 22.7 | 91 | 70-118 |
| 594-20-7 | 2,2-Dichloropropane | 25 | 28.0 | 112 | 57-141 |
| 124-48-1 | Dibromochloromethane | 25 | 23.5 | 94 | 68-119 |
| 75-71-8 | Dichlorodifluoromethane | 25 | 25.2 | 101 | 29-182 |
| 156-59-2 | cis-1,2-Dichloroethylene | 25 | 24.3 | 97 | 72-117 |
| 10061-01-5 | cis-1,3-Dichloropropene | 25 | 23.3 | 93 | 71-118 |
| 541-73-1 | m-Dichlorobenzene | 25 | 23.1 | 92 | 73-117 |
| 95-50-1 | o-Dichlorobenzene | 25 | 22.3 | 89 | 71-117 |
| 106-46-7 | p-Dichlorobenzene | 25 | 23.7 | 95 | 71-116 |
| 156-60-5 | trans-1,2-Dichloroethylene | 25 | 26.0 | 104 | 68-124 |
| 10061-02-6 | trans-1,3-Dichloropropene | 25 | 25.0 | 100 | 72-127 |
| 100-41-4 | Ethylbenzene | 25 | 24.4 | 98 | 71-117 |
| 591-78-6 | 2-Hexanone | 125 | 99.2 | 79 | 49-124 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VZ4400-BS | Z044040.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |



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

TC54038-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | 25 | 25.9 | 104 | 62-143 |
| 98-82-8 | Isopropylbenzene | 25 | 24.4 | 98 | 74-141 |
| 99-87-6 | p-Isopropyltoluene | 25 | 24.7 | 99 | 72-126 |
| 108-10-1 | 4-Methyl-2-pentanone | 125 | 98.8 | 79 | 54-122 |
| 74-83-9 | Methyl bromide | 25 | 23.8 | 95 | 53-138 |
| 74-87-3 | Methyl chloride | 25 | 24.1 | 96 | 50-145 |
| 74-95-3 | Methylene bromide | 25 | 22.5 | 90 | 71-117 |
| 75-09-2 | Methylene chloride | 25 | 22.3 | 89 | 60-125 |
| 78-93-3 | Methyl ethyl ketone | 125 | 105 | 84 | 51-129 |
| 1634-04-4 | Methyl Tert Butyl Ether | 25 | 23.8 | 95 | 65-119 |
| 91-20-3 | Naphthalene | 25 | 22.4 | 90 | 43-139 |
| 103-65-1 | n-Propylbenzene | 25 | 24.4 | 98 | 72-123 |
| 100-42-5 | Styrene | 25 | 24.8 | 99 | 74-119 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 25 | 23.0 | 92 | 74-119 |
| 71-55-6 | 1,1,1-Trichloroethane | 25 | 25.3 | 101 | 72-129 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 25 | 21.8 | 87 | 62-121 |
| 79-00-5 | 1,1,2-Trichloroethane | 25 | 22.5 | 90 | 70-119 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 25 | 23.2 | 93 | 44-144 |
| 96-18-4 | 1,2,3-Trichloropropane | 25 | 22.1 | 88 | 61-124 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 25 | 23.5 | 94 | 57-132 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 25 | 24.5 | 98 | 70-121 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 25 | 24.1 | 96 | 66-119 |
| 127-18-4 | Tetrachloroethylene | 25 | 26.4 | 106 | 72-132 |
| 108-88-3 | Toluene | 25 | 23.9 | 96 | 73-119 |
| 79-01-6 | Trichloroethylene | 25 | 23.6 | 94 | 73-121 |
| 75-69-4 | Trichlorofluoromethane | 25 | 24.2 | 97 | 46-152 |
| 75-01-4 | Vinyl chloride | 25 | 24.8 | 99 | 54-126 |
| 1330-20-7 | Xylene (total) | 75 | 71.8 | 96 | 74-119 |
| | m,p-Xylene | 50 | 48.4 | 97 | 74-119 |
| 95-47-6 | o-Xylene | 25 | 23.4 | 94 | 73-121 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 93% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | 68-124% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VZ4400-BS | Z044040.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |

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

TC54038-1

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 91% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 87% | 72-126% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC53793-5MS | Z044052.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |
| TC53793-5MSD | Z044053.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |
| TC53793-5 | Z044048.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |

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

TC54038-1

| CAS No. | Compound | TC53793-5 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 | 36.6 | J | 125 | 109 | 58 | 125 | 124 | 70 | 13 | 46-129/25 |
| 71-43-2 | Benzene | 0.38 | J | 25 | 24.7 | 97 | 25 | 24.3 | 96 | 2 | 68-119/12 |
| 108-86-1 | Bromobenzene | 1.0 U | | 25 | 23.9 | 96 | 25 | 24.1 | 96 | 1 | 71-119/12 |
| 74-97-5 | Bromochloromethane | 1.0 U | | 25 | 23.3 | 93 | 25 | 23.8 | 95 | 2 | 71-118/13 |
| 75-27-4 | Bromodichloromethane | 1.0 U | | 25 | 23.1 | 92 | 25 | 22.8 | 91 | 1 | 72-118/16 |
| 75-25-2 | Bromoform | 1.0 U | | 25 | 21.3 | 85 | 25 | 22.2 | 89 | 4 | 54-123/17 |
| 104-51-8 | n-Butylbenzene | 1.0 U | | 25 | 23.9 | 96 | 25 | 23.2 | 93 | 3 | 66-123/14 |
| 135-98-8 | sec-Butylbenzene | 1.0 U | | 25 | 24.4 | 98 | 25 | 24.0 | 96 | 2 | 72-123/13 |
| 98-06-6 | tert-Butylbenzene | 1.0 U | | 25 | 23.4 | 94 | 25 | 23.1 | 92 | 1 | 70-124/15 |
| 108-90-7 | Chlorobenzene | 1.0 U | | 25 | 22.9 | 92 | 25 | 22.9 | 92 | 0 | 74-120/12 |
| 75-00-3 | Chloroethane | 1.0 U | | 25 | 28.4 | 114 | 25 | 27.7 | 111 | 2 | 61-132/16 |
| 67-66-3 | Chloroform | 0.92 | J | 25 | 24.1 | 93 | 25 | 24.3 | 94 | 1 | 73-122/13 |
| 95-49-8 | o-Chlorotoluene | 1.0 U | | 25 | 22.8 | 91 | 25 | 23.0 | 92 | 1 | 71-122/12 |
| 106-43-4 | p-Chlorotoluene | 1.0 U | | 25 | 23.6 | 94 | 25 | 23.2 | 93 | 2 | 73-120/12 |
| 75-15-0 | Carbon disulfide | 1.0 U | | 25 | 25.3 | 101 | 25 | 24.8 | 99 | 2 | 55-140/24 |
| 56-23-5 | Carbon tetrachloride | 1.0 U | | 25 | 24.3 | 97 | 25 | 24.4 | 98 | 0 | 68-133/20 |
| 75-34-3 | 1,1-Dichloroethane | 1.0 U | | 25 | 24.0 | 96 | 25 | 23.7 | 95 | 1 | 72-121/14 |
| 75-35-4 | 1,1-Dichloroethylene | 1.0 U | | 25 | 24.3 | 97 | 25 | 24.9 | 100 | 2 | 67-140/18 |
| 563-58-6 | 1,1-Dichloropropene | 1.0 U | | 25 | 25.9 | 104 | 25 | 25.3 | 101 | 2 | 73-130/15 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 U | | 25 | 22.3 | 89 | 25 | 24.2 | 97 | 8 | 47-133/23 |
| 106-93-4 | 1,2-Dibromoethane | 1.0 U | | 25 | 22.5 | 90 | 25 | 23.0 | 92 | 2 | 69-121/13 |
| 107-06-2 | 1,2-Dichloroethane | 1.0 U | | 25 | 23.5 | 94 | 25 | 23.0 | 92 | 2 | 68-121/12 |
| 78-87-5 | 1,2-Dichloropropane | 1.0 U | | 25 | 24.0 | 96 | 25 | 23.7 | 95 | 1 | 72-116/12 |
| 142-28-9 | 1,3-Dichloropropane | 1.0 U | | 25 | 23.0 | 92 | 25 | 22.8 | 91 | 1 | 70-118/12 |
| 594-20-7 | 2,2-Dichloropropane | 1.0 U | | 25 | 25.4 | 102 | 25 | 25.2 | 101 | 1 | 57-141/16 |
| 124-48-1 | Dibromochloromethane | 1.0 U | | 25 | 22.7 | 91 | 25 | 22.9 | 92 | 1 | 68-119/15 |
| 75-71-8 | Dichlorodifluoromethane | 2.0 U | | 25 | 24.3 | 97 | 25 | 23.4 | 94 | 4 | 29-182/23 |
| 156-59-2 | cis-1,2-Dichloroethylene | 1.8 | | 25 | 25.6 | 95 | 25 | 25.4 | 94 | 1 | 72-117/13 |
| 10061-01-5 | cis-1,3-Dichloropropene | 1.0 U | | 25 | 23.0 | 92 | 25 | 23.1 | 92 | 0 | 71-118/18 |
| 541-73-1 | m-Dichlorobenzene | 1.0 U | | 25 | 23.3 | 93 | 25 | 22.8 | 91 | 2 | 73-117/12 |
| 95-50-1 | o-Dichlorobenzene | 1.0 U | | 25 | 23.1 | 92 | 25 | 22.7 | 91 | 2 | 71-117/11 |
| 106-46-7 | p-Dichlorobenzene | 1.0 U | | 25 | 24.0 | 96 | 25 | 23.7 | 95 | 1 | 71-116/11 |
| 156-60-5 | trans-1,2-Dichloroethylene | 1.0 U | | 25 | 24.8 | 99 | 25 | 24.3 | 97 | 2 | 68-124/15 |
| 10061-02-6 | trans-1,3-Dichloropropene | 1.0 U | | 25 | 24.1 | 96 | 25 | 23.9 | 96 | 1 | 72-127/17 |
| 100-41-4 | Ethylbenzene | 1.0 U | | 25 | 24.4 | 98 | 25 | 23.9 | 96 | 2 | 71-117/12 |
| 591-78-6 | 2-Hexanone | 10 U | | 125 | 112 | 90 | 125 | 122 | 98 | 9 | 49-124/21 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC53793-5MS | Z044052.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |
| TC53793-5MSD | Z044053.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |
| TC53793-5 | Z044048.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |

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

TC54038-1

| CAS No. | Compound | TC53793-5 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | 1.0 U | | 25 | 24.1 | 96 | 25 | 24.3 | 97 | 1 | 62-143/18 |
| 98-82-8 | Isopropylbenzene | 1.0 U | | 25 | 23.9 | 96 | 25 | 23.8 | 95 | 0 | 74-141/13 |
| 99-87-6 | p-Isopropyltoluene | 1.0 U | | 25 | 24.5 | 98 | 25 | 24.0 | 96 | 2 | 72-126/13 |
| 108-10-1 | 4-Methyl-2-pentanone | 10 U | | 125 | 114 | 91 | 125 | 121 | 97 | 6 | 54-122/20 |
| 74-83-9 | Methyl bromide | 1.0 U | | 25 | 22.5 | 90 | 25 | 22.7 | 91 | 1 | 53-138/16 |
| 74-87-3 | Methyl chloride | 1.0 U | | 25 | 23.7 | 95 | 25 | 23.3 | 93 | 2 | 50-145/17 |
| 74-95-3 | Methylene bromide | 1.0 U | | 25 | 22.8 | 91 | 25 | 23.3 | 93 | 2 | 71-117/12 |
| 75-09-2 | Methylene chloride | 5.0 U | | 25 | 21.3 | 85 | 25 | 21.7 | 87 | 2 | 60-125/16 |
| 78-93-3 | Methyl ethyl ketone | 5.4 | J | 125 | 104 | 79 | 125 | 114 | 87 | 9 | 51-129/22 |
| 1634-04-4 | Methyl Tert Butyl Ether | 1.0 U | | 25 | 22.9 | 92 | 25 | 24.3 | 97 | 6 | 65-119/13 |
| 91-20-3 | Naphthalene | 5.0 U | | 25 | 23.7 | 95 | 25 | 26.0 | 104 | 9 | 43-139/28 |
| 103-65-1 | n-Propylbenzene | 1.0 U | | 25 | 23.7 | 95 | 25 | 23.9 | 96 | 1 | 72-123/13 |
| 100-42-5 | Styrene | 1.0 U | | 25 | 0.97 | 4* | 25 | 0.66 | 3* | 38* | 74-119/19 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1.0 U | | 25 | 22.9 | 92 | 25 | 23.2 | 93 | 1 | 74-119/14 |
| 71-55-6 | 1,1,1-Trichloroethane | 1.0 U | | 25 | 24.4 | 98 | 25 | 24.2 | 97 | 1 | 72-129/14 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.0 U | | 25 | 21.8 | 87 | 25 | 23.4 | 94 | 7 | 62-121/17 |
| 79-00-5 | 1,1,2-Trichloroethane | 1.0 U | | 25 | 23.0 | 92 | 25 | 22.7 | 91 | 1 | 70-119/13 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1.0 U | | 25 | 22.6 | 90 | 25 | 24.7 | 99 | 9 | 44-144/27 |
| 96-18-4 | 1,2,3-Trichloropropane | 1.0 U | | 25 | 22.1 | 88 | 25 | 23.3 | 93 | 5 | 61-124/16 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 U | | 25 | 23.6 | 94 | 25 | 24.5 | 98 | 4 | 57-132/18 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1.0 U | | 25 | 25.0 | 100 | 25 | 25.2 | 101 | 1 | 70-121/15 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.0 U | | 25 | 23.6 | 94 | 25 | 23.8 | 95 | 1 | 66-119/15 |
| 127-18-4 | Tetrachloroethylene | 1.0 U | | 25 | 26.8 | 107 | 25 | 26.3 | 105 | 2 | 72-132/14 |
| 108-88-3 | Toluene | 1.0 U | | 25 | 24.6 | 98 | 25 | 23.8 | 95 | 3 | 73-119/13 |
| 79-01-6 | Trichloroethylene | 21.6 | | 25 | 45.5 | 96 | 25 | 45.1 | 94 | 1 | 73-121/13 |
| 75-69-4 | Trichlorofluoromethane | 1.0 U | | 25 | 22.1 | 88 | 25 | 22.1 | 88 | 0 | 46-152/25 |
| 75-01-4 | Vinyl chloride | 1.0 U | | 25 | 23.8 | 95 | 25 | 23.7 | 95 | 0 | 54-126/17 |
| 1330-20-7 | Xylene (total) | 3.0 U | | 75 | 71.1 | 95 | 75 | 70.1 | 93 | 1 | 74-119/13 |
| | m,p-Xylene | 2.0 U | | 50 | 48.0 | 96 | 50 | 47.1 | 94 | 2 | 74-119/13 |
| 95-47-6 | o-Xylene | 1.0 U | | 25 | 23.1 | 92 | 25 | 23.0 | 92 | 0 | 73-121/13 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC53793-5 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 90% | 93% | 93% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | 88% | 89% | 68-124% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC53793-5MS | Z044052.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |
| TC53793-5MSD | Z044053.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |
| TC53793-5 | Z044048.D | 1 | 09/04/14 | EM | n/a | n/a | VZ4400 |

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

TC54038-1

| CAS No. | Surrogate Recoveries | MS | MSD | TC53793-5 | Limits |
|---|---|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 93% | 93% | 94% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 87% | 88% | 89% | 72-126% |

* = Outside of Control Limits.

Gulf Coast ACCUTEST LABORATORIES



# GC/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:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33775-MB | P35316A.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |

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

TC54038-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | ND | 20 | 10 | ug/l | |
| 95-57-8 | 2-Chlorophenol | ND | 5.0 | 0.96 | ug/l | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 5.0 | 1.2 | ug/l | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 5.0 | 1.1 | ug/l | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 5.0 | 1.1 | ug/l | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 25 | 10 | ug/l | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 10 | 5.5 | ug/l | |
| 95-48-7 | 2-Methylphenol | ND | 5.0 | 0.96 | ug/l | |
| | 3&4-Methylphenol | ND | 5.0 | 1.1 | ug/l | |
| 88-75-5 | 2-Nitrophenol | ND | 5.0 | 1.1 | ug/l | |
| 100-02-7 | 4-Nitrophenol | ND | 25 | 7.2 | ug/l | |
| 87-86-5 | Pentachlorophenol | ND | 25 | 10 | ug/l | |
| 108-95-2 | Phenol | ND | 5.0 | 1.5 | ug/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 5.0 | 0.98 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 5.0 | 1.1 | ug/l | |
| 83-32-9 | Acenaphthene | ND | 5.0 | 1.2 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 5.0 | 1.2 | ug/l | |
| 62-53-3 | Aniline | ND | 5.0 | 1.3 | ug/l | |
| 120-12-7 | Anthracene | ND | 5.0 | 1.4 | ug/l | |
| 92-87-5 | Benzidine | ND | 25 | 9.8 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 5.0 | 1.5 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 5.0 | 1.3 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 5.0 | 1.2 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 5.0 | 1.5 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 5.0 | 1.5 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 5.0 | 1.2 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 5.0 | 1.3 | ug/l | |
| 100-51-6 | Benzyl Alcohol | ND | 5.0 | 0.88 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 5.0 | 1.3 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 1.1 | ug/l | |
| 86-74-8 | Carbazole | ND | 5.0 | 1.4 | ug/l | |
| 218-01-9 | Chrysene | ND | 5.0 | 1.6 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 5.0 | 1.2 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 5.0 | 0.95 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 5.0 | 0.90 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 5.0 | 1.3 | ug/l | |

# Method Blank Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33775-MB | P35316A.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |

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

TC54038-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 5.0 | 1.1 | ug/l | |
| 122-66-7 | 1,2-Diphenylhydrazine | ND | 5.0 | 1.3 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 5.0 | 1.1 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 5.0 | 1.1 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 5.0 | 1.3 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 5.0 | 1.0 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 10 | 1.3 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 5.0 | 1.4 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 1.3 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 5.0 | 1.3 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 5.0 | 1.2 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 5.0 | 1.4 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 5.0 | 1.4 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 5.0 | 1.5 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 5.0 | 1.4 | ug/l | |
| 86-73-7 | Fluorene | ND | 5.0 | 1.2 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 5.0 | 1.6 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 5.0 | 1.2 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 10 | 1.2 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 5.0 | 1.3 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 5.0 | 1.0 | ug/l | |
| 78-59-1 | Isophorone | ND | 5.0 | 1.2 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | ND | 5.0 | 1.1 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 5.0 | 1.2 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 1.3 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 1.2 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 1.4 | ug/l | |
| 91-20-3 | Naphthalene | ND | 5.0 | 1.0 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 5.0 | 1.2 | ug/l | |
| 62-75-9 | n-Nitrosodimethylamine | ND | 5.0 | 1.0 | ug/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 5.0 | 1.1 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 1.4 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 5.0 | 1.5 | ug/l | |
| 129-00-0 | Pyrene | ND | 5.0 | 1.4 | ug/l | |
| 110-86-1 | Pyridine | ND | 5.0 | 1.3 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | 1.1 | ug/l | |

# Method Blank Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33775-MB | P35316A.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |

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

TC54038-1

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 36% | 10-66% |
| 4165-62-2 | Phenol-d5 | 24% | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 68% | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 77% | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 78% | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 101% | 23-138% |

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33775-BS | P35322.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |
| OP33775-BSD [a] | P35323.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |

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

TC54038-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | 50 | 10 | 20 | 11.9 | 24 | 17 | 10-91/30 |
| 95-57-8 | 2-Chlorophenol | 50 | 38.4 | 77 | 38.6 | 77 | 1 | 38-102/30 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 50 | 39.1 | 78 | 39.3 | 79 | 1 | 30-110/30 |
| 120-83-2 | 2,4-Dichlorophenol | 50 | 39.5 | 79 | 39.5 | 79 | 0 | 41-107/30 |
| 105-67-9 | 2,4-Dimethylphenol | 50 | 40.9 | 82 | 41.0 | 82 | 0 | 39-107/30 |
| 51-28-5 | 2,4-Dinitrophenol | 50 | 40.6 | 81 | 39.8 | 80 | 2 | 24-119/30 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 50 | 45.6 | 91 | 45.5 | 91 | 0 | 40-121/30 |
| 95-48-7 | 2-Methylphenol | 50 | 36.6 | 73 | 36.5 | 73 | 0 | 33-93/30 |
| | 3&4-Methylphenol | 50 | 35.8 | 72 | 35.3 | 71 | 1 | 28-99/30 |
| 88-75-5 | 2-Nitrophenol | 50 | 39.1 | 78 | 39.9 | 80 | 2 | 38-107/30 |
| 100-02-7 | 4-Nitrophenol | 50 | 26.6 | 53 | 25.2 | 50 | 5 | 10-78/30 |
| 87-86-5 | Pentachlorophenol | 50 | 33.3 | 67 | 30.7 | 61 | 8 | 28-116/30 |
| 108-95-2 | Phenol | 50 | 26.4 | 53 | 26.1 | 52 | 1 | 15-70/30 |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | 40.4 | 81 | 40.4 | 81 | 0 | 47-116/30 |
| 88-06-2 | 2,4,6-Trichlorophenol | 50 | 41.4 | 83 | 41.6 | 83 | 0 | 44-112/30 |
| 83-32-9 | Acenaphthene | 50 | 41.0 | 82 | 41.0 | 82 | 0 | 44-106/30 |
| 208-96-8 | Acenaphthylene | 50 | 42.3 | 85 | 42.3 | 85 | 0 | 46-111/30 |
| 62-53-3 | Aniline | 50 | 38.9 | 78 | 38.4 | 77 | 1 | 15-112/30 |
| 120-12-7 | Anthracene | 50 | 43.0 | 86 | 42.8 | 86 | 0 | 53-114/30 |
| 92-87-5 | Benzidine | 100 | 40.8 | 41 | 41.4 | 41 | 1 | 13-148/30 |
| 56-55-3 | Benzo(a)anthracene | 50 | 43.6 | 87 | 43.5 | 87 | 0 | 57-113/30 |
| 50-32-8 | Benzo(a)pyrene | 50 | 45.3 | 91 | 45.5 | 91 | 0 | 50-109/30 |
| 205-99-2 | Benzo(b)fluoranthene | 50 | 45.4 | 91 | 45.4 | 91 | 0 | 50-117/30 |
| 191-24-2 | Benzo(g,h,i)perylene | 50 | 52.7 | 105 | 53.6 | 107 | 2 | 43-127/30 |
| 207-08-9 | Benzo(k)fluoranthene | 50 | 47.4 | 95 | 48.0 | 96 | 1 | 52-123/30 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 50 | 42.3 | 85 | 42.4 | 85 | 0 | 48-113/30 |
| 85-68-7 | Butyl benzyl phthalate | 50 | 47.4 | 95 | 46.8 | 94 | 1 | 42-120/30 |
| 100-51-6 | Benzyl Alcohol | 50 | 39.3 | 79 | 38.7 | 77 | 2 | 31-97/30 |
| 91-58-7 | 2-Chloronaphthalene | 50 | 43.6 | 87 | 43.2 | 86 | 1 | 35-123/30 |
| 106-47-8 | 4-Chloroaniline | 50 | 41.4 | 83 | 41.3 | 83 | 0 | 36-104/30 |
| 86-74-8 | Carbazole | 50 | 45.6 | 91 | 44.7 | 89 | 2 | 50-113/30 |
| 218-01-9 | Chrysene | 50 | 44.5 | 89 | 44.6 | 89 | 0 | 59-116/30 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 50 | 41.4 | 83 | 41.5 | 83 | 0 | 34-103/30 |
| 111-44-4 | bis(2-Chloroethyl)ether | 50 | 38.2 | 76 | 38.3 | 77 | 0 | 36-100/30 |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 50 | 38.1 | 76 | 38.2 | 76 | 0 | 30-110/30 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 50 | 40.2 | 80 | 39.6 | 79 | 2 | 45-112/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33775-BS | P35322.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |
| OP33775-BSD [a] | P35323.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |

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

TC54038-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | 50 | 31.6 | 63 | 31.9 | 64 | 1 | 37-100/30 |
| 122-66-7 | 1,2-Diphenylhydrazine | 50 | 45.6 | 91 | 45.8 | 92 | 0 | 44-113/30 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 30.4 | 61 | 30.6 | 61 | 1 | 34-99/30 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 31.6 | 63 | 31.6 | 63 | 0 | 36-99/30 |
| 121-14-2 | 2,4-Dinitrotoluene | 50 | 40.9 | 82 | 40.1 | 80 | 2 | 52-115/30 |
| 606-20-2 | 2,6-Dinitrotoluene | 50 | 41.2 | 82 | 40.8 | 82 | 1 | 52-111/30 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 50 | 43.3 | 87 | 43.6 | 87 | 1 | 37-125/30 |
| 53-70-3 | Dibenzo(a,h)anthracene | 50 | 48.0 | 96 | 48.1 | 96 | 0 | 47-125/30 |
| 132-64-9 | Dibenzofuran | 50 | 41.8 | 84 | 41.3 | 83 | 1 | 45-108/30 |
| 84-74-2 | Di-n-butyl phthalate | 50 | 45.7 | 91 | 45.3 | 91 | 1 | 47-118/30 |
| 117-84-0 | Di-n-octyl phthalate | 50 | 50.7 | 101 | 50.8 | 102 | 0 | 41-124/30 |
| 84-66-2 | Diethyl phthalate | 50 | 43.9 | 88 | 43.5 | 87 | 1 | 38-121/30 |
| 131-11-3 | Dimethyl phthalate | 50 | 44.9 | 90 | 44.7 | 89 | 0 | 41-116/30 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 50 | 48.6 | 97 | 48.9 | 98 | 1 | 50-123/30 |
| 206-44-0 | Fluoranthene | 50 | 42.0 | 84 | 41.1 | 82 | 2 | 50-118/30 |
| 86-73-7 | Fluorene | 50 | 40.8 | 82 | 39.9 | 80 | 2 | 47-113/30 |
| 118-74-1 | Hexachlorobenzene | 50 | 41.1 | 82 | 41.7 | 83 | 1 | 49-114/30 |
| 87-68-3 | Hexachlorobutadiene | 50 | 31.5 | 63 | 32.3 | 65 | 3 | 30-104/30 |
| 77-47-4 | Hexachlorocyclopentadiene | 50 | 22.9 | 46 | 24.8 | 50 | 8 | 10-97/30 |
| 67-72-1 | Hexachloroethane | 50 | 32.9 | 66 | 33.0 | 66 | 0 | 30-100/30 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 50 | 49.1 | 98 | 49.1 | 98 | 0 | 45-127/30 |
| 78-59-1 | Isophorone | 50 | 43.2 | 86 | 43.3 | 87 | 0 | 40-103/30 |
| 90-12-0 | 1-Methylnaphthalene | 50 | 38.1 | 76 | 38.2 | 76 | 0 | 38-105/30 |
| 91-57-6 | 2-Methylnaphthalene | 50 | 36.6 | 73 | 36.6 | 73 | 0 | 36-104/30 |
| 88-74-4 | 2-Nitroaniline | 50 | 44.7 | 89 | 44.7 | 89 | 0 | 41-117/30 |
| 99-09-2 | 3-Nitroaniline | 50 | 43.0 | 86 | 42.4 | 85 | 1 | 37-117/30 |
| 100-01-6 | 4-Nitroaniline | 50 | 42.9 | 86 | 41.2 | 82 | 4 | 47-121/30 |
| 91-20-3 | Naphthalene | 50 | 37.8 | 76 | 37.8 | 76 | 0 | 40-104/30 |
| 98-95-3 | Nitrobenzene | 50 | 41.1 | 82 | 41.5 | 83 | 1 | 40-103/30 |
| 62-75-9 | n-Nitrosodimethylamine | 50 | 33.9 | 68 | 33.8 | 68 | 0 | 11-89/30 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 50 | 38.9 | 78 | 38.1 | 76 | 2 | 36-112/30 |
| 86-30-6 | N-Nitrosodiphenylamine | 100 | 81.9 | 82 | 81.9 | 82 | 0 | 39-109/30 |
| 85-01-8 | Phenanthrene | 50 | 43.0 | 86 | 43.1 | 86 | 0 | 53-114/30 |
| 129-00-0 | Pyrene | 50 | 44.5 | 89 | 44.0 | 88 | 1 | 51-117/30 |
| 110-86-1 | Pyridine | 50 | 25.0 | 50 | 24.9 | 50 | 0 | 10-77/30 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 34.0 | 68 | 34.7 | 69 | 2 | 32-103/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33775-BS | P35322.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |
| OP33775-BSD [a] | P35323.D | 1 | 09/03/14 | SC | 09/03/14 | OP33775 | EP1702 |

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

TC54038-1

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 55% | 55% | 10-66% |
| 4165-62-2 | Phenol-d5 | 40% | 39% | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 73% | 74% | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 72% | 73% | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 76% | 76% | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 87% | 87% | 23-138% |

(a) Insufficient sample for MS/MSD.

* = Outside of Control Limits.

Gulf Coast ACCUTEST LABORATORIES



## GC 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:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33783-MB | LB104269.D | 1 | 09/03/14 | ZL | 09/03/14 | OP33783 | GLB1542 |

**The QC reported here applies to the following samples:** **Method:** TNRCC 1005

TC54038-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C6-C12) | ND | 2.5 | 0.81 | mg/l | |
| | TPH (> C12-C28) | ND | 2.5 | 0.88 | mg/l | |
| | TPH (> C28-C35) | ND | 2.5 | 0.88 | mg/l | |
| | TPH (C6-C35) | ND | 2.5 | 0.81 | mg/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 84-15-1 | o-Terphenyl | 93% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 96% | 70-130% |

# Method Blank Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33837-MB | DD773140.D | 1 | 09/11/14 | FO | 09/08/14 | OP33837 | GDD2395 |

**The QC reported here applies to the following samples:** **Method:** SW846 8151

TC54038-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 94-75-7 | 2,4-D | ND | 1.0 | 0.20 | ug/l | |
| 93-72-1 | 2,4,5-TP (Silvex) | ND | 0.20 | 0.040 | ug/l | |
| 93-76-5 | 2,4,5-T | ND | 0.20 | 0.033 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 19719-28-9 | 2,4-DCAA | 118% | 40-168% |

# Method Blank Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33838-MB | MM071552.D | 1 | 09/08/14 | SC | 09/08/14 | OP33838 | GMM475 |

**The QC reported here applies to the following samples:** **Method:** SW846 8082

TC54038-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | 0.50 | 0.21 | ug/l | |
| 11104-28-2 | Aroclor 1221 | ND | 0.50 | 0.20 | ug/l | |
| 11141-16-5 | Aroclor 1232 | ND | 0.50 | 0.17 | ug/l | |
| 53469-21-9 | Aroclor 1242 | ND | 0.50 | 0.12 | ug/l | |
| 12672-29-6 | Aroclor 1248 | ND | 0.50 | 0.10 | ug/l | |
| 11097-69-1 | Aroclor 1254 | ND | 0.50 | 0.10 | ug/l | |
| 11096-82-5 | Aroclor 1260 | ND | 0.50 | 0.12 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 98% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 89% | 27-119% |

# Blank Spike Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33837-BS | DD773139.D | 1 | 09/11/14 | FO | 09/08/14 | OP33837 | GDD2395 |

**The QC reported here applies to the following samples:** **Method:** SW846 8151

TC54038-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 94-75-7 | 2,4-D | 2 | 1.8 | 90 | 64-130 |
| 93-72-1 | 2,4,5-TP (Silvex) | 0.4 | 0.32 | 80 | 58-136 |
| 93-76-5 | 2,4,5-T | 0.4 | 0.34 | 85 | 48-125 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 19719-28-9 | 2,4-DCAA | 106% | 40-168% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33783-BS | LB104267.D | 1 | 09/03/14 | ZL | 09/03/14 | OP33783 | GLB1542 |
| OP33783-BSD | LF104268.D | 1 | 09/03/14 | ZL | 09/03/14 | OP33783 | GLF1542 |

**The QC reported here applies to the following samples:** **Method:** TNRCC 1005

TC54038-1

| CAS No. | Compound | Spike mg/l | BSP mg/l | BSP % | BSD mg/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 50 | 39.0 | 78 | 40.1 | 80 | 3 | 75-125/20 |
| | TPH (> C12-C28) | 50 | 38.5 | 77 | 43.6 | 87 | 12 | 75-125/20 |
| | TPH (C6-C35) | 100 | 77.5 | 78 | 83.6 | 84 | 8 | 75-125/20 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 87% | 97% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 86% | 85% | 70-130% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33838-BS | MM071555.D | 1 | 09/08/14 | SC | 09/08/14 | OP33838 | GMM475 |
| OP33838-BSD | MM071556.D | 1 | 09/08/14 | SC | 09/08/14 | OP33838 | GMM475 |

**The QC reported here applies to the following samples:** **Method:** SW846 8082

TC54038-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 2 | 2.0 | 100 | 2.2 | 110 | 10 | 59-126/31 |
| 11096-82-5 | Aroclor 1260 | 2 | 2.0 | 100 | 2.2 | 110 | 10 | 65-126/35 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 89% | 98% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 83% | 90% | 27-119% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33783-MS | LB104333.D | 1 | 09/04/14 | ZL | 09/03/14 | OP33783 | GLB1543 |
| OP33783-MSD | LF104334.D | 1 | 09/04/14 | ZL | 09/03/14 | OP33783 | GLF1543 |
| TC53981-1 | LB104335.D | 1 | 09/04/14 | ZL | 09/03/14 | OP33783 | GLB1543 |

**The QC reported here applies to the following samples:** **Method:** TNRCC 1005

TC54038-1

| CAS No. | Compound | TC53981-1 mg/l | Q | Spike mg/l | MS mg/l | MS % | Spike mg/l | MSD mg/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 1.69 | J | 47.7 | 38.6 | 77 | 47.8 | 35.6 | 71* | 8 | 75-125/20 |
| | TPH (> C12-C28) | 1.71 | J | 47.7 | 32.5 | 65* | 47.8 | 32.7 | 65* | 1 | 75-125/20 |
| | TPH (C6-C35) | 3.40 | | 95.3 | 71.1 | 71* | 95.6 | 68.2 | 68* | 4 | 75-125/20 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC53981-1 | Limits |
|---|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 92% | 94% | 92% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 103% | 84% | 96% | 70-130% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC54038
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP33837-MS | DD773128.D | 1 | 09/11/14 | FO | 09/08/14 | OP33837 | GDD2395 |
| OP33837-MSD | DD773129.D | 1 | 09/11/14 | FO | 09/08/14 | OP33837 | GDD2395 |
| TC54344-1 | DD773130.D | 1 | 09/11/14 | FO | 09/08/14 | OP33837 | GDD2395 |

**The QC reported here applies to the following samples:** **Method:** SW846 8151

TC54038-1

| CAS No. | Compound | TC54344-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 94-75-7 | 2,4-D | 1.0 | U | 2.04 | 2.1 | 103 | 2.04 | 1.8 | 88 | 15 | 64-130/20 |
| 93-72-1 | 2,4,5-TP (Silvex) | 0.20 | U | 0.408 | 0.76 | 186* [a] | 0.408 | 0.79 | 194* [a] | 4 | 58-136/22 |
| 93-76-5 | 2,4,5-T | 0.20 | U | 0.408 | 0.93 | 228* [a] | 0.408 | 1.1 | 269* [a] | 17 | 48-125/27 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC54344-1 | Limits |
|---|---|---|---|---|---|
| 19719-28-9 | 2,4-DCAA | 199%* [b] | 218%* [b] | 158% | 40-168% |

(a) Outside control limits due to matrix interference.
(b) Outside control limits due to matrix interference. Confirmed by MS/MSD.

* = Outside of Control Limits.

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# 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: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24120
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/02/14

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 6.9 | 18 | 22.9 | <200 |
| Antimony | 5.0 | .56 | 1.1 | 0.35 | <5.0 |
| Arsenic | 5.0 | 1 | 4.7 | 0.80 | <5.0 |
| Barium | 200 | .16 | .39 | 0.040 | <200 |
| Beryllium | 4.0 | .1 | .18 | -0.070 | <4.0 |
| Boron | 100 | .39 | 5.9 | | |
| Cadmium | 4.0 | .15 | .23 | 0.020 | <4.0 |
| Calcium | 5000 | 4 | 34 | 16.6 | <5000 |
| Chromium | 10 | .22 | .62 | 0.070 | <10 |
| Cobalt | 50 | .25 | .23 | 0.18 | <50 |
| Copper | 20 | .24 | 2.9 | -0.21 | <20 |
| Iron | 100 | 4.6 | 30 | 3.3 | <100 |
| Lead | 3.0 | .65 | .77 | -0.16 | <3.0 |
| Lithium | 300 | .65 | 2.2 | | |
| Magnesium | 5000 | 7.7 | 19 | -16 | <5000 |
| Manganese | 15 | .09 | .25 | -0.050 | <15 |
| Molybdenum | 10 | .62 | .41 | | |
| Nickel | 40 | .22 | .4 | 0.14 | <40 |
| Potassium | 5000 | 7.6 | 52 | 42.8 | <5000 |
| Selenium | 5.0 | 1.2 | 2.4 | 1.6 | <5.0 |
| Silver | 10 | .2 | .59 | -0.15 | <10 |
| Sodium | 5000 | 5.7 | 23 | 138 | <5000 |
| Strontium | 10 | .07 | .21 | | |
| Thallium | 10 | .83 | 2.1 | -0.050 | <10 |
| Tin | 50 | .67 | 1 | | |
| Titanium | 20 | .19 | .4 | | |
| Vanadium | 50 | .18 | .51 | -0.080 | <50 |
| Zinc | 20 | .13 | 1.5 | -0.51 | <20 |
| Sulfur | 50 | | 5.8 | | |

Associated samples MP24120: TC54038-1

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24120
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

| Prep Date: | | | 09/02/14 | | | | | 09/02/14 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | BSP Result | Spikelot MPTW11 | % Rec | QC Limits | BSD Result | Spikelot MPTW11 | % Rec | BSD RPD | QC Limit |
| Aluminum | 45900 | 50000 | 91.8 | 80-120 | 49600 | 50000 | 99.2 | 7.7 | |
| Antimony | 374 | 400 | 93.5 | 80-120 | 403 | 400 | 100.8 | 7.5 | |
| Arsenic | 375 | 400 | 93.8 | 80-120 | 397 | 400 | 99.3 | 5.7 | |
| Barium | 389 | 400 | 97.3 | 80-120 | 405 | 400 | 101.3 | 4.0 | |
| Beryllium | 370 | 400 | 92.5 | 80-120 | 399 | 400 | 99.8 | 7.5 | |
| Boron | anr | | | | | | | | |
| Cadmium | 370 | 400 | 92.5 | 80-120 | 400 | 400 | 100.0 | 7.8 | |
| Calcium | 47500 | 50000 | 95.0 | 80-120 | 50900 | 50000 | 101.8 | 6.9 | |
| Chromium | 365 | 400 | 91.3 | 80-120 | 390 | 400 | 97.5 | 6.6 | |
| Cobalt | 373 | 400 | 93.3 | 80-120 | 404 | 400 | 101.0 | 8.0 | |
| Copper | 366 | 400 | 91.5 | 80-120 | 397 | 400 | 99.3 | 8.1 | |
| Iron | 46400 | 50000 | 92.8 | 80-120 | 49800 | 50000 | 99.6 | 7.1 | |
| Lead | 362 | 400 | 90.5 | 80-120 | 388 | 400 | 97.0 | 6.9 | |
| Lithium | anr | | | | | | | | |
| Magnesium | 46900 | 50000 | 93.8 | 80-120 | 50800 | 50000 | 101.6 | 8.0 | |
| Manganese | 368 | 400 | 92.0 | 80-120 | 393 | 400 | 98.3 | 6.6 | |
| Molybdenum | anr | | | | | | | | |
| Nickel | 363 | 400 | 90.8 | 80-120 | 389 | 400 | 97.3 | 6.9 | |
| Potassium | 44900 | 50000 | 89.8 | 80-120 | 48400 | 50000 | 96.8 | 7.5 | |
| Selenium | 384 | 400 | 96.0 | 80-120 | 411 | 400 | 102.8 | 6.8 | |
| Silver | 349 | 400 | 87.3 | 80-120 | 378 | 400 | 94.5 | 8.0 | |
| Sodium | 48600 | 50000 | 97.2 | 80-120 | 50900 | 50000 | 101.8 | 4.6 | |
| Strontium | | | | | | | | | |
| Thallium | 369 | 400 | 92.3 | 80-120 | 397 | 400 | 99.3 | 7.3 | |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Vanadium | 354 | 400 | 88.5 | 80-120 | 381 | 400 | 95.3 | 7.3 | |
| Zinc | 438 | 400 | 109.5 | 80-120 | 450 | 400 | 112.5 | 2.7 | |
| Sulfur | | | | | | | | | |

Associated samples MP24120: TC54038-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24120
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/02/14

| Metal | TC54038-1 Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | 118 | 166 | 41.2 (a) | 0-10 |
| Antimony | 1.34 | 4.35 | 224.6(a) | 0-10 |
| Arsenic | 1.18 | 0.00 | 100.0(a) | 0-10 |
| Barium | 292 | 292 | 0.1 | 0-10 |
| Beryllium | 0.130 | 0.550 | 323.1(a) | 0-10 |
| Boron | anr | | | |
| Cadmium | 0.190 | 0.00 | 100.0(a) | 0-10 |
| Calcium | 51000 | 51800 | 1.5 | 0-10 |
| Chromium | 1.15 | 1.89 | 64.3 (a) | 0-10 |
| Cobalt | 6.21 | 7.18 | 15.6 (a) | 0-10 |
| Copper | 4.18 | 4.48 | 7.2 | 0-10 |
| Iron | 11900 | 12000 | 0.8 | 0-10 |
| Lead | 8.00 | 8.33 | 4.1 | 0-10 |
| Lithium | anr | | | |
| Magnesium | 7620 | 7740 | 1.6 | 0-10 |
| Manganese | 581 | 586 | 0.8 | 0-10 |
| Molybdenum | anr | | | |
| Nickel | 26.3 | 26.8 | 2.2 | 0-10 |
| Potassium | 10800 | 10800 | 0.6 | 0-10 |
| Selenium | 2.12 | 0.00 | 100.0(a) | 0-10 |
| Silver | 0.00 | 0.00 | NC | 0-10 |
| Sodium | 21700 | 22400 | 2.8 | 0-10 |
| Strontium | | | | |
| Thallium | 0.00 | 0.00 | NC | 0-10 |
| Tin | anr | | | |
| Titanium | anr | | | |
| Vanadium | 1.23 | 0.980 | 20.3 (a) | 0-10 |
| Zinc | 214 | 219 | 2.7 | 0-10 |
| Sulfur | | | | |

Associated samples MP24120: TC54038-1

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24148
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/05/14

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.20 | .05 | .05 | -0.078 | <0.20 |

Associated samples MP24148: TC54038-1

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

8.2.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24148 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/05/14

| Metal | TC53937-1 Original | MS | Spikelot HGTXAQ40 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 74.5 | 59.1 | 3 | -513.3(a | 75-125 |

Associated samples MP24148: TC54038-1

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 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: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24148 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/05/14

| Metal | TC53937-1 Original | MSD | Spikelot HGTXAQ40 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 74.5 | 59.8 | 3 | -490.0(a | 1.2 | 20 |

Associated samples MP24148: TC54038-1

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 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: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24148
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/05/14

| Metal | BSP Result | Spikelot HGTXAQ40 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 3.2 | 3 | 106.7 | 81-122 |

Associated samples MP24148: TC54038-1

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

8.2.3

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Gulf Coast ACCUTEST LABORATORIES

## General Chemistry

# QC Data Summaries

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: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Cyanide | GP29328/GN60814 | 0.0050 | 0.0 | mg/l | 0.1 | 0.100 | 100.0 | 91-108% |
| Sulfide | GN60775 | 0.20 | 0.0 | mg/l | 1600 | 1600 | 100.0 | 90-105% |

Associated Samples:
Batch GN60775: TC54038-1
Batch GP29328: TC54038-1
(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | Units | Spike Amount | BSD Result | RPD | QC Limit |
|---|---|---|---|---|---|---|
| Sulfide | GN60775 | mg/l | 1600 | 1600 | 0.0 | |

Associated Samples:
Batch GN60775: TC54038-1
(*) Outside of QC limits

9.2

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Cyanide | GP29328/GN60814 | TC54000-1 | mg/l | 0.0 | 0.0 | 0.0 | 0-20% |
| Ignitability (Flashpoint) | GN60833 | TC54038-1 | Deg. F | >200 | >200 | 0.0 | 0-10% |
| pH | GN60760 | TC54069-1 | su | 7.93 | 7.93(a) | 0.0 | 0-10% |

Associated Samples:
Batch GN60760: TC54038-1
Batch GN60833: TC54038-1
Batch GP29328: TC54038-1
(*) Outside of QC limits
(a) TEMP 22.2 C

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC54038
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Cyanide | GP29328/GN60814 | TC54000-1 | mg/l | 0.0 | 0.2 | 0.22 | 110.0 | 90-110% |

Associated Samples:
Batch GP29328: TC54038-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Gulf Coast ACCUTEST LABORATORIES

## Misc. Forms

### Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody

# SUBCONTRACT COC

ACCUTEST Laboratories

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

FED-EX Tracking # 5642 4612 2992
Bottle Order Control #
Accutest Quote #
Accutest Job #

**Client Information**

Company Name: Accutest Gulf Coast
Project Contact: Sylvia Garza
Email:
Address: 10165 Harwin Dr, Suite 150
City: Houston State: TX Zip: 77036
Phone No.: 713-271-4700

**Subcontract Information**

Subcontract Laboratory: ACCUTEST **NEW JERSEY**
Laboratory Contact: Sample Receiving
Email:
Address:
City State Zip
Phone No.

**Requested Analyses**

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Wastewater
SW - Surface Water
SO - Soil
SL - Sludge
OI - Oil
LIQ - Liquid
SOL - Other Solid

| Accutest Sample Number | Collection Date | Collection Time | Matrix | # of bottles | HCl | NaOH | HNO3 | H2SO4 | DI/MeOH | TSP | NONE | OTHER | BTU | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TC54038-1 ✓ | 8/28/2014 | 13:52 | W | 1 | | | | | | | | | X | 53 H |

Tumaround Time ( Business days)

- STANDARD
- 7 Day
- 4 Day RUSH
- 3 Day EMERGENCY
- 2 Day EMERGENCY
- 1 Day EMERGENCY
- Other

Approved By:/ Date:

**Real time analytical data available via Lablink**

Data Deliverable Information

- Commercial "A"
- Commercial "B"
- Reduced Tier 1
- Full Data Package
- TRRP-13
- EDD Format
- Other NARR+

Commercial "A" = Results Only
Commercial "B" = Results & Standard QC

Comments / Remarks

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* 500ml glass 422

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 | 9/3/14 1700 | 1 Fedex | 2 Fedex | 9/4/14 1015 | 2 |
| Relinquished by: 3 | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| Relinquished by: 5 | Date Time: | Received By: 5 | Custody Seal # N/A | Preserved where applicable ☐ | On Ice ☑ Cooler Temp. 4.0°C |

23 JM

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**TC54038: Chain of Custody**
**Page 1 of 2**
**Accutest New Jersey**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** TC54038 **Client:** _____ **Project:** _____

**Date / Time Received:** 9/4/2014 **Delivery Method:** _____ **Airbill #'s:** _____

**Cooler Temps (Initial/Adjusted):** #1: (4/4); 0

| 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 (Bag) | |
| 4. No. Coolers: | 1 | |

| Quality Control Preservatio | 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

Accutest Laboratories
V:732.329.0200
2235 US Highway 130
F: 732.329.3499
Dayton, New Jersey
www/accutest.com



**TC54038: Chain of Custody**
**Page 2 of 2**

Gulf Coast ACCUTEST LABORATORIES

## General Chemistry

# QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

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

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC54038
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: RFWTXHO: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Heat Content, BTU | GP82817/GN11249 | TC53874-2 | BTU/lb | 14600 | 15700 | 7.5 | 0-41% |

Associated Samples:
Batch GP82817: TC54038-1
(*) Outside of QC limits

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