N61165.AR.005130
CNC CHARLESTON
5090.3a

ENVIRONMENTAL ASSESSMENT REPORT DATED 10 SEPTEMBER 1998 (ZONE G AREA 15) AND MONITORING WELL INSTALLATION APPROVAL(BRISTOL TO MAGWOOD) WITH SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL REVIEW LETTER CNC CHARLESTON SC
11/16/1998
ENSAFE

1751

File

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

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16 November 1998

Department of the Navy
Southern Division NFEC
P.O. Box 190010
North Charleston, SC 29419-9010
Attention: Mr. Gabriel Magwood

Re: Environmental Assessment Report dated 10 September 1998
Zone G/Area 15 (Site Identification # 01187)
Fuel Distribution System
Charleston Naval Complex/Charleston Naval Base
Charleston, SC
Charleston County

Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides a narrative describing environmental assessment activities and analytical results of soil and groundwater sampling conducted to determine if releases have occurred as a result of operation of the referenced piping system. The results presented indicate reportable concentrations of VOC (volatile organic compounds) and PAH (polynuclear aromatic hydrocarbon) compounds were detected in groundwater and soil grab samples obtained at the referenced site. The concentration reported for total naphthalene for soil samples exceed levels proposed in the SCAP (Soil Corrective Action Plan, amended July 1997).

With consideration to the above comments, the results presented by the assessment report appear to indicate that additional endeavors for remedial action and/or contaminant characterization are warranted at the referenced site. In this regard, the author does not concur with conclusions and recommendations as presented in the referenced report. An appropriate and reasonable assessment and/or remedial action plan sufficient to demonstrate adequate protection of human health and the environment should be developed and submitted to my attention by 2 January 1999.

Should you have any questions please contact me at (803) 734-5328.

Sincerely,

Paul L. Bristol, Hydrogeologist
Groundwater Quality Section
Bureau of Water

cc: Trident District EQC

Li 3·2·00
Co 4·11·00

**ENSAFE**

ENSAFE INC.

ENVIRONMENTAL AND MANAGEMENT CONSULTANTS

NFA

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RECEIVED
FEB 22 2000
Water Monitoring, Assessment & Protection Division

February 18, 2000

Mr. Paul Bristol
South Carolina Department of Health and Environmental Control
Groundwater Quality Section
Bureau of Water
2600 Bull Street
Columbia, SC 29201

**RE: Fuel Distribution System, Area 15, Charleston Naval Complex, South Carolina (SCDHEC No. 01187)**

Dear Mr. Bristol:

EnSafe is please to submit, on behalf of the U.S. Navy, Southern Division Naval Facilities Engineering Command, two copies of the Final Letter Report for SCDHEC petroleum site number 01187. This submittal incorporates the results of follow-on investigative activities performed in accordance with recommendations in the CAR and to address SCDHEC comments concerning these areas.

Should you have any questions or concerns regarding this submittal, please contact me.

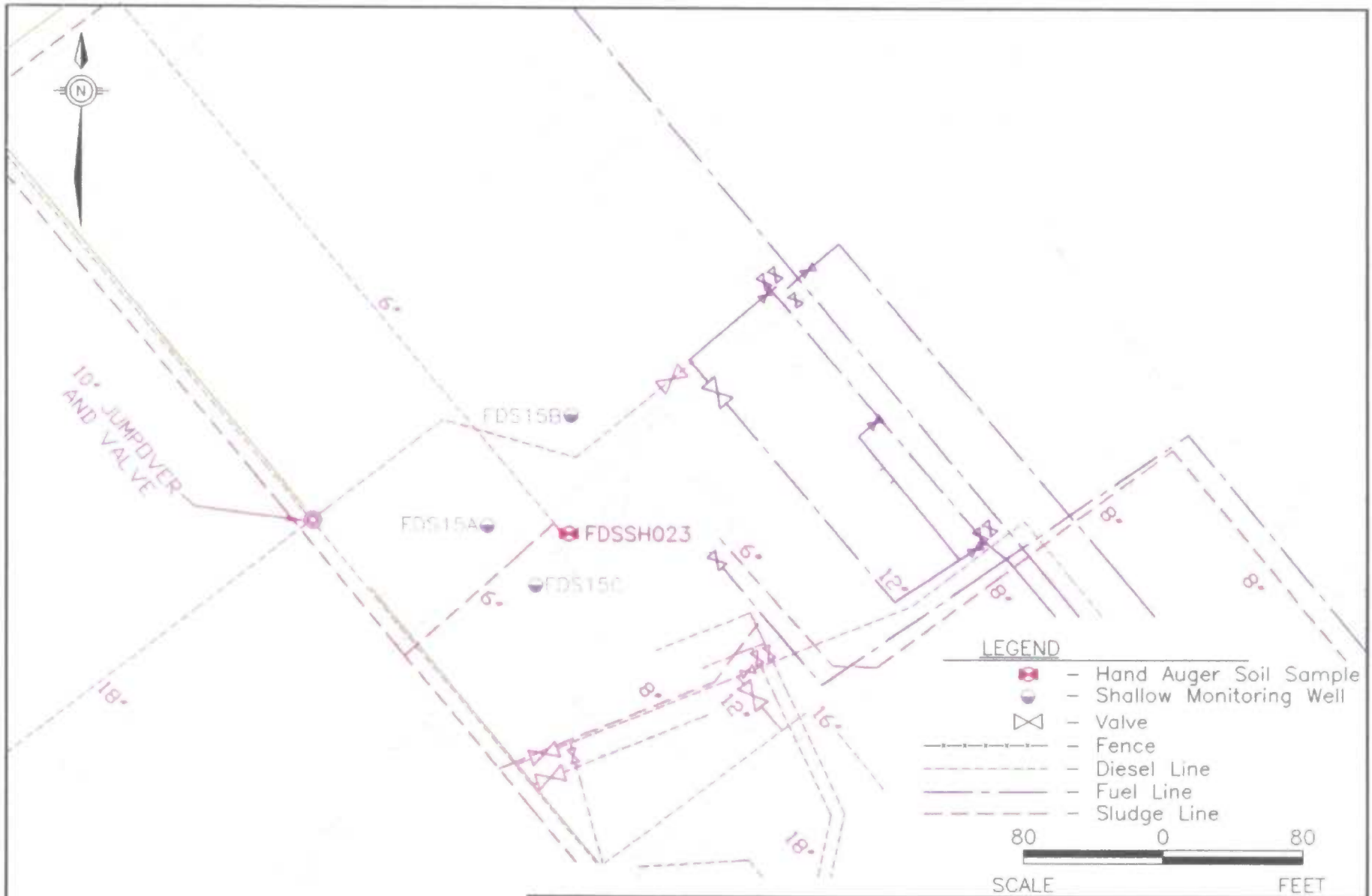
Sincerely,

ENSAFE INC.

Craig R. Smith

Attachment

cc: T. Haverkost, EnSafe - Charleston
0144 File




FUEL DISTRIBUTION SYSTEM
LETTER REPORT
CHARLESTON NAVAL COMPLEX
CHARLESTON, S.C.

FIGURE 1
AREA 15
SAMPLE LOCATIONS

DWG DATE: 02/15/00 | DWG NAME: 2907N011

**Area 15**

**(SCDHEC #01187)**

**Background**

Area 15 of the Fuel Distribution System (FDS) is associated with Phase I surface soil sample FDSSH02301. The sample was located just outside the western corner of the containment dike for Facility 3901A, on the north side of Building 3926. Six-inch pipelines intersect and connect to Building 3926 approximately three feet from FDSSH02301. Figure 1 presents the site features.

Facility 3901A is a 103,194 gallon welded steel ballast and sludge storage tank, which has been used for waste oil storage since 1945. The tank is connected to sludge lines which extend to various parts of the base, paralleling the fuel lines of the FDS. Building 3926 is a 15-foot high metal oil water separator mounted on a concrete pad. The facility originally used a Wemco unit to treat ballast water from tanks 39A and 39D. The Wemco unit was replaced with the current baffle operated system in 1991.

**Soil Sample Results**

Surface soil was sampled at Area 15 because it was most likely to be impacted by area activities or associated with a release at the site. As reported in the FDS *Contamination Assessment Report* (CAR), sample FDSSH02301 exhibited total petroleum hydrocarbons-gasoline range organics of 501 micrograms per kilogram ($\mu$g/kg), which prompted Phase II soil and groundwater sampling within Area 15. Phase II soil sampling revealed surface soil naphthalene (1,700 $\mu$g/kg) and total naphthalenes (8,500 $\mu$g/kg) above the respective groundwater protective Risk-Based Screening Levels (RBSLs) for these analytes (210 $\mu$g/kg for each analyte) at FDSSH02301. The ingestion and dermal contact RBSLs for napthalenes and total naphthalenes (3.1E+06 $\mu$g/kg for each analyte) was not exceeded.

Based on these results, a subsurface soil sample from the 3- to 5-foot below ground surface (bgs) interval, sample FDSSH02302, was collected and analyzed to determine the vertical extent and leachability potential of naphthalenes in subsurface soil at Area 15. Table 1 presents the surface soil results, as published in the CAR, and the recently acquired subsurface soil results. As presented in the CAR and Table 1, surface soil analytical results exceeded the groundwater protective RBSLs for napthalene and total napthlenes (210 $\mu$g/kg each analyte). No groundwater protective RBSLs were exceeded in the subsurface soil data. These results document that the naphthalene detected in the surficial interval is limited to that interval, thus delineating the vertical extent of this Contaminant of Concern (COC).

**Groundwater Sample Results**

Table 2 presents the groundwater analytical results, as published in the CAR. No groundwater organic RBSL parameters were detected during the most recent sampling event of the Phase II groundwater investigation at Area 15. Specifically, no naphthalene compounds were detected in shallow groundwater. No groundwater inorganic detection at Area 15 exceeded a RBSL during any sampling event. Figure 1 also depicts the Area 15 sample locations.

**Conclusions and Recommendations**

A review of analytical results from the surface soil data reveals that naphthalene and total naphthalenes in surficial soil exceeded the groundwater protective RBSL, but did not exceed the ingestion and dermal contact RBSL. The subsurface soil results document that these exceedances are limited to the surficial interval. In addition, an evaluation of Phase II groundwater results reveals that no naphthalenes were detected in shallow groundwater at Area 15. No other analytes detected in shallow groundwater exceeded their respective groundwater RBSLs.

Groundwater is not currently used at Charleston Naval Complex (CNC) as a source of potable or process water; a base wide potable water system provides drinking and process water to buildings

at CNC. This system is to remain in operation under the current base reuse plan. In addition, the shallow aquifer for this investigation contains significant concentrations of naturally occurring chlorides and elevated total dissolved solids, which makes this water-bearing unit a questionable potable water source.

Area 15 is currently zoned for marine industrial use, and will likely remain a fuel farm under this usage scenario. Since the napthalene detected in surficial soil does not exceed the ingestion and dermal contact RBSL and is not leaching to shallow groundwater at the site, no further action is recommended for Area 15.

**Table 1**
**Analytes Detected in Surface and Subsurface Soil**
**Area 15**
**Fuel Distribution System**

| Parameters | Location | Surface Conc. | Ingestion/Dermal Contact RBSL | Subsurface Conc. | Groundwater Protection RBSL | Exceeds Ingestion-Dermal RBSL/Groundwater Protection RBSL |
|---|---|---|---|---|---|---|
| **TPH - GRO (μg/kg)** | | | | | | |
| Gasoline | FDSSH023 | 501 | NL | NT | NL | NA/NA |
| **Volatile Organic Compounds (μg/kg)** | | | | | | |
| 1,1-Dichloroethane | FDSSH023 | 85 | NL | ND | NL | NA/NA |
| 1,1,1-Trichloroethane | FDSSH023 | 48 | NL | ND | NL | NA/NA |
| Benzene | FDSSH023 | ND | 22,000 | 2 | 5 | No/No |
| Ethylbenzene | FDSSH023 | 130 | 7.8E+06 | ND | 1,260 | No/No |
| Methylene chloride | FDSSH023 | ND | NL | ND | NL | NA/NA |
| Tetrachloroethene | FDSSH023 | 13 | NL | ND | NL | NA/NA |
| Toluene | FDSSH023 | 22 | 1.6E+06 | ND | 1,622 | No/No |
| Xylene (Total) | FDSSH023 | 1800 | 1.6E+08 | ND | 42,471 | No/No |
| **Semivolatile Organic Compounds (μg/kg)** | | | | | | |
| Total Naphthalenes | FDSSH023 | 8500 | 3.1E+06 | ND | 210 | No/Yes |
| 2-Methylnaphthalene | FDSSH023 | 6800 | NL | ND | NL | NA/NA |
| Naphthalene | FDSSH023 | 1700 | 3.1E+06 | ND | 210 | No/Yes |
| bis(2-ethylhexyl)phthalate | FDSSH023 | ND | NL | ND | NL | NA/NA |
| Chrysene | FDSSH023 | 240 | 88,000 | ND | 12,998 | No/No |

**Table 1**
**Analytes Detected in Surface and Subsurface Soil**
**Area 15**
**Fuel Distribution System**

| Parameters | Location | Surface Conc. | Ingestion/Dermal Contact RBSL | Subsurface Conc. | Groundwater Protection RBSL | Exceeds Ingestion-Dermal RBSL/Groundwater Protection RBSL |
|---|---|---|---|---|---|---|
| Fluorene | FDSSH023 | 1900 | NL | ND | NL | NA/NA |
| Phenanthrene | FDSSH023 | 1900 | NL | ND | NL | NA/NA |
| Pyrene | FDSSH023 | 590 | NL | ND | NL | NA/NA |
| **Pesticides/PCB (µg/kg)** | | | | | | |
| 4,4'-DDE | FDSSH023 | ND | NL | 12 | NL | NA/NA |
| Aroclor- 1260 | FDSSH023 | ND | NL | 53 | NL | NA/NA |
| Endrin | FDSSH023 | 20 | NL | ND | NL | NA/NA |
| Heptachlor | FDSSH023 | 5.3 | NL | ND | NL | NA/NA |
| Heptachlor epoxide | FDSSH023 | ND | NL | ND | NL | NA/NA |
| gamma-Chlordane | FDSSH023 | 3.4 | NL | 3.2 | NL | NA/NA |
| **Inorganics (mg/kg)** | | | | | | |
| Aluminum (Al) | FDSSH023 | 2820 | NL | 6,950 | NL | NA/NA |
| Arsenic (As) | FDSSH023 | 1.8 | NL | 2.4 | NL | NA/NA |
| Barium (Ba) | FDSSH023 | 13.1 | NL | 31.3 | NL | NA/NA |
| Beryllium (Be) | FDSSH023 | ND | NL | 0.31 | NL | NA/NA |
| Cadmium (Cd) | FDSSH023 | 0.19 | NL | ND | NL | NA/NA |
| Calcium (Ca) | FDSSH023 | 13,100 | NL | 1,220 | NL | NA/NA |

**Table 1**
**Analytes Detected in Surface and Subsurface Soil**
**Area 15**
**Fuel Distribution System**

| Parameters | Location | Surface Conc. | Ingestion/Dermal Contact RBSL | Subsurface Conc. | Groundwater Protection RBSL | Exceeds Ingestion-Dermal RBSL/Groundwater Protection RBSL |
|---|---|---|---|---|---|---|
| Chromium (Cr) | FDSSH023 | 9.3 | NL | 13.5 | NL | NA/NA |
| Cobalt (Co) | FDSSH023 | 1.3 | NL | 1.5 | NL | NA/NA |
| Copper (Cu) | FDSSH023 | ND | NL | 2.4 | NL | NA/NA |
| Iron (Fe) | FDSSH023 | 4,860 | NL | 10,500 | NL | NA/NA |
| Lead (Pb) | FDSSH023 | 29.5 | NL | 7.9 | NL | NA/NA |
| Magnesium (Mg) | FDSSH023 | 499 | NL | 646 | NL | NA/NA |
| Manganese (Mn) | FDSSH023 | 29.6 | NL | 34.3 | NL | NA/NA |
| Mercury (Hg) | FDSSH023 | 0.07 | NL | 0.05 | NL | NA/NA |
| Nickel (Ni) | FDSSH023 | 4.2 | NL | 2.9 | NL | NA/NA |
| Potassium (K) | FDSSH023 | 240 | NL | 321 | NL | NA/NA |
| Selenium (Se) | FDSSH023 | ND | NL | 0.51 | NL | NA/NA |
| Sodium (Na) | FDSSH023 | ND | NL | 249 | NL | NA/NA |
| Thallium (Tl) | FDSSH023 | 0.47 | NL | ND | NL | NA/NA |
| Tin (Sn) | FDSSH023 | ND | NL | ND | NL | NA/NA |
| Vanadium (V) | FDSSH023 | 10.6 | NL | 16.1 | NL | NA/NA |
| Zinc (Zn) | FDSSH023 | 66.8 | NL | 14.8 | NL | NA/NA |

*Notes:*
NL = Not listed
NA = Not applicable
NT = Not taken
$\mu$g/kg = Micrograms per kilogram
mg/kg = Milligrams per kilogram
RBSLs for ingestion or dermal contact with surficial soil from the *South Carolina Risk-Based Corrective Action for Petroleum Releases* (SCDHEC, January 5, 1998) were used as reference concentrations.
Bolded concentrations exceed RBSL.

**Table 2**
**Analytes Detected in Shallow Groundwater**
**Area 15**
**Fuel Distribution System**

| Parameters | Location | First Sampling Event | Second Sampling Event | RBSL/Tap Water RBC (μg/L) | Shallow Background |
|---|---|---|---|---|---|
| **Volatile Organic Compounds (μg/L)** | | | | | |
| Toluene | FDS15A | 3 | ND | 1000/75 | NA |
| Chlorobenzene | FDS15A | 6 | ND | NL/3.9 | NA |
| **Semivolatile Organic Compounds (μg/L)** | | | | | |
| Phenol | FDS15A | 1 | ND | NL/2200 | NA |
| 4-Methylphenol (p-cresol) | FDS15A | 23 | 2 | NL/18 | NA |
| Benzoic acid | FDS15A | 6 | ND | NL/15000 | NA |
| **Pesticides/PCBs (μg/L)** | | | | | |
| beta-BHC | FDS15A | 0.057 | ND | NL/0.037 | NA |
| **Inorganics (μg/L)** | | | | | |
| Aluminum (Al) | FDS15A | 100 | 503 | NL/3700 | 692 |
| | FDS15B | 3,010 | 209 | | |
| | FDS15C | 962 | 474 | | |
| Antimony (Sb) | FDS15C | 3.5 | ND | NL/1.5 | 4.85 |
| Arsenic (As) | FDS15A | 19.4 | 26.7 | 50/0.045 | 17.8 |
| | FDS15B | 4.1 | 4.6 | | |
| Barium (Ba) | FDS15A | 55.2 | 94.5 | 2000/260 | 31 |
| | FDS15B | 68.6 | 70.6 | | |
| | FDS15C | 159 | 153 | | |
| Calcium (Ca) | FDS15A | 126000 | 235000 | NL/NL | NL |
| | FDS15B | 98800 | 119000 | | |
| | FDS15C | 268000 | 284000 | | |
| Chromium (Cr) | FDS15A | 0.92 | 1.5 | 100/11 | 3.88 |
| | FDS15B | 4.7 | ND | | |
| | FDS15C | 1.9 | ND | | |
| Cobalt (Co) | FDS15B | 8.1 | 6.8 | NL/220 | 1.45 |
| | FDS15C | 1.3 | ND | | |
| Copper (Cu) | FDS15A | 3.6 | ND | NL/150 | 8.33 |
| Cyanide (CN) | FDS15A | 3 | NT | NL/73 | 3.8 |
| | FDS15B | 7 | NT | | |
| Iron (Fe) | FDS15A | 4920 | 6620 | NL/1100 | 30,400 |
| | FDS15B | 2060 | 675 | | |
| | FDS15C | 1920 | 3040 | | |

**Table 2**
**Analytes Detected in Shallow Groundwater**
**Area 15**
**Fuel Distribution System**

| Parameters | Location | First Sampling Event | Second Sampling Event | RBSL/Tap Water RBC (μg/L) | Shallow Background |
|---|---|---|---|---|---|
| Magnesium (Mg) | FDS15A | 12200 | 15800 | NL/NL | NL |
| | FDS15B | 26200 | 22800 | | |
| | FDS15C | 19300 | 14000 | | |
| Manganese (Mn) | FDS15A | 721 | 515 | NL/73 | 2906 |
| | FDS15B | 1050 | 813 | | |
| | FDS15C | 806 | 465 | | |
| Nickel (Ni) | FDS15A | 3.7 | 0.84 | NL/73 | 4.08 |
| | FDS15B | 3.2 | 1.6 | | |
| | FDS15C | 1.7 | 0.9 | | |
| Potassium (K) | FDS15A | 10800 | 5130 | NL/NL | NL |
| | FDS15B | 7410 | 8050 | | |
| | FDS15C | 3440 | 3450 | | |
| Sodium (Na) | FDS15A | 78300 | 157000 | NL/NL | NL |
| | FDS15B | 92400 | 158000 | | |
| | FDS15C | 117000 | 114000 | | |
| Thallium (Tl) | FDS15C | *3.3* | ND | NL/0.26 | ND |
| Vanadium (V) | FDS15A | 1.3 | 1.6 | NL/26 | 15.4 |
| | FDS15B | 6 | 1.1 | | |
| | FDS15C | 1.9 | 1.6 | | |

*Notes:*
NL = Not listed
NA = Not applicable
ND = Not detected
NT = Not taken
μg/L = Micrograms per liter
RBSLs from the *South Carolina Risk-Based Corrective Action for Petroleum Releases* (SCDHEC, January 5, 1998) and tap water RBCs (THQ=0.1) from *Risk Based Concentration Table* (USEPA, October 7, 1999) were used as reference concentrations.
Italicized concentrations exceed the Tap Water RBC. For inorganics, italicized concentrations exceed the shallow groundwater background concentration and the tap water RBC.
All background values for Zone G are based on twice the means of the grid sample concentrations. Background values for groundwater are based on two sampling rounds in two wells at each depth.

**Attachment A**
**Analytical Data**

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



| CYANIDE | | | | | | | |
|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-S-H023-01 | | | | | |
| | ORIGINAL ID -----> | FDSSH02301 | | | | | |
| | LAB SAMPLE ID ---> | 27355.10 | | | | | |
| | ID FROM REPORT --> | FDSSH02301 | | | | | |
| | SAMPLE DATE -----> | 10/17/96 | | | | | |
| | DATE EXTRACTED --> | 10/21/96 | | | | | |
| | DATE ANALYZED ---> | 10/24/96 | | | | | |
| | MATRIX ----------> | Soil | | | | | |
| | UNITS ----------> | MG/KG | | | | | |
| CAS # | Parameter | 27339 | VAL | | | | |
| 57-12-5 | Cyanide (CN) | 0.53 | U | | | | |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW846-META

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-01 |
| ORIGINAL ID -----> | FDSSH02301 |
| LAB SAMPLE ID ---> | 27355.10 |
| ID FROM REPORT --> | FDSSH02301 |
| SAMPLE DATE -----> | 10/17/96 |
| DATE EXTRACTED --> | 10/22/96 |
| DATE ANALYZED ---> | 10/24/96 |
| MATRIX ----------> | Soil |
| UNITS ----------> | MG/KG |

| CAS # | Parameter | 27339 | VAL |
|---|---|---|---|
| 7439-97-6 | Mercury (Hg) | 0.07 | |
| 7429-90-5 | Aluminum (Al) | 2820. | |
| 7439-92-1 | Lead (Pb) | 29.5 | |
| 7440-36-0 | Antimony (Sb) | 0.33 | U |
| 7439-95-4 | Magnesium (Mg) | 499. | |
| 7440-38-2 | Arsenic (As) | 1.8 | |
| 7782-49-2 | Selenium (Se) | 0.33 | U |
| 7440-39-3 | Barium (Ba) | 13.1 | |
| 7440-41-7 | Beryllium (Be) | 0.23 | U |
| 7440-43-9 | Cadmium (Cd) | 0.19 | J |
| 7440-70-2 | Calcium (Ca) | 13100. | |
| 7440-47-3 | Chromium (Cr) | 9.3 | |
| 7440-48-4 | Cobalt (Co) | 1.3 | J |
| 7440-50-8 | Copper (Cu) | 10.6 | U |
| 7439-89-6 | Iron (Fe) | 4860. | |
| 7439-96-5 | Manganese (Mn) | 29.6 | |
| 7440-02-0 | Nickel (Ni) | 4.2 | J |
| 7440-09-7 | Potassium (K) | 240. | J |
| 7440-22-4 | Silver (Ag) | 0.21 | U |
| 7440-23-5 | Sodium (Na) | 164. | U |
| 7440-28-0 | Thallium (Tl) | 0.47 | J |
| 7440-31-5 | Tin (Sn) | 2. | U |
| 7440-62-2 | Vanadium (V) | 10.6 | |
| 7440-66-6 | Zinc (Zn) | 66.8 | |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW846-PEST

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-01 |
| ORIGINAL ID -----> | FDSSH02301 |
| LAB SAMPLE ID ---> | FDSSH02301 |
| ID FROM REPORT --> | FDSSH02301 |
| SAMPLE DATE -----> | 10/17/96 |
| DATE EXTRACTED --> | 10/20/96 |
| DATE ANALYZED ---> | 10/28/96 |
| MATRIX ----------> | Soil |
| UNITS ----------> | UG/KG |

| CAS # | Parameter | 27339 | VAL |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 1.4 | U |
| 319-85-7 | beta-BHC | 1.4 | U |
| 319-86-8 | delta-BHC | 1.4 | U |
| 58-89-9 | gamma-BHC (Lindane) | 1.4 | U |
| 76-44-8 | Heptachlor | 5.3 | J |
| 309-00-2 | Aldrin | 1.4 | U |
| 1024-57-3 | Heptachlor epoxide | 1.4 | U |
| 959-98-8 | Endosulfan I | 1.4 | U |
| 60-57-1 | Dieldrin | 2.8 | U |
| 72-55-9 | 4,4'-DDE | 2.8 | U |
| 72-20-8 | Endrin | 20. | |
| 33213-65-9 | Endosulfan II | 2.8 | U |
| 72-54-8 | 4,4'-DDD | 2.8 | U |
| 1031-07-8 | Endosulfan sulfate | 2.8 | U |
| 50-29-3 | 4,4'-DDT | 11. | U |
| 72-43-5 | Methoxychlor | 14. | U |
| 53494-70-5 | Endrin ketone | 2.8 | U |
| 7421-93-4 | Endrin aldehyde | 2.8 | U |
| 5103-71-9 | alpha-Chlordane | 1.4 | U |
| 5103-74-2 | gamma-Chlordane | 3.4 | |
| 8001-35-2 | Toxaphene | 92. | U |
| 12674-11-2 | Aroclor-1016 | 37. | U |
| 11104-28-2 | Aroclor-1221 | 37. | U |
| 11141-16-5 | Aroclor-1232 | 37. | U |
| 53469-21-9 | Aroclor-1242 | 37. | U |
| 12672-29-6 | Aroclor-1248 | 37. | U |
| 11097-69-1 | Aroclor-1254 | 74. | U |
| 11096-82-5 | Aroclor-1260 | 170. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW846-SVOA

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-01 |
| ORIGINAL ID -----> | FDSSH02301 |
| LAB SAMPLE ID ---> | 27355.10 |
| ID FROM REPORT --> | FDSSH02301 |
| SAMPLE DATE -----> | 10/17/96 |
| DATE EXTRACTED --> | 10/20/96 |
| DATE ANALYZED ---> | 11/01/96 |
| MATRIX ----------> | Soil |
| UNITS ----------> | UG/KG |

| CAS # | Parameter | 27339 | VAL |
|---|---|---|---|
| 108-95-2 | Phenol | 1800. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 1800. | U |
| 95-57-8 | 2-Chlorophenol | 1800. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1800. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1800. | U |
| 100-51-6 | Benzyl alcohol | 1800. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1800. | U |
| 95-48-7 | 2-Methylphenol (o-Cresol) | 1800. | U |
| 108-60-1 | 2,2'-oxybis(1-Chloropropane) | 1800. | U |
| 106-44-5 | 4-Methylphenol (p-Cresol) | 1800. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 1800. | U |
| 67-72-1 | Hexachloroethane | 1800. | U |
| 98-95-3 | Nitrobenzene | 1800. | U |
| 78-59-1 | Isophorone | 1800. | U |
| 88-75-5 | 2-Nitrophenol | 1800. | U |
| 105-67-9 | 2,4-Dimethylphenol | 1800. | U |
| 65-85-0 | Benzoic acid | 8900. | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1800. | U |
| 120-83-2 | 2,4-Dichlorophenol | 1800. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1800. | U |
| 91-20-3 | Naphthalene | 1700. | J |
| 106-47-8 | 4-Chloroaniline | 1800. | U |
| 87-68-3 | Hexachlorobutadiene | 1800. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 1800. | U |
| 91-57-6 | 2-Methylnaphthalene | 6800. | |
| 77-47-4 | Hexachlorocyclopentadiene | 1800. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 1800. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 8900. | U |
| 91-58-7 | 2-Chloronaphthalene | 1800. | U |
| 88-74-4 | 2-Nitroaniline | 8900. | U |
| 131-11-3 | Dimethyl phthalate | 1800. | U |
| 208-96-8 | Acenaphthylene | 1800. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 1800. | U |
| 99-09-2 | 3-Nitroaniline | 8900. | U |
| 83-32-9 | Acenaphthene | 1800. | U |
| 51-28-5 | 2,4-Dinitrophenol | 8900. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW846-SVOA

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-01 |
| ORIGINAL ID -----> | FDSSH02301 |
| LAB SAMPLE ID ---> | 27355.10 |
| ID FROM REPORT --> | FDSSH02301 |
| SAMPLE DATE -----> | 10/17/96 |
| DATE EXTRACTED --> | 10/20/96 |
| DATE ANALYZED ---> | 11/01/96 |
| MATRIX ----------> | Soil |
| UNITS ----------> | UG/KG |

| CAS # | Parameter | 27339 | VAL |
|---|---|---|---|
| 100-02-7 | 4-Nitrophenol | 8900. | U |
| 132-64-9 | Dibenzofuran | 1800. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 1800. | U |
| 84-66-2 | Diethylphthalate | 1800. | U |
| 7005-72-3 | 4-Chlorophenylphenylether | 1800. | U |
| 86-73-7 | Fluorene | 1900. | |
| 100-01-6 | 4-Nitroaniline | 8900. | U |
| 534-52-1 | 2-Methyl-4,6-Dinitrophenol | 8900. | U |
| 86-30-6 | N-Nitrosodiphenylamine | 1800. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 1800. | U |
| 118-74-1 | Hexachlorobenzene | 1800. | U |
| 87-86-5 | Pentachlorophenol | 8900. | U |
| 85-01-8 | Phenanthrene | 1900. | |
| 120-12-7 | Anthracene | 1800. | U |
| 84-74-2 | Di-n-butylphthalate | 1800. | U |
| 206-44-0 | Fluoranthene | 1800. | U |
| 129-00-0 | Pyrene | 590. | J |
| 85-68-7 | Butylbenzylphthalate | 1800. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 3700. | U |
| 56-55-3 | Benzo(a)anthracene | 1800. | U |
| 218-01-9 | Chrysene | 240. | J |
| 117-81-7 | bis(2-Ethylhexyl)phthalate (BEHP) | 1800. | U |
| 117-84-0 | Di-n-octyl phthalate | 1800. | U |
| 205-99-2 | Benzo(b)fluoranthene | 1800. | U |
| 207-08-9 | Benzo(k)fluoranthene | 1800. | U |
| 50-32-8 | Benzo(a)pyrene | 1800. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1800. | U |
| 53-70-3 | Dibenz(a,h)anthracene | 1800. | U |
| 191-24-2 | Benzo(g,h,i)perylene | 1800. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW846-VOA

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-01 |
| ORIGINAL ID -----> | FDSSH02301 |
| LAB SAMPLE ID ---> | 27355.10 |
| ID FROM REPORT --> | FDSSH02301 |
| SAMPLE DATE -----> | 10/17/96 |
| DATE ANALYZED ---> | 10/22/96 |
| MATRIX ----------> | Soil |
| UNITS ----------> | UG/KG |

| CAS # | Parameter | 27339 | VAL |
|---|---|---|---|
| 74-87-3 | Chloromethane | 56. | U |
| 74-83-9 | Bromomethane | 56. | U |
| 75-01-4 | Vinyl chloride | 56. | U |
| 75-00-3 | Chloroethane | 56. | U |
| 75-09-2 | Methylene chloride | 28. | U |
| 67-64-1 | Acetone | 56. | U |
| 75-15-0 | Carbon disulfide | 28. | U |
| 75-35-4 | 1,1-Dichloroethene | 28. | U |
| 75-34-3 | 1,1-Dichloroethane | 85. | J |
| 540-59-0 | 1,2-Dichloroethene (total) | 28. | U |
| 67-66-3 | Chloroform | 28. | U |
| 107-06-2 | 1,2-Dichloroethane | 28. | U |
| 78-93-3 | 2-Butanone (MEK) | 56. | U |
| 71-55-6 | 1,1,1-Trichloroethane | 48. | J |
| 56-23-5 | Carbon tetrachloride | 28. | U |
| 75-27-4 | Bromodichloromethane | 28. | U |
| 78-87-5 | 1,2-Dichloropropane | 28. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 28. | U |
| 79-01-6 | Trichloroethene | 28. | U |
| 124-48-1 | Dibromochloromethane | 28. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 28. | U |
| 71-43-2 | Benzene | 28. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 28. | U |
| 75-25-2 | Bromoform | 28. | U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 56. | U |
| 591-78-6 | 2-Hexanone | 56. | UJ |
| 127-18-4 | Tetrachloroethene | 13. | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 28. | UJ |
| 108-88-3 | Toluene | 22. | J |
| 108-90-7 | Chlorobenzene | 28. | UJ |
| 100-41-4 | Ethylbenzene | 130. | J |
| 100-42-5 | Styrene | 28. | UJ |
| 1330-20-7 | Xylene (Total) | 1800. | J |
| 108-05-4 | Vinyl acetate | 56. | UJ |
| 110-75-8 | 2-Chloroethyl vinyl ether | 56. | UR |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



| TPH-DRO | | | |
|---|---|---|---|
| | SAMPLE ID -------> | FDS-S-N023-01 | |
| | ORIGINAL ID -----> | FDSSH02301 | |
| | LAB SAMPLE ID ---> | 27355.10 | |
| | ID FROM REPORT --> | FDSSH02301 | |
| | SAMPLE DATE -----> | 10/17/96 | |
| | DATE EXTRACTED --> | 10/24/96 | |
| | DATE ANALYZED ---> | 11/04/96 | |
| | MATRIX ----------> | Soil | |
| | UNITS ----------> | MG/KG | |
| CAS # | Parameter | 27339 | VAL |
| 68334-30-5 | Diesel | 55.6 | U |
| 8008-20-6 | Kerosene | 55.6 | U |
| 9999000-35-1 | JP-4 C6-C14 | 55.6 | U |
| 9999000-48-6 | NAPHTHA C6-C12 | 55.6 | U |
| 68553-00-4 | Fuel oil no. 6 | 55.6 | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



| TPH-GRO | | | | | | | |
|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-S-H023-01 | | | | | |
| | ORIGINAL ID -----> | FDSSH02301 | | | | | |
| | LAB SAMPLE ID ---> | FDSSH02301 | | | | | |
| | ID FROM REPORT --> | FDSSH02301 | | | | | |
| | SAMPLE DATE -----> | 10/17/96 | | | | | |
| | DATE ANALYZED ---> | 10/22/96 | | | | | |
| | MATRIX ----------> | Soil | | | | | |
| | UNITS ----------> | UG/KG | | | | | |
| CAS # | Parameter | 27339 | VAL | | | | |
| 86290-81-5 | Gasoline | 501. | J | | | | |

*** Validation Complete ***

DATALCP3
02/17/00

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



CYANIDE

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-02 |
| ORIGINAL ID -----> | FDSSH02302 |
| LAB SAMPLE ID ---> | 40518.01 |
| ID FROM REPORT --> | FDSSH02302 |
| SAMPLE DATE -----> | 09/30/99 |
| DATE EXTRACTED --> | 10/07/99 |
| DATE ANALYZED ---> | 10/08/99 |
| MATRIX ----------> | Soil |
| UNITS -----------> | MG/KG |

| CAS # | Parameter | 40518 | VAL |
|---|---|---|---|
| 57-12-5 | Cyanide (CN) | 0.17 | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW-META

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-02 |
| ORIGINAL ID -----> | FDSSH02302 |
| LAB SAMPLE ID ---> | 40518.01 |
| ID FROM REPORT --> | FDSSH02302 |
| SAMPLE DATE -----> | 09/30/99 |
| DATE EXTRACTED --> | 10/06/99 |
| DATE ANALYZED ---> | 10/07/99 |
| MATRIX ----------> | Soil |
| UNITS ----------> | MG/KG |

| CAS # | Parameter | 40518 | VAL |
|---|---|---|---|
| 7439-97-6 | Mercury (Hg) | 0.05 | J |
| 7440-38-2 | Arsenic (As) | 2.4 | J |
| 7440-39-3 | Barium (Ba) | 31.3 | |
| 7440-43-9 | Cadmium (Cd) | 0.03 | U |
| 7440-47-3 | Chromium (Cr) | 13.5 | |
| 7439-92-1 | Lead (Pb) | 7.9 | |
| 7782-49-2 | Selenium (Se) | 0.51 | J |
| 7440-22-4 | Silver (Ag) | 0.14 | U |
| 7440-36-0 | Antimony (Sb) | 0.31 | UJ |
| 7440-41-7 | Beryllium (Be) | 0.31 | J |
| 7440-70-2 | Calcium (Ca) | 1220. | |
| 7440-48-4 | Cobalt (Co) | 1.5 | J |
| 7440-50-8 | Copper (Cu) | 2.4 | |
| 7439-89-6 | Iron (Fe) | 10500. | |
| 7439-95-4 | Magnesium (Mg) | 646. | |
| 7439-96-5 | Manganese (Mn) | 34.3 | J |
| 7440-02-0 | Nickel (Ni) | 2.9 | J |
| 7440-09-7 | Potassium (K) | 321. | |
| 7440-23-5 | Sodium (Na) | 249. | J |
| 7440-28-0 | Thallium (Tl) | 0.4 | U |
| 7440-62-2 | Vanadium (V) | 16.1 | |
| 7440-66-6 | Zinc (Zn) | 14.8 | |
| 7440-31-5 | Tin (Sn) | 4.9 | U |
| 7429-90-5 | Aluminum (Al) | 6950. | |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW-SVOA

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-02 |
| ORIGINAL ID -----> | FDSSH02302 |
| LAB SAMPLE ID ---> | 40518.01 |
| ID FROM REPORT --> | FDSSH02302 |
| SAMPLE DATE -----> | 09/30/99 |
| DATE EXTRACTED --> | 10/11/99 |
| DATE ANALYZED ---> | 10/12/99 |
| MATRIX ----------> | Soil |
| UNITS ----------> | UG/KG |

| CAS # | Parameter | 40518 | VAL |
|---|---|---|---|
| 108-95-2 | Phenol | 380. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 380. | U |
| 95-57-8 | 2-Chlorophenol | 380. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 380. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 380. | U |
| 100-51-6 | Benzyl alcohol | 380. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 380. | U |
| 95-48-7 | 2-Methylphenol (o-Cresol) | 380. | U |
| 108-60-1 | 2,2'-oxybis(1-Chloropropane) | 380. | U |
| 106-44-5 | 4-Methylphenol (p-Cresol) | 380. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 380. | U |
| 67-72-1 | Hexachloroethane | 380. | U |
| 98-95-3 | Nitrobenzene | 380. | U |
| 78-59-1 | Isophorone | 380. | U |
| 88-75-5 | 2-Nitrophenol | 380. | U |
| 105-67-9 | 2,4-Dimethylphenol | 380. | U |
| 65-85-0 | Benzoic acid | 380. | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 380. | U |
| 120-83-2 | 2,4-Dichlorophenol | 380. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 380. | U |
| 91-20-3 | Naphthalene | 380. | U |
| 106-47-8 | 4-Chloroaniline | 380. | U |
| 87-68-3 | Hexachlorobutadiene | 380. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 380. | U |
| 91-57-6 | 2-Methylnaphthalene | 380. | U |
| 77-47-4 | Hexachlorocyclopentadiene | 380. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 380. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 950. | U |
| 91-58-7 | 2-Chloronaphthalene | 380. | U |
| 88-74-4 | 2-Nitroaniline | 950. | U |
| 131-11-3 | Dimethyl phthalate | 380. | U |
| 208-96-8 | Acenaphthylene | 380. | U |
| 99-09-2 | 3-Nitroaniline | 950. | U |
| 83-32-9 | Acenaphthene | 380. | U |
| 51-28-5 | 2,4-Dinitrophenol | 950. | UR |
| 100-02-7 | 4-Nitrophenol | 950. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW-SVOA

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-02 |
| ORIGINAL ID -----> | FDSSH02302 |
| LAB SAMPLE ID ---> | 40518.01 |
| ID FROM REPORT --> | FDSSH02302 |
| SAMPLE DATE -----> | 09/30/99 |
| DATE EXTRACTED --> | 10/11/99 |
| DATE ANALYZED ---> | 10/12/99 |
| MATRIX ----------> | Soil |
| UNITS ----------> | UG/KG |

| CAS # | Parameter | 40518 | VAL |
|---|---|---|---|
| 132-64-9 | Dibenzofuran | 380. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 380. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 380. | U |
| 84-66-2 | Diethylphthalate | 380. | U |
| 7005-72-3 | 4-Chlorophenylphenylether | 380. | U |
| 86-73-7 | Fluorene | 380. | U |
| 100-01-6 | 4-Nitroaniline | 950. | U |
| 534-52-1 | 2-Methyl-4,6-Dinitrophenol | 950. | UR |
| 86-30-6 | N-Nitrosodiphenylamine | 380. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 380. | U |
| 118-74-1 | Hexachlorobenzene | 380. | U |
| 87-86-5 | Pentachlorophenol | 950. | U |
| 85-01-8 | Phenanthrene | 380. | U |
| 120-12-7 | Anthracene | 380. | U |
| 84-74-2 | Di-n-butylphthalate | 380. | U |
| 206-44-0 | Fluoranthene | 380. | U |
| 129-00-0 | Pyrene | 380. | U |
| 85-68-7 | Butylbenzylphthalate | 380. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 380. | U |
| 56-55-3 | Benzo(a)anthracene | 380. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate (BEHP) | 380. | U |
| 218-01-9 | Chrysene | 380. | U |
| 117-84-0 | Di-n-octyl phthalate | 380. | U |
| 205-99-2 | Benzo(b)fluoranthene | 380. | U |
| 207-08-9 | Benzo(k)fluoranthene | 380. | U |
| 50-32-8 | Benzo(a)pyrene | 380. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 380. | U |
| 53-70-3 | Dibenz(a,h)anthracene | 380. | U |
| 191-24-2 | Benzo(g,h,i)perylene | 380. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW-VOA

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-02 |
| ORIGINAL ID -----> | FDSSH02302 |
| LAB SAMPLE ID ---> | 40518.01 |
| ID FROM REPORT --> | FDSSH02302 |
| SAMPLE DATE -----> | 09/30/99 |
| DATE ANALYZED ---> | 10/08/99 |
| MATRIX ----------> | Soil |
| UNITS ----------> | UG/KG |

| CAS # | Parameter | 40518 | VAL |
|---|---|---|---|
| 71-43-2 | Benzene | 2. | J |
| 100-41-4 | Ethylbenzene | 7. | U |
| 108-88-3 | Toluene | 7. | U |
| 1330-20-7 | Xylene (Total) | 7. | U |
| 74-87-3 | Chloromethane | 7. | U |
| 74-83-9 | Bromomethane | 7. | U |
| 75-01-4 | Vinyl chloride | 7. | U |
| 75-00-3 | Chloroethane | 7. | U |
| 75-09-2 | Methylene chloride | 7. | U |
| 67-64-1 | Acetone | 7. | U |
| 75-15-0 | Carbon disulfide | 7. | U |
| 75-35-4 | 1,1-Dichloroethene | 7. | U |
| 75-34-3 | 1,1-Dichloroethane | 7. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 7. | U |
| 67-66-3 | Chloroform | 7. | U |
| 107-06-2 | 1,2-Dichloroethane | 7. | U |
| 78-93-3 | 2-Butanone (MEK) | 7. | U |
| 71-55-6 | 1,1,1-Trichloroethane | 7. | U |
| 56-23-5 | Carbon tetrachloride | 7. | U |
| 108-05-4 | Vinyl acetate | 7. | U |
| 75-27-4 | Bromodichloromethane | 7. | U |
| 78-87-5 | 1,2-Dichloropropane | 7. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 7. | U |
| 79-01-6 | Trichloroethene | 7. | U |
| 124-48-1 | Dibromochloromethane | 7. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 7. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 7. | U |
| 75-25-2 | Bromoform | 7. | U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 7. | U |
| 591-78-6 | 2-Hexanone | 7. | U |
| 127-18-4 | Tetrachloroethene | 7. | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 7. | U |
| 108-90-7 | Chlorobenzene | 7. | U |
| 100-42-5 | Styrene | 7. | U |
| 110-75-8 | 2-Chloroethyl vinyl ether | 7. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 SOIL SAMPLE RESULTS



SW846-PEST

| | |
|---|---|
| SAMPLE ID -------> | FDS-S-H023-02 |
| ORIGINAL ID -----> | FDSSH02302 |
| LAB SAMPLE ID ---> | 40518.01 |
| ID FROM REPORT --> | FDSSH02302 |
| SAMPLE DATE -----> | 09/30/99 |
| DATE EXTRACTED --> | 10/03/99 |
| DATE ANALYZED ---> | 10/05/99 |
| MATRIX ----------> | Soil |
| UNITS -----------> | UG/KG |

| CAS # | Parameter | 40518 | VAL |
|---|---|---|---|
| 12674-11-2 | Aroclor-1016 | 39. | U |
| 11104-28-2 | Aroclor-1221 | 39. | U |
| 11141-16-5 | Aroclor-1232 | 39. | U |
| 53469-21-9 | Aroclor-1242 | 39. | U |
| 12672-29-6 | Aroclor-1248 | 39. | U |
| 11097-69-1 | Aroclor-1254 | 39. | U |
| 11096-82-5 | Aroclor-1260 | 53. | |
| 319-84-6 | alpha-BHC | 1.5 | U |
| 319-85-7 | beta-BHC | 1.5 | U |
| 319-86-8 | delta-BHC | 1.5 | U |
| 58-89-9 | gamma-BHC (Lindane) | 1.5 | U |
| 76-44-8 | Heptachlor | 1.5 | U |
| 309-00-2 | Aldrin | 1.5 | U |
| 1024-57-3 | Heptachlor epoxide | 2.8 | U |
| 959-98-8 | Endosulfan I | 1.5 | U |
| 60-57-1 | Dieldrin | 3. | U |
| 72-55-9 | 4,4'-DDE | 12. | |
| 72-20-8 | Endrin | 3. | U |
| 33213-65-9 | Endosulfan II | 3. | U |
| 72-54-8 | 4,4'-DDD | 3. | U |
| 1031-07-8 | Endosulfan sulfate | 3. | U |
| 50-29-3 | 4,4'-DDT | 3. | U |
| 7421-93-4 | Endrin aldehyde | 3. | U |
| 72-43-5 | Methoxychlor | 15. | U |
| 5103-71-9 | alpha-Chlordane | 1.5 | U |
| 5103-74-2 | gamma-Chlordane | 3.2 | |
| 8001-35-2 | Toxaphene | 99. | U |
| 53494-70-5 | Endrin ketone | 3. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 GROUNDWATER SAMPLE RESULTS



| CYANIDE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-G-W15A-01 | | FDS-G-W15B-01 | | FDS-G-W15C-01 | | | | | |
| | ORIGINAL ID -----> | FDSGW15A01 | | FDSGW15B01 | | FDSGW15C01 | | | | | |
| | LAB SAMPLE ID ---> | 28308.01 | | 28308.02 | | 28308.03 | | | | | |
| | ID FROM REPORT --> | FDSGW15A01 | | FDSGW15B01 | | FDSGW15C01 | | | | | |
| | SAMPLE DATE -----> | 01/28/97 | | 01/28/97 | | 01/28/97 | | | | | |
| | DATE EXTRACTED --> | 01/31/97 | | 01/31/97 | | 01/31/97 | | | | | |
| | DATE ANALYZED ---> | 02/01/97 | | 02/01/97 | | 02/01/97 | | | | | |
| | MATRIX ----------> | Water | | Water | | Water | | | | | |
| | UNITS ----------> | UG/L | | UG/L | | UG/L | | | | | |
| CAS # | Parameter | 28308 | VAL | 28308 | VAL | 28308 | VAL | | | | |
| 57-12-5 | Cyanide (CN) | 3. | J | 7. | J | 2. | U | | | | |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 GROUNDWATER SAMPLE RESULTS



| SW846-META | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-G-W15A-01 | | FDS-G-W15A-02 | | FDS-G-W15B-01 | | FDS-G-W15B-02 | | FDS-G-W15C-01 | | FDS-G-W15C-02 | |
| | ORIGINAL ID -----> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | LAB SAMPLE ID ---> | 28308.01 | | 29707.04 | | 28308.02 | | 29730.06 | | 28308.03 | | 29730.07 | |
| | ID FROM REPORT --> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | SAMPLE DATE -----> | 01/28/97 | | 06/13/97 | | 01/28/97 | | 06/16/97 | | 01/28/97 | | 06/16/97 | |
| | DATE EXTRACTED --> | 01/31/97 | | 06/20/97 | | 01/31/97 | | 06/20/97 | | 01/31/97 | | 06/20/97 | |
| | DATE ANALYZED ---> | 01/31/97 | | 07/02/97 | | 01/31/97 | | 07/02/97 | | 01/31/97 | | 07/02/97 | |
| | MATRIX ----------> | Water | | Water | | Water | | Water | | Water | | Water | |
| | UNITS ----------> | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| CAS # | Parameter | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL |
| 7429-90-5 | Aluminum (Al) | 100. | J | 503. | | 3010. | | 209. | | 962. | | 474. | |
| 7440-36-0 | Antimony (Sb) | 2.1 | U | 1.6 | U | 2.1 | U | 1.6 | U | 3.5 | J | 1.6 | U |
| 7440-38-2 | Arsenic (As) | 19.4 | | 26.7 | | 4.1 | J | 4.6 | J | 2.5 | U | 2.1 | U |
| 7440-39-3 | Barium (Ba) | 55.2 | J | 94.5 | | 68.6 | J | 70.6 | | 159. | J | 153. | |
| 7440-41-7 | Beryllium (Be) | 0.34 | U | 0.35 | U | 0.59 | U | 0.29 | U | 0.59 | U | 0.42 | U |
| 7440-43-9 | Cadmium (Cd) | 0.5 | U | 0.3 | U | 0.5 | U | 0.3 | U | 0.5 | U | 0.3 | U |
| 7440-70-2 | Calcium (Ca) | 126000. | J | 235000. | | 98800. | J | 119000. | | 268000. | J | 284000. | |
| 7440-47-3 | Chromium (Cr) | 0.92 | J | 1.5 | J | 4.7 | J | 1. | U | 1.9 | J | 1. | U |
| 7440-48-4 | Cobalt (Co) | 0.9 | U | 0.8 | U | 8.1 | J | 6.8 | J | 1.3 | J | 0.8 | U |
| 7440-50-8 | Copper (Cu) | 3.6 | J | 1.4 | U | 1.2 | U | 1.4 | U | 0.6 | U | 1.4 | U |
| 7439-89-6 | Iron (Fe) | 4920. | J | 6620. | | 2060. | J | 675. | | 1920. | J | 3040. | |
| 7439-92-1 | Lead (Pb) | 1.7 | U | 0.9 | U | 1.7 | U | 0.9 | U | 1.7 | U | 0.9 | U |
| 7439-95-4 | Magnesium (Mg) | 12200. | J | 15800. | | 26200. | J | 22800. | | 19300. | J | 14000. | |
| 7439-96-5 | Manganese (Mn) | 721. | J | 515. | | 1050. | J | 813. | | 806. | J | 465. | |
| 7439-97-6 | Mercury (Hg) | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| 7440-02-0 | Nickel (Ni) | 3.7 | J | 0.84 | J | 3.2 | J | 1.6 | J | 1.7 | J | 0.9 | J |
| 7440-09-7 | Potassium (K) | 10800. | | 5130. | | 7410. | | 8050. | | 3440. | J | 3450. | J |
| 7782-49-2 | Selenium (Se) | 2.8 | U | 3.4 | U | 2.8 | U | 3.4 | U | 2.8 | U | 3.4 | U |
| 7440-22-4 | Silver (Ag) | 1.2 | U | 1. | U | 1.2 | U | 1. | U | 1.2 | U | 1. | U |
| 7440-23-5 | Sodium (Na) | 78300. | | 157000. | | 92400. | | 158000. | | 117000. | | 114000. | |
| 7440-28-0 | Thallium (Tl) | 2.7 | U | 5.3 | U | 2.7 | U | 5.1 | U | 3.3 | J | 5.7 | U |
| 7440-31-5 | Tin (Sn) | 2.6 | U | 14. | U | 2.6 | U | 14. | U | 2.6 | U | 14. | U |
| 7440-62-2 | Vanadium (V) | 1.3 | J | 1.6 | J | 6. | J | 1.1 | J | 1.9 | J | 1.6 | J |
| 7440-66-6 | Zinc (Zn) | 35.6 | U | 5.8 | U | 7.1 | U | 11.9 | U | 5.3 | U | 9.8 | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 GROUNDWATER SAMPLE RESULTS



| SW846-PEST | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-G-W15A-01 | | FDS-G-W15A-02 | | FDS-G-W15B-01 | | FDS-G-W15B-02 | | FDS-G-W15C-01 | | FDS-G-W15C-02 | |
| | ORIGINAL ID -----> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | LAB SAMPLE ID ---> | 28308.01 | | 29707.04 | | 28308.02 | | 29730.06 | | 28308.03 | | 29730.07 | |
| | ID FROM REPORT --> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | SAMPLE DATE -----> | 01/28/97 | | 06/13/97 | | 01/28/97 | | 06/16/97 | | 01/28/97 | | 06/16/97 | |
| | DATE EXTRACTED --> | 01/29/97 | | 06/16/97 | | 01/29/97 | | 06/18/97 | | 01/29/97 | | 06/18/97 | |
| | DATE ANALYZED ---> | 01/31/97 | | 06/19/97 | | 01/31/97 | | 06/20/97 | | 01/31/97 | | 06/20/97 | |
| | MATRIX ----------> | Water | | Water | | Water | | Water | | Water | | Water | |
| | UNITS ----------> | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| CAS # | Parameter | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL |
| 319-84-6 | alpha-BHC | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 319-85-7 | beta-BHC | 0.057 | J | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 319-86-8 | delta-BHC | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 58-89-9 | gamma-BHC (Lindane) | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 76-44-8 | Heptachlor | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 309-00-2 | Aldrin | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 1024-57-3 | Heptachlor epoxide | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 959-98-8 | Endosulfan I | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 60-57-1 | Dieldrin | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 72-55-9 | 4,4'-DDE | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 72-20-8 | Endrin | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 33213-65-9 | Endosulfan II | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 72-54-8 | 4,4'-DDD | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 1031-07-8 | Endosulfan sulfate | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 50-29-3 | 4,4'-DDT | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 72-43-5 | Methoxychlor | 0.38 | UJ | 0.38 | U | 0.38 | U | 0.38 | U | 0.38 | U | 0.38 | U |
| 53494-70-5 | Endrin ketone | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 7421-93-4 | Endrin aldehyde | 0.08 | UJ | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |
| 5103-71-9 | alpha-Chlordane | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 5103-74-2 | gamma-Chlordane | 0.04 | UJ | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U | 0.04 | U |
| 8001-35-2 | Toxaphene | 2.5 | UJ | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| 12674-11-2 | Aroclor-1016 | 1. | UJ | 1. | U | 1. | U | 1. | U | 1. | U | 1. | U |
| 11104-28-2 | Aroclor-1221 | 1. | UJ | 1. | U | 1. | U | 1. | U | 1. | U | 1. | U |
| 11141-16-5 | Aroclor-1232 | 1. | UJ | 1. | U | 1. | U | 1. | U | 1. | U | 1. | U |
| 53469-21-9 | Aroclor-1242 | 1. | UJ | 1. | U | 1. | U | 1. | U | 1. | U | 1. | U |
| 12672-29-6 | Aroclor-1248 | 1. | UJ | 1. | U | 1. | U | 1. | U | 1. | U | 1. | U |
| 11097-69-1 | Aroclor-1254 | 2. | UJ | 2. | U | 2. | U | 2. | U | 2. | U | 2. | U |
| 11096-82-5 | Aroclor-1260 | 2. | UJ | 2. | U | 2. | U | 2. | U | 2. | U | 2. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 GROUNDWATER SAMPLE RESULTS



| SW846-SVOA | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-G-W15A-01 | | FDS-G-W15A-02 | | FDS-G-W15B-01 | | FDS-G-W15B-02 | | FDS-G-W15C-01 | | FDS-G-W15C-02 | |
| | ORIGINAL ID -----> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | LAB SAMPLE ID ---> | 28308.01 | | 29707.04 | | 28308.02 | | 29730.06 | | 28308.03 | | 29730.07 | |
| | ID FROM REPORT --> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | SAMPLE DATE -----> | 01/28/97 | | 06/13/97 | | 01/28/97 | | 06/16/97 | | 01/28/97 | | 06/16/97 | |
| | DATE EXTRACTED --> | 01/29/97 | | 06/16/97 | | 01/29/97 | | 06/18/97 | | 01/29/97 | | 06/18/97 | |
| | DATE ANALYZED ---> | 01/31/97 | | 06/23/97 | | 01/30/97 | | 06/25/97 | | 01/30/97 | | 06/25/97 | |
| | MATRIX ----------> | Water | | Water | | Water | | Water | | Water | | Water | |
| | UNITS ----------> | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| CAS # | Parameter | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL |
| 108-95-2 | Phenol | 1. | J | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 95-57-8 | 2-Chlorophenol | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 100-51-6 | Benzyl alcohol | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 95-48-7 | 2-Methylphenol (o-Cresol) | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 108-60-1 | 2,2'-oxybis(1-Chloropropane) | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 106-44-5 | 4-Methylphenol (p-Cresol) | 23. | | 2. | J | 10. | U | 12. | U | 10. | U | 12. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 67-72-1 | Hexachloroethane | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 98-95-3 | Nitrobenzene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 78-59-1 | Isophorone | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 88-75-5 | 2-Nitrophenol | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 105-67-9 | 2,4-Dimethylphenol | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 65-85-0 | Benzoic acid | 6. | J | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 120-83-2 | 2,4-Dichlorophenol | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 91-20-3 | Naphthalene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 106-47-8 | 4-Chloroaniline | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 87-68-3 | Hexachlorobutadiene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 91-57-6 | 2-Methylnaphthalene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 91-58-7 | 2-Chloronaphthalene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 88-74-4 | 2-Nitroaniline | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 131-11-3 | Dimethyl phthalate | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 208-96-8 | Acenaphthylene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 99-09-2 | 3-Nitroaniline | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 83-32-9 | Acenaphthene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 51-28-5 | 2,4-Dinitrophenol | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 GROUNDWATER SAMPLE RESULTS



| SW846-SVOA | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-G-W15A-01 | | FDS-G-W15A-02 | | FDS-G-W15B-01 | | FDS-G-W15B-02 | | FDS-G-W15C-01 | | FDS-G-W15C-02 | |
| | ORIGINAL ID -----> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | LAB SAMPLE ID ---> | 28308.01 | | 29707.04 | | 28308.02 | | 29730.06 | | 28308.03 | | 29730.07 | |
| | ID FROM REPORT --> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | SAMPLE DATE -----> | 01/28/97 | | 06/13/97 | | 01/28/97 | | 06/16/97 | | 01/28/97 | | 06/16/97 | |
| | DATE EXTRACTED --> | 01/29/97 | | 06/16/97 | | 01/29/97 | | 06/18/97 | | 01/29/97 | | 06/18/97 | |
| | DATE ANALYZED ---> | 01/31/97 | | 06/23/97 | | 01/30/97 | | 06/25/97 | | 01/30/97 | | 06/25/97 | |
| | MATRIX ----------> | Water | | Water | | Water | | Water | | Water | | Water | |
| | UNITS ----------> | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| CAS # | Parameter | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL |
| 100-02-7 | 4-Nitrophenol | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 132-64-9 | Dibenzofuran | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 84-66-2 | Diethylphthalate | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 7005-72-3 | 4-Chlorophenylphenylether | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 86-73-7 | Fluorene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 100-01-6 | 4-Nitroaniline | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 534-52-1 | 2-Methyl-4,6-Dinitrophenol | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 86-30-6 | N-Nitrosodiphenylamine | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 118-74-1 | Hexachlorobenzene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 87-86-5 | Pentachlorophenol | 50. | U | 50. | U | 50. | U | 62. | U | 50. | U | 60. | U |
| 85-01-8 | Phenanthrene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 120-12-7 | Anthracene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 84-74-2 | Di-n-butylphthalate | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 206-44-0 | Fluoranthene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 129-00-0 | Pyrene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 85-68-7 | Butylbenzylphthalate | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20. | U | 20. | U | 20. | U | 25. | U | 20. | U | 24. | U |
| 56-55-3 | Benzo(a)anthracene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 218-01-9 | Chrysene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate (BEHP) | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 117-84-0 | Di-n-octyl phthalate | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 205-99-2 | Benzo(b)fluoranthene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 207-08-9 | Benzo(k)fluoranthene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 50-32-8 | Benzo(a)pyrene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 53-70-3 | Dibenz(a,h)anthracene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |
| 191-24-2 | Benzo(g,h,i)perylene | 10. | U | 10. | U | 10. | U | 12. | U | 10. | U | 12. | U |

*** Validation Complete ***

# CHARLESTON CTO-0144 FUEL DISTRIBUTION
## LETTER REPORT
## AREA 15 GROUNDWATER SAMPLE RESULTS



| SW846-VOA | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SAMPLE ID -------> | FDS-G-W15A-01 | | FDS-G-W15A-02 | | FDS-G-W15B-01 | | FDS-G-W15B-02 | | FDS-G-W15C-01 | | FDS-G-W15C-02 | |
| | ORIGINAL ID -----> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | LAB SAMPLE ID ---> | 28308.01 | | 29707.04 | | 28308.02 | | 29738.06 | | 28308.03 | | 29730.07 | |
| | ID FROM REPORT --> | FDSGW15A01 | | FDSGW15A02 | | FDSGW15B01 | | FDSGW15B02 | | FDSGW15C01 | | FDSGW15C02 | |
| | SAMPLE DATE -----> | 01/28/97 | | 06/13/97 | | 01/28/97 | | 06/16/97 | | 01/28/97 | | 06/16/97 | |
| | DATE ANALYZED ---> | 01/30/97 | | 06/17/97 | | 01/30/97 | | 06/19/97 | | 01/30/97 | | 06/19/97 | |
| | MATRIX ----------> | Water | | Water | | Water | | Water | | Water | | Water | |
| | UNITS ----------> | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| CAS # | Parameter | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL | 28308 | VAL | 29707 | VAL |
| 74-87-3 | Chloromethane | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 74-83-9 | Bromomethane | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 75-01-4 | Vinyl chloride | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 75-00-3 | Chloroethane | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 75-09-2 | Methylene chloride | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 67-64-1 | Acetone | 13. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 75-15-0 | Carbon disulfide | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 75-35-4 | 1,1-Dichloroethene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 75-34-3 | 1,1-Dichloroethane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 67-66-3 | Chloroform | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 107-06-2 | 1,2-Dichloroethane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 78-93-3 | 2-Butanone (MEK) | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 56-23-5 | Carbon tetrachloride | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 75-27-4 | Bromodichloromethane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 78-87-5 | 1,2-Dichloropropane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 79-01-6 | Trichloroethene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 124-48-1 | Dibromochloromethane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 71-43-2 | Benzene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 75-25-2 | Bromoform | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 591-78-6 | 2-Hexanone | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 127-18-4 | Tetrachloroethene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 108-88-3 | Toluene | 3. | J | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 108-90-7 | Chlorobenzene | 6. | | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 100-41-4 | Ethylbenzene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 100-42-5 | Styrene | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 1330-20-7 | Xylene (Total) | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U | 5. | U |
| 108-05-4 | Vinyl acetate | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |
| 110-75-8 | 2-Chloroethyl vinyl ether | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U | 10. | U |

*** Validation Complete ***