

SAMPLE DATA SHEET

Groundwater Samples
 Project Identification at Hunter AAF, Ga.
 Location of Sample HAAF-GW-9
 Date of Sample 1/15/81
 Time of Sample 11:00 AM
 Date of Analyses 1/14/81-2/3/81

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	< 0.001	Turbidity (NTU)	30
Barium	0.8	Fecal Coliform Bacteria (colonies/100 mls)	9
Cadmium	< 0.001	Chloride	6
Chromium (VI)	< 0.005	Copper	0.02
Fluoride	0.33	Foaming Agents (MBAS)	< 0.01
Lead	< 0.01	Hydrogen Sulfide	0.7
Mercury	< 0.0005	Iron	2.4
Nitrate (as N)	0.02	Manganese	0.02
Selenium	< 0.002	Sulfate	5
Silver	< 0.001	TDS	178
Endrin	< 0.0001	Zinc	0.04
Lindane	< 0.0001	Color (apparent) units	14
Methoxychlor	< 0.001	Corrosivity	non-corrosive
Toxaphene	< 0.001	Odor (TON)	26
2, 4-D	< 0.01	pH (units)	6.4
2, 4, 5- TP Silvex	< 0.001	BOD ₅	7.1
Radium 226 (pCi/l)		SS	10.2
Radium 228 (pCi/l)		DS	178
Gross Alpha (pCi/l)	0.3		
Gross Beta (pCi/l)	1.2		

SAMPLE DATA SHEET

Groundwater Samples
 Project Identification at Hunter AAF, Ga.
 Location of Sample HAAF-GW-9
 Date of Sample 1/16/81
 Time of Sample 11:00 AM
 Date of Analyses 1/14/81-2/3/81

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>21</u>
Barium	<u>0.7</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>7</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>6</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>0.02</u>
Fluoride	<u>0.30</u>	Foaming Agents (MBAS)	<u>< 0.01</u>
Lead	<u>< 0.01</u>	Hydrogen Sulfide	<u>0.6</u>
Mercury	<u>< 0.0005</u>	Iron	<u>1.9</u>
Nitrate (as N)	<u>0.02</u>	Manganese	<u>0.02</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>4</u>
Silver	<u>< 0.001</u>	TDS	<u>163</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.03</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>12</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>22</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.7</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	BOD ₅	<u>5.4</u>
Radium 226 (pCi/l)	<u> </u>	SS	<u>8.2</u>
Radium 228 (pCi/l)	<u> </u>	DS	<u>163</u>
Gross Alpha (pCi/l)	<u>0.3</u>		
Gross Beta (pCi/l)	<u>2.8</u>		

SAMPLE DATA SHEET

Groundwater Samples
 Project Identification at Hunter AAF, Ga.
 Location of Sample HAAF-GW-10
 Date of Sample 1/14/81
 Time of Sample 11:00 AM
 Date of Analyses 1/14/81-2/3/81

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	< 0.001	Turbidity (NTU)	13
Barium	0.9	Fecal Coliform Bacteria (colonies/100 mls)	0
Cadmium	< 0.001	Chloride	4
Chromium (VI)	< 0.005	Copper	< 0.005
Fluoride	0.46	Foaming Agents (MBAS)	< 0.01
Lead	< 0.01	Hydrogen Sulfide	< 0.05
Mercury	< 0.0005	Iron	< 0.1
Nitrate (as N)	0.02	Manganese	0.02
Selenium	< 0.002	Sulfate	2
Silver	< 0.001	TDS	207
Endrin	< 0.0001	Zinc	< 0.01
Lindane	< 0.0001	Color (apparent) units	10
Methoxychlor	< 0.001	Corrosivity	non-corrosive
Toxaphene	< 0.001	Odor (TON)	< 1
2, 4-D	< 0.01	pH (units)	6.7
2, 4, 5- TP Silvex	< 0.001	BOD ₅	1.6
Radium 226 (pCi/l)		SS	1.9
Radium 228 (pCi/l)		DS	207
Gross Alpha (pCi/l)	0.3		
Gross Beta (pCi/l)	< 0.1		

SAMPLE DATA SHEET

Groundwater Samples
 Project Identification at Hunter AAF, Ga.
 Location of Sample HAAF-GW-10
 Date of Sample 1/15/81
 Time of Sample 10:00 AM
 Date of Analyses 1/14/81-2/3/81

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	< 0.001	Turbidity (NTU)	10
Barium	0.8	Fecal Coliform Bacteria (colonies/100 mls)	0
Cadmium	< 0.001	Chloride	4
Chromium (VI)	< 0.005	Copper	< 0.005
Fluoride	0.42	Foaming Agents (MBAS)	< 0.01
Lead	< 0.01	Hydrogen Sulfide	< 0.05
Mercury	< 0.0005	Iron	< 0.1
Nitrate (as N)	0.02	Manganese	0.01
Selenium	< 0.002	Sulfate	2
Silver	< 0.001	TDS	214
Endrin	< 0.0001	Zinc	< 0.01
Lindane	< 0.0001	Color (apparent) units	11
Methoxychlor	< 0.001	Corrosivity	non-corrosive
Toxaphene	< 0.001	Odor (TON)	< 1
2, 4-D	< 0.01	pH (units)	6.6
2, 4, 5- TP Silvex	< 0.001	BOD ₅	1.4
Radium 226 (pCi/l)		SS	0.9
Radium 228 (pCi/l)		DS	214
Gross Alpha (pCi/l)	0.2		
Gross Beta (pCi/l)	1.1		

SAMPLE DATA SHEET

Groundwater Samples
 Project Identification at Hunter AAF, Ga.
 Location of Sample HAAF-GW-10
 Date of Sample 1/16/81
 Time of Sample 9:45 AM
 Date of Analyses 1/14/81-2/3/81

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	< 0.001	Turbidity (NTU)	11
Barium	0.8	Fecal Coliform Bacteria (colonies/100 mls)	1
Cadmium	< 0.001	Chloride	4
Chromium (VI)	< 0.005	Copper	< 0.005
Fluoride	0.37	Foaming Agents (MBAS)	< 0.01
Lead	< 0.01	Hydrogen Sulfide	< 0.05
Mercury	< 0.0005	Iron	0.1
Nitrate (as N)	0.02	Manganese	0.02
Selenium	< 0.002	Sulfate	2
Silver	< 0.001	TDS	221
Endrin	< 0.0001	Zinc	< 0.01
Lindane	< 0.0001	Color (apparent) units	9
Methoxychlor	< 0.001	Corrosivity	non-corrosive
Toxaphene	< 0.001	Odor (TON)	2
2, 4-D	< 0.01	pH (units)	6.6
2, 4, 5- TP Silvex	< 0.001	BOD ₅	2.1
Radium 226 (pCi/l)		SS	2.3
Radium 228 (pCi/l)		DS	221
Gross Alpha (pCi/l)	0.2		
Gross Beta (pCi/l)	0.5		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 5-III
 Date of Sample 8/28/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>25</u>
Barium	<u>0.11</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>32,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>28</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>1.3</u>	Foaming Agents (MBAS)	<u>1.7</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>0.0003</u>	Iron	<u>0.4</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>14</u>
Silver	<u>< 0.001</u>	TDS	<u>272</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>25</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>23</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.3</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>1.3</u>
Radium 226 (pCi/l)	<u> </u>	Flow (cfm)	<u>110</u>
Radium 228 (pCi/l)	<u> </u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>0.1</u>	<u>with settleable solids</u>	<u> </u>
Gross Beta (pCi/l)	<u>2.8</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 5-II
 Date of Sample 8/27/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>16</u>
Barium	<u>0.19</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>47,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>23</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>1.2</u>	Foaming Agents (MBAS)	<u>2.1</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>0.0003</u>	Iron	<u>0.9</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>21</u>
Silver	<u>< 0.001</u>	TDS	<u>237</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>24</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>21</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.3</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>1.5</u>
Radium 226 (pCi/l)	<u> </u>	Flow (cfm)	<u>120</u>
Radium 228 (pCi/l)	<u> </u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>0.1</u>	<u>with settleable solids</u>	<u> </u>
Gross Beta (pCi/l)	<u>0.6</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 5-I
 Date of Sample 8/26/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>14</u>
Barium	<u>0.10</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>52,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>21</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>0.01</u>
Fluoride	<u>1.2</u>	Foaming Agents (MBAS)	<u>3.4</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>0.07</u>
Mercury	<u>0.0003</u>	Iron	<u>0.5</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>0.09</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>16</u>
Silver	<u>< 0.001</u>	TDS	<u>222</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>20</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>13</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.7</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>3.9</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>90</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>0.4</u>	<u>with settleable solids</u>	<u></u>
Gross Beta (pCi/l)	<u>2.3</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 4-III
 Date of Sample 8/28/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	< 0.001	Turbidity (NTU)	24
Barium	0.11	Fecal Coliform Bacteria (colonies/100 mls)	80,000
Cadmium	< 0.001	Chloride	17
Chromium (VI)	< 0.005	Copper	< 0.01
Fluoride	1.0	Foaming Agents (MBAS)	2.1
Lead	0.01	Hydrogen Sulfide	< 0.05
Mercury	0.0003	Iron	0.6
Nitrate (as N)	< 0.1	Manganese	< 0.05
Selenium	< 0.002	Sulfate	17
Silver	< 0.001	TDS	267
Endrin	< 0.0001	Zinc	0.02
Lindane	< 0.0001	Color (apparent) units	40
Methoxychlor	< 0.001	Corrosivity	non-corrosive
Toxaphene	< 0.001	Odor (TON)	8
2, 4-D	< 0.01	pH (units)	6.3
2, 4, 5- TP Silvex	< 0.001	DO	0.2
Radium 226 (pCi/l)		Flow (cfm)	140
Radium 228 (pCi/l)		Visual Description	cloudy
Gross Alpha (pCi/l)	0.2	with settleable solids	
Gross Beta (pCi/l)	4.2		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 4-II
 Date of Sample 8/27/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>16</u>
Barium	<u>0.17</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>96,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>20</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>1.4</u>	Foaming Agents (MBAS)	<u>1.7</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>0.11</u>
Mercury	<u>0.0002</u>	Iron	<u>0.5</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>0.10</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>13</u>
Silver	<u>< 0.001</u>	TDS	<u>258</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.01</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>40</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>17</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.4</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>0.3</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>140</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>1.5</u>	<u>with settleable solids</u>	<u></u>
Gross Beta (pCi/l)	<u>4.5</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 4-I
 Date of Sample 8/26/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>12</u>
Barium	<u>0.23</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>28,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>27</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>0.01</u>
Fluoride	<u>1.2</u>	Foaming Agents (MBAS)	<u>3.5</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>0.13</u>
Mercury	<u>0.0003</u>	Iron	<u>0.4</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>17</u>
Silver	<u>< 0.001</u>	TDS	<u>244</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>30</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>42</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.6</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>< 0.1</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>120</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>0.5</u>		<u>with settleable solids</u>
Gross Beta (pCi/l)	<u>2.0</u>		<u></u>

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 3-III
 Date of Sample 8/28/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>14</u>
Barium	<u>0.11</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>160,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>20</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>1.1</u>	Foaming Agents (MBAS)	<u>2.7</u>
Lead	<u>0.02</u>	Hydrogen Sulfide	<u>0.15</u>
Mercury	<u>0.0003</u>	Iron	<u>0.3</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>8</u>
Silver	<u>< 0.001</u>	TDS	<u>273</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.03</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>70</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>27</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.2</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>< 0.1</u>
Radium 226 (pCi/l)	<u> </u>	Flow (cfm)	<u>120</u>
Radium 228 (pCi/l)	<u> </u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>0.3</u>	<u>with settleable solids</u>	<u> </u>
Gross Beta (pCi/l)	<u>4.1</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 3-II
 Date of Sample 8/27/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>17</u>
Barium	<u>0.13</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>56,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>24</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>1.2</u>	Foaming Agents (MBAS)	<u>3.4</u>
Lead	<u>0.02</u>	Hydrogen Sulfide	<u>0.06</u>
Mercury	<u>0.0002</u>	Iron	<u>0.6</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>0.3</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>12</u>
Silver	<u>< 0.001</u>	TDS	<u>239</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>90</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>30</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.4</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>0.5</u>
Radium 226 (pCi/l)	<u> </u>	Flow (cfm)	<u>130</u>
Radium 228 (pCi/l)	<u> </u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>0.9</u>	with settleable solids	<u> </u>
Gross Beta (pCi/l)	<u>1.5</u>		<u> </u>

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 3-I
 Date of Sample 8/26/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>9</u>
Barium	<u>0.17</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>44,000</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>21</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>1.0</u>	Foaming Agents (MBAS)	<u>3.2</u>
Lead	<u>0.02</u>	Hydrogen Sulfide	<u>0.10</u>
Mercury	<u>0.0002</u>	Iron	<u>0.3</u>
Nitrate (as N)	<u>< 0.1</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>19</u>
Silver	<u>< 0.001</u>	TDS	<u>262</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>40</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>24</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.7</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>0.4</u>
Radium 226 (pCi/l)	<u> </u>	Flow (cfm)	<u>120</u>
Radium 228 (pCi/l)	<u> </u>	Visual Description	<u>cloudy</u>
Gross Alpha (pCi/l)	<u>< 0.2</u>		<u>with settleable solids</u>
Gross Beta (pCi/l)	<u>5.1</u>		<u> </u>

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 2-III
 Date of Sample 8/28/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>2</u>
Barium	<u>0.15</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>24</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>5</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>0.7</u>	Foaming Agents (MBAS)	<u>0.2</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>< 0.0002</u>	Iron	<u>0.3</u>
Nitrate (as N)	<u>0.2</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>8</u>
Silver	<u>< 0.001</u>	TDS	<u>92</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>12</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>< 1</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>5.6</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>3.4</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>45</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>clear</u>
Gross Alpha (pCi/l)	<u>0.7</u>		
Gross Beta (pCi/l)	<u>1.5</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 2-II
 Date of Sample 8/27/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>4</u>
Barium	<u>0.12</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>28</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>4</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>0.8</u>	Foaming Agents (MBAS)	<u>0.1</u>
Lead	<u>0.02</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>< 0.0002</u>	Iron	<u>0.3</u>
Nitrate (as N)	<u>0.1</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>9</u>
Silver	<u>< 0.001</u>	TDS	<u>83</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>15</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>< 1</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>5.7</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>3.9</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>35</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>clear</u>
Gross Alpha (pCi/l)	<u>0.7</u>		
Gross Beta (pCi/l)	<u>0.9</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 2-I
 Date of Sample 8/26/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>4</u>
Barium	<u>0.10</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>20</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>6</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>0.7</u>	Foaming Agents (MBAS)	<u>0.1</u>
Lead	<u>0.02</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>< 0.0002</u>	Iron	<u>0.4</u>
Nitrate (as N)	<u>0.1</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>7</u>
Silver	<u>< 0.001</u>	TDS	<u>58</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.01</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>15</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>< 1</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.9</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>4.2</u>
Radium 226 (pCi/l)	<u> </u>	Flow (cfm)	<u>34</u>
Radium 228 (pCi/l)	<u> </u>	Visual Description	<u>clear</u>
Gross Alpha (pCi/l)	<u>0.6</u>		
Gross Beta (pCi/l)	<u>1.6</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 1-III
 Date of Sample 8/28/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>6</u>
Barium	<u>0.13</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>3</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>4</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>0.7</u>	Foaming Agents (MBAS)	<u>0.1</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>< 0.0002</u>	Iron	<u>0.3</u>
Nitrate (as N)	<u>0.3</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>7</u>
Silver	<u>< 0.001</u>	TDS	<u>53</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.01</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>15</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>1</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>5.8</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>5.0</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>45</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>clear</u>
Gross Alpha (pCi/l)	<u>1.7</u>		
Gross Beta (pCi/l)	<u>2.9</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 1-II
 Date of Sample 8/27/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>3</u>
Barium	<u>0.10</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>17</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>5</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>0.6</u>	Foaming Agents (MBAS)	<u>0.1</u>
Lead	<u>0.01</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>< 0.0002</u>	Iron	<u>0.2</u>
Nitrate (as N)	<u>0.1</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>5</u>
Silver	<u>< 0.001</u>	TDS	<u>64</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>9</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>< 1</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.1</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>5.9</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>32</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>clear</u>
Gross Alpha (pCi/l)	<u>1.3</u>		
Gross Beta (pCi/l)	<u>2.1</u>		

SAMPLE DATA SHEET

Project Identification Hunter SW
 Location of Sample HAAFSW 1-I
 Date of Sample 8/26/80
 Time of Sample 9:00AM
 Date of Analyses 9/9/80

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>2</u>
Barium	<u>0.12</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>< 1</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>4</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>< 0.01</u>
Fluoride	<u>0.8</u>	Foaming Agents (MBAS)	<u>0.3</u>
Lead	<u>0.02</u>	Hydrogen Sulfide	<u>< 0.05</u>
Mercury	<u>< 0.0002</u>	Iron	<u>0.3</u>
Nitrate (as N)	<u>0.4</u>	Manganese	<u>< 0.05</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>9</u>
Silver	<u>< 0.001</u>	TDS	<u>38</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.02</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>10</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>< 1</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.4</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	DO	<u>6.2</u>
Radium 226 (pCi/l)	<u></u>	Flow (cfm)	<u>38</u>
Radium 228 (pCi/l)	<u></u>	Visual Description	<u>clear</u>
Gross Alpha (pCi/l)	<u>1.8</u>		
Gross Beta (pCi/l)	<u>1.6</u>		

REPORT OF EVALUATION OF SURFACE WATER SAMPLES

AT HUNTER AAF, GA. LANDFILL

CLIENT

U. S. ARMY CORPS OF ENGINEERS

SAVANNAH DISTRICT

DATE 9/29/80

**SAVANNAH LABORATORIES
AND ENVIRONMENTAL SERVICES**

P.O. Box 13842 • Savannah, Ga. 31406 • 912/354-7858

Table 3-4. Soil Gas Results, Hunter AAF

Station ID	Date Installed	Depth (ft)	Date Sampled	FID Reading (ppm)
SG-01	1-23-90	4.08	1-24-90	1,000
SG-02	1-23-90	4.00	1-24-90	680
SG-03	1-23-90	3.58	1-24-90	2
SG-04	1-23-90	3.83	1-24-90	650
SG-05	1-23-90	4.17	1-24-90	250
SG-06	1-23-90	4.17	1-24-90	640
SG-07	1-23-90	4.17	1-24-90	1.4
SG-08	1-23-90	4.25	1-24-90	1,000
SG-09	1-23-90	3.92	1-24-90	1,000
SG-10	1-23-90	4.00	1-24-90	1,000
SG-11	1-23-90	3.92	1-24-90	90
SG-12	1-23-90	4.25	1-24-90	650
SG-13	1-23-90	3.75	1-24-90	9.0
SG-14	1-23-90	3.75	1-24-90	1,000
SG-15	1-23-90	3.66	1-24-90	1,000
SG-16	1-23-90	damaged during installation		
SG-17	1-23-90	damaged during installation		
SG-18	1-23-90	3.42	1-24-90	1,000

Source: Hunter/ESE, 1990.

Table 3-5. Analytical Parameters Detected in Soil Samples - Hunter AAF

Hunter ECF, Inc.															DATE 05/02/90 STATUS :									
PROJECT NUMBER															PROJECT NAME FORT STEWART									
FIELD GROUP															PROJECT MANAGER DOYCE BLAIR									
STEM-S															LAB COORDINATOR KEVIN MCHUGH									
ALL															SAMPLE ID/##									
STEM-S															STEM-S									
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Table 3-5. Analytical Parameters Detected in Soil Samples - Hunter AAF (Continued, Page 2 of 2)

[illegible]

Source: Hunter/ESE, 1990.

Table 3-6. Analytical Parameters Detected in Groundwater Samples - Hunter AAF

Hunter/ESE, Inc.										DATE 05/02/90 STATUS :	
PROJECT NUMBER		PROJECT NAME		FORT STEWART		PROJECT MANAGER DOYCE BLAIR		LAB COORDINATOR KEVIN MCHUGH			
FIELD GROUP		STEM-M		STEM-M		STEM-M		STEM-M			
ALL		ALL		ALL		ALL		ALL			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
STEM-M		STEM-M		STEM-M		STEM-M		STEM-M			
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STEM-M		STEM									

Table 3-7. Analytical Parameters Detected in Soil Samples - Hunter AAF

PAGE 1

DATE 05/02/90 STATUS :
PROJECT NAME FORT STEWART
PROJECT MANAGER DOYCE BLAIR
LAB COORDINATOR KEVIN MCHUGH

Hunter/ESC, Inc.
PROJECT NUMBER
FIELD GROUP STEW-SE
ALL

SAMPLE ID/#

PARAMETERS	UNITS	STORET METHOD	SD-1 STEW-SE 1	SD-2 STEW-SE 2	SD-3 STEW-SE 3	REPLICATE STEW-SE 4	RINSEBLK STEW-SE 5	TRPBK STEW-SE 6
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DATE TIME	02/12/90 09:00	02/12/90 09:20	02/12/90 09:30	02/12/90 09:30	02/12/90 09:30	02/12/90 10:45	02/12/90 10:30
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METHYLENE CHLORIDE	34426	DMS	7.0	12	--	--	NRQ	NRQ
UC/KG-DRY								
BENZENE	34237	DMS	--	--	15	31	NRQ	NRQ
UC/KG-DRY								
TOLUENE	34483	DMS	--	3.2	--	--	NRQ	NRQ
UC/KG-DRY								
ACETONE	75059	DMS	40	110	120	--	NRQ	NRQ
UC/KG-DRY								
CARBON DISULFIDE	78544	DMS	--	23	--	--	NRQ	NRQ
UC/KG-DRY								
XYLENE, SED	45510	DMS	--	--	2.4	--	NRQ	NRQ
UC/KG-DRY								
ACENAPHTHENE	34208	DMS	1100	--	--	4900	NRQ	NRQ
UC/KG-DRY								
ACENAPHTHYLENE	34203	GMS	--	--	3100	2000	NRQ	NRQ
UC/KG-DRY								
ANTHRACENE	34223	GMS	3000	--	8200	9300	NRQ	NRQ
UC/KG-DRY								
BENZO(A)ANTHRACENE	34529	GMS	13000	--	26000	33000	NRQ	NRQ
UC/KG-DRY								
BENZO(A)PYRENE	34250	GMS	9200	--	18000	27000	NRQ	NRQ
UC/KG-DRY								
BENZO(B)FLUORANTHENE	34233	GMS	16000	--	21000	27000	NRQ	NRQ
UC/KG-DRY								
BENZO(GH)PERYLENE	34524	GMS	6200	--	13000	17000	NRQ	NRQ
UC/KG-DRY								
BENZO(K)FLUORANTHENE	34245	GMS	7200	--	17000	29000	NRQ	NRQ
UC/KG-DRY								
CHRYSENE	34323	GMS	22000	--	40000	52000	NRQ	NRQ
UC/KG-DRY								
DIBEN(A,H)ANTHRACENE	34559	GMS	4200	--	8100	11000	NRQ	NRQ
UC/KG-DRY								
FLUORANTHENE	34379	GMS	36000	--	54000	62000	NRQ	NRQ
UC/KG-DRY								
FLUORENE	34384	GMS	1500	--	2500	8300	NRQ	NRQ
UC/KG-DRY								
INDENO(1,2,3-CD)PYRENE	34406	GMS	7900	--	15000	23000	NRQ	NRQ
UC/KG-DRY								
NAPHTHALENE	34445	GMS	--	--	--	390	NRQ	NRQ
UC/KG-DRY								
PHENANTHRENE	34464	GMS	20000	--	33000	62000	NRQ	NRQ
UC/KG-DRY								
PYRENE	34472	GMS	27000	--	43000	58000	NRQ	NRQ
UC/KG-DRY								
BARIUM, SED	1008	ADICP	19.8	8.46	13.4	229	NRQ	NRQ
MG/KG-DRY								
LEAD, SED	1052	ADICP	7.65	7.71	275	362	NRQ	NRQ
MG/KG-DRY								

Table 3-7. Analytical Parameters Detected in Soil Sediment Samples - Hunter AAF (Continued, Page 2 of 2)

PAGE 2

PARAMETERS		UNITS		STORET METHOD		SD-1		SD-2		SD-3		REPLICATE		RINSEBLK		TRPBLK	
						STEM-SE		STEM-SE		STEM-SE		STEM-SE		STEM-SE		STEM-SE	
DATE		TIME				02/12/90		02/12/90		02/12/90		02/12/90		02/12/90		02/12/90	
						09:00		09:20		09:30		09:30		10:45		10:30	
CHROMIUM, SED		1029				3.38		2.20		69.7		52.0		NRQ		NRQ	
ARSENIC, SED		1003				--		0.760		--		--		NRQ		NRQ	
		MG/KG-DRY		ADICP													
		MG/KG-DRY		AGF													

Source: Hunter/ESE, 1990.

Table 4-6. Groundwater Concentration Ranges of Metals and Organic Chemicals Identified at Hunter AAF (µg/L)

Chemical	Range	Frequency	Location of Maximum Observed Concentration	SDWA		Exceedance of SDWA
				MCL*	MCLG(p) ⁺ Health-Based Value	
<u>Inorganic</u>						
Arsenic	2.4 - 77.3	6/6	HMW-6	50	ND	HMW-2 and -6
Barium	36.8 - 1,000	6/6	HMW-2	1,000	5,000	--
Cadmium	BDL - 4.0	1/6	HMW-6	10	5	--
Chromium	11.2 - 239	6/6	HMW-6	50	100	HMW-2 and -6
Lead	BDL - 337	3/6	HMW-6	50	(0)5, 10**	HMW-2 and -6
Selenium	BDL - 14.4	4/6	HMW-6	10	45	HMW-6
<u>VOCs</u>						
Benzene	BDL - 44	3/6	HMW-6	5	ND	HMW-3 and -6
Toluene	BDL - 1.7	3/6	HMW-6	ND	2,000	--
Xylenes, total	BDL - 9.4	2/6	HMW-6	ND	10,000	--
<u>PAHs</u>						
Benzo(a)anthracene	BDL - 3.2	1/6	HMW-6	ND	0.003 ⁺⁺	HMW-6
Benzo(b)fluoranthene	BDL - 7.0	1/6	HMW-6	ND	0.003 ⁺⁺	HMW-6
Benzo(g,h,i)perylene	BDL - 2.3	1/6	HMW-6	ND	210 ^{***}	--
Chrysene	BDL - 5.3	1/6	HMW-6	ND	0.003 ⁺⁺	HMW-6
Fluoranthene	BDL - 7.3	1/6	HMW-6	ND	280 ^{***}	--
Naphthalene	BDL - 43	1/6	HMW-6	ND	28 ^{***}	HMW-6
Phenanthrene	BDL - 5.2	1/6	HMW-6	ND	210 ⁺⁺	--
Pyrene	BDL - 6.8	1/6	HMW-6	ND	210 ⁺⁺	--

Table 4-6. Groundwater Concentration Ranges of Metals and Organic Chemicals Identified at Hunter AAF ($\mu\text{g/L}$)
(Continued, Page 2 of 2)

Note: MCL = maximum contaminant level.
MCLG(p) = proposed maximum contaminant level goal.
ND = not determined.
-- = not exceeded.

* MCLs from 50 FR 46958.

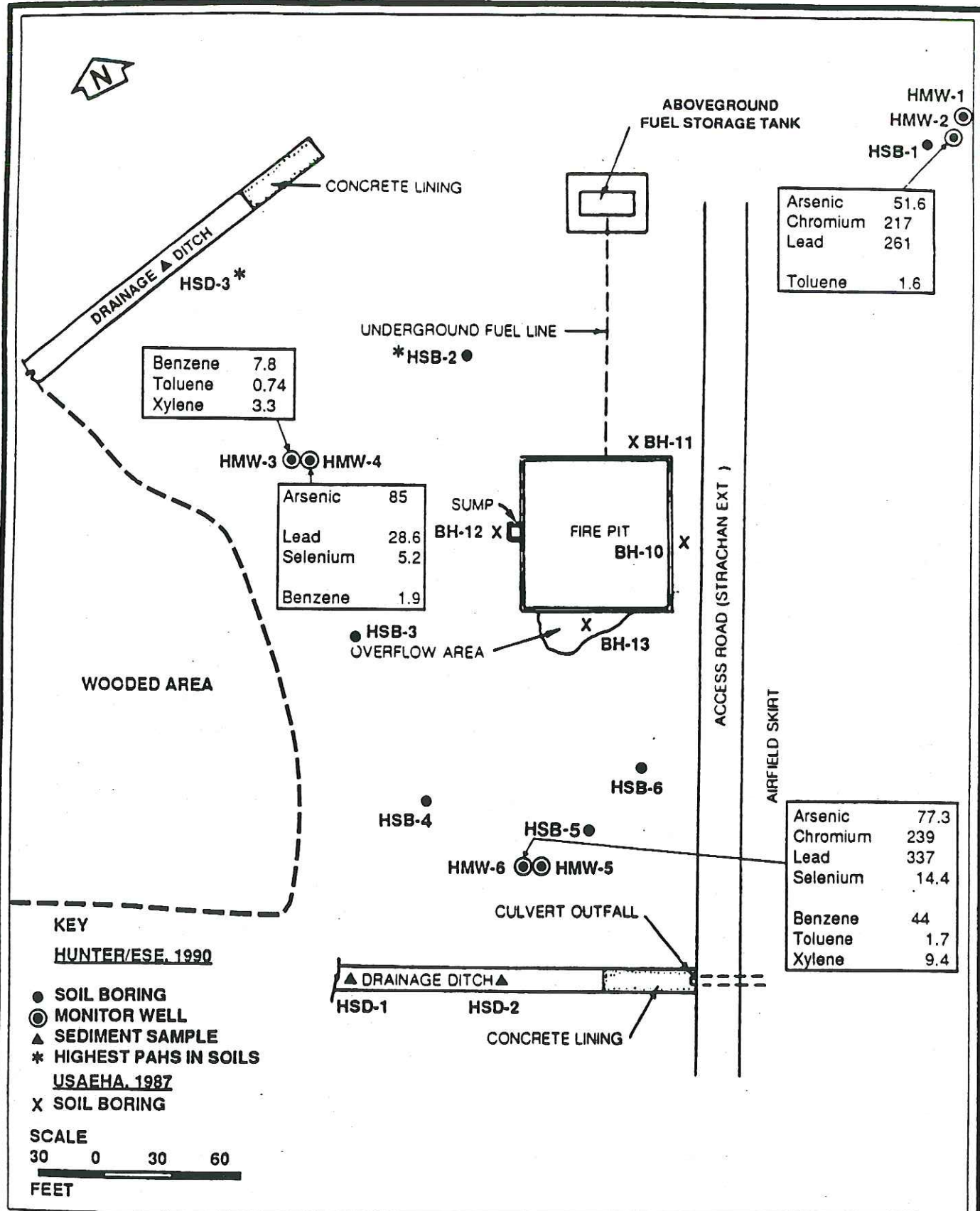
+ MCLG(p)s from 54 FR 22062.

** EPA is proposing an MCL of 5 $\mu\text{g/L}$ at the sewage treatment facility and 10 $\mu\text{g/L}$ at the tap because the MCLG of 0 is technically unachievable (53 FR 31516).

+ + Risk-based value.

*** Drinking water life-time health advisory.

Source: Hunter/ESE, 1990.



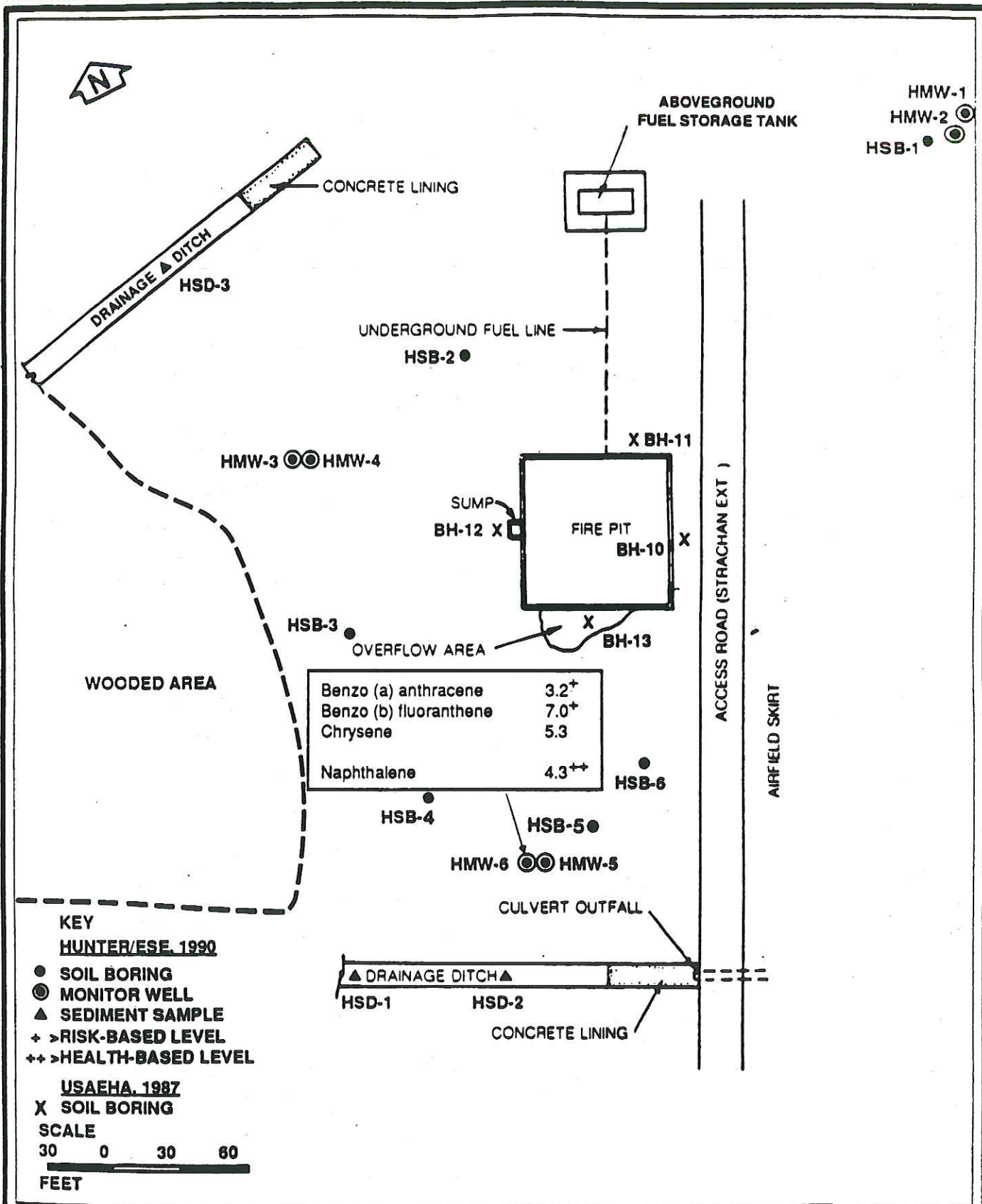


Figure 4-5
CONCENTRATIONS OF PAHs ($\mu\text{g/L}$) ABOVE
SDWA IN GROUNDWATER AT HUNTER AAF

SOURCE: ESE, 1990.

FORT STEWART
FIRE TRAINING AREAS
SAVANNAH, GEORGIA

Table 4-4. Concentration Ranges of Organic Chemicals in Soil and Sediment at Hunter AAF (Continued, Page 3 of 3)

Chemical	Soil (mg/kg)			Sediment (mg/kg)		
	Range	Frequency	Sample Location of Maximum Observed Concentration	Nonimpacted Site Boring (HSB-1)	Range	Frequency
Naphthalene	BDL - 11.0	2/5	HSB-5	BDL	BDL - 0.39	1/3
Phenanthrene	BDL - 7.90	3/5	HSB-2	BDL	BDL - 62.0	2/3
Pyrene	BDL - 9.00	3/5	HSB-2	BDL	BDL - 58.0	2/3

*Of the three sediment samples analyzed, PAH concentrations were below detection in SD-1, and detected at elevated levels in SD-2 and SD-3, with PAH concentrations in SD-3 consistently detected at levels two to three times as high as in SD-2.

+Rinse blank and trip blank contained 3.7 µg/L and 3.3 µg/L of methylene chloride, respectively.

Source: Hunter/ESE, 1990.

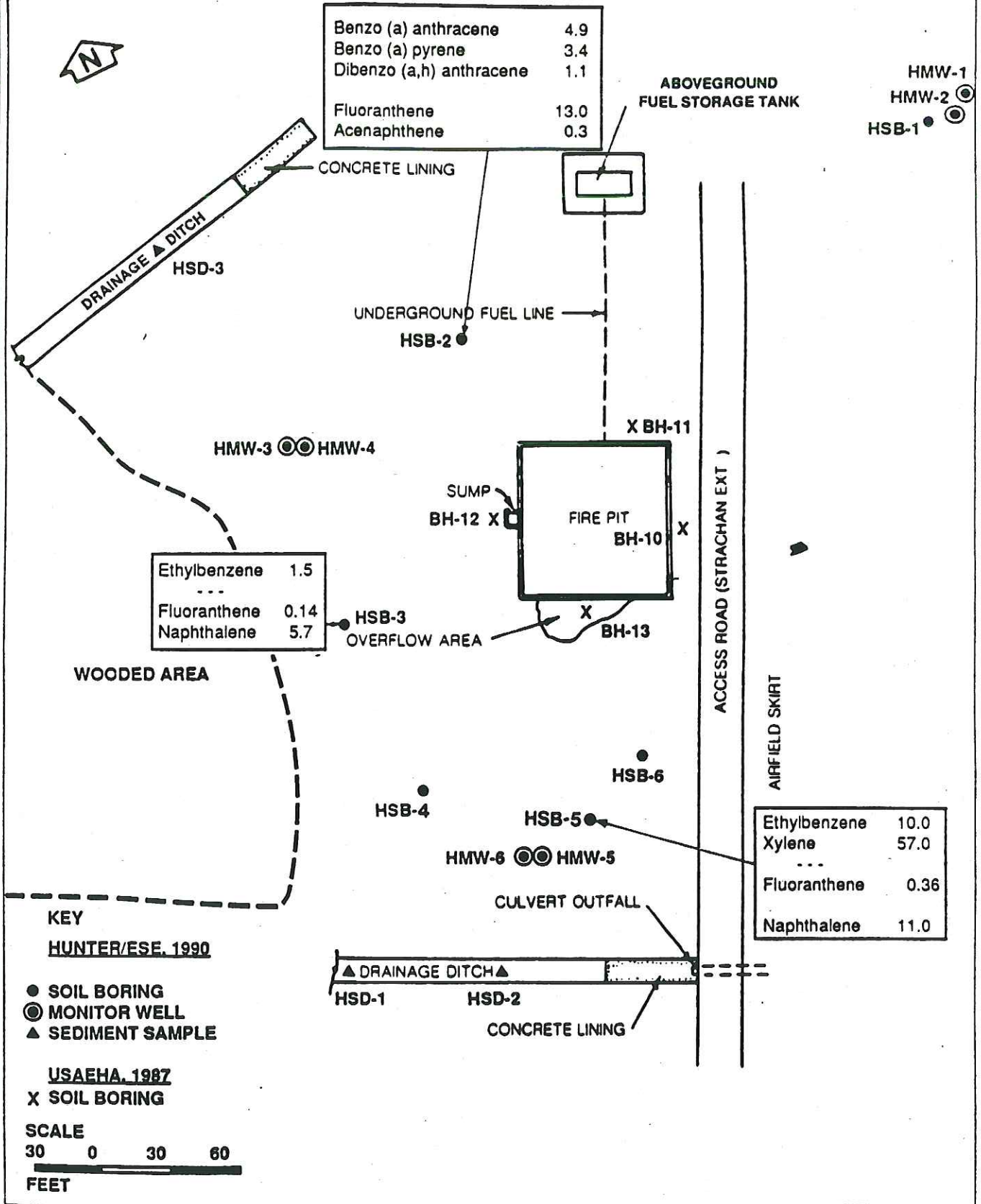


Figure 4-1
CONCENTRATIONS OF POTENTIALLY
HARMFUL VOCs AND PAHs (mg/kg)
IN SOILS AT HUNTER AAF

SOURCE: ESE, 1990.

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FIRE TRAINING AREAS
SAVANNAH, GEORGIA

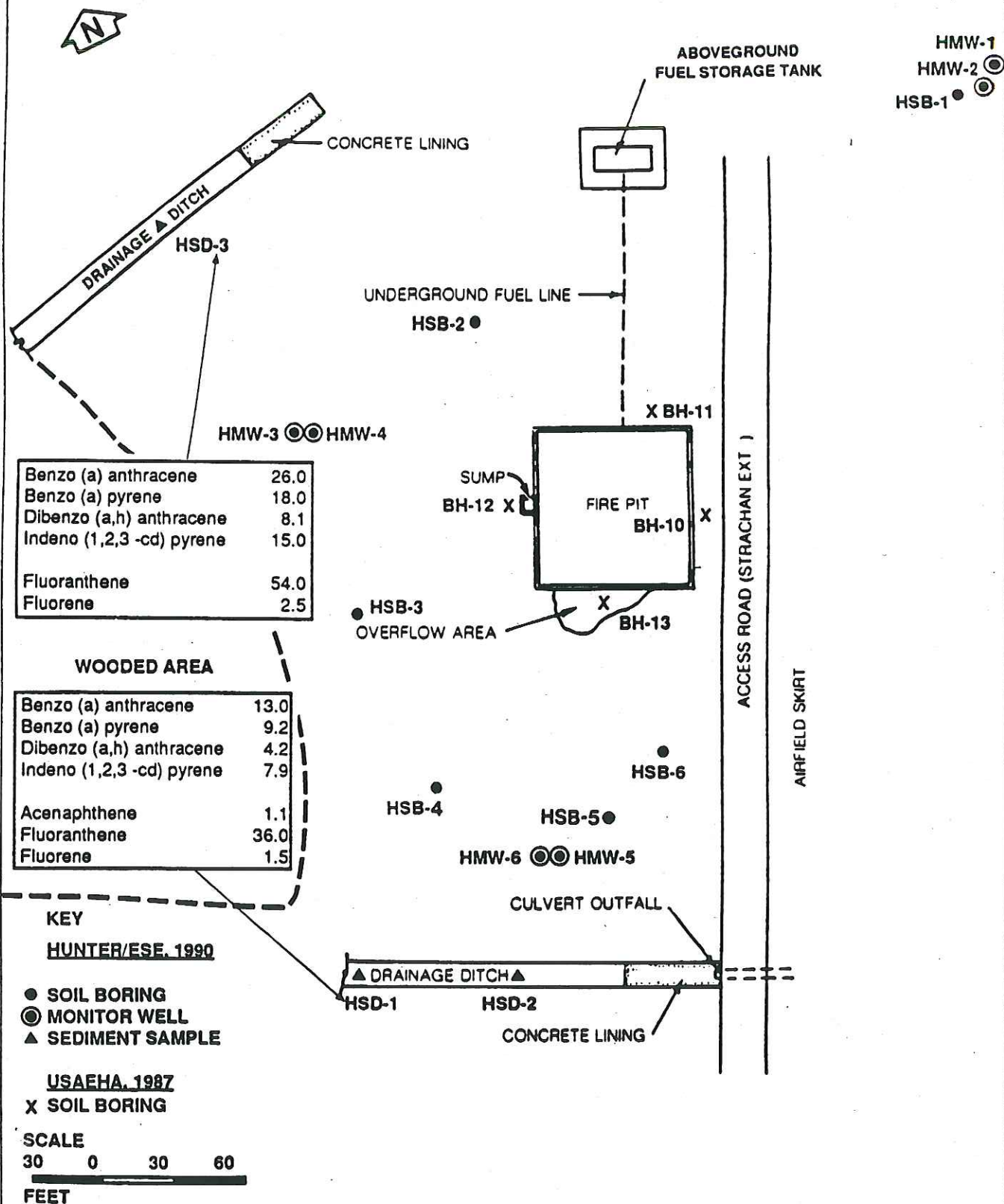


Figure 4-2
CONCENTRATIONS OF POTENTIALLY
HARMFUL PAHs (mg/kg) IN DRAINAGE
DITCH SEDIMENTS AT HUNTER AAF

SOURCE: ESE, 1990.

FORT STEWART
FIRE TRAINING AREAS
SAVANNAH, GEORGIA

TABLE C-2. REGIONAL AMBIENT AIR QUALITY DATA*

Pollutant	Location	1986 Annual Mean ($\mu\text{g}/\text{m}^3$)	Geo Mean ($\mu\text{g}/\text{m}^3$)	1987 Annual Mean ($\mu\text{g}/\text{m}^3$)	Geo Mean ($\mu\text{g}/\text{m}^3$)
TSP	Pump Station (Lantrop & Augusta)	73		64	
	Pump Station (Abercorn & Columbus)	42		40	
	Windsor Forest	47		48	
	Fire Station No. 2	52		46	
	Water Works	43		38	
	Shuman School	45		42	
	Market Street	53		48	
	Mercer Jr. High	45		40	
	Strong Elem School	46		44	
	GA Southern College	34		31	
PM-10	Pump Station (Lathrop & Augusta)	42†		38†	
	Fire Stat No. 2	36†		32†	
Pb	Fire Station No. 2	0.04‡		0.04‡	
SO ₂	Water Works	15.7†		-----	
	Farmers Market	15.7†		0.002§	
O ₃	Bluffton Pump Station No. 2	167//		-----	

* Source of Data: Georgia DNR

† Annual arithmetic mean

‡ Quarterly arithmetic mean

§ Concentration in ppm instead of $\mu\text{g}/\text{m}^3$

// Maximum 1-hr observation

Table Chemical Parameters Found in the Laboratory Analysis, Fire Training Pit, Hunter AAF

Sample ID	Depth (ft)	Units Detection Limit	Mercury µg/g	Barium µg/g	Lead µg/g	Chromium µg/g	Arsenic µg/g	Cadmium µg/g	Selenium µg/g	Parameters						
										Bis (2 ethyl- hexyl) Phthalate µg/kg	Phenun- threne µg/kg	Fluorene µg/kg	Di-n-lace butyl- phthalate µg/kg	Naph- thalene µg/kg	2 Methyl- naph- thalene µg/kg	Diethyl- phthalate µg/kg
#64 Borehole 10	0 - 1		0.4	64.4	64.5	12.8	5.99	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#65 Borehole 10	7.5 - 8.5		0.398	9.19	35.9	BDL	2	BDL	BDL	1,700	900	400	1,300	10,000	19,000	BDL
#66 Borehole 11	0 - 1		0.388	33.5	1,090	4.16	13.9	1.99	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#67 Borehole 11	7.5 - 8.5		0.388	18.1	73.7	BDL	3.88	BDL	BDL	900	BDL	BDL	600	7,000	12,000	BDL
#68 Borehole 12	0 - 1		0.4	7.19	102	5.19	4	BDL	0.799	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#69 Borehole 12	6.5 - 7.5		0.387	8.12	19.3	BDL	BDL	BDL	0.6	300	200	200	2,400	5,800	10,000	200
#70 Borehole 13	0 - 1		0.388	19.8	1,185	9.1	7.75	3.87	0.331	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#71 Duplicate of #70			0.4	16.8	1,152	6.8	8	2	0.42	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#72 Borehole 13	6.0 - 7.5		0.394	8.28	13.8	BDL	3.94	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#73 Duplicate of #72			0.398	10.3	27.8	BDL	3.98	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#74 Quality Control Wash			BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
#75 Alcohol used in QA Washings			BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Source: ABWA, 1987.

OGEECHEE RIVER BASIN

02202500 OGEECHEE RIVER NEAR EDEN, GA.
(National Stream-Quality Accounting Network station)

LOCATION.—Lat 32°11'29", long 81°24'58", Effingham-Bryan County line, Hydrologic Unit 03060202, on right bank 600 ft downstream from bridge on U.S. Highway 80, 2 mi west of Eden, 2 mi upstream from Seaboard Coast Line Railroad bridge, and 3 mi upstream from Black Creek.

DRAINAGE AREA.—2,650 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—April 1937 to current year.

GAGE.—Water-stage recorder. Datum of gage is 19.64 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1939, nonrecording gage at site 600 ft upstream at same datum.

REMARKS.—Estimated daily discharges: Sept. 23-30. Records good, except those estimated daily discharges, which are fair.

AVERAGE DISCHARGE.—53 years, 2,280 ft³/s, 11.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,800 ft³/s, Mar. 19, 1980, gage height, 14.77 ft; minimum daily, 106 ft³/s, July 14, 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum stage known since at least 1840, 20 ft in October 1929, from data furnished by Central of Georgia Railway Co. Flood of January 1925, reached a stage of 19.5 ft, from information as explained above. Flood of April 1936, reached a stage of 15.2 ft, from information as explained above, discharge, 30,000 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 4,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 16	0100	5,660	9.36	Jan. 10	2000	*9,430	*10.94
Dec. 24	0800	6,410	9.73	Feb. 26	2100	5,000	9.00

Minimum daily discharge, 106 ft³/s, July 14.

SAVANNAH RIVER BASIN

02198980 SAVANNAH RIVER AT FORT PULASKI, GA.

LOCATION.—Lat 32°02'02", long 80°54'12", Chatham County, Hydrologic Unit 03060109, at downstream side of Coast Guard pier at Coast Guard station on Cockspar Island, 1 ml upstream from the mouth, 0.7 ml west of Fort Pulaski.

PERIOD OF RECORD.—October 1987 to current year.

GAGE.—Water-stage recorder. Datum of gage is 3.02 ft below National Geodetic Vertical Datum of 1929, at low mean water, (levels by U.S. Army Corps of Engineers).

EXTREMES FOR PERIOD OF RECORD.—Maximum gage height recorded, 9.26 ft, Mar. 9, 1989; minimum gage height recorded, -3.73 ft, Apr. 7, 1989.

EXTREMES FOR CURRENT YEAR.—Maximum gage height recorded, 9.23 ft, May. 23; minimum gage height recorded, -3.08 ft, Feb. 24.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.39	.24	7.18	.49	7.14	.08	5.78	-1.34	6.80	-0.83	8.33	-0.51
2	6.91	.27	7.30	.59	6.94	-0.26	6.66	-0.75	6.79	-0.77	7.97	-0.37
3	6.90	.39	7.21	1.29	5.70	-1.04	6.38	-0.92	6.60	-0.40	7.88	-0.25
4	7.01	.79	7.05	1.33	6.43	-0.27	6.27	-0.89	6.59	-1.05	7.30	.80
5	7.08	1.55	7.36	1.55	6.10	-0.60	6.43	-0.87	5.95	.18	7.42	1.07
6	6.50	1.16	6.89	.84	6.37	-0.18	6.84	-0.55	7.37	-0.75	7.64	.36
7	6.27	.67	6.55	.41	6.33	-0.35	7.45	-0.39	7.67	-1.09	7.56	1.77
8	6.59	1.04	6.81	.02	7.45	-0.12	8.27	-1.96	7.73	-1.47	8.24	.34
9	7.30	1.68	7.21	-1.19	8.31	-1.04	7.71	-1.74	7.67	-1.20	7.95	-0.24
10	7.45	1.03	7.77	-1.42	8.13	-1.23	7.45	-1.93	7.49	-1.35	7.29	-0.88
11	7.78	.05	7.82	-1.35	8.24	-1.26	7.85	-2.06	7.57	-1.23	7.32	-0.87
12	7.86	-0.56	8.15	-1.63	8.53	-1.53	7.23	-2.22	6.92	-0.79	7.09	-0.72
13	8.05	-0.65	8.47	-1.93	7.77	-1.56	7.16	-1.22	6.48	-0.58	6.98	-0.80
14	8.53	-1.07	8.60	-1.51	7.58	-1.84	7.31	-0.91	6.14	-0.45	7.13	-0.36
15	8.73	-1.20	8.35	-1.35	7.84	-1.36	7.01	-0.56	5.76	-0.01	6.93	.28
16	8.56	-1.42	6.67	-1.12	7.17	-1.15	6.30	-0.37	5.62	-0.21	6.51	.44
17	8.46	-1.24	7.15	-1.43	7.26	.16	6.06	-0.15	5.27	.15	6.21	-0.15
18	8.14	-0.75	6.59	-0.49	6.62	.14	5.90	.41	6.09	2.11	5.64	.24
19	7.21	-0.76	6.31	-0.09	6.74	.99	5.62	.48	6.09	.90	5.78	1.01
20	6.39	-1.25	5.95	-0.24	6.04	.48	6.27	1.04	5.99	1.45	5.92	.57
21	6.62	-0.05	5.68	-0.44	6.46	.68	5.84	-0.33	7.17	.58	6.45	1.22
22	6.75	.29	6.15	.29	6.03	1.12	5.12	-0.32	7.09	-0.47	6.65	.53
23	6.85	1.13	5.88	-0.32	6.93	.69	6.19	-0.10	6.94	-1.56	6.91	-0.54
24	6.87	.99	6.46	.47	6.89	.54	6.77	-0.20	5.99	-3.08	7.34	-0.73
25	7.16	1.38	6.94	.21	7.31	-0.57	7.16	-0.50	7.40	-2.42	8.12	-1.20
26	7.68	1.52	7.19	.20	6.22	-0.66	5.81	-1.71	8.09	-0.62	8.67	-1.33
27	7.88	1.37	7.18	.05	7.09	-0.91	6.82	-1.84	8.15	-1.36	9.02	-0.73
28	8.14	.95	7.18	-0.15	6.45	-1.48	7.06	-1.44	8.02	-1.44	8.98	-0.43
29	8.10	1.45	6.48	-0.61	6.96	-0.90	7.21	-1.43	—	—	8.34	-1.29
30	8.12	1.16	7.16	.22	6.99	-0.95	6.95	-1.54	—	—	8.05	-0.78
31	7.76	.60	—	—	7.17	-1.05	7.00	-1.50	—	—	7.57	-0.72
MONTH	8.73	-1.42	8.60	-1.93	8.53	-1.84	8.27	-2.22	8.15	-3.08	9.02	-1.33

SAMPLE DATA SHEET

Groundwater Samples
 Project Identification at Hunter AAF, Ga.
 Location of Sample HAAF-GW-9
 Date of Sample 1/14/81
 Time of Sample 11:45 AM
 Date of Analyses 1/14/81-2/3/81

All values are expressed as mg/l unless otherwise specified.

Parameter

Arsenic	<u>< 0.001</u>	Turbidity (NTU)	<u>35</u>
Barium	<u>0.8</u>	Fecal Coliform Bacteria (colonies/100 mls)	<u>6</u>
Cadmium	<u>< 0.001</u>	Chloride	<u>7</u>
Chromium (VI)	<u>< 0.005</u>	Copper	<u>0.017</u>
Fluoride	<u>0.29</u>	Foaming Agents (MBAS)	<u>< 0.01</u>
Lead	<u>< 0.01</u>	Hydrogen Sulfide	<u>0.6</u>
Mercury	<u>< 0.0005</u>	Iron	<u>2.6</u>
Nitrate (as N)	<u>0.020</u>	Manganese	<u>0.02</u>
Selenium	<u>< 0.002</u>	Sulfate	<u>4</u>
Silver	<u>< 0.001</u>	TDS	<u>148</u>
Endrin	<u>< 0.0001</u>	Zinc	<u>0.03</u>
Lindane	<u>< 0.0001</u>	Color (apparent) units	<u>17</u>
Methoxychlor	<u>< 0.001</u>	Corrosivity	<u>non-corrosive</u>
Toxaphene	<u>< 0.001</u>	Odor (TON)	<u>30</u>
2, 4-D	<u>< 0.01</u>	pH (units)	<u>6.5</u>
2, 4, 5- TP Silvex	<u>< 0.001</u>	BOD ₅	<u>6.0</u>
Radium 226 (pCi/l)	<u></u>	SS	<u>12.2</u>
Radium 228 (pCi/l)	<u></u>	DS	<u>148</u>
Gross Alpha (pCi/l)	<u>0.2</u>		
Gross Beta (pCi/l)	<u>0.4</u>		

SAVANNAH RIVER BASIN

02198980 SAVANNAH RIVER AT FORT PULASKI, GA--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.57	.27	6.69	-0.51	7.26	.79	6.53	-0.06	6.60	.96	7.33	1.18
2	7.35	.20	6.98	.41	6.83	.65	6.92	.25	7.11	1.22	7.70	.90
3	6.95	-0.11	6.91	.46	6.86	.19	7.30	1.46	7.25	.68	7.74	.24
4	6.69	-0.17	6.63	-0.04	7.01	.26	7.26	.96	7.37	.53	8.02	-0.04
5	6.54	-0.36	6.52	-0.91	7.97	.41	7.06	.15	7.49	.11	8.05	.04
6	6.60	-0.71	7.25	-0.74	7.60	.56	7.24	.01	7.54	-0.29	7.86	-0.33
7	7.01	-0.88	7.37	.13	7.13	.06	7.63	.32	7.62	-0.25	7.70	-0.78
8	7.39	-0.22	7.28	-0.25	7.09	-0.19	7.66	.26	7.36	-0.25	7.55	-0.96
9	7.39	-0.07	7.25	-0.29	7.00	-0.13	7.45	.04	7.27	-0.32	7.86	-0.62
10	7.18	-0.85	6.67	-0.50	6.54	-0.39	6.94	-0.30	7.39	-0.51	8.28	.05
11	6.06	-1.15	6.82	-1.17	7.65	-0.54	6.84	-0.63	7.41	-0.95	—	—
12	6.80	-0.61	7.02	-0.22	—	—	6.64	-0.96	7.40	-0.42	—	—
13	6.85	-0.19	6.44	-0.08	—	—	6.58	-0.79	7.24	-0.25	—	—
14	6.57	.91	6.47	-0.03	6.95	—	6.80	-0.59	7.29	-0.59	—	—
15	6.21	.31	6.74	.50	6.94	.08	6.71	-1.09	7.31	-0.62	—	—
16	6.10	.65	6.69	.65	7.62	.71	6.99	-0.76	7.49	-0.62	—	—
17	6.10	.91	6.47	.29	7.95	1.18	7.35	-0.92	8.06	-0.57	—	—
18	6.27	1.61	6.63	-0.25	8.10	.20	7.44	-1.15	8.27	-0.53	—	.63
19	6.91	1.44	6.67	-0.37	8.33	-0.68	7.78	-1.14	8.40	-0.45	—	—
20	6.63	.11	7.26	-0.74	8.72	-0.99	8.00	-1.29	8.18	-0.85	—	—
21	6.69	-0.65	7.79	-1.66	8.59	-1.14	7.95	-1.77	7.93	-0.71	7.50	—
22	7.82	-1.22	7.95	-2.10	8.16	-1.64	7.88	-1.73	8.11	-0.40	7.00	.39
23	8.17	-1.12	9.23	-0.77	8.21	-1.92	8.16	-1.27	7.56	.23	7.00	.12
24	8.29	-1.96	9.21	-1.00	8.32	-1.19	7.95	-0.71	7.19	.25	7.01	1.56
25	8.30	-2.37	8.85	-1.36	8.13	-0.95	7.97	-0.19	6.75	.34	6.67	1.51
26	8.28	-2.47	8.76	-1.23	7.78	-0.53	7.67	.40	6.53	.39	6.30	1.59
27	8.25	-1.99	8.33	-0.77	7.37	-0.08	7.55	1.19	6.46	.91	—	—
28	8.11	-1.15	8.30	-0.21	7.33	.00	7.35	1.55	6.65	1.20	6.63	1.76
29	7.51	-1.03	8.07	-0.44	6.59	.03	7.21	1.60	6.39	1.38	6.89	1.35
30	7.40	-0.97	7.32	.15	6.39	-0.14	6.73	1.31	6.63	1.32	7.14	.68
31	—	—	7.26	.78	—	—	6.57	1.02	6.98	1.56	—	—
MONTH	8.30	-2.47	9.23	-2.10	—	—	8.16	-1.77	8.40	-0.95	—	—

SAVANNAH RIVER

LINCOLN ST. RAMP										FORT JACK			
1991	Seeded		pH	Temp. °C	D.O. mg/l	Total Solids		Seeded		pH	S.S. mg/l	BOD mg/l	pH
	Filoli	BOD mg/l				mg/l	mg/l	Filoli	BOD mg/l				
JANUARY 8, 1990	800	2	7.3	14°C	7.1	3224	300	300	1	8.0	2.0	7.5	
FEBRUARY 15, 1991	830	2	7.2	15°C	7.3	1900	80	80	2	26.0	2.2	7.2	
MARCH 14, 1991	2400	1	7.0	12°C	7.1	2020	1700	1700	1	5.7	7.0	7.1	
APRIL 11, 1991	700	<1	7.1	19	6.1	3996	230	230	<1	9	7.1	7.1	
MAY 15, 1991	500	1	7.0	22°C	4.9	196	300	300	1	8.9	7.1	7.1	
JUNE 12, 1991	800	1	7.4	23°C	4.6	556	300	300	1	8.4	7.4	7.4	
JULY 24, 1991		1	7.0	28°C	4.5	3496			1	16	7.1	7.1	
AUGUST 8, 1991		2	7.1	27°C	3.7	388			1	40	6.9	6.9	
SEPTEMBER 5, 1991		1	6.5	25°C	4.2	1084			1	25	6.9	6.9	
OCTOBER 22, 1991		1	7.5	22°C	5.7	12,612			1	54	7.7	7.7	
NOVEMBER 29, 1991		1	7.3	21°C	7.0	7880			1	96	7.6	7.6	
DECEMBER													
TOTAL													

	Seeded		pH	Temp. °C	D.O. mg/l	Total Solids		Seeded		pH	S.S. mg/l	BOD mg/l	pH
	Filoli	BOD mg/l				mg/l	mg/l	Filoli	BOD mg/l				
JANUARY													
FEBRUARY													
MARCH													
APRIL													
MAY													
JUNE													
JULY													
AUGUST													
SEPTEMBER													
OCTOBER													
NOVEMBER													
DECEMBER													
TOTAL													

* River Being dredged.

DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
SAFE DRINKING WATER PROGRAM

INORGANIC CHEMISTRY REPORT (TYPE 1)

SYSTEM - Savannah-Main

OLD-ID#: 302501944

NEW-ID#: 0510003

DATE COLLECTED: 12/ 3/90

TIME COLLECTED: 1400

DATE RECEIVED: 12/ 7/90

DATE REPORTED: 2/ 6/91

Mr. Harry Joe, W Oper Dir

Savannah-Main

P. O. Box 1027

Savannah, GA 31402

LAB#: TAP DESCRIPTION:

0400429-TAP AT WATER OPERATIONS-STILES AVE

COLLECTED BY:

BRUCE FOISY

TEST DESCRIPTION

LABORATORY
RESULTS

ESTABLISHED
LIMITS

UNITS

DATE
EXAMINED

pH (CaCO3 Stability S.U.)	7.8		BU	12/17/90
Conductivity (25C micromhos/cm)	235		umhos/c	12/17/90
*Nitrate (as-N)	<0.5	10.00	mg/l	12/17/90
*Fluoride, Total (F)	0.7	1.00	mg/l	/ /
*Silver, Total (Ag)	<30	50.00	ug/l	1/15/91
*Arsenic, Total (As)	<10	50.00	ug/l	12/13/90
*Barium, Total (Ba)	<50	1,000.00	ug/l	1/15/91
*Cadmium, Total (Cd)	<5	10.00	ug/l	1/15/91
*Chromium, Total (Cr)	<25	50.00	ug/l	1/15/91
Copper, Total (Cu)	59	1,000.00	ug/l	1/15/91
Iron, Total (Fe)	<50	300.00	ug/l	1/15/91
*Mercury, Total (Hg)	<0.2	2.00	ug/l	12/14/90
Manganese, Total (Mn)	<25	50.00	ug/l	1/15/91
Sodium, Total (Na)	11		mg/l	1/15/91
*Lead, Total (Pb)	<25	50.00	ug/l	1/15/91
*Selenium, Total (Se)	<5	10.00	ug/l	12/13/90
Zinc, Total (Zn)	<50	5,000.00	ug/l	1/15/91
Temperature (Centigrade)	20.0		C	/ /

WATER OPERATIONS
RECEIVED
MAR 5 1991
BY

* ESTABLISHED LIMITS SHOWN ABOVE, IS ALSO THE PRIMARY MCL

Mr. Harry Joe, W Oper Dir

HAROLD LANFORD

LABORATORY MANAGER

DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
SAFE DRINKING WATER PROGRAM

INORGANIC CHEMISTRY REPORT (TYPE 1)

SYSTEM - Savannah-I & D

OLD ID#: 302501953

NEW-ID#: 0510004

DATE COLLECTED: 4/22/91

TIME COLLECTED: 0853

DATE RECEIVED: 4/23/91

DATE REPORTED: 5/30/91

Mr. Harry Joyner, Water Supt.
Savannah I & D Water System
Post Office Box 4101
Port Wentworth, GA 31407

LAB#: TAP DESCRIPTION:
0400754 LATHROP AVENUE BOOSTER STATION

COLLECTED BY:
D CONNELLY

TEST DESCRIPTION	LABORATORY RESULTS	ESTABLISHED LIMITS	UNITS	DATE EXAMINED
pH (CaCO ₃ Stability S. U.)	7.5		SU	5/ 6/91
Conductivity(25C micromhos/cm)	134		umhos/c	5/ 6/91
*Nitrate (as N)	<0.5	10.00	mg/l	4/25/91
*Fluoride, Total (F)	0.2	1.00	mg/l	/ /
*Silver, Total (Ag)	<30	50.00	ug/l	5/14/91
*Arsenic, Total (As)	<10	50.00	ug/l	4/25/91
*Barium, Total (Ba)	<50	1,000.00	ug/l	5/14/91
*Cadmium, Total (Cd)	<9	10.00	ug/l	5/14/91
*Chromium, Total (Cr)	<25	50.00	ug/l	5/14/91
Copper, Total (Cu)	<50	1,000.00	ug/l	5/14/91
Iron, Total (Fe)	53	300.00	ug/l	5/14/91
*Mercury, Total (Hg)	<0.2	2.00	ug/l	5/ 1/91
Manganese, Total (Mn)	<25	50.00	ug/l	5/14/91
Sodium, Total (Na)	8.2		mg/l	5/14/91
*Lead, Total (Pb)	<35	50.00	ug/l	5/14/91
*Selenium, Total (Se)	<5	10.00	ug/l	4/29/91
Zinc, Total (Zn)	<50	5,000.00	ug/l	5/14/91

* ESTABLISHED LIMITS SHOWN ABOVE, IS ALSO THE PRIMARY MCL

Mr. Arthur A Mendonca, City Mgr
Mr. Ed Hagan, Fac Maint Dir
Mr. Harry Joyner, Water Supt.

HAROLD LANFORD
LABORATORY MANAGER

Soil Gas Survey Results, Bldg 710

ARMY CORPS OF ENGINEERS/HUNTER AAF/SAVANNAH, GEORGIA JOB#1-90-384-T

07/12/90

CONDENSED DATA

SAMPLE	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENE ug/l	THC ug/l
AIR	<0.08	<0.07	<0.08	<0.07	<0.3
GS-1-4'	4	20	<0.4	4	50
GS-2-4'	<0.1	6	<0.1	0.8	12
GS-3-4'	<0.3	5	<0.2	0.3	8
GS-4-4'	<0.2	6	<0.08	0.6	20
GS-5-4'	<0.3	10	<0.2	0.3	41
GS-6-4'	<0.2	4	<0.08	0.2	14
GS-7-4'	<0.2	8	<0.08	0.3	27
GS-8-4'	<0.2	4	<0.08	0.5	9
GS-9-5'	1	5500	<31	<30	180000
GS-10-5'	1	1800	<150	<150	160000
GS-11-4'	<78	<37	<39	<37	3800

1 interference with adjacent peaks

Analyzed by: K. Plak

Checked by: M. Flack

Proofed by: S. Saplender

Source: Tracer Research Corporation, July 1990

ARMY CORPS OF ENGINEERS/HUNTER AAF/SAVANNAH, GEORGIA JOB#1-90-384-T

CONDENSED DATA

Analyzed by: K. Ptak
Checked by: M. Flack
Proofed by: 

Source: Tracer Research Corporation, July 1990

CERTIFICATION

1-90-384-T

Location: Hunter Army Air Field
Building 133
Savannah, Georgia

Date: July 1990

<u>Tank</u>	<u>Capacity (gal)</u>	<u>Product</u>	<u>Tracer</u>	<u>Leak Status</u>
Crown	6,000	Gasoline	DDM	Three
Super Crown	6,000	Gasoline	114B2	Three

Tracer Research Corporation certifies that the tank and pipe systems listed in the above table have been tested by means of Tracer Tight™, which meets the criteria set forth in NFPA 329 for a precision leak test.

Submitted by:

Karen L. Lues
Tracer Research Corporation

The following criteria are used for the classification of leaks when tracer is detected.

**LEAK
STATUS**

One **NO LEAKAGE** - Rate less than 0.005 gallons per hour.

Two **VAPOR LEAK** - Maximum tracer concentration less than 1 ug/L in soil vapor diminishing at depths below three feet. Total volatile hydrocarbon concentrations less than 20,000 ug/L in soil vapor (if diesel is the only fuel present, substitute 100 ug/L in place of 20,000 ug/L).

Three **SMALL OR INTERMITTENT PRODUCT LEAK** less than 0.05 gph - Maximum tracer concentration less than 1 ug/L in soil vapor, sustaining or increasing at depths below three feet or to the top of the groundwater table. Hydrocarbon concentrations approximately equal to or greater than 20,000 ug/L in soil vapor (100 ug/L for diesel) sustaining or increasing below three feet. Distribution of elevated hydrocarbons is less than 200 square feet total area.

Four **SIGNIFICANT PRODUCT LEAK** 0.05 gph or greater - Maximum tracer concentration greater than 1 ug/L near source, increasing or sustaining concentration below three feet or to the top of the groundwater table. Hydrocarbon concentrations greater than 20,000 ug/L in soil vapor (100 ug/L for diesel) sustaining or increasing below three feet. Distribution of elevated hydrocarbons is equal to or greater than 200 square feet total area.

CERTIFICATION

Location: Hunter Army Air Field
Building 133
Savannah, Georgia

Date: February 1990

<u>Tank</u>	<u>Capacity</u> (gal)	<u>Product</u>	<u>Tracer</u>	<u>Pass/Fail</u>	<u>Leak Status</u>
Service Station					
Crown (west)	6,000	gasoline	*	Pass	1
Super Crown	6,000	gasoline	*	Pass	1
Economy Crown	6,000	gasoline	not tested		
Crown (east)	6,000	gasoline	*	Pass	1
Diesel	4,000	diesel?	*	Fail	2

* = either 114B2 or DDM

Tracer Research Corporation certifies that the tanks and pipe systems listed in the above table have been tested by means of Tracer Tight™, which meets the criteria set forth in NFPA 329 for a precision leak test.

Submitted by:

Karen L. Suess
Tracer Research Corporation

The following criteria are used for the classification of leaks when tracer is detected.

LEAK STATUS

- 1 NO LEAKAGE - Rate less than 0.005 gallons per hour.
- 2 VAPOR LEAK - Maximum tracer concentration less than 1 ug/L in soil vapor diminishing at depths below three feet. Total volatile hydrocarbon concentrations less than 20,000 ug/L in soil vapor (if diesel is the only fuel present, substitute 100 ug/L in place of 20,000 ug/L).
- 3 SMALL OR INTERMITTENT PRODUCT LEAK less than 0.05 gph - Maximum tracer concentration less than 1 ug/L in soil vapor, sustaining or increasing at depths below three feet or to the top of the groundwater table. Hydrocarbon concentrations approximately equal to or greater than 20,000 ug/L in soil vapor (100 ug/L for diesel) sustaining or increasing below three feet. Distribution of elevated hydrocarbons is less than 200 square feet total area.
- 4 SIGNIFICANT PRODUCT LEAK 0.05 gph or greater - Maximum tracer concentration greater than 1 ug/L near source, increasing or sustaining concentration below three feet or to the top of the groundwater table. Hydrocarbon concentrations greater than 20,000 ug/L in soil vapor (100 ug/L for diesel) sustaining or increasing below three feet. Distribution of elevated hydrocarbons is equal to or greater than 200 square feet total area.

Analytical Results for Leak Checks of USTs at Building 133

ARMY CORPS OF ENGINEERS/HUNTER AAF/SAVANNAH, GEORGIA JOB#1-90-384-T

07-11-90

CONDENSED DATA

SAMPLE	DDM ug/l	114B2 ug/l	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENE ug/l	THC ug/l
AIR	<0.00006	<0.00009	<0.2	<0.1	<0.2	<0.1	<0.2
T-17	0.008	<0.0002	N/A	N/A	N/A	N/A	520000
T-15	<0.00006	0.005	N/A	N/A	N/A	N/A	800000
T-13	<0.00006	<0.00009	N/A	N/A	N/A	N/A	56000
T-16	0.06	<0.00009	N/A	N/A	N/A	N/A	760000
T-14	<0.00006	<0.00009	N/A	N/A	N/A	N/A	130000
T-18	<0.00006	<0.00009	N/A	N/A	N/A	N/A	860000
P-2	<0.00006	<0.00009	N/A	N/A	N/A	N/A	14000
P-1	<0.00006	<0.00009	N/A	N/A	N/A	N/A	300000

07-12-90

T-19-4'	<0.00007	<0.0001	N/A	N/A	N/A	N/A	110
T-20-4'	<0.00007	<0.0001	N/A	N/A	N/A	N/A	160

N/A not analyzed

Analyzed by: M. Flack

Checked by: K. Ptak

Proofed by: *S. Highlander*

Source: Tracer Research Corporation, July 1990

Analytical Results for Leak Checks of USTs at Building 133

JOB#B-917-90-LD

ARMY CORP OF ENGINEERS/HUNTER AAF/SAVANNAH, GEORGIA

02-07-90

CONDENSED DATA

SAMPLE	DOM ug/l	114B2 ug/l	THC ug/l
AIR	<0.00006	<0.00007	<0.09
W-01-6*	<0.00006	<0.00007	0.2
W-02-4*	<0.00006	<0.00007	<0.09
T-01-3*	<0.00006	<0.00007	440000
T-02-2*	<0.00006	<0.00007	9900
T-03-3*	<0.00006	<0.00007	2100
T-04-2*	<0.00006	<0.00007	200
T-05-3*	<0.00006	<0.00007	1700
T-06-4*	<0.00006	0.01	600000
T-07-3*	<0.00006	<0.00007	420000
T-08-4*	<0.00006	<0.00007	14000
T-09-3*	<0.00006	<0.00007	160000
T-10-1*	<0.00006	0.001	28000
T-11-2*	<0.00006	0.001	360000
T-11-4*	<0.00006	<0.00007	45000
T-12-4*	<0.00006	0.0003	390000
02-08-90			
AIR	<0.00006	<0.00007	<0.1
P-01-3*	<0.00006	<0.00007	280000
P-02-3*	<0.00003	<0.00003	340000
T-13-5*	<0.00006	<0.00007	490000
T-14-5*	<0.00006	<0.00007	780000
T-15-5*	<0.00006	<0.00007	160000
T-16-5*	<0.00006	<0.00007	300000
T-17-5*	<0.00003	<0.00004	800000
T-18-5*	<0.00006	<0.00007	120000
AIR	<0.00006	<0.00007	18

Analyzed by: K. Wilson
 Checked by: P. Reko
 Proofed by: *[Signature]*

TABLE 2
Chemical Test Data For Soil Samples
Phase II Site Investigation At Building 1343
Hunter Army Airfield, Savannah, Georgia

PRELIMINARY
SUBJECT TO CORRECTION

<u>Sample No.</u>	¹ <u>TPH</u> <u>mg/Kg</u>	<u>Benzene</u> <u>ug/Kg</u>	<u>Toluene</u> <u>ug/Kg</u>	<u>Ethyl</u> <u>Benzene</u> <u>ug/Kg</u>	<u>Xylenes</u> <u>ug/Kg</u>	² <u>Total</u> <u>BTEX</u> <u>mg/Kg</u>
MW-1-1	230	< 10000	280000	100000	590000	970
MW-1-2	54	< 5700	89000	30000	180000	299
MW-1-3	26	13000	260000	110000	590000	973
MW-1-4	68	76000	880000	360000	1700000	3016
MW-2-1	NA	< 6.5	< 6.5	< 6.5	< 6.5	NA
MW-3-1	37	< 5.7	< 5.7	< 5.7	< 5.7	NA
MW-3-2	55	2700	8500	< 250	10000	21.2
MW-4-1	NA	27	17	< 5.7	13	0.057
MW-4-2	13	< 5.8	9.1	< 5.8	< 5.8	0.009
MW-5-1	12	< 6.1	7.5	< 6.1	< 6.1	0.008
A6-1 (MW-6)	NA	< 29	110	< 29	300	0.4
A6-1QC (MW-6)	NA	< 240	980	1300	9000	11.3
A6-2 (MW-6)	2200	NA	NA	NA	NA	NA
A6-2QC (MW-6)	520	NA	NA	NA	NA	NA
A1-1	19	< 5.8	< 5.8	< 5.8	< 5.8	NA
A2-1	NA	< 2300	33000	4300	< 2300	37.3
A2-2	100	< 5.7	6.2	< 5.7	< 5.7	0.006
A3-1	290	27	170	89	630	0.9
A4-1	380	NA	NA	NA	NA	NA
A4-2	170	< 5.8	< 5.8	< 5.8	17	0.02
A5-1	<12	< 6.1	< 6.1	< 6.1	< 6.1	NA
A7-1	NA	< 6.0	24	< 6.0	< 6.0	0.02
S1-S	<12	NA	NA	NA	NA	NA
S2-S	<12	NA	NA	NA	NA	NA

1. Action level for State of Georgia is 100 mg/Kg for TPH analysis.

Action level for State of Georgia is 20 mg/l for BTEX analysis.
Values reported at < XX were not included in the summation of the 4 constituents to obtain total BTEX.

TABLE 3
Chemical Test Data For Water Samples
Phase II Site Investigation At Building 1343
Hunter Army Airfield, Savannah, Georgia

<u>Sample No.</u>	<u>TPH</u> <u>mg/l</u>	¹ <u>Benzene</u> <u>ug/l</u>	<u>Toluene</u> <u>ug/l</u>	<u>Ethyl</u> <u>Benzene</u> <u>ug/l</u>	<u>Xylenes</u> <u>ug/l</u>
MW1-A1	18	40000	60000	2700	23000
MW2-A1	< 1.0	< 1.0	< 1.0	< 1.0	1.2
MW3-A1	46	36000	54000	3400	17000
MW4-A1	< 1.0	34	6.6	< 1.0	8.9
MW5-A1	< 1.0	21	2.0	< 1.0	< 1.0
MW5-A1 (QC)	< 1.0	13	67	14	120
MW-6-A1 (A6)	22	13000	18000	730	6400
S1-W	< 1.0	NA	NA	NA	NA
S2-W	< 1.0	NA	NA	NA	NA
Rinsate	< 1.0	NA	NA	NA	NA
Trip Blank	NA	< 1.0	< 1.0	< 1.0	< 1.0

1. The action level for drinking water in the State of Georgia is 5 ug/l benzene. Separate action levels for ground water have not been developed. Depending on the site, less stringent levels may be applied. This is subject to Georgia EPD approval.

PRELIMINARY
SUBJECT TO CORRECTION

Table Sampling and Analytical Requirements for Hunter AAF Fire Training Area

	No. of Field Samples	No. of QC Samples Analyzed by Hunter/ESE			No. of QC Samples Analyzed by USACE			Parameters			
		Replicate	Rinseate	Trip Blanks	Replicate	Rinseate	Trip Blanks	A	B	C	D
Soil Gas	18	-	-	-	-	-	-	-	-	-	X
Soil	6	1	1	1	-	-	-	X	X	X	-
Groundwater	6	-	-	1	1	1	1	X	X	X	-
Sediment	3	1	-	1	1	-	1	X	X	X	-

Note: A - volatile organic compounds (SW 8240).
 B - metals (As, Ba, Cd, Cr, Pb, Hg, Se, and Ag).
 C - polynuclear aromatic hydrocarbons (SW 8270).
 D - total volatile organics (PID).
 QC - quality control.

A number of trip blanks will be shipped dependent on the number of coolers with volatiles shipped.

Source: Hunter/ESE, 1989.

BEGINNING	91	09	10
DATE	YR	MO	DA
END	91	09	13

Hunter Army Airfield
Savannah GA 31409-5026

[illegible]

PEARLY NUMBER	0027588
------------------	---------

BEGINNING		91	07	01
DATE		YR	MO	DA
END		91	07	31

[illegible]

BEGINNING	91	5	1
DATE	YR	MO	DA
END	91	5	31

1. 1000

PENAL NUMBER 0027588

BEGINNING			
-- DATE	YR	MO	DA
END	91	04	

[illegible]

NAME OF PRINCIPAL EXECUTIVE OFFICER

TIME OF THE OFFICE

Name _____

0	0
---	---

2.

SPECTRUM

Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH, CITY OF
SAMPLE LOCATION WELL #1
SAMPLE NUMBER 026-082991
DATE RECEIVED 08/29/91
DATE SAMPLED 08/29/91
SAMPLE TYPE WATER
SUBMITTER HARRY SHEAROUSE

DATE REPORTED: 09/18/91
EPA: # FL095
FL DRINKING WATER: # 86144
FL ENVIRONMENTAL: # E86006
GEORGIA: # 828
SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	<0.0001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	0.003	MG/L
SELENIUM	EPA 270.2	<0.002	MG/L
FLUORIDE	SM 413C	1.13	MG/L
MERCURY	EPA 245.1	<0.0002	MG/L
NITRATE NITROGEN	SM 418B	<0.05	MG/L N-NO3
SILVER	EPA 272.2	<0.0007	MG/L
ALKALINITY, TOTAL	SM 403	135	MG/L
HARDNESS CALCIUM		108	MG/L
CHLORIDE	SM 407A	18.2	MG/L
COPPER	EPA 220.2	<0.002	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	16.00	MG/L
SULFATE	SM 427C	4.00	MG/L
T DISSOL SOLIDS	SM 209B	187.0	MG/L
ZINC	EPA 289.1	.04	MG/L
COLOR	SM 204A	<5	PT-CO UNIT
TURBIDITY	EPA 180.1	<0.1	NTU
ENDRIN	EPA 608	<0.1	UG/L
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<0.1	UG/L
2,4-D	EPA 615	<1	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		.37	ug/l
BROMODICHLOROMETHANE		<0.04	UG/L
DIBROMOCHLOROMETHANE		<0.04	ug/l
BROMOFORM	EPA 501'3	<0.04	UG/L
TOTAL TRIHALOMETHANES		0.37	UG/L
FEDERAL VOLATILE ORGANIC		NEGATIVE	

CARBON DIOXIDE

pH

EPA 150.1

4.65

MG/L

7.5

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST

SPECTRUM

Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

CLIENT: SAVANNAH, CITY OF
SAMPLE: WELL #1/026-082991 COMM. WELL
DATA FILE: >SA11A::D3
DATE ANALYZED: 9/03/91 20:51
DILUTION FACTOR: .20000

-CERTIFICATIONS-

EPA: #FLO95
FL DRINKING WATER: #86144
FL ENVIRONMENTAL: #E86006
GA # 828
SC # 96015

FEDERAL VOLATILE ORGANICS

CAS No. -----	PARAMETER -----	CONCENTRATION (ug/l) -----	*MDL (ug/l) -----
71-43-2	BENZENE	0.0	(0.20)
56-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
107-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
'1-55-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
'9-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

* ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)


LYLE A. JOHNSON - Chemist

SPECTRA

Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH , CITY OF
 SAMPLE LOCATION WELL #2
 SAMPLE NUMBER 029-080791
 DATE RECEIVED 08/07/91
 DATE SAMPLED 08/07/91
 SAMPLE TYPE WATER
 SUBMITTER M. SNELLING

DATE REPORTED: 08/20/91
 EPA: # FLO95
 FL DRINKING WATER: # 86144
 FL ENVIRONMENTAL: # E86006
 GEORGIA: # 828
 SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	<0.0001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	0.003	MG/L
SELENIUM	EPA 270.2	.003	MG/L
FLUORIDE	SM 413C	.82	MG/L
MERCURY	EPA 245.1	<0.0002	MG/L
NITRATE NITROGEN	SM 418B	<0.05	MG/L N-NO3
SILVER	EPA 272.1	<0.01	MG/L
ALKALINITY, TOTAL	SM 403	108	MG/L
HARDNESS CALCIUM		279	MG/L
CHLORIDE	SM 407A	10.6	MG/L
COPPER	EPA 220.1	<0.02	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	9.20	MG/L
SULFATE	SM 427C	7.0	MG/L
T DISSOL SOLIDS	SM 209B	174.0	MG/L
ZINC	EPA 289.1	<0.01	MG/L
COLOR	SM 204A	<5	PT-CO UNIT
TURBIDITY	EPA 180.1	<0.1	NTU
ENDRIN	EPA 608	<0.1	UG/L
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<5	UG/L
2,4-D	EPA 615	<0.1	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		6.13	ug/l
BROMODICHLOROMETHANE		3.23	UG/L
DIBROMOCHLOROMETHANE		1.50	ug/l
BROMOFORM	EPA 501'3	<0.04	UG/L
TOTAL TRIHALOMETHANES		10.9	UG/L
FEDERAL VOLATILE ORGANIC		NEGATIVE	

CARBON DIOXIDE

pH

EPA 150.1

2.79

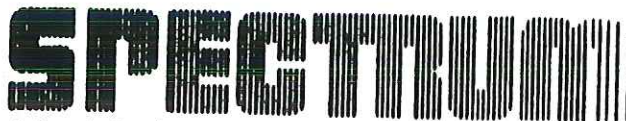
MG/L

7.6

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

EPA: #FLO95

FL DRINKING WATER: #86144

FL ENVIRONMENTAL: #E86006

GA # 828

SC # 96015

CLIENT: SAVANNAH, CITY OF

SAMPLE: WELL #2/029-080791 COMM. WELL 25M

DATA FILE: >AA12A::DB

DATE ANALYZED: 8/08/91 10:47

DILUTION FACTOR: .20000

FEDERAL VOLATILE ORGANICS

CAS No. -----	PARAMETER -----	CONCENTRATION (ug/l) -----	*MDL (ug/l) -----
71-43-2	BENZENE	0.0	(0.20)
56-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
107-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
71-55-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
79-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

* ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)

KYLE A. JOHNSON - Chemist

SPECTRUM

Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH , CITY OF
 SAMPLE LOCATION WELL #3
 SAMPLE NUMBER 030-080791
 DATE RECEIVED 08/07/91
 DATE SAMPLED 08/07/91
 SAMPLE TYPE WATER
 SUBMITTER M. SNELLING

DATE REPORTED: 08/20/91
 EPA: # FLO95
 FL DRINKING WATER: # 86144
 FL ENVIRONMENTAL: # E86006
 GEORGIA: # 828
 SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	<0.0001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	<0.002	MG/L
SELENIUM	EPA 270.2	<0.002	MG/L
FLUORIDE	SM 413C	<0.002	MG/L
MERCURY	EPA 245.1	.44	MG/L
NITRATE NITROGEN	SM 418B	<0.0002	MG/L
SILVER	EPA 272.1	.14	MG/L N-NO3
ALKALINITY, TOTAL	SM 403	.01	MG/L
HARDNESS CALCIUM		118	MG/L
CHLORIDE	SM 407A	210	MG/L
COPPER	EPA 220.1	5.89	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	<0.02	MG/L
SULFATE	SM 427C	9.80	MG/L
T DISSOL SOLIDS	SM 209B	4.0	MG/L
ZINC	EPA 289.1	177.0	MG/L
COLOR	SM 204A	<0.01	MG/L
TURBIDITY	EPA 180.1	<5	PT-CO UNIT
ENDRIN	EPA 608	<0.1	NTU
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<0.1	UG/L
2,4-D	EPA 615	<5	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		<0.1	UG/L
BROMODICHLOROMETHANE		5.31	ug/l
DIBROMOCHLOROMETHANE		3.77	UG/L
BROMOFORM	EPA 501'3	1.85	ug/l
TOTAL TRIHALOMETHANES		<0.04	UG/L
FEDERAL VOLATILE ORGANIC		10.9	UG/L
		NEGATIVE	

CARBON DIOXIDE

pH

EPA 150.1

1.84

MG/L

7.8

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

EPA: #FLO95

FL DRINKING WATER: #86144

FL ENVIRONMENTAL: #E86006

GA # 828

SC # 96015

CLIENT: SAVANNAH, CITY OF

SAMPLE: WELL #3/030-080791 COMM. WELL 25M

DATA FILE: >AA13A::DB

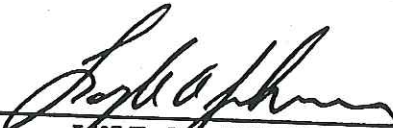
DATE ANALYZED: 8/08/91 11:55

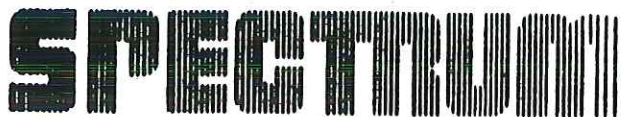
DILUTION FACTOR: .20000

FEDERAL VOLATILE ORGANICS

CAS No. -----	PARAMETER -----	CONCENTRATION (ug/l) -----	*MDL (ug/l) -----
71-43-2	BENZENE	0.0	(0.20)
56-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
107-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
71-55-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
79-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

* ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)


LYLE M. JOHNSON - Chemist



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH ,CITY OF
SAMPLE LOCATION WELL #5
SAMPLE NUMBER 031-080791
DATE RECEIVED 08/07/91
DATE SAMPLED 08/07/91
SAMPLE TYPE WATER
SUBMITTER M. SNELLING

DATE REPORTED: 08/23/91
EPA: # FLO95
FL DRINKING WATER: # 86144
FL ENVIRONMENTAL: # E86006
GEORGIA: # 828
SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	<0.0001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	<0.002	MG/L
SELENIUM	EPA 270.2	<0.002	MG/L
FLUORIDE	SM 413C	.84	MG/L
MERCURY	EPA 245.1	<0.0002	MG/L
NITRATE NITROGEN	SM 418B	<0.05	MG/L N-NO3
SILVER	EPA 272.1	.07	MG/L
ALKALINITY, TOTAL	SM 403	113	MG/L
HARDNESS CALCIUM		147	MG/L
CHLORIDE	SM 407A	15.3	MG/L
COPPER	EPA 220.1	<0.02	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	19.00	MG/L
SULFATE	SM 427C	7.0	MG/L
T DISSOL SOLIDS	SM 209B	202.0	MG/L
ZINC	EPA 289.1	.04	MG/L
COLOR	SM 204A	<5	PT-CO UNIT
TURBIDITY	EPA 180.1	<0.1	NTU
ENDRIN	EPA 608	<0.1	UG/L
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<5	UG/L
2,4-D	EPA 615	<0.1	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		3.34	ug/l
BROMODICHLOROMETHANE		5.40	UG/L
DIBROMOCHLOROMETHANE		3.84	ug/l
BROMOFORM	EPA 501'3	1.16	UG/L
TOTAL TRIHALOMETHANES		13.7	UG/L
FEDERAL VOLATILE ORGANIC		NEGATIVE	

CARBON DIOXIDE

pH

EPA 150.1

TOTAL ORGANIC CARBON

2.38

MG/L

7.7

<5

MG/L

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST

SPECTRUM

Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

CLIENT: SAVANNAH, CITY OF
SAMPLE: WELL #5/031-080791 COMM. WELL 25M
DATA FILE: >AA15A::DB
DATE ANALYZED: 8/08/91 14:29
DILUTION FACTOR: 1.00000

EPA: #FLO95
FL DRINKING WATER: #86144
FL ENVIRONMENTAL: #E86006
GA # 828
SC # 96015

FEDERAL VOLATILE ORGANICS

CAS No. -----	PARAMETER -----	CONCENTRATION (ug/l) -----	*MDL (ug/l) -----
71-43-2	BENZENE	0.0	(0.20)
56-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
107-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
71-55-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
79-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

* ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)


LYLE A. JOHNSON - Chemist



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH, CITY OF
SAMPLE LOCATION WELL #6
SAMPLE NUMBER 030-082991
DATE RECEIVED 08/29/91
DATE SAMPLED 08/29/91
SAMPLE TYPE WATER
SUBMITTER HARRY SHEAROUSE

DATE REPORTED: 09/18/91
EPA: # FLO95
FL DRINKING WATER: # 86144
FL ENVIRONMENTAL: # E86006
GEORGIA: # 828
SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	<0.0001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	<0.002	MG/L
SELENIUM	EPA 270.2	<0.002	MG/L
FLUORIDE	SM 413C	1.10	MG/L
MERCURY	EPA 245.1	<0.0002	MG/L
NITRATE NITROGEN	SM 418B	<0.05	MG/L N-NO3
SILVER	EPA 272.2	<0.0007	MG/L
ALKALINITY, TOTAL	SM 403	133	MG/L
HARDNESS CALCIUM		88.0	MG/L
CHLORIDE	SM 407A	13.2	MG/L
COPPER	EPA 220.2	<0.002	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	12.00	MG/L
SULFATE	SM 427C	4.00	MG/L
T DISSOL SOLIDS	SM 209B	168.0	MG/L
ZINC	EPA 289.1	.04	MG/L
COLOR	SM 204A	<5	PT-CO UNIT
TURBIDITY	EPA 180.1	<0.1	NTU
ENDRIN	EPA 608	<0.1	UG/L
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<1	UG/L
2,4-D	EPA 615	<0.1	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		.25	ug/l
BROMODICHLOROMETHANE		<0.04	UG/L
DIBROMOCHLOROMETHANE		<0.04	ug/l
BROMOFORM	EPA 501'3	<0.04	UG/L
TOTAL TRIHALOMETHANES		0.25	UG/L
FEDERAL VOLATILE ORGANIC		NEGATIVE	

CARBON DIOXIDE
pH

EPA 150.1

3.39
7.6

MG/L

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

EPA: #FLO95

FL DRINKING WATER: #86144

FL ENVIRONMENTAL: #E86006

GA # 828

SC # 96015

CLIENT: SAVANNAH, CITY OF

SAMPLE: WELL #6/030-082991 25ML COMM. WEL

DATA FILE: >SA12A::D3

DATE ANALYZED: 9/03/91 21:55

DILUTION FACTOR: .20000

FEDERAL VOLATILE ORGANICS

CAS No. -----	PARAMETER -----	CONCENTRATION (ug/l) -----	*MDL (ug/l) -----
71-43-2	BENZENE	0.0	(0.20)
56-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
107-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
71-55-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
79-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

* ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)

LYLE A. JOHNSON - Chemist

SPECTRUM

Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH, CITY OF
 SAMPLE LOCATION WELL #7
 SAMPLE NUMBER 005-083091
 DATE RECEIVED 08/30/91
 DATE SAMPLED 08/30/91
 SAMPLE TYPE WATER
 SUBMITTER HARRY SHEAROUSE

DATE REPORTED: 09/18/91
 EPA: # FLO95
 FL DRINKING WATER: # 86144
 FL ENVIRONMENTAL: # E86006
 GEORGIA: # 828
 SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	0.001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	<0.002	MG/L
SELENIUM	EPA 270.2	<0.002	MG/L
FLUORIDE	SM 413C	.88	MG/L
MERCURY	EPA 245.1	<0.0002	MG/L
NITRATE NITROGEN	SM 418B	<0.05	MG/L N-NO3
SILVER	EPA 272.2	<0.0007	MG/L
ALKALINITY, TOTAL	SM 403	140	MG/L
HARDNESS CALCIUM		58.7	MG/L
CHLORIDE	SM 407A	18.2	MG/L
COPPER	EPA 220.2	<0.002	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	14.00	MG/L
SULFATE	SM 427C	9.00	MG/L
T DISSOL SOLIDS	SM 209B	182.0	MG/L
ZINC	EPA 289.1	.02	MG/L
COLOR	SM 204A	<5	PT-CO UNIT
TURBIDITY	EPA 180.1	0.1	NTU
ENDRIN	EPA 608	<0.1	UG/L
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<1	UG/L
2,4-D	EPA 615	<0.1	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		12.10	ug/l
BROMODICHLOROMETHANE		4.61	UG/L
DIBROMOCHLOROMETHANE		1.97	ug/l
BROMOFORM	EPA 501'3	<0.04	UG/L
TOTAL TRIHALOMETHANES		18.7	UG/L
FEDERAL VOLATILE ORGANIC		NEGATIVE	

CARBON DIOXIDE

pH

EPA 150.1

2.71

MG/L

7.7

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST

SPECTRAL

Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

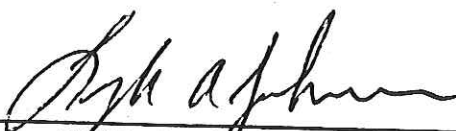
CLIENT: SAVANNAH, CITY OF
SAMPLE: WELL #7/005-083091 25ML COMM. WEL
DATA FILE: >SA15A::D3
DATE ANALYZED: 9/04/91 1:06
DILUTION FACTOR: .20000

EPA: #FLO95
FL DRINKING WATER: #86144
FL ENVIRONMENTAL: #E86006
GA # 828
SC # 96015

FEDERAL VOLATILE ORGANICS

CAS No.	PARAMETER	CONCENTRATION (ug/l)	*MDL (ug/l)
71-43-2	BENZENE	0.0	(0.20)
56-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
107-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
71-55-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
79-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

* ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)



LYLE A. JOHNSON - Chemist



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH, CITY OF
SAMPLE LOCATION WELL #15
SAMPLE NUMBER 024-090691
DATE RECEIVED 09/06/91
DATE SAMPLED 09/06/91
SAMPLE TYPE WATER
SUBMITTER M. SNELLINGS

DATE REPORTED: 09/18/91
EPA: # FLO95
FL DRINKING WATER: # 86144
FL ENVIRONMENTAL: # E86006
GEORGIA: # 828
SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	<0.0001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	<0.002	MG/L
SELENIUM	EPA 270.2	<0.002	MG/L
FLUORIDE	SM 413C	.97	MG/L
MERCURY	EPA 245.1	<0.0002	MG/L
NITRATE NITROGEN	SM 418B	<0.05	MG/L N-NO3
SILVER	EPA 272.2	<0.0007	MG/L
ALKALINITY, TOTAL	SM 403	110	MG/L
HARDNESS CALCIUM		117	MG/L
CHLORIDE	SM 407A	16.3	MG/L
COPPER	EPA 220.2	<0.002	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	11.00	MG/L
SULFATE	SM 427C	<1.0	MG/L
T DISSOL SOLIDS	SM 209B	189.0	MG/L
ZINC	EPA 289.1	.03	MG/L
COLOR	SM 204A	5	PT-CO UNIT
TURBIDITY	EPA 180.1	0.1	NTU
ENDRIN	EPA 608	<0.1	UG/L
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<5	UG/L
2,4-D	EPA 615	<0.1	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		2.96	ug/l
BROMODICHLOROMETHANE		2.02	UG/L
DIBROMOCHLOROMETHANE		0.97	ug/l
BROMOFORM	EPA 501'3	<0.04	UG/L
TOTAL TRIHALOMETHANES		5.95	UG/L
FEDERAL VOLATILE ORGANIC		NEGATIVE	

CARBON DIOXIDE

pH

EPA 150.1

1.64

MG/L

7.8

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

EPA: #FLO95

FL DRINKING WATER: #86144

FL ENVIRONMENTAL: #E86006

GA # 828

SC # 96015

CLIENT: SAVANNAH, CITY OF

SAMPLE: WELL #15/024-090691 COMM. WELL 25

DATA FILE: >SA33A:D3

DATE ANALYZED: 9/10/91 14:43

DILUTION FACTOR: .20000

FEDERAL VOLATILE ORGANICS

CAS No.	PARAMETER	CONCENTRATION (ug/l)	*MDL (ug/l)
71-43-2	BENZENE	0.0	(0.20)
56-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
77-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
155-5-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
79-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)

LYLE A. JOHNSON - Chemist



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

CLIENT SAVANNAH, CITY OF
SAMPLE LOCATION WELL #27
SAMPLE NUMBER 025-090691
DATE RECEIVED 09/06/91
DATE SAMPLED 09/06/91
SAMPLE TYPE WATER
SUBMITTER M. SNELLINGS

DATE REPORTED: 09/18/91
EPA: # FLO95
FL DRINKING WATER: # 86144
FL ENVIRONMENTAL: # E86006
GEORGIA: # 828
SOUTH CAROLINA: # 96015

TEST

RESULTS

ARSENIC	EPA 206.2	<0.002	MG/L
BARIUM	EPA 208.1	<0.1	MG/L
CADMIUM	EPA 213.2	<0.0001	MG/L
CHROMIUM, T	EPA 218.2	<0.001	MG/L
LEAD	EPA 239.2	<0.002	MG/L
SELENIUM	EPA 270.2	<0.002	MG/L
FLUORIDE	SM 413C	.70	MG/L
MERCURY	EPA 245.1	<0.0002	MG/L
NITRATE NITROGEN	SM 418B	<0.05	MG/L N-NO3
SILVER	EPA 272.2	<0.0007	MG/L
ALKALINITY, TOTAL	SM 403	105	MG/L
HARDNESS CALCIUM		132	MG/L
CHLORIDE	SM 407A	11.6	MG/L
COPPER	EPA 220.2	<0.002	MG/L
IRON	EPA 236.1	<0.02	MG/L
MANGANESE	EPA 243.1	<0.02	MG/L
SODIUM	EPA 273.1	11.00	MG/L
SULFATE	SM 427C	3.0	MG/L
T DISSOL SOLIDS	SM 209B	154.0	MG/L
ZINC	EPA 289.1	.02	MG/L
COLOR	SM 204A	5	PT-CO UNIT
TURBIDITY	EPA 180.1	<0.1	NTU
ENDRIN	EPA 608	<0.1	UG/L
LINDANE	EPA 608	<0.1	UG/L
METHOXYCHLOR	EPA 508	<0.1	UG/L
TOXAPHENE	EPA 608	<5	UG/L
2,4-D	EPA 615	<0.1	UG/L
2,4,5-TP, SILVEX	EPA 615	<0.1	UG/L
CHLOROFORM		3.43	ug/l
BROMODICHLOROMETHANE		2.64	UG/L
DIBROMOCHLOROMETHANE		1.19	ug/l
BROMOFORM	EPA 501'3	<0.04	UG/L
TOTAL TRIHALOMETHANES		7.26	UG/L
FEDERAL VOLATILE ORGANIC		NEGATIVE	

CARBON DIOXIDE
pH

EPA 150.1

1.46
7.9

MG/L

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME.



DONALD S. MCCORQUODALE, JR. PH.D.
MICROBIOLOGIST



Laboratories, Inc.

FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

EPA: #FLO95

FL DRINKING WATER: #86144

FL ENVIRONMENTAL: #E86006

GA # 828

SC # 96015

CLIENT: SAVANNAH, CITY OF

SAMPLE: WELL #27/025-090691 COMM. WELL 25

DATA FILE: >SA34A::D3

DATE ANALYZED: 9/10/91 16:53

DILUTION FACTOR: .20000

FEDERAL VOLATILE ORGANICS

CAS No.	PARAMETER	CONCENTRATION (ug/l)	*MDL (ug/l)
71-43-2	BENZENE	0.0	(0.20)
55-23-5	CARBON TETRACHLORIDE	0.0	(0.50)
78-06-2	1,2-DICHLOROETHANE	0.0	(0.20)
106-93-4	1,2-DIBROMOETHANE	0.0	(0.20)
127-18-4	TETRACHLOROETHENE	0.0	(0.14)
78-55-6	1,1,1-TRICHLOROETHANE	0.0	(0.30)
78-01-6	TRICHLOROETHENE	0.0	(0.20)
75-01-4	VINYL CHLORIDE	0.0	(0.17)

ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)

LYLE A. JOHNSON - Chemist

APPENDIX D

PERMITS

APPENDIX D

PERMITS

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

PERMIT NO. 2025 J 1239

COUNTY CHATHAM



EFFECTIVE DATE
OF PERMIT:

DECEMBER 18, 1982

MODIFIED:

MARCH 20, 1987

PERMIT
TO OPERATE A
PUBLIC WATER SYSTEM

In compliance with the provisions of the GEORGIA SAFE DRINKING WATER ACT of 1977, OCGA 12-5-170 et. seq., and the RULES, CHAPTER 391-3-5, adopted pursuant to the ACT

UNITED STATES ARMY

is issued a PERMIT TO OPERATE A PUBLIC WATER SYSTEM named the
HUNTER ARMY AIRFIELD - MAIN, A Community Water System
and located at
FORT STEWART, GEORGIA

THIS PERMIT to operate the above public water system shall become effective on the date shown above and the permit shall expire at midnight, December 17, 1992 absent any prior revocation or modification.

THIS PERMIT is issued subject to the terms, conditions and schedules of compliance as follows:

1. THE PERMITTEE shall at all times operate the public water system in full compliance with the GEORGIA SAFE DRINKING WATER ACT of 1977, and the RULES, CHAPTER 391-3-5, adopted under the ACT. THE DIRECTOR may modify, suspend or revoke this permit as provided therein.
2. THIS PERMIT is transferrable only with a change of ownership. Any Transferee becomes the Permittee and assumes the responsibilities under this Permit. Such Transferee must notify the Division of the transfer in writing immediately.
3. THIS PERMIT is further subject to the terms, conditions and schedules of compliance specified on the attached pages.


DIRECTOR
ENVIRONMENTAL PROTECTION DIVISION

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Owner: United States Army

Effective: December 18, 1982
Modified: March 20, 1987

System: Hunter Army Airfield-Main

Permit No.: 2025 J 1239

PERMIT CONDITIONS

4. This permit is for the operation of two (2) wells as sources of water supply as indicated on your application. Any additional sources must have written approval from the Director before installation. Failure to comply will be considered a permit violation.

5. The permittee must continuously chlorinate all water distributed by the system to maintain a free chlorine residual of at least 0.5 parts per million in all parts of the distribution system.

6. The permittee shall collect and submit, or have collected and submitted to a state certified water supply laboratory, a minimum of eight (8) drinking water samples per month for coliform density analysis on the date assigned during which the system provides water to the public. Date assigned to submit samples: first and third Monday.

Results of these analyses must be maintained by the permittee and reported to the Division in accordance with Section 391-3-5-.15 and .25 of the Rules. Results reported to the Division must be identified by the system ID number 302 522 176 and the results sent to the following address:

Ground Water Program, EPD/DNR
Floyd Towers East, Room 1066
205 Butler Street, S. E.
Atlanta, Georgia 30334

7. Operation records must be maintained by the permittee on or near the premises of the water system and available for inspection. A true and correct copy of these records must be sent, by the tenth day of the month following the month being reported, to the following address:

Environmental Protection Division
Southeast Regional Office
1200 Glynn Ave.
Brunswick, Georgia 31523

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Owner: United States Army

Effective: December 18, 1982

Modified: March 20, 1987

System: Hunter Army Airfield-Main

Permit No.: 2025 J 1239

PERMIT CONDITIONS

8. The permittee shall insure that the person in responsible charge of this public water system is a certified operator in accordance with the Georgia Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act, as amended, and the Rules adopted thereunder, and holds a certification classification consistent with the public water system classification specified by Subparagraph 391-3-5-.48 of the Rules for Safe Drinking Water. A public water system whose only source of water supply is groundwater and serves a population of less than 1000 is only required to have a trained operator.

9. The permittee shall insure that any person employed by the water system as a laboratory analyst, is a certified laboratory analyst in accordance with the Georgia Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act, as amended, and the Rules adopted thereunder. A public water system whose only source of water supply is groundwater and serves a population of less than 1000 is not required to have a certified laboratory analyst.

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION



PERMIT NO. 9711-025-6356-0

COUNTY Chatham

EFFECTIVE DATE
OF PERMIT: NOV 13 1978

PERMIT TO OPERATE

In compliance with the provisions of Georgia's Air Quality Act of 1978 and the Rules and Regulations, Chapter 391-3-1, adopted pursuant to or in effect under that Act, Headquarters, 24th Infantry Division and Fort Stewart DFAE, Environmental office, Fort Stewart, Georgia 31313 is issued a Permit to Operate the following:

Nine boilers (Source Codes II-850a, II-850b, II-850c, II-1277a, II-1277b, II-1277c, II-1451a, II-1451b, II-1451c) firing natural gas or No. 2 fuel oil, and associated fuel storage tanks located at: Hunter Army Airfield, Georgia

This Permit to Operate is conditioned upon compliance with all provisions of Georgia's Air Quality Act of 1978, the Rules and Regulations of Chapter 391-3-1 adopted or in effect under that act, or any other condition of this Permit.

This Permit may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in the application(s) dated May 17, 1978, supporting data entered therein or attached thereto, or any subsequent submittals or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 0 page(s), which page(s) are a part of this Permit.

J. Leonard Ledbetter
Director
Environmental Protection Division

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the "State Act," the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.), hereinafter called the "Federal Act," and the Rules and Regulations promulgated pursuant to each of these Acts,

Hunter Army Airfield
Utility Street, Building 1139
Fort Stewart, Georgia 31314

is authorized to discharge from a facility located at

Bull & Stephenson Street
Savannah, Chatham County, Georgia

to receiving waters Savannah River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on July 1, 1991.

This permit and the authorization to discharge shall expire at midnight, May 31, 1996.

Signed this 1st. day of July, 1991 .





Director,
Environmental Protection Division

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning effective date and lasting through May 31, 1996, the permittee is authorized to discharge from outfall(s) serial number(s) 001 - treated sewage.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements		
	Mass Based		Concentration Based		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	1.25	1.50	-	-	Daily	Continuous Recorder	Outfall
BOD ₅ (mg/l)	-	-	20	30	2/Week	Composite	Outfall
BOD ₅ (kg/day)	95	114	-	-	2/Week	Composite	Outfall
TSS (mg/l)	-	-	30	45	2/Week	Composite	Outfall
TSS (kg/day)	142	171	-	-	2/Week	Composite	Outfall
Fecal Coliform (MPN)	-	-	200/100 ml	400/100 ml	Weekly	Grab	Outfall
T. Residual Chlorine (mg/l)	-	-	-	-	Daily	Grab	Outfall

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored daily by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The outfall shall be defined as the nearest accessible point after final treatment but prior to mixing with any other waters in the effluent force main.

PART I

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

N/A

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

PART I

Page 4 of 15
Permit No. GA 0027588

Note: EPD as used herein means the Environmental Protection Division of the Department of Natural Resources.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

Monitoring results obtained during the previous one month shall be summarized for each month and reported on an Operation Monitoring Report (Form WQ 1.45). Forms other than Form WQ 1.45 may be used upon approval by EPD. These forms and any other required reports and information shall be completed, signed and certified by a principal executive officer or ranking elected official, or by a duly authorized representative of that person who has the authority to act for or on behalf of that person, and submitted to the Division, postmarked no later than the 15th day of the month following the reporting period. Signed copies of these and all other reports required herein shall be submitted to the following address:

Georgia Environmental Protection Division
Industrial Wastewater Program
Suite 1070, Floyd Towers East
205 Butler Street, S.E.
Atlanta, Georgia 30334

All instances of noncompliance not reported under Part I. B. and C. and Part II. A shall be reported at the time the operation monitoring report is submitted.

3. Definitions

- a. The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days sampled during the calendar month when the measurements were made.
- b. The "daily maximum" discharge means the total discharge by weight during any calendar day.

- c. The "daily average" concentration means the arithmetic average of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample.
- d. The "daily maximum" concentration means the daily determination of concentration for any calendar day.
- e. For the purpose of this permit, a calendar day is defined as any consecutive 24-hour period.
- f. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- g. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

4. Test Procedures

Monitoring must be conducted according to test procedures approved pursuant to 40 CFR 136 unless other test procedures have been specified in this permit.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling or measurements, and the person(s) performing the sampling or the measurements;
- b. The dates the analyses were performed, and the person(s) who performed the analyses;
- c. The analytical techniques or methods used; and
- d. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Operation Monitoring Report Form (WQ 1.45). Such increased monitoring frequency shall also be indicated. The Division may require by written notification more frequent monitoring or the monitoring of other pollutants not required in this permit.

7. Records Retention

The permittee shall retain records of all monitoring information, including all records of analyses performed, calibration and maintenance of instrumentation, recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Division at any time.

8. Penalties

The Federal Clean Water Act and the Georgia Water Quality Control Act provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine or by imprisonment, or by both. The Federal Clean Water Act and the Georgia Water Quality Control Act also provide procedures for imposing civil penalties which may be levied for violations of the Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director of the Division.

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

- a. Advance notice to the Division shall be given of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Any anticipated facility expansions, production increases, or process modifications must be reported by submission of a new NPDES permit application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Division of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.
- b. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Division as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 100 µg/l, (ii) five times the maximum concentration reported for that pollutant in the permit application, or (iii) 200 µg/l for acrolein and acrylonitrile, 500 µg/l for 2,4 dinitrophenol and for 2-methyl-4-6-dinitrophenol, or 1 mg/l antimony.
- c. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Division as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in any discharge on a nonroutine or infrequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 500 µg/l, (ii) ten times the maximum concentration reported for that pollutant in the permit application, or (iii) 1 mg/l antimony.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with, or will be unable to comply with any effluent limitation specified in this permit, the permittee shall provide the Division with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

- a. A description of the discharge and cause of noncompliance;
and

- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

3. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypassing

- a. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Division at least 10 days (if possible) before the date of the bypass. The permittee shall submit notice of any unanticipated bypass with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:
 1. A description of the discharge and cause of noncompliance; and
 2. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

- b. Any diversion from or bypass of facilities covered by this permit is prohibited, except (i) where unavoidable to prevent loss of life, personal injury, or severe property damage; (ii) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if the permittee could have installed adequate back-up equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and (iii) the permittee submitted a notice as required above. The permittee shall operate the treatment works, including the treatment plant and total sewer system, to minimize discharge of the pollutants listed in Part I of this permit from combined sewer overflows or bypasses. Upon written notification by the Division, the permittee may be required to submit a plan and schedule for reducing bypasses, overflows, and infiltration in the system.

6. Sludge Disposal Requirements

Hazardous sludge shall be disposed of in accordance with the regulations and guidelines established by the Division pursuant to the Federal Clean Water Act (CWA) and the Resource Conservation and Recovery Act (RCRA). For land application of nonhazardous sludge, the permittee shall comply with any applicable criteria outlined in the Division's "Guidelines for Land Application of Municipal Sludges." Prior to disposal of sludge by land application, the permittee shall submit a proposal to the Division for approval in accordance with applicable criteria in the Division's "Guidelines for Land Application of Municipal Sludges." Upon evaluation of the permittee's proposal, the Division may require that more stringent control of this activity is required. Upon written notification, the permittee shall submit to the Division for approval, a detailed plan of operation for land application of sludge. Upon approval, the plan will become a part of the NPDES permit. Disposal of nonhazardous sludge by other means, such as landfilling, must be approved by the Division.

7. Sludge Monitoring Requirements

The permittee shall develop and implement procedures to insure adequate year-round sludge disposal. The permittee shall monitor the volume and concentration of solids removed from the plant. Records shall be maintained which document the quantity of solids removed from the plant. The ultimate disposal of solids shall be reported monthly (in the unit of lbs/day) to the Division with the Operation Monitoring Report Forms required under Part I (C)(2) of this permit.

8. Power Failures

Upon the reduction, loss, or failure of the primary source of power to said water pollution control facilities, the permittee shall use an alternative source of power if available to reduce or otherwise control production and/or all discharges in order to maintain compliance with the effluent limitations and prohibitions of this permit.

If such alternative power source is not in existence, and no date for its implementation appears in Part I, the permittee shall halt, reduce or otherwise control production and/or all discharges from wastewater control facilities upon the reduction, loss, or failure of the primary source of power to said wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Director of the Division, the Regional Administrator of EPA, and/or their authorized representatives, agents, or employees, upon the presentation of credentials:

- a. To enter upon the permittee's premises where a regulated activity or facility is located or conducted or where any records are required to be kept under the terms and conditions of this permit; and
- b. At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and to sample any substance or parameters in any location.

2. Transfer of Ownership or Control

A permit may be transferred to another person by a permittee if:

- a. The permittee notifies the Director in writing of the proposed transfer at least thirty (30) days in advance of the proposed transfer;
- b. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) is submitted to the Director at least thirty (30) days in advance of the proposed transfer; and

- c. The Director, within thirty (30) days, does not notify the current permittee and the new permittee of the Division's intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

3. Availability of Reports

Except for data deemed to be confidential under O.C.G.A. § 12-5-26 or by the Regional Administrator of the EPA under the Code of Federal Regulations, Title 40, Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at an office of the Division. Effluent data, permit applications, permittee's names and addresses, and permits shall not be considered confidential.

4. Permit Modification

After written notice and opportunity for a hearing, this permit may be modified, suspended, revoked or reissued in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge; or
- d. To comply with any applicable effluent limitation issued pursuant to the order the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc. et.al. v. Russell E. Train, 8 ERC 2120(D.D.C. 1976), if the effluent limitation so issued:
 - (1) is different in conditions or more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.

5. Toxic Pollutants and Best Available Technology Economically Achievable

The permittee shall comply with effluent standards or prohibitions established pursuant to Section 307(a) and Section 301(b)2 of the Federal Clean Water Act for pollutants, toxic and otherwise,

which are present in the discharge within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Federal Clean Water Act.

8. Water Quality Standards

Nothing in this permit shall be construed to preclude the modification of any condition of this permit when it is determined that the effluent limitations specified herein fail to achieve the applicable State water quality standards.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Expiration of Permit

Permittee shall not discharge after the expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information, forms, and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date.

11. Contested Hearings

Any person who is aggrieved or adversely affected by an action of the Director of the Division shall petition the Director for a hearing within thirty (30) days of notice of such action.

12. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

13. Best Management Practices

The permittee will implement best management practices to control the discharge of hazardous and/or toxic materials from ancillary manufacturing activities. Such activities include, but are not limited to, materials storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; plant site runoff; and sludge and waste disposal areas.

14. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

15. Duty to Provide Information

- a. The permittee shall furnish to the Director of the Division, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish upon request copies of records required to be kept by this permit.
- b. When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts and information.

16. Stormwater Runoff

In addition to the outfalls identified in Part I, Section A. of this permit, the permittee is authorized to discharge stormwater runoff from point sources at this facility provided that these discharges do not cause violations of State water quality standards in the receiving streams.

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17. Upset Provisions

Provisions of 40 CFR 122.41(n)(1)-(4), regarding "Upset" shall be applicable to any civil, criminal, or administrative proceeding brought to enforce this permit.

PART III

A. PREVIOUS PERMITS

1. All previous State water quality permits issued to this facility, whether for construction or operation, are hereby revoked by the issuance of this permit. This action is taken to assure compliance with the Georgia Water Quality Control Act, as amended, and the Federal Clean Water Act, as amended. Receipt of the permit constitutes notice of such action. The conditions, requirements, terms and provisions of this permit authorizing discharge under the National Pollutant Discharge Elimination System govern discharges from this facility.

B. SPECIAL REQUIREMENTS

1. After July 1, 1991, all discharge must be directed to the Savannah River via the City of Savannah Windsor/Wilshire force main.

C. BIOMONITORING AND TOXICITY REDUCTION REQUIREMENTS

The permittee may not discharge toxic wastes in concentrations or combinations which are harmful to humans, fish or aquatic life. The permittee shall ensure that the effluent being discharged does not kill 10% or more of the exposed test organisms in 96 hours or less, when the test solution contains volumes of effluent and stream water proportional to the plant design flow and the 7Q10 flow of the receiving stream.

1. If toxicity is suspected in the permittee's effluent, the Division may require the permittee to develop a program for whole effluent biomonitoring. The schedule will be as follows;
 - a. Within 90 days of Division notification, a study plan detailing the test methodology and test organisms shall be submitted for conducting forty-eight hour acute static renewal tests of the final effluent. If residual chlorine is present in the final effluent from treatment and/or disinfection processes, a prechlorinated or dechlorinated sample will also be tested.
 - b. Within 90 days of Division approval of the study plan, the permittee will conduct and submit the results of the forty-eight hour static renewal tests.
2. If toxicity is found in the permittee's effluent, the permittee shall, within 90 days of written notification by the Division, submit a Toxicity Reduction Evaluation (TRE) plan to the Division. The TRE plan shall detail the action the permittee will implement to eliminate toxicity. Within 270 days of Division approval of the TRE plan, the permittee shall complete implementation of the TRE plan and conduct follow-up biomonitoring of the effluent in accordance with the approved TRE plan. If toxicity is still indicated, the permittee shall continue the TRE plan. The TRE plan shall not be complete until the permittee has eliminated the toxicity in its effluent. On a case specific basis, chronic toxicity testing procedures may be required for the definitive determination that toxicity has been eliminated.
3. If toxicity is not indicated initially, or if there are substantial changes in the effluent composition, the permittee may be required to repeat the forty-eight hour static renewal test upon notification by the Division. On a case specific basis, chronic toxicity testing procedures may also be required.

Upon approval by the Division, all study plans and TRE plans will become part of the requirements of this permit.