**From:** Katie Delbecq <Katie.Delbecq@tceq.texas.gov>
**Sent:** Thursday, October 30, 2014 4:48 PM
**To:** Terry Andrews
**Subject:** RE: CES Chemical Spill Response Data (DRAFT)
**Attachments:** CES tables reviewed KLD 10-30-14.pdf

Hi Terry,

I found the correct RBEL tables (didn't realize they were for fish health rather than human health at first!). I've attached a scanned copy of my corrections of all the tables. There were many small errors with rounding to a different number of decimal places in the soil PCLs table, where EPA sited the value to several decimal points further than the TRRP PCL tables give. I'm not sure how they got those slightly different numbers. However, there are also several flat-out errors, and the value for Ar changed recently.

I hope this helps! If you have any trouble reading my handwriting in the scanned copy, please let me know!

Have a nice evening,
Katie

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**From:** Katie Delbecq
**Sent:** Thursday, October 30, 2014 12:01 PM
**To:** Terry Andrews
**Subject:** RE: CES Chemical Spill Response Data (DRAFT)

Hi Terry,

I've finished checking the Soil and Air tables, but am a little confused on the Water RBELs. The Water Analytical Data table for CES has columns for TCEQ RBELs Freshwater Acute and TCEQ REBLs Freshwater Chronic, and I can't figure out which TRRP table would correspond with those names. There are Residential and Commercial/Industrial RBELs for Carcinogenic and non-carcinogenic groundwater, and there are the Human Health and Aquatic Life Surface Water RBELs, but I can't find anything specifically called Freshwater, or anything breaking into acute or chronic effects.

I can finish the Water data table after my training (ends at 4) and have that to you by COB once I know which TRRP table to use! I'll send all comments by COB today if that is all right.

Katie Delbecq
Project Manager
Remediation Division, Superfund Section
Texas Commission on Environmental Quality
Phone: (512) 239-2505

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**From:** Terry Andrews
**Sent:** Thursday, October 30, 2014 9:03 AM
**To:** Katie Delbecq
**Subject:** FW: CES Chemical Spill Response Data (DRAFT)



9856810

Hi Katie,
Please review as we discussed.
Thanks,
Terry

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**From:** Moore, Gary [mailto:Moore.Gary@epa.gov]
**Sent:** Wednesday, October 29, 2014 9:37 PM
**To:** Terry Andrews
**Subject:** CES Chemical Spill Response Data (DRAFT)

**Terry:**

**Please look at this data and let me know if I have the appropriate STATE comparison data for each of the media sampled. This is what will go in the EPA report for the Chemical Spill Response. I am also checking with our office to see that I am doing an appropriate comparison. If you could do the review quickly as I would like to get this wrapped up.**

**Thanks**

Gary Moore
Federal On-Scene Coordinator
U.S. EPA Region 6
214-789-1627 cell
214-665-6609 office
moore.gary@epa.gov

# Attachment I - Data Summary Tables
## Industrial Air Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | EPA RSL Residential Air (HI = 1) | EPA RSL Residential Air (HI = 0.1) | TCEQ Short-term ESL | TCEQ Long-term ESL | TCEQ AMCV Short Term Health | TCEQ AMCV Long Term Health | Sample ID Date Type | CES-CS-SUMMA-03 8/6/2014 Field Sample | CES-CS-SUMMA-04 8/6/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOCs** | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/m3 | 3.1 | 31 | 3.1 | ✓700 | ✓125 | NP | NP | -- | **2** | **2.6** |
| 1,4-Dioxane | ug/m3 | 2.5 | 2.5 | 2.5 | ✓900 | ✓90 | NP | NP | -- | 0.63 U | **1.4** |
| 2-Butanone (Methyl Ethyl Ketone) | ug/m3 | 1300 | 22000 | 2200 | ✓1300 | ✓2600 | NP | NP | -- | 2.6 U | **2.8** |
| 4-Ethyltoluene or p-ethyltoluene | ug/m3 | 41 | NP | NP | ✓41 | ✓125 | NP | NP | -- | **1.2** | **1.5** |
| Acetone | ug/m3 | 4800 | 140000 | 14000 | ✓7800 | ✓4800 | NP | NP | -- | **14** | **24** |
| Benzene | ug/m3 | 1.6 | 1.6 | 1.6 | ✓170 | ✓4.5 | NP | NP | -- | 0.56 U | **0.78** |
| Chloromethane | ug/m3 | 39 | 390 | 39 | ✓1030 | ✓103 | NP | NP | -- | 1.8 U | **3.5** |
| Ethanol | ug/m3 | 1880 | NP | NP | ✓1910 | ✓1880 | NP | NP | -- | **7.4** | **4.1** |
| Ethyl Benzene | ug/m3 | 4.9 | 4.9 | 4.9 | ✓740 | ✓570 | NP | NP | -- | **1.1** | **1.7** |
| Freon 11 | ug/m3 | 310 | 3100 | 310 | ✓28000 | ✓5600 | NP | NP | -- | **1.4** | **1.4** |
| Freon 12 | ug/m3 | 44 | 440 | 44 | ✓50000 | ✓5000 | NP | NP | -- | **2.7** | **2.4** |
| Heptane | ug/m3 | 350 | NP | NP | ✓2750 | ✓350 | NP | NP | -- | 0.72 U | **0.76** |
| m,p-Xylene | ug/m3 | NA | NP | NP | NP | NP | NP | NP | -- | **4.2** | **6.7** |
| o-Xylene | ug/m3 | 44 | 440 | 44 | ✓1600 | ✓180 | NP | NP | -- | **1.4** | **2** |
| Toluene | ug/m3 | 1200 | 22000 | 2200 | ✓3500 | ✓1200 | NP | NP | -- | **7.2** | **3.8** |
| TPH ref. to Gasoline (MW=100) | ug/m3 | NA | NP | NP | NP | NP | NP | NP | -- | **98** | **410** |
| **VOCs - TICs** | | | | | | | | | | | |
| 1H-Pyrazole, 4,5-dihydro-4,5-dimethyl- | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **3.1 NJ** |
| 1-Octanol, 5,7,7-trimethyl-2-(1,3,3-trim | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **3.6 NJ** |
| 1-Silacyclo-3-pentene | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **2.2 NJ** |
| 2,3-Butanedione | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **1.9 NJ** |
| 2,4-Dimethyl-1,5-diazabicyclo[3.1.0]hexa | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **1.6 NJ** |
| 2-Propyl-1-pentanol | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **2.7 NJ** |
| 3-Cyclohexene-1-carboxylic acid, methyl | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **7 NJ** |
| Acetaldehyde | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **1.5 NJ** | **2.6 NJ** |
| Benzene, 1,2,4,5-tetramethyl- | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **1.6 NJ** | NA |

# Attachment I - Data Summary Tables
## Industrial Air Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | EPA RSL Residential Air (HI = 1) | EPA RSL Residential Air (HI = 0.1) | TCEQ Short-term ESL | TCEQ Long-term ESL | TCEQ AMCV Short Term Health | TCEQ AMCV Long Term Health | Sample ID Date Type | CES-CS-SUMMA-03 8/6/2014 Field Sample | CES-CS-SUMMA-04 8/6/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOCs - TICs (Continued)** | | | | | | | | | | | |
| Benzene, 1-methyl-4-(1-methylethyl)- | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **2.2 NJ** |
| Decahydro-4,4,8,9,10-pentamethylnaphthal | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | NA | **6.6 NJ** |
| Diethyl disulfide | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **1.3 NJ** | NA |
| Di-tert-butyl disulfide | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **1.5 NJ** | NA |
| Heptane, 2,2,4,6,6-pentamethyl- | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **2.1 NJ** | NA |
| Methyl ethyl disulfide | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **0.88 NJ** | NA |

Notes:
EPA RSL - EPA Regional Screening Levels
TCEQ ESL - TCEQ Effects Screening Levels
TCEQ AMCV - TCEQ Air Monitoring Comparison Values
Site Specific Value is the lowest of the EPA RSLs, TCEQ ESLs and TCEQ AMCVs.
NP indicates not published.
NA indicates not applicable.
Bold indicates a detected concentration
Highlighted values indicate a detection above the screening level
ug/m3 - micograms per cubic meters
PPBv - parts per billion by volume
Qualifer Definitions:
N - results based on presumptive evidence
J - estimated value
U - results not detected above the associated value

# Attachment I - Data Summary Tables
## Residential Air Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | EPA RSL Residential Air (HI = 1) | EPA RSL Residential Air (HI = 0.1) | TCEQ Short-term ESL | TCEQ Long-term ESL | TCEQ AMCV Short Term Health | TCEQ AMCV Long Term Health | Sample ID Date Type | CES-CS-SUMMA-01 8/6/2014 Field Sample | CES-CS-SUMMA-02 8/6/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VOCs | | | | | | | | | | | |
| Acetone | ug/m3 | 3200 | 32000 | 3200 | ✓7800 | ✓4800 | NP | NP | -- | **9.7** | **13** |
| Ethanol ~~(not in table)~~ | ug/m3 | 1880 | NP | NP | ✓1910 | ✓1880 | NP | NP | -- | **3.3** | **3.4** |
| Freon 11 | ug/m3 | 73 | 730 | 73 | ✓28000 | ✓5600 | NP | NP | -- | **1.3** | **1.5** |
| Freon 12 | ug/m3 | 10 | 100 | 10 | ✓50000 | ✓5000 | NP | NP | -- | **2.6** | **2.7** |
| Toluene | ug/m3 | 520 | 5200 | 520 | ✓3500 | ✓1200 | NP | NP | -- | 0.7 U | **1** |
| VOCs - TICs | | | | | | | | | | | |
| 1,3-Butadiene, 2-methyl- | PPBv | 2 | NP | NP | NP | NP | ✓20 | 2 | -- | NA | **2.2 NJ** |
| 1,4-Pentadiene | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **2.7 NJ** | NA |
| Acetaldehyde | PPBv | NA | NP | NP | NP | NP | NP | NP | -- | **1.2 NJ** | **1.4 NJ** |
| Butane, 2-methyl- | PPBv | 8000 | NP | NP | NP | NP | ✓68000 | 8000 | -- | NA | **1 NJ** |

(cas 64-17-5 → called ethyl alcohol in table)

Tracie Philips says requires 1+ years of data to use. Is that condition met yet?

Notes:
EPA RSL - EPA Regional Screening Levels
TCEQ ESL - TCEQ Effects Screening Levels
TCEQ AMCV - TCEQ Air Monitoring Comparison Values (screening levels, not criteria or standards)
Site Specific Value is the lowest of the EPA RSLs, TCEQ ESLs and TCEQ AMCVs.
NP indicates not published.
NA indicates not applicable.
Bold indicates a detected concentration
Highlighted values indicate a detection above the screening level
ug/m3 - micograms per cubic meters
PPBv - parts per billion by volume
Qualifer Definitions:
N - results based on presumptive evidence
J - estimated value
U - results not detected above the associated value

x= error

✓= correct

## Attachment I - Data Summary Tables
## Soil Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| | Analyte | Units | Site Specific Value | Texas Background | EPA RML June 2014 Res Soil Carcinogenic SL TR=1.0E-4 | EPA RML June 2014 Res Soil Noncarcinogenic SL Child HI=3 | TCEQ TRRP PCL Residential Soil 0.5 acre TotSoilComb | EPA RSL Carcinogenic SL TR=1.0E-6 | EPA RSL Noncarcinogenic SL Child HI=1 | EPA RSL Noncarcinogenic SL Child HI=0.1 | Sample ID Date Type | CES-CS-01-51 8/5/2014 Field Sample | CES-CS-02-51 8/5/2014 Field Sample | CES-CS-03-51 8/5/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Metals** | | | | | | | | | | | | | |
| X | Aluminum | mg/kg | 64500 | 30000 | NP | 230000 | 6500 ~~64500~~ | NP | 77000 | 7700 | -- | 18800 | 11000 | 14100 |
| ✓ | Antimony | mg/kg | 15 | 1 | NP | 94 | 15 | NP | 31 | 3.1 | -- | 1.4 J | 0.55 U | 0.33 J |
| X | Arsenic | mg/kg | 24.2 | 5.9 | 67 | 100 | 20 ~~24.2~~ | 0.67 | 34 | 3.4 | -- | 6.8 | 8.4 | 2.1 |
| ✓ | Barium | mg/kg | 8100 | 300 | NP | 46000 | 8100 | NP | 15000 | 1500 | -- | 432 | 60.2 | 100 |
| X | Beryllium | mg/kg | 37.6 | 1.5 | 160000 | 470 | 38 ~~37.6~~ | 1600 | 160 | 16 | -- | 2.7 | 0.55 | 0.55 |
| ✓ | Cadmium | mg/kg | 52.4 | NP | 210000 | 210 | 52.4 | 2100 | 70 | 7 | -- | 0.85 J | 0.22 J | 0.44 |
| ✓ | Calcium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 121000 | 101000 | 19000 |
| X | Chromium | mg/kg | 32600 | 30 | NP | NP | 33000 ~~32600~~ | NP | NP | NP | -- | 34.2 | 11.1 | 15 |
| X | Cobalt | mg/kg | 20.7 | 7 | 42000 | 70 | 400 ~~20.7~~ | 420 | 23 | 2.3 | -- | 6.1 | 4.1 | 3.8 |
| X | Copper | mg/kg | 548 | 15 | NP | 9400 | 1300 ~~548~~ | NP | 3100 | 310 | -- | 48.4 | 10.2 | 16.2 |
| ✓ | Iron | mg/kg | 160000 | 15000 | NP | 160000 | NP | NP | 55000 | 5500 | -- | 12800 | 14100 | 10900 |
| ✓ | Lead | mg/kg | 500 | 15 | NP | NP | 500 | NP | NP | NP | -- | 69.9 | 31 | 48.7 |
| ✓ | Magnesium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 2710 | 1450 | 2000 |
| X | Manganese | mg/kg | 3650 | 300 | NP | 5500 | 3900 ~~3650~~ | NP | 1800 | 180 | -- | 288 | 100 | 145 |
| X | Mercury (at pH= 4.9) | mg/kg | 3.65 | 0.04 | NP | 28 | 3.65 | NP | 9.4 | 0.94 | -- | 1.6 | 0.035 | 0.066 |
| ✓ | Nickel | mg/kg | 845 | 10 | 1500000 | 4600 | 845 | 15000 | 1500 | 150 | -- | 95.9 | 8.4 | 10.9 |
| ✓ | Potassium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 1950 | 1010 | 1790 |
| X | Selenium | mg/kg | 309 | 0.3 | NP | 1200 | 310 ~~309~~ | NP | 390 | 39 | -- | 1.9 J | 1.6 | 0.71 |
| ✓ | Silver | mg/kg | 96.7 | NP | NP | 1200 | 96.7 | NP | 390 | 39 | -- | 0.094 J | 0.042 U | 0.05 U |
| ✓ | Sodium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 465 J | 316 | 160 J |
| ✓ | Vanadium | mg/kg | 75.5 | 50 | NP | 1200 | 75.5 | NP | 390 | 39 | -- | 32.8 | 41.2 | 20.8 |
| X | Zinc | mg/kg | 9920 | 30 | NP | 70000 | 9900 ~~9920~~ | NP | 23000 | 2300 | -- | 354 | 64.9 | 130 |
| | **Pesticides** | | | | | | | | | | | | | |
| X | alpha-Chlordane | ug/kg | 12800 | NP | NP | NP | 13000 ~~12800~~ | NP | NP | NP | -- | 7.1 U | 3.3 J | 3.2 J |
| X | gamma-Chlordane | ug/kg | 7390 | NP | NP | NP | 7400 ~~7390~~ | NP | NP | NP | -- | 7.5 U | 2.2 U | 2.7 U |
| | **SVOCs** | | | | | | | | | | | | | |
| ✓ | Benzo(b)fluoranthene | ug/kg | 5710 | NP | 15000 | NP | 5710 | 150 | NP | NP | -- | 82 U | 48 U | 59 U |
| | bis(2-Ethylhexyl)phthalate | ug/kg | 43200 | NP | 3800000 | 3700000 | 43200 | 38000 | 1200000 | 120000 | -- | 260 U | 150 U | 235 |
| ✓ | Fluoranthene | ug/kg | 2320000 | NP | NP | 7000000 | 2320000 | NP | 2300000 | 230000 | -- | 110 U | 63 U | 78 U |
| ✓ | Pyrene | ug/kg | 1700000 | NP | NP | 5200000 | 1700000 | NP | 1700000 | 170000 | -- | 150 U | 85 U | 100 U |
| | **TPH** | | | | | | | | | | | | | |
| X | TPH (>C12-C28) | mg/kg | NA | NP | NP | NP | 2300 ~~NP~~ | NP | NP | NP | -- | 234 | 17 U | 20 U |
| X | TPH (>C28-C35) | mg/kg | NA | NP | NP | NP | 2300 ~~NP~~ | NP | NP | NP | -- | 147 | 17 U | 20 U |
| ✓ | TPH (C6-C35) | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 381 | 14 U | 16 U |

## Attachment I - Data Summary Tables
## Soil Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | Texas Background | EPA RML June 2014 Res Soil Carcinogenic SL TR=1.0E-4 | EPA RML June 2014 Res Soil Noncarcinogenic SL Child HI=3 | TCEQ TRRP PCL Residential Soil 0.5 acre TotSoilComb | EPA RSL Carcinogenic SL TR=1.0E-6 | EPA RSL Noncarcinogenic SL Child HI=1 | EPA RSL Noncarcinogenic SL Child HI=0.1 | Sample ID<br>Date<br>Type | CES-CS-01-51<br>8/5/2014<br>Field Sample | CES-CS-02-51<br>8/5/2014<br>Field Sample | CES-CS-03-51<br>8/5/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOCs | | | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/kg | 151000 | NP | NP | 170000 | 151000 | NP | 58000 | 5800 | -- | **9.1** | 0.39 U | 0.58 U |
| 1,3,5-Trimethylbenzene | ug/kg | 113000 | NP | NP | 2300000 | 113000 | NP | 780000 | 78000 | -- | **2.4 J** | 0.91 U | 1.3 U |
| Acetone | ug/kg | 65600000 | NP | NP | 180000000 | 65600000 | NP | 61000000 | 6100000 | -- | **71.1 J** | 9.7 U | 14 U |
| Carbon disulfide | ug/kg | 2300000 | NP | NP | 2300000 | 46[illegible]000 | NP | 770000 | 77000 | -- | **3.5 J** | 0.56 U | 0.83 U |
| Ethylbenzene | ug/kg | 580000 | NP | 580000 | 10000000 | 6390000 | 5800 | 3400000 | 340000 | -- | **13.3** | 0.94 U | 1.4 U |
| m,p-Xylene | ug/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | **12.1 J** | 1.7 U | 2.5 U |
| Methyl ethyl ketone | ug/kg | 39500000 | NP | NP | 81000000 | 39500000 | NP | 27000000 | 2700000 | -- | **26.2 J** | 4.9 U | 7.1 U |
| o-Xylene | ug/kg | 1900000 | NP | NP | 1900000 | 48200000 | NP | 650000 | 65000 | -- | **6.5 J** | 0.98 U | 1.4 U |
| Toluene | ug/kg | 5930000 | NP | NP | 15000000 | 5930000 | NP | 4900000 | 490000 | -- | **2.7 J** | 0.99 U | 1.5 U |
| Xylene (total) | ug/kg | 1800000 | NP | NP | 1800000 | 5960000 | NP | 580000 | 58000 | -- | **18.6 J** | 2.7 U | 4 U |

Notes:
EPA RML - EPA Removal Management Levels
TCEQ TRRP PCLs - TCEQ Texas Risk Reduction Program Protective Concentration Levels
EPA RSL - EPA Regional Screening Levels
Site Specific Value is the lowest of the EPA RMLs and TCEQ TRRP PCL.
EPA RSLs are shown for informational purposes only.
NP indicates not published.
NA indicates not applicable.
Bold indicates a detected concentration
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
Qualifer Definitions:
J - estimated value
U - results not detected above the associated value

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## Soil Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | Texas Background | EPA RML June 2014 Res Soil Carcinogenic SL TR=1.0E-4 | EPA RML June 2014 Res Soil Noncarcinogenic SL Child HI=3 | TCEQ TRRP PCL Residential Soil 0.5 acre TotSoilComb | EPA RSL Carcinogenic SL TR=1.0E-6 | EPA RSL Noncarcinogenic SL Child HI=1 | EPA RSL Noncarcinogenic SL Child HI=0.1 | Sample ID Date Type | CES-CS-04-51 8/5/2014 Field Sample | CES-CS-05-51 8/5/2014 Field Sample | CES-CS-06-51 8/5/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | | | | | | |
| Aluminum | mg/kg | 64500 | 30000 | NP | 230000 | 6500 ~~64500~~ | NP | 77000 | 7700 | -- | 14400 | 12800 | 18500 |
| Antimony | mg/kg | 15 | 1 | NP | 94 | 15 | NP | 31 | 3.1 | -- | 0.32 J | 0.36 | 0.46 |
| Arsenic | mg/kg | 24.2 | 5.9 | 67 | 100 | 20 ~~24.2~~ | 0.67 | 34 | 3.4 | -- | 2.5 | 2.8 | 2.9 |
| Barium | mg/kg | 8100 | 300 | NP | 46000 | 8100 | NP | 15000 | 1500 | -- | 98.1 | 112 | 152 |
| Beryllium | mg/kg | 37.6 | 1.5 | 160000 | 470 | 38 ~~37.6~~ | 1600 | 160 | 16 | -- | 0.86 | 1.1 | 1.5 |
| Cadmium | mg/kg | 52.4 | NP | 210000 | 210 | 52.4 | 2100 | 70 | 7 | -- | 0.61 | 0.54 | 0.74 |
| Calcium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 14700 | 20200 | 24400 |
| Chromium | mg/kg | 32600 | 30 | NP | NP | 3300 ~~32600~~ | NP | NP | NP | -- | 18 | 16.5 | 23 |
| Cobalt | mg/kg | 20.7 | 7 | 42000 | 70 | 400 ~~20.7~~ | 420 | 23 | 2.3 | -- | 4.8 | 4.2 | 4.8 |
| Copper | mg/kg | 548 | 15 | NP | 9400 | 1300 ~~548~~ | NP | 3100 | 310 | -- | 17.5 | 20.9 | 22.3 |
| Iron | mg/kg | 160000 | 15000 | NP | 160000 | NP | NP | 55000 | 5500 | -- | 10100 | 9810 | 12100 |
| Lead | mg/kg | 500 | 15 | NP | NP | 500 | NP | NP | NP | -- | 124 | 75.7 | 90.3 |
| Magnesium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 1830 | 1830 | 2360 |
| Manganese | mg/kg | 3650 | 300 | NP | 5500 | 3900 ~~3650~~ | NP | 1800 | 180 | -- | 198 | 184 | 207 |
| Mercury | mg/kg | 3.65 | 0.04 | NP | 28 | 3.65 | NP | 9.4 | 0.94 | -- | 0.11 | 0.087 | 0.11 |
| Nickel | mg/kg | 845 | 10 | 1500000 | 4600 | 845 | 15000 | 1500 | 150 | -- | 11.8 | 13.4 | 16.8 |
| Potassium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 1430 | 1690 | 1860 |
| Selenium | mg/kg | 309 | 0.3 | NP | 1200 | 310 ~~309~~ | NP | 390 | 39 | -- | 0.73 | 0.57 | 0.44 |
| Silver | mg/kg | 96.7 | NP | NP | 1200 | 96.7 | NP | 390 | 39 | -- | 0.05 U | 0.13 J | 0.047 U |
| Sodium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 167 J | 207 J | 211 J |
| Vanadium | mg/kg | 75.5 | 50 | NP | 1200 | 75.5 | NP | 390 | 39 | -- | 21.4 | 18.7 | 26.2 |
| Zinc | mg/kg | 9920 | 30 | NP | 70000 | 9900 ~~9920~~ | NP | 23000 | 2300 | -- | 216 | 171 | 210 |
| **Pesticides** | | | | | | | | | | | | | |
| alpha-Chlordane | ug/kg | 12800 | NP | NP | NP | 130 ~~12800~~ | NP | NP | NP | -- | 1 U | 2.4 J | 2.5 U |
| gamma-Chlordane | ug/kg | 7390 | NP | NP | NP | 740 ~~7390~~ | NP | NP | NP | -- | 1.1 U | 2.5 U | 2.7 U |
| **SVOCs** | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 5710 | NP | 15000 | NP | 5710 | 150 | NP | NP | -- | 60 U | 115 J | 63.9 J |
| bis(2-Ethylhexyl)phthalate | ug/kg | 43200 | NP | 3800000 | 3700000 | 43200 | 38000 | 1200000 | 120000 | -- | 190 U | 258 | 180 U |
| Fluoranthene | ug/kg | 2320000 | NP | NP | 7000000 | 2320000 | NP | 2300000 | 230000 | -- | 78 U | 83.6 J | 76 U |
| Pyrene | ug/kg | 1700000 | NP | NP | 5200000 | 1700000 | NP | 1700000 | 170000 | -- | 110 U | 119 J | 100 U |
| **TPH** | | | | | | | | | | | | | |
| TPH (>C12-C28) | mg/kg | NA | NP | NP | NP | 2300 NP | NP | NP | NP | -- | 21 U | 19 U | 19 U |
| TPH (>C28-C35) | mg/kg | NA | NP | NP | NP | 2300 NP | NP | NP | NP | -- | 21 U | 19 U | 19 U |
| TPH (C6-C35) | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 18 U | 16 U | 15 U |

## Attachment I - Data Summary Tables
## Soil Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | Texas Background | EPA RML June 2014 Res Soil Carcinogenic SL TR=1.0E-4 | EPA RML June 2014 Res Soil Noncarcinogenic SL Child HI=3 | TCEQ TRRP PCL Residential Soil 0.5 acre TotSoilComb | EPA RSL Carcinogenic SL TR=1.0E-6 | EPA RSL Noncarcinogenic SL Child HI=1 | EPA RSL Noncarcinogenic SL Child HI=0.1 | Sample ID<br>Date<br>Type | CES-CS-04-51<br>8/5/2014<br>Field Sample | CES-CS-05-51<br>8/5/2014<br>Field Sample | CES-CS-06-51<br>8/5/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOCs | | | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/kg | 151000 | NP | NP | 170000 | 151000 | NP | 58000 | 5800 | -- | 0.69 U | 0.53 U | 0.54 U |
| 1,3,5-Trimethylbenzene | ug/kg | 113000 | NP | NP | 2300000 | 113000 | NP | 780000 | 78000 | -- | 1.6 U | 1.2 U | 1.3 U |
| Acetone | ug/kg | 65600000 | NP | NP | 180000000 | 65600000 | NP | 61000000 | 6100000 | -- | 17 U | 13 U | **30.3 J** |
| Carbon disulfide | ug/kg | 2300000 | NP | NP | 2300000 | 46[illegible]0000 | NP | 770000 | 77000 | -- | 1 U | 0.77 U | 0.78 U |
| Ethylbenzene | ug/kg | 580000 | NP | 580000 | 10000000 | 6390000 | 5800 | 3400000 | 340000 | -- | 1.7 U | 1.3 U | 1.3 U |
| m,p-Xylene | ug/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 3.1 U | 2.4 U | 2.4 U |
| Methyl ethyl ketone | ug/kg | 39500000 | NP | NP | 81000000 | 39500000 | NP | 27000000 | 2700000 | -- | 8.6 U | 6.6 U | 6.7 U |
| o-Xylene | ug/kg | 1900000 | NP | NP | 1900000 | 48200000 | NP | 650000 | 65000 | -- | 1.7 U | 1.3 U | 1.3 U |
| Toluene | ug/kg | 5930000 | NP | NP | 15000000 | 5930000 | NP | 4900000 | 490000 | -- | 1.7 U | 1.3 U | 1.4 U |
| Xylene (total) | ug/kg | 1800000 | NP | NP | 1800000 | 5960000 | NP | 580000 | 58000 | -- | 4.8 U | 3.7 U | 3.7 U |

Notes:
EPA RML - EPA Removal Management Levels
TCEQ TRRP PCLs - TCEQ Texas Risk Reduction Program Protective Concentration Levels
EPA RSL - EPA Regional Screening Levels
Site Specific Value is the lowest of the EPA RMLs and TCEQ TRRP PCL
EPA RSLs are shown for informational purposes only.
NP indicates not published.
NA indicates not applicable.
Bold indicates a detected concentration
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
Qualifer Definitions:
J - estimated value
U - results not detected above the associated value

## Attachment I - Data Summary Tables
## Soil Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | Texas Background | EPA RML June 2014 Res Soil Carcinogenic SL TR=1.0E-4 | EPA RML June 2014 Res Soil Noncarcinogenic SL Child HI=3 | TCEQ TRRP PCL Residential Soil 0.5 acre TotSoilComb | EPA RSL Carcinogenic SL TR=1.0E-6 | EPA RSL Noncarcinogenic SL Child HI=1 | EPA RSL Noncarcinogenic SL Child HI=0.1 | Sample ID Date Type | CES-CS-07-51 8/5/2014 Field Sample | CES-CS-08-51 8/5/2014 Field Sample | CES-CS-09-51 8/5/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | | | | | | |
| Aluminum | mg/kg | 64500 | 30000 | NP | 230000 | 65000 ~~64500~~ | NP | 77000 | 7700 | -- | 24900 | 26600 | 24500 |
| Antimony | mg/kg | 15 | 1 | NP | 94 | 15 | NP | 31 | 3.1 | -- | 0.24 J | 0.13 J | 0.26 J |
| Arsenic | mg/kg | 24.2 | 5.9 | 67 | 100 | 20 ~~24.2~~ | 0.67 | 34 | 3.4 | -- | 3.4 | 4 | 3.7 |
| Barium | mg/kg | 8100 | 300 | NP | 46000 | 8100 | NP | 15000 | 1500 | -- | 144 | 129 | 147 |
| Beryllium | mg/kg | 37.6 | 1.5 | 160000 | 470 | 38 ~~37.6~~ | 1600 | 160 | 16 | -- | 1.1 | 1.2 | 1.5 |
| Cadmium | mg/kg | 52.4 | NP | 210000 | 210 | 52.4 | 2100 | 70 | 7 | -- | 0.55 | 0.26 J | 0.39 |
| Calcium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 25200 | 11100 | 22000 |
| Chromium | mg/kg | 32600 | 30 | NP | NP | 33000 ~~32600~~ | NP | NP | NP | -- | 25.3 | 25.2 | 25.8 |
| Cobalt | mg/kg | 20.7 | 7 | 42000 | 70 | 400 ~~20.7~~ | 420 | 23 | 2.3 | -- | 5 | 6.7 | 5.7 |
| Copper | mg/kg | 548 | 15 | NP | 9400 | 13000 ~~548~~ | NP | 3100 | 310 | -- | 17.3 | 14.9 | 18 |
| Iron | mg/kg | 160000 | 15000 | NP | 160000 | NP | NP | 55000 | 5500 | -- | 14800 | 16400 | 14800 |
| Lead | mg/kg | 500 | 15 | NP | NP | 500 | NP | NP | NP | -- | 53.1 | 57.3 | 61.3 |
| Magnesium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 2730 | 2800 | 2870 |
| Manganese | mg/kg | 3650 | 300 | NP | 5500 | 3400 ~~3650~~ | NP | 1800 | 180 | -- | 184 | 199 | 327 |
| Mercury | mg/kg | 3.65 | 0.04 | NP | 28 | 3.65 | NP | 9.4 | 0.94 | -- | 0.13 | 0.051 | 0.31 |
| Nickel | mg/kg | 845 | 10 | 1500000 | 4600 | 845 | 15000 | 1500 | 150 | -- | 14.9 | 14.4 | 15.1 |
| Potassium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 2100 | 2290 | 2100 |
| Selenium | mg/kg | 309 | 0.3 | NP | 1200 | 310 ~~309~~ | NP | 390 | 39 | -- | 0.6 | 0.69 | 0.79 |
| Silver | mg/kg | 96.7 | NP | NP | 1200 | 96.7 | NP | 390 | 39 | -- | 0.049 U | 0.05 U | 0.057 U |
| Sodium | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 306 J | 152 J | 123 J |
| Vanadium | mg/kg | 75.5 | 50 | NP | 1200 | 75.5 | NP | 390 | 39 | -- | 34.7 | 38.4 | 33.8 |
| Zinc | mg/kg | 9920 | 30 | NP | 70000 | 9920 | NP | 23000 | 2300 | -- | 144 | 88.2 | 143 |
| **Pesticides** | | | | | | | | | | | | | |
| alpha-Chlordane | ug/kg | 12800 | NP | NP | NP | 13000 ~~12800~~ | NP | NP | NP | -- | 1 U | 1.1 U | 1.1 U |
| gamma-Chlordane | ug/kg | 7390 | NP | NP | NP | 7400 ~~7390~~ | NP | NP | NP | -- | 1.2 J | 1.1 U | 1.2 U |
| **SVOCs** | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 5710 | NP | 15000 | NP | 5710 | 150 | NP | NP | -- | 59 U | 62 U | 65 U |
| bis(2-Ethylhexyl)phthalate | ug/kg | 43200 | NP | 3800000 | 3700000 | 43000 | 38000 | 1200000 | 120000 | -- | 180 U | 190 U | 210 U |
| Fluoranthene | ug/kg | 2320000 | NP | NP | 7000000 | 2320000 | NP | 2300000 | 230000 | -- | 77 U | 81 U | 85 U |
| Pyrene | ug/kg | 1700000 | NP | NP | 5200000 | 1700000 | NP | 1700000 | 170000 | -- | 100 U | 110 U | 110 U |
| **TPH** | | | | | | | | | | | | | |
| TPH (>C12-C28) | mg/kg | NA | NP | NP | NP | 2300 ~~NP~~ | NP | NP | NP | -- | 20 U | 25 U | 24 U |
| TPH (>C28-C35) | mg/kg | NA | NP | NP | NP | 2300 ~~NP~~ | NP | NP | NP | -- | 20 U | 25 U | 24 U |
| TPH (C6-C35) | mg/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 17 U | 21 U | 20 U |

## Attachment I - Data Summary Tables
## Soil Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

| Analyte | Units | Site Specific Value | Texas Background | EPA RML June 2014 Res Soil Carcinogenic SL TR=1.0E-4 | EPA RML June 2014 Res Soil Noncarcinogenic SL Child HI=3 | TCEQ TRRP PCL Residential Soil 0.5 acre TotSoilComb | EPA RSL Carcinogenic SL TR=1.0E-6 | EPA RSL Noncarcinogenic SL Child HI=1 | EPA RSL Noncarcinogenic SL Child HI=0.1 | Sample ID<br>Date<br>Type | CES-CS-07-51<br>8/5/2014<br>Field Sample | CES-CS-08-51<br>8/5/2014<br>Field Sample | CES-CS-09-51<br>8/5/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOCs | | | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/kg | 151000 | NP | NP | 170000 | 151000 | NP | 58000 | 5800 | -- | 0.55 U | 0.72 U | 0.64 U |
| 1,3,5-Trimethylbenzene | ug/kg | 113000 | NP | NP | 2300000 | 113000 | NP | 780000 | 78000 | -- | 1.3 U | 1.7 U | 1.5 U |
| Acetone | ug/kg | 65600000 | NP | NP | 180000000 | 65600000 | NP | 61000000 | 6100000 | -- | 14 U | 18 U | **19.4 J** |
| Carbon disulfide | ug/kg | 2300000 | NP | NP | 2300000 | 46[illegible]0000 | NP | 770000 | 77000 | -- | 0.8 U | 1 U | 0.92 U |
| Ethylbenzene | ug/kg | 580000 | NP | 580000 | 10000000 | 6390000 | 5800 | 3400000 | 340000 | -- | 1.3 U | 1.7 U | 1.5 U |
| m,p-Xylene | ug/kg | NA | NP | NP | NP | NP | NP | NP | NP | -- | 2.5 U | 3.2 U | 2.8 U |
| Methyl ethyl ketone | ug/kg | 39500000 | NP | NP | 81000000 | 39500000 | NP | 27000000 | 2700000 | -- | 6.9 U | 8.9 U | 7.9 U |
| o-Xylene | ug/kg | 1900000 | NP | NP | 1900000 | 48200000 | NP | 650000 | 65000 | -- | 1.4 U | 1.8 U | 1.6 U |
| Toluene | ug/kg | 5930000 | NP | NP | 15000000 | 5930000 | NP | 4900000 | 490000 | -- | 1.4 U | 1.8 U | 1.6 U |
| Xylene (total) | ug/kg | 1800000 | NP | NP | 1800000 | 5960000 | NP | 580000 | 58000 | -- | 3.8 U | 5 U | 4.4 U |

Notes:
EPA RML - EPA Removal Management Levels
TCEQ TRRP PCLs - TCEQ Texas Risk Reduction Program Protective Concentration Levels
EPA RSL - EPA Regional Screening Levels
Site Specific Value is the lowest of the EPA RMLs and TCEQ TRRP PCL.
EPA RSLs are shown for informational purposes only.
NP indicates not published.
NA indicates not applicable.
Bold indicates a detected concentration
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
Qualifer Definitions:
J - estimated value
U - results not detected above the associated value

# Attachment I - Data Summary Tables
## Water Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

~~[illegible]~~ reviewed 10/30 ~~[illegible]~~

| Analyte | Units | Site Specific Value | TCEQ RBELs Freshwater Acute | TCEQ RBELs Freshwater Chronic | EPA NRWQC Aquatic Life Freshwater CMC (acute) | EPA NRWQC Aquatic Life Freshwater CCC (chronic) | Sample ID Date Type | CES-20140803 8/3/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Aluminum | mg/L | 0.087 | 0.991 | 0.087 | 0.75 | 0.087 | -- | **0.985** |
| Antimony | mg/L | 0.16 | NP | 0.16 | NP | NP | -- | **0.0019 J** |
| Arsenic | mg/L | 0.15 | 0.34 | 0.15 | 0.34 | 0.15 | -- | **0.0056** |
| Barium | mg/L | 16 | NP | 16 | NP | NP | -- | **0.135 J** |
| Beryllium | mg/L | 0.0053 | 0.13 | 0.0053 | NP | NP | -- | **0.00033 J** |
| Cadmium | mg/L | 0.00015 | 0.00437 | 0.00015 | 0.002 | 0.00025 | -- | **0.00036 J** |
| Calcium | mg/L | NA | NP | NP | NP | NP | -- | **76.7** |
| Chromium | mg/L | NA | NP | NP | NP | NP | -- | **0.0122** |
| Cobalt | mg/L | 1.5 | 45 | 1.5 | NP | NP | -- | **0.0028 J** |
| Copper | mg/L | 0.00524 | 0.00739 | 0.00524 | NP | NP | -- | **0.0044 J** |
| Iron | mg/L | 1 | NP | 1 | NP | 1 | -- | **6.37** |
| Lead | mg/L | 0.00117 | 0.03014 | 0.00117 | 0.065 | 0.0025 | -- | **0.0056** |
| Magnesium | mg/L | 3.235 | 19.41 | 3.235 | NP | NP | -- | **8.15** |
| Manganese | mg/L | 0.12 | NP | 0.12 | NP | NP | -- | **0.878** |
| Nickel | mg/L | 0.02893 | 0.2605 | 0.02893 | 0.47 | 0.052 | -- | **0.056** |
| Potassium | mg/L | NA | NP | NP | NP | NP | -- | **7.67** |
| Selenium | mg/L | 0.005 | 0.02 | 0.005 | NP | 0.005 | -- | **0.0063** |
| Sodium | mg/L | NA | NP | NP | NP | NP | -- | **152** |
| Vanadium | mg/L | NA | NP | NP | NP | NP | -- | **0.0046 J** |
| Zinc | mg/L | 0.06513 | 0.06513 | 0.06566 | 0.12 | 0.12 | -- | **0.0477** |
| **Pesticides** | | | | | | | | |
| alpha-Chlordane | ug/L | NA | NP | NP | NP | NP | -- | **0.014 J** |
| delta-BHC | ug/L | 141 | ~~249~~ NP | NP ~~141~~ | NP | NP | -- | **0.018 J** |
| Endosulfan sulfate | ug/L | 0.056 | 0.22 | 0.056 | NP | NP | -- | **0.026 J** |

table has alpha-BHC and beta-BHC only

# Attachment I - Data Summary Tables
## Water Analytical Data
## CES Chemical Spill Response
## Houston, Harris County, Texas

~~Not~~ Reviewed ~~Yet~~ 10/30

These are PAHs, not SVOCs...

| Analyte | Units | Site Specific Value | TCEQ RBELs Freshwater Acute | TCEQ RBELs Freshwater Chronic | EPA NRWQC Aquatic Life Freshwater CMC (acute) | EPA NRWQC Aquatic Life Freshwater CCC (chronic) | Sample ID<br>Date<br>Type | CES-20140803<br>8/3/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|
| **SVOCs** | | | | | | | | |
| 1-Methylnaphthalene | ug/L | 2.1 | NP | 2.1 | NP | NP | -- | **1.5 J** |
| 2,4-Dimethylphenol | ug/L | 105 | 630 | 105 | NP | NP | -- | **5 J** |
| 2-Methylnaphthalene | ug/L | 63 | 380 | 63 | NP | NP | -- | **1.7 J** |
| 2-Methylphenol | ug/L | 560 | 3360 | 560 | NP | NP | -- | **12.3** |
| 3&4-Methylphenol | ug/L | NA | 1630 NP | 272 NP | NP | NP | -- | **39.8** |
| Benzoic Acid | ug/L | 9000 | 54000 | 9000 | NP | NP | -- | **44.3** |
| Benzyl Alcohol | ug/L | 8.6 | NP | 8.6 | NP | NP | -- | **6.1** |
| Phenol | ug/L | 110 | NP | 110 | NP | NP | -- | **70.4** |
| **VOCs** | | | | | | | | |
| Acetone | ug/L | 101200 | 607400 | 101200 | NP | NP | -- | **371** |
| Methyl ethyl ketone | ug/L | 42400 | 254420 | 42400 | NP | NP | -- | **399** |

4-Methylphenol does have RBELs
Acute: 1630 ug/L
Chronic: 272 ug/L

Notes:
TCEQ RBELs - TCEQ Risk-Based Exposure Levels
EPA NRWQC - EPA National Recommended Water Quality Criteria
Site Specific Value is the lowest of the TCEQ RBELs and EPA NRWQC.
Bold indicates a detected concentration
Highlighted values indicate a detection above the screening level
mg/L - milligrams per liter
ug/L - micrograms per liter
Qualifer Definitions:
J - estimated value

## Attachment I - Data Summary Tables
## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

No TCEQ standards or levels included in this table.

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID Date Type | CES-CS-TANK 407 8/7/2014 Field Sample | CES-CS-TANK 408 8/7/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|
| **Dioxin/Furans** | | | | | | | | |
| 1,2,3,4,6,7,8-Hepta CDD | pg/L | NP | 0.000035 | 0.0025 | N/A | -- | **2010 J** | **616** |
| 1,2,3,4,6,7,8-Hepta CDF | pg/L | NP | 0.000035 | 0.0025 | N/A | -- | 830 U | 120 U |
| 1,2,3,4,7,8,9-Hepta CDF | pg/L | NP | 0.000035 | 0.0025 | N/A | -- | 150 U | 11 U |
| 1,2,3,4,7,8-Hexa CDD | pg/L | NP | NP | NP | N/A | -- | 160 U | 11 U |
| 1,2,3,4,7,8-Hexa CDF | pg/L | NP | NP | NP | N/A | -- | 200 U | 19 U |
| 1,2,3,6,7,8-Hexa CDD | pg/L | NP | NP | NP | N/A | -- | 150 U | **82 J** |
| 1,2,3,6,7,8-Hexa CDF | pg/L | NP | NP | NP | N/A | -- | 200 U | 19 U |
| 1,2,3,7,8,9-Hexa CDD | pg/L | NP | NP | NP | N/A | -- | 150 U | 27 U |
| 1,2,3,7,8,9-Hexa CDF | pg/L | NP | NP | NP | N/A | -- | 230 U | 22 U |
| 1,2,3,7,8-Penta CDD | pg/L | NP | NP | NP | N/A | -- | 100 U | 15 U |
| 1,2,3,7,8-Penta CDF | pg/L | NP | NP | NP | N/A | -- | 100 U | 15 U |
| 2,3,4,6,7,8-Hexa CDF | pg/L | NP | NP | NP | N/A | -- | **673 J** | **316 J** |
| 2,3,4,7,8-Penta CDF | pg/L | NP | NP | NP | N/A | -- | 100 U | 14 U |
| 2,3,7,8-Tetra CDD | pg/L | NP | NP | NP | N/A | -- | 130 U | 47 U |
| 2,3,7,8-Tetra CDF | pg/L | NP | NP | NP | N/A | -- | 930 U | **62 J** |
| Octa CDD | pg/L | NP | 0.000063 | 0.005 | N/A | -- | **16600** | **3930** |
| Octa CDF | pg/L | NP | 0.000063 | 0.005 | N/A | -- | **2920 J** | **1650** |
| Total Hepta CDD | pg/L | NP | NP | NP | N/A | -- | **4600 J** | **1040** |
| Total Hepta CDF | pg/L | NP | NP | NP | N/A | -- | 920 U | 140 U |
| Total Hexa CDD | pg/L | NP | 0.000063 | 0.001 | N/A | -- | 550 U | **447 J** |
| Total Hexa CDF | pg/L | NP | 0.000063 | 0.001 | N/A | -- | **985 J** | **558** |
| Total Penta CDD | pg/L | NP | 0.000063 | 0.001 | N/A | -- | 560 U | **254 J** |
| Total Penta CDF | pg/L | NP | 0.000035 | 0.001 | N/A | -- | **4540 J** | **6160** |
| Total Tetra CDD | pg/L | NP | 0.000063 | 0.001 | N/A | -- | **1190 J** | **86 J** |
| Total Tetra CDF | pg/L | NP | 0.000063 | 0.001 | N/A | -- | **8200** | **2820** |

# Attachment I - Data Summary Tables
## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID Date Type | CES-CS-TANK 407 8/7/2014 Field Sample | CES-CS-TANK 408 8/7/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|
| **General Chemistry** | | | | | | | | |
| Bromide | mg/L | NP | NP | NP | N/A | -- | **6.8** | **5.1** |
| Chloride | mg/L | NP | NP | NP | N/A | -- | **365** | **289** |
| Fluoride | mg/L | NP | 35 | NP | N/A | -- | **0.54** | 0.25 U |
| Hydrogen Sulfide | mg/L | NP | NP | NP | N/A | -- | 2 UJ | 2 UJ |
| Nitrogen, Ammonia | mg/L | NP | NP | NP | N/A | -- | **42.8** | **43.6** |
| Nitrogen, Nitrate | mg/L | NP | NP | NP | N/A | -- | **0.76** | **1.2** |
| Nitrogen, Nitrite | mg/L | NP | NP | NP | N/A | -- | 0.26 U | 0.26 U |
| Phosphorus, Total | mg/L | NP | NP | NP | N/A | -- | **6.7** | **14.8** |
| Sulfate | mg/L | NP | NP | NP | N/A | -- | **6920** | **5650** |
| Total Organic Carbon | mg/L | NP | NP | NP | N/A | -- | **8890** | **10400** |
| Total Organic Halides | mg/L | NP | NP | NP | N/A | -- | **6.5** | **26.8** |
| **Herbicides** | | | | | | | | |
| 2,4,5-T | ug/L | NP | 0.72 | 7.9 | N/A | -- | 0.17 U | 0.17 U |
| 2,4,5-TP (Silvex) | ug/L | 0.001 | 0.72 | 7.9 | N/A | -- | 0.2 U | 0.2 U |
| 2,4-D | ug/L | 0.01 | 0.72 | 10 | N/A | -- | **15.4** | **4.6 J** |
| **Metals** | | | | | | | | |
| Aluminum | mg/L | NP | NP | NP | N/A | -- | **20.1** | **300** |
| Antimony | mg/L | NP | 1.9 | 1.15 | N/A | -- | **0.323** | **0.765** |
| Arsenic | mg/L | 5 | 1.4 | 5 | N/A | -- | **0.0721** | **0.547** |
| Barium | mg/L | 100 | 1.2 | 21 | N/A | -- | **2.6** | **136** |
| Beryllium | mg/L | NP | 0.82 | 1.22 | N/A | -- | **0.0026 J** | **0.0345 J** |
| Cadmium | mg/L | 1 | 0.69 | 0.11 | N/A | -- | **0.0101 J** | **0.0507 J** |
| Calcium | mg/L | NP | NP | NP | N/A | -- | **603** | **601** |
| Chromium | mg/L | 5 | 2.77 | 0.6 | N/A | -- | **1.18** | **33.6** |
| Cobalt | mg/L | NP | NP | NP | N/A | -- | **0.115 J** | **0.184 J** |
| Copper | mg/L | NP | NP | NP | N/A | -- | **1.59** | **35.2** |
| Iron | mg/L | NP | NP | NP | N/A | -- | **575** | **3070** |
| Lead | mg/L | 5 | 0.69 | 0.75 | N/A | -- | **0.208** | **9.33** |
| Magnesium | mg/L | NP | NP | NP | N/A | -- | **82.4** | **52.4 J** |

# Attachment I - Data Summary Tables
## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID Date Type | CES-CS-TANK 407 8/7/2014 Field Sample | CES-CS-TANK 408 8/7/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|
| **Metals (Continued)** | | | | | | | | |
| Manganese | mg/L | NP | NP | NP | N/A | -- | **12.8** | **8.89** |
| Mercury | mg/L | 0.2 | 0.15 | 0.25 | N/A | -- | **0.00065** | **0.0022** |
| Nickel | mg/L | NP | 3.98 | 11 | N/A | -- | **1.42** | **3.53** |
| Potassium | mg/L | NP | NP | NP | N/A | -- | **136** | **53.8 J** |
| Selenium | mg/L | 1 | 0.82 | 5.7 | N/A | -- | **0.0614** | **0.256 J** |
| Silver | mg/L | 5 | 0.43 | 0.14 | N/A | -- | 0.0024 U | 0.04 U |
| Sodium | mg/L | NP | NP | NP | N/A | -- | **844** | **196 J** |
| Thallium | mg/L | NP | 1.4 | 0.2 | N/A | -- | 0.0078 U | 0.13 U |
| Vanadium | mg/L | NP | 4.3 | 1.6 | N/A | -- | **0.249 J** | **1.78 J** |
| Zinc | mg/L | NP | NP | 4.3 | N/A | -- | **42.8** | **78** |
| **PCBs** | | | | | | | | |
| Aroclor 1016 | ug/L | NP | NP | NP | N/A | -- | 0.21 U | 0.21 U |
| Aroclor 1221 | ug/L | NP | NP | NP | N/A | -- | 0.2 U | 0.2 U |
| Aroclor 1232 | ug/L | NP | NP | NP | N/A | -- | 0.17 U | 0.17 U |
| Aroclor 1242 | ug/L | NP | NP | NP | N/A | -- | 0.12 U | 0.12 U |
| Aroclor 1248 | ug/L | NP | NP | NP | N/A | -- | 0.1 U | 0.1 U |
| Aroclor 1254 | ug/L | NP | NP | NP | N/A | -- | 0.1 U | 0.1 U |
| Aroclor 1260 | ug/L | NP | NP | NP | N/A | -- | 0.12 U | 0.12 U |
| Total PCBs | ug/L | NP | NP | 10 | N/A | -- | 0 U | 0 U |
| **Pesticides** | | | | | | | | |
| 4,4'-DDD | ug/L | NP | 0.023 | 0.087 | N/A | -- | 0.099 U | 0.33 U |
| 4,4'-DDE | ug/L | NP | 0.031 | 0.087 | N/A | -- | 0.075 U | 0.25 U |
| 4,4'-DDT | ug/L | NP | 0.0039 | 0.087 | N/A | -- | 0.11 U | 0.38 U |
| Aldrin | ug/L | NP | 0.021 | 0.066 | N/A | -- | 0.03 U | 0.1 U |
| alpha-BHC | ug/L | NP | 0.00014 | 0.066 | N/A | -- | 0.065 U | 0.22 U |
| alpha-Chlordane | ug/L | NP | NP | NP | N/A | -- | **0.12 J** | 0.11 U |
| beta-BHC | ug/L | NP | 0.00014 | 0.066 | N/A | -- | 0.035 U | 0.12 U |
| delta-BHC | ug/L | NP | 0.023 | 0.066 | N/A | -- | 0.03 U | 0.1 U |
| Dieldrin | ug/L | NP | 0.017 | 0.13 | N/A | -- | 0.061 U | 0.2 U |

# Attachment I - Data Summary Tables
## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID<br>Date<br>Type | CES-CS-TANK 407<br>8/7/2014<br>Field Sample | CES-CS-TANK 408<br>8/7/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|
| **Pesticides (Continued)** | | | | | | | | |
| Endosulfan sulfate | ug/L | NP | 0.029 | 0.13 | N/A | -- | 0.063 U | 0.21 U |
| Endosulfan-I | ug/L | NP | NP | NP | N/A | -- | 0.055 U | 0.18 U |
| Endosulfan-II | ug/L | NP | NP | NP | N/A | -- | 0.063 U | 0.21 U |
| Endrin | ug/L | 0.00002 | 0.0028 | 0.13 | N/A | -- | 0.061 U | 0.2 U |
| Endrin aldehyde | ug/L | NP | 0.025 | 0.13 | N/A | -- | 0.11 U | 0.36 U |
| Endrin ketone | ug/L | NP | NP | NP | N/A | -- | 0.092 U | 0.31 U |
| gamma-BHC (Lindane) | ug/L | 0.0004 | 0.0017 | 0.066 | N/A | -- | **0.064 J** | 0.17 U |
| gamma-Chlordane | ug/L | NP | NP | NP | N/A | -- | 0.032 U | 0.11 U |
| Heptachlor | ug/L | 0.000008 | 0.0012 | 0.066 | N/A | -- | 0.03 U | 0.1 U |
| Heptachlor epoxide | ug/L | NP | 0.016 | 0.066 | N/A | -- | 0.034 U | 0.11 U |
| Methoxychlor | ug/L | 0.01 | 0.25 | 0.18 | N/A | -- | 0.38 U | 1.3 U |
| Toxaphene | ug/L | 0.0005 | 0.0095 | 2.6 | N/A | -- | 0.37 U | 1.2 U |
| **Physical Properties** | | | | | | | | |
| Heat Content, BTU | BTU/lb | NP | NP | NP | N/A | -- | **3800** | **4480** |
| Moisture, Karl Fischer | wt% | NP | NP | NP | N/A | -- | **94.4** | **94.7** |
| Solids, Total Suspended | mg/L | NP | NP | NP | N/A | -- | **5840** | **593** |
| Specific Conductivity | umhos/cm | NP | NP | NP | N/A | -- | **3940** | **4040** |
| Specific Gravity | | NP | NP | NP | N/A | -- | **0.99** | **0.98** |
| Viscosity At 40 Deg. C | cS | NP | NP | NP | N/A | -- | **0.6** | **0.77** |
| **RCI** | | | | | | | | |
| Corrosivity as pH | | NP | NP | NP | N/A | -- | **4.5** | **4.7** |
| Cyanide | mg/L | NP | 1.2 | 590 | N/A | -- | 0.25 U | 0.25 U |
| Ignitability (Flashpoint) | Deg. F | < 140 | NP | NP | N/A | -- | **210 >** | **210 >** |
| pH | su | <= 2 or >= 12.5 | NP | ≤ 6.0 | N/A | -- | **4.52** | **4.67** |
| Sulfide | mg/L | NP | NP | NP | N/A | -- | 0.025 U | 0.025 U |

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## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID<br>Date<br>Type | CES-CS-TANK 407<br>8/7/2014<br>Field Sample | CES-CS-TANK 408<br>8/7/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|
| **SVOCs** | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/L | NP | 0.055 | 19 | N/A | -- | 15 U | 21 U |
| 1,2-Dichlorobenzene | ug/L | NP | 0.088 | 6 | N/A | -- | 15 U | 22 U |
| 1,2-Diphenylhydrazine | ug/L | NP | 0.087 | NP | N/A | -- | 19 U | 27 U |
| 1,3-Dichlorobenzene | ug/L | NP | 0.036 | 6 | N/A | -- | 16 U | 22 U |
| 1,4-Dichlorobenzene | ug/L | 0.0075 | 0.09 | 6 | N/A | -- | 15 U | 22 U |
| 1-Methylnaphthalene | ug/L | NP | NP | NP | N/A | -- | **52.3 J** | **143** |
| 2,4,5-Trichlorophenol | ug/L | 0.4 | 0.18 | 7.4 | N/A | -- | 14 U | 20 U |
| 2,4,6-Trichlorophenol | ug/L | 0.002 | 0.035 | 7.4 | N/A | -- | 16 U | 23 U |
| 2,4-Dichlorophenol | ug/L | NP | 0.044 | 14 | N/A | -- | 16 U | 22 U |
| 2,4-Dimethylphenol | ug/L | NP | 0.057 | 14 | N/A | -- | 15 U | **175** |
| 2,4-Dinitrophenol | ug/L | NP | 0.12 | 160 | N/A | -- | 140 U | 200 U |
| 2,4-Dinitrotoluene | ug/L | 0.00013 | 0.32 | 140 | N/A | -- | 18 U | 25 U |
| 2,6-Dinitrotoluene | ug/L | NP | 0.55 | 28 | N/A | -- | 14 U | 21 U |
| 2-Chloronaphthalene | ug/L | NP | 0.055 | 5.6 | N/A | -- | 18 U | 26 U |
| 2-Chlorophenol | ug/L | NP | 0.044 | 5.7 | N/A | -- | 14 U | 19 U |
| 2-Methylnaphthalene | ug/L | NP | NP | NP | N/A | -- | **75.8** | **209** |
| 2-Methylphenol | ug/L | 0.2 | 0.11 | 5.6 | N/A | -- | **39 J** | **326** |
| 2-Nitroaniline | ug/L | NP | 0.27 | 14 | N/A | -- | 19 U | 26 U |
| 2-Nitrophenol | ug/L | NP | 0.028 | 13 | N/A | -- | 16 U | 23 U |
| 3&4-Methylphenol | ug/L | NP | NP | NP | N/A | -- | **117** | **1890** |
| 3,3'-Dichlorobenzidine | ug/L | NP | NP | NP | N/A | -- | 18 U | 26 U |
| 3-Nitroaniline | ug/L | NP | NP | NP | N/A | -- | 18 U | 25 U |
| 4,6-Dinitro-o-cresol | ug/L | NP | 0.28 | 160 | N/A | -- | 78 U | 110 U |
| 4-Bromophenyl phenyl ether | ug/L | NP | 0.055 | 15 | N/A | -- | 17 U | 24 U |
| 4-Chloro-3-methyl phenol | ug/L | NP | 0.018 | 14 | N/A | -- | **302** | **1080** |
| 4-Chloroaniline | ug/L | NP | 0.46 | 16 | N/A | -- | 15 U | 22 U |
| 4-Chlorophenyl phenyl ether | ug/L | NP | NP | NP | N/A | -- | 18 U | 26 U |
| 4-Nitroaniline | ug/L | NP | 0.028 | 28 | N/A | -- | 19 U | 27 U |
| 4-Nitrophenol | ug/L | NP | 0.12 | 29 | N/A | -- | 100 U | 140 U |

# Attachment I - Data Summary Tables
## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID Date Type | CES-CS-TANK 407 8/7/2014 Field Sample | CES-CS-TANK 408 8/7/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|
| **SVOCs (Continued)** | | | | | | | | |
| Acenaphthene | ug/L | NP | 0.059 | 3.4 | N/A | -- | 17 U | 24 U |
| Acenaphthylene | ug/L | NP | 0.059 | 3.4 | N/A | -- | 17 U | 24 U |
| Aniline | ug/L | NP | 0.81 | 14 | N/A | -- | 18 U | 26 U |
| Anthracene | ug/L | NP | 0.059 | 3.4 | N/A | -- | 20 U | 28 U |
| Benzidine | ug/L | NP | NP | NP | N/A | -- | 140 U | 200 U |
| Benzo(a)anthracene | ug/L | NP | 0.059 | 3.4 | N/A | -- | 21 U | 30 U |
| Benzo(a)pyrene | ug/L | NP | 0.061 | 3.4 | N/A | -- | 19 U | 27 U |
| Benzo(b)fluoranthene | ug/L | NP | 0.11 | 6.8 | N/A | -- | 17 U | 24 U |
| Benzo(g,h,i)perylene | ug/L | NP | 0.0055 | 1.8 | N/A | -- | 21 U | 30 U |
| Benzo(k)fluoranthene | ug/L | NP | 0.11 | 6.8 | N/A | -- | 21 U | 31 U |
| Benzoic Acid | ug/L | NP | NP | NP | N/A | -- | **9850** | **11100** |
| Benzyl Alcohol | ug/L | NP | NP | NP | N/A | -- | **100** | **163** |
| bis(2-Chloroethoxy)methane | ug/L | NP | 0.036 | 7.2 | N/A | -- | 16 U | 23 U |
| bis(2-Chloroethyl)ether | ug/L | NP | 0.033 | 6 | N/A | -- | 13 U | 19 U |
| bis(2-Chloroisopropyl)ether | ug/L | NP | NP | NP | N/A | -- | 13 U | 18 U |
| bis(2-Ethylhexyl)phthalate | ug/L | NP | 0.28 | 28 | N/A | -- | 21 U | 30 U |
| Butyl benzyl phthalate | ug/L | NP | 0.017 | 28 | N/A | -- | 18 U | 25 U |
| Carbazole | ug/L | NP | NP | NP | N/A | -- | 20 U | 28 U |
| Chrysene | ug/L | NP | 0.059 | 3.4 | N/A | -- | 22 U | 32 U |
| Dibenzo(a,h)anthracene | ug/L | NP | 0.055 | 8.2 | N/A | -- | 19 U | 27 U |
| Dibenzofuran | ug/L | NP | NP | NP | N/A | -- | 18 U | 25 U |
| Diethyl phthalate | ug/L | NP | 0.2 | 28 | N/A | -- | 20 U | 28 U |
| Dimethyl phthalate | ug/L | NP | 0.047 | 28 | N/A | -- | 20 U | 28 U |
| Di-n-butyl phthalate | ug/L | NP | 0.057 | 28 | N/A | -- | 19 U | 27 U |
| Di-n-octyl phthalate | ug/L | NP | 0.017 | 28 | N/A | -- | 17 U | 24 U |
| Fluoranthene | ug/L | NP | 0.068 | 3.4 | N/A | -- | 20 U | 28 U |
| Fluorene | ug/L | NP | 0.059 | 3.4 | N/A | -- | 17 U | **41.4 J** |
| Hexachlorobenzene | ug/L | 0.00013 | 0.055 | 10 | N/A | -- | 22 U | 31 U |
| Hexachlorobutadiene | ug/L | 0.0005 | 0.055 | 5.6 | N/A | -- | 17 U | 24 U |

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## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID Date Type | CES-CS-TANK 407 8/7/2014 Field Sample | CES-CS-TANK 408 8/7/2014 Field Sample |
|---|---|---|---|---|---|---|---|---|
| **SVOCs (Continued)** | | | | | | | | |
| Hexachlorocyclopentadiene | ug/L | NP | 0.057 | 2.4 | N/A | -- | 17 U | 25 U |
| Hexachloroethane | ug/L | 0.003 | 0.055 | 30 | N/A | -- | 18 U | 25 U |
| Indeno(1,2,3-cd)pyrene | ug/L | NP | 0.0055 | 3.4 | N/A | -- | 15 U | 21 U |
| Isophorone | ug/L | NP | NP | NP | N/A | -- | 17 U | 24 U |
| Naphthalene | ug/L | NP | 0.059 | 5.6 | N/A | -- | **44.1 J** | **132** |
| Nitrobenzene | ug/L | 0.002 | 0.068 | 14 | N/A | -- | 16 U | 23 U |
| n-Nitrosodimethylamine | ug/L | NP | 0.4 | 2.3 | N/A | -- | 15 U | 21 U |
| N-Nitroso-di-n-propylamine | ug/L | NP | 0.4 | 14 | N/A | -- | 15 U | 22 U |
| N-Nitrosodiphenylamine | ug/L | NP | 0.92 | 13 | N/A | -- | 20 U | 29 U |
| Pentachlorophenol | ug/L | 0.1 | 0.089 | 7.4 | N/A | -- | 140 U | 200 U |
| Phenanthrene | ug/L | NP | 0.059 | 5.6 | N/A | -- | **24.7 J** | **109** |
| Phenol | ug/L | NP | 0.039 | 6.2 | N/A | -- | **643** | **2860** |
| Pyrene | ug/L | NP | 0.67 | 8.2 | N/A | -- | 20 U | **34.5 J** |
| Pyridine | ug/L | 0.005 | 0.014 | 16 | N/A | -- | 18 U | 25 U |
| **TPH** | | | | | | | | |
| TPH (>C12-C28) | mg/L | NP | NP | NP | N/A | -- | **9720** | **15600** |
| TPH (>C28-C35) | mg/L | NP | NP | NP | N/A | -- | **3620** | **4780** |
| TPH (C6-C12) | mg/L | NP | NP | NP | N/A | -- | **748** | **313** |
| TPH (C6-C35) | mg/L | NP | NP | NP | N/A | -- | **14100** | **20700** |
| **VOCs** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ug/L | NP | 0.057 | 6 | N/A | -- | 18 U | 18 U |
| 1,1,1-Trichloroethane | ug/L | NP | 0.054 | 6 | N/A | -- | 21 U | 21 U |
| 1,1,2,2-Tetrachloroethane | ug/L | NP | 0.057 | 6 | N/A | -- | 20 U | 20 U |
| 1,1,2-Trichloroethane | ug/L | NP | 0.054 | 6 | N/A | -- | 17 U | 17 U |
| 1,1-Dichloroethane | ug/L | NP | 0.059 | 6 | N/A | -- | 17 U | 17 U |
| 1,1-Dichloroethylene | ug/L | 0.0007 | 0.025 | 6 | N/A | -- | 23 U | 23 U |
| 1,1-Dichloropropene | ug/L | NP | NP | NP | N/A | -- | 31 U | 31 U |
| 1,2,3-Trichlorobenzene | ug/L | NP | NP | NP | N/A | -- | 21 U | 21 U |
| 1,2,3-Trichloropropane | ug/L | NP | 0.85 | 30 | N/A | -- | 23 U | 23 U |

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## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID<br>Date<br>Type | CES-CS-TANK 407<br>8/7/2014<br>Field Sample | CES-CS-TANK 408<br>8/7/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|
| **VOCs (Continued)** | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/L | NP | 0.055 | 19 | N/A | -- | 20 U | 20 U |
| 1,2,4-Trimethylbenzene | ug/L | NP | NP | NP | N/A | -- | **961** | **32.4 J** |
| 1,2-Dibromo-3-chloropropane | ug/L | NP | 0.11 | 15 | N/A | -- | 79 U | 79 U |
| 1,2-Dibromoethane | ug/L | NP | 0.028 | 15 | N/A | -- | 17 U | 17 U |
| 1,2-Dichloroethane | ug/L | 0.0005 | 0.21 | 6 | N/A | -- | 18 U | 18 U |
| 1,2-Dichloropropane | ug/L | NP | 0.85 | 18 | N/A | -- | 17 U | 17 U |
| 1,3,5-Trimethylbenzene | ug/L | NP | NP | NP | N/A | -- | **265** | 17 U |
| 1,3-Dichloropropane | ug/L | NP | NP | NP | N/A | -- | 16 U | 16 U |
| 2,2-Dichloropropane | ug/L | NP | NP | NP | N/A | -- | 25 U | 25 U |
| 2-Hexanone | ug/L | NP | NP | NP | N/A | -- | 130 U | 130 U |
| 4-Methyl-2-pentanone | ug/L | NP | 0.14 | 33 | N/A | -- | 110 U | 110 U |
| Acetone | ug/L | NP | 0.28 | 160 | N/A | -- | **17100** | **30900** |
| Benzene | ug/L | 0.0005 | 0.14 | 10 | N/A | -- | **31.9 J** | 17 U |
| Bromobenzene | ug/L | NP | NP | NP | N/A | -- | 15 U | 15 U |
| Bromochloromethane | ug/L | NP | NP | NP | N/A | -- | 21 U | 21 U |
| Bromodichloromethane | ug/L | NP | 0.35 | 15 | N/A | -- | 17 U | 17 U |
| Bromoform | ug/L | NP | 0.63 | 15 | N/A | -- | 22 U | 22 U |
| Carbon disulfide | ug/L | NP | 3.8 | 4.8 | N/A | -- | 18 U | 18 U |
| Carbon tetrachloride | ug/L | 0.0005 | 0.057 | 6 | N/A | -- | 22 U | 22 U |
| Chlorobenzene | ug/L | 0.1 | 0.057 | 6 | N/A | -- | 13 U | 13 U |
| Chloroethane | ug/L | NP | 0.27 | 6 | N/A | -- | 36 U | 36 U |
| Chloroform | ug/L | 0.006 | 0.046 | 6 | N/A | -- | 17 U | 17 U |
| cis-1,2-Dichloroethylene | ug/L | NP | NP | NP | N/A | -- | 20 U | 20 U |
| cis-1,3-Dichloropropene | ug/L | NP | 0.036 | 18 | N/A | -- | 14 U | 14 U |
| Dibromochloromethane | ug/L | NP | 0.057 | 15 | N/A | -- | 18 U | 18 U |
| Dichlorodifluoromethane | ug/L | NP | 0.23 | 7.2 | N/A | -- | 74 U | 74 U |
| Ethylbenzene | ug/L | NP | 0.57 | 10 | N/A | -- | **154** | **127** |
| Hexachlorobutadiene | ug/L | 0.0005 | 0.055 | 5.6 | N/A | -- | 24 U | 24 U |
| Isopropylbenzene | ug/L | NP | NP | NP | N/A | -- | **83.1** | 20 U |

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|---|---|---|---|---|---|---|---|---|
| **VOCs (Continued)** | | | | | | | | |
| m,p-Xylene | ug/L | NP | NP | NP | N/A | -- | **579** | **461** |
| m-Dichlorobenzene | ug/L | NP | 0.036 | 6 | N/A | -- | 17 U | 17 U |
| Methyl bromide | ug/L | NP | 0.11 | 15 | N/A | -- | 25 U | 25 U |
| Methyl chloride | ug/L | NP | 0.19 | 30 | N/A | -- | 32 U | 32 U |
| Methyl ethyl ketone | ug/L | 0.2 | 0.28 | 36 | N/A | -- | **8130** | **2480** |
| Methyl Tert Butyl Ether | ug/L | NP | NP | NP | N/A | -- | 15 U | 15 U |
| Methylene bromide | ug/L | NP | 0.11 | 15 | N/A | -- | 22 U | 22 U |
| Methylene chloride | ug/L | NP | 0.089 | 30 | N/A | -- | 81 U | 81 U |
| Naphthalene | ug/L | NP | 0.059 | 5.6 | N/A | -- | **878** | **118 J** |
| n-Butylbenzene | ug/L | NP | NP | NP | N/A | -- | 20 U | 20 U |
| n-Propylbenzene | ug/L | NP | NP | NP | N/A | -- | **124** | 18 U |
| o-Chlorotoluene | ug/L | NP | NP | NP | N/A | -- | 18 U | 18 U |
| o-Dichlorobenzene | ug/L | NP | 0.088 | 6 | N/A | -- | 14 U | 14 U |
| o-Xylene | ug/L | NP | NP | NP | N/A | -- | **283** | **228** |
| p-Chlorotoluene | ug/L | NP | NP | NP | N/A | -- | 16 U | 16 U |
| p-Dichlorobenzene | ug/L | 0.0075 | 0.09 | 6 | N/A | -- | 16 U | 16 U |
| p-Isopropyltoluene | ug/L | NP | NP | NP | N/A | -- | **48.8 J** | 18 U |
| sec-Butylbenzene | ug/L | NP | NP | NP | N/A | -- | **60.7** | 23 U |
| Styrene | ug/L | NP | NP | NP | N/A | -- | **129** | 15 U |
| tert-Butylbenzene | ug/L | NP | NP | NP | N/A | -- | 22 U | 22 U |
| Tetrachloroethylene | ug/L | 0.0007 | 0.056 | 6 | N/A | -- | 23 U | 23 U |
| Toluene | ug/L | NP | 0.08 | 10 | N/A | -- | **375** | **1970** |
| trans-1,2-Dichloroethylene | ug/L | NP | 0.054 | 30 | N/A | -- | 24 U | 24 U |
| trans-1,3-Dichloropropene | ug/L | NP | 0.036 | 18 | N/A | -- | 16 U | 16 U |

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## Waste Analytical Data
## CES Chemical Spill Resonse
## Houston, Harris County, Texas

| Analyte | Units | Hazardous Waste | Universal Treatment Standards (UTS) Wastewater | Universal Treatment Standards (UTS) Nonwastewater | Waste Code | Sample ID<br>Date<br>Type | CES-CS-TANK 407<br>8/7/2014<br>Field Sample | CES-CS-TANK 408<br>8/7/2014<br>Field Sample |
|---|---|---|---|---|---|---|---|---|
| **VOCs (Continued)** | | | | | | | | |
| Trichloroethylene | ug/L | 0.0005 | 0.054 | 6 | N/A | -- | 24 U | 24 U |
| Trichlorofluoromethane | ug/L | NP | 0.02 | 30 | N/A | -- | 38 U | 38 U |
| Vinyl chloride | ug/L | 0.0002 | 0.27 | 6 | N/A | -- | 40 U | 40 U |
| Xylene (total) | ug/L | NP | 0.32 | 30 | N/A | -- | **862** | **688** |

Notes:
Bold indicates a detected concentration
Highlighted values indicate a detection above the screening level
mg/L - milligrams per liter
pg/L - picogram per liter
su - standard unit
cS - centistoke
umhos/cm - micromhos per centimeter
BTU/lb - british thermal unit/pound
Qualifer Definitions:
N - results based on presumptive evidence
J - estimated value
U - results not detected above the associated value