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SOUTHERN WOOD PIEDMONT COMPANY
GROUNDWATER QUALITY ASSESSMENT
WILMINGTON, NORTH CAROLINA FACILITY

Consulting Engineers and Hydrogeologists

ENVIRONMENTAL TECHNOLOGY
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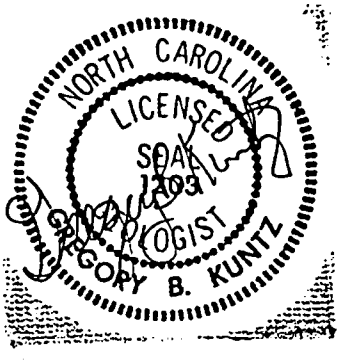
SOUTHERN WOOD PIEDMONT COMPANY
GROUNDWATER QUALITY ASSESSMENT
WILMINGTON, NORTH CAROLINA FACILITY

Prepared For:

Southern Wood Piedmont Company
Spartanburg, South Carolina

Prepared By:



ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.

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GROUND WATER QUALITY ASSESSMENT
SOUTHERN WOOD PIEDMONT
WILMINGTON, NORTH CAROLINA FACILITY

1.0 BACKGROUND

1.1 Previous Assessment Activities

In September, 1985, Law Environmental Services (LES) completed the installation of four (4) ground water monitoring wells at the Southern Wood Piedmont (SWP) facility in Wilmington, North Carolina. These wells were installed around the limits of the old land farming area in order to monitor ground water quality. The wells were designated MW-6 through MW-9. Each well was installed to an approximate depth of 20 feet below land surface. The soil boring logs from the LES report indicated that the site is underlain primarily by fine to medium sands with a peat unit located beneath the sand.

Hydraulic conductivity testing was conducted on these wells and values ranged from 3×10^{-5} cm/sec to 1×10^{-6} cm/sec. Also, the average ground water flow velocity was evaluated to be 0.10 feet per year for the screened well interval.

1.2 Proposed Assessment Activities

Environmental Technology Engineering, Inc. (ETE) was contracted by SWP to conduct additional ground water quality assessment activities at the Wilmington, North Carolina facility. These activities were proposed in a letter dated November 14, 1991 to Mr. T.M. Davis of SWP. The purpose of this investigation was to characterize site hydrogeology and to evaluate potential ground water degradation associated with past wood preserving activities at the referenced site. The following discussion will describe in detail the work conducted at the site and the findings from this investigation.

2.0 FIELD ACTIVITIES

2.1 Permanent Well Installation

ETE installed eight (8) permanent monitoring wells at the facility. A scaled site map (Figure 1) illustrates the locations of these permanent wells. Each permanent well, designated MW-10 through MW-17 was installed into the surficial aquifer beneath the site.

At the specified locations, a 6.625-inch diameter borehole was advanced into the substrate with a hollow stem auger. Pit casings were not installed in the boreholes due to the shallow water table present the site. Boreholes MW-10 through MW-13, and MW-15 through MW-17 were advanced until the peat unit located beneath the fine to medium sand unit was encountered. Borehole MW-14 was advanced until the contact between the peat unit and the next underlying

unit was encountered. Borehole depths ranged from 12.0 feet below land surface to 22.0 feet below land surface. Boring logs illustrating the approximate depths of each borehole are provided in Attachment A.

During advancement of the soil borings, split-spoon samples were retrieved on five foot intervals. A soil sample from each split-spoon was placed in a zip lock plastic bag and sealed. Upon temperature equalization, the soil samples were screened with a Photovac organic vapor analyzer (OVA). A summary of OVA measurements taken from the soil samples is provided in Attachment B. All soil excavated during completion of the soil borings was containerized in an approved roll-off container and disposed of properly.

Upon completion of the boreholes, monitoring wells were constructed. Each well was constructed using 2-inch diameter, 10-foot sections of flush joint threaded PVC riser with a 10-foot section of continuous slot (0.010 inch) stainless steel well screen. However, MW-14 was constructed of stainless steel riser and screen due to the site conditions in this area. All permanent wells except for MW-14 were installed to bracket the water table. Monitoring well MW-14 screened the zone from 6.0 feet to 16.0 feet below land surface. Construction details are provided in the boring logs located in Attachment A.

2.2 Temporary Well Installation

During field activities, five (5) temporary monitoring wells were installed. These wells are designated B-2 through B-6. A site map (Figure 1) illustrates the locations of these temporary wells.

As with the permanent well installations, the boreholes for the temporary wells were advanced using a 6.625-inch diameter hollow stem auger. The boreholes were advanced until the peat unit was encountered. Borehole depths ranged from 9.0 feet to 15.0 feet below land surface. A complete description of the encountered strata from each borehole is provided in Attachment A.

During auger advancement, split-spoon samples were collected at five foot intervals in each borehole. A portion of each sample was placed in a zip lock bag and sealed. Upon temperature equalization, the samples were screened with an OVA. A summary of the OVA measurements from these soil samples is provided in Attachment B. All soil excavated during completion of the borings, was also containerized in an approved roll-off container and properly disposed.

Upon completion of the boreholes, temporary monitoring wells were installed. These wells were installed so that the base of the screen rests on or near the top of the peat. Wells were constructed using 2-inch diameter, 10-foot sections of flush joint threaded PVC riser with a 5-foot section of factory slotted (0.010 inch) PVC well screen. Construction details are provided in Attachment A.

2.3 Ground Water Sampling

Once monitoring well installation was complete each well not containing free product was developed utilizing a centrifugal pump. Impacted ground water was containerized in approved roll-off containers and was properly disposed off-site.

Subsequent to well development activities, all monitoring wells not containing free product were sampled for a list of site-specific constituents as determined by SWP. A dedicated bailer was utilized to evacuate three well volumes of ground water from each well. The pH, conductivity, and temperature of the ground water was recorded and a ground water sample taken from each newly installed monitoring well. The ground water sample was placed into sterilized ground water sample containers for each individual monitoring well. The samples were placed on ice and delivered to EMS Heritage Laboratories, Inc. for analysis. All sample collection summary sheets, chain-of-custody records and laboratory data is provided in Attachment C.

2.4 Site Surveying

On April 1, 1992, ETE conducted surveying activities at the Wilmington facility. The top of casing elevation and horizontal position of each monitoring well was surveyed. The precise horizontal location (±0.01 foot) and elevation of the top of pad and top of casing (TOC; ±0.01 foot) of the monitoring wells was determined by a registered land surveyor. Also, staff gauges were installed on the bank of the Cape Fear River and in the drainage ditch in the vicinity of the railroad (see Figure 1). The locations and elevations of the two staff gauges were also determined by a registered land surveyor.

2.5 Ground Water Elevation Tests

Ground water elevation tests were conducted on April 1, 1992 utilizing all seventeen (17) monitoring wells and the two (2) staff gauges located in the river and the drainage ditch. Beginning that morning, water level measurements were taken every two (2) hours from each monitoring well and from the staff gauges. These recorded measurements were then converted to water level elevations so that ground water flow directions under tidal influences could be calculated. A total of seven (7) measurements were collected from each well and staff gauge. These measurements are provided in Attachment D. Potentiometric surface maps were constructed for each time interval and are included in Attachment E.

3.0 SUMMARY OF FINDINGS

3.1 Geologic Conditions

The site is generally underlain by a brown-tan, to brown, fine to medium sand. Some of the boring logs indicate that the base of the upper sand unit is approximately 15.0 feet below land surface. During drilling activities, it was determined that sands were flowing into the hollow stem augers and making representative sample retrieval impossible. Based on the samples retrieved from borehole MW-14, where "flowing" sands were not encountered, and the boring log from MW-8, the estimated base of the sand unit appears to be approximately 10.0 feet below land surface.

Encountered beneath the sand is a dark brown to black peat with varying amounts of wood and root fragments. The upper portion of the peat is a water saturated, moderately decomposed peat that overlies a mostly dry, decomposed more fibrous peat. The lower peat unit was intentionally breached to evaluate peat thickness while installing the borehole for monitoring well MW-14. The peat appears to be approximately 10.0 to 11.5 feet thick in this area. Underlying the peat is a brown-tan, medium to coarse sand. The thickness of this underlying sand and the depth of the next confining unit is unknown at this time. Two cross-sections were constructed that graphically show the geologic units encountered beneath the site. These cross-sections are shown in Attachment F.

3.2 Hydrogeologic Conditions

In order to characterize the hydrogeologic conditions beneath the site, it was proposed that a twelve (12) hour water level evaluation test be conducted. The information gained from this test enabled ETE to calculate the surficial aquifer ground water flow direction(s) under tidal influences.

After data collection, all measurements were converted to mean sea level elevations based on the site survey. Elevations were plotted on a scaled site map so that the water table surface could be mapped. A total of seven (7) water table maps were produced, each depicting one of the two hour intervals of data collection. These maps are provided as Attachment E.

As the maps illustrate, there is a water table high that exists beneath the center of the site. From this high point, ground water appears to flow to the east towards the drainage ditch and to the west towards the Cape Fear river. However, there are significant changes that occur along the boundaries between the site, the Cape Fear river, and drainage ditch. These boundaries can be considered discharge/recharge points depending on the time of day and the point of tidal fluctuation.

At Time 1 of the test, the water level in the river is higher than the ground water level near temporary well B-2 and B-3. Therefore, a stagnation point results near this discharge/recharge boundary. This stagnation point is represented on the map by a continuous dashed line with no numerical value assigned. This stagnation point is caused by water from the river moving into the aquifer material beneath the site during high tide (recharge) and ground water from the aquifer material moving west towards the river (discharge). Ultimately this stagnation point is where the discharge and recharge reach equilibrium. No stagnation point is noted at the drainage ditch discharge/recharge boundary during Time 1.

If the later time maps are observed, it is apparent that the stagnation point occurs not only at the river discharge/recharge boundary, but also at the drainage ditch discharge/recharge boundary. This drainage ditch is controlled by the same tidal fluctuations that control the river, but on a smaller scale. The Time 2 map illustrates a stagnation point at both the river and the drainage ditch. This map shows that the water has continued to rise in both the river and the drainage ditch, thus producing the stagnation points. The monitoring wells located in the central high point area of the site also appear to change as a result of the tidal fluctuations. The water levels in these wells increased slightly from the levels indicated on the Time 1 map.

The Time 3 map shows a stagnation point at the drainage ditch boundary but not at the river boundary. The water in the river has dropped dramatically due to low tide conditions, but the drainage ditch water level has only decreased slightly. The water levels in the monitoring wells located in the center of the site also appear to be influenced by the tidal fluctuations, but on a much smaller scale.

No stagnation points are noted on the Time 4 map. This is due to the lower water levels in the river and drainage ditch at low tide. Also, the monitoring wells located in the center of the site indicate a small increase in the water level from the last recording interval (Time 3). The wells in the center of the site appear to have a delayed response to the tidal fluctuations.

The Time 5 map depicts the lowest water levels recorded in both the river and the drainage ditch. The wells in the center of the site continue to increase since the latest recording interval (Time 4) even though the water levels in the river and drainage ditch are at their lowest. This shows the basic time lag between the ground water at the center of the site and the water located in the river and ditch.

Water levels in the river and drainage ditch are beginning to rise at Time 6. The water level in the monitoring wells located in the center of the site have appeared to reach their peak and are approximately the same as the latest recording event (Time 5). As long as the water levels in the river and drainage ditch remain below the water levels in the monitoring wells located at the discharge/recharge boundaries, no stagnation points are created.

The last recording event in the 12 hour water level test is shown on the Time 7 map. Here the tidal fluctuation has completed one cycle. The water level in the river is slightly above the level recorded at Time 1 and the water level in the drainage ditch is slightly below the level recorded at Time 1. As in the case of the Time 1 map, the Time 7 map shows a stagnation point along the river discharge/recharge boundary. The water levels in the monitoring wells located in the center of the site have started to decrease as a result of the tidal fluctuations.

In summary, the tidal cycle appears to have an effect on the water levels recorded in the monitoring wells located at the site. At certain times during the tidal cycle, stagnation points are created as a result of water moving from the river into the aquifer material (recharge) beneath the site and also from water being discharged from the aquifer material towards the river. This same event occurs at certain times throughout the tidal cycle near the discharge/recharge boundary of the drainage ditch. The tidal cycle appears to only slightly influence water levels in the center of the site. As illustrated in all of the potentiometric surface maps, the ground water elevation in the center of the site remains approximately the same. Ground water appears to flow from the center of the site to the east and to the west towards the drainage ditch and river. Little information is known as to the flow direction of ground water at the southern edge of the site. In this area, it is assumed that ground water flows towards the drainage ditch that flows into the Cape Fear River.

3.3 Soils Quality

During installation of the monitoring wells, close attention was given to the condition of the soils encountered. Soils encountered in boreholes B-2, B-3, B-5, B-6, and MW-10 appear to have no visual wood preserving or diesel fuel constituents present. The OVA results listed in Attachment B support this observation with low OVA readings for most samples. However, borehole B-5 yielded elevated OVA concentrations in samples from the upper part of the borehole even though no visual contamination was observed.

The remainder of the boreholes all yielded signs of visual creosote or diesel fuel constituents. Soil samples from boreholes B-4, MW-11, MW-12, MW-13, and MW-14 were noted to have visual creosote. Borehole B-4 had visual creosote near the surface of the borehole and again near the bottom of the borehole. Boreholes MW-11 and MW-12 were observed to have visual creosote from approximately 3.0 feet below land surface to the sand and peat contact. Visual creosote was present only at the surface of borehole MW-13. The sand below the surface in MW-13 appeared to be free of visual creosote. The borehole for MW-14 was different from the other boreholes in that the hole was drilled to a deeper depth. Visual creosote was encountered almost immediately upon initiation of drilling activities. The creosote continued to be observed below the sand and peat contact to a point approximately 14.0 feet below land surface. No visual creosote was noted below this point to a depth of approximately 21.5 feet below land surface. The borehole was terminated at this depth (21.5' below land surface) when the peat

unit was breached and a medium to coarse sand was encountered. All OVA readings confirmed the presence of creosote and are listed in Attachment B.

Visual diesel fuel was noted in soils encountered in the southwestern portion of the site. Boreholes for monitoring wells MW-15, MW-16, and MW-17 yielded OVA and visual indications of diesel constituents. Soils from borehole MW-15 were saturated with diesel fuel near the surface of the borehole, but no visual diesel fuel was noted beyond 5.0 feet below land surface. Borehole MW-16 yielded soils that were saturated with diesel fuel from the surface to approximately 5.0 feet below land surface. From this point, no visual diesel fuel was observed, only a strong diesel fuel odor. The MW-17 borehole encountered soils saturated with diesel fuel from the surface to the bottom of the borehole (14 feet). All OVA readings are listed in Attachment B and confirm the findings discussed above.

3.4 Ground Water Quality

The quality of the ground water beneath the site is based on laboratory data obtained from sampling of all monitoring wells not containing free product. Sampling of the wells was completed on March 13, 1992 and the results are included in Attachment C. All ground water samples were analyzed for metals, which include chromium, copper, arsenic, and lead. In addition, samples were analyzed for halogenated and aromatic volatile organics by method SW864-8021 and semi-volatile organics by method SW346-8270.

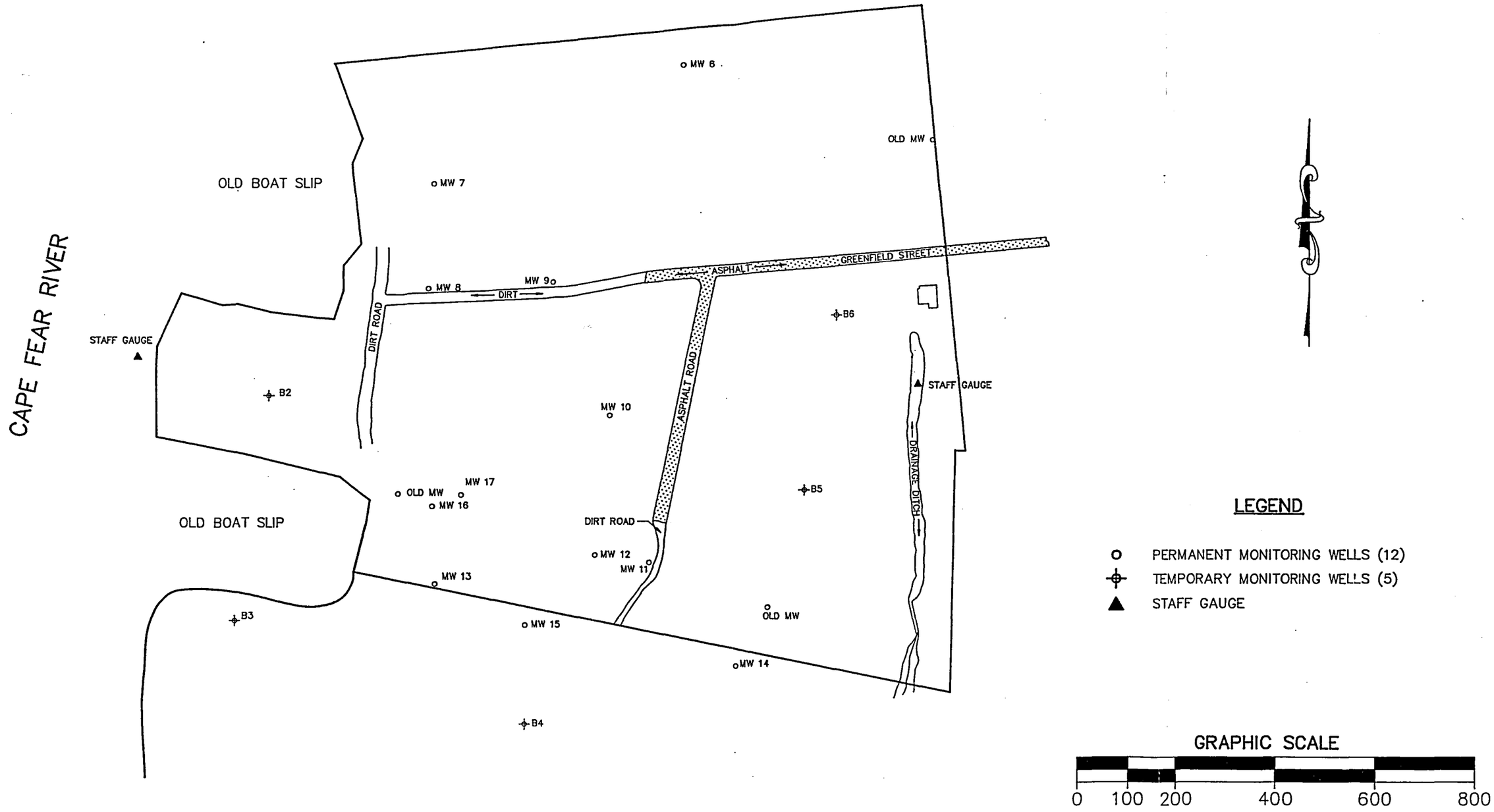
In constructing isoconcentration maps for the various constituents present in the ground water, ETE chose to combine the semi-volatile and general organics values for each monitoring well and plot the resulting values as total organics. The total organics isoconcentration map is depicted as Figure 2. This isoconcentration map illustrates the dissolved constituent plume present beneath the site. The plume appears to be partially defined in the northern, eastern, and western portions of the site. However, the southern edge of the plume is not defined.

Of the monitoring wells sampled, total organic concentrations were highest in temporary monitoring well B-4 with a value of 28.222 mg/l (ppm). Monitoring wells MW-13 and MW-14 yielded the next highest concentrations with values of 6.335 mg/l and 6.268 mg/l, respectively. Low concentrations of organic constituents were also detected in monitoring wells MW-15, MW-16, MW-17, and temporary well B-6. Free phase oil was detected in monitoring well MW-11 and MW-12, thus no ground water samples were retrieved for analysis.

All ground water samples collected were analyzed for metals using the above methodology. The samples were analyzed prior to filtration and then again after filtration. Concentrations of metals were detected in all ground water samples before filtration. However, all concentrations were listed below detection limits after filtration of the ground water, except for temporary well B-5. Ground water from this well yielded a concentration of 0.006 mg/l for copper after filtration.

Since only one constituent was detected in the ground water sample from B-5, no isoconcentration map was prepared.

FIGURE 1
SCALED SITE MAP



Environmental Technology Engineering, Inc.

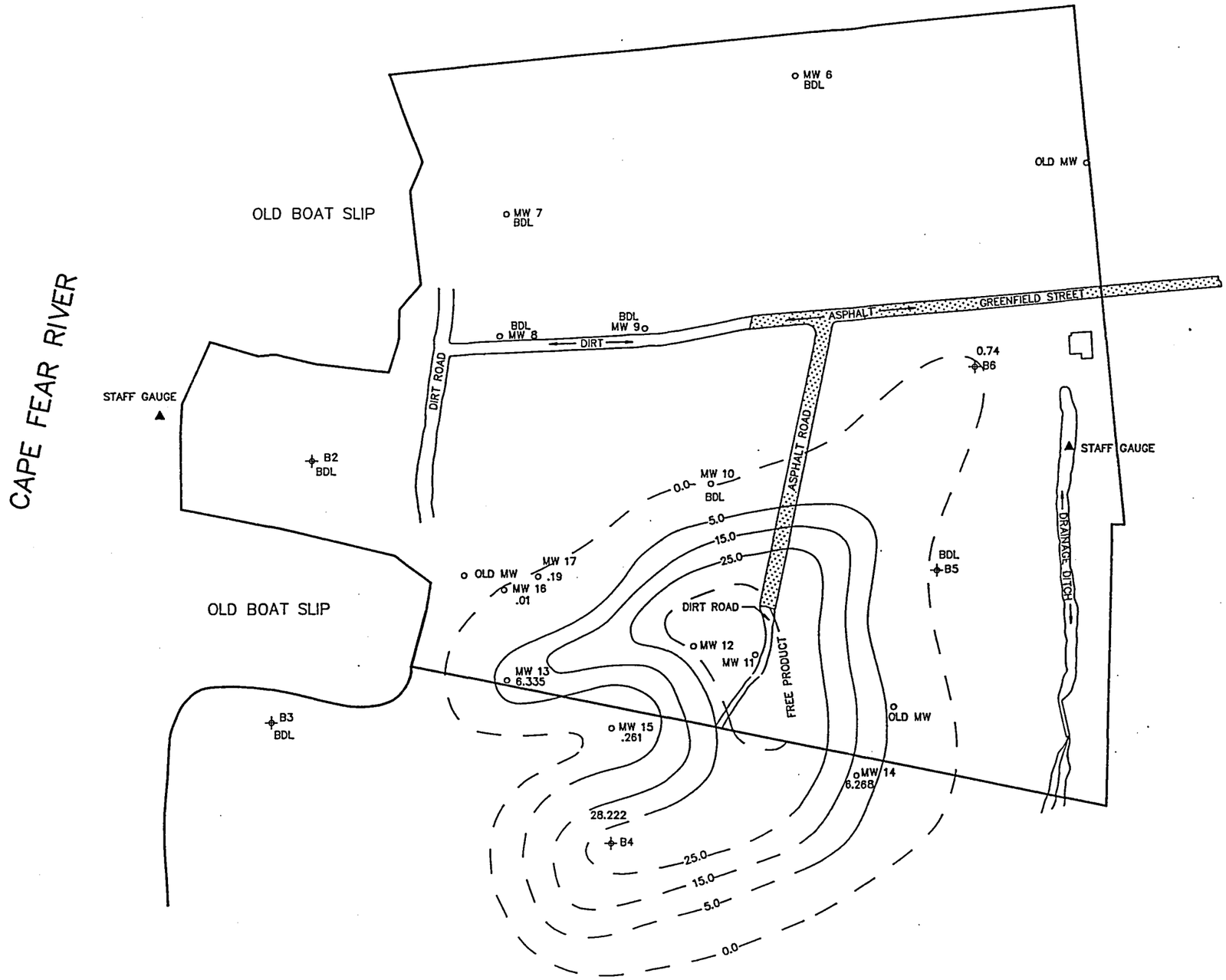
SCALE	1"=200'
DRAWN BY	CAB
CHECKED BY	CKA
DATE	6/3/92

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

SITE MAP

SHEET	OF
CADD NO.	53050105
PROJECT NO.	530-06-501

FIGURE 2
DISSOLVED ORGANICS ISOCONCENTRATION MAP



LEGEND

- PERMANENT MONITORING WELLS (12)
- TEMPORARY MONITORING WELLS (5)
- STAFF GAUGE

GRAPHIC SCALE

0 100 200 400 600 800

Environmental Technology Engineering, Inc.

SCALE	1"=200'
DRAWN BY	CAB
CHECKED BY	CKA
DATE	6/3/92

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

TOTAL ORGANIC
ISOCONCENTRATION MAP
UNITS = mg/l
CONTOUR INTERVAL = 10 mg/l

SHEET	OF
CADD NO.	53050105
PROJECT NO.	530-06-501

ATTACHMENT A
BORING & WELL CONSTRUCTION DATA

WELL LOG DATABASE
SOUTHERN WOOD PIEDMONT
WILMINGTON, NORTH CAROLINA

Plant	Well	Inst Date	Boring Term	Surface Elev	Riser Elev	Bottom Elev	Well Depth	Riser Depth
WIL	MW-6	09/05/85	20.0	3.40	5.07	-16.38	19.78	21.45
WIL	MW-7	09/06/85	19.8	3.87	6.03	-15.65	19.52	21.68
WIL	MW-8	09/09/85	19.20	4.16	6.80	-14.86	19.02	21.66
WIL	MW-9	09/10/85	19.4	4.26	6.43	-14.96	19.22	21.39
WIL	MW-10	02/18/92	13.0	3.63	7.41	-6.87	10.50	14.28
WIL	MW-11	02/18/92	13.0	4.31	8.02	-6.19	10.50	14.21
WIL	MW-12	02/18/92	12.0	4.60	8.22	-5.90	10.50	14.12
WIL	MW-13	02/18/92	12.0	3.31	6.97	-7.19	10.50	14.16
WIL	MW-14	02/19/92	22.0	2.62	6.30	-13.38	16.0	19.68
WIL	MW-15	02/19/92	13.0	3.26	7.07	-7.24	10.50	14.31
WIL	MW-16	02/19/92	13.0	3.88	7.69	-6.62	10.50	14.31
WIL	MW-17	02/19/92	15.0	3.86	7.65	-6.64	10.50	14.29
WIL	B-2	02/19/92	18.0	4.18	6.96	-8.82	13.0	15.78
WIL	B-3	02/20/92	18.0	2.23	5.13	-13.77	16.0	18.90
WIL	B-4	02/20/92	15.0	3.12	4.18	-10.88	14.0	15.06
WIL	B-5	02/20/92	12.0	3.02	5.79	-8.98	12.0	14.77
WIL	B-6	02/20/92	10.0	3.15	6.06	-6.85	10.0	12.91

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HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. B-2

PROJECT: SOUTHERN WOOD PIEDMONNT – WILMINGTON, NC		SHEET NO. 1 OF 1	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-19-92	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-19-92	

WELL CONSTRUCTION	DEPTH FEET	SAMPLE: LITHOLOGY	SAMPLE: No.	SAMPLE: TYPE	SAMPLE: BLOWS PER 6"	CLASSIFICATION	REMARKS
	0						
			1	SS		Medium to coarse brown SAND	Water saturated OVA = 0.0
CLAY / PLUG	5						
SAND PACK / SAND PACK			2	SS		Same as above	No visual contamination OVA = 0.0
	10						
			3	SS		Brown to black PEAT with root fragments	No visual contamination OVA = 2.0
	15						
	20						
	25						
	30						
	35						
	40						
	45						
	50						

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HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. B-3

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC		SHEET NO. 1 OF 1	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-20-92	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-20-92	

WELL CONSTRUCTION	DEPTH FEET	SAMPLE: LITHOLOGY	No.	TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
	0						
	5		1	SS		Fine to medium brown SAND with small wood fragments at 4.5 feet	Water saturated OVA = 3.1
CLAY / PLUG							
SAND PACK / SAND PACK	10		2	SS		Same as above	No visual contamination OVA = 0.9
	15		3	SS		Dark brown to black PEAT with wood fragments	No visual contamination OVA = 0.8
	20						
	25						
	30						
	35						
	40						
	45						
	50						

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CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. B-4

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC			SHEET NO. 1 OF 1
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED	2-20-92	JOB NO. 530-06-501
BORING CONTRACTOR: ETE	DRILLER	C. AARON	ELEVATION
RIG USED MOBILE B-57	INSPECTOR	K. ANDERSON	DATE STARTED 2-20-92

WELL CONSTRUCTION: CLAY; PLUG; SAND PACK; SAND PACK

DEPTH FEET	SAMPLE No.	SAMPLE TYPE	CLASSIFICATION	REMARKS
0				Visual creosote at top of hole
	1	SS	Fine to medium brown SAND with wood fragments	No visual contamination OVA = 1.7
5				
	2	SS	Same as above	No visual contamination OVA = 5.1
10				
	3	SS		Visual creosote in sand above PEAT
15			Dark brown to black PEAT with wood fragments	OVA = 98.9
20				
25				
30				
35				
40				
45				
50				

H:530501B4

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HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. B-5

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC			SHEET NO. 1 OF 1
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED	2-20-92	JOB NO. 530-06-501
BORING CONTRACTOR: ETE	DRILLER	C. AARON	ELEVATION
RIG USED MOBILE B-57	INSPECTOR	K. ANDERSON	DATE STARTED 2-20-92

WELL CONSTRUCTION: CLAY; PLUG; SAND PACK; SAND PACK

DEPTH FEET	SAMPLE No.	SAMPLE TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0	1	SS		Fine to medium brown SAND	Water saturated No visual contamiation OVA = 54.3
5	2	SS		Same as above	OVA = 21.7
10	3	SS		Dark black to brown PEAT with wood fragments	No visual contamination OVA = 3.9
15					
20					
25					
30					
35					
40					
45					
50					

H:530501B5

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. B-6

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC		SHEET NO. 1 OF 1	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-20-923	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-20-92	

WELL CONSTRUCTION	DEPTH FEET	SAMPLE LITHOLOGY	SAMPLE No.	SAMPLE TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
CLAY	0						
PLUG							
SAND PACK			1	SS		Fine to mdedium brown SAND	Water saturated No visual contamination OVA = 1.7
SAND PACK	5						
			2	SS		Dark brown to black PEAT with wood fragments	OVA = 1.0
	10						
	15						
	20						
	25						
	30						
	35						
	40						
	45						
	50						

H:530501B6

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-10

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC		SHEET NO. 1 OF 1	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-18-92	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-18-92	

WELL CONSTRUCTION: CLAY; PLUG; SAND PACK; SAND PACK

DEPTH FEET	LITHOLOGY	SAMPLE No.	SAMPLE TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0						
		1	SS	06-10 10-15	Black – tan fine to meduium SAND	Saturated with water OVA = 0.0
5						
		2	SS	04-26 50	Tan fine to medium SAND	Saturated with water; OVA = 0.0
10						
						Boring terminated at 13.0 ft.
		3	SS		Tan fine to medium SAND in upper portion of spoon; Dark brown to black PEAT at bottom of spoon	OVA = 0.0
15						
20						
25						
30						
35						
40						
45						
50						

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-11

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC		SHEET NO. 1 OF 1	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-18-92	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-18-92	

WELL CONSTRUCTION: CLAY; PLUG; SAND PACK; SAND PACK

DEPTH FEET	SAMPLE No.	SAMPLE TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0					
	1	SS		Hit concrete and other buried debris	
5	2	SS	10-05 / 05-05	Brown-tan fine to medium SAND	Saturated with Creosote from 5 to 7 feet: OVA = 34.1
	3	SS	02-02 / 02-01	Brown-tan fine to medium SAND	Saturated with Creosote OVA = 38.1
10					
	4	SS		Brown-tan fine to medium SAND in upper spoon; Encountered a dark brown to black PEAT with roots at 15.0'	Sand unit saturated with Creosote; OVA = 69.8
15					
20					
25					
30					
35					
40					
45					
50					

H:53050111

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-12

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC		SHEET NO. 1 OF 1	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-18-92	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-18-92	

WELL CONSTRUCTION: CLAY; SAND PACK; PLUG; SAND PACK

DEPTH FEET	SAMPLE No.	TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0	1	SS	19-14 06-07	Brown-tan fine to medium well sorted SAND	No visual Creosote OVA = 13.3
5					
10	2	SS	03-05 10-18	Same as above except Sand is saturated with Creosote	OVA = 72.7
	3	SS	08-11 19-28	Same as above	OVA = 45.1
15				Organic rich dark brown to black PEAT with roots	
20					
25					
30					
35					
40					
45					
50					

H:53050112

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-13

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC			SHEET NO. 1 OF 1
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED	2-18-92	JOB NO. 530-06-501
BORING CONTRACTOR: ETE	DRILLER	C. AARON	ELEVATION
RIG USED MOBILE B-57	INSPECTOR	K. ANDERSON	DATE STARTED 2-18-92

WELL CONSTRUCTION: CLAY; PLUG; SAND PACK; SAND PACK

DEPTH FEET	LITHOLOGY	SAMPLE No.	SAMPLE TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0						
5		1	SS	03-01 01-0	Brown-tan fine to medium SAND	Visual Creosote encountered in borehole immediately upon drilling OVA = 102.0
10		2	SS	05-07 12	Same as above	No visual Creosote; OVA = 47.8
15		3	SS		Dark brown to balck organic rich PEAT	No visual Creosote OVA = 3.0
20						
25						
30						
35						
40						
45						
50						

H:53050113

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-14

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC			SHEET NO. 1 OF 1
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED	2-19-92	JOB NO. 530-06-501
BORING CONTRACTOR: ETE	DRILLER	C. AARON	ELEVATION
RIG USED MOBILE B-57	INSPECTOR	K. ANDERSON	DATE STARTED 2-19-92

WELL CONSTRUCTION: CLAY; PLUG; SAND PACK; SAND PACK

DEPTH FEET	SAMPLE No.	TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0	1	SS	2-5 / 6-5	Dark brown-black Fill material	OVA = 0.0
	2	SS	9-5 / 4-3	Brown-tan fine to medium SAND	Visual Creosote OVA = 0.0
5	3	SS	2-2 / 4-3	Same as above	Visual Creosote OVA = 19.3
	4	SS	3-3 / 4-10	Same as above	Visual Creosote OVA = 34.7
	5	SS		Black-brown organic rich PEAT with roots	Visual Creosote OVA = 27.1
10	6	SS		Same as above with large wood fragments throughout	Visual Creosote OVA = 9.6
	7	SS		Black PEAT with brown-orange wood fragment at end of spoon	Visual Creosote OVA = 25.3
15	8	SS		Black-brown PEAT with root fragments	Visual Creosote OVA = 19.4
	9	SS		No sample retrieved	
	10	SS		Black-brown PEAT with root fragments	No visual Creosote OVA = 8.0
20	11	SS		Black-brown PEAT to approximately 21.5 ft bgs; Brown-tan medium to coarse SAND below peat	No visual Creosote OVA = 5.2
25					
30					
35					
40					
45					
50					

H:53050114

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-15

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC		SHEET NO. 1 OF 2	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-19-92	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-19-92	

WELL CONSTRUCTION: CLAY; SAND PACK; PLUG; SAND PACK

DEPTH FEET	SAMPLE No.	TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0–5	1	SS	1-1 / 4-4	Fine to medium, loose to very loose brown SAND	Visual oil; diesel fuel odor OVA = 58.3
5–10	2	SS		Fine to medium, brown SAND	No visual oil; OVA = 15.6
10–15	3	SS		Fine to medium, brown SAND in upper spoon; Dark brown to black PEAT with root fragments in lower part of spoon	No visual oil OVA = 5.4

Depth scale: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

H:53050115

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-16

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC			SHEET NO. 1 OF 1
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED	2-19-92	JOB NO. 530-06-501
BORING CONTRACTOR: ETE	DRILLER	C. AARON	ELEVATION
RIG USED MOBILE B-57	INSPECTOR	K. ANDERSON	DATE STARTED 2-19-92

WELL CONSTRUCTION: CLAY PLUG; SAND PACK; SAND PACK

DEPTH FEET	SAMPLE LITHOLOGY	SAMPLE No.	SAMPLE TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0						
5		1	SS		Fine to medium, brown SAND	Saturated with diesel fuel OVA = 104
10		2	SS		Medium tan to brown SAND with some wood fragments	Little odor OVA = 42.6
					Same as above	Slight diesel odor OVA = 32.5
15		3	SS		Dark brown to black PEAT contact at 15.0 ft.	
20						
25						
30						
35						
40						
45						
50						

H:53050116

ENVIRONMENTAL TECHNOLOGY ENGINEERING, INC.
CONSULTING ENGINEERS, SURVEYORS AND HYDROGEOLOGISTS
HYDROGEOLOGIC SERVICES

TEST BORING LOG

BORING NO. MW-17

PROJECT: SOUTHERN WOOD PIEDMONT – WILMINGTON, NC		SHEET NO. 1 OF 1	
CLIENT: SOUTHERN WOOD PIEDMONT	DATE FINISHED 2-19-92	JOB NO. 530-06-501	
BORING CONTRACTOR: ETE	DRILLER C. AARON	ELEVATION	
RIG USED MOBILE B-57	INSPECTOR K. ANDERSON	DATE STARTED 2-19-92	

WELL CONSTRUCTION: CLAY; SAND PACK; PLUG; SAND PACK

DEPTH FEET	SAMPLE No.	TYPE	BLOWS PER 6"	CLASSIFICATION	REMARKS
0					
	1	SS	10-2 / 2-2	Fine to medium brown SAND with wood fragment at bottom of spoon	Saturated with diesel fuel: OVA = 118
5					
	2	SS	2-2 / 2-2	Wood fragments in upper portion of spoon with a fine to medium brown SAND in bottom of spoon	Diesel fuel odor OVA = 57.1
10					
	3	SS		Fine to medium brown SAND	Saturated with diesel fuel; OVA = 72.3
15	4	SS		Dark Brown PEAT with root fragments	No visual oil OVA = 39.1
20					
25					
30					
35					
40					
45					
50					

H:53050117

ATTACHMENT B
OVA DATA

SOUTHERN WOOD PIEDMONT - WILMINGTON, NC OVA DATA			
Well #	Depth (ft.)	OVA reading (ppm)	Visual Oil (yes/no)
B-2	3-5	0.0	NO
	8-10	0.0	NO
	13-15	2.0	NO
B-3	3-5	3.1	NO
	8-10	0.9	NO
	13-15	0.8	NO
B-4	3-5	1.7	NO
	8-10	5.1	NO
	13-15	98.9	YES
B-5	3-5	54.3	NO
	8-10	21.7	NO
	13-15	3.9	NO
B-6	3-5	1.7	NO
	8-10	1.0	NO
MW-10	3-5	0.0	NO
	8-10	0.0	NO
	13-15	0.0	NO
MW-11	5-7	34.1	YES
	8-10	38.1	YES
	13-15	69.8	YES
MW-12	3-5	13.3	NO
	8-10	72.7	YES
	13-15	45.1	YES
MW-13	3-5	102	YES
	8-10	47.8	NO
	13-15	3.0	NO
MW-14	0-2	0.0	NO
	2-4	0.0	YES

SOUTHERN WOOD PIEDMONT - WILMINGTON, NC OVA DATA			
Well #	Depth (ft.)	OVA reading (ppm)	Visual Oil (yes/no)
MW-14	4-6	19.3	YES
	6-8	34.7	YES
	8-10	27.1	YES
	10-12	9.6	YES
	12-14	25.3	YES
	14-16	19.4	YES
	16-18	N/A	N/A
	18-20	8.0	NO
	20-21.5	5.2	NO
MW-15	3-5	58.3	YES
	8-10	15.6	NO
	13-15	5.4	NO
MW-16	3-5	104	YES
	8-10	42.6	NO
	13-15	32.5	NO
MW-17	3-5	118	YES
	8-10	57.1	NO
	12-14	72.3	YES
	14-15	39.1	NO

ATTACHMENT C
LABORATORY DATA

GROUND WATER QUALITY SUMMARY
SOUTHERN WOOD PIEDMONT
WILMINGTON, SOUTH CAROLINA

Well	Date	Total Metals (mg/L)				Dissolved Metals (mg/L)				Total Semi-Volatile Org. (mg/L)	Total Volatile Org. (mg/L)
		Arsenic	Chromium	Copper	Lead	Arsenic	Chromium	Copper	Lead		
B-2	03/11/92	0.11	0.10	0.05	0.35	ND	ND	ND	ND	ND	ND
B-3	03/13/92	0.049	0.095	0.085	0.12	ND	ND	ND	ND	ND	ND
B-4	03/12/92	0.031	0.190	0.13	0.21	ND	ND	ND	ND	27.982	0.24
B-5	03/11/92	ND	0.006	0.014	0.010	ND	ND	0.0064	ND	ND	ND
B-6	03/11/92	0.051	0.066	0.056	0.100	ND	ND	ND	ND	0.052	ND
MW-6	03/12/92	ND	ND	0.012	0.0092	ND	ND	ND	ND	ND	ND
MW-7	03/12/92	0.0062	0.031	0.012	0.023	ND	ND	ND	ND	ND	ND
MW-8	03/12/92	ND	0.015	0.012	0.016	ND	ND	ND	ND	ND	ND
MW-9	03/11/92	ND	ND	0.007	ND	ND	ND	ND	ND	ND	ND
MW-10	03/11/92	0.077	0.059	0.091	0.084	ND	ND	ND	ND	ND	ND
MW-13	03/11/92	0.050	0.059	0.080	0.14	ND	ND	ND	ND	6.121	0.214
MW-14	03/11/92	0.010	0.033	0.023	0.029	ND	ND	ND	ND	6.015	0.2531
MW-15	03/11/92	0.10	0.051	0.086	0.094	ND	ND	ND	ND	0.348	0.022
MW-16	03/11/92	0.027	0.120	0.14	0.064	ND	ND	ND	ND	ND	0.0096
MW-17	03/11/92	0.14	0.18	0.40	0.39	ND	ND	ND	ND	0.172	0.0184

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114018
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 16:30

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: B-2
LOG #: 9998
FIELD INFORMATION: TD 15.05, WL 5.10, PH 6.4, COND. 225

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.10	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.05	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.11	0.025	mg/L

Note: Analysis performed by 3 point MSA.

EAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
EAD	0.35	0.25	mg/L

.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	400		mL
INAL VOLUME	400		mL

AA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	100		mL
INAL VOLUME	20		mL

HROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
HROMIUM	BDL	0.006	mg/L

OPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
OPPER	BDL	0.006	mg/L

FAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
INAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
RSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
EAD	BDL	0.005	mg/L

S HERITAGE LABORATORIES, INC. Lab Sample ID: B114018

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 16-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
INYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
RICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
RANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
ARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
RICHLOROETHENE	BDL	0.001	mg/L
2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
IBROMOMETHANE	BDL	0.001	mg/L
IS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
ETRACHLOROETHENE	BDL	0.001	mg/L
3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
HLOROBENZENE	BDL	0.001	mg/L
THYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: M. GROVES Analysis Date: 17-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	925		mL
FINAL VOLUME	1.0		mL

EMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
CENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
ARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
LUORANTHENE	BDL	0.01	mg/L
NDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114018

Parameter	Result	Det. Limit	Units
PHENANTHRENE	BDL	0.01	mg/L
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	47		% Rec
PHENOL-D5	36		% Rec
NITROBENZENE-D5	68		% Rec
2-FLUOROBIPHENYL	60		% Rec
2,4,6-TRIBROMOPHENOL	78		% Rec
TERPHENYL-D14	67		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: Dehmuth MB Tanner

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114025
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 13-MAR-92 16:15

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: B-3
LOG #: 10003
FIELD INFORMATION: TD NOT GIVEN, WL NOT GIVEN, PH 5.76, COND. 145

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.095	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.085	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.049	0.005	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114025

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.12	0.025	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	250		mL
FINAL VOLUME	250		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 19-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	985		mL
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 23-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L

S HERITAGE LABORATORIES, INC. Lab Sample ID: B114025

Parameter	Result	Det. Limit	Units
HENANTHRENE	BDL	0.01	mg/L
-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
4-DINITROPHENOL	BDL	0.05	mg/L
ENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
ETRACHLOROPHENOL	BDL	0.01	mg/L
4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
-FLUOROPHENOL	* 10		% Rec
HENOL-D5	15		% Rec
NITROBENZENE-D5	* 22		% Rec
-FLUOROBIPHENYL	* 19		% Rec
4,6-TRIBROMOPHENOL	20		% Rec
TERPHENYL-D14	* 27		% Rec

*Note: * - Surrogate recovery outside of QC limits. Sample was not re-extracted due to lack of sample.*
*** - Sample ran twice with no improvement in surrogate recovery.*

Sample Comments

* *See Note for Parameter*
BDL Below Detection Limit

Sample chain of custody number 13436.

Quality Assurance Officer: Michmith MB Tamsen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114021
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 12-MAR-92 09:00

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: B-4
LOG #: 9999
FIELD INFORMATION: TD NOT GIVEN, WL 1.18, PH 6.3, COND. 2350
FIELD COMMENTS: STRONG ODOR, TURBID BROWN, NO HEAVY OIL
NOTE: FIELD INFORMATION SHEET LISTS THIS SAMPLE AS B-3

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.190	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.13	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.031	0.025	mg/L

Note: Analysis performed by 3 point MSA.

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.21	0.05	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	350		mL
FINAL VOLUME	350		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114021

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	* 0.110	0.020	mg/L
M/P-XYLENE	* 0.090	0.020	mg/L
O-XYLENE	* 0.040	0.020	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

*Note: * - Sample was diluted 1:20 for Ethyl Benzene and Xylenes on 3/18/92.*
All other compounds were run straight on 3/17/92.

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 19-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	895		mL
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 24-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	* 3.0	0.01	mg/L
ANTHRACENE	* 0.94	0.01	mg/L
BENZ(A)ANTHRACENE	* 0.42	0.01	mg/L
BENZO(A)PYRENE	0.11	0.01	mg/L
BENZO(B)FLUORANTHENE	* 0.21	0.01	mg/L
BENZO(K)FLUORANTHENE	0.056	0.01	mg/L
CARBAZOLE	* 0.36	0.01	mg/L
CHRYSENE	* 0.34	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	0.011	0.01	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114021

Parameter	Result	Det. Limit	Units
FLUORANTHENE	* 2.7	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	0.035	0.01	mg/L
NAPHTHALENE	*** 14	0.01	mg/L
PHENANTHRENE	** 5.8	0.01	mg/L
-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			

-FLUOROPHENOL	63		% Rec
HENOL-D5	38		% Rec
NITROBENZENE-D5	255		% Rec
-FLUOROBIPHENYL	71		% Rec
,4,6-TRIBROMOPHENOL	0		% Rec
TERPHENYL-D14	98		% Rec

Note: Surrogates are outside of the recovery limits. Upon dilution, surrogate recoveries fell within acceptable limits. Matrix interference suspected.
** - Taken from 1:20 dilution, run on 3/25/92 (GB0816.C)*
*** - Taken from 1:50 dilution, run on 3/25/92 (GB0817.C)*
**** - Taken from 1:100 dilution, run on 3/25/92 (GB0818.C)*

Sample Comments

*	*See Note for Parameter*
**	*See Note for Parameter*
***	*See Note for Parameter*
BDL	*Below Detection Limit*

Sample chain of custody number 13437.

Quality Assurance Officer: Delmuth MB Jonsson

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114010
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 10:30

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: B-5
LOG #: 9990
FIELD INFORMATION: TD 15.05, WL 3.16, PH 6.2, COND. 2700

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.006	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.014	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

Noet: Analysis performed by 3 point MSA.

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114010

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.010	0.005	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

AA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

HROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

OPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	0.0064	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114010

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 16-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 18-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	980		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: 0517.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114009
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 09:45

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: B-6
LOG #: 9989
FIELD INFORMATION: TD 13.0, WL 3.85, PH 6.1, COND. 790

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.066	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.056	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.051	0.025	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114009

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 16-MAR-92 Instrument: GC/PID ELCD Test: O461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 18-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	978		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: O517.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	0.022	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114009

Parameter	Result	Det. Limit	Units
NAPHTHALENE	0.052	0.01	mg/L
PHENANTHRENE	BDL	0.01	mg/L
SURROGATE RECOVERY			
NITROBENZENE-D5	* 0		% Rec
2-FLUOROBIPHENYL	52		% Rec
TERPHENYL-D14	59		% Rec

*Note: * - Surrogates below EPA control limits.*

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 16-MAR-92 Test: P233.4.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	975		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (ACID FRACTION) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0518.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.1

Parameter	Result	Det. Limit	Units
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.05	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	44		% Rec
PHENOL-D5	32		% Rec
2,4,6-TRIBROMOPHENOL	78		% Rec

Sample Comments

** See Note for Parameter*
BDL Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: Helmuth MB Jensen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114024
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 30-MAR-92	Sampled 12-MAR-92 13:15

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-6
LOG #: 10002
FIELD INFORMATION: TD 21.55, WL 2.51, PH 6.2, COND. 1590

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.012	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114024

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.0092	0.005	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 17-MAR-92 Instrument: GC/PID ELCD Test: O461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
INYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
RICHLOROFLUOROMETHANE	BDL	0.005	mg/L
,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
ARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
RICHLOROETHENE	BDL	0.001	mg/L
,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
IS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
ETRACHLOROETHENE	BDL	0.001	mg/L
,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
HLOROBENZENE	BDL	0.001	mg/L
THYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 19-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	955		mL
FINAL VOLUME	1		mL

EMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 23-MAR-92 Instrument: GC/MS SVOA Test: O505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
CENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
ARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
LUORANTHENE	BDL	0.01	mg/L
NDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114024

Parameter	Result	Det. Limit	Units
PHENANTHRENE	BDL	0.01	mg/L
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	56		% Rec
PHENOL-D5	35		% Rec
NITROBENZENE-D5	68		% Rec
2-FLUOROBIPHENYL	56		% Rec
2,4,6-TRIBROMOPHENOL	93		% Rec
TERPHENYL-D14	71		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 13437.

Quality Assurance Officer: Helmuth MB Janssen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114023
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 12-MAR-92 12:35

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-7
LOG #: 10001
FIELD INFORMATION: TD 21.55, WL 4.16, PH 6.2, COND. 1150

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.031	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.012	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.0062	0.005	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114023

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.023	0.005	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	500		mL
FINAL VOLUME	500		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114023

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 19-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	940		mL
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 23-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114023

Parameter	Result	Det. Limit	Units
HENANTHRENE	BDL	0.01	mg/L
-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
,4-DIMETHYLPHENOL	BDL	0.01	mg/L
,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
ETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
-FLUOROPHENOL	43		% Rec
PHENOL-D5	33		% Rec
NITROBENZENE-D5	53		% Rec
-FLUOROBIPHENYL	50		% Rec
2,4,6-TRIBROMOPHENOL	88		% Rec
TERPHENYL-D14	82		% Rec

Sample Comments

BDL Below Detection Limit

ample chain of custody number 13437.

uality Assurance Officer: Helmuth M. Tonnsen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114022
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 12-MAR-92 12:00

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-8
LOG #: 10000
FIELD INFORMATION: TD 21.55, WL 4.50, PH 6.3, COND. 625

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.015	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.012	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

Note: Analysis performed by 3 point MSA.

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.016	0.005	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	250		mL
FINAL VOLUME	250		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114022

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 16-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 19-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	925		mL
FINAL VOLUME	1		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 23-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114022

Parameter	Result	Det. Limit	Units
PHENANTHRENE	BDL	0.01	mg/L
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	56		% Rec
PHENOL-D5	42		% Rec
NITROBENZENE-D5	62		% Rec
2-FLUOROBIPHENYL	57		% Rec
2,4,6-TRIBROMOPHENOL	93		% Rec
TERPHENYL-D14	73		% Rec

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 13437.

Quality Assurance Officer: Helmuth M.B. Janssen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114012
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 11:45

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-9
LOG #: 9992
FIELD INFORMATION: TD 21.55, WL 3.79, PH 5.9, COND. 480

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.007	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

Note: Analysis performed by 3 point MSA.

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114012

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114012

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 17-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 18-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	990		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: 0517.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114012

Parameter	Result	Det. Limit	Units
APHTHALENE	BDL	0.01	mg/L
HENANTHRENE	BDL	0.01	mg/L
URROGATE RECOVERY			
NITROBENZENE-D5	63		% Rec
-FLUOROBIPHENYL	47		% Rec
ERPHENYL-D14	60		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 16-MAR-92 Test: P233.4.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	980		mL
INAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (ACID FRACTION) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0518.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.1

Parameter	Result	Det. Limit	Units
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
-CHLOROPHENOL	BDL	0.01	mg/L
,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
ENTACHLOROPHENOL	BDL	0.05	mg/L
HENOL	BDL	0.01	mg/L
ETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.05	mg/L
,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
-FLUOROPHENOL	52		% Rec
PHENOL-D5	35		% Rec
2,4,6-TRIBROMOPHENOL	76		% Rec

Sample Comments

Note: Sample ID on Chain of Custody is "MW-9", Container is labeled "MW-5"

BDL Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: deSmith MMB Janssen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114011
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 11:10

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-10
LOG #: 9991
FIELD INFORMATION: TD 14.05, WL 4.08, PH 7.0, COND. 400

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.059	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.091	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.077	0.05	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114011

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.084	0.050	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 16-MAR-92 Instrument: GC/PID ELCD Test: O461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 18-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	965		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: O517.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114011

Parameter	Result	Det. Limit	Units
APHTHALENE	BDL	0.01	mg/L
HENANTHRENE	BDL	0.01	mg/L
URROGATE RECOVERY			

NITROBENZENE-D5	66		% Rec
2-FLUOROBIPHENYL	46		% Rec
ERPHENYL-D14	62		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 16-MAR-92 Test: P233.4.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	925		mL
FINAL VOLUME	1.0		mL

EMI-VOLATILE ORGANICS (ACID FRACTION) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0518.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.1

Parameter	Result	Det. Limit	Units
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
-CHLOROPHENOL	BDL	0.01	mg/L
,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
HENOL	BDL	0.01	mg/L
ETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.05	mg/L
,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			

-FLUOROPHENOL	50		% Rec
HENOL-D5	37		% Rec
2,4,6-TRIBROMOPHENOL	77		% Rec

Sample Comments

BDL Below Detection Limit

ample chain of custody number 13438.

Quality Assurance Officer: Deborah MB Janssen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114015
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 14:40

Report To	Bill To
SANDRA WATSON SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304	SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-13
LOG #: 9995
FIELD INFORMATION: TD 13.85, WL 4.19, PH 6.3, COND. 1350
FIELD COMMENTS: SLIGHT ODOR DIESEL

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.059	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.080	0.006	mg/L

FAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.050	0.025	mg/L

Note: Analysis performed by 3 point MSA.

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
EAD	0.14	0.050	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

AA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
HROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
PPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
INAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
RSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
AD	BDL	0.005	mg/L

ALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: O461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
HLOROMETHANE	BDL	0.005	mg/L
INYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
HLOROETHANE	BDL	0.005	mg/L
RICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
ICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
RANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
ARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	* 0.073	0.010	mg/L
,2-DICHLOROETHANE	BDL	0.001	mg/L
RICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
IBROMOMETHANE	BDL	0.001	mg/L
IS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	* 0.031	0.010	mg/L
,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
ETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
IBROMOCHLOROMETHANE	BDL	0.001	mg/L
HLOROBENZENE	BDL	0.001	mg/L
THYLBENZENE	* 0.041	0.010	mg/L
M/P-XYLENE	* 0.044	0.010	mg/L
-XYLENE	* 0.025	0.010	mg/L
-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

*Note: * - Sample was diluted 1:10 for BTEX only on 3/18/92. All other compounds were run straight on 3/17/92.*

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 18-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	965		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: O517.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	* 1.1	0.01	mg/L
ANTHRACENE	0.13	0.01	mg/L
BENZ(A)ANTHRACENE	0.057	0.01	mg/L
BENZO(A)PYRENE	0.02	0.01	mg/L
BENZO(B)FLUORANTHENE	0.037	0.01	mg/L
BENZO(K)FLUORANTHENE	0.01	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
CARBAZOLE	0.087	0.01	mg/L
CHRYSENE	0.057	0.01	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114015

Parameter	Result	Det. Limit	Units
BENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
LUORANTHENE	* 0.56	0.01	mg/L
NDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
PHTHALENE	** 2.8	0.01	mg/L
ENANTHRENE	* 1.2	0.01	mg/L
RROGATE RECOVERY			
ITROBENZENE-D5	57		% Rec
-FLUOROBIPHENYL	60		% Rec
RPHENYL-D14	72		% Rec

*ote: * - Taken from 1:10 dilution (GB0805.c), run on 3/24/92.*
*** - Taken from 1:20 dilution (GB0815.c), run on 3/25/92.*

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 16-MAR-92 Test: P233.4.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	965		mL
FINAL VOLUME	1.0		mL

MI-VOLATILE ORGANICS (ACID FRACTION) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0518.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.1

Parameter	Result	Det. Limit	Units
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
4-DIMETHYLPHENOL	0.063	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
HENOL	BDL	0.01	mg/L
ETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
-FLUOROPHENOL	48		% Rec
HENOL-D5	32		% Rec
2,4,6-TRIBROMOPHENOL	79		% Rec

Sample Comments

* *See Note for Parameter*
** *See Note for Parameter*
*DL *Below Detection Limit*

Sample chain of custody number 13438.

Quality Assurance Officer: Chelmuth M.B. Jonsen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114013
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 13:25

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-14
LOG #: 9993
FIELD INFORMATION: TD 19.50, WL 4.12, PH 6.4, COND. 1450
FIELD COMMENTS: ODOR

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.033	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.023	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.010	0.005	mg/L

Note: Analysis performed by 3 point MSA.

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114013

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.029	0.010	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114013

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: O461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	0.0011	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	* 0.030	0.010	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	* 0.046	0.010	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	* 0.067	0.010	mg/L
M/P-XYLENE	* 0.073	0.010	mg/L
O-XYLENE	* 0.036	0.010	mg/L
B-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

*Note: * - Sample was diluted 1:10 for BTEX only on 3/18/92. All other compounds were run straight on 3/17/92.*

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 18-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	930		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: O517.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	* 0.74	0.01	mg/L
ANTHRACENE	0.11	0.01	mg/L
BENZ(A)ANTHRACENE	0.037	0.01	mg/L
BENZO(A)PYRENE	0.011	0.01	mg/L
BENZO(B)FLUORANTHENE	0.021	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
CARBAZOLE	0.11	0.01	mg/L
CHRYSENE	0.036	0.01	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114013

Parameter	Result	Det. Limit	Units
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	* 0.38	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	** 3.1	0.01	mg/L
PHENANTHRENE	* 1.1	0.01	mg/L
SURROGATE RECOVERY			
NITROBENZENE-D5	50		% Rec
2-FLUOROBIPHENYL	48		% Rec
TERPHENYL-D14	68		% Rec

*Note: * - Taken from 1:10 dilution (GB0804.c), run on 3/24/92.*
*** - Taken from 1:20 dilution (GB0814.c), run on 3/25/92.*

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510
Analyst: W. GROVES Analysis Date: 16-MAR-92 Test: P233.4.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	930		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (ACID FRACTION) SW846-8270
Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0518.3.0
Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.1

Parameter	Result	Det. Limit	Units
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	* 0.370	0.10	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.05	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	53		% Rec
PHENOL-D5	43		% Rec
2,4,6-TRIBROMOPHENOL	78		% Rec

*Note: * - Taken from 1:10 dilution (GB0784), run on 3/18/92.*

Sample Comments

** See Note for Parameter*
*** See Note for Parameter*
BDL Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: Chelmuth MB Jansen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114014
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 14:00

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-15
LOG #: 9994
FIELD INFORMATION: TD 13.30, WL 4.04, PH 6.5, COND. 700
FIELD COMMENTS: SLIGHT ODOR DIESEL

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.051	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.086	0.006	mg/L

FAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.10	0.05	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.094	0.050	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	350		mL
FINAL VOLUME	350		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114014

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 17-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.025	mg/L
HLOROMETHANE	BDL	0.025	mg/L
INYL CHLORIDE	BDL	0.025	mg/L
BROMOMETHANE	BDL	0.025	mg/L
CHLOROETHANE	BDL	0.025	mg/L
RICHLOROFLUOROMETHANE	BDL	0.025	mg/L
,1-DICHLOROETHENE	BDL	0.005	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.005	mg/L
RANS-1,2-DICHLOROETHENE	BDL	0.005	mg/L
,1-DICHLOROETHANE	BDL	0.005	mg/L
CHLOROFORM	BDL	0.005	mg/L
,1,1-TRICHLOROETHANE	BDL	0.005	mg/L
ARBON TETRACHLORIDE	BDL	0.005	mg/L
BENZENE	BDL	0.005	mg/L
1,2-DICHLOROETHANE	BDL	0.005	mg/L
RICHLOROETHENE	BDL	0.005	mg/L
,2-DICHLOROPROPANE	BDL	0.005	mg/L
BROMODICHLOROMETHANE	BDL	0.005	mg/L
IBROMOMETHANE	BDL	0.005	mg/L
IS-1,3-DICHLOROPROPENE	BDL	0.005	mg/L
TOLUENE	0.006	0.005	mg/L
,1,2-TRICHLOROETHANE	BDL	0.005	mg/L
ETRACHLOROETHENE	BDL	0.005	mg/L
,3-DICHLOROPROPANE	BDL	0.005	mg/L
DIBROMOCHLOROMETHANE	BDL	0.005	mg/L
HLOROBENZENE	BDL	0.005	mg/L
THYLBENZENE	0.008	0.005	mg/L
M/P-XYLENE	0.008	0.005	mg/L
O-XYLENE	BDL	0.005	mg/L
-CHLOROETHYLVINYLETHER	BDL	0.005	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.025	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.005	mg/L

ote: Sample was diluted 1:5 on 3/17/92.

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 18-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	970		mL
INAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: 0517.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
CENAPHTHENE	0.15	0.01	mg/L
NTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
ENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
ARBAZOLE	0.021	0.01	mg/L
HRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L

Parameter	Result	Det. Limit	Units
LUORANTHENE	BDL	0.01	mg/L
NDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
APHTHALENE	0.11	0.01	mg/L
HENANTHRENE	0.023	0.01	mg/L
SURROGATE RECOVERY			
ITROBENZENE-D5	67		% Rec
-FLUOROBIPHENYL	63		% Rec
TERPHENYL-D14	70		% Rec

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 16-MAR-92 Test: P233.4.1

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	965		mL
INAL VOLUME	1.0		mL

EMI-VOLATILE ORGANICS (ACID FRACTION) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0518.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.1

Parameter	Result	Det. Limit	Units
-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	0.044	0.01	mg/L
,4-DINITROPHENOL	BDL	0.05	mg/L
ENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
ETRACHLOROPHENOL	BDL	0.01	mg/L
,4,5-TRICHLOROPHENOL	BDL	0.05	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
URROGATE RECOVERY			
2-FLUOROPHENOL	55		% Rec
HENOL-D5	39		% Rec
,4,6-TRIBROMOPHENOL	81		% Rec

Sample Comments

DL Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: Helmuth MB Janssen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114016
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 15:05

Report To	Bill To
SANDRA WATSON SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304	SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-16
LOG #: 9996
FIELD INFORMATION: TD 13.97, WL 4.93, PH 6.2, COND. 1410
FIELD COMMENTS: SLIGHT ODOR DIESEL

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.120	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.14	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.027	0.005	mg/L

Note: Matrix interference suspected.

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114016

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.064	0.025	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

MS HERITAGE LABORATORIES, INC. Lab Sample ID: B114016

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L
,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	0.0027	0.001	mg/L
M/P-XYLENE	0.0037	0.001	mg/L
O-XYLENE	0.0032	0.001	mg/L
-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

Note: One sample vial was identified as MW-15 and one vial was not identified.

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 17-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	945		mL
INAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
NTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
ENZO(B)FLUORANTHENE	BDL	0.01	mg/L
ENZO(K)FLUORANTHENE	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
ARBAZOLE	BDL	0.01	mg/L
HRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114016

Parameter	Result	Det. Limit	Units
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L
PHENANTHRENE	BDL	0.01	mg/L
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.05	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			

2-FLUOROPHENOL	53		% Rec
PHENOL-D5	34		% Rec
NITROBENZENE-D5	* 24		% Rec
2-FLUOROBIPHENYL	58		% Rec
2,4,6-TRIBROMOPHENOL	107		% Rec
TERPHENYL-D14	55		% Rec

*Note: * - Surrogates below EPA control limits. Sample re-extracted for base neutral. Surrogates still below EPA control limits due to matrix.*

Sample Comments

** See Note for Parameter*
BDL Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: Chelsmith MB Jannsen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114017
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 15:45

Report To	Bill To
SANDRA WATSON SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304	SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: MW-17
LOG #: 9997
FIELD INFORMATION: TD 14.43, WL 4.70, PH 6.2, COND. 1740
FIELD COMMENTS: SLIGHT ODOR DIESEL

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	0.18	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	0.40	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	0.14	0.05	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114017

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	0.39	0.25	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	300		mL
FINAL VOLUME	300		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: 0461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
INYL CHLORIDE	BDL	0.005	mg/L
ROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
RICHLOROFLUOROMETHANE	BDL	0.005	mg/L
1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
ARBON TETRACHLORIDE	BDL	0.001	mg/L
ENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
RICHLOROETHENE	BDL	0.001	mg/L
2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
S-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
OLUENE	0.0011	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
ETRACHLOROETHENE	BDL	0.001	mg/L
3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
THYLBENZENE	0.0039	0.001	mg/L
M/P-XYLENE	0.0088	0.001	mg/L
O-XYLENE	0.0046	0.001	mg/L
CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
ETHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 17-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	975		mL
INAL VOLUME	1.0		mL

EMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 17-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ENAPHTHENE	0.024	0.01	mg/L
ANTHRACENE	0.023	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
ENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
ARBAZOLE	BDL	0.01	mg/L
RYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
LUORANTHENE	0.065	0.01	mg/L
DENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114017

Parameter	Result	Det. Limit	Units
PHENANTHRENE	0.060	0.01	mg/L
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L
2,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	58		% Rec
PHENOL-D5	40		% Rec
NITROBENZENE-D5	* 17		% Rec
2-FLUOROBIPHENYL	65		% Rec
2,4,6-TRIBROMOPHENOL	104		% Rec
TERPHENYL-D14	65		% Rec

*Note: * - Surrogate recovery below EPA control limits.*

Sample Comments

* *See Note for Parameter*
BDL *Below Detection Limit*

Sample chain of custody number 13438.

Quality Assurance Officer: Debbie Smith MB Jonsson

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114020
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 01-APR-92	Sampled 11-MAR-92 09:00

Report To	Bill To
SANDRA WATSON SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304	SOUTHERN WOOD PIEDMONT P.O. BOX 5447 SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: FB

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	400		mL
INAL VOLUME	400		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	100		mL
INAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
HROMIUM	BDL	0.006	mg/L

OPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
OPPER	BDL	0.006	mg/L

FAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
NITIAL WEIGHT OR VOLUME	50		mL
INAL VOLUME	50		mL

RSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

EAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

ALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 18-MAR-92 Instrument: GC/PID ELCD Test: O461.1.0

Parameter	Result	Det. Limit	Units
ICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
HLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
ROMOMETHANE	BDL	0.005	mg/L
HLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L

Parameter	Result	Det. Limit	Units
1,1-DICHLOROETHENE	BDL	0.001	mg/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
1,1-DICHLOROETHANE	BDL	0.001	mg/L
CHLOROFORM	BDL	0.001	mg/L
1,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
BENZENE	BDL	0.001	mg/L
1,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
1,2-DICHLOROPROPANE	BDL	0.001	mg/L
BROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
TOLUENE	BDL	0.001	mg/L
1,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
1,3-DICHLOROPROPANE	BDL	0.001	mg/L
DIBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
M/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
METHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
1,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 17-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	980		mL
FINAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PINOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
ANTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
BENZO(B)FLUORANTHENE	BDL	0.01	mg/L
BENZO(K)FLUORANTHENE	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
CHRYSENE	BDL	0.01	mg/L
DIBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
NAPHTHALENE	BDL	0.01	mg/L
PHENANTHRENE	BDL	0.01	mg/L
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
2-CHLOROPHENOL	BDL	0.01	mg/L
2,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
PENTACHLOROPHENOL	BDL	0.05	mg/L
PHENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L

EMS HERITAGE LABORATORIES, INC. Lab Sample ID: B114020

Parameter	Result	Det. Limit	Units
2,4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
BIS(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
SURROGATE RECOVERY			
2-FLUOROPHENOL	53		% Rec
PHENOL-D5	35		% Rec
NITROBENZENE-D5	72		% Rec
2-FLUOROBIPHENYL	62		% Rec
2,4,6-TRIBROMOPHENOL	75		% Rec
TERPHENYL-D14	72		% Rec

Sample Comments

Note: Both Field Blank samples for metals were marked "Rinsed". Sample with pH 1 was analyzed for total metals. Sample with pH 6 was filtered and analyzed for dissolved metals.

BDL Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: Helmuth MB Jensen

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 4132 POMPANO ST. CHARLOTTE, NC 28216 (704)393-1853	14-MAR-92	B114019
	Complete 27-MAR-92	PO Number 530-06-501
	Printed 30-MAR-92	Sampled 11-MAR-92 12:30

Report To

SANDRA WATSON
SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Bill To

SOUTHERN WOOD PIEDMONT
P.O. BOX 5447
SPARTANBURG, SC 29304

Sample Description

PROJECT: SWP WILMINGTON
SAMPLE ID: EQUIP BLANK

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P130.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3005 P130.4.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

FAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 18-MAR-92 Test: P130.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 25-MAR-92 Instrument: GFAA Test: M116.2.0
Prep: GFAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-3020 P130.6.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A

Analyst: M. CASHION Analysis Date: 14-MAR-92 Test: P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	400		mL
FINAL VOLUME	400		mL

FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005

Analyst: M. CASHION Analysis Date: 16-MAR-92 Test: P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL VOLUME	20		mL

CHROMIUM FAA SW846-7190

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M110.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	0.006	mg/L

COPPER FAA SW846-7210

Analyst: L. SURRATT Analysis Date: 23-MAR-92 Instrument: FAA Test: M112.1.1
Prep: FAA OR ICP ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3005 P132.4.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	0.006	mg/L

GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020

Analyst: M. CASHION Analysis Date: 17-MAR-92 Test: P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC GFAA SW846-7060

Analyst: L. SURRATT Analysis Date: 26-MAR-92 Instrument: GFAA Test: M103.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	0.005	mg/L

LEAD GFAA SW846-7421

Analyst: L. SURRATT Analysis Date: 24-MAR-92 Instrument: GFAA Test: M116.2.1
Prep: GFAA ACID DIGESTION (DISSOLVED METALS) AQUEOUS SAMPLES SW846-3020 P133.6.0
Prep: 0.45 MICRON PORE DIAMETER MEMBRANE FILTRATION SM 302A P110.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	0.005	mg/L

HALOGENATED AND AROMATIC VOLATILE ORGANICS BY GC/PID ELCD SW846-8021

Analyst: B. RASH Analysis Date: 16-MAR-92 Instrument: GC/PID ELCD Test: O461.1.0

Parameter	Result	Det. Limit	Units
DICHLORODIFLUOROMETHANE	BDL	0.005	mg/L
CHLOROMETHANE	BDL	0.005	mg/L
VINYL CHLORIDE	BDL	0.005	mg/L
BROMOMETHANE	BDL	0.005	mg/L
CHLOROETHANE	BDL	0.005	mg/L
TRICHLOROFLUOROMETHANE	BDL	0.005	mg/L

Parameter	Result	Det. Limit	Units
,1-DICHLOROETHENE	BDL	0.001	mg/L
ICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	0.001	mg/L
TRANS-1,2-DICHLOROETHENE	BDL	0.001	mg/L
,1-DICHLOROETHANE	BDL	0.001	mg/L
HLOROFORM	BDL	0.001	mg/L
,1,1-TRICHLOROETHANE	BDL	0.001	mg/L
CARBON TETRACHLORIDE	BDL	0.001	mg/L
ENZENE	BDL	0.001	mg/L
,2-DICHLOROETHANE	BDL	0.001	mg/L
TRICHLOROETHENE	BDL	0.001	mg/L
,2-DICHLOROPROPANE	BDL	0.001	mg/L
ROMODICHLOROMETHANE	BDL	0.001	mg/L
DIBROMOMETHANE	BDL	0.001	mg/L
CIS-1,3-DICHLOROPROPENE	BDL	0.001	mg/L
OLUENE	BDL	0.001	mg/L
,1,2-TRICHLOROETHANE	BDL	0.001	mg/L
TETRACHLOROETHENE	BDL	0.001	mg/L
,3-DICHLOROPROPANE	BDL	0.001	mg/L
IBROMOCHLOROMETHANE	BDL	0.001	mg/L
CHLOROBENZENE	BDL	0.001	mg/L
ETHYLBENZENE	BDL	0.001	mg/L
/P-XYLENE	BDL	0.001	mg/L
O-XYLENE	BDL	0.001	mg/L
2-CHLOROETHYLVINYLETHER	BDL	0.001	mg/L
ETHYL-T-BUTYL ETHER (MTBE)	BDL	0.005	mg/L
,1,2,2-TETRACHLOROETHANE	BDL	0.001	mg/L

C/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: W. GROVES Analysis Date: 17-MAR-92 Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	980		mL
INAL VOLUME	1.0		mL

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL/ACID FRACTIONS) SW846-8270

Analyst: M. PIWOWAR Analysis Date: 19-MAR-92 Instrument: GC/MS SVOA Test: 0505.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510 P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	0.01	mg/L
NTHRACENE	BDL	0.01	mg/L
BENZ(A)ANTHRACENE	BDL	0.01	mg/L
BENZO(A)PYRENE	BDL	0.01	mg/L
ENZO(B)FLUORANTHENE	BDL	0.01	mg/L
ENZO(K)FLUORANTHENE	BDL	0.01	mg/L
CARBAZOLE	BDL	0.01	mg/L
HRYSENE	BDL	0.01	mg/L
IBENZ(A,H)ANTHRACENE	BDL	0.01	mg/L
FLUORANTHENE	BDL	0.01	mg/L
INDENO(1,2,3-CD)PYRENE	BDL	0.01	mg/L
APHTHALENE	BDL	0.01	mg/L
PHENANTHRENE	BDL	0.01	mg/L
4-CHLORO-3-METHYLPHENOL	BDL	0.01	mg/L
-CHLOROPHENOL	BDL	0.01	mg/L
,4-DIMETHYLPHENOL	BDL	0.01	mg/L
2,4-DINITROPHENOL	BDL	0.05	mg/L
ENTACHLOROPHENOL	BDL	0.05	mg/L
HENOL	BDL	0.01	mg/L
TETRACHLOROPHENOL	BDL	0.01	mg/L

S HERITAGE LABORATORIES, INC. Lab Sample ID: B114019

Parameter	Result	Det. Limit	Units
4,5-TRICHLOROPHENOL	BDL	0.01	mg/L
S(2-CHLOROETHYL)ETHER	BDL	0.01	mg/L
2,4,6-TRICHLOROPHENOL	BDL	0.01	mg/L
RROGATE RECOVERY			
2-FLUOROPHENOL	46		% Rec
ENOL-D5	31		% Rec
TROBENZENE-D5	64		% Rec
2-FLUOROBIPHENYL	53		% Rec
4,6-TRIBROMOPHENOL	81		% Rec
RPHENYL-D14	69		% Rec

Sample Comments

L Below Detection Limit

Sample chain of custody number 13438.

Quality Assurance Officer: Chelsmith MB Jansen

EMS HERITAGE LABORATORIES, INC.

13437

4132 POMPANO ROAD
CHARLOTTE, N.C. 28216 (704) 393-1853

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Co. Name: ETE SWP
Project Name: SWP Wilmington
Quote No.: ~~PO No.~~ 530-06-501

ENVIRONMENTAL PROGRAM:
CWA NPDES_____ IWP_____ SLUDGE_____
RCRA MW_____ SW_____ DISPOSAL_____
SDWA_____ CERCLA/SUPERFUND_____ OTHER_____

Sampled by:

Analyses Requested: (Note special detection limits or methods)

Run SWP Wilmington Site Specific List

Report To:
Co: ETE
Add: 1445 Pisgah Ch. Rd. Lexington S.C. 29072
Attn: Greg Kuntz
Phone: 1-800-786-0654
Accelerated Turnaround Requested _____ (Subject to Additional Charge)
Result Request by: ___/___/___ Mo Day Yr (Date must be Accepted and Approved by Lab.)

Sample ID:	Date:	Time:	Comp	Grab	~~Sample Description:~~ LOS #	Sample Type (Matrix): DW, GW, WW, Soil, Oil, Sludge, Other	No. of Containers	Remarks:	EMS Sample No.
B-04	3-12	0900		X	9999.	GW	7		B114021
MW8	3-12	1200		X	10000	GW	7		B114022
MW-7	3-12	1235		X	10001	GW	7		B114023
MW-6	3-12	1315		X	10002	GW	7		B114024

Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
[signature]	3-13-92 / 1200			/	
Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
	/			/	
Relinquished by: (Signature)	Date /Time	Received for Lab by: (Signature)	Remarks:		
	3/14/92 / 1000	[signature]			

Distribution: Original and yellow copies accompany sample shipment to laboratory; Yellow copy returned to client.

PARAMETER SUMMARY REPORT

METALS

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		B-2 B114018 11-MAR-92			B-2 B114018 11-MAR-92			B-3 B114025 13-MAR-92			B-3 B114025 13-MAR-92			B-4 B114021 12-MAR-92		
Metals	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Arsenic	7440-38-2	0.11	0.025	mg/L	BDL	0.005	mg/L	0.049	0.005	mg/L	BDL	0.005	mg/L	0.031	0.025	mg/L
Chromium	7440-47-32	0.10	0.006	mg/L	BDL	0.006	mg/L	0.095	0.006	mg/L	BDL	0.006	mg/L	0.190	0.006	mg/L
Copper	7440-50-8	0.05	0.006	mg/L	BDL	0.006	mg/L	0.085	0.006	mg/L	BDL	0.006	mg/L	0.13	0.006	mg/L
Lead	7439-92-1	0.35	0.25	mg/L	BDL	0.005	mg/L	0.12	0.025	mg/L	BDL	0.005	mg/L	0.21	0.05	mg/L

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		B-4 B114021 12-MAR-92			B-5 B114010 11-MAR-92			B-5 B114010 11-MAR-92			B-6 B114009 11-MAR-92			B-6 B114009 11-MAR-92		
Metals	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Arsenic	7440-38-2	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	0.051	0.025	mg/L	BDL	0.005	mg/L
Chromium	7440-47-32	BDL	0.006	mg/L	0.006	0.006	mg/L	BDL	0.006	mg/L	0.066	0.006	mg/L	BDL	0.006	mg/L
Copper	7440-50-8	BDL	0.006	mg/L	0.014	0.006	mg/L	0.0064	0.006	mg/L	0.056	0.006	mg/L	BDL	0.006	mg/L
Lead	7439-92-1	BDL	0.005	mg/L	0.010	0.005	mg/L	BDL	0.005	mg/L	0.100	0.050	mg/L	BDL	0.005	mg/L

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		MW-6 B114024 12-MAR-92			MW-6 B114024 12-MAR-92			MW-7 B114023 12-MAR-92			MW-7 B114023 12-MAR-92			MW-8 B114022 12-MAR-92		
Metals	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Arsenic	7440-38-2	BDL	0.005	mg/L	BDL	0.005	mg/L	0.0062	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
Chromium	7440-47-32	BDL	0.006	mg/L	BDL	0.006	mg/L	0.031	0.006	mg/L	BDL	0.006	mg/L	0.015	0.006	mg/L
Copper	7440-50-8	0.012	0.006	mg/L	BDL	0.006	mg/L	0.012	0.006	mg/L	BDL	0.006	mg/L	0.012	0.006	mg/L
Lead	7439-92-1	0.0092	0.005	mg/L	BDL	0.005	mg/L	0.023	0.005	mg/L	BDL	0.005	mg/L	0.016	0.005	mg/L

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		MW-8 B114022 12-MAR-92			MW-9 B114012 11-MAR-92			MW-9 B114012 11-MAR-92			MW-10 B114011 11-MAR-92			MW-10 B114011 11-MAR-92		
Metals	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Arsenic	7440-38-2	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	0.077	0.05	mg/L	BDL	0.005	mg/L
Chromium	7440-47-32	BDL	0.006	mg/L	BDL	0.006	mg/L	BDL	0.006	mg/L	0.059	0.006	mg/L	BDL	0.006	mg/L
Copper	7440-50-8	BDL	0.006	mg/L	0.007	0.006	mg/L	BDL	0.006	mg/L	0.091	0.006	mg/L	BDL	0.006	mg/L
Lead	7439-92-1	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	0.084	0.050	mg/L	BDL	0.005	mg/L

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

		MW-13 B114015 11-MAR-92			MW-13 B114015 11-MAR-92			MW-14 B114013 11-MAR-92			MW-14 B114013 11-MAR-92			MW-15 B114014 11-MAR-92		
Metals	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Arsenic	7440-38-2	0.050	0.025	mg/L	BDL	0.005	mg/L	0.010	0.005	mg/L	BDL	0.005	mg/L	0.10	0.05	mg/L
Chromium	7440-47-32	0.059	0.006	mg/L	BDL	0.006	mg/L	0.033	0.006	mg/L	BDL	0.006	mg/L	0.051	0.006	mg/L
Copper	7440-50-8	0.080	0.006	mg/L	BDL	0.006	mg/L	0.023	0.006	mg/L	BDL	0.006	mg/L	0.086	0.006	mg/L
Lead	7439-92-1	0.14	0.050	mg/L	BDL	0.005	mg/L	0.029	0.010	mg/L	BDL	0.005	mg/L	0.094	0.050	mg/L

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

		MW-15 B114014 11-MAR-92			MW-16 B114016 11-MAR-92			MW-16 B114016 11-MAR-92			MW-17 B114017 11-MAR-92			MW-17 B114017 11-MAR-92		
Metals	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Arsenic	7440-38-2	BDL	0.005	mg/L	0.027	0.005	mg/L	BDL	0.005	mg/L	0.14	0.05	mg/L	BDL	0.005	mg/L
Chromium	7440-47-32	BDL	0.006	mg/L	0.120	0.006	mg/L	BDL	0.006	mg/L	0.18	0.006	mg/L	BDL	0.006	mg/L
Copper	7440-50-8	BDL	0.006	mg/L	0.14	0.006	mg/L	BDL	0.006	mg/L	0.40	0.006	mg/L	BDL	0.006	mg/L
Lead	7439-92-1	BDL	0.005	mg/L	0.064	0.025	mg/L	BDL	0.005	mg/L	0.39	0.25	mg/L	BDL	0.005	mg/L

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		EQUIP BLANK B114019 11-MAR-92			EQUIP BLANK B114019 11-MAR-92			FB16 B114020 11-MAR-92			FB17 B114020 11-MAR-92					
Metals	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Arsenic	7440-38-2	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L			
Chromium	7440-47-32	BDL	0.006	mg/L	BDL	0.006	mg/L	BDL	0.006	mg/L	BDL	0.006	mg/L			
Copper	7440-50-8	BDL	0.006	mg/L	BDL	0.006	mg/L	BDL	0.006	mg/L	BDL	0.006	mg/L			
Lead	7439-92-1	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L			

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

SEMI-VOLATILE ORGANICS

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		B-2 B114018 11-MAR-92			B-3 B114025 13-MAR-92			B-4 B114021 12-MAR-92			B-5 B114010 11-MAR-92			B-6 B114009 11-MAR-92		
Semi-volatiles	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Acenaphthene	83-32-9	BDL	0.01	mg/L	BDL	0.01	mg/L	* 3.0	0.01	mg/L	BDL	0.01	mg/L	0.022	0.01	mg/L
Anthracene	120-12-7	BDL	0.01	mg/L	BDL	0.01	mg/L	* 0.94	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benz(A)Anthracene	56-55-3	BDL	0.01	mg/L	BDL	0.01	mg/L	* 0.42	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(A)Pyrene	50-32-8	BDL	0.01	mg/L	BDL	0.01	mg/L	0.11	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(B)Fluoranthene	205-99-2	BDL	0.01	mg/L	BDL	0.01	mg/L	* 0.21	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(K)Fluoranthene	207-08-9	BDL	0.01	mg/L	BDL	0.01	mg/L	0.056	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Bis(2-Chloroethyl)Ether	111-44-4	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Carbazole	86-74-8	BDL	0.01	mg/L	BDL	0.01	mg/L	* 0.36	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
4-Chloro-3-Methylphenol	59-50-7	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2-Chlorophenol	95-57-8	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Chrysene	218-01-9	BDL	0.01	mg/L	BDL	0.01	mg/L	* 0.34	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Dibenz(A,H)Anthracene	53-70-3	BDL	0.01	mg/L	BDL	0.01	mg/L	0.011	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4-Dimethylphenol	105-67-9	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4-Dinitrophenol	25550-58-7	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
Fluoranthene	206-44-0	BDL	0.01	mg/L	BDL	0.01	mg/L	*.2.7	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Indeno(1,2,3-Cd)Pyrene	193-39-5	BDL	0.01	mg/L	BDL	0.01	mg/L	0.035	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Naphthalene	91-20-3	BDL	0.01	mg/L	BDL	0.01	mg/L	*** 14	0.01	mg/L	BDL	0.01	mg/L	0.052	0.01	mg/L
Pentachlorophenol	87-86-5	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
Phenanthrene	85-01-8	BDL	0.01	mg/L	BDL	0.01	mg/L	** 5.8	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Phenol	108-95-2	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Tetrachlorophenol	25167-83-3	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4,5-Trichlorophenol	95-95-4	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
2,4,6-Trichlorophenol	88-06-2	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
		BDL			BDL			27.942 mg/L			BDL			0.074		

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

		MW-6 B114024 12-MAR-92			MW-7 B114023 12-MAR-92			MW-8 B114022 12-MAR-92			MW-9 B114012 11-MAR-92			MW-10 B114011 11-MAR-92		
Semi-volatiles	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Acenaphthene	83-32-9	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Anthracene	120-12-7	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benz(A)Anthracene	56-55-3	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(A)Pyrene	50-32-8	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(B)Fluoranthene	205-99-2	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(K)Fluoranthene	207-08-9	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Bis(2-Chloroethyl)Ether	111-44-4	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Carbazole	86-74-8	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
4-Chloro-3-Methylphenol	59-50-7	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2-Chlorophenol	95-57-8	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Chrysene	218-01-9	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Dibenz(A,H)Anthracene	53-70-3	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4-Dimethylphenol	105-67-9	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4-Dinitrophenol	25550-58-7	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
Fluoranthene	206-44-0	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Indeno(1,2,3-Cd)Pyrene	193-39-5	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Naphthalene	91-20-3	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Pentachlorophenol	87-86-5	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
Phenanthrene	85-01-8	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Phenol	108-95-2	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Tetrachlorophenol	25167-83-3	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4,5-Trichlorophenol	95-95-4	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
2,4,6-Trichlorophenol	88-06-2	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
		BDL			BDL			BDL			BDL			BDL		

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		MW-13 B114015 11-MAR-92			MW-14 B114013 11-MAR-92			MW-15 B114014 11-MAR-92			MW-16 B114016 11-MAR-92			MW-17 B114017 11-MAR-92		
Semi-volatiles	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Acenaphthene	83-32-9	* 1.1	0.01	mg/L	* 0.74	0.01	mg/L	0.15	0.01	mg/L	BDL	0.01	mg/L	0.024	0.01	mg/L
Anthracene	120-12-7	0.13	0.01	mg/L	0.11	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	0.023	0.01	mg/L
Benz(A)Anthracene	56-55-3	0.057	0.01	mg/L	0.037	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(A)Pyrene	50-32-8	0.02	0.01	mg/L	0.011	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(B)Fluoranthene	205-99-2	0.037	0.01	mg/L	0.021	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Benzo(K)Fluoranthene	207-08-9	0.01	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Bis(2-Chloroethyl)Ether	111-44-4	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Carbazole	86-74-8	0.087	0.01	mg/L	0.11	0.01	mg/L	0.021	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
4-Chloro-3-Methylphenol	59-50-7	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2-Chlorophenol	95-57-8	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Chrysene	218-01-9	0.057	0.01	mg/L	0.036	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Dibenz(A,H)Anthracene	53-70-3	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4-Dimethylphenol	105-67-9	0.063	0.01	mg/L	* 0.370	0.10	mg/L	0.044	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4-Dinitrophenol	25550-58-7	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
Fluoranthene	206-44-0	* 0.56	0.01	mg/L	* 0.38	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	0.065	0.01	mg/L
Indeno(1,2,3-Cd)Pyrene	193-39-5	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Naphthalene	91-20-3	** 2.8	0.01	mg/L	** 3.1	0.01	mg/L	0.11	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Pentachlorophenol	87-86-5	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L
Phenanthrene	85-01-8	* 1.2	0.01	mg/L	* 1.1	0.01	mg/L	0.023	0.01	mg/L	BDL	0.01	mg/L	0.060	0.01	mg/L
Phenol	108-95-2	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
Tetrachlorophenol	25167-83-3	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
2,4,5-Trichlorophenol	95-95-4	BDL	0.01	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.05	mg/L	BDL	0.01	mg/L
2,4,6-Trichlorophenol	88-06-2	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L	BDL	0.01	mg/L
		6.121			6.615			0.238			BDL			.172		

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

		EQUIP BLANK B114019 11-MAR-92			FB14 B114020 11-MAR-92											
Semi-volatiles	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Acenaphthene	83-32-9	BDL	0.01	mg/L	BDL	0.01	mg/L									
Anthracene	120-12-7	BDL	0.01	mg/L	BDL	0.01	mg/L									
Benz(A)Anthracene	56-55-3	BDL	0.01	mg/L	BDL	0.01	mg/L									
Benzo(A)Pyrene	50-32-8	BDL	0.01	mg/L	BDL	0.01	mg/L									
Benzo(B)Fluoranthene	205-99-2	BDL	0.01	mg/L	BDL	0.01	mg/L									
Benzo(K)Fluoranthene	207-08-9	BDL	0.01	mg/L	BDL	0.01	mg/L									
Bis(2-Chloroethyl)Ether	111-44-4	BDL	0.01	mg/L	BDL	0.01	mg/L									
Carbazole	86-74-8	BDL	0.01	mg/L	BDL	0.01	mg/L									
4-Chloro-3-Methylphenol	59-50-7	BDL	0.01	mg/L	BDL	0.01	mg/L									
2-Chlorophenol	95-57-8	BDL	0.01	mg/L	BDL	0.01	mg/L									
Chrysene	218-01-9	BDL	0.01	mg/L	BDL	0.01	mg/L									
Dibenz(A,H)Anthracene	53-70-3	BDL	0.01	mg/L	BDL	0.01	mg/L									
2,4-Dimethylphenol	105-67-9	BDL	0.01	mg/L	BDL	0.01	mg/L									
2,4-Dinitrophenol	25550-58-7	BDL	0.05	mg/L	BDL	0.05	mg/L									
Fluoranthene	206-44-0	BDL	0.01	mg/L	BDL	0.01	mg/L									
Indeno(1,2,3-Cd)Pyrene	193-39-5	BDL	0.01	mg/L	BDL	0.01	mg/L									
Naphthalene	91-20-3	BDL	0.01	mg/L	BDL	0.01	mg/L									
Pentachlorophenol	87-86-5	BDL	0.05	mg/L	BDL	0.05	mg/L									
Phenanthrene	85-01-8	BDL	0.01	mg/L	BDL	0.01	mg/L									
Phenol	108-95-2	BDL	0.01	mg/L	BDL	0.01	mg/L									
Tetrachlorophenol	25167-83-3	BDL	0.01	mg/L	BDL	0.01	mg/L									
2,4,5-Trichlorophenol	95-95-4	BDL	0.01	mg/L	BDL	0.01	mg/L									
2,4,6-Trichlorophenol	88-06-2	BDL	0.01	mg/L	BDL	0.01	mg/L									
		DDL			BDL											

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

GENERAL ORGANICS

Heritage Laboratories, Inc -- Parameter Summary Report
List of Samples

		B-2 B114018 11-MAR-92			B-3 B114025 13-MAR-92			B-4 B114021 12-MAR-92			B-5 B114010 11-MAR-92			B-6 B114009 11-MAR-92		
General Organics	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Benzene	71-43-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Bromodichloromethane	75-27-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Bromomethane	74-83-9	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
Carbon Tetrachloride	56-23-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chlorobenzene	108-90-7	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloroethane	75-00-3	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
2-Chloroethylvinylether	110-75-8	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloroform	67-66-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloromethane	74-87-3	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
Cis-1,3-Dichloropropene	10061-01-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dibromochloromethane	124-48-1	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dibromomethane	74-95-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dichlorodifluoromethane	75-71-8	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
1,1-Dichloroethane	75-34-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,2-Dichloroethane	107-06-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1-Dichloroethene	75-35-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,2-Dichloropropane	78-87-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,3-Dichloropropane	142-28-9	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Ethyl Benzene	100-41-4	BDL	0.001	mg/L	BDL	0.001	mg/L	* 0.110	0.020	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Fluorotrichloromethane	75-69-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
M/P-Xylene	NA	BDL	0.001	mg/L	BDL	0.001	mg/L	* 0.090	0.020	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Methyl-T-Butyl Ether (Mtbe)	1634-04-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
O-Xylene	95-47-6	BDL	0.001	mg/L	BDL	0.001	mg/L	* 0.040	0.020	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Tetrachloroethene	127-18-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Toluene	108-88-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Trans-1,2-Dichloroethene	156-60-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,1-Trichloroethane	78-92-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,2-Trichloroethane	79-00-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Trichloroethene	79-01-6	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Vinyl Chloride	75-01-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
					BDL			.24 - .10			BDL			BDL		

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

		MW-6 B114024 12-MAR-92			MW-7 B114023 12-MAR-92			MW-8 B114022 12-MAR-92			MW-9 B114012 11-MAR-92			MW-10 B114011 11-MAR-92		
General Organics	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Benzene	71-43-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Bromodichloromethane	75-27-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Bromomethane	74-83-9	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
Carbon Tetrachloride	56-23-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chlorobenzene	108-90-7	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloroethane	75-00-3	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
2-Chloroethylvinylether	110-75-8	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloroform	67-66-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloromethane	74-87-3	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
Cis-1,3-Dichloropropene	10061-01-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dibromochloromethane	124-48-1	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dibromomethane	74-95-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dichlorodifluoromethane	75-71-8	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
1,1-Dichloroethane	75-34-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,2-Dichloroethane	107-06-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1-Dichloroethene	75-35-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,2-Dichloropropane	78-87-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,3-Dichloropropane	142-28-9	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Ethyl Benzene	100-41-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Fluorotrichloromethane	75-69-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
M/P-Xylene	NA	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Methyl-T-Butyl Ether (Mtbe)	1634-04-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
O-Xylene	95-47-6	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Tetrachloroethene	127-18-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Toluene	108-88-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Trans-1,2-Dichloroethene	156-60-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,1-Trichloroethane	78-92-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,2-Trichloroethane	79-00-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Trichloroethene	79-01-6	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Vinyl Chloride	75-01-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

		MW-13 B114015 11-MAR-92			MW-14 B114013 11-MAR-92			MW-15 B114014 11-MAR-92			MW-16 B114016 11-MAR-92			MW-17 B114017 11-MAR-92		
General Organics	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Benzene	71-43-2	* 0.073	0.010	mg/L	* 0.030	0.010	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Bromodichloromethane	75-27-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Bromomethane	74-83-9	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.025	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
Carbon Tetrachloride	56-23-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chlorobenzene	108-90-7	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloroethane	75-00-3	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.025	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
2-Chloroethylvinylether	110-75-8	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloroform	67-66-3	BDL	0.001	mg/L	0.0011	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Chloromethane	74-87-3	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.025	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
Cis-1,3-Dichloropropene	10061-01-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dibromochloromethane	124-48-1	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dibromomethane	74-95-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Dichlorodifluoromethane	75-71-8	BDL	0.005	mg/L	BDL	.005	mg/L	BDL	0.025	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
1,1-Dichloroethane	75-34-3	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,2-Dichloroethane	107-06-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1-Dichloroethene	75-35-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,2-Dichloropropane	78-87-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,3-Dichloropropane	142-28-9	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Ethyl Benzene	100-41-4	* 0.041	0.010	mg/L	* 0.067	0.010	mg/L	0.008	0.005	mg/L	0.0027	0.001	mg/L	0.0039	0.001	mg/L
Fluorotrichloromethane	75-69-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.025	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
M/P-Xylene	NA	* 0.044	0.010	mg/L	* 0.073	0.010	mg/L	0.008	0.005	mg/L	0.0037	0.001	mg/L	0.0088	0.001	mg/L
Methyl-T-Butyl Ether (Mtbe)	1634-04-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.025	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
O-Xylene	95-47-6	* 0.025	0.010	mg/L	* 0.036	0.010	mg/L	BDL	0.005	mg/L	0.0032	0.001	mg/L	0.0046	0.001	mg/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Tetrachloroethene	127-18-4	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Toluene	108-88-3	* 0.031	0.010	mg/L	* 0.046	0.010	mg/L	0.006	0.005	mg/L	BDL	0.001	mg/L	0.0011	0.001	mg/L
Trans-1,2-Dichloroethene	156-60-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,1-Trichloroethane	78-92-2	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
1,1,2-Trichloroethane	79-00-5	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Trichloroethene	79-01-6	BDL	0.001	mg/L	BDL	0.001	mg/L	BDL	0.005	mg/L	BDL	0.001	mg/L	BDL	0.001	mg/L
Vinyl Chloride	75-01-4	BDL	0.005	mg/L	BDL	0.005	mg/L	BDL	0.025	mg/L	BDL	0.005	mg/L	BDL	0.005	mg/L
		.214 mg/L			.253 mg/L			.022 mg/L			.010 mg/L			.018 mg/L		

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

		EQUIP BLANK B114019 11-MAR-92			FB14 B114020 11-MAR-92											
General Organics	CAS Number	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units	Result	DL	Units
Benzene	71-43-2	BDL	0.001	mg/L	BDL	0.001	mg/L									
Bromodichloromethane	75-27-4	BDL	0.001	mg/L	BDL	0.001	mg/L									
Bromomethane	74-83-9	BDL	0.005	mg/L	BDL	0.005	mg/L									
Carbon Tetrachloride	56-23-5	BDL	0.001	mg/L	BDL	0.001	mg/L									
Chlorobenzene	108-90-7	BDL	0.001	mg/L	BDL	0.001	mg/L									
Chloroethane	75-00-3	BDL	0.005	mg/L	BDL	0.005	mg/L									
2-Chloroethylvinylether	110-75-8	BDL	0.001	mg/L	BDL	0.001	mg/L									
Chloroform	67-66-3	BDL	0.001	mg/L	BDL	0.001	mg/L									
Chloromethane	74-87-3	BDL	0.005	mg/L	BDL	0.005	mg/L									
Cis-1,3-Dichloropropene	10061-01-5	BDL	0.001	mg/L	BDL	0.001	mg/L									
Dibromochloromethane	124-48-1	BDL	0.001	mg/L	BDL	0.001	mg/L									
Dibromomethane	74-95-3	BDL	0.001	mg/L	BDL	0.001	mg/L									
Dichlorodifluoromethane	75-71-8	BDL	0.005	mg/L	BDL	0.005	mg/L									
1,1-Dichloroethane	75-34-3	BDL	0.001	mg/L	BDL	0.001	mg/L									
1,2-Dichloroethane	107-06-2	BDL	0.001	mg/L	BDL	0.001	mg/L									
1,1-Dichloroethene	75-35-4	BDL	0.001	mg/L	BDL	0.001	mg/L									
1,2-Dichloropropane	78-87-5	BDL	0.001	mg/L	BDL	0.001	mg/L									
1,3-Dichloropropane	142-28-9	BDL	0.001	mg/L	BDL	0.001	mg/L									
Ethyl Benzene	100-41-4	BDL	0.001	mg/L	BDL	0.001	mg/L									
Fluorotrichloromethane	75-69-4	BDL	0.005	mg/L	BDL	0.005	mg/L									
M/P-Xylene	NA	BDL	0.001	mg/L	BDL	0.001	mg/L									
Methyl-T-Butyl Ether (Mtbe)	1634-04-4	BDL	0.005	mg/L	BDL	0.005	mg/L									
O-Xylene	95-47-6	BDL	0.001	mg/L	BDL	0.001	mg/L									
1,1,2,2-Tetrachloroethane	79-34-5	BDL	0.001	mg/L	BDL	0.001	mg/L									
Tetrachloroethene	127-18-4	BDL	0.001	mg/L	BDL	0.001	mg/L									
Toluene	108-88-3	BDL	0.001	mg/L	BDL	0.001	mg/L									
Trans-1,2-Dichloroethene	156-60-5	BDL	0.001	mg/L	BDL	0.001	mg/L									
1,1,1-Trichloroethane	78-92-2	BDL	0.001	mg/L	BDL	0.001	mg/L									
1,1,2-Trichloroethane	79-00-5	BDL	0.001	mg/L	BDL	0.001	mg/L									
Trichloroethene	79-01-6	BDL	0.001	mg/L	BDL	0.001	mg/L									
Vinyl Chloride	75-01-4	BDL	0.005	mg/L	BDL	0.005	mg/L									
		BDL			BDL											

* Note: This is a summary report. Please see the Certificate of Analysis for more information. DL = Detection Limit

ATTACHMENT D
12-HOUR WELL TEST DATA

WELL #	DATE	TIME	WATER LEVEL	ELEVATION
Ditch Staff Gauge	4-1-92	7:00	1.90	1.83
		9:00	2.40	2.33
		11:00	2.13	2.06
		13:00	0.20	0.13
		15:00	0.10	0.03
		17:00	0.26	0.19
		19:00	1.85	1.78
River Staff Gauge	4-1-92	7:00	4.70	2.68
		9:00	4.75	2.73
		11:00	3.20	1.18
		13:00	1.65	-0.37
		15:00	0.60	-1.42
		17:00	2.80	0.78
		19:00	4.80	2.78
B-2	4-1-92	7:00	5.45	1.51
		9:00	5.30	1.66
		11:00	5.45	1.51
		13:00	5.72	1.24
		15:00	5.87	1.09
		17:00	5.78	1.18
		19:00	5.40	1.56
B-3	4-1-92	7:00	3.00	2.13
		9:00	2.67	2.46
		11:00	3.12	2.01
		13:00	3.70	1.43
		15:00	3.96	1.17
		17:00	3.78	1.35
		19:00	2.98	2.15

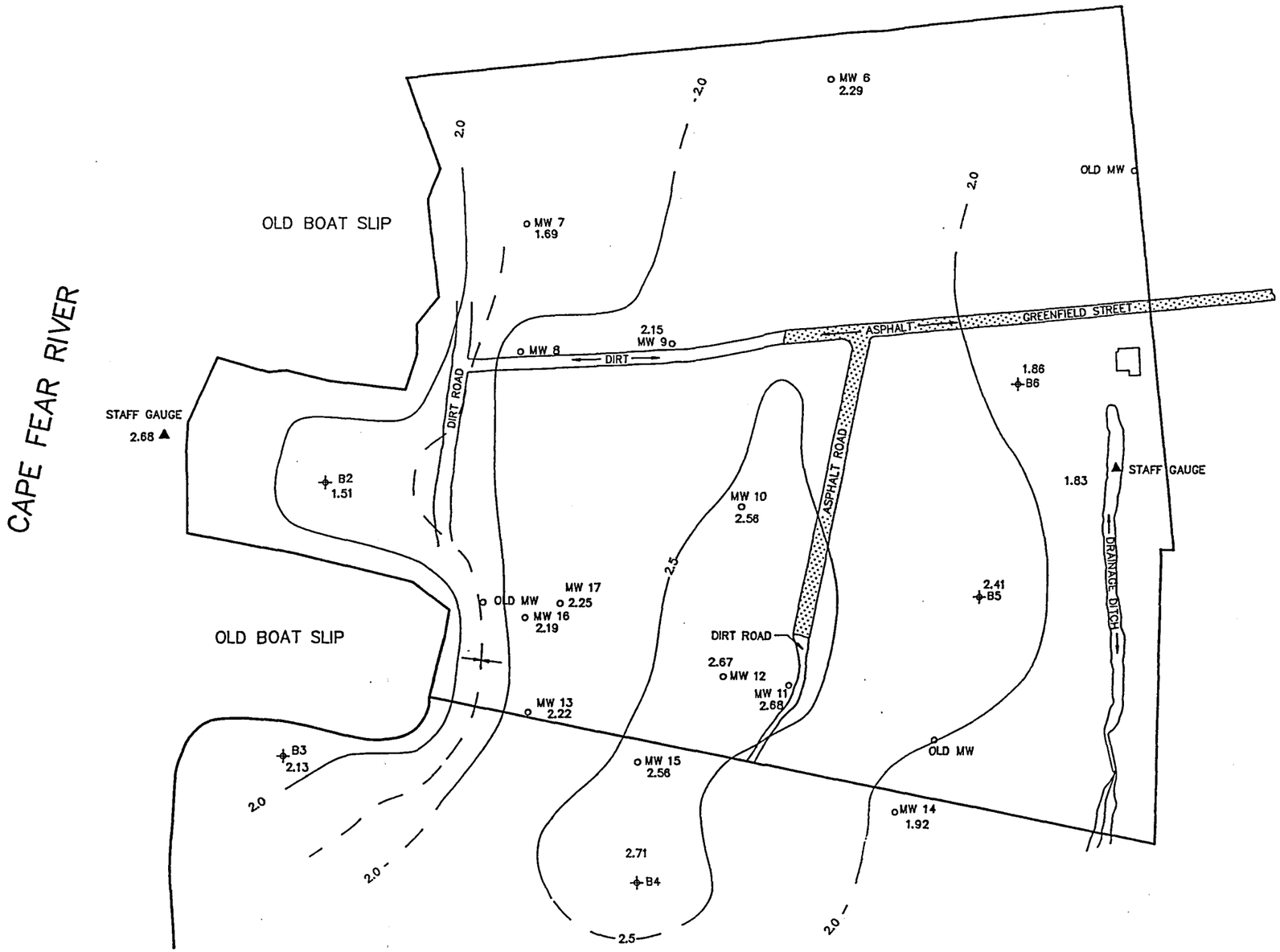
WELL #	DATE	TIME	WATER LEVEL	ELEVATION
B-4	4-1-92	7:00	1.47	2.71
		9:00	1.45	2.73
		11:00	1.43	2.75
		13:00	1.40	2.78
		15:00	1.38	2.80
		17:00	1.38	2.80
		19:00	1.41	2.77
B-5	4-1-92	7:00	3.38	2.41
		9:00	3.36	2.43
		11:00	3.41	2.38
		13:00	3.38	2.41
		15:00	3.36	2.43
		17:00	3.36	2.43
		19:00	3.38	2.41
B-6	4-1-92	7:00	4.20	1.86
		9:00	4.17	1.89
		11:00	4.13	1.93
		13:00	4.12	1.94
		15:00	4.14	1.92
		17:00	4.16	1.90
		19:00	4.19	1.87
MW-6	4-1-92	7:00	2.78	2.29
		9:00	2.76	2.31
		11:00	2.72	2.35
		13:00	2.72	2.35
		15:00	2.70	2.37
		17:00	2.73	2.34
		19:00	2.74	2.33

WELL #	DATE	TIME	WATER LEVEL	ELEVATION
MW-7	4-1-92	7:00	4.34	1.69
		9:00	4.22	1.81
		11:00	4.19	1.84
		13:00	4.30	1.73
		15:00	4.37	1.66
		17:00	4.40	1.63
		19:00	4.28	1.75
MW-8	4-1-92	7:00	4.68	2.12
		9:00	4.64	2.16
		11:00	4.62	2.18
		13:00	4.58	2.22
		15:00	4.55	2.25
		17:00	4.55	2.25
		19:00	4.52	2.28
MW-9	4-1-92	7:00	4.28	2.15
		9:00	4.26	2.17
		11:00	4.19	2.24
		13:00	4.16	2.27
		15:00	4.14	2.29
		17:00	4.16	2.27
		19:00	4.19	2.24
MW-10	4-1-92	7:00	4.85	2.56
		9:00	4.84	2.57
		11:00	4.82	2.59
		13:00	4.80	2.61
		15:00	4.78	2.63
		17:00	4.80	2.61
		19:00	4.83	2.58

WELL #	DATE	TIME	WATER LEVEL	ELEVATION
MW-11	4-1-92	7:00	5.34	2.68
		9:00	5.33	2.69
		11:00	5.31	2.71
		13:00	5.27	2.75
		15:00	5.22	2.80
		17:00	5.20	2.82
		19:00	5.26	2.76
MW-12	4-1-92	7:00	5.55	2.67
		9:00	5.55	2.67
		11:00	5.51	2.71
		13:00	5.49	2.73
		15:00	5.45	2.77
		17:00	5.45	2.77
		19:00	5.50	2.72
MW-13	4-1-92	7:00	4.75	2.22
		9:00	4.55	2.42
		11:00	4.55	2.42
		13:00	4.65	2.32
		15:00	4.68	2.29
		17:00	4.72	2.25
		19:00	4.65	2.32
MW-14	4-1-92	7:00	4.38	1.92
		9:00	4.28	2.02
		11:00	4.15	2.15
		13:00	4.12	2.18
		15:00	4.09	2.21
		17:00	4.12	2.18
		19:00	4.18	2.12

WELL #	DATE	TIME	WATER LEVEL	ELEVATION
MW-15	4-1-92	7:00	4.51	2.56
		9:00	4.47	2.60
		11:00	4.43	2.64
		13:00	4.41	2.66
		15:00	4.38	2.69
		17:00	4.38	2.69
		19:00	4.44	2.63
MW-16	4-1-92	7:00	5.50	2.19
		9:00	5.40	2.29
		11:00	5.42	2.27
		13:00	5.50	2.19
		15:00	5.53	2.16
		17:00	5.55	2.14
		19:00	5.50	2.19
MW-17	4-1-92	7:00	5.40	2.25
		9:00	5.35	2.30
		11:00	5.32	2.33
		13:00	5.35	2.30
		15:00	5.38	2.27
		17:00	5.40	2.25
		19:00	5.35	2.30

ATTACHMENT E
POTENTIOMETRIC SURFACE MAPS



LEGEND

- PERMANENT MONITORING WELLS (12)
- TEMPORARY MONITORING WELLS (5)
- STAFF GAUGE
- STAGNATION POINT

GRAPHIC SCALE

0 100 200 400 600 800

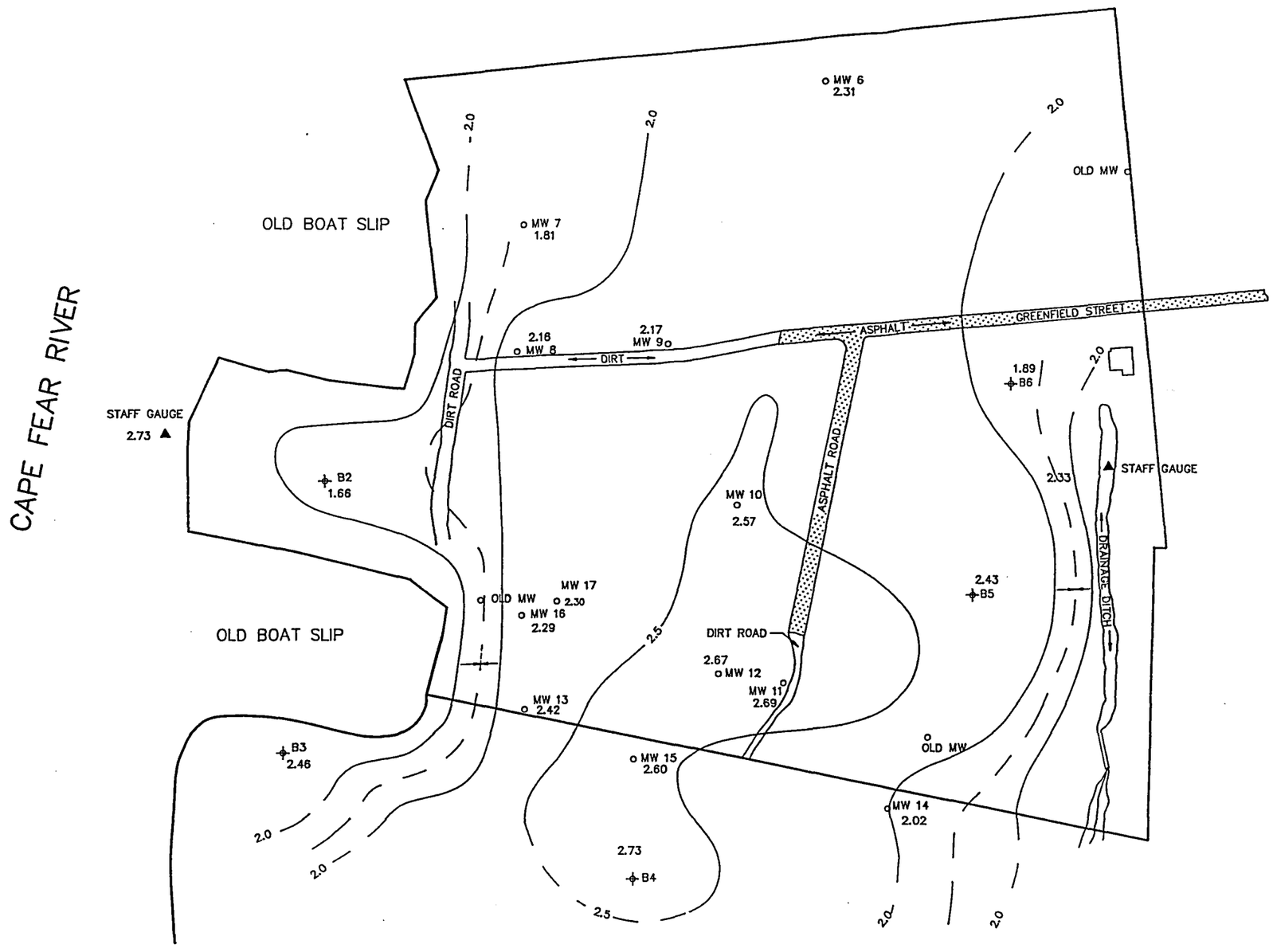
Environmental Technology Engineering, Inc.

SCALE	1"=200'
DRAWN BY	CAB
CHECKED BY	CKA
DATE	6/3/92

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

POTENTIOMETRIC SURFACE MAP
TIME 1
4/1/92
CONTOUR INTERVAL = 0.5 ft.

SHEET	OF
CADD NO.	53050105
PROJECT NO.	530-06-501



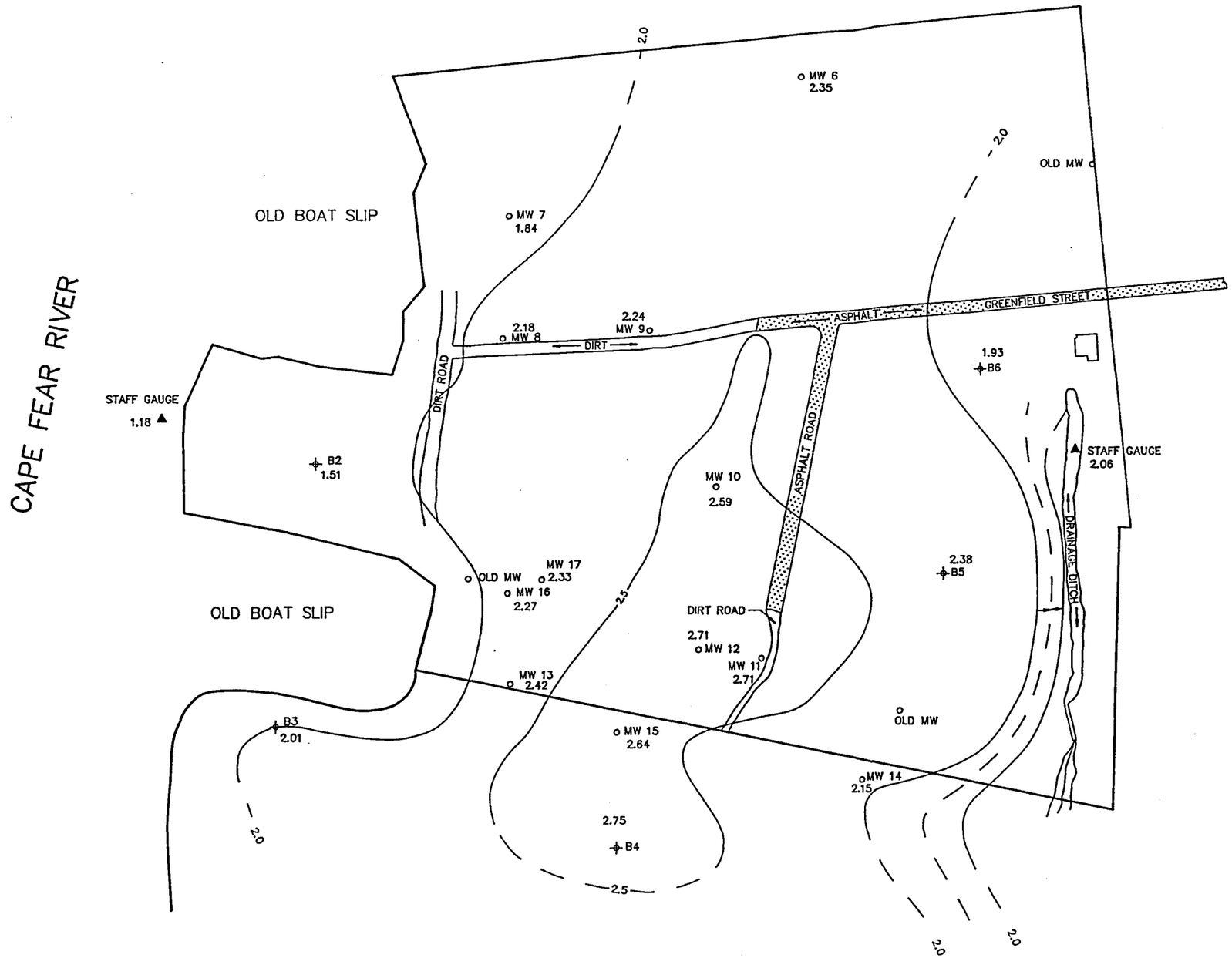
LEGEND

- PERMANENT MONITORING WELLS (12)
- TEMPORARY MONITORING WELLS (5)
- STAFF GAUGE
- STAGNATION POINT

GRAPHIC SCALE

0 100 200 400 600 800

Environmental Technology Engineering, Inc.	SCALE 1"=200' DRAWN BY CAB CHECKED BY CKA DATE 6/3/92	SOUTHERN WOOD PIEDMONT COMPANY WILMINGTON, NORTH CAROLINA	POTENTIOMETRIC SURFACE MAP TIME 2 4/1/92 CONTOUR INTERVAL = 0.5 ft.	SHEET OF CADD NO. 53050105 PROJECT NO. 530-06-501



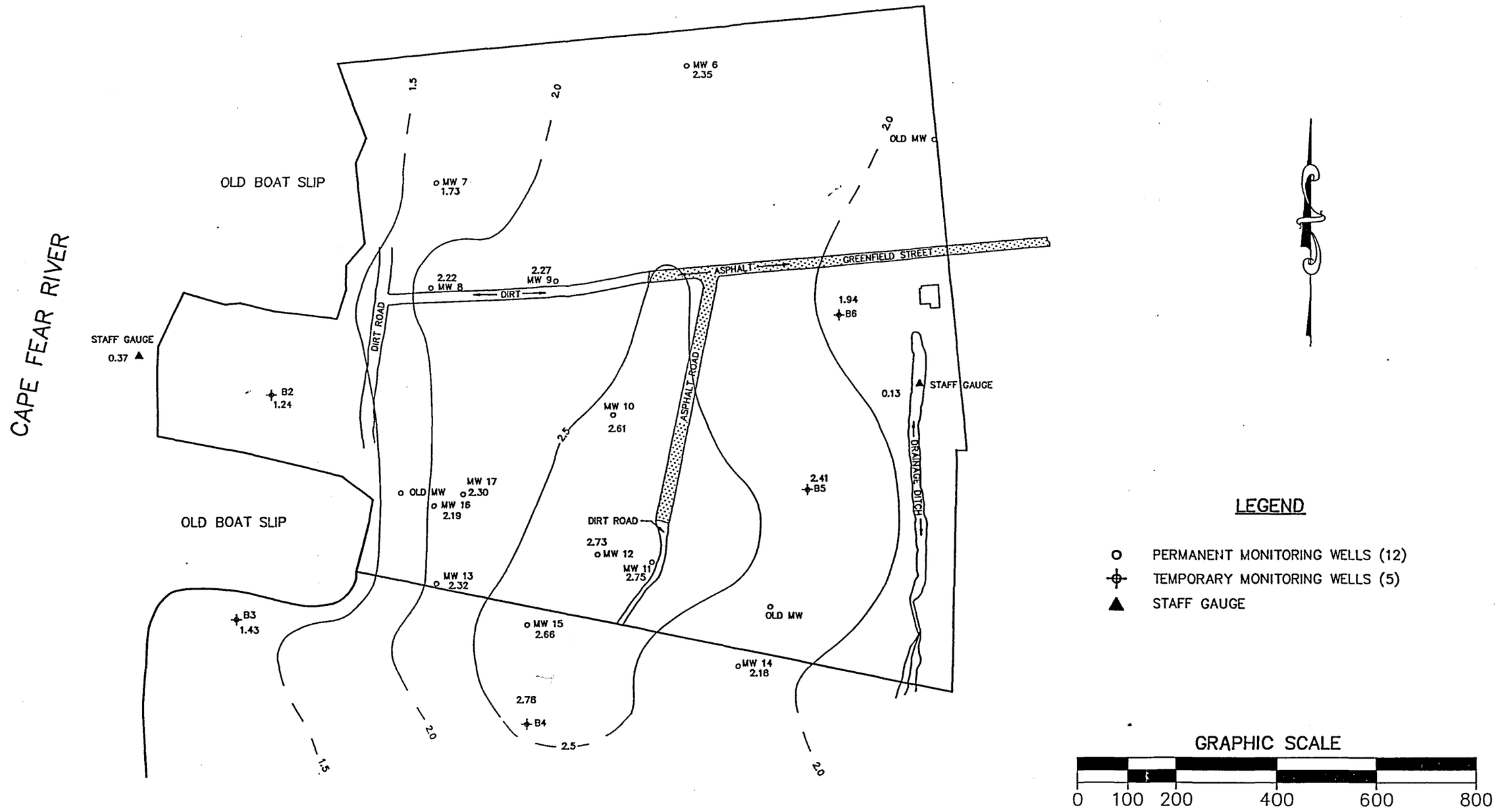
LEGEND

- PERMANENT MONITORING WELLS (12)
- TEMPORARY MONITORING WELLS (5)
- STAFF GAUGE
- STAGNATION POINT

GRAPHIC SCALE

0 100 200 400 600 800

Environmental Technology Engineering, Inc.	SCALE 1"=200' DRAWN BY CAB CHECKED BY CKA DATE 6/3/92	SOUTHERN WOOD PIEDMONT COMPANY WILMINGTON, NORTH CAROLINA	POTENTIOMETRIC SURFACE MAP TIME 3 4/1/92 CONTOUR INTERVAL = 0.5 ft.	SHEET OF CADD NO. 53050105 PROJECT NO. 530-06-501



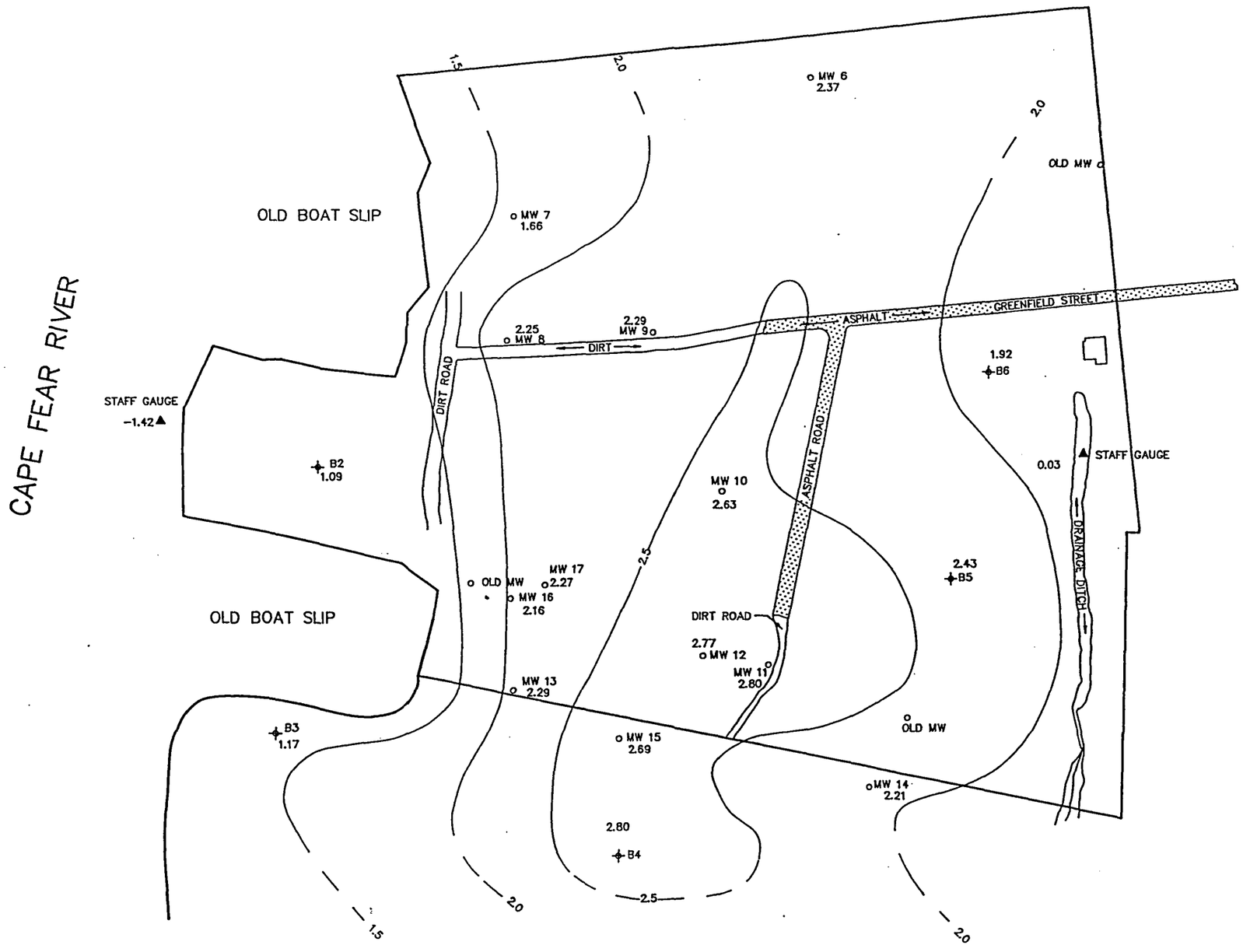
Environmental Technology Engineering, Inc.

SCALE	1"=200'
DRAWN BY	CAB
CHECKED BY	CKA
DATE	6/3/92

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

POTENTIOMETRIC SURFACE MAP
TIME 4
4/1/92
CONTOUR INTERVAL = 0.5 ft.

SHEET	OF
CADD NO.	53050105
PROJECT NO.	530-06-501



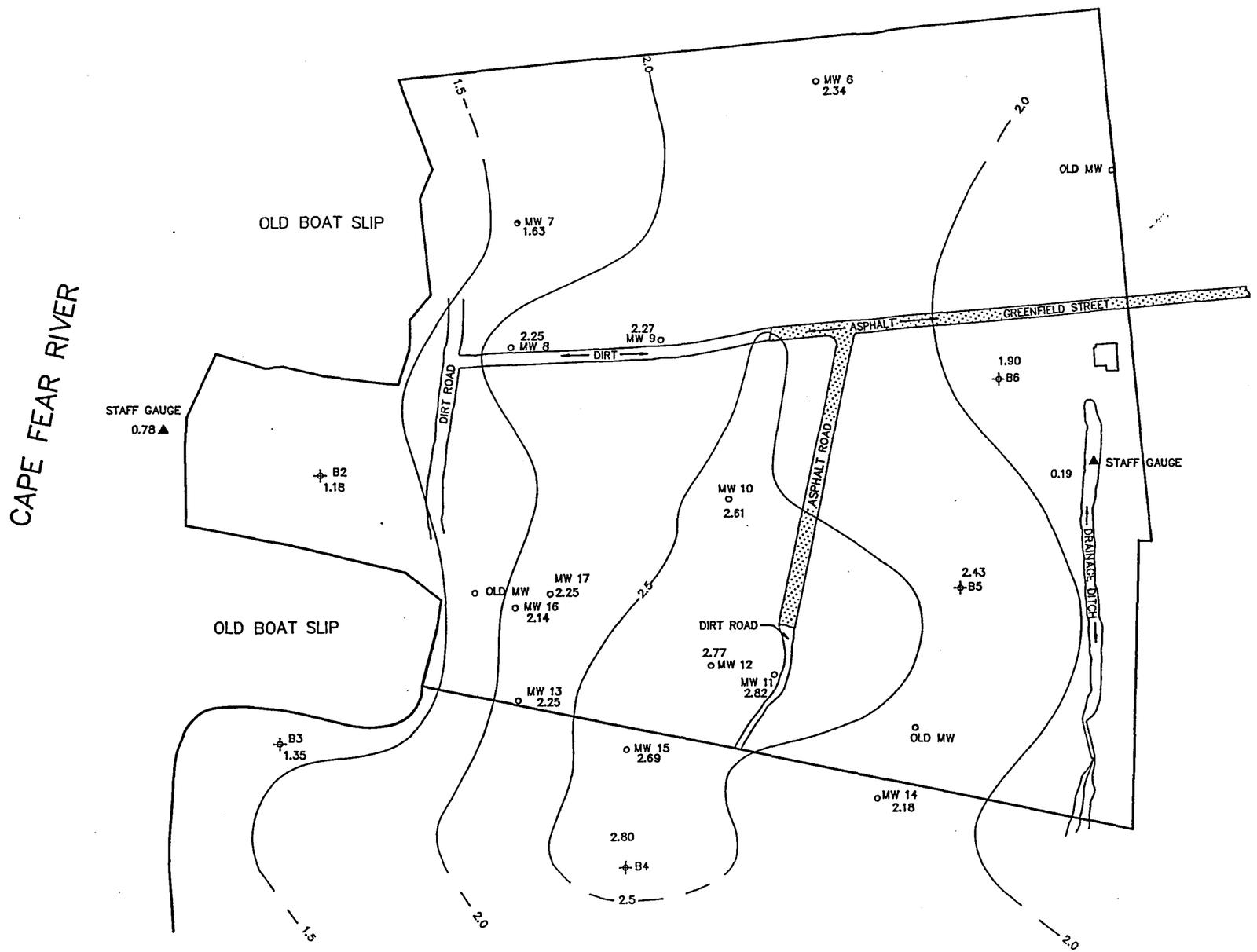
LEGEND

- PERMANENT MONITORING WELLS (12)
- TEMPORARY MONITORING WELLS (.)
- STAFF GAUGE

GRAPHIC SCALE

0 100 200 400 600 800

Environmental Technology Engineering, Inc.	SCALE 1"=200'	SOUTHERN WOOD PIEDMONT COMPANY WILMINGTON, NORTH CAROLINA	POTENTIOMETRIC SURFACE MAP TIME 5 4/1/92 CONTOUR INTERVAL = 0.5 ft.	SHEET OF
	DRAWN BY CAB			CADD NO. 53050105
	CHECKED BY CKA			PROJECT NO. 530-06-501
	DATE 6/3/92			



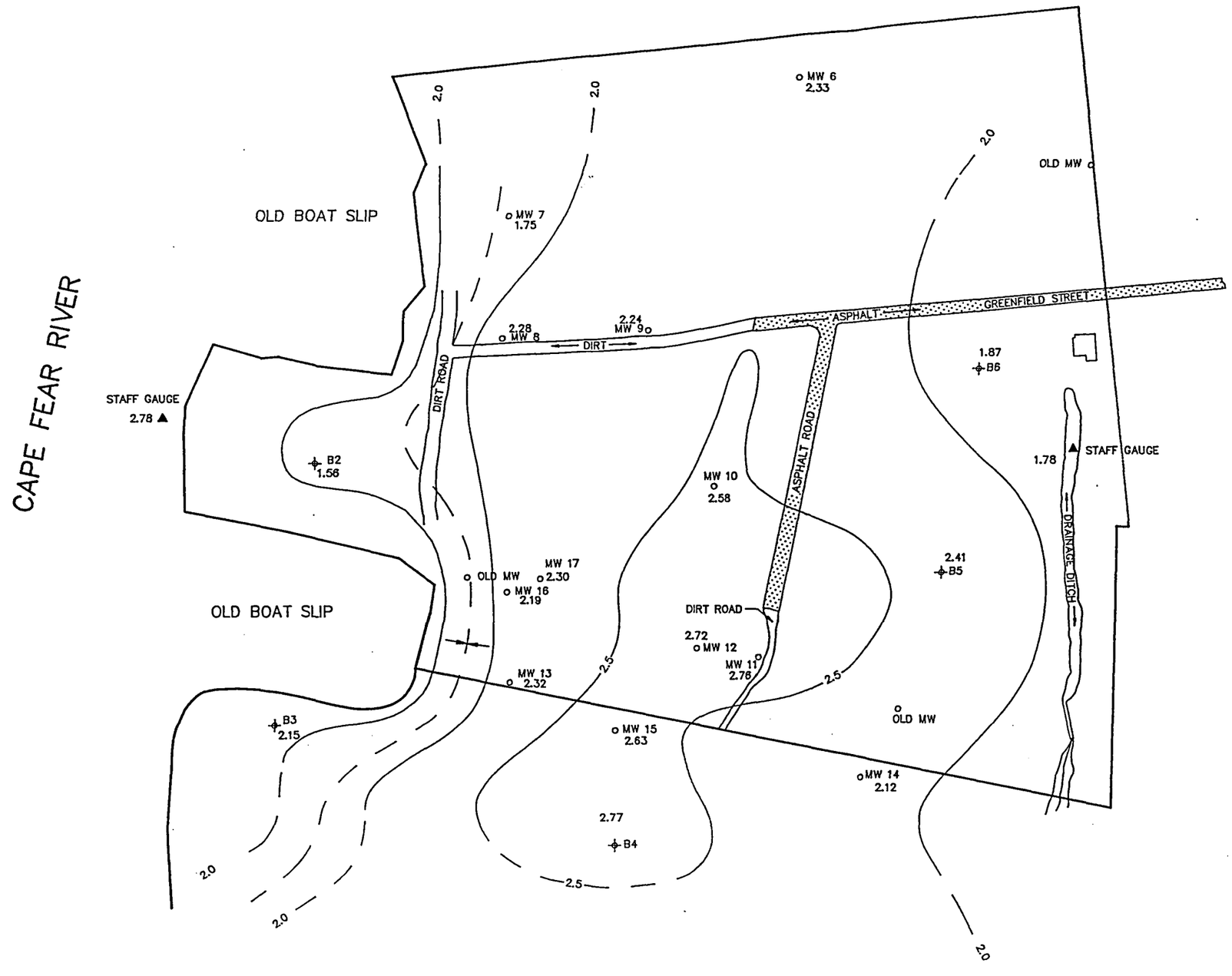
LEGEND

- PERMANENT MONITORING WELLS (12)
- TEMPORARY MONITORING WELLS (5)
- STAFF GAUGE

GRAPHIC SCALE

0 100 200 400 600 800

Environmental Technology Engineering, Inc.	SCALE 1"=200'	SOUTHERN WOOD PIEDMONT COMPANY WILMINGTON, NORTH CAROLINA	POTENTIOMETRIC SURFACE MAP TIME 6 4/1/92 CONTOUR INTERVAL = 0.5 ft.	SHEET OF
	DRAWN BY CAB			CADD NO. 53050105
	CHECKED BY CKA			PROJECT NO. 530-06-501
	DATE 6/3/92			



LEGEND

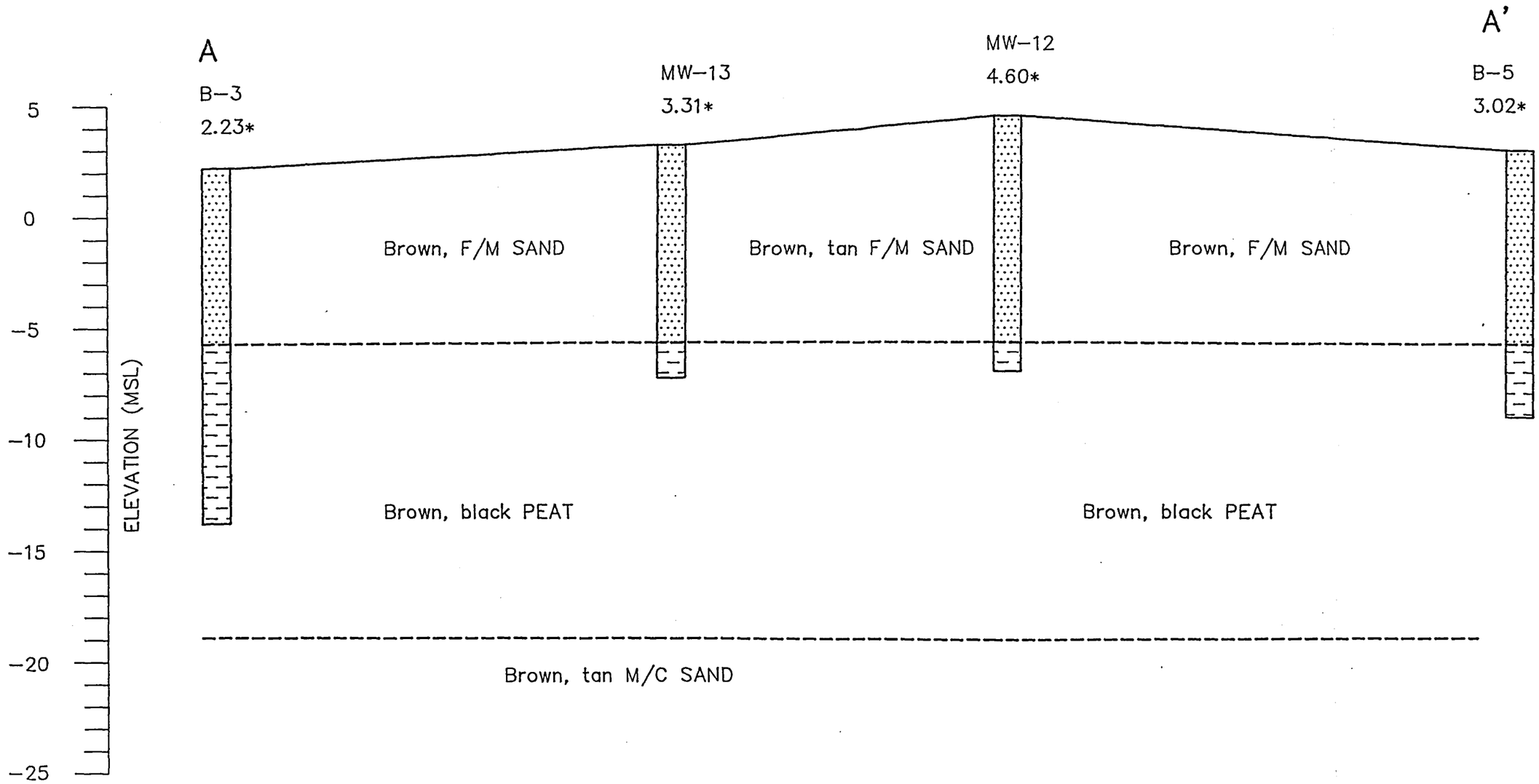
- PERMANENT MONITORING WELLS (12)
- TEMPORARY MONITORING WELLS (5)
- STAFF GAUGE
- STAGNATION POINT

GRAPHIC SCALE

0 100 200 400 600 800

Environmental Technology Engineering, Inc.	SCALE 1"=200'	SOUTHERN WOOD PIEDMONT COMPANY WILMINGTON, NORTH CAROLINA	POTENTIOMETRIC SURFACE MAP TIME 7 4/1/92 CONTOUR INTERVAL = 0.5 ft.	SHEET OF
	DRAWN BY CAB			CADD NO. 53050105
	CHECKED BY CKA			PROJECT NO. 530-06-501
	DATE 6/3/92			

ATTACHMENT F
GEOLOGIC CROSS SECTIONS



SCALE

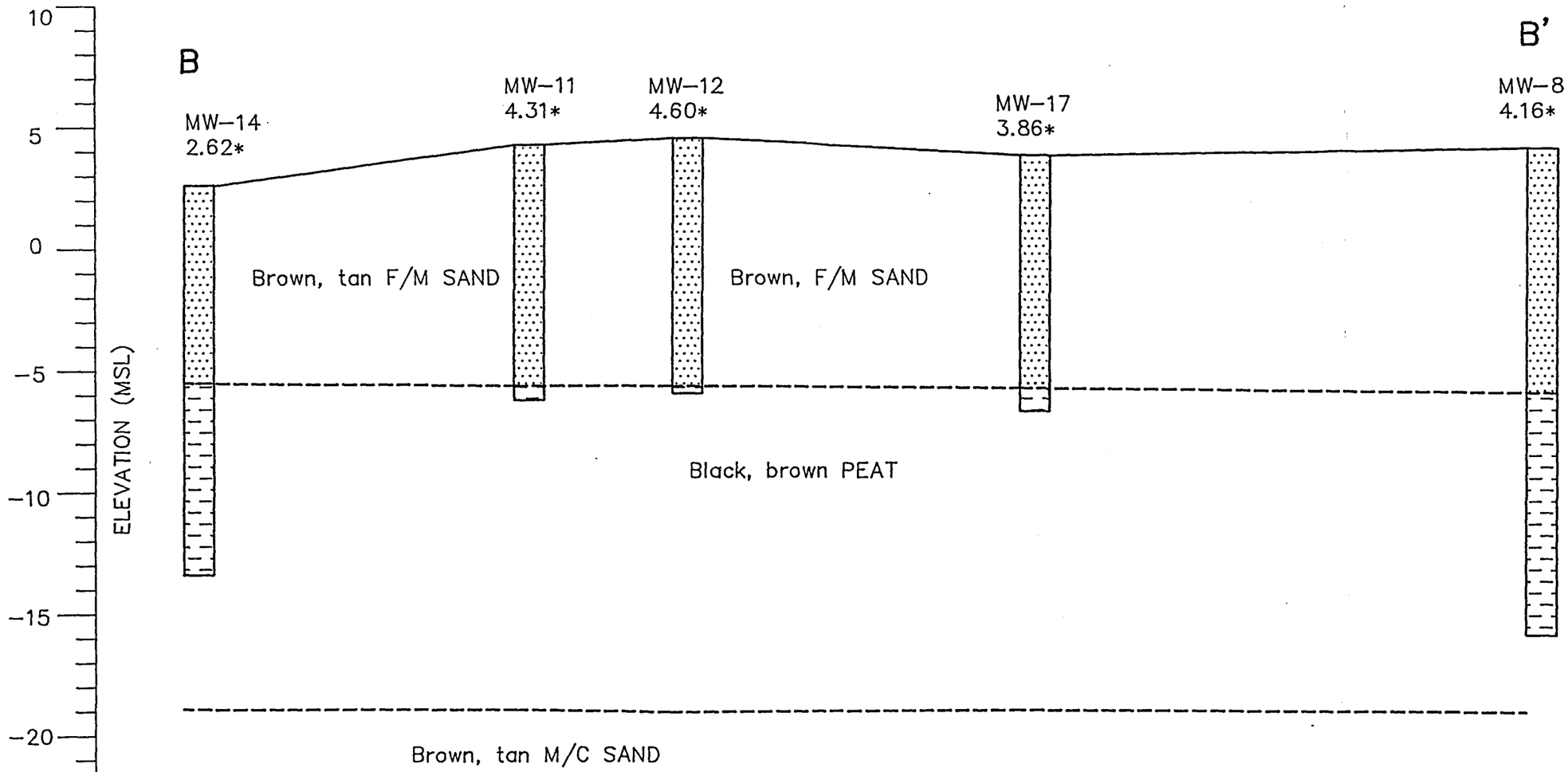
VERT. 1" = 5'

HORIZ. 1" = 100'

LEGEND

* Ground Surface Elevation

Environmental Technology Engineering, Inc.	SCALE 1"=100' DRAWN BY CKA CHECKED BY CKA DATE 6-1-92	SOUTHERN WOOD PIEDMONT WILMINGTON, NORTH CAROLINA	GEOLOGIC CROSS-SECTION A - A'	SHEET OF CADD NO. 53002CS PROJECT NO. 530-06-501



SCALE
VERT. 1" = 5'
HORIZ. 1" = 100'

LEGEND
* Ground Surface Elevation

Environmental Technology Engineering, Inc.	SCALE 1" = 100' DRAWN BY CKA CHECKED BY CKA DATE 6-1-92	SOUTHERN WOOD PIEDMONT WILMINGTON, NORTH CAROLINA	GEOLOGIC CROSS-SECTION B - B'	SHEET OF CADD NO. 53003CS PROJECT NO. 530-06-501