Gulf Coast ACCUTEST LABORATORIES

10/06/14

# Technical Report for

Weston Solutions

CES- Chemical Spill/4904 Griggs, Houston, TX

Accutest Job Number: TC55519

Sampling Date: 09/25/14

Report to:

Weston Solutions

k.warr@westonsolutions.com
T.A.Walzer@WestonSolutions.com; Derrick.Cobb@WestonSolutions.com
ATTN: Kristie Warr

Total number of pages in report: **145**

9856955

Richard Rodriguez
Laboratory Director

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

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-14-17, 1M104704220-14-1) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2014-139) VA (2085)

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# Sample Summary

Weston Solutions

CES- Chemical Spill/4904 Griggs, Houston, TX

**Job No:** TC55519

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| TC55519-1 | 09/25/14 | 10:15 | | 09/25/14 | AQ | Water | S.TANK 2 |
| TC55519-2 | 09/25/14 | 12:20 | | 09/25/14 | AQ | Water | S.TANK 8 |
| TC55519-3 | 09/25/14 | 14:05 | | 09/25/14 | AQ | Water | S.TANK 5 |
| TC55519-3A | 09/25/14 | 14:05 | | 09/25/14 | SO | Sludge | S.TANK 5 |

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

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# Summary of Hits

**Job Number:** TC55519
**Account:** Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX
**Collected:** 09/25/14

| Lab Sample ID<br>Analyte | Client Sample ID | Result/<br>Qual | MQL | SDL | Units | Method |
|---|---|---|---|---|---|---|
| **TC55519-1** | **S.TANK 2** | | | | | |
| Acetone | | 19800 | 13000 | 2500 | ug/l | SW846 8260C |
| Benzene | | 8760 | 250 | 85 | ug/l | SW846 8260C |
| n-Butylbenzene | | 5790 | 250 | 98 | ug/l | SW846 8260C |
| sec-Butylbenzene | | 1400 | 250 | 110 | ug/l | SW846 8260C |
| Chlorobenzene | | 297 | 250 | 67 | ug/l | SW846 8260C |
| Chloroform | | 2090 | 250 | 86 | ug/l | SW846 8260C |
| Carbon disulfide | | 198 J | 250 | 90 | ug/l | SW846 8260C |
| Ethylbenzene | | 33000 | 250 | 81 | ug/l | SW846 8260C |
| Isopropylbenzene | | 5160 | 250 | 100 | ug/l | SW846 8260C |
| p-Isopropyltoluene | | 1260 | 250 | 91 | ug/l | SW846 8260C |
| 4-Methyl-2-pentanone | | 2490 J | 2500 | 540 | ug/l | SW846 8260C |
| Methyl ethyl ketone | | 42200 | 2500 | 680 | ug/l | SW846 8260C |
| Methyl Tert Butyl Ether | | 23000 | 250 | 75 | ug/l | SW846 8260C |
| Naphthalene | | 17100 | 1300 | 390 | ug/l | SW846 8260C |
| n-Propylbenzene | | 4680 | 250 | 88 | ug/l | SW846 8260C |
| Styrene | | 6330 | 250 | 74 | ug/l | SW846 8260C |
| 1,2,4-Trimethylbenzene | | 33700 | 250 | 80 | ug/l | SW846 8260C |
| 1,3,5-Trimethylbenzene | | 8740 | 250 | 86 | ug/l | SW846 8260C |
| Tetrachloroethylene | | 1140 | 250 | 120 | ug/l | SW846 8260C |
| Toluene | | 221000 | 5000 | 1600 | ug/l | SW846 8260C |
| Trichloroethylene | | 606 | 250 | 120 | ug/l | SW846 8260C |
| Xylene (total) | | 204000 | 1500 | 430 | ug/l | SW846 8260C |
| m,p-Xylene | | 140000 | 1000 | 290 | ug/l | SW846 8260C |
| o-Xylene | | 64700 | 500 | 140 | ug/l | SW846 8260C |
| 4-Chloro-3-methyl phenol [a] | | 2930 | 1000 | 230 | ug/l | SW846 8270D |
| 2,4-Dimethylphenol [a] | | 1300 | 1000 | 210 | ug/l | SW846 8270D |
| 2-Methylphenol [a] | | 1190 | 1000 | 190 | ug/l | SW846 8270D |
| 3&4-Methylphenol [a] | | 2930 | 1000 | 220 | ug/l | SW846 8270D |
| Phenol [a] | | 3190 | 1000 | 290 | ug/l | SW846 8270D |
| 2,4,6-Trichlorophenol [a] | | 600 J | 1000 | 220 | ug/l | SW846 8270D |
| Acenaphthene [a] | | 603 J | 1000 | 240 | ug/l | SW846 8270D |
| Anthracene [a] | | 327 J | 1000 | 280 | ug/l | SW846 8270D |
| Benzyl Alcohol [a] | | 2190 | 1000 | 180 | ug/l | SW846 8270D |
| Diethyl phthalate [a] | | 963 J | 1000 | 280 | ug/l | SW846 8270D |
| bis(2-Ethylhexyl)phthalate [a] | | 2190 | 1000 | 290 | ug/l | SW846 8270D |
| Fluorene [a] | | 1220 | 1000 | 250 | ug/l | SW846 8270D |
| 1-Methylnaphthalene [a] | | 10200 | 1000 | 210 | ug/l | SW846 8270D |
| 2-Methylnaphthalene [a] | | 16100 | 1000 | 250 | ug/l | SW846 8270D |
| Naphthalene | | 25800 | 2500 | 520 | ug/l | SW846 8270D |
| N-Nitrosodiphenylamine [a] | | 4490 | 1000 | 280 | ug/l | SW846 8270D |
| Phenanthrene [a] | | 3410 | 1000 | 300 | ug/l | SW846 8270D |
| Pyrene [a] | | 735 J | 1000 | 290 | ug/l | SW846 8270D |
| TPH (C6-C12) | | 310 | 270 | 86 | mg/l | TNRCC 1005 |

# Summary of Hits

**Job Number:** TC55519
**Account:** Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX
**Collected:** 09/25/14

| Lab Sample ID Client Sample ID<br>Analyte | Result/<br>Qual | MQL | SDL | Units | Method |
|---|---|---|---|---|---|
| TPH (> C12-C28) | 1520 | 270 | 93 | mg/l | TNRCC 1005 |
| TPH (> C28-C35) | 415 | 270 | 93 | mg/l | TNRCC 1005 |
| TPH (C6-C35) | 2250 | 270 | 86 | mg/l | TNRCC 1005 |
| Aluminum [b] | 42.0 | 1.0 | 0.088 | mg/l | SW846 6010B |
| Antimony [b] | 0.132 | 0.025 | 0.0053 | mg/l | SW846 6010B |
| Arsenic [b] | 0.107 | 0.025 | 0.023 | mg/l | SW846 6010B |
| Barium [b] | 4.61 | 1.0 | 0.0020 | mg/l | SW846 6010B |
| Beryllium [b] | 0.0027 J | 0.020 | 0.00090 | mg/l | SW846 6010B |
| Cadmium [b] | 0.0147 J | 0.020 | 0.0012 | mg/l | SW846 6010B |
| Calcium [b] | 900 | 25 | 0.17 | mg/l | SW846 6010B |
| Chromium [b] | 1.05 | 0.050 | 0.0031 | mg/l | SW846 6010B |
| Cobalt [b] | 0.224 J | 0.25 | 0.0012 | mg/l | SW846 6010B |
| Copper [b] | 6.51 | 0.10 | 0.014 | mg/l | SW846 6010B |
| Iron [b] | 655 | 0.50 | 0.15 | mg/l | SW846 6010B |
| Lead [b] | 0.985 | 0.015 | 0.0039 | mg/l | SW846 6010B |
| Magnesium [b] | 75.4 | 25 | 0.094 | mg/l | SW846 6010B |
| Manganese [b] | 12.8 | 0.075 | 0.0013 | mg/l | SW846 6010B |
| Mercury | 0.668 | 0.040 | 0.010 | mg/l | SW846 7470A |
| Nickel [b] | 3.44 | 0.20 | 0.0020 | mg/l | SW846 6010B |
| Potassium [b] | 182 | 25 | 0.26 | mg/l | SW846 6010B |
| Selenium [b] | 0.0740 | 0.025 | 0.012 | mg/l | SW846 6010B |
| Silver [b] | 0.0103 J | 0.050 | 0.0030 | mg/l | SW846 6010B |
| Sodium [b] | 2440 | 25 | 0.11 | mg/l | SW846 6010B |
| Vanadium [b] | 0.407 | 0.25 | 0.0026 | mg/l | SW846 6010B |
| Zinc [b] | 40.1 | 0.10 | 0.0074 | mg/l | SW846 6010B |
| Solids, Total Suspended | 53700 | 300 | 150 | mg/l | SM 2540D |
| Total Organic Carbon | 17100 | 500 | 160 | mg/l | SM5310B/9060A |
| **TC55519-2 S.TANK 8** | | | | | |
| Acetone | 36600 | 10000 | 2000 | ug/l | SW846 8260C |
| Benzene | 2020 | 200 | 68 | ug/l | SW846 8260C |
| n-Butylbenzene | 8030 | 200 | 78 | ug/l | SW846 8260C |
| Chlorobenzene | 20100 | 200 | 53 | ug/l | SW846 8260C |
| Carbon disulfide | 37000 | 2000 | 720 | ug/l | SW846 8260C |
| Ethylbenzene | 48500 | 2000 | 650 | ug/l | SW846 8260C |
| Isopropylbenzene | 6690 | 200 | 80 | ug/l | SW846 8260C |
| 4-Methyl-2-pentanone | 9940 | 2000 | 430 | ug/l | SW846 8260C |
| Methyl Tert Butyl Ether | 414 | 200 | 60 | ug/l | SW846 8260C |
| Naphthalene | 16300 | 1000 | 310 | ug/l | SW846 8260C |
| n-Propylbenzene | 6930 | 200 | 70 | ug/l | SW846 8260C |
| Styrene | 2150 | 200 | 59 | ug/l | SW846 8260C |
| 1,2,4-Trimethylbenzene | 58100 | 2000 | 640 | ug/l | SW846 8260C |
| 1,3,5-Trimethylbenzene | 16500 | 200 | 69 | ug/l | SW846 8260C |
| Toluene | 87100 | 2000 | 650 | ug/l | SW846 8260C |

# Summary of Hits

**Job Number:** TC55519
**Account:** Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX
**Collected:** 09/25/14

| Lab Sample ID Client Sample ID<br>Analyte | Result/<br>Qual | MQL | SDL | Units | Method |
|---|---|---|---|---|---|
| Xylene (total) | 349000 | 6000 | 1700 | ug/l | SW846 8260C |
| m,p-Xylene | 63700 | 400 | 120 | ug/l | SW846 8260C |
| o-Xylene | 69100 | 2000 | 560 | ug/l | SW846 8260C |
| Di-n-butyl phthalate [c] | 1020 J | 1200 | 320 | ug/l | SW846 8270D |
| Diethyl phthalate [c] | 658 J | 1200 | 330 | ug/l | SW846 8270D |
| 1-Methylnaphthalene [c] | 660 J | 1200 | 260 | ug/l | SW846 8270D |
| 2-Methylnaphthalene [c] | 1160 J | 1200 | 300 | ug/l | SW846 8270D |
| Naphthalene [c] | 1890 | 1200 | 250 | ug/l | SW846 8270D |
| N-Nitrosodiphenylamine [d] | 7250 | 1200 | 340 | ug/l | SW846 8270D |
| TPH (C6-C12) | 8410 | 1800 | 590 | mg/l | TNRCC 1005 |
| TPH (> C12-C28) | 65400 | 1800 | 640 | mg/l | TNRCC 1005 |
| TPH (> C28-C35) | 13300 | 1800 | 640 | mg/l | TNRCC 1005 |
| TPH (C6-C35) | 87100 | 1800 | 590 | mg/l | TNRCC 1005 |
| Aluminum [e] | 49.9 | 1.0 | 0.088 | mg/l | SW846 6010B |
| Antimony [e] | 0.0551 | 0.025 | 0.0053 | mg/l | SW846 6010B |
| Arsenic [e] | 0.0435 | 0.025 | 0.023 | mg/l | SW846 6010B |
| Barium [e] | 3.45 | 1.0 | 0.0020 | mg/l | SW846 6010B |
| Cadmium [e] | 0.0030 J | 0.020 | 0.0012 | mg/l | SW846 6010B |
| Calcium [e] | 195 | 25 | 0.17 | mg/l | SW846 6010B |
| Chromium [e] | 0.198 | 0.050 | 0.0031 | mg/l | SW846 6010B |
| Cobalt [e] | 0.0400 J | 0.25 | 0.0012 | mg/l | SW846 6010B |
| Copper [e] | 1.14 | 0.10 | 0.014 | mg/l | SW846 6010B |
| Iron [e] | 78.0 | 0.50 | 0.15 | mg/l | SW846 6010B |
| Lead [e] | 0.134 | 0.015 | 0.0039 | mg/l | SW846 6010B |
| Magnesium [e] | 27.8 | 25 | 0.094 | mg/l | SW846 6010B |
| Manganese [e] | 3.34 | 0.075 | 0.0013 | mg/l | SW846 6010B |
| Mercury | 0.00013 J | 0.00020 | 0.000050 | mg/l | SW846 7470A |
| Nickel [e] | 8.81 | 0.20 | 0.0020 | mg/l | SW846 6010B |
| Potassium [e] | 95.2 | 25 | 0.26 | mg/l | SW846 6010B |
| Silver [e] | 2.24 | 0.050 | 0.0030 | mg/l | SW846 6010B |
| Sodium [e] | 2270 | 25 | 0.11 | mg/l | SW846 6010B |
| Vanadium [e] | 0.0294 J | 0.25 | 0.0026 | mg/l | SW846 6010B |
| Zinc [e] | 8.05 | 0.10 | 0.0074 | mg/l | SW846 6010B |
| Solids, Total Suspended | 9440 | 120 | 60 | mg/l | SM 2540D |
| Total Organic Carbon | 12900 | 500 | 160 | mg/l | SM5310B/9060A |
| **TC55519-3 S.TANK 5** | | | | | |
| Acetone | 25500 | 2500 | 500 | ug/l | SW846 8260C |
| Benzene | 830 | 50 | 17 | ug/l | SW846 8260C |
| n-Butylbenzene | 1320 | 50 | 20 | ug/l | SW846 8260C |
| sec-Butylbenzene | 129 | 50 | 23 | ug/l | SW846 8260C |
| Chlorobenzene | 110 | 50 | 13 | ug/l | SW846 8260C |
| Ethylbenzene | 2000 | 50 | 16 | ug/l | SW846 8260C |
| Isopropylbenzene | 329 | 50 | 20 | ug/l | SW846 8260C |

# Summary of Hits

**Job Number:** TC55519
**Account:** Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX
**Collected:** 09/25/14

| Lab Sample ID Client Sample ID Analyte | Result/ Qual | MQL | SDL | Units | Method |
|---|---|---|---|---|---|
| p-Isopropyltoluene | 122 | 50 | 18 | ug/l | SW846 8260C |
| 4-Methyl-2-pentanone | 1870 | 500 | 110 | ug/l | SW846 8260C |
| Methyl ethyl ketone | 23200 | 500 | 140 | ug/l | SW846 8260C |
| Methyl Tert Butyl Ether | 328 | 50 | 15 | ug/l | SW846 8260C |
| Naphthalene | 2450 | 250 | 78 | ug/l | SW846 8260C |
| n-Propylbenzene | 373 | 50 | 18 | ug/l | SW846 8260C |
| Styrene | 396 | 50 | 15 | ug/l | SW846 8260C |
| 1,2,4-Trimethylbenzene | 3830 | 50 | 16 | ug/l | SW846 8260C |
| 1,3,5-Trimethylbenzene | 799 | 50 | 17 | ug/l | SW846 8260C |
| Tetrachloroethylene | 28.0 J | 50 | 23 | ug/l | SW846 8260C |
| Toluene | 4230 | 50 | 16 | ug/l | SW846 8260C |
| Xylene (total) | 10500 | 150 | 43 | ug/l | SW846 8260C |
| m,p-Xylene | 7470 | 100 | 29 | ug/l | SW846 8260C |
| o-Xylene | 3050 | 50 | 14 | ug/l | SW846 8260C |
| 2-Methylphenol [f] | 423 J | 1200 | 230 | ug/l | SW846 8270D |
| 3&4-Methylphenol [f] | 1200 | 1200 | 260 | ug/l | SW846 8270D |
| Phenol [f] | 1050 J | 1200 | 350 | ug/l | SW846 8270D |
| Benzyl Alcohol [f] | 1750 | 1200 | 210 | ug/l | SW846 8270D |
| Di-n-butyl phthalate [f] | 1140 J | 1200 | 320 | ug/l | SW846 8270D |
| Diethyl phthalate [f] | 766 J | 1200 | 330 | ug/l | SW846 8270D |
| bis(2-Ethylhexyl)phthalate [f] | 6730 | 1200 | 350 | ug/l | SW846 8270D |
| Fluorene [f] | 582 J | 1200 | 300 | ug/l | SW846 8270D |
| 1-Methylnaphthalene [f] | 4460 | 1200 | 260 | ug/l | SW846 8270D |
| 2-Methylnaphthalene [f] | 7240 | 1200 | 300 | ug/l | SW846 8270D |
| Naphthalene [f] | 21900 | 1200 | 250 | ug/l | SW846 8270D |
| N-Nitrosodiphenylamine [g] | 8810 | 1200 | 340 | ug/l | SW846 8270D |
| Phenanthrene [f] | 703 J | 1200 | 360 | ug/l | SW846 8270D |
| TPH (C6-C12) | 792 | 58 | 19 | mg/l | TNRCC 1005 |
| TPH (> C12-C28) | 5030 | 58 | 20 | mg/l | TNRCC 1005 |
| TPH (> C28-C35) | 3610 | 58 | 20 | mg/l | TNRCC 1005 |
| TPH (C6-C35) | 9430 | 58 | 19 | mg/l | TNRCC 1005 |
| Aluminum [e] | 47.9 | 1.0 | 0.088 | mg/l | SW846 6010B |
| Antimony [e] | 0.0972 | 0.025 | 0.0053 | mg/l | SW846 6010B |
| Arsenic [e] | 0.0249 J | 0.025 | 0.023 | mg/l | SW846 6010B |
| Barium [e] | 3.93 | 1.0 | 0.0020 | mg/l | SW846 6010B |
| Beryllium [e] | 0.0023 J | 0.020 | 0.00090 | mg/l | SW846 6010B |
| Cadmium [e] | 0.0126 J | 0.020 | 0.0012 | mg/l | SW846 6010B |
| Calcium [e] | 768 | 25 | 0.17 | mg/l | SW846 6010B |
| Chromium [e] | 0.485 | 0.050 | 0.0031 | mg/l | SW846 6010B |
| Cobalt [e] | 0.210 J | 0.25 | 0.0012 | mg/l | SW846 6010B |
| Copper [e] | 3.28 | 0.10 | 0.014 | mg/l | SW846 6010B |
| Iron [e] | 835 | 0.50 | 0.15 | mg/l | SW846 6010B |
| Lead [e] | 0.505 | 0.015 | 0.0039 | mg/l | SW846 6010B |
| Magnesium [e] | 105 | 25 | 0.094 | mg/l | SW846 6010B |
| Manganese [e] | 12.5 | 0.075 | 0.0013 | mg/l | SW846 6010B |

# Summary of Hits

**Job Number:** TC55519
**Account:** Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX
**Collected:** 09/25/14

| Lab Sample ID Client Sample ID Analyte | Result/ Qual | MQL | SDL | Units | Method |
|---|---|---|---|---|---|
| Mercury | 0.0603 | 0.010 | 0.0025 | mg/l | SW846 7470A |
| Nickel [e] | 2.59 | 0.20 | 0.0020 | mg/l | SW846 6010B |
| Potassium [e] | 110 | 25 | 0.26 | mg/l | SW846 6010B |
| Selenium [e] | 0.0247 J | 0.025 | 0.012 | mg/l | SW846 6010B |
| Silver [e] | 0.0123 J | 0.050 | 0.0030 | mg/l | SW846 6010B |
| Sodium [e] | 1550 | 25 | 0.11 | mg/l | SW846 6010B |
| Vanadium [e] | 0.577 | 0.25 | 0.0026 | mg/l | SW846 6010B |
| Zinc [e] | 62.3 | 0.10 | 0.0074 | mg/l | SW846 6010B |
| Solids, Total Suspended | 9860 | 120 | 60 | mg/l | SM 2540D |
| Total Organic Carbon | 12200 | 500 | 160 | mg/l | SM5310B/9060A |
| **TC55519-3A S.TANK 5** | | | | | |
| Benzene | 12500 | 4000 | 670 | ug/kg | SW846 8260C |
| n-Butylbenzene | 24800 | 4000 | 440 | ug/kg | SW846 8260C |
| sec-Butylbenzene | 2700 J | 4000 | 870 | ug/kg | SW846 8260C |
| Chlorobenzene | 3830 J | 4000 | 920 | ug/kg | SW846 8260C |
| Ethylbenzene | 58200 | 4000 | 960 | ug/kg | SW846 8260C |
| Isopropylbenzene | 10700 | 4000 | 1100 | ug/kg | SW846 8260C |
| p-Isopropyltoluene | 2560 J | 4000 | 1300 | ug/kg | SW846 8260C |
| Methyl ethyl ketone | 8770 J | 40000 | 5000 | ug/kg | SW846 8260C |
| Naphthalene | 107000 | 4000 | 2000 | ug/kg | SW846 8260C |
| n-Propylbenzene | 10200 | 4000 | 1000 | ug/kg | SW846 8260C |
| Styrene | 15100 | 4000 | 910 | ug/kg | SW846 8260C |
| 1,2,4-Trimethylbenzene | 75600 | 4000 | 400 | ug/kg | SW846 8260C |
| 1,3,5-Trimethylbenzene | 17000 | 4000 | 930 | ug/kg | SW846 8260C |
| Toluene | 108000 | 4000 | 1000 | ug/kg | SW846 8260C |
| Xylene (total) | 299000 | 12000 | 2800 | ug/kg | SW846 8260C |
| m,p-Xylene | 216000 | 7900 | 1800 | ug/kg | SW846 8260C |
| o-Xylene | 83700 | 4000 | 1000 | ug/kg | SW846 8260C |
| Benzoic acid [h] | 58800 J | 83000 | 26000 | ug/kg | SW846 8270D |
| 4-Chloro-3-methyl phenol [h] | 10400 J | 17000 | 5700 | ug/kg | SW846 8270D |
| Phenol [h] | 12100 J | 17000 | 7600 | ug/kg | SW846 8270D |
| Benzyl Alcohol [h] | 13800 J | 17000 | 6500 | ug/kg | SW846 8270D |
| bis(2-Ethylhexyl)phthalate [h] | 17300 | 17000 | 13000 | ug/kg | SW846 8270D |
| 1-Methylnaphthalene [h] | 8860 J | 17000 | 6300 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene [h] | 14200 J | 17000 | 6300 | ug/kg | SW846 8270D |
| Naphthalene [h] | 45600 | 17000 | 6000 | ug/kg | SW846 8270D |
| N-Nitrosodiphenylamine [h] | 17400 | 17000 | 4700 | ug/kg | SW846 8270D |
| TPH (C6-C12) | 581 J | 620 | 340 | mg/kg | TNRCC 1005 |
| TPH (> C12-C28) | 2480 | 620 | 340 | mg/kg | TNRCC 1005 |
| TPH (> C28-C35) | 1660 | 620 | 340 | mg/kg | TNRCC 1005 |
| TPH (C6-C35) | 4720 | 620 | 340 | mg/kg | TNRCC 1005 |
| Aluminum | 1190 | 10 | 1.2 | mg/kg | SW846 6010B |
| Antimony | 1.2 | 0.25 | 0.090 | mg/kg | SW846 6010B |

# Summary of Hits

**Job Number:** TC55519
**Account:** Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX
**Collected:** 09/25/14

| Lab Sample ID Client Sample ID Analyte | Result/ Qual | MQL | SDL | Units | Method |
|---|---|---|---|---|---|
| Arsenic | 0.44 | 0.25 | 0.087 | mg/kg | SW846 6010B |
| Barium | 601 | 10 | 0.013 | mg/kg | SW846 6010B |
| Cadmium | 0.26 | 0.20 | 0.013 | mg/kg | SW846 6010B |
| Calcium | 1710 | 250 | 0.39 | mg/kg | SW846 6010B |
| Chromium | 7.7 | 0.50 | 0.070 | mg/kg | SW846 6010B |
| Cobalt | 0.95 J | 2.5 | 0.020 | mg/kg | SW846 6010B |
| Copper | 48.8 | 1.0 | 0.11 | mg/kg | SW846 6010B |
| Iron | 1650 | 5.0 | 0.72 | mg/kg | SW846 6010B |
| Lead | 7.1 | 0.15 | 0.11 | mg/kg | SW846 6010B |
| Magnesium | 77.6 J | 250 | 1.4 | mg/kg | SW846 6010B |
| Manganese | 12.7 | 0.75 | 0.020 | mg/kg | SW846 6010B |
| Mercury | 0.77 | 0.029 | 0.012 | mg/kg | SW846 7471A |
| Nickel | 10.5 | 2.0 | 0.038 | mg/kg | SW846 6010B |
| Potassium | 67.6 J | 250 | 2.1 | mg/kg | SW846 6010B |
| Selenium | 0.12 J | 0.25 | 0.094 | mg/kg | SW846 6010B |
| Silver | 0.30 J | 0.50 | 0.035 | mg/kg | SW846 6010B |
| Sodium | 832 | 250 | 0.77 | mg/kg | SW846 6010B |
| Vanadium | 2.0 J | 2.5 | 0.021 | mg/kg | SW846 6010B |
| Zinc | 623 | 1.0 | 0.28 | mg/kg | SW846 6010B |
| Total Organic Carbon [i] | 61200 | 1000 | 250 | mg/kg | SW846 9060A M |

(a) Elevated reporting limits and internal standard outside control limits due to matrix interference; final volume 5 ml. Dilution required due to high concentration of non-target compounds.
(b) Elevated reporting limit due to dilution required for high interfering element.
(c) Elevated reporting limits due to matrix interference, final volume 6 ml. Dilution required due to high concentration of non-target compounds.
(d) Elevated reporting limits due to matrix interference, final volume 6 ml. Dilution required due to high concentration of non-target compounds. N-Nitrosodiphenylamine decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine.
(e) Elevated reporting limit due to dilution required for matrix interference.
(f) Elevated reporting limits due to matrix interference, final volume 12 ml. Dilution required due to high concentration of non-target compounds.
(g) Elevated reporting limits due to matrix interference, final volume 12 ml. Dilution required due to high concentration of non-target compounds. N-Nitrosodiphenylamine decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine.
(h) Elevated reporting limits due to matrix interference. Dilution required due to high concentration of non-target compounds.
(i) Analysis performed at Accutest Laboratories, Orlando, FL.

Gulf Coast ACCUTEST LABORATORIES



## Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | E0035909.D | 250 | 10/01/14 | KD | n/a | n/a | VE1625 |
| Run #2 | E0035910.D | 500 | 10/01/14 | KD | n/a | n/a | VE1625 |
| Run #3 | E0035940.D | 5000 | 10/02/14 | KD | n/a | n/a | VE1626 |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | 5.0 ml |
| Run #3 | 5.0 ml |

**VOA 8260 List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 19800 | 13000 | 2500 | ug/l | |
| 71-43-2 | Benzene | 8760 | 250 | 85 | ug/l | |
| 108-86-1 | Bromobenzene | 73 U | 250 | 73 | ug/l | |
| 74-97-5 | Bromochloromethane | 110 U | 250 | 110 | ug/l | |
| 75-27-4 | Bromodichloromethane | 85 U | 250 | 85 | ug/l | |
| 75-25-2 | Bromoform | 110 U | 250 | 110 | ug/l | |
| 104-51-8 | n-Butylbenzene | 5790 | 250 | 98 | ug/l | |
| 135-98-8 | sec-Butylbenzene | 1400 | 250 | 110 | ug/l | |
| 98-06-6 | tert-Butylbenzene | 110 U | 250 | 110 | ug/l | |
| 108-90-7 | Chlorobenzene | 297 | 250 | 67 | ug/l | |
| 75-00-3 | Chloroethane | 180 U | 250 | 180 | ug/l | |
| 67-66-3 | Chloroform | 2090 | 250 | 86 | ug/l | |
| 95-49-8 | o-Chlorotoluene | 91 U | 250 | 91 | ug/l | |
| 106-43-4 | p-Chlorotoluene | 79 U | 250 | 79 | ug/l | |
| 75-15-0 | Carbon disulfide | 198 | 250 | 90 | ug/l | J |
| 56-23-5 | Carbon tetrachloride | 110 U | 250 | 110 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 85 U | 250 | 85 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 110 U | 250 | 110 | ug/l | |
| 563-58-6 | 1,1-Dichloropropene | 160 U | 250 | 160 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 400 U | 500 | 400 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | 84 U | 250 | 84 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 88 U | 250 | 88 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 83 U | 250 | 83 | ug/l | |
| 142-28-9 | 1,3-Dichloropropane | 80 U | 250 | 80 | ug/l | |
| 594-20-7 | 2,2-Dichloropropane | 130 U | 250 | 130 | ug/l | |
| 124-48-1 | Dibromochloromethane | 92 U | 250 | 92 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane | 370 U | 500 | 370 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 100 U | 250 | 100 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 72 U | 250 | 72 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 83 U | 250 | 83 | 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:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 |
|---|---|---|---|---|---|---|
| 95-50-1 | o-Dichlorobenzene | 70 U | 250 | 70 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 79 U | 250 | 79 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 120 U | 250 | 120 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 80 U | 250 | 80 | ug/l | |
| 100-41-4 | Ethylbenzene | 33000 | 250 | 81 | ug/l | |
| 591-78-6 | 2-Hexanone | 640 U | 2500 | 640 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 120 U | 250 | 120 | ug/l | |
| 98-82-8 | Isopropylbenzene | 5160 | 250 | 100 | ug/l | |
| 99-87-6 | p-Isopropyltoluene | 1260 | 250 | 91 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | 2490 | 2500 | 540 | ug/l | J |
| 74-83-9 | Methyl bromide | 130 U | 250 | 130 | ug/l | |
| 74-87-3 | Methyl chloride | 160 U | 250 | 160 | ug/l | |
| 74-95-3 | Methylene bromide | 110 U | 250 | 110 | ug/l | |
| 75-09-2 | Methylene chloride | 410 U | 1300 | 410 | ug/l | |
| 78-93-3 | Methyl ethyl ketone | 42200 | 2500 | 680 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 23000 | 250 | 75 | ug/l | |
| 91-20-3 | Naphthalene | 17100 | 1300 | 390 | ug/l | |
| 103-65-1 | n-Propylbenzene | 4680 | 250 | 88 | ug/l | |
| 100-42-5 | Styrene | 6330 | 250 | 74 | ug/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 92 U | 250 | 92 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 110 U | 250 | 110 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 100 U | 250 | 100 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 87 U | 250 | 87 | ug/l | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 100 U | 250 | 100 | ug/l | |
| 96-18-4 | 1,2,3-Trichloropropane | 120 U | 250 | 120 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 100 U | 250 | 100 | ug/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 33700 | 250 | 80 | ug/l | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 8740 | 250 | 86 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 1140 | 250 | 120 | ug/l | |
| 108-88-3 | Toluene | 221000 [a] | 5000 | 1600 | ug/l | |
| 79-01-6 | Trichloroethylene | 606 | 250 | 120 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | 190 U | 250 | 190 | ug/l | |
| 75-01-4 | Vinyl chloride | 200 U | 250 | 200 | ug/l | |
| 1330-20-7 | Xylene (total) | 204000 [b] | 1500 | 430 | ug/l | |
| | m,p-Xylene | 140000 [b] | 1000 | 290 | ug/l | |
| 95-47-6 | o-Xylene | 64700 [b] | 500 | 140 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 108% | 109% | 109% | 72-122% |

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:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 97% | 96% | 96% | 68-124% |
| 2037-26-5 | Toluene-D8 | 106% | 106% | 105% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | 99% | 101% | 72-126% |

(a) Result is from Run# 3
(b) Result is from Run# 2

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:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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] | O12294.D | 4 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |
| Run #2 | O12288.D | 10 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 100 ml | 5.0 ml |
| Run #2 | 100 ml | 5.0 ml |

**ABN Full List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | 2000 U | 4000 | 2000 | ug/l | |
| 95-57-8 | 2-Chlorophenol | 190 U | 1000 | 190 | ug/l | |
| 59-50-7 | 4-Chloro-3-methyl phenol | 2930 | 1000 | 230 | ug/l | |
| 120-83-2 | 2,4-Dichlorophenol | 220 U | 1000 | 220 | ug/l | |
| 105-67-9 | 2,4-Dimethylphenol | 1300 | 1000 | 210 | ug/l | |
| 51-28-5 | 2,4-Dinitrophenol | 2000 U | 5000 | 2000 | ug/l | |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1100 U | 2000 | 1100 | ug/l | |
| 95-48-7 | 2-Methylphenol | 1190 | 1000 | 190 | ug/l | |
| | 3&4-Methylphenol | 2930 | 1000 | 220 | ug/l | |
| 88-75-5 | 2-Nitrophenol | 220 U | 1000 | 220 | ug/l | |
| 100-02-7 | 4-Nitrophenol | 1400 U | 5000 | 1400 | ug/l | |
| 87-86-5 | Pentachlorophenol | 2000 U | 5000 | 2000 | ug/l | |
| 108-95-2 | Phenol | 3190 | 1000 | 290 | ug/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | 200 U | 1000 | 200 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | 600 | 1000 | 220 | ug/l | J |
| 83-32-9 | Acenaphthene | 603 | 1000 | 240 | ug/l | J |
| 208-96-8 | Acenaphthylene | 230 U | 1000 | 230 | ug/l | |
| 62-53-3 | Aniline | 260 U | 1000 | 260 | ug/l | |
| 120-12-7 | Anthracene | 327 | 1000 | 280 | ug/l | J |
| 92-87-5 | Benzidine | 2000 U | 5000 | 2000 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 300 U | 1000 | 300 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 270 U | 1000 | 270 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 240 U | 1000 | 240 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 300 U | 1000 | 300 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 300 U | 1000 | 300 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | 240 U | 1000 | 240 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | 250 U | 1000 | 250 | ug/l | |
| 100-51-6 | Benzyl Alcohol | 2190 | 1000 | 180 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | 260 U | 1000 | 260 | ug/l | |
| 106-47-8 | 4-Chloroaniline | 220 U | 1000 | 220 | ug/l | |
| 86-74-8 | Carbazole | 280 U | 1000 | 280 | ug/l | |
| 218-01-9 | Chrysene | 310 U | 1000 | 310 | ug/l | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 230 U | 1000 | 230 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | 190 U | 1000 | 190 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 180 U | 1000 | 180 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 250 U | 1000 | 250 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | 220 U | 1000 | 220 | ug/l | |
| 122-66-7 | 1,2-Diphenylhydrazine | 270 U | 1000 | 270 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | 220 U | 1000 | 220 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | 220 U | 1000 | 220 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | 250 U | 1000 | 250 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | 200 U | 1000 | 200 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | 260 U | 2000 | 260 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 270 U | 1000 | 270 | ug/l | |
| 132-64-9 | Dibenzofuran | 250 U | 1000 | 250 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | 270 U | 1000 | 270 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | 230 U | 1000 | 230 | ug/l | |
| 84-66-2 | Diethyl phthalate | 963 | 1000 | 280 | ug/l | J |
| 131-11-3 | Dimethyl phthalate | 280 U | 1000 | 280 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 2190 | 1000 | 290 | ug/l | |
| 206-44-0 | Fluoranthene | 280 U | 1000 | 280 | ug/l | |
| 86-73-7 | Fluorene | 1220 | 1000 | 250 | ug/l | |
| 118-74-1 | Hexachlorobenzene | 310 U | 1000 | 310 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 240 U | 1000 | 240 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | 240 U | 2000 | 240 | ug/l | |
| 67-72-1 | Hexachloroethane | 250 U | 1000 | 250 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 210 U | 1000 | 210 | ug/l | |
| 78-59-1 | Isophorone | 240 U | 1000 | 240 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 10200 | 1000 | 210 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 16100 | 1000 | 250 | ug/l | |
| 88-74-4 | 2-Nitroaniline | 260 U | 1000 | 260 | ug/l | |
| 99-09-2 | 3-Nitroaniline | 250 U | 1000 | 250 | ug/l | |
| 100-01-6 | 4-Nitroaniline | 270 U | 1000 | 270 | ug/l | |
| 91-20-3 | Naphthalene | 25800 [b] | 2500 | 520 | ug/l | |
| 98-95-3 | Nitrobenzene | 230 U | 1000 | 230 | ug/l | |
| 62-75-9 | n-Nitrosodimethylamine | 210 U | 1000 | 210 | ug/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | 220 U | 1000 | 220 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | 4490 | 1000 | 280 | ug/l | |
| 85-01-8 | Phenanthrene | 3410 | 1000 | 300 | ug/l | |
| 129-00-0 | Pyrene | 735 | 1000 | 290 | ug/l | J |
| 110-86-1 | Pyridine | 250 U | 1000 | 250 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 210 U | 1000 | 210 | ug/l | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 33% | 0% c | 10-66% |
| 4165-62-2 | Phenol-d5 | 43% | 0% c | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 76% | 0% c | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 110% | 0% c | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 78% | 97% | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 76% | 109% | 23-138% |

(a) Elevated reporting limits and internal standard outside control limits due to matrix interference; final volume 5 ml. Dilution required due to high concentration of non-target compounds.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | OO31419.D | 5 | 10/01/14 | SC | 09/29/14 | OP34121 | GOO523 |
| Run #2 [a] | OO31454.D | 5 | 10/01/14 | SC | 09/29/14 | OP34144 | GOO524 |

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

**PCB List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 11 U | 25 | 11 | ug/l | |
| 11104-28-2 | Aroclor 1221 | 10 U | 25 | 10 | ug/l | |
| 11141-16-5 | Aroclor 1232 | 8.5 U | 25 | 8.5 | ug/l | |
| 53469-21-9 | Aroclor 1242 | 6.0 U | 25 | 6.0 | ug/l | |
| 12672-29-6 | Aroclor 1248 | 5.0 U | 25 | 5.0 | ug/l | |
| 11097-69-1 | Aroclor 1254 | 5.0 U | 25 | 5.0 | ug/l | |
| 11096-82-5 | Aroclor 1260 | 6.0 U | 25 | 6.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 79% | 0% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 0% [b] | 0% | 27-119% |

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits biased low. Confirmed by reextraction and reanalysis.

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:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | LB105680.D | 100 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLB1560 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 28.2 ml | 3.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 310 | 270 | 86 | mg/l | |
| | TPH (> C12-C28) | 1520 | 270 | 93 | mg/l | |
| | TPH (> C28-C35) | 415 | 270 | 93 | mg/l | |
| | TPH (C6-C35) | 2250 | 270 | 86 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% [a] | | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 0% [a] | | 70-130% |

(a) 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:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| | | **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 [a] | 42.0 | 1.0 | 0.088 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Antimony [a] | 0.132 | 0.025 | 0.0053 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Arsenic [a] | 0.107 | 0.025 | 0.023 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Barium [a] | 4.61 | 1.0 | 0.0020 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Beryllium [a] | 0.0027 J | 0.020 | 0.00090 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cadmium [a] | 0.0147 J | 0.020 | 0.0012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Calcium [a] | 900 | 25 | 0.17 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Chromium [a] | 1.05 | 0.050 | 0.0031 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cobalt [a] | 0.224 J | 0.25 | 0.0012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Copper [a] | 6.51 | 0.10 | 0.014 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Iron [a] | 655 | 0.50 | 0.15 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Lead [a] | 0.985 | 0.015 | 0.0039 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Magnesium [a] | 75.4 | 25 | 0.094 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Manganese [a] | 12.8 | 0.075 | 0.0013 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Mercury | 0.668 | 0.040 | 0.010 | mg/l | 200 | 10/01/14 | 10/01/14 | CC | SW846 7470A [2] | SW846 7470A [4] |
| Nickel [a] | 3.44 | 0.20 | 0.0020 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Potassium [a] | 182 | 25 | 0.26 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Selenium [a] | 0.0740 | 0.025 | 0.012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Silver [a] | 0.0103 J | 0.050 | 0.0030 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Sodium [a] | 2440 | 25 | 0.11 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Thallium [b] | 0.021 U | 0.10 | 0.021 | mg/l | 10 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Vanadium [a] | 0.407 | 0.25 | 0.0026 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Zinc [a] | 40.1 | 0.10 | 0.0074 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA10201
(2) Instrument QC Batch: MA10205
(3) Prep QC Batch: MP24295
(4) Prep QC Batch: MP24314

(a) Elevated reporting limit due to dilution required for high interfering element.
(b) Elevated reporting limit due to dilution required for matrix interference.

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:** | S.TANK 2 | | |
| **Lab Sample ID:** | TC55519-1 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| | | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**General Chemistry**

| Analyte | Result | MQL | SDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Solids, Total Suspended | 53700 | 300 | 150 | mg/l | 1 | 09/30/14 | MS | SM 2540D |
| Total Organic Carbon | 17100 | 500 | 160 | mg/l | 500 | 09/30/14 15:45 | ES | SM5310B/9060A |

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:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | E0035911.D | 200 | 10/01/14 | KD | n/a | n/a | VE1625 |
| Run #2 | E0035912.D | 2000 | 10/01/14 | KD | n/a | n/a | VE1625 |

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

**VOA 8260 List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 36600 | 10000 | 2000 | ug/l | |
| 71-43-2 | Benzene | 2020 | 200 | 68 | ug/l | |
| 108-86-1 | Bromobenzene | 59 U | 200 | 59 | ug/l | |
| 74-97-5 | Bromochloromethane | 84 U | 200 | 84 | ug/l | |
| 75-27-4 | Bromodichloromethane | 68 U | 200 | 68 | ug/l | |
| 75-25-2 | Bromoform | 87 U | 200 | 87 | ug/l | |
| 104-51-8 | n-Butylbenzene | 8030 | 200 | 78 | ug/l | |
| 135-98-8 | sec-Butylbenzene | 91 U | 200 | 91 | ug/l | |
| 98-06-6 | tert-Butylbenzene | 89 U | 200 | 89 | ug/l | |
| 108-90-7 | Chlorobenzene | 20100 | 200 | 53 | ug/l | |
| 75-00-3 | Chloroethane | 140 U | 200 | 140 | ug/l | |
| 67-66-3 | Chloroform | 69 U | 200 | 69 | ug/l | |
| 95-49-8 | o-Chlorotoluene | 73 U | 200 | 73 | ug/l | |
| 106-43-4 | p-Chlorotoluene | 63 U | 200 | 63 | ug/l | |
| 75-15-0 | Carbon disulfide | 37000 [a] | 2000 | 720 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 87 U | 200 | 87 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 68 U | 200 | 68 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 90 U | 200 | 90 | ug/l | |
| 563-58-6 | 1,1-Dichloropropene | 120 U | 200 | 120 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 320 U | 400 | 320 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | 67 U | 200 | 67 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 70 U | 200 | 70 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 67 U | 200 | 67 | ug/l | |
| 142-28-9 | 1,3-Dichloropropane | 64 U | 200 | 64 | ug/l | |
| 594-20-7 | 2,2-Dichloropropane | 100 U | 200 | 100 | ug/l | |
| 124-48-1 | Dibromochloromethane | 74 U | 200 | 74 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane | 300 U | 400 | 300 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 80 U | 200 | 80 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 57 U | 200 | 57 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 66 U | 200 | 66 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 56 U | 200 | 56 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 63 U | 200 | 63 | 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:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 94 U | 200 | 94 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 64 U | 200 | 64 | ug/l | |
| 100-41-4 | Ethylbenzene | 48500 [a] | 2000 | 650 | ug/l | |
| 591-78-6 | 2-Hexanone | 510 U | 2000 | 510 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 98 U | 200 | 98 | ug/l | |
| 98-82-8 | Isopropylbenzene | 6690 | 200 | 80 | ug/l | |
| 99-87-6 | p-Isopropyltoluene | 73 U | 200 | 73 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | 9940 | 2000 | 430 | ug/l | |
| 74-83-9 | Methyl bromide | 100 U | 200 | 100 | ug/l | |
| 74-87-3 | Methyl chloride | 130 U | 200 | 130 | ug/l | |
| 74-95-3 | Methylene bromide | 90 U | 200 | 90 | ug/l | |
| 75-09-2 | Methylene chloride | 320 U | 1000 | 320 | ug/l | |
| 78-93-3 | Methyl ethyl ketone | 540 U | 2000 | 540 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 414 | 200 | 60 | ug/l | |
| 91-20-3 | Naphthalene | 16300 | 1000 | 310 | ug/l | |
| 103-65-1 | n-Propylbenzene | 6930 | 200 | 70 | ug/l | |
| 100-42-5 | Styrene | 2150 | 200 | 59 | ug/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 74 U | 200 | 74 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 86 U | 200 | 86 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 81 U | 200 | 81 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 69 U | 200 | 69 | ug/l | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 83 U | 200 | 83 | ug/l | |
| 96-18-4 | 1,2,3-Trichloropropane | 92 U | 200 | 92 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 81 U | 200 | 81 | ug/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 58100 [a] | 2000 | 640 | ug/l | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 16500 | 200 | 69 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 92 U | 200 | 92 | ug/l | |
| 108-88-3 | Toluene | 87100 [a] | 2000 | 650 | ug/l | |
| 79-01-6 | Trichloroethylene | 98 U | 200 | 98 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | 150 U | 200 | 150 | ug/l | |
| 75-01-4 | Vinyl chloride | 160 U | 200 | 160 | ug/l | |
| 1330-20-7 | Xylene (total) | 349000 [a] | 6000 | 1700 | ug/l | |
| | m,p-Xylene | 63700 | 400 | 120 | ug/l | |
| 95-47-6 | o-Xylene | 69100 [a] | 2000 | 560 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 108% | 108% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | 100% | 68-124% |
| 2037-26-5 | Toluene-D8 | 209% | 115% | 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:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 127% | 102% | 72-126% |

(a) Result is from Run# 2

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:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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] | P35749.D | 4 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 100 ml | 6.0 ml |
| Run #2 | | |

**ABN Full List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | 2400 U | 4800 | 2400 | ug/l | |
| 95-57-8 | 2-Chlorophenol | 230 U | 1200 | 230 | ug/l | |
| 59-50-7 | 4-Chloro-3-methyl phenol | 280 U | 1200 | 280 | ug/l | |
| 120-83-2 | 2,4-Dichlorophenol | 270 U | 1200 | 270 | ug/l | |
| 105-67-9 | 2,4-Dimethylphenol | 250 U | 1200 | 250 | ug/l | |
| 51-28-5 | 2,4-Dinitrophenol | 2400 U | 6000 | 2400 | ug/l | |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1300 U | 2400 | 1300 | ug/l | |
| 95-48-7 | 2-Methylphenol | 230 U | 1200 | 230 | ug/l | |
| | 3&4-Methylphenol | 260 U | 1200 | 260 | ug/l | |
| 88-75-5 | 2-Nitrophenol | 270 U | 1200 | 270 | ug/l | |
| 100-02-7 | 4-Nitrophenol | 1700 U | 6000 | 1700 | ug/l | |
| 87-86-5 | Pentachlorophenol | 2400 U | 6000 | 2400 | ug/l | |
| 108-95-2 | Phenol | 350 U | 1200 | 350 | ug/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | 230 U | 1200 | 230 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | 270 U | 1200 | 270 | ug/l | |
| 83-32-9 | Acenaphthene | 290 U | 1200 | 290 | ug/l | |
| 208-96-8 | Acenaphthylene | 280 U | 1200 | 280 | ug/l | |
| 62-53-3 | Aniline | 310 U | 1200 | 310 | ug/l | |
| 120-12-7 | Anthracene | 340 U | 1200 | 340 | ug/l | |
| 92-87-5 | Benzidine | 2400 U | 6000 | 2400 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 360 U | 1200 | 360 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 320 U | 1200 | 320 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 290 U | 1200 | 290 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 360 U | 1200 | 360 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 360 U | 1200 | 360 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | 280 U | 1200 | 280 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | 300 U | 1200 | 300 | ug/l | |
| 100-51-6 | Benzyl Alcohol | 210 U | 1200 | 210 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | 310 U | 1200 | 310 | ug/l | |
| 106-47-8 | 4-Chloroaniline | 260 U | 1200 | 260 | ug/l | |
| 86-74-8 | Carbazole | 330 U | 1200 | 330 | ug/l | |
| 218-01-9 | Chrysene | 380 U | 1200 | 380 | 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:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 280 U | 1200 | 280 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | 230 U | 1200 | 230 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 220 U | 1200 | 220 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 300 U | 1200 | 300 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | 260 U | 1200 | 260 | ug/l | |
| 122-66-7 | 1,2-Diphenylhydrazine | 320 U | 1200 | 320 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | 260 U | 1200 | 260 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | 260 U | 1200 | 260 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | 300 U | 1200 | 300 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | 240 U | 1200 | 240 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | 310 U | 2400 | 310 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 330 U | 1200 | 330 | ug/l | |
| 132-64-9 | Dibenzofuran | 300 U | 1200 | 300 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | 1020 | 1200 | 320 | ug/l | J |
| 117-84-0 | Di-n-octyl phthalate | 280 U | 1200 | 280 | ug/l | |
| 84-66-2 | Diethyl phthalate | 658 | 1200 | 330 | ug/l | J |
| 131-11-3 | Dimethyl phthalate | 330 U | 1200 | 330 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 350 U | 1200 | 350 | ug/l | |
| 206-44-0 | Fluoranthene | 330 U | 1200 | 330 | ug/l | |
| 86-73-7 | Fluorene | 300 U | 1200 | 300 | ug/l | |
| 118-74-1 | Hexachlorobenzene | 370 U | 1200 | 370 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 290 U | 1200 | 290 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | 290 U | 2400 | 290 | ug/l | |
| 67-72-1 | Hexachloroethane | 300 U | 1200 | 300 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 250 U | 1200 | 250 | ug/l | |
| 78-59-1 | Isophorone | 290 U | 1200 | 290 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 660 | 1200 | 260 | ug/l | J |
| 91-57-6 | 2-Methylnaphthalene | 1160 | 1200 | 300 | ug/l | J |
| 88-74-4 | 2-Nitroaniline | 310 U | 1200 | 310 | ug/l | |
| 99-09-2 | 3-Nitroaniline | 300 U | 1200 | 300 | ug/l | |
| 100-01-6 | 4-Nitroaniline | 320 U | 1200 | 320 | ug/l | |
| 91-20-3 | Naphthalene | 1890 | 1200 | 250 | ug/l | |
| 98-95-3 | Nitrobenzene | 280 U | 1200 | 280 | ug/l | |
| 62-75-9 | n-Nitrosodimethylamine | 250 U | 1200 | 250 | ug/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | 260 U | 1200 | 260 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine [b] | 7250 | 1200 | 340 | ug/l | |
| 85-01-8 | Phenanthrene | 360 U | 1200 | 360 | ug/l | |
| 129-00-0 | Pyrene | 340 U | 1200 | 340 | ug/l | |
| 110-86-1 | Pyridine | 300 U | 1200 | 300 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 250 U | 1200 | 250 | 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:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 39% | | 10-66% |
| 4165-62-2 | Phenol-d5 | 47% | | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 61% | | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 96% | | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 95% | | 23-138% |

(a) Elevated reporting limits due to matrix interference, final volume 6 ml. Dilution required due to high concentration of non-target compounds.
(b) N-Nitrosodiphenylamine decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | OO31449.D | 5 | 10/01/14 | SC | 10/01/14 | OP34144 | GOO524 |
| Run #2 [a] | OO31530.D | 5 | 10/03/14 | SC | 10/03/14 | OP34168 | GOO525 |

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

**PCB List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 11 U | 25 | 11 | ug/l | |
| 11104-28-2 | Aroclor 1221 | 10 U | 25 | 10 | ug/l | |
| 11141-16-5 | Aroclor 1232 | 8.5 U | 25 | 8.5 | ug/l | |
| 53469-21-9 | Aroclor 1242 | 6.0 U | 25 | 6.0 | ug/l | |
| 12672-29-6 | Aroclor 1248 | 5.0 U | 25 | 5.0 | ug/l | |
| 11097-69-1 | Aroclor 1254 | 5.0 U | 25 | 5.0 | ug/l | |
| 11096-82-5 | Aroclor 1260 | 6.0 U | 25 | 6.0 | ug/l | |

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

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits biased low. Confirmed by reextraction and reanalysis.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | LB105682.D | 100 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLB1560 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 4.1 ml | 3.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 8410 | 1800 | 590 | mg/l | |
| | TPH (> C12-C28) | 65400 | 1800 | 640 | mg/l | |
| | TPH (> C28-C35) | 13300 | 1800 | 640 | mg/l | |
| | TPH (C6-C35) | 87100 | 1800 | 590 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% [a] | | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 0% [a] | | 70-130% |

(a) Outside control limits due to dilution.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| | | **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 [a] | 49.9 | 1.0 | 0.088 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Antimony [a] | 0.0551 | 0.025 | 0.0053 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Arsenic [a] | 0.0435 | 0.025 | 0.023 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Barium [a] | 3.45 | 1.0 | 0.0020 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Beryllium [a] | 0.00090 U | 0.020 | 0.00090 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cadmium [a] | 0.0030 J | 0.020 | 0.0012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Calcium [a] | 195 | 25 | 0.17 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Chromium [a] | 0.198 | 0.050 | 0.0031 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cobalt [a] | 0.0400 J | 0.25 | 0.0012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Copper [a] | 1.14 | 0.10 | 0.014 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Iron [a] | 78.0 | 0.50 | 0.15 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Lead [a] | 0.134 | 0.015 | 0.0039 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Magnesium [a] | 27.8 | 25 | 0.094 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Manganese [a] | 3.34 | 0.075 | 0.0013 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Mercury | 0.00013 J | 0.00020 | 0.000050 | mg/l | 1 | 10/01/14 | 10/01/14 | CC | SW846 7470A [2] | SW846 7470A [4] |
| Nickel [a] | 8.81 | 0.20 | 0.0020 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Potassium [a] | 95.2 | 25 | 0.26 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Selenium [a] | 0.012 U | 0.025 | 0.012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Silver [a] | 2.24 | 0.050 | 0.0030 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Sodium [a] | 2270 | 25 | 0.11 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Thallium [a] | 0.010 U | 0.050 | 0.010 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Vanadium [a] | 0.0294 J | 0.25 | 0.0026 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Zinc [a] | 8.05 | 0.10 | 0.0074 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA10201
(2) Instrument QC Batch: MA10205
(3) Prep QC Batch: MP24295
(4) Prep QC Batch: MP24314

(a) Elevated reporting limit due to dilution required for matrix interference.

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:** | S.TANK 8 | | |
| **Lab Sample ID:** | TC55519-2 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| | | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**General Chemistry**

| Analyte | Result | MQL | SDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Solids, Total Suspended | 9440 | 120 | 60 | mg/l | 1 | 09/29/14 | MS | SM 2540D |
| Total Organic Carbon | 12900 | 500 | 160 | mg/l | 500 | 09/30/14 15:58 | ES | SM5310B/9060A |

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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | E0035913.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |
| Run #2 | E0035914.D | 500 | 10/01/14 | KD | n/a | n/a | VE1625 |

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

**VOA 8260 List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 25500 | 2500 | 500 | ug/l | |
| 71-43-2 | Benzene | 830 | 50 | 17 | ug/l | |
| 108-86-1 | Bromobenzene | 15 U | 50 | 15 | ug/l | |
| 74-97-5 | Bromochloromethane | 21 U | 50 | 21 | ug/l | |
| 75-27-4 | Bromodichloromethane | 17 U | 50 | 17 | ug/l | |
| 75-25-2 | Bromoform | 22 U | 50 | 22 | ug/l | |
| 104-51-8 | n-Butylbenzene | 1320 | 50 | 20 | ug/l | |
| 135-98-8 | sec-Butylbenzene | 129 | 50 | 23 | ug/l | |
| 98-06-6 | tert-Butylbenzene | 22 U | 50 | 22 | ug/l | |
| 108-90-7 | Chlorobenzene | 110 | 50 | 13 | ug/l | |
| 75-00-3 | Chloroethane | 36 U | 50 | 36 | ug/l | |
| 67-66-3 | Chloroform | 17 U | 50 | 17 | ug/l | |
| 95-49-8 | o-Chlorotoluene | 18 U | 50 | 18 | ug/l | |
| 106-43-4 | p-Chlorotoluene | 16 U | 50 | 16 | ug/l | |
| 75-15-0 | Carbon disulfide | 18 U | 50 | 18 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 22 U | 50 | 22 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 17 U | 50 | 17 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 23 U | 50 | 23 | ug/l | |
| 563-58-6 | 1,1-Dichloropropene | 31 U | 50 | 31 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 79 U | 100 | 79 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | 17 U | 50 | 17 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 18 U | 50 | 18 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 17 U | 50 | 17 | ug/l | |
| 142-28-9 | 1,3-Dichloropropane | 16 U | 50 | 16 | ug/l | |
| 594-20-7 | 2,2-Dichloropropane | 25 U | 50 | 25 | ug/l | |
| 124-48-1 | Dibromochloromethane | 18 U | 50 | 18 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane | 74 U | 100 | 74 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 20 U | 50 | 20 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 14 U | 50 | 14 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 17 U | 50 | 17 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 14 U | 50 | 14 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 16 U | 50 | 16 | ug/l | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 24 U | 50 | 24 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 16 U | 50 | 16 | ug/l | |
| 100-41-4 | Ethylbenzene | 2000 | 50 | 16 | ug/l | |
| 591-78-6 | 2-Hexanone | 130 U | 500 | 130 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 24 U | 50 | 24 | ug/l | |
| 98-82-8 | Isopropylbenzene | 329 | 50 | 20 | ug/l | |
| 99-87-6 | p-Isopropyltoluene | 122 | 50 | 18 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone | 1870 | 500 | 110 | ug/l | |
| 74-83-9 | Methyl bromide | 25 U | 50 | 25 | ug/l | |
| 74-87-3 | Methyl chloride | 32 U | 50 | 32 | ug/l | |
| 74-95-3 | Methylene bromide | 22 U | 50 | 22 | ug/l | |
| 75-09-2 | Methylene chloride | 81 U | 250 | 81 | ug/l | |
| 78-93-3 | Methyl ethyl ketone | 23200 | 500 | 140 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 328 | 50 | 15 | ug/l | |
| 91-20-3 | Naphthalene | 2450 | 250 | 78 | ug/l | |
| 103-65-1 | n-Propylbenzene | 373 | 50 | 18 | ug/l | |
| 100-42-5 | Styrene | 396 | 50 | 15 | ug/l | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 18 U | 50 | 18 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 21 U | 50 | 21 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20 U | 50 | 20 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 17 U | 50 | 17 | ug/l | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 21 U | 50 | 21 | ug/l | |
| 96-18-4 | 1,2,3-Trichloropropane | 23 U | 50 | 23 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 20 U | 50 | 20 | ug/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 3830 | 50 | 16 | ug/l | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 799 | 50 | 17 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 28.0 | 50 | 23 | ug/l | J |
| 108-88-3 | Toluene | 4230 | 50 | 16 | ug/l | |
| 79-01-6 | Trichloroethylene | 24 U | 50 | 24 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | 38 U | 50 | 38 | ug/l | |
| 75-01-4 | Vinyl chloride | 40 U | 50 | 40 | ug/l | |
| 1330-20-7 | Xylene (total) | 10500 | 150 | 43 | ug/l | |
| | m,p-Xylene | 7470 | 100 | 29 | ug/l | |
| 95-47-6 | o-Xylene | 3050 | 50 | 14 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 107% | 110% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 97% | 99% | 68-124% |
| 2037-26-5 | Toluene-D8 | 106% | 107% | 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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 100% | 100% | 72-126% |

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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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] | P35750.D | 2 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 100 ml | 12.0 ml |
| Run #2 | | |

**ABN Full List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | 2400 U | 4800 | 2400 | ug/l | |
| 95-57-8 | 2-Chlorophenol | 230 U | 1200 | 230 | ug/l | |
| 59-50-7 | 4-Chloro-3-methyl phenol | 280 U | 1200 | 280 | ug/l | |
| 120-83-2 | 2,4-Dichlorophenol | 270 U | 1200 | 270 | ug/l | |
| 105-67-9 | 2,4-Dimethylphenol | 250 U | 1200 | 250 | ug/l | |
| 51-28-5 | 2,4-Dinitrophenol | 2400 U | 6000 | 2400 | ug/l | |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1300 U | 2400 | 1300 | ug/l | |
| 95-48-7 | 2-Methylphenol | 423 | 1200 | 230 | ug/l | J |
| | 3&4-Methylphenol | 1200 | 1200 | 260 | ug/l | |
| 88-75-5 | 2-Nitrophenol | 270 U | 1200 | 270 | ug/l | |
| 100-02-7 | 4-Nitrophenol | 1700 U | 6000 | 1700 | ug/l | |
| 87-86-5 | Pentachlorophenol | 2400 U | 6000 | 2400 | ug/l | |
| 108-95-2 | Phenol | 1050 | 1200 | 350 | ug/l | J |
| 95-95-4 | 2,4,5-Trichlorophenol | 230 U | 1200 | 230 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | 270 U | 1200 | 270 | ug/l | |
| 83-32-9 | Acenaphthene | 290 U | 1200 | 290 | ug/l | |
| 208-96-8 | Acenaphthylene | 280 U | 1200 | 280 | ug/l | |
| 62-53-3 | Aniline | 310 U | 1200 | 310 | ug/l | |
| 120-12-7 | Anthracene | 340 U | 1200 | 340 | ug/l | |
| 92-87-5 | Benzidine | 2400 U | 6000 | 2400 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 360 U | 1200 | 360 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 320 U | 1200 | 320 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 290 U | 1200 | 290 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 360 U | 1200 | 360 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 360 U | 1200 | 360 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | 280 U | 1200 | 280 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | 300 U | 1200 | 300 | ug/l | |
| 100-51-6 | Benzyl Alcohol | 1750 | 1200 | 210 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | 310 U | 1200 | 310 | ug/l | |
| 106-47-8 | 4-Chloroaniline | 260 U | 1200 | 260 | ug/l | |
| 86-74-8 | Carbazole | 330 U | 1200 | 330 | ug/l | |
| 218-01-9 | Chrysene | 380 U | 1200 | 380 | 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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 280 U | 1200 | 280 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | 230 U | 1200 | 230 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 220 U | 1200 | 220 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 300 U | 1200 | 300 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | 260 U | 1200 | 260 | ug/l | |
| 122-66-7 | 1,2-Diphenylhydrazine | 320 U | 1200 | 320 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | 260 U | 1200 | 260 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | 260 U | 1200 | 260 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | 300 U | 1200 | 300 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | 240 U | 1200 | 240 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | 310 U | 2400 | 310 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 330 U | 1200 | 330 | ug/l | |
| 132-64-9 | Dibenzofuran | 300 U | 1200 | 300 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | 1140 | 1200 | 320 | ug/l | J |
| 117-84-0 | Di-n-octyl phthalate | 280 U | 1200 | 280 | ug/l | |
| 84-66-2 | Diethyl phthalate | 766 | 1200 | 330 | ug/l | J |
| 131-11-3 | Dimethyl phthalate | 330 U | 1200 | 330 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 6730 | 1200 | 350 | ug/l | |
| 206-44-0 | Fluoranthene | 330 U | 1200 | 330 | ug/l | |
| 86-73-7 | Fluorene | 582 | 1200 | 300 | ug/l | J |
| 118-74-1 | Hexachlorobenzene | 370 U | 1200 | 370 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | 290 U | 1200 | 290 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | 290 U | 2400 | 290 | ug/l | |
| 67-72-1 | Hexachloroethane | 300 U | 1200 | 300 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 250 U | 1200 | 250 | ug/l | |
| 78-59-1 | Isophorone | 290 U | 1200 | 290 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 4460 | 1200 | 260 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 7240 | 1200 | 300 | ug/l | |
| 88-74-4 | 2-Nitroaniline | 310 U | 1200 | 310 | ug/l | |
| 99-09-2 | 3-Nitroaniline | 300 U | 1200 | 300 | ug/l | |
| 100-01-6 | 4-Nitroaniline | 320 U | 1200 | 320 | ug/l | |
| 91-20-3 | Naphthalene | 21900 | 1200 | 250 | ug/l | |
| 98-95-3 | Nitrobenzene | 280 U | 1200 | 280 | ug/l | |
| 62-75-9 | n-Nitrosodimethylamine | 250 U | 1200 | 250 | ug/l | |
| 621-64-7 | N-Nitroso-di-n-propylamine | 260 U | 1200 | 260 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine [b] | 8810 | 1200 | 340 | ug/l | |
| 85-01-8 | Phenanthrene | 703 | 1200 | 360 | ug/l | J |
| 129-00-0 | Pyrene | 340 U | 1200 | 340 | ug/l | |
| 110-86-1 | Pyridine | 300 U | 1200 | 300 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 250 U | 1200 | 250 | 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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | 30% | | 10-66% |
| 4165-62-2 | Phenol-d5 | 47% | | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 39% | | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 103% | | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 64% | | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 71% | | 23-138% |

(a) Elevated reporting limits due to matrix interference, final volume 12 ml. Dilution required due to high concentration of non-target compounds.
(b) N-Nitrosodiphenylamine decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | OO31450.D | 5 | 10/01/14 | SC | 10/01/14 | OP34144 | GOO524 |
| Run #2 [a] | OO31531.D | 5 | 10/03/14 | SC | 10/03/14 | OP34168 | GOO525 |

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

**PCB List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 11 U | 25 | 11 | ug/l | |
| 11104-28-2 | Aroclor 1221 | 10 U | 25 | 10 | ug/l | |
| 11141-16-5 | Aroclor 1232 | 8.5 U | 25 | 8.5 | ug/l | |
| 53469-21-9 | Aroclor 1242 | 6.0 U | 25 | 6.0 | ug/l | |
| 12672-29-6 | Aroclor 1248 | 5.0 U | 25 | 5.0 | ug/l | |
| 11097-69-1 | Aroclor 1254 | 5.0 U | 25 | 5.0 | ug/l | |
| 11096-82-5 | Aroclor 1260 | 6.0 U | 25 | 6.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 0% [b] | 0% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 0% [b] | 14% | 27-119% |

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits biased low. Confirmed by reextraction and reanalysis.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| **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 | LB105778.D | 25 | 10/01/14 | ZL | 09/29/14 | OP34111 | GLB1561 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 32.2 ml | 3.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 792 | 58 | 19 | mg/l | |
| | TPH (> C12-C28) | 5030 | 58 | 20 | mg/l | |
| | TPH (> C28-C35) | 3610 | 58 | 20 | mg/l | |
| | TPH (C6-C35) | 9430 | 58 | 19 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% [a] | | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 0% [a] | | 70-130% |

(a) Outside control limits due to dilution.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| | | **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 [a] | 47.9 | 1.0 | 0.088 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Antimony [a] | 0.0972 | 0.025 | 0.0053 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Arsenic [a] | 0.0249 J | 0.025 | 0.023 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Barium [a] | 3.93 | 1.0 | 0.0020 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Beryllium [a] | 0.0023 J | 0.020 | 0.00090 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cadmium [a] | 0.0126 J | 0.020 | 0.0012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Calcium [a] | 768 | 25 | 0.17 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Chromium [a] | 0.485 | 0.050 | 0.0031 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Cobalt [a] | 0.210 J | 0.25 | 0.0012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Copper [a] | 3.28 | 0.10 | 0.014 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Iron [a] | 835 | 0.50 | 0.15 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Lead [a] | 0.505 | 0.015 | 0.0039 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Magnesium [a] | 105 | 25 | 0.094 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Manganese [a] | 12.5 | 0.075 | 0.0013 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Mercury | 0.0603 | 0.010 | 0.0025 | mg/l | 50 | 10/01/14 | 10/01/14 | CC | SW846 7470A [2] | SW846 7470A [4] |
| Nickel [a] | 2.59 | 0.20 | 0.0020 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Potassium [a] | 110 | 25 | 0.26 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Selenium [a] | 0.0247 J | 0.025 | 0.012 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Silver [a] | 0.0123 J | 0.050 | 0.0030 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Sodium [a] | 1550 | 25 | 0.11 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Thallium [a] | 0.010 U | 0.050 | 0.010 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Vanadium [a] | 0.577 | 0.25 | 0.0026 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |
| Zinc [a] | 62.3 | 0.10 | 0.0074 | mg/l | 5 | 09/30/14 | 10/01/14 | NS | SW846 6010B [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA10201
(2) Instrument QC Batch: MA10205
(3) Prep QC Batch: MP24295
(4) Prep QC Batch: MP24314

(a) Elevated reporting limit due to dilution required for matrix interference.

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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3 | **Date Sampled:** | 09/25/14 |
| **Matrix:** | AQ - Water | **Date Received:** | 09/25/14 |
| | | **Percent Solids:** | n/a |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**General Chemistry**

| Analyte | Result | MQL | SDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Solids, Total Suspended | 9860 | 120 | 60 | mg/l | 1 | 09/29/14 | MS | SM 2540D |
| Total Organic Carbon | 12200 | 500 | 160 | mg/l | 500 | 09/30/14 16:10 | ES | SM5310B/9060A |

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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | SW846 8260C | **Percent Solids:** | n/a [a] |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | R025462.D | 20 | 10/01/14 | FI | n/a | n/a | VR851 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 5.04 g | 5.0 ml | 100 ul |
| Run #2 | | | |

**VOA 8260 List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 9900 U | 40000 | 9900 | ug/kg | |
| 71-43-2 | Benzene | 12500 | 4000 | 670 | ug/kg | |
| 108-86-1 | Bromobenzene | 400 U | 4000 | 400 | ug/kg | |
| 74-97-5 | Bromochloromethane | 1100 U | 4000 | 1100 | ug/kg | |
| 75-27-4 | Bromodichloromethane | 450 U | 4000 | 450 | ug/kg | |
| 75-25-2 | Bromoform | 750 U | 4000 | 750 | ug/kg | |
| 104-51-8 | n-Butylbenzene | 24800 | 4000 | 440 | ug/kg | |
| 135-98-8 | sec-Butylbenzene | 2700 | 4000 | 870 | ug/kg | J |
| 98-06-6 | tert-Butylbenzene | 770 U | 4000 | 770 | ug/kg | |
| 108-90-7 | Chlorobenzene | 3830 | 4000 | 920 | ug/kg | J |
| 75-00-3 | Chloroethane | 1600 U | 4000 | 1600 | ug/kg | |
| 67-66-3 | Chloroform | 430 U | 4000 | 430 | ug/kg | |
| 95-49-8 | o-Chlorotoluene | 470 U | 4000 | 470 | ug/kg | |
| 106-43-4 | p-Chlorotoluene | 410 U | 4000 | 410 | ug/kg | |
| 75-15-0 | Carbon disulfide | 580 U | 4000 | 580 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | 860 U | 4000 | 860 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | 410 U | 4000 | 410 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | 410 U | 4000 | 410 | ug/kg | |
| 563-58-6 | 1,1-Dichloropropene | 440 U | 4000 | 440 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3100 U | 4000 | 3100 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | 420 U | 4000 | 420 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | 470 U | 4000 | 470 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | 580 U | 4000 | 580 | ug/kg | |
| 142-28-9 | 1,3-Dichloropropane | 1000 U | 4000 | 1000 | ug/kg | |
| 594-20-7 | 2,2-Dichloropropane | 540 U | 4000 | 540 | ug/kg | |
| 124-48-1 | Dibromochloromethane | 900 U | 4000 | 900 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | 1100 U | 4000 | 1100 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | 450 U | 4000 | 450 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | 450 U | 4000 | 450 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | 620 U | 4000 | 620 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | 960 U | 4000 | 960 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | 860 U | 4000 | 860 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | SW846 8260C | **Percent Solids:** | n/a [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 | 430 U | 4000 | 430 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | 510 U | 4000 | 510 | ug/kg | |
| 100-41-4 | Ethylbenzene | 58200 | 4000 | 960 | ug/kg | |
| 591-78-6 | 2-Hexanone | 7300 U | 40000 | 7300 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | 690 U | 4000 | 690 | ug/kg | |
| 98-82-8 | Isopropylbenzene | 10700 | 4000 | 1100 | ug/kg | |
| 99-87-6 | p-Isopropyltoluene | 2560 | 4000 | 1300 | ug/kg | J |
| 108-10-1 | 4-Methyl-2-pentanone | 6200 U | 40000 | 6200 | ug/kg | |
| 74-83-9 | Methyl bromide | 1800 U | 4000 | 1800 | ug/kg | |
| 74-87-3 | Methyl chloride | 760 U | 4000 | 760 | ug/kg | |
| 74-95-3 | Methylene bromide | 640 U | 4000 | 640 | ug/kg | |
| 75-09-2 | Methylene chloride | 2500 U | 9900 | 2500 | ug/kg | |
| 78-93-3 | Methyl ethyl ketone | 8770 | 40000 | 5000 | ug/kg | J |
| 1634-04-4 | Methyl Tert Butyl Ether | 500 U | 4000 | 500 | ug/kg | |
| 91-20-3 | Naphthalene | 107000 | 4000 | 2000 | ug/kg | |
| 103-65-1 | n-Propylbenzene | 10200 | 4000 | 1000 | ug/kg | |
| 100-42-5 | Styrene | 15100 | 4000 | 910 | ug/kg | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 500 U | 4000 | 500 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | 620 U | 4000 | 620 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 670 U | 4000 | 670 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | 660 U | 4000 | 660 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 520 U | 4000 | 520 | ug/kg | |
| 96-18-4 | 1,2,3-Trichloropropane | 900 U | 4000 | 900 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 490 U | 4000 | 490 | ug/kg | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 75600 | 4000 | 400 | ug/kg | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 17000 | 4000 | 930 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | 1000 U | 4000 | 1000 | ug/kg | |
| 108-88-3 | Toluene | 108000 | 4000 | 1000 | ug/kg | |
| 79-01-6 | Trichloroethylene | 460 U | 4000 | 460 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | 620 U | 4000 | 620 | ug/kg | |
| 75-01-4 | Vinyl chloride | 580 U | 4000 | 580 | ug/kg | |
| 1330-20-7 | Xylene (total) | 299000 | 12000 | 2800 | ug/kg | |
| | m,p-Xylene | 216000 | 7900 | 1800 | ug/kg | |
| 95-47-6 | o-Xylene | 83700 | 4000 | 1000 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 94% | | 59-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 70-139% |
| 460-00-4 | 4-Bromofluorobenzene | 83% | | 63-138% |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | SW846 8260C | **Percent Solids:** | n/a [a] |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**VOA 8260 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 84% | | 54-123% |

(a) All results reported on a wet weight basis.

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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | SW846 8270D SW846 3550B | **Percent Solids:** | n/a [a] |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [b] | O12295.D | 10 | 09/30/14 | GJ | 09/29/14 | OP34114 | EO683 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 3.02 g | 1.0 ml |
| Run #2 | | |

**ABN Full List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic acid | 58800 | 83000 | 26000 | ug/kg | J |
| 95-57-8 | 2-Chlorophenol | 7200 U | 17000 | 7200 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | 10400 | 17000 | 5700 | ug/kg | J |
| 120-83-2 | 2,4-Dichlorophenol | 5300 U | 17000 | 5300 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | 5700 U | 17000 | 5700 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | 26000 U | 83000 | 26000 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | 3900 U | 33000 | 3900 | ug/kg | |
| 95-48-7 | 2-Methylphenol | 7200 U | 17000 | 7200 | ug/kg | |
| | 3&4-Methylphenol | 7200 U | 17000 | 7200 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | 5600 U | 17000 | 5600 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | 4700 U | 83000 | 4700 | ug/kg | |
| 87-86-5 | Pentachlorophenol | 12000 U | 83000 | 12000 | ug/kg | |
| 108-95-2 | Phenol | 12100 | 17000 | 7600 | ug/kg | J |
| 95-95-4 | 2,4,5-Trichlorophenol | 5200 U | 17000 | 5200 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | 4300 U | 17000 | 4300 | ug/kg | |
| 83-32-9 | Acenaphthene | 4700 U | 17000 | 4700 | ug/kg | |
| 208-96-8 | Acenaphthylene | 4500 U | 17000 | 4500 | ug/kg | |
| 62-53-3 | Aniline | 6800 U | 83000 | 6800 | ug/kg | |
| 120-12-7 | Anthracene | 4200 U | 17000 | 4200 | ug/kg | |
| 92-87-5 | Benzidine | 320000 U | 660000 | 320000 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 6500 U | 17000 | 6500 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 5200 U | 17000 | 5200 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 4200 U | 17000 | 4200 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 4500 U | 17000 | 4500 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 7300 U | 17000 | 7300 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | 5000 U | 17000 | 5000 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | 5400 U | 17000 | 5400 | ug/kg | |
| 100-51-6 | Benzyl Alcohol | 13800 | 17000 | 6500 | ug/kg | J |
| 91-58-7 | 2-Chloronaphthalene | 4800 U | 17000 | 4800 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | 6200 U | 17000 | 6200 | ug/kg | |
| 86-74-8 | Carbazole | 5300 U | 17000 | 5300 | ug/kg | |
| 218-01-9 | Chrysene | 7100 U | 17000 | 7100 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | SW846 8270D SW846 3550B | **Percent Solids:** | n/a [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 | 5200 U | 17000 | 5200 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | 7300 U | 17000 | 7300 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 6400 U | 17000 | 6400 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 6400 U | 17000 | 6400 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | 6700 U | 17000 | 6700 | ug/kg | |
| 122-66-7 | 1,2-Diphenylhydrazine | 4200 U | 17000 | 4200 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | 5900 U | 17000 | 5900 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | 6200 U | 17000 | 6200 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | 5200 U | 17000 | 5200 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | 4600 U | 17000 | 4600 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | 6300 U | 33000 | 6300 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 5800 U | 17000 | 5800 | ug/kg | |
| 132-64-9 | Dibenzofuran | 5400 U | 17000 | 5400 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | 5200 U | 17000 | 5200 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | 4400 U | 17000 | 4400 | ug/kg | |
| 84-66-2 | Diethyl phthalate | 4800 U | 17000 | 4800 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | 4700 U | 17000 | 4700 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 17300 | 17000 | 13000 | ug/kg | |
| 206-44-0 | Fluoranthene | 5500 U | 17000 | 5500 | ug/kg | |
| 86-73-7 | Fluorene | 4900 U | 17000 | 4900 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | 5400 U | 17000 | 5400 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | 6100 U | 17000 | 6100 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | 7900 U | 83000 | 7900 | ug/kg | |
| 67-72-1 | Hexachloroethane | 6100 U | 17000 | 6100 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 6000 U | 17000 | 6000 | ug/kg | |
| 78-59-1 | Isophorone | 5100 U | 17000 | 5100 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | 8860 | 17000 | 6300 | ug/kg | J |
| 91-57-6 | 2-Methylnaphthalene | 14200 | 17000 | 6300 | ug/kg | J |
| 88-74-4 | 2-Nitroaniline | 5200 U | 17000 | 5200 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | 4900 U | 17000 | 4900 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | 5500 U | 33000 | 5500 | ug/kg | |
| 91-20-3 | Naphthalene | 45600 | 17000 | 6000 | ug/kg | |
| 98-95-3 | Nitrobenzene | 4800 U | 17000 | 4800 | ug/kg | |
| 62-75-9 | n-Nitrosodimethylamine | 5200 U | 17000 | 5200 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | 6800 U | 17000 | 6800 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | 17400 | 17000 | 4700 | ug/kg | |
| 85-01-8 | Phenanthrene | 4700 U | 17000 | 4700 | ug/kg | |
| 129-00-0 | Pyrene | 7400 U | 17000 | 7400 | ug/kg | |
| 110-86-1 | Pyridine | 4400 U | 17000 | 4400 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 5900 U | 17000 | 5900 | ug/kg | |

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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | SW846 8270D SW846 3550B | **Percent Solids:** | n/a [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 | 47% | | 26-124% |
| 4165-62-2 | Phenol-d5 | 56% | | 19-106% |
| 118-79-6 | 2,4,6-Tribromophenol | 69% | | 18-129% |
| 4165-60-0 | Nitrobenzene-d5 | 56% | | 18-104% |
| 321-60-8 | 2-Fluorobiphenyl | 60% | | 21-114% |
| 1718-51-0 | Terphenyl-d14 | 68% | | 24-149% |

(a) All results reported on a wet weight basis.
(b) 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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | SW846 8082 SW846 3550B | **Percent Solids:** | n/a [a] |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [b] | OO31422.D | 5 | 10/01/14 | SC | 09/29/14 | OP34112 | GOO523 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 3.14 g | 10.0 ml |
| Run #2 | | |

**PCB List**

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 160 U | 800 | 160 | ug/kg | |
| 11104-28-2 | Aroclor 1221 | 320 U | 800 | 320 | ug/kg | |
| 11141-16-5 | Aroclor 1232 | 320 U | 800 | 320 | ug/kg | |
| 53469-21-9 | Aroclor 1242 | 160 U | 800 | 160 | ug/kg | |
| 12672-29-6 | Aroclor 1248 | 190 U | 800 | 190 | ug/kg | |
| 11097-69-1 | Aroclor 1254 | 180 U | 800 | 180 | ug/kg | |
| 11096-82-5 | Aroclor 1260 | 410 U | 800 | 410 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 64% | | 30-118% |
| 2051-24-3 | Decachlorobiphenyl | 44% | | 29-122% |

(a) All results reported on a wet weight basis.
(b) Elevated reporting limits due to matrix interference, extract was viscous.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| **Method:** | TNRCC 1005 TX1005 | **Percent Solids:** | n/a [a] |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | LB105648.D | 25 | 09/30/14 | ZL | 09/29/14 | OP34109 | GLB1560 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 10.0 g | 10.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | MQL | SDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 581 | 620 | 340 | mg/kg | J |
| | TPH (> C12-C28) | 2480 | 620 | 340 | mg/kg | |
| | TPH (> C28-C35) | 1660 | 620 | 340 | mg/kg | |
| | TPH (C6-C35) | 4720 | 620 | 340 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% [b] | | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 0% [b] | | 70-130% |

(a) All results reported on a wet weight basis.
(b) Outside control limits due to dilution.

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| | | **Percent Solids:** | n/a [a] |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**Metals Analysis**

| Analyte | Result | MQL | SDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 1190 | 10 | 1.2 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Antimony | 1.2 | 0.25 | 0.090 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Arsenic | 0.44 | 0.25 | 0.087 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Barium | 601 | 10 | 0.013 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Beryllium | 0.034 U | 0.20 | 0.034 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Cadmium | 0.26 | 0.20 | 0.013 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Calcium | 1710 | 250 | 0.39 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Chromium | 7.7 | 0.50 | 0.070 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Cobalt | 0.95 J | 2.5 | 0.020 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Copper | 48.8 | 1.0 | 0.11 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Iron | 1650 | 5.0 | 0.72 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Lead | 7.1 | 0.15 | 0.11 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Magnesium | 77.6 J | 250 | 1.4 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Manganese | 12.7 | 0.75 | 0.020 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Mercury | 0.77 | 0.029 | 0.012 | mg/kg | 1 | 09/30/14 | 09/30/14 | CC | SW846 7471A [1] | SW846 7471A [4] |
| Nickel | 10.5 | 2.0 | 0.038 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Potassium | 67.6 J | 250 | 2.1 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Selenium | 0.12 J | 0.25 | 0.094 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Silver | 0.30 J | 0.50 | 0.035 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Sodium | 832 | 250 | 0.77 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Thallium | 0.12 U | 0.50 | 0.12 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Vanadium | 2.0 J | 2.5 | 0.021 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |
| Zinc | 623 | 1.0 | 0.28 | mg/kg | 1 | 09/29/14 | 09/30/14 | NS | SW846 6010B [2] | SW846 3050B [3] |

(1) Instrument QC Batch: MA10200
(2) Instrument QC Batch: MA10201
(3) Prep QC Batch: MP24288
(4) Prep QC Batch: MP24298

(a) All results reported on a wet weight basis.

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:** | S.TANK 5 | | |
| **Lab Sample ID:** | TC55519-3A | **Date Sampled:** | 09/25/14 |
| **Matrix:** | SO - Sludge | **Date Received:** | 09/25/14 |
| | | **Percent Solids:** | n/a [a] |
| **Project:** | CES- Chemical Spill/4904 Griggs, Houston, TX | | |

**General Chemistry**

| Analyte | Result | MQL | SDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon [b] | 61200 | 1000 | 250 | mg/kg | 1 | 10/03/14 17:09 | AFL | SW846 9060A M |

(a) All results reported on a wet weight basis.
(b) Analysis performed at Accutest Laboratories, Orlando, FL.

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

ACCUTEST Laboratories

# CHAIN OF CUSTODY

PAGE ___ OF ___

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

FED-EX Tracking #: 
Bottle Order Control #: 
Accutest Quote #: 
Accutest Job #: TC55519

**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**

| Accutest Sample # | Field ID / Point of Collection | Collection Date | Collection Time | Sampled By | Matrix | # of bottles | HCl | NaOH | Zn/NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | TSP | NaHSO4 | EnCORE | OTHER | VOCs | SVOCs | Metals | PCBs | TPH | TSS | TOC | | | | | | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | S. Tank 2 | 9/25/14 | 1015 | | | 12 | | | | | | | | | | | | X | X | X | X | X | X | X | X | | | | | | |
| 2 | S. Tank 8 | 9/25/14 | 1220 | | | 12 | | | | | | | | | | | | X | X | X | X | X | X | X | X | | | | | | |
| 3 | S. Tank 5 | 9/25/14 | 1405 | | | 12 | | | | | | | | | | | | X | X | X | X | X | X | X | X | | | | | | |

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

**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.** 1600

| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 [signature] | 9/25/14 1515 | 1 Dennis Melder | 2 Dennis Melder | 9-25-14 | 2 [signature] |
| 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. |

**TC55519: Chain of Custody**
**Page 1 of 5**

# Accutest Laboratories Sample Receipt Summary



**Accutest Job Number:** TC55519 **Client:** WESTON SOLUTIONS **Project:** CES

**Date / Time Received:** 9/25/2014 2:24:00 PM **Delivery Method:** **Airbill #'s:**

**No. Coolers:** 2 **Therm ID:** IR6; **Temp Adjustment Factor:** 0;

**Cooler Temps (Initial/Adjusted):** #1: (2.8/2.8); #2: (3.8/3.8);

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

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

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

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

| Sample Integrity - Instructions | Y | 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
Matrix on sample "s tank 8" is biphasic water & oil.
Matrix on sample "s tank 2" is biphasic water & oil.
Matrix on sample "s tank 5" is water & sludge.
All vials on all samples have headspace >6mm.

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

## Problem Resolution

**Accutest Job Number:** TC55519

**CSR:** _____ **Response Date:** _____

**Response:**

# Sample Receipt Log

**Job #:** TC55519 **Date / Time Received:** 9/25/2014 4:08:00 PM **Initials:** BG

**Client:** WESTON SOLUTIONS

| Cooler # | Sample ID: | Vol | Bot # | Location | Pres | pH | Therm ID | Initial Temp | Therm CF | Corrected Temp |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TC55519-1 | LAG | 1 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | LAG | 2 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | LAG | 3 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 32oz | 4 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 5 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 6 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 7 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 8 | 4W | HCL | pH < 2 | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 9 | 4W | HCL | pH < 2 | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 10 | 4W | HCL | pH < 2 | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 11 | 1E | HCL | pH < 2 | IR6 | 2.8 | 0 | 2.8 |
| 1 | TC55519-1 | 40ml | 12 | 1E | HCL | pH < 2 | IR6 | 2.8 | 0 | 2.8 |
| 2 | TC55519-2 | LAG | 1 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | LAG | 2 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | LAG | 3 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 32oz | 4 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 40ml | 5 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 40ml | 6 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 40ml | 7 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 40ml | 8 | 4W | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 40ml | 9 | 4W | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 40ml | 10 | 4W | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-2 | 40ml | 11 | 1E | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |

# Sample Receipt Log

**Job #:** TC55519 **Date / Time Received:** 9/25/2014 4:08:00 PM **Initials:** BG

**Client:** WESTON SOLUTIONS

| Cooler # | Sample ID: | Vol | Bot # | Location | Pres | pH | Therm ID | Initial Temp | Therm CF | Corrected Temp |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | TC55519-2 | 40ml | 12 | 1E | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | LAG | 1 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | LAG | 2 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | LAG | 3 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 32oz | 4 | 4W | N/P | Note #2 - Preservative check not applicable. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 5 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 6 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 7 | VR | HCL | Note #1 - Preservative to be checked by analyst at the instrument. | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 8 | 4W | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 9 | 4W | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 10 | 4W | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 11 | 1E | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |
| 2 | TC55519-3 | 40ml | 12 | 1E | HCL | pH < 2 | IR6 | 3.8 | 0 | 3.8 |

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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VR851-MB | R025449.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |



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

TC55519-3A

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 39 | 9.8 | ug/kg | |
| 71-43-2 | Benzene | ND | 3.9 | 0.66 | ug/kg | |
| 108-86-1 | Bromobenzene | ND | 3.9 | 0.40 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 3.9 | 1.1 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 3.9 | 0.44 | ug/kg | |
| 75-25-2 | Bromoform | ND | 3.9 | 0.74 | ug/kg | |
| 104-51-8 | n-Butylbenzene | ND | 3.9 | 0.43 | ug/kg | |
| 135-98-8 | sec-Butylbenzene | ND | 3.9 | 0.86 | ug/kg | |
| 98-06-6 | tert-Butylbenzene | ND | 3.9 | 0.77 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 3.9 | 0.91 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 3.9 | 1.5 | ug/kg | |
| 67-66-3 | Chloroform | ND | 3.9 | 0.42 | ug/kg | |
| 95-49-8 | o-Chlorotoluene | ND | 3.9 | 0.47 | ug/kg | |
| 106-43-4 | p-Chlorotoluene | ND | 3.9 | 0.40 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 3.9 | 0.57 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 3.9 | 0.85 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 3.9 | 0.40 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 3.9 | 0.41 | ug/kg | |
| 563-58-6 | 1,1-Dichloropropene | ND | 3.9 | 0.44 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 3.9 | 3.1 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 3.9 | 0.41 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 3.9 | 0.47 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 3.9 | 0.57 | ug/kg | |
| 142-28-9 | 1,3-Dichloropropane | ND | 3.9 | 1.0 | ug/kg | |
| 594-20-7 | 2,2-Dichloropropane | ND | 3.9 | 0.53 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 3.9 | 0.89 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 3.9 | 1.1 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 3.9 | 0.45 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 3.9 | 0.44 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 3.9 | 0.61 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 3.9 | 0.95 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 3.9 | 0.85 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 3.9 | 0.43 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 3.9 | 0.50 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 3.9 | 0.95 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 39 | 7.3 | ug/kg | |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VR851-MB | R025449.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |



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

TC55519-3A

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | ND | 3.9 | 0.68 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 3.9 | 1.1 | ug/kg | |
| 99-87-6 | p-Isopropyltoluene | ND | 3.9 | 1.3 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 39 | 6.2 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 3.9 | 1.8 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 3.9 | 0.75 | ug/kg | |
| 74-95-3 | Methylene bromide | ND | 3.9 | 0.63 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 9.8 | 2.5 | ug/kg | |
| 78-93-3 | Methyl ethyl ketone | ND | 39 | 4.9 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 3.9 | 0.50 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 3.9 | 2.0 | ug/kg | |
| 103-65-1 | n-Propylbenzene | ND | 3.9 | 1.0 | ug/kg | |
| 100-42-5 | Styrene | ND | 3.9 | 0.90 | ug/kg | |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | 3.9 | 0.49 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 3.9 | 0.62 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 3.9 | 0.66 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 3.9 | 0.66 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 3.9 | 0.51 | ug/kg | |
| 96-18-4 | 1,2,3-Trichloropropane | ND | 3.9 | 0.89 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 3.9 | 0.49 | ug/kg | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 3.9 | 0.40 | ug/kg | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 3.9 | 0.92 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 3.9 | 0.99 | ug/kg | |
| 108-88-3 | Toluene | ND | 3.9 | 1.0 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 3.9 | 0.46 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 3.9 | 0.61 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 3.9 | 0.57 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 12 | 2.7 | ug/kg | |
| | m,p-Xylene | ND | 7.8 | 1.8 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 3.9 | 0.99 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 98% | 59-126% |
| 2037-26-5 | Toluene-D8 | 96% | 70-139% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VR851-MB | R025449.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |

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

TC55519-3A

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 84% | 63-138% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 85% | 54-123% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1625-MB | E0035898.D | 1 | 10/01/14 | KD | n/a | n/a | VE1625 |



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

TC55519-1, TC55519-2, TC55519-3

| 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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1625-MB | E0035898.D | 1 | 10/01/14 | KD | n/a | n/a | VE1625 |



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

TC55519-1, TC55519-2, TC55519-3

| 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 | 109% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98% | 68-124% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1625-MB | E0035898.D | 1 | 10/01/14 | KD | n/a | n/a | VE1625 |

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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 107% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | 72-126% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1626-MB | E0035937.D | 1 | 10/02/14 | KD | n/a | n/a | VE1626 |

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

TC55519-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-88-3 | Toluene | ND | 1.0 | 0.33 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 107% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | 68-124% |
| 2037-26-5 | Toluene-D8 | 105% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 72-126% |

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VR851-BS | R025447.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |



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

TC55519-3A

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 249 | 242 | 97 | 43-141 |
| 71-43-2 | Benzene | 49.8 | 48.4 | 97 | 58-124 |
| 108-86-1 | Bromobenzene | 49.8 | 45.3 | 91 | 72-110 |
| 74-97-5 | Bromochloromethane | 49.8 | 48.6 | 98 | 71-122 |
| 75-27-4 | Bromodichloromethane | 49.8 | 46.6 | 94 | 72-119 |
| 75-25-2 | Bromoform | 49.8 | 48.9 | 98 | 61-120 |
| 104-51-8 | n-Butylbenzene | 49.8 | 45.7 | 92 | 58-118 |
| 135-98-8 | sec-Butylbenzene | 49.8 | 44.9 | 90 | 63-119 |
| 98-06-6 | tert-Butylbenzene | 49.8 | 42.2 | 85 | 67-121 |
| 108-90-7 | Chlorobenzene | 49.8 | 45.9 | 92 | 74-116 |
| 75-00-3 | Chloroethane | 49.8 | 55.2 | 111 | 48-133 |
| 67-66-3 | Chloroform | 49.8 | 47.7 | 96 | 72-119 |
| 95-49-8 | o-Chlorotoluene | 49.8 | 41.7 | 84 | 65-121 |
| 106-43-4 | p-Chlorotoluene | 49.8 | 45.4 | 91 | 67-118 |
| 75-15-0 | Carbon disulfide | 49.8 | 46.2 | 93 | 45-133 |
| 56-23-5 | Carbon tetrachloride | 49.8 | 47.5 | 95 | 58-128 |
| 75-34-3 | 1,1-Dichloroethane | 49.8 | 49.7 | 100 | 69-122 |
| 75-35-4 | 1,1-Dichloroethylene | 49.8 | 47.7 | 96 | 60-131 |
| 563-58-6 | 1,1-Dichloropropene | 49.8 | 49.3 | 99 | 66-123 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 49.8 | 48.2 | 97 | 55-125 |
| 106-93-4 | 1,2-Dibromoethane | 49.8 | 47.6 | 96 | 73-120 |
| 107-06-2 | 1,2-Dichloroethane | 49.8 | 48.1 | 97 | 69-121 |
| 78-87-5 | 1,2-Dichloropropane | 49.8 | 48.2 | 97 | 71-121 |
| 142-28-9 | 1,3-Dichloropropane | 49.8 | 48.7 | 98 | 72-117 |
| 594-20-7 | 2,2-Dichloropropane | 49.8 | 49.6 | 100 | 57-129 |
| 124-48-1 | Dibromochloromethane | 49.8 | 47.2 | 95 | 71-121 |
| 75-71-8 | Dichlorodifluoromethane | 49.8 | 41.8 | 84 | 22-158 |
| 156-59-2 | cis-1,2-Dichloroethylene | 49.8 | 47.7 | 96 | 70-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 49.8 | 48.0 | 96 | 75-117 |
| 541-73-1 | m-Dichlorobenzene | 49.8 | 44.5 | 89 | 70-119 |
| 95-50-1 | o-Dichlorobenzene | 49.8 | 44.7 | 90 | 73-116 |
| 106-46-7 | p-Dichlorobenzene | 49.8 | 45.6 | 92 | 70-119 |
| 156-60-5 | trans-1,2-Dichloroethylene | 49.8 | 46.4 | 93 | 62-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 49.8 | 52.0 | 104 | 78-125 |
| 100-41-4 | Ethylbenzene | 49.8 | 47.5 | 95 | 57-124 |
| 591-78-6 | 2-Hexanone | 249 | 252 | 101 | 58-124 |

* = Outside of Control Limits.

# Blank Spike Summary

**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VR851-BS | R025447.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |



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

TC55519-3A

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | 49.8 | 50.2 | 101 | 57-127 |
| 98-82-8 | Isopropylbenzene | 49.8 | 43.6 | 88 | 77-135 |
| 99-87-6 | p-Isopropyltoluene | 49.8 | 47.0 | 94 | 66-120 |
| 108-10-1 | 4-Methyl-2-pentanone | 249 | 255 | 102 | 60-127 |
| 74-83-9 | Methyl bromide | 49.8 | 45.4 | 91 | 47-137 |
| 74-87-3 | Methyl chloride | 49.8 | 45.0 | 90 | 46-139 |
| 74-95-3 | Methylene bromide | 49.8 | 47.6 | 96 | 72-118 |
| 75-09-2 | Methylene chloride | 49.8 | 43.2 | 87 | 50-134 |
| 78-93-3 | Methyl ethyl ketone | 249 | 273 | 110 | 60-131 |
| 1634-04-4 | Methyl Tert Butyl Ether | 49.8 | 47.8 | 96 | 65-119 |
| 91-20-3 | Naphthalene | 49.8 | 53.0 | 106 | 56-122 |
| 103-65-1 | n-Propylbenzene | 49.8 | 44.6 | 90 | 65-119 |
| 100-42-5 | Styrene | 49.8 | 49.8 | 100 | 74-117 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 49.8 | 47.5 | 95 | 74-119 |
| 71-55-6 | 1,1,1-Trichloroethane | 49.8 | 48.3 | 97 | 63-126 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 49.8 | 48.2 | 97 | 65-120 |
| 79-00-5 | 1,1,2-Trichloroethane | 49.8 | 47.7 | 96 | 72-119 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 49.8 | 50.4 | 101 | 62-116 |
| 96-18-4 | 1,2,3-Trichloropropane | 49.8 | 48.7 | 98 | 68-118 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 49.8 | 48.7 | 98 | 58-122 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 49.8 | 45.8 | 92 | 61-119 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 49.8 | 44.2 | 89 | 53-123 |
| 127-18-4 | Tetrachloroethylene | 49.8 | 51.1 | 103 | 64-130 |
| 108-88-3 | Toluene | 49.8 | 47.1 | 95 | 67-119 |
| 79-01-6 | Trichloroethylene | 49.8 | 46.6 | 94 | 70-122 |
| 75-69-4 | Trichlorofluoromethane | 49.8 | 46.1 | 93 | 41-137 |
| 75-01-4 | Vinyl chloride | 49.8 | 46.7 | 94 | 43-120 |
| 1330-20-7 | Xylene (total) | 149 | 140 | 94 | 62-120 |
| | m,p-Xylene | 99.6 | 93.8 | 94 | 62-120 |
| 95-47-6 | o-Xylene | 49.8 | 45.8 | 92 | 62-121 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 59-126% |
| 2037-26-5 | Toluene-D8 | 98% | 70-139% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VR851-BS | R025447.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |

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

TC55519-3A

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 87% | 63-138% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 89% | 54-123% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1625-BS | E0035895.D | 1 | 10/01/14 | KD | n/a | n/a | VE1625 |



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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 125 | 121 | 97 | 46-129 |
| 71-43-2 | Benzene | 25 | 25.3 | 101 | 68-119 |
| 108-86-1 | Bromobenzene | 25 | 25.6 | 102 | 71-119 |
| 74-97-5 | Bromochloromethane | 25 | 24.0 | 96 | 71-118 |
| 75-27-4 | Bromodichloromethane | 25 | 23.1 | 92 | 72-118 |
| 75-25-2 | Bromoform | 25 | 23.3 | 93 | 54-123 |
| 104-51-8 | n-Butylbenzene | 25 | 26.5 | 106 | 66-123 |
| 135-98-8 | sec-Butylbenzene | 25 | 26.1 | 104 | 72-123 |
| 98-06-6 | tert-Butylbenzene | 25 | 24.4 | 98 | 70-124 |
| 108-90-7 | Chlorobenzene | 25 | 24.4 | 98 | 74-120 |
| 75-00-3 | Chloroethane | 25 | 26.3 | 105 | 61-132 |
| 67-66-3 | Chloroform | 25 | 24.6 | 98 | 73-122 |
| 95-49-8 | o-Chlorotoluene | 25 | 24.4 | 98 | 71-122 |
| 106-43-4 | p-Chlorotoluene | 25 | 24.8 | 99 | 73-120 |
| 75-15-0 | Carbon disulfide | 25 | 22.6 | 90 | 55-140 |
| 56-23-5 | Carbon tetrachloride | 25 | 25.9 | 104 | 68-133 |
| 75-34-3 | 1,1-Dichloroethane | 25 | 25.7 | 103 | 72-121 |
| 75-35-4 | 1,1-Dichloroethylene | 25 | 25.9 | 104 | 67-140 |
| 563-58-6 | 1,1-Dichloropropene | 25 | 27.6 | 110 | 73-130 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 25 | 24.3 | 97 | 47-133 |
| 106-93-4 | 1,2-Dibromoethane | 25 | 24.4 | 98 | 69-121 |
| 107-06-2 | 1,2-Dichloroethane | 25 | 24.0 | 96 | 68-121 |
| 78-87-5 | 1,2-Dichloropropane | 25 | 24.4 | 98 | 72-116 |
| 142-28-9 | 1,3-Dichloropropane | 25 | 24.3 | 97 | 70-118 |
| 594-20-7 | 2,2-Dichloropropane | 25 | 23.6 | 94 | 57-141 |
| 124-48-1 | Dibromochloromethane | 25 | 23.6 | 94 | 68-119 |
| 75-71-8 | Dichlorodifluoromethane | 25 | 17.3 | 69 | 29-182 |
| 156-59-2 | cis-1,2-Dichloroethylene | 25 | 25.1 | 100 | 72-117 |
| 10061-01-5 | cis-1,3-Dichloropropene | 25 | 23.5 | 94 | 71-118 |
| 541-73-1 | m-Dichlorobenzene | 25 | 25.3 | 101 | 73-117 |
| 95-50-1 | o-Dichlorobenzene | 25 | 24.9 | 100 | 71-117 |
| 106-46-7 | p-Dichlorobenzene | 25 | 25.6 | 102 | 71-116 |
| 156-60-5 | trans-1,2-Dichloroethylene | 25 | 26.1 | 104 | 68-124 |
| 10061-02-6 | trans-1,3-Dichloropropene | 25 | 24.6 | 98 | 72-127 |
| 100-41-4 | Ethylbenzene | 25 | 25.5 | 102 | 71-117 |
| 591-78-6 | 2-Hexanone | 125 | 111 | 89 | 49-124 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1625-BS | E0035895.D | 1 | 10/01/14 | KD | n/a | n/a | VE1625 |



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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | 25 | 29.4 | 118 | 62-143 |
| 98-82-8 | Isopropylbenzene | 25 | 25.5 | 102 | 74-141 |
| 99-87-6 | p-Isopropyltoluene | 25 | 26.4 | 106 | 72-126 |
| 108-10-1 | 4-Methyl-2-pentanone | 125 | 112 | 90 | 54-122 |
| 74-83-9 | Methyl bromide | 25 | 22.4 | 90 | 53-138 |
| 74-87-3 | Methyl chloride | 25 | 25.9 | 104 | 50-145 |
| 74-95-3 | Methylene bromide | 25 | 24.4 | 98 | 71-117 |
| 75-09-2 | Methylene chloride | 25 | 24.2 | 97 | 60-125 |
| 78-93-3 | Methyl ethyl ketone | 125 | 121 | 97 | 51-129 |
| 1634-04-4 | Methyl Tert Butyl Ether | 25 | 23.8 | 95 | 65-119 |
| 91-20-3 | Naphthalene | 25 | 28.0 | 112 | 43-139 |
| 103-65-1 | n-Propylbenzene | 25 | 25.3 | 101 | 72-123 |
| 100-42-5 | Styrene | 25 | 25.4 | 102 | 74-119 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 25 | 24.5 | 98 | 74-119 |
| 71-55-6 | 1,1,1-Trichloroethane | 25 | 25.7 | 103 | 72-129 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 25 | 24.7 | 99 | 62-121 |
| 79-00-5 | 1,1,2-Trichloroethane | 25 | 24.1 | 96 | 70-119 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 25 | 29.4 | 118 | 44-144 |
| 96-18-4 | 1,2,3-Trichloropropane | 25 | 24.8 | 99 | 61-124 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 25 | 26.8 | 107 | 57-132 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 25 | 25.3 | 101 | 70-121 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 25 | 24.9 | 100 | 66-119 |
| 127-18-4 | Tetrachloroethylene | 25 | 28.2 | 113 | 72-132 |
| 108-88-3 | Toluene | 25 | 25.1 | 100 | 73-119 |
| 79-01-6 | Trichloroethylene | 25 | 24.5 | 98 | 73-121 |
| 75-69-4 | Trichlorofluoromethane | 25 | 24.6 | 98 | 46-152 |
| 75-01-4 | Vinyl chloride | 25 | 23.0 | 92 | 54-126 |
| 1330-20-7 | Xylene (total) | 75 | 72.4 | 97 | 74-119 |
| | m,p-Xylene | 50 | 48.7 | 97 | 74-119 |
| 95-47-6 | o-Xylene | 25 | 23.7 | 95 | 73-121 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 110% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98% | 68-124% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1625-BS | E0035895.D | 1 | 10/01/14 | KD | n/a | n/a | VE1625 |

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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 106% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 72-126% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VE1626-BS | E0035935.D | 1 | 10/02/14 | KD | n/a | n/a | VE1626 |

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

TC55519-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 108-88-3 | Toluene | 25 | 25.5 | 102 | 73-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 108% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 97% | 68-124% |
| 2037-26-5 | Toluene-D8 | 105% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 72-126% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC55660-2MS | R025455.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2MSD | R025456.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2 | R025450.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2 | R025451.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |

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

TC55519-3A

| CAS No. | Compound | TC55660-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 44 U [a] | | 15600 | 14500 | 93 | 15600 | 14500 | 93 | 0 | 43-141/33 |
| 71-43-2 | Benzene | 4.4 U [a] | | 3130 | 3050 | 98 | 3130 | 2860 | 92 | 6 | 58-124/26 |
| 108-86-1 | Bromobenzene | 250 U | | 3130 | 2770 | 89 | 3130 | 2660 | 85 | 4 | 72-110/28 |
| 74-97-5 | Bromochloromethane | 4.4 U [a] | | 3130 | 3060 | 98 | 3130 | 2980 | 95 | 3 | 71-122/25 |
| 75-27-4 | Bromodichloromethane | 4.4 U [a] | | 3130 | 2710 | 87 | 3130 | 2550 | 82 | 6 | 72-119/25 |
| 75-25-2 | Bromoform | 4.4 U [a] | | 3130 | 2840 | 91 | 3130 | 2630 | 84 | 8 | 61-120/27 |
| 104-51-8 | n-Butylbenzene | 244 [a] | E | 3130 | 3580 | 107 | 3130 | 3450 | 103 | 4 | 58-118/32 |
| 135-98-8 | sec-Butylbenzene | 226 [a] | E | 3130 | 3310 | 99 | 3130 | 3170 | 94 | 4 | 63-119/31 |
| 98-06-6 | tert-Butylbenzene | 4.4 U [a] | | 3130 | 2690 | 86 | 3130 | 2540 | 81 | 6 | 67-121/30 |
| 108-90-7 | Chlorobenzene | 4.4 U [a] | | 3130 | 2860 | 92 | 3130 | 2700 | 86 | 6 | 74-116/26 |
| 75-00-3 | Chloroethane | 4.4 U [a] | | 3130 | 1830 | 59 | 3130 | 1460 | 47* | 22 | 48-133/38 |
| 67-66-3 | Chloroform | 4.4 U [a] | | 3130 | 2930 | 94 | 3130 | 2800 | 90 | 5 | 72-119/25 |
| 95-49-8 | o-Chlorotoluene | 250 U | | 3130 | 2780 | 89 | 3130 | 2660 | 85 | 4 | 65-121/30 |
| 106-43-4 | p-Chlorotoluene | 250 U | | 3130 | 2780 | 89 | 3130 | 2660 | 85 | 4 | 67-118/29 |
| 75-15-0 | Carbon disulfide | 4.4 U [a] | | 3130 | 2560 | 82 | 3130 | 2280 | 73 | 12 | 45-133/34 |
| 56-23-5 | Carbon tetrachloride | 4.4 U [a] | | 3130 | 2840 | 91 | 3130 | 2600 | 83 | 9 | 58-128/28 |
| 75-34-3 | 1,1-Dichloroethane | 4.4 U [a] | | 3130 | 3090 | 99 | 3130 | 2940 | 94 | 5 | 69-122/25 |
| 75-35-4 | 1,1-Dichloroethylene | 4.4 U [a] | | 3130 | 2890 | 92 | 3130 | 2610 | 84 | 10 | 60-131/31 |
| 563-58-6 | 1,1-Dichloropropene | 4.4 U [a] | | 3130 | 3090 | 99 | 3130 | 2840 | 91 | 8 | 66-123/27 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 4.4 U [a] | | 3130 | 3240 | 104 | 3130 | 3030 | 97 | 7 | 55-125/33 |
| 106-93-4 | 1,2-Dibromoethane | 4.4 U [a] | | 3130 | 3080 | 99 | 3130 | 2970 | 95 | 4 | 73-120/26 |
| 107-06-2 | 1,2-Dichloroethane | 4.4 U [a] | | 3130 | 3000 | 96 | 3130 | 2810 | 90 | 7 | 69-121/24 |
| 78-87-5 | 1,2-Dichloropropane | 4.4 U [a] | | 3130 | 2980 | 95 | 3130 | 2860 | 92 | 4 | 71-121/26 |
| 142-28-9 | 1,3-Dichloropropane | 4.4 U [a] | | 3130 | 3030 | 97 | 3130 | 2970 | 95 | 2 | 72-117/25 |
| 594-20-7 | 2,2-Dichloropropane | 250 U | | 3130 | 3030 | 97 | 3130 | 2870 | 92 | 5 | 57-129/29 |
| 124-48-1 | Dibromochloromethane | 250 U | | 3130 | 2800 | 90 | 3130 | 2630 | 84 | 6 | 71-121/26 |
| 75-71-8 | Dichlorodifluoromethane | 4.4 U [a] | | 3130 | 2590 | 83 | 3130 | 2240 | 72 | 14 | 22-158/38 |
| 156-59-2 | cis-1,2-Dichloroethylene | 4.4 U [a] | | 3130 | 3020 | 97 | 3130 | 2910 | 93 | 4 | 70-119/25 |
| 10061-01-5 | cis-1,3-Dichloropropene | 4.4 U [a] | | 3130 | 2900 | 93 | 3130 | 2830 | 91 | 2 | 75-117/27 |
| 541-73-1 | m-Dichlorobenzene | 4.4 U [a] | | 3130 | 2770 | 89 | 3130 | 2630 | 84 | 5 | 70-119/30 |
| 95-50-1 | o-Dichlorobenzene | 4.4 U [a] | | 3130 | 2730 | 87 | 3130 | 2610 | 84 | 4 | 73-116/30 |
| 106-46-7 | p-Dichlorobenzene | 4.4 U [a] | | 3130 | 2740 | 88 | 3130 | 2690 | 86 | 2 | 70-119/30 |
| 156-60-5 | trans-1,2-Dichloroethylene | 4.4 U [a] | | 3130 | 2920 | 93 | 3130 | 2770 | 89 | 5 | 62-119/29 |
| 10061-02-6 | trans-1,3-Dichloropropene | 4.4 U [a] | | 3130 | 3120 | 100 | 3130 | 3040 | 97 | 3 | 78-125/27 |
| 100-41-4 | Ethylbenzene | 161 [a] | | 3130 | 3190 | 97 | 3130 | 3000 | 91 | 6 | 57-124/29 |
| 591-78-6 | 2-Hexanone | 44 U [a] | | 15600 | 15800 | 101 | 15600 | 16000 | 102 | 1 | 58-124/32 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC55660-2MS | R025455.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2MSD | R025456.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2 | R025450.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2 | R025451.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |

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

TC55519-3A

| CAS No. | Compound | TC55660-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | 4.4 U [a] | | 3130 | 2930 | 94 | 3130 | 2850 | 91 | 3 | 57-127/33 |
| 98-82-8 | Isopropylbenzene | 123 [a] | | 3130 | 2840 | 87 | 3130 | 2700 | 82 | 5 | 77-135/29 |
| 99-87-6 | p-Isopropyltoluene | 110 [a] | | 3130 | 3050 | 94 | 3130 | 2930 | 90 | 4 | 66-120/30 |
| 108-10-1 | 4-Methyl-2-pentanone | 44 U [a] | | 15600 | 16400 | 105 | 15600 | 16400 | 105 | 0 | 60-127/30 |
| 74-83-9 | Methyl bromide | 4.4 U [a] | | 3130 | 1650 | 53 | 3130 | 1430 | 46* | 14 | 47-137/37 |
| 74-87-3 | Methyl chloride | 4.4 U [a] | | 3130 | 2810 | 90 | 3130 | 2440 | 78 | 14 | 46-139/36 |
| 74-95-3 | Methylene bromide | 4.4 U [a] | | 3130 | 2950 | 94 | 3130 | 2880 | 92 | 2 | 72-118/25 |
| 75-09-2 | Methylene chloride | 6.4 [a] | J | 3130 | 2740 | 87 | 3130 | 2580 | 82 | 6 | 50-134/35 |
| 78-93-3 | Methyl ethyl ketone | 44 U [a] | | 15600 | 17900 | 115 | 15600 | 18100 | 116 | 1 | 60-131/31 |
| 1634-04-4 | Methyl Tert Butyl Ether | 4.4 U [a] | | 3130 | 3090 | 99 | 3130 | 3070 | 98 | 1 | 65-119/29 |
| 91-20-3 | Naphthalene | 148 [a] | | 3130 | 3830 | 118 | 3130 | 3880 | 119 | 1 | 56-122/36 |
| 103-65-1 | n-Propylbenzene | 286 [a] | E | 3130 | 3100 | 90 | 3130 | 2960 | 86 | 5 | 65-119/31 |
| 100-42-5 | Styrene | 4.4 U [a] | | 3130 | 3140 | 100 | 3130 | 3030 | 97 | 4 | 74-117/28 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 4.4 U [a] | | 3130 | 2890 | 92 | 3130 | 2790 | 89 | 4 | 74-119/27 |
| 71-55-6 | 1,1,1-Trichloroethane | 4.4 U [a] | | 3130 | 2930 | 94 | 3130 | 2710 | 87 | 8 | 63-126/27 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 250 U | | 3130 | 3440 | 110 | 3130 | 3460 | 111 | 1 | 65-120/31 |
| 79-00-5 | 1,1,2-Trichloroethane | 4.4 U [a] | | 3130 | 3120 | 100 | 3130 | 2950 | 94 | 6 | 72-119/27 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 4.4 U [a] | | 3130 | 3070 | 98 | 3130 | 3080 | 99 | 0 | 62-116/33 |
| 96-18-4 | 1,2,3-Trichloropropane | 4.4 U [a] | | 3130 | 3080 | 99 | 3130 | 2960 | 95 | 4 | 68-118/31 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 4.4 U [a] | | 3130 | 2870 | 92 | 3130 | 2870 | 92 | 0 | 58-122/34 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1540 [a] | E | 3130 | 5610 | 130* | 3130 | 5550 | 128* | 1 | 61-119/30 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 572 [a] | E | 3130 | 3610 | 97 | 3130 | 3460 | 92 | 4 | 53-123/30 |
| 127-18-4 | Tetrachloroethylene | 4.4 U [a] | | 3130 | 3380 | 108 | 3130 | 3530 | 113 | 4 | 64-130/28 |
| 108-88-3 | Toluene | 46.6 [a] | | 3130 | 3000 | 95 | 3130 | 2810 | 88 | 7 | 67-119/28 |
| 79-01-6 | Trichloroethylene | 4.4 U [a] | | 3130 | 2890 | 92 | 3130 | 2710 | 87 | 6 | 70-122/27 |
| 75-69-4 | Trichlorofluoromethane | 4.4 U [a] | | 3130 | 2070 | 66 | 3130 | 1480 | 47 | 33 | 41-137/39 |
| 75-01-4 | Vinyl chloride | 4.4 U [a] | | 3130 | 2930 | 94 | 3130 | 2560 | 82 | 13 | 43-120/38 |
| 1330-20-7 | Xylene (total) | 1340 | | 9380 | 10100 | 93 | 9380 | 9550 | 88 | 6 | 62-120/27 |
| | m,p-Xylene | 479 [a] | E | 6250 | 6590 | 98 | 6250 | 6250 | 92 | 5 | 62-120/28 |
| 95-47-6 | o-Xylene | 373 [a] | E | 3130 | 3460 | 99 | 3130 | 3300 | 94 | 5 | 62-121/28 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC55660-2 | TC55660-2 | Limits |
|---|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 96% | 96% | 97% | 102% | 59-126% |
| 2037-26-5 | Toluene-D8 | 100% | 99% | 99% | 113% | 70-139% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC55660-2MS | R025455.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2MSD | R025456.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2 | R025450.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |
| TC55660-2 | R025451.D | 1 | 10/01/14 | FI | n/a | n/a | VR851 |

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

TC55519-3A

| CAS No. | Surrogate Recoveries | MS | MSD | TC55660-2 | TC55660-2 | Limits |
|---|---|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 89% | 87% | 84% | 106% | 63-138% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 87% | 83% | 88% | 87% | 54-123% |

(a) Result is from Run #2.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC55600-8MS | E0035900.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |
| TC55600-8MSD | E0035901.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |
| TC55600-8 | E0035899.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |



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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Compound | TC55600-8 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 | 2500 | U | 6250 | 6870 | 110 | 6250 | 5480 | 88 | 23 | 46-129/25 |
| 71-43-2 | Benzene | 2270 | | 1250 | 3700 | 114 | 1250 | 3500 | 98 | 6 | 68-119/12 |
| 108-86-1 | Bromobenzene | 50 | U | 1250 | 1440 | 115 | 1250 | 1270 | 102 | 13* | 71-119/12 |
| 74-97-5 | Bromochloromethane | 50 | U | 1250 | 1390 | 111 | 1250 | 1170 | 94 | 17* | 71-118/13 |
| 75-27-4 | Bromodichloromethane | 50 | U | 1250 | 1300 | 104 | 1250 | 1120 | 90 | 15 | 72-118/16 |
| 75-25-2 | Bromoform | 50 | U | 1250 | 1250 | 100 | 1250 | 1070 | 86 | 16 | 54-123/17 |
| 104-51-8 | n-Butylbenzene | 50 | U | 1250 | 1480 | 118 | 1250 | 1310 | 105 | 12 | 66-123/14 |
| 135-98-8 | sec-Butylbenzene | 50 | U | 1250 | 1490 | 119 | 1250 | 1300 | 104 | 14* | 72-123/13 |
| 98-06-6 | tert-Butylbenzene | 50 | U | 1250 | 1380 | 110 | 1250 | 1200 | 96 | 14 | 70-124/15 |
| 108-90-7 | Chlorobenzene | 50 | U | 1250 | 1390 | 111 | 1250 | 1200 | 96 | 15* | 74-120/12 |
| 75-00-3 | Chloroethane | 50 | U | 1250 | 1440 | 115 | 1250 | 1140 | 91 | 23* | 61-132/16 |
| 67-66-3 | Chloroform | 50 | U | 1250 | 1390 | 111 | 1250 | 1200 | 96 | 15* | 73-122/13 |
| 95-49-8 | o-Chlorotoluene | 50 | U | 1250 | 1300 | 104 | 1250 | 1180 | 94 | 10 | 71-122/12 |
| 106-43-4 | p-Chlorotoluene | 50 | U | 1250 | 1400 | 112 | 1250 | 1230 | 98 | 13* | 73-120/12 |
| 75-15-0 | Carbon disulfide | 50 | U | 1250 | 1190 | 95 | 1250 | 1030 | 82 | 14 | 55-140/24 |
| 56-23-5 | Carbon tetrachloride | 50 | U | 1250 | 1430 | 114 | 1250 | 1250 | 100 | 13 | 68-133/20 |
| 75-34-3 | 1,1-Dichloroethane | 50 | U | 1250 | 1420 | 114 | 1250 | 1250 | 100 | 13 | 72-121/14 |
| 75-35-4 | 1,1-Dichloroethylene | 50 | U | 1250 | 1460 | 117 | 1250 | 1260 | 101 | 15 | 67-140/18 |
| 563-58-6 | 1,1-Dichloropropene | 50 | U | 1250 | 1530 | 122 | 1250 | 1360 | 109 | 12 | 73-130/15 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 100 | U | 1250 | 1270 | 102 | 1250 | 1150 | 92 | 10 | 47-133/23 |
| 106-93-4 | 1,2-Dibromoethane | 50 | U | 1250 | 1400 | 112 | 1250 | 1210 | 97 | 15* | 69-121/13 |
| 107-06-2 | 1,2-Dichloroethane | 50 | U | 1250 | 1400 | 112 | 1250 | 1210 | 97 | 15* | 68-121/12 |
| 78-87-5 | 1,2-Dichloropropane | 50 | U | 1250 | 1370 | 110 | 1250 | 1180 | 94 | 15* | 72-116/12 |
| 142-28-9 | 1,3-Dichloropropane | 50 | U | 1250 | 1380 | 110 | 1250 | 1200 | 96 | 14* | 70-118/12 |
| 594-20-7 | 2,2-Dichloropropane | 50 | U | 1250 | 1430 | 114 | 1250 | 1210 | 97 | 17* | 57-141/16 |
| 124-48-1 | Dibromochloromethane | 50 | U | 1250 | 1300 | 104 | 1250 | 1130 | 90 | 14 | 68-119/15 |
| 75-71-8 | Dichlorodifluoromethane | 100 | U | 1250 | 986 | 79 | 1250 | 830 | 66 | 17 | 29-182/23 |
| 156-59-2 | cis-1,2-Dichloroethylene | 50 | U | 1250 | 1420 | 114 | 1250 | 1240 | 99 | 14* | 72-117/13 |
| 10061-01-5 | cis-1,3-Dichloropropene | 50 | U | 1250 | 1350 | 108 | 1250 | 1120 | 90 | 19* | 71-118/18 |
| 541-73-1 | m-Dichlorobenzene | 50 | U | 1250 | 1420 | 114 | 1250 | 1240 | 99 | 14* | 73-117/12 |
| 95-50-1 | o-Dichlorobenzene | 50 | U | 1250 | 1390 | 111 | 1250 | 1210 | 97 | 14* | 71-117/11 |
| 106-46-7 | p-Dichlorobenzene | 50 | U | 1250 | 1430 | 114 | 1250 | 1250 | 100 | 13* | 71-116/11 |
| 156-60-5 | trans-1,2-Dichloroethylene | 50 | U | 1250 | 1490 | 119 | 1250 | 1260 | 101 | 17* | 68-124/15 |
| 10061-02-6 | trans-1,3-Dichloropropene | 50 | U | 1250 | 1420 | 114 | 1250 | 1200 | 96 | 17 | 72-127/17 |
| 100-41-4 | Ethylbenzene | 406 | | 1250 | 1870 | 117 | 1250 | 1680 | 102 | 11 | 71-117/12 |
| 591-78-6 | 2-Hexanone | 500 | U | 6250 | 6360 | 102 | 6250 | 5470 | 88 | 15 | 49-124/21 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC55600-8MS | E0035900.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |
| TC55600-8MSD | E0035901.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |
| TC55600-8 | E0035899.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |

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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Compound | TC55600-8 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 | 50 U | | 1250 | 1580 | 126 | 1250 | 1440 | 115 | 9 | 62-143/18 |
| 98-82-8 | Isopropylbenzene | 34.7 | J | 1250 | 1470 | 115 | 1250 | 1290 | 100 | 13 | 74-141/13 |
| 99-87-6 | p-Isopropyltoluene | 50 U | | 1250 | 1480 | 118 | 1250 | 1310 | 105 | 12 | 72-126/13 |
| 108-10-1 | 4-Methyl-2-pentanone | 500 U | | 6250 | 6380 | 102 | 6250 | 5470 | 88 | 15 | 54-122/20 |
| 74-83-9 | Methyl bromide | 50 U | | 1250 | 1190 | 95 | 1250 | 987 | 79 | 19* | 53-138/16 |
| 74-87-3 | Methyl chloride | 50 U | | 1250 | 1420 | 114 | 1250 | 1210 | 97 | 16 | 50-145/17 |
| 74-95-3 | Methylene bromide | 50 U | | 1250 | 1400 | 112 | 1250 | 1210 | 97 | 15* | 71-117/12 |
| 75-09-2 | Methylene chloride | 250 U | | 1250 | 1390 | 111 | 1250 | 1170 | 94 | 17* | 60-125/16 |
| 78-93-3 | Methyl ethyl ketone | 500 U | | 6250 | 6880 | 110 | 6250 | 5850 | 94 | 16 | 51-129/22 |
| 1634-04-4 | Methyl Tert Butyl Ether | 50 U | | 1250 | 1350 | 108 | 1250 | 1160 | 93 | 15* | 65-119/13 |
| 91-20-3 | Naphthalene | 250 U | | 1250 | 1450 | 116 | 1250 | 1350 | 108 | 7 | 43-139/28 |
| 103-65-1 | n-Propylbenzene | 36.0 | J | 1250 | 1470 | 115 | 1250 | 1290 | 100 | 13 | 72-123/13 |
| 100-42-5 | Styrene | 50 U | | 1250 | 1450 | 116 | 1250 | 1260 | 101 | 14 | 74-119/19 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 50 U | | 1250 | 1380 | 110 | 1250 | 1230 | 98 | 11 | 74-119/14 |
| 71-55-6 | 1,1,1-Trichloroethane | 50 U | | 1250 | 1460 | 117 | 1250 | 1270 | 102 | 14 | 72-129/14 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 50 U | | 1250 | 1420 | 114 | 1250 | 1240 | 99 | 14 | 62-121/17 |
| 79-00-5 | 1,1,2-Trichloroethane | 50 U | | 1250 | 1370 | 110 | 1250 | 1200 | 96 | 13 | 70-119/13 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 50 U | | 1250 | 1420 | 114 | 1250 | 1370 | 110 | 4 | 44-144/27 |
| 96-18-4 | 1,2,3-Trichloropropane | 50 U | | 1250 | 1380 | 110 | 1250 | 1220 | 98 | 12 | 61-124/16 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 U | | 1250 | 1430 | 114 | 1250 | 1310 | 105 | 9 | 57-132/18 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 249 | | 1250 | 1700 | 116 | 1250 | 1540 | 103 | 10 | 70-121/15 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 50 U | | 1250 | 1400 | 112 | 1250 | 1220 | 98 | 14 | 66-119/15 |
| 127-18-4 | Tetrachloroethylene | 50 U | | 1250 | 1590 | 127 | 1250 | 1380 | 110 | 14 | 72-132/14 |
| 108-88-3 | Toluene | 50 U | | 1250 | 1440 | 115 | 1250 | 1250 | 100 | 14* | 73-119/13 |
| 79-01-6 | Trichloroethylene | 50 U | | 1250 | 1390 | 111 | 1250 | 1180 | 94 | 16* | 73-121/13 |
| 75-69-4 | Trichlorofluoromethane | 50 U | | 1250 | 1330 | 106 | 1250 | 1110 | 89 | 18 | 46-152/25 |
| 75-01-4 | Vinyl chloride | 50 U | | 1250 | 1220 | 98 | 1250 | 1040 | 83 | 16 | 54-126/17 |
| 1330-20-7 | Xylene (total) | 562 | | 3750 | 4680 | 110 | 3750 | 4150 | 96 | 12 | 74-119/13 |
| | m,p-Xylene | 562 | | 2500 | 3320 | 110 | 2500 | 2980 | 97 | 11 | 74-119/13 |
| 95-47-6 | o-Xylene | 50 U | | 1250 | 1360 | 109 | 1250 | 1170 | 94 | 15* | 73-121/13 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC55600-8 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 108% | 107% | 105% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 96% | 99% | 96% | 68-124% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC55600-8MS | E0035900.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |
| TC55600-8MSD | E0035901.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |
| TC55600-8 | E0035899.D | 50 | 10/01/14 | KD | n/a | n/a | VE1625 |

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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Surrogate Recoveries | MS | MSD | TC55600-8 | Limits |
|---|---|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 106% | 106% | 104% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 101% | 102% | 99% | 72-126% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| TC55733-2MS | E0035941.D | 1 | 10/02/14 | KD | n/a | n/a | VE1626 |
| TC55733-2MSD | E0035942.D | 1 | 10/02/14 | KD | n/a | n/a | VE1626 |
| TC55733-2 | E0035938.D | 1 | 10/02/14 | KD | n/a | n/a | VE1626 |

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

TC55519-1

| CAS No. | Compound | TC55733-2 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-88-3 | Toluene | 1.0 | U | 25 | 24.4 | 98 | 25 | 25.4 | 102 | 4 | 73-119/13 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC55733-2 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | 108% | 108% | 72-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | 95% | 95% | 68-124% |
| 2037-26-5 | Toluene-D8 | 105% | 105% | 105% | 80-119% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | 99% | 100% | 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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-MB | O12264.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic acid | ND | 830 | 270 | ug/kg | |
| 95-57-8 | 2-Chlorophenol | ND | 170 | 72 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 170 | 57 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 170 | 53 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 170 | 57 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 830 | 270 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 330 | 40 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 170 | 73 | ug/kg | |
| | 3&4-Methylphenol | ND | 170 | 72 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 170 | 57 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 830 | 47 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 830 | 120 | ug/kg | |
| 108-95-2 | Phenol | ND | 170 | 76 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 170 | 52 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 170 | 44 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 170 | 48 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 170 | 45 | ug/kg | |
| 62-53-3 | Aniline | ND | 830 | 68 | ug/kg | |
| 120-12-7 | Anthracene | ND | 170 | 42 | ug/kg | |
| 92-87-5 | Benzidine | ND | 6700 | 3200 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 170 | 66 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 170 | 52 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 170 | 42 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 170 | 45 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 170 | 74 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 170 | 51 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 170 | 54 | ug/kg | |
| 100-51-6 | Benzyl Alcohol | ND | 170 | 66 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 170 | 49 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 62 | ug/kg | |
| 86-74-8 | Carbazole | ND | 170 | 53 | ug/kg | |
| 218-01-9 | Chrysene | ND | 170 | 71 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 170 | 52 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 170 | 74 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 170 | 64 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 170 | 64 | ug/kg | |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-MB | O12264.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 170 | 67 | ug/kg | |
| 122-66-7 | 1,2-Diphenylhydrazine | ND | 170 | 42 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 170 | 59 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 170 | 63 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 170 | 52 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 170 | 46 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 330 | 63 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 170 | 58 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 170 | 55 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 170 | 53 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 170 | 44 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 170 | 49 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 170 | 48 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 170 | 130 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 170 | 55 | ug/kg | |
| 86-73-7 | Fluorene | ND | 170 | 50 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 170 | 54 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 170 | 61 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 830 | 79 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 61 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 170 | 61 | ug/kg | |
| 78-59-1 | Isophorone | ND | 170 | 51 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | ND | 170 | 63 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 170 | 63 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 52 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 49 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 330 | 55 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 170 | 60 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 170 | 48 | ug/kg | |
| 62-75-9 | n-Nitrosodimethylamine | ND | 170 | 52 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 170 | 68 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 47 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 170 | 47 | ug/kg | |
| 129-00-0 | Pyrene | ND | 170 | 75 | ug/kg | |
| 110-86-1 | Pyridine | ND | 170 | 44 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 170 | 60 | ug/kg | |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-MB | O12264.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 77% | 26-124% |
| 4165-62-2 | Phenol-d5 | 81% | 19-106% |
| 118-79-6 | 2,4,6-Tribromophenol | 82% | 18-129% |
| 4165-60-0 | Nitrobenzene-d5 | 69% | 18-104% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | 21-114% |
| 1718-51-0 | Terphenyl-d14 | 95% | 24-149% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34120-MB | O12278.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |

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

TC55519-1

| 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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34120-MB | O12278.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |

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

TC55519-1

| 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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34120-MB | O12278.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |

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

TC55519-1

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 50% | 10-66% |
| 4165-62-2 | Phenol-d5 | 37% | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 90% | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 76% | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 113% | 23-138% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34139-MB | P35729.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |

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

TC55519-2, TC55519-3

| 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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34139-MB | P35729.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |

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

TC55519-2, TC55519-3

| 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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34139-MB | P35729.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |

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

TC55519-2, TC55519-3

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 53% | 10-66% |
| 4165-62-2 | Phenol-d5 | 37% | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 92% | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 83% | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 83% | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 126% | 23-138% |

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-BS | O12265.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 65-85-0 | Benzoic acid | 1670 | 507 | 30 | 10-122 |
| 95-57-8 | 2-Chlorophenol | 1670 | 925 | 56 | 49-106 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 1670 | 1050 | 63 | 35-116 |
| 120-83-2 | 2,4-Dichlorophenol | 1670 | 976 | 59 | 53-107 |
| 105-67-9 | 2,4-Dimethylphenol | 1670 | 986 | 59 | 51-109 |
| 51-28-5 | 2,4-Dinitrophenol | 1670 | 942 | 57 | 30-125 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1670 | 939 | 56 | 41-125 |
| 95-48-7 | 2-Methylphenol | 1670 | 898 | 54 | 46-105 |
| | 3&4-Methylphenol | 1670 | 955 | 57 | 43-120 |
| 88-75-5 | 2-Nitrophenol | 1670 | 921 | 55 | 49-104 |
| 100-02-7 | 4-Nitrophenol | 1670 | 1050 | 63 | 29-129 |
| 87-86-5 | Pentachlorophenol | 1670 | 1040 | 62 | 36-122 |
| 108-95-2 | Phenol | 1670 | 1010 | 61 | 48-117 |
| 95-95-4 | 2,4,5-Trichlorophenol | 1670 | 1050 | 63 | 57-116 |
| 88-06-2 | 2,4,6-Trichlorophenol | 1670 | 1020 | 61 | 54-112 |
| 83-32-9 | Acenaphthene | 1670 | 1000 | 60 | 52-109 |
| 208-96-8 | Acenaphthylene | 1670 | 1060 | 64 | 54-115 |
| 62-53-3 | Aniline | 1670 | 996 | 60 | 28-116 |
| 120-12-7 | Anthracene | 1670 | 1020 | 61 | 57-114 |
| 92-87-5 | Benzidine | 3330 | 1200 | 36 | 15-156 |
| 56-55-3 | Benzo(a)anthracene | 1670 | 1030 | 62 | 59-114 |
| 50-32-8 | Benzo(a)pyrene | 1670 | 981 | 59 | 53-106 |
| 205-99-2 | Benzo(b)fluoranthene | 1670 | 1010 | 61 | 54-115 |
| 191-24-2 | Benzo(g,h,i)perylene | 1670 | 1010 | 61 | 44-127 |
| 207-08-9 | Benzo(k)fluoranthene | 1670 | 1030 | 62 | 52-124 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1670 | 1040 | 62 | 51-116 |
| 85-68-7 | Butyl benzyl phthalate | 1670 | 1120 | 67 | 52-117 |
| 100-51-6 | Benzyl Alcohol | 1670 | 959 | 58 | 52-104 |
| 91-58-7 | 2-Chloronaphthalene | 1670 | 1120 | 67 | 47-125 |
| 106-47-8 | 4-Chloroaniline | 1670 | 1010 | 61 | 38-113 |
| 86-74-8 | Carbazole | 1670 | 1100 | 66 | 53-113 |
| 218-01-9 | Chrysene | 1670 | 1040 | 62 | 62-117 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1670 | 943 | 57 | 41-106 |
| 111-44-4 | bis(2-Chloroethyl)ether | 1670 | 857 | 51 | 36-108 |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 1670 | 873 | 52 | 33-111 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1670 | 1020 | 61 | 52-113 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-BS | O12265.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | 1670 | 871 | 52 | 41-106 |
| 122-66-7 | 1,2-Diphenylhydrazine | 1670 | 968 | 58 | 51-113 |
| 541-73-1 | 1,3-Dichlorobenzene | 1670 | 876 | 53 | 39-104 |
| 106-46-7 | 1,4-Dichlorobenzene | 1670 | 891 | 53 | 40-105 |
| 121-14-2 | 2,4-Dinitrotoluene | 1670 | 1030 | 62 | 55-117 |
| 606-20-2 | 2,6-Dinitrotoluene | 1670 | 1030 | 62 | 56-112 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1670 | 977 | 59 | 33-129 |
| 53-70-3 | Dibenzo(a,h)anthracene | 1670 | 1020 | 61 | 47-126 |
| 132-64-9 | Dibenzofuran | 1670 | 1040 | 62 | 51-112 |
| 84-74-2 | Di-n-butyl phthalate | 1670 | 1140 | 68 | 54-117 |
| 117-84-0 | Di-n-octyl phthalate | 1670 | 1100 | 66 | 47-119 |
| 84-66-2 | Diethyl phthalate | 1670 | 1140 | 68 | 53-114 |
| 131-11-3 | Dimethyl phthalate | 1670 | 1120 | 67 | 55-111 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1670 | 1130 | 68 | 51-123 |
| 206-44-0 | Fluoranthene | 1670 | 1040 | 62 | 54-118 |
| 86-73-7 | Fluorene | 1670 | 1040 | 62 | 55-114 |
| 118-74-1 | Hexachlorobenzene | 1670 | 1040 | 62 | 51-117 |
| 87-68-3 | Hexachlorobutadiene | 1670 | 959 | 58 | 37-111 |
| 77-47-4 | Hexachlorocyclopentadiene | 1670 | 757 | 45 | 10-121 |
| 67-72-1 | Hexachloroethane | 1670 | 982 | 59 | 42-100 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1670 | 976 | 59 | 45-129 |
| 78-59-1 | Isophorone | 1670 | 990 | 59 | 47-102 |
| 90-12-0 | 1-Methylnaphthalene | 1670 | 976 | 59 | 50-106 |
| 91-57-6 | 2-Methylnaphthalene | 1670 | 944 | 57 | 45-104 |
| 88-74-4 | 2-Nitroaniline | 1670 | 1030 | 62 | 46-121 |
| 99-09-2 | 3-Nitroaniline | 1670 | 932 | 56 | 33-107 |
| 100-01-6 | 4-Nitroaniline | 1670 | 961 | 58 | 52-110 |
| 91-20-3 | Naphthalene | 1670 | 942 | 57 | 47-108 |
| 98-95-3 | Nitrobenzene | 1670 | 926 | 56 | 45-105 |
| 62-75-9 | n-Nitrosodimethylamine | 1670 | 902 | 54 | 33-103 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 1670 | 918 | 55 | 42-110 |
| 86-30-6 | N-Nitrosodiphenylamine | 3330 | 1880 | 56 | 37-114 |
| 85-01-8 | Phenanthrene | 1670 | 1010 | 61 | 57-116 |
| 129-00-0 | Pyrene | 1670 | 1020 | 61 | 52-120 |
| 110-86-1 | Pyridine | 1670 | 867 | 52 | 17-105 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1670 | 948 | 57 | 40-101 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-BS | O12265.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 64% | 26-124% |
| 4165-62-2 | Phenol-d5 | 65% | 19-106% |
| 118-79-6 | 2,4,6-Tribromophenol | 67% | 18-129% |
| 4165-60-0 | Nitrobenzene-d5 | 57% | 18-104% |
| 321-60-8 | 2-Fluorobiphenyl | 63% | 21-114% |
| 1718-51-0 | Terphenyl-d14 | 74% | 24-149% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34120-BS | O12281.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |
| OP34120-BSD | O12280.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |

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

TC55519-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | 50 | 21.2 | 42 | 20.1 | 40 | 5 | 10-91/30 |
| 95-57-8 | 2-Chlorophenol | 50 | 35.4 | 71 | 34.4 | 69 | 3 | 38-102/30 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 50 | 42.0 | 84 | 41.3 | 83 | 2 | 30-110/30 |
| 120-83-2 | 2,4-Dichlorophenol | 50 | 40.7 | 81 | 40.3 | 81 | 1 | 41-107/30 |
| 105-67-9 | 2,4-Dimethylphenol | 50 | 39.5 | 79 | 38.7 | 77 | 2 | 39-107/30 |
| 51-28-5 | 2,4-Dinitrophenol | 50 | 40.8 | 82 | 41.6 | 83 | 2 | 24-119/30 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 50 | 42.2 | 84 | 40.7 | 81 | 4 | 40-121/30 |
| 95-48-7 | 2-Methylphenol | 50 | 30.9 | 62 | 30.3 | 61 | 2 | 33-93/30 |
| | 3&4-Methylphenol | 50 | 31.2 | 62 | 30.4 | 61 | 3 | 28-99/30 |
| 88-75-5 | 2-Nitrophenol | 50 | 39.6 | 79 | 38.6 | 77 | 3 | 38-107/30 |
| 100-02-7 | 4-Nitrophenol | 50 | 27.4 | 55 | 26.7 | 53 | 3 | 10-78/30 |
| 87-86-5 | Pentachlorophenol | 50 | 41.6 | 83 | 40.4 | 81 | 3 | 28-116/30 |
| 108-95-2 | Phenol | 50 | 20.7 | 41 | 20.1 | 40 | 3 | 15-70/30 |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | 44.6 | 89 | 44.6 | 89 | 0 | 47-116/30 |
| 88-06-2 | 2,4,6-Trichlorophenol | 50 | 43.7 | 87 | 42.3 | 85 | 3 | 44-112/30 |
| 83-32-9 | Acenaphthene | 50 | 41.7 | 83 | 41.1 | 82 | 1 | 44-106/30 |
| 208-96-8 | Acenaphthylene | 50 | 44.1 | 88 | 43.3 | 87 | 2 | 46-111/30 |
| 62-53-3 | Aniline | 50 | 28.2 | 56 | 27.6 | 55 | 2 | 15-112/30 |
| 120-12-7 | Anthracene | 50 | 44.3 | 89 | 43.3 | 87 | 2 | 53-114/30 |
| 92-87-5 | Benzidine | 100 | 58.8 | 59 | 57.6 | 58 | 2 | 13-148/30 |
| 56-55-3 | Benzo(a)anthracene | 50 | 44.8 | 90 | 43.9 | 88 | 2 | 57-113/30 |
| 50-32-8 | Benzo(a)pyrene | 50 | 43.3 | 87 | 42.0 | 84 | 3 | 50-109/30 |
| 205-99-2 | Benzo(b)fluoranthene | 50 | 44.6 | 89 | 43.1 | 86 | 3 | 50-117/30 |
| 191-24-2 | Benzo(g,h,i)perylene | 50 | 47.2 | 94 | 45.7 | 91 | 3 | 43-127/30 |
| 207-08-9 | Benzo(k)fluoranthene | 50 | 44.3 | 89 | 44.0 | 88 | 1 | 52-123/30 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 50 | 48.5 | 97 | 46.4 | 93 | 4 | 48-113/30 |
| 85-68-7 | Butyl benzyl phthalate | 50 | 46.8 | 94 | 46.1 | 92 | 2 | 42-120/30 |
| 100-51-6 | Benzyl Alcohol | 50 | 31.7 | 63 | 30.8 | 62 | 3 | 31-97/30 |
| 91-58-7 | 2-Chloronaphthalene | 50 | 47.0 | 94 | 46.2 | 92 | 2 | 35-123/30 |
| 106-47-8 | 4-Chloroaniline | 50 | 34.8 | 70 | 34.0 | 68 | 2 | 36-104/30 |
| 86-74-8 | Carbazole | 50 | 47.3 | 95 | 46.5 | 93 | 2 | 50-113/30 |
| 218-01-9 | Chrysene | 50 | 44.3 | 89 | 43.4 | 87 | 2 | 59-116/30 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 50 | 37.9 | 76 | 37.0 | 74 | 2 | 34-103/30 |
| 111-44-4 | bis(2-Chloroethyl)ether | 50 | 35.7 | 71 | 34.9 | 70 | 2 | 36-100/30 |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 50 | 36.0 | 72 | 35.3 | 71 | 2 | 30-110/30 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 50 | 44.5 | 89 | 43.4 | 87 | 3 | 45-112/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34120-BS | O12281.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |
| OP34120-BSD | O12280.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |

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

TC55519-1

| 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 | 38.7 | 77 | 38.0 | 76 | 2 | 37-100/30 |
| 122-66-7 | 1,2-Diphenylhydrazine | 50 | 41.5 | 83 | 40.5 | 81 | 2 | 44-113/30 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 38.7 | 77 | 37.9 | 76 | 2 | 34-99/30 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 40.0 | 80 | 39.2 | 78 | 2 | 36-99/30 |
| 121-14-2 | 2,4-Dinitrotoluene | 50 | 46.8 | 94 | 46.4 | 93 | 1 | 52-115/30 |
| 606-20-2 | 2,6-Dinitrotoluene | 50 | 44.7 | 89 | 45.0 | 90 | 1 | 52-111/30 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 50 | 46.1 | 92 | 44.9 | 90 | 3 | 37-125/30 |
| 53-70-3 | Dibenzo(a,h)anthracene | 50 | 45.7 | 91 | 44.3 | 89 | 3 | 47-125/30 |
| 132-64-9 | Dibenzofuran | 50 | 45.6 | 91 | 44.3 | 89 | 3 | 45-108/30 |
| 84-74-2 | Di-n-butyl phthalate | 50 | 50.7 | 101 | 49.6 | 99 | 2 | 47-118/30 |
| 117-84-0 | Di-n-octyl phthalate | 50 | 45.7 | 91 | 44.9 | 90 | 2 | 41-124/30 |
| 84-66-2 | Diethyl phthalate | 50 | 50.7 | 101 | 50.4 | 101 | 1 | 38-121/30 |
| 131-11-3 | Dimethyl phthalate | 50 | 49.1 | 98 | 48.2 | 96 | 2 | 41-116/30 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 50 | 45.8 | 92 | 45.2 | 90 | 1 | 50-123/30 |
| 206-44-0 | Fluoranthene | 50 | 46.6 | 93 | 45.4 | 91 | 3 | 50-118/30 |
| 86-73-7 | Fluorene | 50 | 43.9 | 88 | 43.0 | 86 | 2 | 47-113/30 |
| 118-74-1 | Hexachlorobenzene | 50 | 49.1 | 98 | 47.3 | 95 | 4 | 49-114/30 |
| 87-68-3 | Hexachlorobutadiene | 50 | 44.7 | 89 | 43.8 | 88 | 2 | 30-104/30 |
| 77-47-4 | Hexachlorocyclopentadiene | 50 | 31.6 | 63 | 31.2 | 62 | 1 | 10-97/30 |
| 67-72-1 | Hexachloroethane | 50 | 44.5 | 89 | 43.5 | 87 | 2 | 30-100/30 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 50 | 45.3 | 91 | 44.1 | 88 | 3 | 45-127/30 |
| 78-59-1 | Isophorone | 50 | 42.2 | 84 | 41.3 | 83 | 2 | 40-103/30 |
| 90-12-0 | 1-Methylnaphthalene | 50 | 42.9 | 86 | 42.1 | 84 | 2 | 38-105/30 |
| 91-57-6 | 2-Methylnaphthalene | 50 | 41.4 | 83 | 40.8 | 82 | 1 | 36-104/30 |
| 88-74-4 | 2-Nitroaniline | 50 | 46.6 | 93 | 45.8 | 92 | 2 | 41-117/30 |
| 99-09-2 | 3-Nitroaniline | 50 | 40.2 | 80 | 39.8 | 80 | 1 | 37-117/30 |
| 100-01-6 | 4-Nitroaniline | 50 | 43.0 | 86 | 43.6 | 87 | 1 | 47-121/30 |
| 91-20-3 | Naphthalene | 50 | 40.7 | 81 | 40.1 | 80 | 1 | 40-104/30 |
| 98-95-3 | Nitrobenzene | 50 | 40.9 | 82 | 40.2 | 80 | 2 | 40-103/30 |
| 62-75-9 | n-Nitrosodimethylamine | 50 | 25.0 | 50 | 24.2 | 48 | 3 | 11-89/30 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 50 | 41.6 | 83 | 40.4 | 81 | 3 | 36-112/30 |
| 86-30-6 | N-Nitrosodiphenylamine | 100 | 83.9 | 84 | 80.9 | 81 | 4 | 39-109/30 |
| 85-01-8 | Phenanthrene | 50 | 44.2 | 88 | 43.0 | 86 | 3 | 53-114/30 |
| 129-00-0 | Pyrene | 50 | 44.2 | 88 | 43.1 | 86 | 3 | 51-117/30 |
| 110-86-1 | Pyridine | 50 | 16.0 | 32 | 15.9 | 32 | 1 | 10-77/30 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 41.8 | 84 | 41.7 | 83 | 0 | 32-103/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34120-BS | O12281.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |
| OP34120-BSD | O12280.D | 1 | 09/30/14 | GJ | 09/29/14 | OP34120 | EO683 |

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

TC55519-1

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 60% | 58% | 10-66% |
| 4165-62-2 | Phenol-d5 | 43% | 42% | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 107% | 105% | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 87% | 86% | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 89% | 88% | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 112% | 109% | 23-138% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34139-BS | P35730.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |
| OP34139-BSD [a] | P35731.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |

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

TC55519-2, TC55519-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic Acid | 50 | 13.1 | 26 | 16.1 | 32 | 21 | 10-91/30 |
| 95-57-8 | 2-Chlorophenol | 50 | 33.4 | 67 | 34.8 | 70 | 4 | 38-102/30 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 50 | 36.2 | 72 | 37.2 | 74 | 3 | 30-110/30 |
| 120-83-2 | 2,4-Dichlorophenol | 50 | 37.5 | 75 | 39.0 | 78 | 4 | 41-107/30 |
| 105-67-9 | 2,4-Dimethylphenol | 50 | 36.3 | 73 | 37.5 | 75 | 3 | 39-107/30 |
| 51-28-5 | 2,4-Dinitrophenol | 50 | 33.0 | 66 | 34.3 | 69 | 4 | 24-119/30 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 50 | 37.8 | 76 | 39.3 | 79 | 4 | 40-121/30 |
| 95-48-7 | 2-Methylphenol | 50 | 32.0 | 64 | 33.2 | 66 | 4 | 33-93/30 |
| | 3&4-Methylphenol | 50 | 30.0 | 60 | 31.6 | 63 | 5 | 28-99/30 |
| 88-75-5 | 2-Nitrophenol | 50 | 37.7 | 75 | 39.2 | 78 | 4 | 38-107/30 |
| 100-02-7 | 4-Nitrophenol | 50 | 22.3 | 45 | 21.8 | 44 | 2 | 10-78/30 |
| 87-86-5 | Pentachlorophenol | 50 | 33.2 | 66 | 32.0 | 64 | 4 | 28-116/30 |
| 108-95-2 | Phenol | 50 | 19.9 | 40 | 21.3 | 43 | 7 | 15-70/30 |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | 38.4 | 77 | 40.0 | 80 | 4 | 47-116/30 |
| 88-06-2 | 2,4,6-Trichlorophenol | 50 | 40.3 | 81 | 42.5 | 85 | 5 | 44-112/30 |
| 83-32-9 | Acenaphthene | 50 | 41.1 | 82 | 43.1 | 86 | 5 | 44-106/30 |
| 208-96-8 | Acenaphthylene | 50 | 42.7 | 85 | 44.3 | 89 | 4 | 46-111/30 |
| 62-53-3 | Aniline | 50 | 28.2 | 56 | 29.3 | 59 | 4 | 15-112/30 |
| 120-12-7 | Anthracene | 50 | 41.9 | 84 | 43.3 | 87 | 3 | 53-114/30 |
| 92-87-5 | Benzidine | 100 | 60.4 | 60 | 65.6 | 66 | 8 | 13-148/30 |
| 56-55-3 | Benzo(a)anthracene | 50 | 42.7 | 85 | 44.4 | 89 | 4 | 57-113/30 |
| 50-32-8 | Benzo(a)pyrene | 50 | 40.0 | 80 | 42.0 | 84 | 5 | 50-109/30 |
| 205-99-2 | Benzo(b)fluoranthene | 50 | 43.6 | 87 | 45.6 | 91 | 4 | 50-117/30 |
| 191-24-2 | Benzo(g,h,i)perylene | 50 | 44.7 | 89 | 46.8 | 94 | 5 | 43-127/30 |
| 207-08-9 | Benzo(k)fluoranthene | 50 | 41.0 | 82 | 42.3 | 85 | 3 | 52-123/30 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 50 | 39.6 | 79 | 41.8 | 84 | 5 | 48-113/30 |
| 85-68-7 | Butyl benzyl phthalate | 50 | 45.7 | 91 | 47.2 | 94 | 3 | 42-120/30 |
| 100-51-6 | Benzyl Alcohol | 50 | 32.2 | 64 | 34.0 | 68 | 5 | 31-97/30 |
| 91-58-7 | 2-Chloronaphthalene | 50 | 46.2 | 92 | 45.3 | 91 | 2 | 35-123/30 |
| 106-47-8 | 4-Chloroaniline | 50 | 33.0 | 66 | 34.4 | 69 | 4 | 36-104/30 |
| 86-74-8 | Carbazole | 50 | 44.9 | 90 | 46.1 | 92 | 3 | 50-113/30 |
| 218-01-9 | Chrysene | 50 | 43.3 | 87 | 45.1 | 90 | 4 | 59-116/30 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 50 | 40.5 | 81 | 41.6 | 83 | 3 | 34-103/30 |
| 111-44-4 | bis(2-Chloroethyl)ether | 50 | 36.0 | 72 | 38.1 | 76 | 6 | 36-100/30 |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 50 | 39.6 | 79 | 41.7 | 83 | 5 | 30-110/30 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 50 | 40.4 | 81 | 42.4 | 85 | 5 | 45-112/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34139-BS | P35730.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |
| OP34139-BSD [a] | P35731.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |

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

TC55519-2, TC55519-3

| 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 | 36.3 | 73 | 37.3 | 75 | 3 | 37-100/30 |
| 122-66-7 | 1,2-Diphenylhydrazine | 50 | 42.2 | 84 | 44.2 | 88 | 5 | 44-113/30 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 37.0 | 74 | 38.2 | 76 | 3 | 34-99/30 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 37.2 | 74 | 38.8 | 78 | 4 | 36-99/30 |
| 121-14-2 | 2,4-Dinitrotoluene | 50 | 42.5 | 85 | 44.0 | 88 | 3 | 52-115/30 |
| 606-20-2 | 2,6-Dinitrotoluene | 50 | 42.4 | 85 | 44.6 | 89 | 5 | 52-111/30 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 50 | 42.9 | 86 | 44.4 | 89 | 3 | 37-125/30 |
| 53-70-3 | Dibenzo(a,h)anthracene | 50 | 44.4 | 89 | 46.0 | 92 | 4 | 47-125/30 |
| 132-64-9 | Dibenzofuran | 50 | 42.6 | 85 | 44.9 | 90 | 5 | 45-108/30 |
| 84-74-2 | Di-n-butyl phthalate | 50 | 44.4 | 89 | 45.5 | 91 | 2 | 47-118/30 |
| 117-84-0 | Di-n-octyl phthalate | 50 | 46.0 | 92 | 47.4 | 95 | 3 | 41-124/30 |
| 84-66-2 | Diethyl phthalate | 50 | 45.1 | 90 | 46.8 | 94 | 4 | 38-121/30 |
| 131-11-3 | Dimethyl phthalate | 50 | 45.2 | 90 | 47.4 | 95 | 5 | 41-116/30 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 50 | 47.6 | 95 | 49.4 | 99 | 4 | 50-123/30 |
| 206-44-0 | Fluoranthene | 50 | 41.0 | 82 | 42.1 | 84 | 3 | 50-118/30 |
| 86-73-7 | Fluorene | 50 | 41.5 | 83 | 43.5 | 87 | 5 | 47-113/30 |
| 118-74-1 | Hexachlorobenzene | 50 | 41.2 | 82 | 43.1 | 86 | 5 | 49-114/30 |
| 87-68-3 | Hexachlorobutadiene | 50 | 36.2 | 72 | 37.5 | 75 | 4 | 30-104/30 |
| 77-47-4 | Hexachlorocyclopentadiene | 50 | 25.3 | 51 | 27.2 | 54 | 7 | 10-97/30 |
| 67-72-1 | Hexachloroethane | 50 | 39.5 | 79 | 41.7 | 83 | 5 | 30-100/30 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 50 | 44.9 | 90 | 47.8 | 96 | 6 | 45-127/30 |
| 78-59-1 | Isophorone | 50 | 41.3 | 83 | 43.2 | 86 | 4 | 40-103/30 |
| 90-12-0 | 1-Methylnaphthalene | 50 | 40.1 | 80 | 41.4 | 83 | 3 | 38-105/30 |
| 91-57-6 | 2-Methylnaphthalene | 50 | 38.6 | 77 | 39.9 | 80 | 3 | 36-104/30 |
| 88-74-4 | 2-Nitroaniline | 50 | 44.7 | 89 | 46.8 | 94 | 5 | 41-117/30 |
| 99-09-2 | 3-Nitroaniline | 50 | 39.0 | 78 | 40.6 | 81 | 4 | 37-117/30 |
| 100-01-6 | 4-Nitroaniline | 50 | 44.7 | 89 | 46.3 | 93 | 4 | 47-121/30 |
| 91-20-3 | Naphthalene | 50 | 38.6 | 77 | 40.3 | 81 | 4 | 40-104/30 |
| 98-95-3 | Nitrobenzene | 50 | 38.1 | 76 | 39.2 | 78 | 3 | 40-103/30 |
| 62-75-9 | n-Nitrosodimethylamine | 50 | 24.0 | 48 | 25.1 | 50 | 4 | 11-89/30 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 50 | 38.0 | 76 | 40.9 | 82 | 7 | 36-112/30 |
| 86-30-6 | N-Nitrosodiphenylamine | 100 | 78.7 | 79 | 82.3 | 82 | 4 | 39-109/30 |
| 85-01-8 | Phenanthrene | 50 | 41.6 | 83 | 42.9 | 86 | 3 | 53-114/30 |
| 129-00-0 | Pyrene | 50 | 42.0 | 84 | 43.8 | 88 | 4 | 51-117/30 |
| 110-86-1 | Pyridine | 50 | 19.8 | 40 | 20.0 | 40 | 1 | 10-77/30 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 37.2 | 74 | 38.3 | 77 | 3 | 32-103/30 |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34139-BS | P35730.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |
| OP34139-BSD [a] | P35731.D | 1 | 10/01/14 | SC | 10/01/14 | OP34139 | EP1722 |

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

TC55519-2, TC55519-3

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 55% | 57% | 10-66% |
| 4165-62-2 | Phenol-d5 | 39% | 41% | 10-63% |
| 118-79-6 | 2,4,6-Tribromophenol | 83% | 87% | 32-128% |
| 4165-60-0 | Nitrobenzene-d5 | 78% | 81% | 29-115% |
| 321-60-8 | 2-Fluorobiphenyl | 80% | 84% | 34-113% |
| 1718-51-0 | Terphenyl-d14 | 98% | 102% | 23-138% |

(a) Insufficient sample for MS/MSD.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-MS | O12267.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |
| OP34114-MSD | O12268.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |
| TC55542-1 | O12266.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Compound | TC55542-1 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 65-85-0 | Benzoic acid | ND | | 1990 | 310 | 15 | 2000 | 270 | 14 | 12 | 10-122/40 |
| 95-57-8 | 2-Chlorophenol | ND | | 1990 | 1410 | 71 | 2000 | 1220 | 61 | 14 | 49-106/36 |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | | 1990 | 1510 | 76 | 2000 | 1270 | 64 | 17 | 35-116/37 |
| 120-83-2 | 2,4-Dichlorophenol | ND | | 1990 | 1440 | 72 | 2000 | 1230 | 62 | 16 | 53-107/37 |
| 105-67-9 | 2,4-Dimethylphenol | ND | | 1990 | 1440 | 72 | 2000 | 1240 | 62 | 15 | 51-109/35 |
| 51-28-5 | 2,4-Dinitrophenol | ND | | 1990 | 636 | 32 | 2000 | 494 | 25* | 25 | 30-125/43 |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | | 1990 | 1220 | 61 | 2000 | 1010 | 51 | 19 | 41-125/39 |
| 95-48-7 | 2-Methylphenol | ND | | 1990 | 1340 | 67 | 2000 | 1170 | 59 | 14 | 46-105/36 |
| | 3&4-Methylphenol | ND | | 1990 | 1470 | 74 | 2000 | 1260 | 63 | 15 | 43-120/34 |
| 88-75-5 | 2-Nitrophenol | ND | | 1990 | 1390 | 70 | 2000 | 1200 | 60 | 15 | 49-104/40 |
| 100-02-7 | 4-Nitrophenol | ND | | 1990 | 1540 | 77 | 2000 | 1300 | 65 | 17 | 29-129/41 |
| 87-86-5 | Pentachlorophenol | ND | | 1990 | 549 | 28* | 2000 | 350 | 18* | 44* | 36-122/39 |
| 108-95-2 | Phenol | ND | | 1990 | 1510 | 76 | 2000 | 1290 | 65 | 16 | 48-117/36 |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | 1990 | 1550 | 78 | 2000 | 1310 | 66 | 17 | 57-116/37 |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | 1990 | 1490 | 75 | 2000 | 1270 | 64 | 16 | 54-112/36 |
| 83-32-9 | Acenaphthene | ND | | 1990 | 1470 | 74 | 2000 | 1260 | 63 | 15 | 52-109/35 |
| 208-96-8 | Acenaphthylene | ND | | 1990 | 1570 | 79 | 2000 | 1330 | 67 | 17 | 54-115/33 |
| 62-53-3 | Aniline | ND | | 1990 | 1460 | 73 | 2000 | 1270 | 64 | 14 | 28-116/39 |
| 120-12-7 | Anthracene | ND | | 1990 | 1500 | 75 | 2000 | 1260 | 63 | 17 | 57-114/35 |
| 92-87-5 | Benzidine | ND | | 3980 | 2100 | 52 | 4000 | 1800 | 45 | 15 | 15-156/40 |
| 56-55-3 | Benzo(a)anthracene | ND | | 1990 | 1500 | 75 | 2000 | 1260 | 63 | 17 | 59-114/38 |
| 50-32-8 | Benzo(a)pyrene | ND | | 1990 | 1410 | 71 | 2000 | 1200 | 60 | 16 | 53-106/37 |
| 205-99-2 | Benzo(b)fluoranthene | ND | | 1990 | 1420 | 71 | 2000 | 1240 | 62 | 14 | 54-115/40 |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | 1990 | 1500 | 75 | 2000 | 1280 | 64 | 16 | 44-127/39 |
| 207-08-9 | Benzo(k)fluoranthene | ND | | 1990 | 1470 | 74 | 2000 | 1230 | 62 | 18 | 52-124/38 |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | 1990 | 1550 | 78 | 2000 | 1310 | 66 | 17 | 51-116/35 |
| 85-68-7 | Butyl benzyl phthalate | ND | | 1990 | 1660 | 83 | 2000 | 1400 | 70 | 17 | 52-117/36 |
| 100-51-6 | Benzyl Alcohol | ND | | 1990 | 1490 | 75 | 2000 | 1270 | 64 | 16 | 52-104/37 |
| 91-58-7 | 2-Chloronaphthalene | ND | | 1990 | 1650 | 83 | 2000 | 1480 | 74 | 11 | 47-125/36 |
| 106-47-8 | 4-Chloroaniline | ND | | 1990 | 1510 | 76 | 2000 | 1300 | 65 | 15 | 38-113/36 |
| 86-74-8 | Carbazole | ND | | 1990 | 1620 | 81 | 2000 | 1400 | 70 | 15 | 53-113/36 |
| 218-01-9 | Chrysene | ND | | 1990 | 1510 | 76 | 2000 | 1270 | 64 | 17 | 62-117/38 |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | 1990 | 1430 | 72 | 2000 | 1230 | 62 | 15 | 41-106/35 |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | 1990 | 1310 | 66 | 2000 | 1140 | 57 | 14 | 36-108/37 |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | | 1990 | 1310 | 66 | 2000 | 1140 | 57 | 14 | 33-111/39 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | 1990 | 1530 | 77 | 2000 | 1300 | 65 | 16 | 52-113/34 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-MS | O12267.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |
| OP34114-MSD | O12268.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |
| TC55542-1 | O12266.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Compound | TC55542-1 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 1990 | 1250 | 63 | 2000 | 1100 | 55 | 13 | 41-106/38 |
| 122-66-7 | 1,2-Diphenylhydrazine | ND | | 1990 | 1450 | 73 | 2000 | 1200 | 60 | 19 | 51-113/34 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 1990 | 1200 | 60 | 2000 | 1070 | 54 | 11 | 39-104/39 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 1990 | 1250 | 63 | 2000 | 1110 | 56 | 12 | 40-105/39 |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | 1990 | 1550 | 78 | 2000 | 1310 | 66 | 17 | 55-117/37 |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | 1990 | 1560 | 78 | 2000 | 1320 | 66 | 17 | 56-112/36 |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | 1990 | 1490 | 75 | 2000 | 1240 | 62 | 18 | 33-129/39 |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | 1990 | 1490 | 75 | 2000 | 1270 | 64 | 16 | 47-126/38 |
| 132-64-9 | Dibenzofuran | ND | | 1990 | 1560 | 78 | 2000 | 1340 | 67 | 15 | 51-112/34 |
| 84-74-2 | Di-n-butyl phthalate | ND | | 1990 | 1670 | 84 | 2000 | 1440 | 72 | 15 | 54-117/36 |
| 117-84-0 | Di-n-octyl phthalate | ND | | 1990 | 1650 | 83 | 2000 | 1400 | 70 | 16 | 47-119/40 |
| 84-66-2 | Diethyl phthalate | ND | | 1990 | 1730 | 87 | 2000 | 1440 | 72 | 18 | 53-114/36 |
| 131-11-3 | Dimethyl phthalate | ND | | 1990 | 1690 | 85 | 2000 | 1420 | 71 | 17 | 55-111/34 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | 1990 | 1770 | 89 | 2000 | 1500 | 75 | 17 | 51-123/40 |
| 206-44-0 | Fluoranthene | ND | | 1990 | 1510 | 76 | 2000 | 1310 | 66 | 14 | 54-118/39 |
| 86-73-7 | Fluorene | ND | | 1990 | 1540 | 77 | 2000 | 1300 | 65 | 17 | 55-114/37 |
| 118-74-1 | Hexachlorobenzene | ND | | 1990 | 1540 | 77 | 2000 | 1300 | 65 | 17 | 51-117/37 |
| 87-68-3 | Hexachlorobutadiene | ND | | 1990 | 1360 | 68 | 2000 | 1190 | 60 | 13 | 37-111/38 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | 1990 | 982 | 49 | 2000 | 855 | 43 | 14 | 10-121/45 |
| 67-72-1 | Hexachloroethane | ND | | 1990 | 1360 | 68 | 2000 | 1200 | 60 | 13 | 42-100/41 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | 1990 | 1440 | 72 | 2000 | 1250 | 63 | 14 | 45-129/38 |
| 78-59-1 | Isophorone | ND | | 1990 | 1520 | 76 | 2000 | 1290 | 65 | 16 | 47-102/35 |
| 90-12-0 | 1-Methylnaphthalene | ND | | 1990 | 1460 | 73 | 2000 | 1260 | 63 | 15 | 50-106/38 |
| 91-57-6 | 2-Methylnaphthalene | ND | | 1990 | 1420 | 71 | 2000 | 1220 | 61 | 15 | 45-104/37 |
| 88-74-4 | 2-Nitroaniline | ND | | 1990 | 1630 | 82 | 2000 | 1380 | 69 | 17 | 46-121/40 |
| 99-09-2 | 3-Nitroaniline | ND | | 1990 | 1590 | 80 | 2000 | 1340 | 67 | 17 | 33-107/37 |
| 100-01-6 | 4-Nitroaniline | ND | | 1990 | 1490 | 75 | 2000 | 1290 | 65 | 14 | 52-110/36 |
| 91-20-3 | Naphthalene | ND | | 1990 | 1390 | 70 | 2000 | 1200 | 60 | 15 | 47-108/34 |
| 98-95-3 | Nitrobenzene | ND | | 1990 | 1390 | 70 | 2000 | 1200 | 60 | 15 | 45-105/36 |
| 62-75-9 | n-Nitrosodimethylamine | ND | | 1990 | 1440 | 72 | 2000 | 1230 | 62 | 16 | 33-103/39 |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | | 1990 | 1450 | 73 | 2000 | 1230 | 62 | 16 | 42-110/36 |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | 3980 | 2800 | 70 | 4000 | 2360 | 59 | 17 | 37-114/35 |
| 85-01-8 | Phenanthrene | ND | | 1990 | 1500 | 75 | 2000 | 1280 | 64 | 16 | 57-116/42 |
| 129-00-0 | Pyrene | ND | | 1990 | 1530 | 77 | 2000 | 1270 | 64 | 19 | 52-120/40 |
| 110-86-1 | Pyridine | ND | | 1990 | 1330 | 67 | 2000 | 1140 | 57 | 15 | 17-105/43 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 1990 | 1370 | 69 | 2000 | 1190 | 60 | 14 | 40-101/36 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34114-MS | O12267.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |
| OP34114-MSD | O12268.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |
| TC55542-1 | O12266.D | 1 | 09/29/14 | GJ | 09/29/14 | OP34114 | EO682 |

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

TC55519-3A

| CAS No. | Surrogate Recoveries | MS | MSD | TC55542-1 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 84% | 70% | 65% | 26-124% |
| 4165-62-2 | Phenol-d5 | 86% | 71% | 68% | 19-106% |
| 118-79-6 | 2,4,6-Tribromophenol | 85% | 69% | 75% | 18-129% |
| 4165-60-0 | Nitrobenzene-d5 | 77% | 63% | 62% | 18-104% |
| 321-60-8 | 2-Fluorobiphenyl | 80% | 66% | 66% | 21-114% |
| 1718-51-0 | Terphenyl-d14 | 94% | 78% | 82% | 24-149% |

* = 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:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34109-MB | LB105604.D | 1 | 09/29/14 | ZL | 09/29/14 | OP34109 | GLB1560 |

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

TC55519-3A

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C6-C12) | ND | 25 | 14 | mg/kg | |
| | TPH (> C12-C28) | ND | 25 | 14 | mg/kg | |
| | TPH (> C28-C35) | ND | 25 | 14 | mg/kg | |
| | TPH (C6-C35) | ND | 25 | 14 | mg/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 84-15-1 | o-Terphenyl | 111% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 129% | 70-130% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34111-MB | LB105670.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLB1560 |

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

TC55519-1, TC55519-2, TC55519-3

| 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 | 99% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 107% | 70-130% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34112-MB | OO31362.D | 1 | 09/29/14 | SC | 09/29/14 | OP34112 | GOO522 |

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

TC55519-3A

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | 17 | 3.3 | ug/kg | |
| 11104-28-2 | Aroclor 1221 | ND | 17 | 6.6 | ug/kg | |
| 11141-16-5 | Aroclor 1232 | ND | 17 | 6.6 | ug/kg | |
| 53469-21-9 | Aroclor 1242 | ND | 17 | 3.4 | ug/kg | |
| 12672-29-6 | Aroclor 1248 | ND | 17 | 3.9 | ug/kg | |
| 11097-69-1 | Aroclor 1254 | ND | 17 | 3.8 | ug/kg | |
| 11096-82-5 | Aroclor 1260 | ND | 17 | 8.5 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 73% | 30-118% |
| 2051-24-3 | Decachlorobiphenyl | 61% | 29-122% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34121-MB | OO31438.D | 1 | 10/01/14 | SC | 09/29/14 | OP34121 | GOO524 |

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

TC55519-1

| 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 | 71% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 72% | 27-119% |

# Method Blank Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34144-MB | OO31455.D | 1 | 10/01/14 | SC | 10/01/14 | OP34144 | GOO524 |

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

TC55519-2, TC55519-3

| 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 | 67% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 66% | 27-119% |

# Blank Spike Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34112-BS | OO31363.D | 1 | 09/29/14 | SC | 09/29/14 | OP34112 | GOO522 |

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

TC55519-3A

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 66.6 | 61.0 | 92 | 73-123 |
| 11096-82-5 | Aroclor 1260 | 66.6 | 59.2 | 89 | 73-124 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 69% | 30-118% |
| 2051-24-3 | Decachlorobiphenyl | 71% | 29-122% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34111-BS | LB105666.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLB1560 |
| OP34111-BSD | LB105668.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLB1560 |

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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Compound | Spike mg/l | BSP mg/l | BSP % | BSD mg/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 50 | 46.6 | 93 | 45.4 | 91 | 3 | 75-125/20 |
| | TPH (> C12-C28) | 50 | 51.1 | 102 | 49.9 | 100 | 2 | 75-125/20 |
| | TPH (C6-C35) | 100 | 97.7 | 98 | 95.2 | 95 | 3 | 75-125/20 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 96% | 94% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 108% | 105% | 70-130% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34109-BS | LB105696.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34109 | GLB1560 |
| OP34109-BSD | LB105698.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34109 | GLB1560 |

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

TC55519-3A

| CAS No. | Compound | Spike mg/kg | BSP mg/kg | BSP % | BSD mg/kg | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 250 | 254 | 102 | 253 | 101 | 0 | 75-125/20 |
| | TPH (> C12-C28) | 250 | 251 | 100 | 249 | 100 | 1 | 75-125/20 |
| | TPH (C6-C35) | 500 | 505 | 101 | 502 | 100 | 1 | 75-125/20 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 100% | 99% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 125% | 120% | 70-130% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34121-BS | OO31412.D | 1 | 10/01/14 | SC | 09/29/14 | OP34121 | GOO523 |
| OP34121-BSD | OO31413.D | 1 | 10/01/14 | SC | 09/29/14 | OP34121 | GOO523 |

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

TC55519-1

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 2 | 1.8 | 90 | 1.9 | 95 | 5 | 59-126/31 |
| 11096-82-5 | Aroclor 1260 | 2 | 1.8 | 90 | 1.8 | 90 | 0 | 65-126/35 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 71% | 76% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 75% | 78% | 27-119% |

* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34144-BS | OO31456.D | 1 | 10/01/14 | SC | 10/01/14 | OP34144 | GOO524 |
| OP34144-BSD | OO31457.D | 1 | 10/01/14 | SC | 10/01/14 | OP34144 | GOO524 |

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

TC55519-2, TC55519-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | BSD ug/l | BSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 2 | 1.6 | 80 | 1.8 | 90 | 12 | 59-126/31 |
| 11096-82-5 | Aroclor 1260 | 2 | 1.8 | 90 | 2.0 | 100 | 11 | 65-126/35 |

| CAS No. | Surrogate Recoveries | BSP | BSD | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 69% | 76% | 30-112% |
| 2051-24-3 | Decachlorobiphenyl | 74% | 82% | 27-119% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34109-MS | LF105607.D | 1 | 09/29/14 | ZL | 09/29/14 | OP34109 | GLF1560 |
| OP34109-MSD | LF105609.D | 1 | 09/29/14 | ZL | 09/29/14 | OP34109 | GLF1560 |
| TC55549-2 | LF105605.D | 1 | 09/29/14 | ZL | 09/29/14 | OP34109 | GLF1560 |

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

TC55519-3A

| CAS No. | Compound | TC55549-2 mg/kg | Q | Spike mg/kg | MS mg/kg | MS % | Spike mg/kg | MSD mg/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TPH (C6-C12) | ND | | 302 | 229 | 76 | 302 | 234 | 78 | 2 | 75-125/20 |
| | TPH (> C12-C28) | ND | | 302 | 277 | 92 | 302 | 288 | 95 | 4 | 75-125/20 |
| | TPH (C6-C35) | ND | | 603 | 506 | 84 | 603 | 522 | 87 | 3 | 75-125/20 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC55549-2 | Limits |
|---|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 94% | 98% | 95% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 85% | 87% | 86% | 70-130% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34111-MS | LF105667.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLF1560 |
| OP34111-MSD | LF105669.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLF1560 |
| TC55601-1 | LF105671.D | 1 | 09/30/14 | ZL | 09/29/14 | OP34111 | GLF1560 |

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

TC55519-1, TC55519-2, TC55519-3

| CAS No. | Compound | TC55601-1 mg/l | Q | Spike mg/l | MS mg/l | MS % | Spike mg/l | MSD mg/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TPH (C6-C12) | 2.58 | | 49.1 | 40.3 | 77 | 49 | 41.5 | 79 | 3 | 75-125/20 |
| | TPH (> C12-C28) | 28.3 | | 49.1 | 83.3 | 112 | 49 | 95.7 | 137* | 14 | 75-125/20 |
| | TPH (C6-C35) | 30.9 | | 98.1 | 124 | 95 | 98.1 | 137 | 108 | 10 | 75-125/20 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC55601-1 | Limits |
|---|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 100% | 115% | 102% | 70-130% |
| 98-08-8 | aaa-Trifluorotoluene | 79% | 82% | 81% | 70-130% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** TC55519
**Account:** RFWTXHO Weston Solutions
**Project:** CES- Chemical Spill/4904 Griggs, Houston, TX

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP34112-MS | OO31370.D | 5 | 09/30/14 | SC | 09/29/14 | OP34112 | GOO522 |
| OP34112-MSD | OO31371.D | 5 | 09/30/14 | SC | 09/29/14 | OP34112 | GOO522 |
| TC55416-2 | OO31369.D | 5 | 09/30/14 | SC | 09/29/14 | OP34112 | GOO522 |

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

TC55519-3A

| CAS No. | Compound | TC55416-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 810 | U | 635 | 702 | 111 | 647 | 557 | 86 | 23 | 73-123/33 |
| 11096-82-5 | Aroclor 1260 | 810 | U | 635 | 638 | 100 | 647 | ND | 0* | 200* | 73-124/30 |

| CAS No. | Surrogate Recoveries | MS | MSD | TC55416-2 | Limits |
|---|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 60% | 46% | 47% | 30-118% |
| 2051-24-3 | Decachlorobiphenyl | 50% | 40% | 41% | 29-122% |

* = Outside of Control Limits.

Gulf Coast ACCUTEST LABORATORIES

# 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: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24288
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/29/14

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 10 | .41 | 1.2 | 0.17 | <10 |
| Antimony | 0.25 | .05 | .09 | 0.034 | <0.25 |
| Arsenic | 0.25 | .085 | .087 | -0.032 | <0.25 |
| Barium | 10 | .049 | .013 | 0.0 | <10 |
| Beryllium | 0.20 | .0028 | .034 | 0.0020 | <0.20 |
| Boron | 5.0 | .07 | .29 | | |
| Cadmium | 0.20 | .0055 | .013 | 0.0075 | <0.20 |
| Calcium | 250 | .37 | .39 | 0.61 | <250 |
| Chromium | 0.50 | .012 | .07 | 0.020 | <0.50 |
| Cobalt | 2.5 | .0075 | .02 | -0.0020 | <2.5 |
| Copper | 1.0 | .056 | .11 | 0.10 | <1.0 |
| Iron | 5.0 | .057 | .72 | 0.38 | <5.0 |
| Lead | 0.15 | .05 | .11 | 0.023 | <0.15 |
| Lithium | 15 | .1 | .074 | | |
| Magnesium | 250 | .38 | 1.4 | 0.44 | <250 |
| Manganese | 0.75 | .0027 | .02 | 0.0095 | <0.75 |
| Molybdenum | 0.50 | .02 | .026 | | |
| Nickel | 2.0 | .035 | .038 | 0.0020 | <2.0 |
| Potassium | 250 | 2 | 2.1 | 0.72 | <250 |
| Selenium | 0.25 | .077 | .094 | 0.012 | <0.25 |
| Silver | 0.50 | .058 | .035 | 0.0035 | <0.50 |
| Sodium | 250 | .46 | .77 | -0.31 | <250 |
| Sulfur | 2.5 | | .41 | | |
| Strontium | 0.50 | .0031 | .006 | | |
| Thallium | 0.50 | .034 | .12 | 0.019 | <0.50 |
| Tin | 2.5 | .035 | .38 | | |
| Titanium | 1.0 | .015 | .034 | | |
| Vanadium | 2.5 | .015 | .021 | 0.0090 | <2.5 |
| Zinc | 1.0 | .026 | .28 | 0.19 | <1.0 |

Associated samples MP24288: TC55519-3A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24288
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/29/14

| Metal | TC55437-9 Original | MS | Spikelot MPTW11 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | 28300 | 32000 | 3200 | 115.7 | 75-125 |
| Antimony | 0.58 | 11.6 | 25.6 | 43.1N(a) | 75-125 |
| Arsenic | 7.5 | 26.4 | 25.6 | 73.8N(a) | 75-125 |
| Barium | 429 | 252 | 25.6 | -691.6(b | 75-125 |
| Beryllium | 1.1 | 22.8 | 25.6 | 84.8 | 75-125 |
| Cadmium | 0.079 | 22.9 | 25.6 | 89.2 | 75-125 |
| Calcium | 93700 | 97200 | 3200 | 109.4 | 75-125 |
| Chromium | 19.5 | 40.0 | 25.6 | 80.1 | 75-125 |
| Cobalt | 17.9 | 23.5 | 25.6 | 21.9N(a) | 75-125 |
| Copper | 11.2 | 33.0 | 25.6 | 85.2 | 75-125 |
| Iron | 16400 | 17600 | 3200 | 37.5 (b) | 75-125 |
| Lead | 18.8 | 32.9 | 25.6 | 55.1N(a) | 75-125 |
| Magnesium | 5600 | 8370 | 3200 | 86.6 | 75-125 |
| Manganese | 792 | 128 | 25.6 | -2594.4b | 75-125 |
| Molybdenum | anr | | | | |
| Nickel | 20.7 | 43.9 | 25.6 | 90.6 | 75-125 |
| Potassium | 2790 | 5740 | 3200 | 92.2 | 75-125 |
| Selenium | 0.97 | 25.0 | 25.6 | 93.9 | 75-125 |
| Silver | 0.0 | 23.4 | 25.6 | 91.4 | 75-125 |
| Sodium | 1740 | 5240 | 3200 | 109.4 | 75-125 |
| Thallium | 0.0 | 24.6 | 25.6 | 96.1 | 75-125 |
| Vanadium | 42.1 | 54.4 | 25.6 | 48.1N(a) | 75-125 |
| Zinc | 31.4 | 56.9 | 25.6 | 99.6 | 75-125 |

Associated samples MP24288: TC55519-3A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24288 Methods: SW846 6010B
Matrix Type: SOLID Units: mg/kg

Prep Date: 09/29/14

| Metal | TC55437-9 Original | MSD | Spikelot MPTW11 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | 28300 | 31300 | 3170 | 94.7 | 2.2 | 20 |
| Antimony | 0.58 | 10.3 | 25.4 | 38.3N(a) | 11.9 | 20 |
| Arsenic | 7.5 | 25.7 | 25.4 | 71.8N(a) | 2.7 | 20 |
| Barium | 429 | 249 | 25.4 | -709.9(b | 1.2 | 20 |
| Beryllium | 1.1 | 22.3 | 25.4 | 83.6 | 2.2 | 20 |
| Cadmium | 0.079 | 22.5 | 25.4 | 88.4 | 1.8 | 20 |
| Calcium | 93700 | 90100 | 3170 | -113.6(b | 7.6 | 20 |
| Chromium | 19.5 | 39.5 | 25.4 | 78.9 | 1.3 | 20 |
| Cobalt | 17.9 | 23.0 | 25.4 | 20.1N(a) | 2.2 | 20 |
| Copper | 11.2 | 32.5 | 25.4 | 84.0 | 1.5 | 20 |
| Iron | 16400 | 17900 | 3170 | 47.3 (b) | 1.7 | 20 |
| Lead | 18.8 | 31.7 | 25.4 | 50.9N(a) | 3.7 | 20 |
| Magnesium | 5600 | 8310 | 3170 | 85.5 | 0.7 | 20 |
| Manganese | 792 | 121 | 25.4 | -2646.3b | 5.6 | 20 |
| Molybdenum | anr | | | | | |
| Nickel | 20.7 | 42.7 | 25.4 | 86.8 | 2.8 | 20 |
| Potassium | 2790 | 5610 | 3170 | 89.0 | 2.3 | 20 |
| Selenium | 0.97 | 24.5 | 25.4 | 92.8 | 2.0 | 20 |
| Silver | | | | | | |
| Sodium | 1740 | 5070 | 3170 | 105.1 | 3.3 | 20 |
| Thallium | 0.0 | 23.9 | 25.4 | 94.3 | 2.9 | 20 |
| Vanadium | 42.1 | 54.6 | 25.4 | 49.3N(a) | 0.4 | 20 |
| Zinc | 31.4 | 56.0 | 25.4 | 97.0 | 1.6 | 20 |

Associated samples MP24288: TC55519-3A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24288
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/29/14

| Metal | LCS Result | Spikelot MPLCD065 | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | 8090 | 7340 | 110.2 | 46-154 |
| Antimony | 68.6 | 74 | 92.7 | 0-257 |
| Arsenic | 78.4 | 89.3 | 87.8 | 77-123 |
| Barium | 313 | 345 | 90.7 | 82-118 |
| Beryllium | 67.4 | 73 | 92.3 | 82-118 |
| Boron | | | | |
| Cadmium | 58.2 | 63.9 | 91.1 | 81-119 |
| Calcium | 4900 | 5330 | 91.9 | 80-120 |
| Chromium | 120 | 127 | 94.5 | 79-121 |
| Cobalt | 107 | 113 | 94.7 | 82-119 |
| Copper | 99.0 | 102 | 97.1 | 81-120 |
| Iron | 12700 | 14600 | 87.0 | 45-155 |
| Lead | 176 | 176 | 100.0 | 81-119 |
| Lithium | | | | |
| Magnesium | 2210 | 2430 | 90.9 | 74-126 |
| Manganese | 453 | 508 | 89.2 | 80-120 |
| Molybdenum | anr | | | |
| Nickel | 102 | 92.9 | 109.8 | 81-119 |
| Potassium | 2040 | 2190 | 93.2 | 69-131 |
| Selenium | 110 | 124 | 88.7 | 77-123 |
| Silver | 43.6 | 48.9 | 89.2 | 74-126 |
| Sodium | 353 | 366 | 96.4 | 66-134 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | 176 | 169 | 104.1 | 76-125 |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | 94.4 | 88.7 | 106.4 | 71-129 |
| Zinc | 207 | 219 | 94.5 | 79-121 |

Associated samples MP24288: TC55519-3A

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24288
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/29/14

| Metal | TC55437-9 Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | 440000 | 450000 | 2.3 | 0-10 |
| Antimony | 9.05 | 0.00 | 100.0(a) | 0-10 |
| Arsenic | 117 | 139 | 19.1*(b) | 0-10 |
| Barium | 6680 | 7970 | 19.4*(b) | 0-10 |
| Beryllium | 16.7 | 20.2 | 21.4*(b) | 0-10 |
| Cadmium | 1.23 | 1.42 | 15.4 (a) | 0-10 |
| Calcium | 1460000 | 1570000 | 7.9 | 0-10 |
| Chromium | 304 | 375 | 23.5*(b) | 0-10 |
| Cobalt | 280 | 347 | 24.2*(b) | 0-10 |
| Copper | 175 | 207 | 18.5*(b) | 0-10 |
| Iron | 255000 | 335000 | 31.3*(b) | 0-10 |
| Lead | 293 | 312 | 6.4 | 0-10 |
| Magnesium | 87200 | 105000 | 20.8*(b) | 0-10 |
| Manganese | 12300 | 16300 | 31.7*(b) | 0-10 |
| Molybdenum | anr | | | |
| Nickel | 323 | 297 | 8.1 | 0-10 |
| Potassium | 43500 | 48600 | 11.8*(b) | 0-10 |
| Selenium | 15.1 | 0.00 | 100.0(a) | 0-10 |
| Silver | 0.00 | 0.00 | NC | 0-10 |
| Sodium | 27100 | 27500 | 1.6 | 0-10 |
| Thallium | 0.00 | 0.00 | NC | 0-10 |
| Vanadium | 655 | 795 | 21.3*(b) | 0-10 |
| Zinc | 489 | 576 | 17.7*(b) | 0-10 |

Associated samples MP24288: TC55519-3A

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).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24295
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/30/14

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 8.3 | 18 | 12.3 | <200 |
| Antimony | 5.0 | 1 | 1.1 | 0.95 | <5.0 |
| Arsenic | 5.0 | 1.7 | 4.7 | -0.16 | <5.0 |
| Barium | 200 | .97 | .39 | -0.020 | <200 |
| Beryllium | 4.0 | .056 | .18 | 0.040 | <4.0 |
| Boron | 100 | 1.4 | 5.9 | | |
| Cadmium | 4.0 | .11 | .23 | 0.14 | <4.0 |
| Calcium | 5000 | 7.4 | 34 | 20.1 | <5000 |
| Chromium | 10 | .23 | .62 | 0.0 | <10 |
| Cobalt | 50 | .15 | .23 | 0.0 | <50 |
| Copper | 20 | 1.1 | 2.9 | 3.0 | <20 |
| Iron | 100 | 1.1 | 30 | 2.5 | <100 |
| Lead | 3.0 | 1 | .77 | 0.18 | <3.0 |
| Lithium | 300 | 2 | 2.2 | | |
| Magnesium | 5000 | 7.7 | 19 | 2.9 | <5000 |
| Manganese | 15 | .054 | .25 | 0.030 | <15 |
| Molybdenum | 10 | .39 | .41 | | |
| Nickel | 40 | .69 | .4 | -0.11 | <40 |
| Potassium | 5000 | 39 | 52 | 26.4 | <5000 |
| Selenium | 5.0 | 1.5 | 2.4 | 0.99 | <5.0 |
| Silver | 10 | 1.2 | .59 | 0.19 | <10 |
| Sodium | 5000 | 9.2 | 23 | -3.8 | <5000 |
| Strontium | 10 | .061 | .21 | | |
| Thallium | 10 | .67 | 2.1 | 0.46 | <10 |
| Tin | 50 | .69 | 1 | | |
| Titanium | 20 | .29 | .4 | | |
| Vanadium | 50 | .3 | .51 | 0.040 | <50 |
| Zinc | 20 | .51 | 1.5 | 1.2 | <20 |
| Sulfur | 50 | | 5.8 | | |

Associated samples MP24295: TC55519-1, TC55519-2, TC55519-3

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24295
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/30/14

| Metal | TC55641-7 Original | MS | Spikelot MPTW11 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | 38.5 | 55200 | 50000 | 110.3 | 75-125 |
| Antimony | 0.0 | 389 | 400 | 97.3 | 75-125 |
| Arsenic | 0.0 | 408 | 400 | 102.0 | 75-125 |
| Barium | 93.7 | 500 | 400 | 101.6 | 75-125 |
| Beryllium | 0.090 | 464 | 400 | 116.0 | 75-125 |
| Boron | | | | | |
| Cadmium | 0.0 | 408 | 400 | 102.0 | 75-125 |
| Calcium | 3750 | 61700 | 50000 | 115.9 | 75-125 |
| Chromium | 0.0 | 461 | 400 | 115.3 | 75-125 |
| Cobalt | 0.0 | 417 | 400 | 104.3 | 75-125 |
| Copper | 2.6 | 406 | 400 | 100.9 | 75-125 |
| Iron | 28.1 | 57100 | 50000 | 114.1 | 75-125 |
| Lead | 2.9 | 420 | 400 | 104.3 | 75-125 |
| Lithium | | | | | |
| Magnesium | 464 | 58900 | 50000 | 116.9 | 75-125 |
| Manganese | 3.7 | 443 | 400 | 109.8 | 75-125 |
| Molybdenum | anr | | | | |
| Nickel | 0.0 | 414 | 400 | 103.5 | 75-125 |
| Potassium | 2450 | 55500 | 50000 | 106.1 | 75-125 |
| Selenium | 0.0 | 405 | 400 | 101.3 | 75-125 |
| Silver | 0.0 | 422 | 400 | 105.5 | 75-125 |
| Sodium | 245000 | 299000 | 50000 | 108.0 | 75-125 |
| Strontium | | | | | |
| Thallium | 0.0 | 395 | 400 | 98.8 | 75-125 |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | 0.0 | 426 | 400 | 106.5 | 75-125 |
| Zinc | 6.0 | 445 | 400 | 109.8 | 75-125 |
| Sulfur | | | | | |

Associated samples MP24295: TC55519-1, TC55519-2, TC55519-3

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24295
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/30/14

| Metal | TC55641-7 Original | MSD | Spikelot MPTW11 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | 38.5 | 53800 | 50000 | 107.5 | 2.6 | 20 |
| Antimony | 0.0 | 393 | 400 | 98.3 | 1.0 | 20 |
| Arsenic | 0.0 | 408 | 400 | 102.0 | 0.0 | 20 |
| Barium | 93.7 | 495 | 400 | 100.3 | 1.0 | 20 |
| Beryllium | 0.090 | 452 | 400 | 113.0 | 2.6 | 20 |
| Boron | | | | | | |
| Cadmium | 0.0 | 405 | 400 | 101.3 | 0.7 | 20 |
| Calcium | 3750 | 60200 | 50000 | 112.9 | 2.5 | 20 |
| Chromium | 0.0 | 449 | 400 | 112.3 | 2.6 | 20 |
| Cobalt | 0.0 | 416 | 400 | 104.0 | 0.2 | 20 |
| Copper | 2.6 | 405 | 400 | 100.6 | 0.2 | 20 |
| Iron | 28.1 | 55200 | 50000 | 110.3 | 3.4 | 20 |
| Lead | 2.9 | 414 | 400 | 102.8 | 1.4 | 20 |
| Lithium | | | | | | |
| Magnesium | 464 | 55500 | 50000 | 110.1 | 5.9 | 20 |
| Manganese | 3.7 | 431 | 400 | 106.8 | 2.7 | 20 |
| Molybdenum | anr | | | | | |
| Nickel | 0.0 | 410 | 400 | 102.5 | 1.0 | 20 |
| Potassium | 2450 | 54900 | 50000 | 104.9 | 1.1 | 20 |
| Selenium | 0.0 | 406 | 400 | 101.5 | 0.2 | 20 |
| Silver | 0.0 | 414 | 400 | 103.5 | 1.9 | 20 |
| Sodium | 245000 | 294000 | 50000 | 98.0 | 1.7 | 20 |
| Strontium | | | | | | |
| Thallium | 0.0 | 393 | 400 | 98.3 | 0.5 | 20 |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | 0.0 | 424 | 400 | 106.0 | 0.5 | 20 |
| Zinc | 6.0 | 445 | 400 | 109.8 | 0.0 | 20 |
| Sulfur | | | | | | |

Associated samples MP24295: TC55519-1, TC55519-2, TC55519-3

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24295
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/30/14

| Metal | BSP Result | Spikelot MPTW11 | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | 55100 | 50000 | 110.2 | 80-120 |
| Antimony | 385 | 400 | 96.3 | 80-120 |
| Arsenic | 399 | 400 | 99.8 | 80-120 |
| Barium | 403 | 400 | 100.8 | 80-120 |
| Beryllium | 468 | 400 | 117.0 | 80-120 |
| Boron | | | | |
| Cadmium | 405 | 400 | 101.3 | 80-120 |
| Calcium | 59500 | 50000 | 119.0 | 80-120 |
| Chromium | 469 | 400 | 117.3 | 80-120 |
| Cobalt | 423 | 400 | 105.8 | 80-120 |
| Copper | 402 | 400 | 100.5 | 80-120 |
| Iron | 57700 | 50000 | 115.4 | 80-120 |
| Lead | 420 | 400 | 105.0 | 80-120 |
| Lithium | | | | |
| Magnesium | 60000 | 50000 | 120.0 | 80-120 |
| Manganese | 445 | 400 | 111.3 | 80-120 |
| Molybdenum | anr | | | |
| Nickel | 415 | 400 | 103.8 | 80-120 |
| Potassium | 53500 | 50000 | 107.0 | 80-120 |
| Selenium | 400 | 400 | 100.0 | 80-120 |
| Silver | 414 | 400 | 103.5 | 80-120 |
| Sodium | 57500 | 50000 | 115.0 | 80-120 |
| Strontium | | | | |
| Thallium | 405 | 400 | 101.3 | 80-120 |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | 432 | 400 | 108.0 | 80-120 |
| Zinc | 442 | 400 | 110.5 | 80-120 |
| Sulfur | | | | |

Associated samples MP24295: TC55519-1, TC55519-2, TC55519-3

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24295
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/30/14

| Metal | TC55641-7 Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | 38.5 | 45.4 | 17.7 (a) | 0-10 |
| Antimony | 0.00 | 6.02 | NC | 0-10 |
| Arsenic | 0.00 | 0.00 | NC | 0-10 |
| Barium | 93.7 | 96.3 | 2.8 | 0-10 |
| Beryllium | 0.0900 | 0.310 | 244.4(a) | 0-10 |
| Boron | | | | |
| Cadmium | 0.00 | 0.00 | NC | 0-10 |
| Calcium | 3750 | 3800 | 1.2 | 0-10 |
| Chromium | 0.00 | 0.00 | NC | 0-10 |
| Cobalt | 0.00 | 0.00 | NC | 0-10 |
| Copper | 2.64 | 6.74 | 155.3(a) | 0-10 |
| Iron | 28.1 | 43.7 | 55.5 (a) | 0-10 |
| Lead | 2.86 | 0.00 | 100.0(a) | 0-10 |
| Lithium | | | | |
| Magnesium | 464 | 427 | 7.8 | 0-10 |
| Manganese | 3.72 | 3.76 | 1.1 | 0-10 |
| Molybdenum | anr | | | |
| Nickel | 0.00 | 0.00 | NC | 0-10 |
| Potassium | 2450 | 2620 | 7.0 | 0-10 |
| Selenium | 0.00 | 0.00 | NC | 0-10 |
| Silver | 0.00 | 0.00 | NC | 0-10 |
| Sodium | 245000 | 257000 | 4.9 | 0-10 |
| Strontium | | | | |
| Thallium | 0.00 | 6.12 | NC | 0-10 |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | 0.00 | 0.00 | NC | 0-10 |
| Zinc | 5.97 | 12.5 | 108.7(a) | 0-10 |
| Sulfur | | | | |

Associated samples MP24295: TC55519-1, TC55519-2, TC55519-3

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: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24298 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 09/30/14

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.031 | .0076 | .012 | 0.0056 | <0.031 |

Associated samples MP24298: TC55519-3A

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

8.3.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24298 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 09/30/14

| Metal | TC55437-9 Original | MS | Spikelot HGTXWS1 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 0.011 | 0.46 | 0.578 | 77.7 | 75-125 |

Associated samples MP24298: TC55519-3A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24298 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 09/30/14

| Metal | TC55437-9 Original | MSD | Spikelot HGTXWS1 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 0.011 | 0.46 | 0.579 | 77.6 | 0.0 | 20 |

Associated samples MP24298: TC55519-3A

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

8.3.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24298
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 09/30/14

| Metal | LCS Result | Spikelot HGLCD065 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 9.7 | 10.4 | 93.3 | 71-130 |

Associated samples MP24298: TC55519-3A

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

8.3.3

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24314
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/01/14

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.20 | .05 | .05 | -0.085 | <0.20 |

Associated samples MP24314: TC55519-1, TC55519-2, TC55519-3

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

8.4.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24314 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/01/14

| Metal | TC55519-1 Original | MS | Spikelot HGTXAQ40 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 668 | 612 | 3 | -1866.7a | 75-125 |

Associated samples MP24314: TC55519-1, TC55519-2, TC55519-3

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: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24314 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/01/14

| Metal | TC55519-1 Original | MSD | Spikelot HGTXAQ40 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 668 | 560 | 3 | -3600.0a | 8.9 | 20 |

Associated samples MP24314: TC55519-1, TC55519-2, TC55519-3

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.

8.4.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC55519
Account: RFWTXHO - Weston Solutions
Project: CES- Chemical Spill/4904 Griggs, Houston, TX

QC Batch ID: MP24314
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/01/14

| Metal | BSP Result | Spikelot HGTXAQ40 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 3.0 | 3 | 100.0 | 81-122 |

Associated samples MP24314: TC55519-1, TC55519-2, TC55519-3

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

8.4.3

8

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: TC55519
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 |
|---|---|---|---|---|---|---|---|---|
| Solids, Total Suspended | GN61321 | 2.0 | 0.0 | mg/l | 500 | 530 | 106.0 | 80-112% |
| Solids, Total Suspended | GN61348 | 2.0 | 0.0 | mg/l | 500 | 486 | 97.2 | 80-112% |
| Total Organic Carbon | GP29624/GN61359 | 1.0 | 0.43 | mg/l | 25 | 25.9 | 103.6 | 90-110% |

Associated Samples:
Batch GN61321: TC55519-2, TC55519-3
Batch GN61348: TC55519-1
Batch GP29624: TC55519-1, TC55519-2, TC55519-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC55519
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 |
|---|---|---|---|---|---|---|---|
| Solids, Total Suspended | GN61321 | TC55571-1 | mg/l | 1.0 | 1.0 | 0.0 | 0-19% |
| Solids, Total Suspended | GN61348 | TC55618-1 | mg/l | 93.0 | 93.0 | 0.0 | 0-19% |
| Total Organic Carbon | GP29624/GN61359 | TC55663-3 | mg/l | 5.5 | 5.3 | 3.7 | 0-17% |

Associated Samples:
Batch GN61321: TC55519-2, TC55519-3
Batch GN61348: TC55519-1
Batch GP29624: TC55519-1, TC55519-2, TC55519-3
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC55519
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 |
|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | GP29624/GN61359 | TC55663-3 | mg/l | 5.5 | 25 | 32.4 | 107.6 | 90-110% |

Associated Samples:
Batch GP29624: TC55519-1, TC55519-2, TC55519-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Gulf Coast ACCUTEST LABORATORIES

## Misc. Forms

# Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

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 # | Bottle Order Control # |
|---|---|
| Accutest Quote # | Accutest Job # TC 55519 |

**Client Information**

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

**Subcontract Information**

| | |
|---|---|
| Subcontract Laboratory | ACCUTEST FLORIDA |
| 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 | TOC | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TC55519-3A | 7/25/2014 | 14:05 | SL | 1 | | | | | | | | | X | |

**Turnaround Time ( Business days)**

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

Approved By:/ Date:

OCT 2nd

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_NARF *

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

**Comments / Remarks**

Sub Sample into a 4oz

Analyze top layer only

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 [signature] | 7-30-14 | 1 FED EX | 2 FED EX | 10-01-14 930 | 2 [signature] |
| 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 # | Preserved where applicable ☐ | On Ice ☐ Cooler Temp. 3.0 |

10.1

10

**TC55519: Chain of Custody**
**Page 1 of 3**
**Accutest Laboratories Southeast, Inc.**

# ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: TC55519 CLIENT: ALGC PROJECT: TC55519

DATE/TIME RECEIVED: 10-01-14 930 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 5642 4618 3376

## COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

## TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [x] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

## MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

## TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 2.6
- [ ] CORRECTED TEMPS: 3.0

## SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

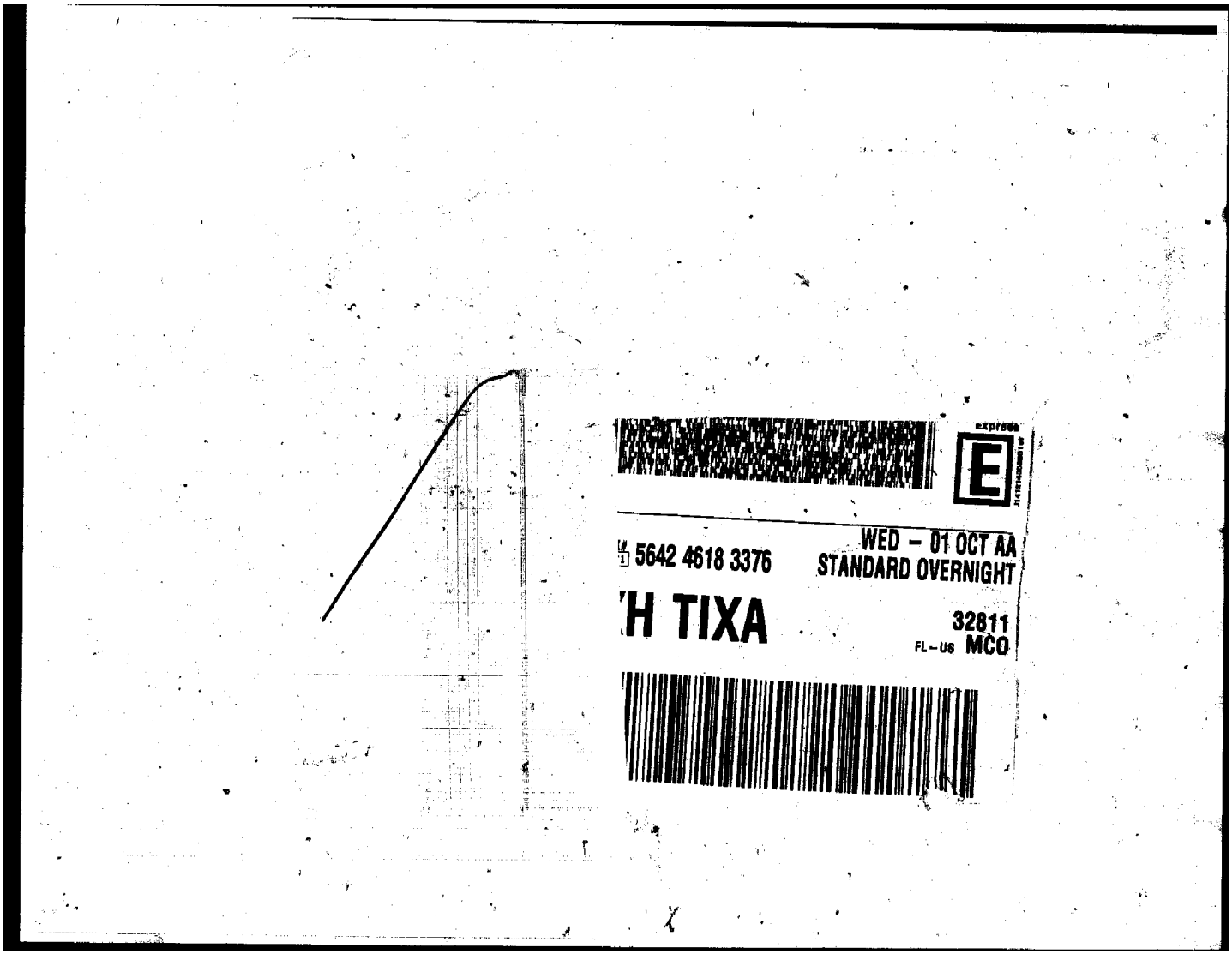
SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 10-01-14 REVIEWER SIGNATURE/DATE 10-1-14

RS 04/14 receipt confirmation 041514.xls

10.1 10

**TC55519: Chain of Custody**
**Page 2 of 3**






**TC55519: Chain of Custody**
**Page 3 of 3**

Gulf Coast ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

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: TC55519
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: RFWTXHO: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | GP24766/GN63497 | 1000 | 0.00 | mg/kg | 20000 | 21300 | 106.5 | 88-114% |

Associated Samples:
Batch GP24766: TC55519-3A
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC55519
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: RFWTXHO: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | GP24766/GN63497 | FA18526-1 | mg/kg | 23100 | 25900 | 48000 | 96.2 | 88-114% |

Associated Samples:
Batch GP24766: TC55519-3A
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC55519
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: RFWTXHO: CES- Chemical Spill/4904 Griggs, Houston, TX

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MSD Result | RPD | QC Limit |
|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | GP24766/GN63497 | FA18526-1 | mg/kg | 23100 | 25900 | 47000 | 2.1 | 36% |

Associated Samples:
Batch GP24766: TC55519-3A
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits