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Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States

By HANSFORD T. SHACKLETTE *and* JOSEPHINE G. BOERNGEN

U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 1270

An account of the concentrations of 50 chemical elements in samples of soils and other regoliths

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ELEMENT CONCENTRATIONS IN SOILS AND OTHER SURFICIAL MATERIALS OF THE CONTERMINOUS UNITED STATES

By HANSFORD T. SHACKLETTE and JOSEPHINE G. BOERNGEN

ABSTRACT

Samples of soils or other regoliths, taken at a depth of approximately 20 cm from locations about 80 km apart throughout the conterminous United States, were analyzed for their content of elements. In this manner, 1,318 sampling sites were chosen, and the results of the sample analyses for 50 elements were plotted on maps. The arithmetic and geometric mean, the geometric deviation, and a histogram showing frequencies of analytical values are given for 47 elements.

The lower concentrations of some elements (notably, aluminum, barium, calcium, magnesium, potassium, sodium, and strontium) in most samples of surficial materials from the Eastern United States, and the greater abundance of heavy metals in the same materials of the Western United States, indicates a regional geochemical pattern of the largest scale. The low concentrations of many elements in soils characterize the Atlantic Coastal Plain. Soils of the Pacific Northwest generally have high concentrations of aluminum, cobalt, iron, scandium, and vanadium, but are low in boron. Soils of the Rocky Mountain region tend to have high concentrations of copper, lead, and zinc. High mercury concentrations in surficial materials are characteristic of Gulf Coast sampling sites and the Atlantic coast sites of Connecticut, Massachuetts, and Maine. At the State level, Florida has the most striking geochemical pattern by having soils that are low in the concentrations of most elements considered in this study. Some smaller patterns of element abundance can be noted, but the degree of confidence in the validity of these patterns decreases as the patterns become less extensive.

INTRODUCTION

The abundance of certain elements in soils and other surficial materials is determined not only by the element content of the bedrock or other deposits from which the materials originated, but also by the effects of climatic and biological factors as well as by influences of agricultural and industrial operations that have acted on the materials for various periods of time. The diversity of these factors in a large area is expected to result in a corresponding diversity in the element contents of the surficial materials.

At the beginning of this study (1961), few data were available on the abundance of elements in surficial materials of the United States as a whole. Most of the early reports discussed only the elements that were of economic importance to mining or agriculture in a metallogenic area or State; and the data, for the most part, cannot be evaluated with reference to average, or normal, amounts in undisturbed materials because they were based on samples of deposits expected to have anomalous amounts of certain elements, or were based only on samples from cultivated fields.

We began a sampling program in 1961 that was designed to give estimates of the range of element abundance in surficial materials that were unaltered or very little altered from their natural condition, and in plants that grew on these deposits, throughout the conterminous United States. We believed that analyses of the surficial materials would provide a measure of the total concentrations of the elements that were present at the sampling sites, and that analysis of the plants would give an estimate of the relative concentrations among sites of the elements that existed in a chemical form that was available to plants. Because of the great amount of travel necessary to complete this sampling, we asked geologists and others of the U.S. Geological Survey to assist by collecting samples when traveling to and from their project areas and to contribute appropriate data they may have collected for other purposes. The reponse to this request, together with the samples and data that we had collected, resulted in our obtaining samples of surficial materials and plants from 863 sites. The analyses of surficial materials sampled in this phase of the study were published for 35 elements by plotting element concentrations, in two to five frequency classes, on maps (Shacklette, Hamilton, and others, 1971).

Soon after the publication of the results of this study, interest in environmental matters, particularly in the effects of contamination and industrial pollution, increased greatly. At the same time, technological advances in analytical methods and data processing facilitated measurements of geochemical and other parameters of the environment. In response to the need for background data for concentrations of certain elements of particular environmental concern, the samples of surficial materials that were collected for the first study (Shacklette, Hamilton, and others, 1971) (with some ad-

ditional samples) were analyzed for other elements, and the results were published in U.S. Geological Survey Circulars: for mercury, Shacklette, Boerngen, and Turner (1971); for lithium and cadmium, by Shacklette, and others (1973); and for selenium, fluorine, and arsenic, Shacklette and others (1974).

The collection of samples for this study continued, as opportunities arose, until autumn 1975, resulting in the sampling of an additional 355 sites that were selected to give a more uniform geographical coverage of the conterminous United States. This sampling continuation is referred to as phase two. These samples were analyzed, and the data were merged with those of the original samples to produce the results given in the present report. In addition, the availability of analytical methods for elements not included in the earlier reports permitted data to be given on these elements in the more recently collected samples.

The collection localities and dates, sample descriptions, and analytical values for each sample in the present report were published by Boerngen and Shacklette (1981). The elemental compositions of only the surficial materials are given in this report; the data on analyses of the plant samples are held in files of the U.S. Geological Survey.

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REVIEW OF LITERATURE

The literature on the chemical analysis of soils and other surficial materials in the United States is extensive and deals largely with specific agricultural problems of regional interest. Many of the papers were written by soil scientists and chemists associated with State agricultural experiment stations and colleges of agriculture, and most reports considered only elements that were known to be nutritive or toxic to plants or animals.

Chemists with the U.S. Department of Agriculture prepared most early reports of element abundance in soils for large areas of the United States. (See Robinson, 1914; Robinson and others, 1917). The 1938 yearbook of agriculture was devoted to reports on soils of the United States; in this book, McMurtrey and Robinson (1938) discussed the importance and abundance of trace elements in soils. Amounts of the major elements in soil samples from a few soil profiles distributed throughout the United States were compiled by the soil scientist C. F. Marbut (1935) to illustrate characteristics of soil units.

The use of soil analysis in geochemical prospecting began in this country in the 1940's, and many reports were published on the element amounts in soils from areas where mineral deposits were known or suspected to occur. Most of these reports included only a few elements in soils from small areas. This early geochemical work was discussed by Webb (1953) and by Hawkes (1957). In succeeding years, as soil analyses became an accepted method of prospecting and as analytical

methods were improved, many elements in soils were analyzed; still, the areas studied were commonly small.

An estimate of the amounts of elements in average, or normal, soils is useful in appraising the amounts of elements in a soil sample as related to agricultural, mineral prospecting, environmental quality, and health and disease investigations. Swaine (1955) gave an extensive bibliography of trace-element reports on soils of the world, and he also summarized reports of the average amounts of elements as given by several investigators. The most comprehensive list of average amounts of rare and dispersed elements in soils is that of Vinogradov (1959), who reported the analytical results of extensive studies of soils in the Union of Soviet Socialist Republics, as well as analyses of soils from other countries. He did not state the basis upon which he established the average values; however, these values are presumably the arithmetic means of element amounts in samples from throughout the world. In their discussions of the principles of geochemistry, Goldschmidt (1954) and Rankama and Sahama (1955) reported the amounts of various elements present in soils and in other surficial materials, Hawks and Webb (1962) and, more recently, Brooks (1972), Siegal (1974), Levinson (1974), and Rose and others (1979) gave average amounts of certain elements in soils as useful guides in mineral exploration.

A report on the chemical characteristics of soils was edited by Bear (1964). In this book, the chapter on chemical composition of soils by Jackson (1964) and the chapter on trace elements in soils by Mitchell (1964) gave the ranges in values or the average amounts of some soil elements.

Regional geochemical studies conducted by scientists of the U.S. Geological Survey within the past two decades have been largely directed to the establishment of baseline abundances of elements in surficial materials, including soils. Most of the earlier work investigated these materials that occurred in their natural condition, having little or no alterations that related to human activities, with the objective of establishing normal element concentrations in the materials by which anomalous concentrations, both natural or man induced, could be judged. Some of these studies were conducted in cooperation with medical investigators who were searching for possible relationships of epidemiological patterns to characteristics of the environment. In one study, the geochemical characteristics of both natural and cultivated soils were determined in two areas of Georgia that had contrasting rates of cardiovascular diseases (Shacklette and others, 1970). In an extensive geochemical study of Missouri, also conducted cooperatively with medical researchers, both cultivated and natural soils were sampled. The results were presented for the State as a whole, and for physiographic regions or other subdivisions and smaller areas, as follows: Erdman and others (1976a, 1976b); Tidball (1976, 1983a, 1983b); and Ebens and others (1973). The results of these studies, and of other regional geochemical investigations, were summarized and tabulated by Connor and Shacklette (1975).

Recent regional studies of soil geochemistry by the U.S. Geological Survey related to the development of energy resources in the western part of the United States, including North Dakota, South Dakota, Montana, Wyoming, Colorado, Utah, and New Mexico. These studies established regional geochemical baselines for soils, both in undisturbed areas and in areas that had been altered by mining and related activities. Some of these studies considered the elements in soils both as total concentrations and as concentrations that were available to plants of the region. The results of these studies were published in annual progress reports (U.S. Geological Survey, 1974, 1975, 1976, 1977, and 1978). The data on soils, as well as on other natural materials, in these reports were summarized and tabulated by Ebens and Shacklette (1981). In a study of the elements in fruits and vegetables from 11 areas of commercial production in the United States, and in the soils on which this produce grew, soils were analyzed for 39 elements, as reported by Boerngen and Shacklette (1980) and Shacklette (1980).

The average amounts of elements in soils and other surficial materials of the United States, as determined in the present study, are given in table 1, with the average values or ranges in values that were reported by Vinogradov (1959), Rose and others (1979), Jackson (1964), Mitchell (1964), and Brooks (1972). The averages from the present study given in table 1 are the arithmetic means. Although the averages were computed by the methods described by Miesch (1967), the values obtained are directly comparable with the arithmetic means derived by common computational procedures.

COLLECTION AND ANALYSIS OF GEOCHEMICAL DATA

SAMPLING PLAN

The sampling plan was designed with the emphasis on practicality, in keeping with the expenditures of time and funds available, and its variance from an ideal plan has been recognized from the beginning. Because the collection of most samples was, by necessity, incidental to other duties of the samplers, the instructions for sampling were simplified as much as possible, so that sampling methods would be consistent within the wide range of kinds of sites to be sampled. The samples were

TABLE 1.—*Average or median contents, and range in contents, reported for elements in soils and other surficial materials*

[Data are in parts per million; each average represents arithmetic mean; leaders (—) in figure columns indicate no data available. A, average; M, median. <, less than; >, greater than]

Element	This report		Rose, and others (1979) (elements useful in geochemical prospecting)	Vinogradov (1959) (presumably, averages from worldwide sampling)	Jackson (1964)	Mitchell (1964)	Brooks (1972)
	Average	Range			"Typical",[1] average, or range in values	Range in contents in Scottish surface soils	Average or range
Al	72,000	700 - <10,000	—	71,300	10,000 - 60,000	—	—
As	7.2	<0.1 - 97	7.5 (M)	5	—	—	5
B	33	<20 - 300	29 (M)	10	30	—	10
Ba	580	10 - 5,000	300 (M)	—	—	400 - 3,000	500
Be	.92	<1 - 15	0.5 - 4	6	—	<5 - 5	6
Br	.85	<0.5 - 11	—	5	—	—	—
C, total	25,000	600 - 370,000	—	20,000	—	—	—
Ca	24,000	100 - 320,000	—	13,700	7,000	—	—
Ce	75	<150 - 300	—	—	—	—	—
Co	9.1	<3 - 70	10 (M)	8	—	<2 - 80	10
Cr	54	1 - 2,000	6.3 (M)	200	—	5 - 3,000	200
Cu	25	<1 - 700	15 (M)	20	20	<10 - 100	20
F	430	<10 - 3,700	300 (M)	200	—	—	—
Fe	26,000	100 - >100,000	21,000 (M)	38,000	7,000 - 42,000		10,000 - 50,000
Ga	17	<5 - 70	—	30	—	15 - 70	20
Ge	1.2	<0.1 - 2.5	—	1	—	—	5
Hg	.09	<0.01 - 4.6	0.056 (M)	—	—	—	.01
I	1.2	<0.5 - 9.6	—	—	—	—	—
K	15,000	50 - 63,000	11,000 (M)	13,600	400 - 28,000	—	—
La	37	<30 - 200	—	—	—	<30 - 200	—
Li	24	<5 - 140	6.2 (M)	30	—	—	30
Mg	9,000	50 - >100,000	—	6,300	<6,000	—	—
Mn	550	<2 - 7,000	320 (M)	850	—	200 - 5,000	850
Mo	.97	<3 - 15	2.5 (A)	2	—	<1 - 5	2.5
Na	12,000	<500 - 100,000	—	6,300	—	—	—
Nb	11	<10 - 100	15 (A)	—	—	—	15
Nd	46	<70 - 300	—	—	—	—	—
Ni	19	<5 - 700	17 (M)	40	—	10 - 800	40
P	430	<20 - 6,800	300 (M)	800	500	—	—
Pb	19	<10 - 700	17 (M)	—	—	<20 - 80	10
Rb	67	<20 - 210	35 (M)	100	—	—	—
S, total	1,600	<800 - 48,000	100 - 2,000	850	—	—	—
Sb	.66	<1 - 8.8	2 (A)	—	—	—	.5
Sc	8.9	<5 - 50	—	7	—	<3 - 15	—
Se	.39	<0.1 - 4.3	0.31 (M)	.001	—	—	.5
Si	310,000	16,000 - 450,000	—	330,000	—	—	—
Sn	1.3	<0.1 - 10	10 (A)	—	—	—	10
Sr	240	<5 - 3,000	67 (M)	300	—	60 - 700	300
Ti	2,900	70 - 20,000	—	4,600	1,200 - 6,000	—	—
Th	9.4	2.2 - 31	—	—	—	—	13
U	2.7	0.29 - 11	1 (A)	—	—	—	1
V	80	<7 - 500	57 (M)	100	—	20 - 250	100
Y	25	<10 - 200	—	50	—	25 - 100	—
Yb	3.1	<1 - 50	—	—	—	—	—
Zn	60	<5 - 2,900	36 (M)	50	—	—	50
Zr	230	<20 - 2,000	270 (M)	300	—	200 - >1,000	—

[1]Author's usage; generally used to indicate the most commonly occurring value.

collected by U.S. Geological Survey personnel along their routes of travel to areas of other types of field studies or within their project areas.

The locations of the routes that were sampled depended on both the network of roads that existed and the destinations of the samplers. Sampling intensity was kept at a minimum by selecting only one sampling site every 80 km (about 50 miles; selected for convenience because vehicle odometers were calibrated in miles) along the routes. The specific sampling sites were selected, insofar as possible, that had surficial materials that were very little altered from their natural condition and that supported native plants suitable for sampling. In practice, this site selection necessitated sampling away from roadcuts and fills. In some areas, only cultivated fields and plants were available for sampling.

Contamination of the sampling sites by vehicular emissions was seemingly insignificant, even though many sites were within 100 m or less of the roads. Col-

lecting samples at about 20 cm depth, rather than at the upper soil horizons, may have avoided the effects of surface contamination on the samples. However, we had no adequate way of measuring any contamination that may have occurred. (See Cannon and Bowles, 1962.) Many of the sampled routes had only light vehicular traffic, and some were new interstate highways. Routes through congested areas generally were not sampled; therefore, no gross contamination of the samples was expected.

The study areas that were sampled follow: Wisconsin and parts of contiguous States, southeastern Missouri, Georgia, and Kentucky, sampled by Shacklette; Kentucky, sampled by J. J. Connor and R. R. Tidball; Nevada, New Mexico, and Maryland, sampled by H. L. Cannon; various locations in Arizona, Colorado, Montana, New Mexico, Utah, and Wyoming, sampled by F. A. Branson and R. F. Miller; Missouri, sampled by Shacklette, J. A. Erdman, J. R. Keith, and R. R. Tidball; and various locations in Colorado, Idaho, Montana, South Dakota, Utah, and Wyoming, sampled by A. T. Miesch and J. J. Connor. Sampling techniques used in these areas varied according to the primary objectives of the studies being conducted, but generally these techniques were closely similar to the methods used in sampling along the roads.

In general, the sampling within study areas was more intensive than that along the travel routes. To make the sampling intensity of the two sampling programs more nearly equal, only the samples from selected sites in the study areas were used for this report. The selected sites were approximately 80 km apart. Where two or more samples were collected from one site, they were assigned numbers, and one of these samples was randomly chosen for evaluation in this study.

SAMPLING MEDIA

The material sampled at most sites could be termed "soil" because it was a mixture of comminuted rock and organic matter, it supported ordinary land plants, and it doubtless contained a rich microbiota. Some of the sampled deposits, however, were not soils as defined above, but were other kinds of regoliths. The regoliths included desert sands, sand dunes, some loess deposits, and beach and alluvial deposits that contained little or no visible organic matter. In some places the distinctions between soils and other regoliths are vague because the materials of the deposits are transitional between the two. Samples were collected from a few deposits consisting mostly of organic materials that would ordinarily be classified as peat, rather than soil.

To unify sampling techniques, the samplers were asked to collect the samples at a depth of approximately 20 cm below the surface of the deposits. This depth was chosen as our estimate of a depth below the plow zone that would include parts of the zone of illuviation in most well-developed zonal soils, and as a convenient depth for sampling other surficial materials. Where the thickness of the material was less than 20 cm, as in shallow soils over bedrock or in lithosols over large rock fragments, samples were taken of the material that lay just above the rock deposits. About 0.25 liter of this material was collected, put in a kraft paper envelope, and shipped to the U.S. Geological Survey laboratories in Denver, Colo.

CHEMICAL-ANALYSIS PROCEDURES

The soil samples were oven dried in the laboratory and then sifted through a 2-mm sieve. If the soil material would not pass this sieve, the sample was pulverized in a ceramic mill before seiving. Finally, the sifted, minus 2-mm fraction of the sample was used for analysis.

The methods of analysis used for some elements were changed during the course of this study, as new techniques and instruments became available. For most elements, the results published in the first report (Shacklette, Hamilton, and others, 1971) were obtained by use of a semiquantitative six-step emission spectrographic method (Meyers and others, 1961). The methods used for other elements were: EDTA titration for calcium; colorimetric (Ward and others, 1963) for phosphorus and zinc; and flame photometry for potassium. Many of the elements analyzed in the 355 samples collected in phase two of the study were also analyzed by the emission spectrographic method (Neiman, 1976). Other methods were used for the following elements: flame atomic absorption (Huffman and Dinnin, 1976) for mercury, lithium, magnesium, sodium, rubidium, and zinc; flameless atomic absorption (Vaughn, 1967) for mercury; X-ray fluorescence spectrometry (Wahlberg, 1976) for calcium, germanium, iron, potassium, selenium, silver, sulfur, and titanium; combustion (Huffman and Dinnin, 1976) for total carbon; and neutron activation (Millard, 1975, 1976) for thorium and uranium.

DATA PRESENTATION

Summary data for 46 elements are reported in tables 1 and 2. In table 1, the element concentrations found in samples of soil and other surficial materials of this study are compared with those in soils reported in other studies. Arithmetic means are used for the data of this study to make them more readily compared with the data generally reported in the literature. These arithmetic means were derived from the estimated geometric means by using a technique described by Miesch (1967), which is based on methods devised by Cohen (1959) and Sichel (1952). The arithmetic means in table

1, unlike the geometric means shown in table 2, are estimates of geochemical abundance (Miesch, 1967). Arithmetic means are always larger than corresponding geometric means (Miesch, 1967, p. B1) and are estimates of the fractional part of a single specimen that consists of the element of concern rather than of the typical concentration of the element in a suite of samples.

Concentrations of 46 elements in samples of thi study are presented in table 2, which gives the determi nation ratios, geometric-mean concentrations and devia tions, and observed ranges in concentrations. Th analytical data for most elements as received from th laboratories were transformed into logarithms becaus of the tendency for elements in natural materials, par ticularly the trace elements, to have positively skewe

TABLE 2.—*Mean concentrations, deviations, and ranges of elements in samples of soils and other surficial materials in the conterminou United States*

[Means and ranges are reported in parts per million (μg/g), and means and deviations are geometric except as indicated. Ratio, number of samples in which the element was foun in measurable concentrations to number of samples analyzed. <, less than; >, greater than]

Element	Conterminous United States			Western United States (west of 96th meridian)					Eastern United States (east of 96th meridian)				
	Mean	Deviation	Estimated arithmetic mean	Ratio	Mean	Deviation	Observed range	Estimated arithmetic mean	Ratio	Mean	Deviation	Observed range	Estimate arithmet mean
Al, percent	4.7	2.48	7.2	661:770	5.8	2.00	0.5 - >10	7.4	450:477	3.3	2.87	0.7 - >10	5.7
As	5.2	2.23	7.2	728:730	5.5	1.98	<0.10 - 97	7.0	521:527	4.8	2.56	<0.1 - 73	7.4
B	26	1.97	33	506:778	23	1.99	<20 - 300	29	425:541	31	1.88	<20 - 150	38
Ba	440	2.14	580	778:778	580	1.72	70 - 5,000	670	541:541	290	2.35	10 - 1,500	420
Be	.63	2.38	.92	310:778	.68	2.30	<1 - 15	.97	169:525	.55	2.53	<1 - 7	.8
Br	.56	2.50	.85	113:220	.52	2.74	<0.5 - 11	.86	78:128	.62	2.18	<0.5 - 5.3	.8
C, percent	1.6	2.57	2.5	250:250	1.7	2.37	0.16 - 10	2.5	162:162	1.5	2.88	0.06 - 37	2.6
Ca, percent	.92	4.00	2.4	777:777	1.8	3.05	0.06 - 32	3.3	514:514	.34	3.08	0.01 - 28	.6
Ce	63	1.78	75	81:683	65	1.71	<150 - 300	75	70:489	63	1.85	<150 - 300	76
Co	6.7	2.19	9.1	698:778	7.1	1.97	<3 - 50	9.0	403:533	5.9	2.57	<0.3 - 70	9.2
Cr	37	2.37	54	778:778	41	2.19	3 - 2,000	56	541:541	33	2.60	1 - 1,000	52
Cu	17	2.44	25	778:778	21	2.07	2 - 300	27	523:533	13	2.80	<1 - 700	22
F	210	3.34	430	598:610	280	2.52	<10 - 1,900	440	390:435	130	4.19	<10 - 3,700	360
Fe, percent	1.8	2.38	2.6	776:777	2.1	1.95	0.1 - >10	2.6	539:540	1.4	2.87	0.01 - >10	2.5
Ga	13	2.03	17	767:776	16	1.68	<5 - 70	19	431:540	9.3	2.38	<5 - 70	14
Ge	1.2	1.37	1.2	224:224	1.2	1.32	0.58 - 2.5	1.2	130:131	1.1	1.45	<0.1 - 2.0	1.2
Hg	.058	2.52	.089	729:733	.046	2.33	<0.01 - 4.6	.065	534:534	.081	2.52	0.01 - 3.4	.1
I	.75	2.63	1.2	169:246	.79	2.55	<0.5 - 9.6	1.2	90:153	.68	2.81	<0.5 - 7.0	1.2
K, percent[1]	1.5	.79	None	777:777	1.8	.71	0.19 - 6.3	None	537:537	1.2	.75	0.005 - 3.7	--
La	30	1.92	37	462:777	30	1.89	<30 - 200	37	294:516	29	1.98	<30 - 200	37
Li	20	1.85	24	731:731	22	1.58	5 - 130	25	479:527	17	2.16	<5 - 140	22
Mg, percent	.44	3.28	.90	777:778	.74	2.21	0.03 - >10	1.0	528:528	.21	3.55	0.005 - 5	.4
Mn	330	2.77	550	777:777	380	1.98	30 - 5,000	480	537:540	260	3.82	<2 - 7,000	640
Mo	.59	2.72	.97	57:774	.85	2.17	<3 - 7	1.1	32:524	.32	3.93	<3 - 15	.7
Na, percent	.59	3.27	1.2	744:744	.97	1.95	0.05 - 10	1.2	363:449	.25	4.55	<0.05 - 5	.7
Nb	9.3	1.75	11	418:771	8.7	1.82	<10 - 100	10	322:498	10	1.65	<10 - 50	12
Nd	40	1.68	46	120:538	36	1.76	<70 - 300	43	109:332	46	1.58	<70 - 300	51
Ni	13	2.31	19	747:778	15	2.10	<5 - 700	19	443:540	11	2.64	<5 - 700	18
P	260	2.67	430	524:524	320	2.33	40 - 4,500	460	380:382	200	2.95	<20 - 6,800	360
Pb	16	1.86	19	712:778	17	1.80	<10 - 700	20	422:541	14	1.95	<10 - 300	17
Rb	58	1.72	67	221:224	69	1.50	<20 - 210	74	107:131	43	1.94	<20 - 160	53
S, percent	.12	2.04	.16	34:224	.13	2.37	<0.08 - 4.8	.19	20:131	.10	1.34	<0.08 - 0.31	.1
Sb	.48	2.27	.67	35:223	.47	2.15	<1 - 2.6	.62	31:131	.52	2.38	<1 - 8.8	.7
Sc	7.5	1.82	8.9	685:778	8.2	1.74	<5 - 50	9.6	389:526	6.5	1.90	<5 - 30	8.0
Se	.26	2.46	.39	590:733	.23	2.43	<0.1 - 4.3	.34	449:534	.30	2.44	<0.1 - 3.9	.4
Si, percent[1]	31	6.48	None	250:250	30	5.70	15 - 44	None	156:156	34	6.64	1.7 - 45	--
Sn	.89	2.36	1.3	218:224	.90	2.11	<0.1 - 7.4	1.2	123:131	.86	2.81	<0.1 - 10	1.5
Sr	120	3.30	240	778:778	200	2.16	10 - 3,000	270	501:540	53	3.61	<5 - 700	120
Ti, percent	.24	1.89	.29	777:777	.22	1.78	0.05 - 2.0	.26	540:540	.28	2.00	0.007 - 1.5	.3
Th	8.6	1.53	9.4	195:195	9.1	1.49	2.4 - 31	9.8	102:102	7.7	1.58	2.2 - 23	8.6
U	2.3	1.73	2.7	224:224	2.5	1.45	0.68 - 7.9	2.7	130:130	2.1	2.12	0.29 - 11	2.7
V	58	2.25	80	778:778	70	1.95	7 - 500	88	516:541	43	2.51	<7 - 300	66
Y	21	1.78	25	759:778	22	1.66	<10 - 150	25	477:541	20	1.97	<10 - 200	25
Yb	2.6	1.79	3.1	754:764	2.6	1.63	<1 - 20	3.0	452:486	2.6	2.06	<1 - 50	3.3
Zn	48	1.95	60	766:766	55	1.79	10 - 2,100	65	473:482	40	2.11	<5 - 2,900	52
Zr	180	1.91	230	777:778	160	1.77	<20 - 1,500	190	539:541	220	2.01	<20 - 2,000	290

[1]Means are arithmetic, deviations are standard.

frequency distributions. For this reason, the geometric mean is the more proper measure of central tendency for these elements. The frequency distributions for potassium and silicon, on the other hand, are more nearly normal if the data are not transformed to logarithms and the mean is expressed as the arithmetic average.

In geochemical background studies, the magnitude of scatter to be expected around the mean is as important as the mean. In lognormal distributions, the geometric deviation measures this scatter, and this deviation may be used to estimate the range of variation expected for an element in the material being studied. About 68 percent of the samples in a randomly selected suite should fall within the limits M/D and $M \cdot D$, where M represents the geometric mean and D the geometric deviation. About 95 percent should fall between M/D^2 and $M \cdot D^2$, and about 99.7 percent between M/D^3 and $M \cdot D^3$.

The analytical data for some elements include values that are below, or above, the limits of numerical determination, and these values are expressed as less than (<) or greater than (>) a stated value. These data are said to be censored, and for these the mean was computed by using a technique described by Cohen (1959) and applied to geochemical studies by Miesch (1967). This technique requires an adjustment of the summary statistics computed for the noncensored part of the data. The censoring may be so severe in certain sets of data that a reliable adjustment cannot be made; with the data sets used in the present study, however, no such circumstances were encountered. The use of these procedures in censored data to quantify the central tendency may result in estimates of the mean that are lower than the limit of determination. For example, in table 2 the geometric-mean molybdenum concentration in soils from the Eastern United States is estimated to be 0.32 ppm, although the lower limit of determination of the analytical method that was used is 3 ppm. Use of this procedure permits inclusion of the censored values in the calculation of expected mean concentrations.

The determination ratios in table 2—that is, the ratio of the number of samples in which the element was found in measurable concentrations to the total number of samples—permit the number of censored values, if any, to be found that were used in calculating the mean. This number is found by subtracting the left value in the ratio from the right.

The distribution of the sampling sites and the concentrations of elements determined for samples from the sites are presented on maps of the conterminous United States (figs. 1–47). Figure 1 shows the locations of sites where four elements, bismuth, cadmium, praseodymium, and silver, were found in the samples. These elements were determined too uncommonly for reliable mean concentrations to be calculated. Each of the remaining maps (figs. 2–47) gives the locations where an element was found in a sample from a site and the concentration of the element, shown by a symbol that represents a class of values. By examining the tables of frequency for concentration values of the elements, we were able to divide the ranges of reported values for many elements into five classes so that approximately 20 percent of the values fell into each class. The limited range in values for some elements, however, prohibited the use of more than two or three classes to represent the total distribution. Symbols representing the classes were drawn on the maps by an automatic plotter that was guided by computer classification of the data, including the latitude and longitude of the sampling sites. A histogram on each map gives the frequency distribution of the analytical values, and the assignment of analytical values to each class as represented by symbols.

We were able to obtain analyses of 11 more elements for the 355 samples of phase two of this study than for the 963 samples of phase one because of improved analytical methods and services. These elements are antimony, bromine, carbon, germanium, iodine, rubidium, silicon, sulfur, thorium, tin, and uranium. The constraints of resources and time prohibited analysis of the 963 samples of the first phase for these additional elements. Results of analysis of the plant samples that were collected at all soil-sampling sites are not presented in this report.

Some elements were looked for in all samples but were not found. These elements, analyzed by the semiquantitative spectrographic method, and their approximate lower detection limits, in parts per million, are as follows: gold, 20; hafnium, 100; indium, 10; platinum, 30; palladium, 1; rhenium, 30; tantalum, 200; tellurium, 2,000; and thallium, 50. If lanthanum or cerium were found in a sample, the following elements, with their stated lower detection limits, were looked for in the same sample but were not found: dysprosium, 50; erbium, 50; gadolinium, 50; holmium, 20; lutetium, 30; terbium, 300; and thulium, 20.

DISCUSSION OF RESULTS

The data presented in this report may reveal evidence of regional variations in abundances of elements in soils or other regoliths; single values or small clusters of values on the maps may have little significance if considered alone. Apparent differences in values shown between certain sampling routes, such as some of those across the Great Plains and the North Central States where high values for cerium, cobalt, gallium, and lead predominate, suggest the possibility of systematic er-

rors in sampling or in laboratory analysis. Some gross patterns and some of lesser scale, nevertheless, are evident in the compositional variation of regoliths, as shown in figures 2–47.

The lower abundances of some elements (notably aluminum, barium, calcium, magnesium, potassium, sodium, and strontium) in regoliths of the Eastern United States, and the greater abundances of the heavy metals in the same materials of the Western United States indicate a regional pattern of the largest scale. This visual observation of the maps can be substantiated by examining the mean concentrations for these two regions given in table 2. The abundances of these elements differ markedly on either side of a line extending from western Minnesota southward through east-central Texas. This line is generally from the 96th to 97th meridian, and corresponds to the boundary proposed by Marbut (1935, p. 14), which divides soils of the United States into two major groups—the pedalfers that lie to the east, and the pedocals to the west. Marbut (1928) attributed the major differences in chemical and physical qualities of these two major groups to the effects of climate on soils. A line approximating the 96th meridian also separates the Orders, Suborders, and Great Groups of moist-to-wet soils in the Eastern United States from the same categories of dry soils that lie to the west, as mapped by the [U.S.] Soil Conservation Service (1969). As shown in table 2, soils of the Western United States have the highest mean values for all elements considered in this report except for antimony, boron, bromine, mercury, neodymium, selenium, titanium, and zirconium. The differences, however, probably are not significant for these latter elements, except for zirconium.

Superimposed upon this large-scale compositional variation pattern are several features of intermediate scale. Perhaps the most notable of these are the low concentrations of many elements in soils of the Atlantic Coastal Plain. Soils of the Pacific Northwest are high in concentrations of aluminum, cobalt, iron, scandium, and vanadium, but low in boron, and soils of the Rocky Mountain region tend to be high in copper, lead, and zinc.

Several small-scale patterns of compositional variation can be noted, among them the high mercury concentrations in surficial materials from the Gulf Coast of eastern Texas, Louisiana, Mississippi, Alabama, and northwest Florida, and a similar pattern on the Atlantic Coast in Connecticut, Massachusetts, and Maine. High phosphorus values occur in soils along a line extending west across Utah and Nevada to the coast of California, then south-east in California and Arizona. At the State level, Florida shows the most striking pattern by having low soil concentrations of most of the elements considered in this study.

The concentrations of certain elements do not show well-defined patterns of distribution, and the regional concentrations of some other elements cannot be evaluated because they were not present in detectable amounts in most of the samples, or because the sampling density was insufficient. The degree of confidence in regional patterns of element abundance is expected to be in direct proportion to the number of samples analyzed from the region. As the observed patterns become smaller, the probability increases that the characteristics that form the patterns are the results of chance.

Some features of element-abundance patterns probably reflect geologic characteristics of the areas that the soils overlie. Samples from most of the regoliths overlying basic volcanic rocks of Washington and Oregon contained higher than average concentrations of iron and other elements, as mentioned earlier. A few soil samples with high phosphorus content are associated with phosphate deposits in Florida, and a single sample in Michigan with high copper content is known to be of soil that occurs over a copper deposit.

These data do not provide obvious evidences of north-south trends in elemental compositions that might be expected to relate to differences in temperature regimes under which the surficial materials developed. There is, moreover, no consistent evidence of significant differences in element abundances between glaciated and nonglaciated areas (the general area of continental glaciation includes the northern tier of States from Montana to Maine and south in places to about lat 40°N.; see fig. 1).

The world averages of abundance for some elements in soils, as given by Vinogradov (1959) and by others (table 1), do not correspond to the averages of abundance for these elements in the soils of the United States, according to the data presented in this report. The world averages are too low for the concentrations of boron, calcium, cerium, lead, magnesium, potassium, and sodium in United States soils and other surficial materials, and too high for beryllium, chromium, gallium, manganese, nickel, phosphorus, titanium, vanadium, and yttrium.

The stability of values for concentrations of most elements seems to be satisfactory because the addition of analytical values for 355 samples of phase two of the study to values for 963 samples of the first phase did not significantly change the geometric means and deviations of element abundance that were reported earlier (Shacklette, Boerngen, and Turner, 1971; Shacklette, Hamilton, and others, 1971; Shacklette and others,

1973, 1974). Although additional sampling of the same type as reported here might give a clearer picture of small-to-intermediate element-abundance patterns, mean values reported herein most likely would not change significantly.

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REFERENCE 71

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Soil, Sediment, and Surface Water Assessment Report
Southern Wood Piedmont Company,
City of Wilmington, & North Carolina State Ports Authority
Wilmington, North Carolina Facility

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Southern Wood Piedmont Company
Spartanburg, South Carolina

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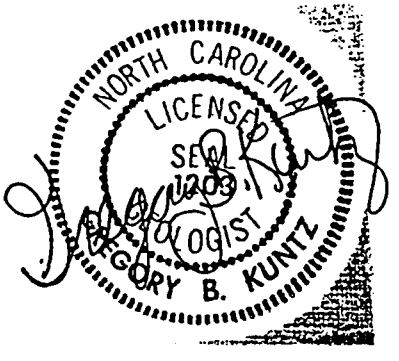

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ABBREVIATIONS

NTA	Non-Treated Wood Storage Area A
NTB	Non-Treated Wood Storage Area B
TWSA	Treated Wood Storage Area A
TWSB	Treated Wood Storage Area B
PA	Production Area

LIST OF ATTACHMENTS

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SOIL, SEDIMENT, AND SURFACE WATER ASSESSMENT REPORT SOUTHERN WOOD PIEDMONT COMPANY, CITY OF WILMINGTON, & NORTH CAROLINA STATE PORTS AUTHORITY WILMINGTON, NORTH CAROLINA FACILITY

1.0 INTRODUCTION

This report describes a voluntary soil, sediment, and surface water assessment performed by ViroGroup, Inc. on February 12 through 16, 1996 to delineate (to the extent reasonably possible) the impacts to soil, surface water, and sediment in areas where previous investigations suggest un-delineated impacts may exist; and to provide the necessary information for developing a risk-based remedial action plan that is protective of human health and the environment. This assessment was based on the discussions originating from the May 24, 1995 meeting between Southern Wood Piedmont Company (SWP), the City of Wilmington (City), the North Carolina State Ports Authority (NCSPA), the North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR), and the Region IV United States Environmental Protection Agency (EPA). The scope of work performed during this assessment was also based on recommendations suggested in the January 31, 1995 letter from the NCDEHNR to the EPA that summarizes the Site Inspection Prioritization (NCDEHNR, 1995). The assessment was performed in accordance with ViroGroup's Soil, Sediment, and Surface Water Assessment Workplan dated January 31, 1996.

2.0 ASSESSMENT ACTIVITIES

The investigative methods used to perform the assessment are in accordance with the EPA REGION IV ENVIRONMENTAL COMPLIANCE BRANCH STANDARD OPERATING PROCEDURES AND QUALITY ASSURANCE MANUAL (ECBSOPQAM) dated February 1, 1991. The investigation activities and assessment locations are summarized on Figure 1.

2.1 Site Soil

Between February 26 and March 1, 1991, Geraghty & Miller, Inc. completed 92 soil borings and collected 48 soil samples from treated and non-treated wood storage areas at the facility. Each of the soil borings were completed to a depth of 18-inches below land surface and visually assessed for the degree of staining and odor. Randomly selected soil boring locations were sampled for select semi-volatile organic constituents and the metals, arsenic, chromium, and copper at depth intervals of 0- to 6-inches and 12- to 18-inches below land surface. The results of the Geraghty & Miller (1993a) investigation can be found in the report submitted to SWP on December 9, 1993 entitled: DATA SUMMARY REPORT FOR THE TREATED AND NON-TREATED WOOD STORAGE AREAS SOIL INVESTIGATION, SOUTHERN WOOD PIEDMONT COMPANY, WILMINGTON, NORTH CAROLINA. Summary tables and analytical results from the 1991 Geraghty & Miller investigation are presented in Attachment B and Figures 2 through 7 of this report.

The main production area and treated wood storage area B, located in the northwest portion of the site, were not included in the previous assessment completed by Geraghty & Miller, Inc. in 1991.

To complete the site wide soil investigation ViroGroup assessed the main production area and the treated wood storage area B on February 12 through 14, 1996 utilizing the same methodology as the previous soil assessment. A surveyed sampling grid on 100-foot centers was prepared. A total of 78 boreholes were completed in the grid to a depth of 18-inches (except for borehole PA9 where auger refusal was encountered at approximately 12-inches) using a three-inch diameter, clean, stainless steel hand auger. Each soil boring was described for degree of staining and odor (Figures 8 and 9) and logged according to the Unified Soil Classification Scheme (Attachment A). The majority of the soil samples consisted of sand (91%), while 4% were gravel and 5% were clay. A head-space analysis was performed to screen each sample for total volatile organic compounds (VOC's) using a photo-ionization detector/organic vapor analyzer (PID/OVA). Twenty-six of the boreholes (1/3) were randomly selected for chemical analysis using a random number table (Attachment A). A soil sample was collected from the 0- to 6-inch and 12- to 18-inch intervals (total of 52 soil samples) and submitted to the laboratory for analysis of the Wilmington site-specific wood-preserving constituent list (Attachment G). The semi-volatile constituents were analyzed by USEPA Method 8270, volatiles by USEPA Method 8240, and metals by USEPA Method 6010. The sampling, decontamination, and chain-of-custody procedures were as described in the sampling and analysis plan located in Attachment A of the soil, sediment, and surface water workplan (ViroGroup, 1996). The sampling method, decontamination method, and waste disposal method are documented on the sampling field data sheets and decontamination logs presented in Attachment A. Chain-of custody forms are located with the analytical results located in Attachment G. All sampling locations were permanently marked in the field with a steel pin and surveyed.

2.1.1 Main Production Area

To assess the soil in the main production area, 33 soil borings were completed and 22 soil samples were collected. Visual observations indicated that 21 of the soil borings had no staining or odor, 3 soil borings had a faint odor, and 9 soil borings were discolored (Figure 8). The discolored soils were limited to the area in the vicinity of the former treatment facility, the large storage tanks, and the former ditch. In the 22 soil samples collected, 14 semi-volatiles and 2 volatiles were detected (Figure 10; Attachment B). The semi-volatiles detected consisted of naphthalene (4 samples), acenaphthylene (1 sample), acenaphthene (4 samples), phenanthrene (10 samples), anthracene (11 samples), fluoranthene (18 samples), chrysene (16 samples), benzo(a)anthracene (16 samples), benzo(b)fluoranthene (17 samples), benzo(k)fluoranthene (15 samples), benzo(a)pyrene (16 samples), indeno(1,2,3-cd)pyrene (12 samples), carbazole (5 samples), and dibenzo(a,h)anthracene (3 samples). The two volatile organic constituents that were detected were ethylbenzene (1 sample) and xylene (6 samples). Soil sample PDA11B, collected at a depth of 12- to 18-inches below land surface near the southeast corner of the former production area, had the highest concentration of total organic wood-preserving constituents (TO) at 15,030 milligrams per kilogram dry weight (mg/kg dw). This sample is located in the area of the excavated and

backfilled ditch. The detection at this location (PDA11B) is isolated and may have been missed when the surrounding area was excavated and backfilled with clean fill material. No wood-preserving constituents were detected in the overlying sample PDA11A (0- to 6-inches below land surface) or in surrounding samples. Eighteen of the 22 samples (82%) contained detectable concentrations of arsenic. Chromium was detected in all of the samples and 19 of the samples (86%) had detectable concentrations of copper. Soil sample PDA1A, collected from the northwest corner of the former production area, had the highest levels of arsenic, chromium, and copper. Arsenic was detected at 1,300 mg/kg dw, chromium at 1,200 mg/kg dw, and copper at 1,600 mg/kg dw. Sample PDA1A is located in the vicinity of the former chromium, copper, and arsenic (CCA) treatment facility. The soil in the vicinity of the CCA treatment facility was excavated, properly disposed, and backfilled. The high CCA concentrations in PDA1A are isolated to the 0- to 6-inch depth below land surface. The CCA concentrations in the underlying 12- to 18-inch below land surface sample (PDA1B) are significantly lower. The mean concentration for arsenic, chromium, and copper (including PDA1A) in the former production area is 80 mg/kg dw, 91 mg/kg dw, and 111 mg/kg dw, respectively. Sample PDA1A, from the former CCA treatment area, caused the average concentrations to be skewed upward. The average concentration for the metals when PDA1A is not included in the data set is 22 mg/kg dw arsenic, 39 mg/kg dw chromium, and 37 mg/kg dw copper. The US Geological Survey (USGS) 1984 Professional Paper 1270 entitled: Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States documents that the maximum naturally-occurring concentration reported for arsenic is 73 mg/kg and that the upper range for chromium and copper in the eastern United States is 1,000 mg/kg and 700 mg/kg, respectively. Based on the USGS investigation, the concentrations of arsenic, chromium, and copper detected in the soil samples (excluding PDA1A) are within the acceptable range for background concentrations.

2.1.2 Treated Wood Storage Area B

Investigation activities in the treated wood storage area B (TWSB) included the completion of 45 soil borings and the collection of 30 soil samples. Visual observations indicated that 44 of the soil borings had no staining or odor and 1 of the soil borings was discolored (Figure 9). In the 30 soil samples collected, 11 semi-volatile constituents and 1 volatile constituent were detected (Figure 11; Attachment B). The semi-volatiles detected consisted of acenaphthene (1 sample), phenanthrene (6 samples), anthracene (4 samples), fluoranthene (22 samples), chrysene (20 samples), benzo(a)anthracene (18 samples), benzo(b)fluoranthene (20 samples), benzo(k)fluoranthene (18 samples), benzo(a)pyrene (18 samples), indeno(1,2,3-cd)pyrene (11 samples), and carbazole (1 sample). The volatile constituent detected was m+p xylene, which was present in three of the samples. Soil sample TWSB4B, located near the northwestern corner of the treated wood storage area, had the highest concentration of total organic wood-preserving constituents (986 mg/kg dw). Arsenic was detected in 60% (18 out of 30) of the samples, chromium was detected in all 30 samples, and copper was detected in 53% (16 out of 30) of the

soil samples collected from TWSB. The highest detected arsenic concentration is 42 mg/kg dw with an average concentration of 6.7 mg/kg dw in the TWSB area. The highest concentration of chromium is 39 mg/kg dw with an average concentration of 7.1 mg/kg dw. The highest concentration of copper is 110 mg/kg dw with an average concentration of 18.7 mg/kg dw. The metal concentrations in the TWSB area are all considered background concentrations as referenced by the USGS in 1984.

Subsequent to completing the grid soil sampling investigation in the main production area and the TWSB area, the workplan proposed that, after receipt of the laboratory analysis for these areas, dioxin and furan soil sampling would be conducted, if necessary. The workplan indicated that dioxin and furan soil samples would be collected in each of the NTA, NTB, TWSA, TWSB, and production areas if pentachlorophenol was detected in the site soils (dioxins and furans are remnant from the pentachlorophenol formulation process). The location of each dioxin and furan soil sample was to be selected based on the grid point(s) with the greatest pentachlorophenol concentration. If pentachlorophenol was not detected in an area, no dioxin or furan soil samples would be collected from that area. If pentachlorophenol was detected, then a soil sample(s) would be collected. Furthermore, if dioxins or furans were detected on site, then five background soil samples were to be collected in the vicinity of the site to compare regional concentrations to those concentrations present on site. Pentachlorophenol was not detected in any of the soil samples so no additional samples were collected for dioxin or furan analysis.

To evaluate the bioavailability of organic compounds on site, total organic carbon (TOC) samples were collected on February 15, 1996. Two TOC samples were collected from each of the following areas: production area; non-treated wood storage area B (NTB); and treated wood storage area A (TWSA). A total of 6 TOC samples were collected. The TOC soil samples were collected at a depth of 0- to 6-inches below land surface. In each of the production, NTB, and TWSA areas, one of the TOC samples was collected in an area influenced by wood-preserving constituents. The second TOC sample from each area was collected in an area uninfluenced by wood-preserving constituents. The average total organic carbon concentration from the 6 soil samples is 27,467 mg/kg dw. The range for total organic carbon detected at the site is 5,800 mg/kg dw to 62,000 mg/kg dw (Attachment G).

2.2 Landfarm Soil

In voluntary cooperation with the North Carolina Department of Human Resources, Solid and Hazardous Waste Management Branch, SWP operated a landfarm to treat soil containing wood preserving constituents. Following the removal of the existing railroad spurs and plant buildings at the facility, a 5-acre area was bermed for landfarm operations (LF1 and LF2). The landfarm is located on top of a portion of the former TWSB area (Figure 1).

Soil stained with wood preserving constituents was excavated from a ditch, track areas, wood treating area, and the storage tank area on site. The excavated soil was temporarily staged in a bermed spoil pile located in the NTB area. From July 1984 to April 1990 the stockpiled soils were placed at regular intervals on the landfarm in 2-inch lifts and tilled weekly to a depth of 6-inches below land surface. Each lift was treated by adding irrigation water, 10-10-10 fertilizer, and chicken and turkey manure to promote microbial growth and wood preserving constituent degradation. The landfarm was operated from 1984 to 1990.

Composite soil samples were routinely collected by a SWP representative from each landfarm area between September 1985 to October 1988. A composite sample was taken for each of the following depths: 0- to 3-inches, 9- to 12-inches, and 21- to 24-inches below land surface. Soil from the four corners of each landfarm was mixed to make a composite sample at each depth for each landfarm (LF1 and LF2). A total of 37 sets of samples were collected from LF1 and 59 sets of samples were collected from LF2. The samples were analyzed for total nitrogen, total phosphorus, chloride, total organic carbon, soil pH, polycyclic aromatic hydrocarbons (PAH's), pentachlorophenol, phenol, and microbial counts by the Mississippi State University Forest Products research Division Laboratory (MSUFPRD) in State College, Mississippi. Total PAH concentrations declined substantially from 1985 to 1990. Degradation rates varied among the different PAHs. PAHs with two aromatic rings were found to degrade more rapidly than PAHs with four or more rings. PAHs with half-lives less than 10 days were completely degraded after 3 months, whereas, PAHs with intermediate (10 to 100 days) and long (more than 100 days) half-lives persisted (Geraghty & Miller, 1993b).

A second soil sampling investigation (1990) was completed by Geraghty & Miller, Inc. in the two landfarm areas (LF1 and LF2) to provide a baseline of current conditions for LF1 and LF2 (Geraghty & Miller, 1993b). In each landfarm area five locations were sampled (A, B, C, D, and E; Figure 1) on October 10, 1990 and submitted to the laboratory for analysis of the Wilmington site-specific landfarm constituent list (Attachment G). At each location, three samples were collected in the landfarm material and one sample was taken from the underlying substrate. In the landfarm material the first set of samples were collected at approximately 3 inches below the landfarm surface, the second set of samples were collected midway through the landfarm material, and the third set of samples were collected from the bottom 6-inches of the landfarm material. The substrate samples were taken approximately 6-inches below the base of the landfarm material. Generally, there was no observable trend in constituent concentrations between the upper, middle, and lower samples from the landfarm areas. Concentrations of constituents in the substrate samples were significantly lower than those occurring in the overlying landfarm material, indicating minimal vertical migration of constituents. Please refer to Attachment C for summary tables of the 1990 landfarm samples collected by Geraghty & Miller, Inc. in 1990.

In October 1991, Geraghty & Miller, Inc. collected soil samples from the previously sampled locations to provide data on the presence and degradation of the wood-preserving constituents in the landfarm material since the previous 1990 sampling event (Geraghty & Miller, 1993c). During the 1991 sampling event, the sampling depths were modified to include only the upper and lower layers of the landfarm material since the analytical results from the 1990 sampling event documented that the PAH concentrations in the landfarm were consistent with depth and were significantly lower in the underlying substrate. There was no observable trend in constituent concentrations between the upper and lower samples from the landfarm area. Please refer to Attachment C for a summary of the detected constituents from the landfarm in 1991.

Geraghty & Miller, Inc. (1993c) also presented a comparison between the 1990 and 1991 landfarm soil sampling results (Attachment C). Statistical analysis indicated that no statistical differences in constituent concentrations with sampling depth were present during the 1990 or the 1991 sampling events. During the 1990 to 1991 comparison and for risk assessment purposes, the PAHs were divided into two classes: carcinogenic (cPAHs) and total PAHs (tPAHs). The mean concentrations for both cPAHs and tPAHs showed a slight decrease from 1990 to 1991. cPAH concentrations decreased by an average of 14.5 percent and tPAH concentrations decreased by an average of 13.1 percent between 1990 and 1991. Two- and three-ring PAHs decreased from a range of 9 to 88 percent. The average decrease was about 33 percent. The concentrations of four-, five-, and six-ring PAHs was highly variable. Geraghty & Miller, Inc. predicted, using constituent-specific degradation half-live values, that after 30 years most of the constituents will be degraded to less than 0.001 mg/kg. The four- and five-ring PAHs will have concentrations of 2 mg/kg or less.

To evaluate the presence and continued degradation of wood-preserving constituents in the landfarm materials between 1991 and 1996, ViroGroup, Inc. collected soil samples on February 15, 1996 from each landfarm area. Statistical analysis of the previous landfarm soil sample analytical results (1990 and 1991), indicated that constituent concentrations are evenly distributed throughout the landfarm material. Due to the even distribution of wood-preserving constituents throughout each landfarm, it was determined that composite sampling would be satisfactory in evaluating the amount of degradation in the landfarm materials from 1991 to 1996. During the 1996 landfarm sampling, 1 composite soil sample was collected from each landfarm (LF1 and LF2) at each specified depth interval (upper, lower, and substrate depth intervals). A total of 3 composite soil samples were collected from each landfarm area (Attachment C). Each composite sample consisted of 5 lateral sample locations (A, B, C, D, and E; Figure 1). An upper composite sample 0- to 3-inches below the landfarm surface, a lower composite sample 2- to 8-inches above the base of the landfarm material and a substrate composite sample 2- to 6-inches below the base of the landfarm material were collected. To determine the thickness of the landfarm material a test borehole was completed at approximately the same locations as the previous boreholes using a clean, stainless steel hand auger. During the test borings, it was

observed that the landfarm material was brownish black, whereas, the substrate was yellowish brown. The average thickness of the landfarm material in LF1 was 19 inches (ranged from 13- to 22-inches thick) and in LF2 was 22-inches (ranged from 16- to 28-inches thick). Each soil boring was described for degree of staining and odor and logged according to the Unified Soil Classification Scheme (Attachment A). The soil samples were submitted to the laboratory for analysis of the Wilmington site-specific landfarm constituent list (Attachment G). The semi-volatile constituents were analyzed by USEPA Method 8270, metals by USEPA Method 6010, total Kjeldahl Nitrogen-N by USEPA Method 3-202, nitrate + nitrite-N by USEPA Method EPACE 3-183, total phosphorus by USEPA Method 365.4, pH by USEPA Method 9045, total organic carbon by USEPA Method 415.1, and chloride by USEPA Method 9251. The sampling, decontamination, and chain-of-custody procedures were as described in the sampling and analysis plan located in Attachment A of the soil, sediment, and surface water workplan (ViroGroup, 1996). The sampling method, decontamination method, and waste disposal method are documented on the sampling field data sheets and decontamination logs presented in Attachment A. Chain-of-custody forms are located with the analytical results located in Attachment G. All sampling locations were permanently marked in the field with a steel pin and surveyed.

The analytical results from the 1996 landfarm soil samples indicate a decreasing trend in constituent concentration levels since 1991. A comparison between the constituents detected in 1996 and the results obtained in 1991 are presented in Attachment C. These results indicate that all of the organic wood-preserving constituent concentrations have decreased in both landfarm areas. Total wood-preserving constituents concentrations in LF1 have decreased from 497.85 mg/kg dw in 1991 to 107.1 mg/kg dw in 1996 and in LF2 from 1,354.7 mg/kg dw to 131.5 mg/kg dw. The PAH constituents naphthalene, 2-methylnaphthalene, 1,1-biphenyl, acenaphthylene, acenapthene, dibenzofuran, fluorene, pyrene, dibenzo(a,h)anthracene, benzo (g,h,i)perylene, and pentachlorophenol were detected in the landfarm in 1991, but were not detected in 1996. The majority of the PAHs that were not detected in 1996 are two- and three-ring molecular structures with half-lives of less than 10 days. Phenanthrene, anthracene, carbazole, benzo(a)anthracene, chrysene, benzo(a)pyrene, fluoranthene, benzo(b,k)fluoranthene, and indeno(1,2,3-cd)pyrene were detected in the landfarm during the 1996 sampling. The molecular-ring structure of the nine PAH constituents detected ranged from three-rings (phenanthrene, anthracene, and carbazole) to six-rings (indeno(1,2,3-cd)pyrene). Three of the constituents (fluoranthene, chrysene, and benzo(a)anthracene) are comprised of four-rings, while the remaining two constituents (benzo(b,k)fluoranthene, and benzo(a)pyrene) have a five-ring structure. All of the remaining PAHs in the landfarm have half-lives between 10 to 100 days and greater than 100 days. Presented below are the PAHs remaining in the landfarm for 1996, the average percent degradation since 1991, and the average concentration remaining in each landfarm area:

Constituent	Percent Degradation 1991 to 1996	Average Concentration Remaining In Landfarm 1	Average Concentration Remaining In Landfarm 2
Phenanthrene	82%	2.40 mg/kg dw	3.50 mg/kg dw
Anthracene	95%	2.85 mg/kg dw	7.50 mg/kg dw
Carbazole	96%	Not detected	1.10 mg/kg dw
Benzo(a)anthracene	62%	5.45 mg/kg dw	5.65 mg/kg dw
Chrysene	59%	7.25 mg/kg dw	6.75 mg/kg dw
Benzo(a)pyrene	50%	6.35 mg/kg dw	7.70 mg/kg dw
Fluoranthene	73%	9.05 mg/kg dw	9.60 mg/kg dw
Benzo(b,k)fluoranthene	53%	16.2 mg/kg dw	17.6 mg/kg dw
Indeno(1,2,3-cd)pyrene	31%	4.15 mg/kg dw	6.35 mg/kg dw

In general, the molecular composition of the wood-preserving constituents dictate the ease with which they will degrade, their relative mobility in the environment, and their toxicity levels. The more complex molecular-ring structures will degrade slower, however, they are usually less toxic and less mobile than compounds with simple one or two molecular-ring structures. Based on the comparison between the 1996 soil sample results and the results from the 1991 samples, it appears that the wood-preserving constituents have continued to degrade at a significant rate.

A comparison between the results from the 1996 lower substrate soil samples and an average of the results from the analysis of the lower substrate samples collected in 1990 is presented in Attachment C. All of the 1996 substrate sample analytical results were lower than the concentrations from the 1990 results, except for phenanthrene. The landfarm substrate was formerly treated wood storage area B (TWSB). Minimal concentrations of wood-preserving constituents can be expected, as shown in the soil sampling assessment for TWSB outside of the landfarm area. Total organic wood-preserving constituent concentrations in the substrate beneath LF1 have decreased from 17 mg/kg dw in 1990 to not-detected (ND) in 1996 and have decreased in the substrate beneath LF2 from 4.3 mg/kg dw to 2.48 mg/kg dw. None of the constituents detected in the substrate beneath LF1 in 1990 were detected in 1996. The PAH constituents phenanthrene, pyrene, benzo(g,h,i)perylene, anthracene, benzo(a)anthracene, chrysene, benzo(a)pyrene, and fluoranthene were detected in the substrate beneath LF2 in 1990. In 1996, phenanthrene was detected at 0.44 mg/kg dw, chrysene at 0.48 mg/kg dw, fluoranthene at 0.88 mg/kg dw, and benzo(b,k)fluoranthene at 0.68 mg/kg dw.

On October 9, 1990 Geraghty & Miller, Inc. (1993b) collected surficial (0- to 6-inch) dioxin and furan soil samples from the landfarm material. The soil samples were taken at each of the five locations (A, B, C, D, and E) in LF1 and LF2 and composited into two samples. The results from this initial sampling event are presented in Attachment D. The two composite surficial soil

samples were analyzed for polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) and their respective chlorinated homologues and 2,3,7,8-congeners. Both composite samples had detectable concentrations of PCDDs and PCDFs. The concentrations for each class of PCDDs ranged from 0.14/0.17 (LF1/LF2) micrograms per kilogram (μg/kg dw; part per billion) total tetrachlorodibenzodioxins to 621/932 (LF1/LF2) μg/kg dw total octachlorodibenzodioxins. The 2,3,7,8-tetrachlorodibenzodioxin congener was detected at a maximum estimated concentration of 0.004 μg/kg dw in LF1 and at 0.008 μg/kg dw in LF2. The concentrations for each class of PCDFs ranged from 0.09/0.10 (LF1/LF2) μg/kg dw total tetrachlorodibenzofurans to 147/164 (LF1/LF2) μg/kg dw total heptachlorodibenzofurans.

To evaluate the present concentrations of dioxins and furans in the landfarm material, two composite surficial soil samples were collected by ViroGroup on February 15, 1996 (Attachment D). The soil samples were collected at approximately the same location as those previously collected by Geraghty & Miller, Inc. in 1990. The dioxin and furan soil samples from the landfarm area were collected at a depth of 0- to 6-inches below land surface using a clean, stainless steel hand auger. The soil samples were submitted to Triangle Laboratories for analysis of the Wilmington site-specific dioxin and furan constituent list (Attachment G). The dioxin and furan soil samples were analyzed by USEPA Method 8290, high-resolution chromatography/high-resolution mass spectrometry. The sampling, decontamination, and chain-of-custody procedures were as described in the sampling and analysis plan located in Attachment A of the soil, sediment, and surface water workplan (ViroGroup, 1996). The sampling method, decontamination method, and waste disposal method are documented on the sampling field data sheets and decontamination logs presented in Attachment A. Chain-of-custody forms are located with the analytical results located in Attachment G. All sampling locations were permanently marked in the field with a steel pin and surveyed.

The two 1996 landfarm composite soil samples were analyzed for polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) and their respective chlorinated homologues and 2,3,7,8-congeners. Both composite samples had detectable concentrations of PCDDs and PCDFs (Attachment D). The concentrations for each class of PCDDs ranged from 61.0/91.8 (LF1/LF2) nannograms per kilogram (ng/kg dw; part per trillion) total tetrachlorodibenzodioxins to 583,460/496,210 (LF1/LF2) ng/kg dw total octachlorodibenzodioxins. The 2,3,7,8-tetrachlorodibenzodioxin congener was detected at a concentration of 2.4 ng/kg dw in LF1 and at 4.2 ng/kg dw in LF2. The concentrations for each class of PCDFs ranged from 68.9/96.5 (LF1/LF2) ng/kg dw total tetrachlorodibenzofurans to 154,750/155,250 (LF1/LF2) ng/kg dw total octachlorodibenzofurans.

A comparison of the 1990 and 1996 results for the dioxin and furan soil samples collected in the two landfarm areas indicate that the total concentrations for the dioxin and furan constituents have remained relatively consistent (Attachment D). Noteworthy changes in concentration include a

decrease in the 2,3,7,8-tetrachlorodibenzodioxin congener at LF1 from 4 ng/kg dw in 1990 to 2.4 ng/kg in 1996 and a decrease at LF2 from 8 ng/kg dw in 1990 to 4.2 ng/kg dw in 1996. Total tetrachlorodibenzodioxins decreased from 1990 concentrations in 1996 from 140 ng/kg dw to 61 ng/kg dw at LF1 and from 170 ng/kg dw to 91.8 ng/kg dw at LF2.

2.3 Surface Water

On January 7, 1985 surface water samples were collected by the NUS corporation during the site screening investigation (NUS, 1986). One surface water sample (SWP-RB-W) was collected from the end of the jetty (former T-head) between the two site slips. A second background surface water sample (SWP-BK-51) was collected in the overflow stream from Greenfield Lake (Greenfield Creek). No wood-preserving constituents were detected in these surface water samples (Attachment E).

Southern Wood Piedmont has collected surface water samples routinely from the Cape Fear River adjacent to the former wood treating facility since December 1985. Two upgradient and two downgradient samples are collected along the east bank of the Cape Fear River during each sampling event (Figure 1). The upgradient surface water samples are located near the U.S. Highway #74 bridge and near an old slip at the former wood treating facility. The downgradient surface water samples are located near the mouth of Greenfield Creek and near the North Carolina State Ports Authority. A total of 18 routine sampling events have occurred through July 1995 (Attachment E). One resampling event, to evaluate a detection during the routine June 1989 sampling event occurred in July 1989. The upgradient sample location near U.S. Highway #74 has been non-detect for the Wilmington site-specific constituents since initiation of surface water sampling activities. Surface water samples collected near the old slip have also been non-detect for the Wilmington site-specific constituents, except on two occasions. Copper was detected at 0.02 mg/l in June 1988 and chromium was detected at 0.011 mg/l in January 1990 near the old slip. Wilmington site-specific constituents have been detected on two occasions at the downgradient location near the mouth of Greenfield Creek. Naphthalene was detected at a concentration of 0.050 mg/l during the June 1989 sampling event. To evaluate the detection of naphthalene, a second sample was collected July 1989. The July 1989 surface water sample was non-detect for the Wilmington site-specific constituents. During the July 1990 sampling event chromium was detected at 0.046 mg/l and copper was detected at 0.052 mg/l near the mouth of Greenfield Creek. The downgradient sample location near the North Carolina State Ports Authority has been non-detect for the Wilmington site-specific constituents since initiation of sampling in December 1985.

As discussed above, surface water samples have been collected routinely from the Cape Fear River since 1985. However, no surface water samples had been collected from the on-site drainage ditch or Greenfield Creek and its tributary. On February 16, 1996, ViroGroup collected one

surface water sample from the on-site drainage ditch (SW-3), three surface water samples from Greenfield Creek (SW-1, SW-2, and SW-5), and one surface water sample (SW-4) from a southern tributary to Greenfield Creek (Figure 12). Surface water samples were also collected from the Cape Fear River on January 15, 1996 by a Southern Wood Piedmont representative. The surface water samples were submitted to the laboratory for analysis of the Wilmington site-specific wood-preserving constituent list (Attachment G). The semi-volatile constituents were analyzed by USEPA Method 8270, volatiles by USEPA Method 8240, and metals by USEPA Method 6010. The sampling, decontamination, and chain-of-custody procedures were as described in the sampling and analysis plan located in Attachment A of the soil, sediment, and surface water workplan (ViroGroup, 1996). The sampling method, decontamination method, and waste disposal method are documented on the sampling field data sheets and decontamination logs presented in Attachment A. Chain-of-custody forms are located with the analytical results located in Attachment G. All sampling locations were permanently marked in the field with a steel pin and surveyed. All of the surface water samples were non-detect for the Wilmington site-specific constituent list. Please refer to Attachment E for a surface water analytical summary table.

2.4 Sediment

A sediment sample (SWP-RB-S) was collected in 1985 by NUS Corporation in the Cape Fear River at the end of the on-site jetty (former T-head) between the two site slips. A second sediment sample (SWP-BK-51) was collected in the bed of the overflow stream from Greenfield Lake (Greenfield Creek). No arsenic, chromium, or copper was detected in the sediment samples collected by NUS. The sediment sample at the jetty indicated the presence of 14 identified organic compounds, one unidentified brominated compound, and three unidentified hydrocarbons (Attachment E). The Greenfield Creek sediment sample indicated the presence of eight identified organic compounds, 11 unidentified organic compounds, and one unidentified brominated compound. The pesticides 4,4'-DDE and 4,4'-DDD were detected in the Greenfield Creek sediment sample.

On December 9 and 14, 1992 ETE (ViroGroup, 1993) collected 11 sediment samples (SS-1 thru SS-11) along the on-site drainage ditch and along the north bank of Greenfield Creek (Figure 1). The sediment samples were analyzed for the Wilmington site specific wood-preserving constituent list (Attachment G). Chromium, copper, and arsenic were present in the sediment samples at background concentrations (Attachment E). The sediment samples along the on-site drainage ditch and Greenfield Creek (both upstream and downstream from the on-site drainage ditch) have detectable organic concentration levels. The 1992 sediment sampling completed during the Phase II Groundwater Quality Assessment (ViroGroup, 1993) indicated high constituent levels in the vicinity of SS-10 along Greenfield Creek (Figure 1). The high concentrations in this sediment sample was suspect because the laboratory results were a magnitude higher than the other samples collected along Greenfield Creek and the field observations were not indicative of high levels of

contamination. Therefore, ViroGroup, Inc. resampled SS-10 during the Phase III Groundwater Quality Assessment (1994) to compare the original soil sampling results (SS-10) to the resample results (SS-10A). No visible staining or odor was observed during the resampling event. Results from the resampling indicated a lower concentration of wood preserving constituents that were in agreement with the concentrations observed in other sediment samples along Greenfield Creek. The total organic wood preserving constituents in SS-10 was 6,110 mg/kg dw and for SS-10A was 45.3 mg/kg dw. As indicated, SS-10 is suspect.

The 11 sediment samples in 1992 were collected from the on-site drainage ditch and Greenfield Creek, however, no sediment samples had previously been collected in a southern tributary to Greenfield Creek or in the Cape Fear River. To evaluate the sediment in the southern tributary to Greenfield Creek and along the Cape Fear River, 13 additional sediment samples (SS-12 thru SS-24) were collected by ViroGroup, Inc. on February 15, 1996 (Figure 1). The sediment samples were collected utilizing the same methodology as the 1992 sediment assessment. Each sediment sample was described for degree of staining and odor (Figure 13) and logged according to the Unified Soil Classification Scheme (Attachment A). The sediment samples were collected from 0- to 6-inches below the base of the stream bed and submitted to the laboratory for analysis of the Wilmington site-specific wood-preserving constituent list (Attachment G). The semi-volatile constituents were analyzed by USEPA Method 8270, volatiles by USEPA Method 8240, and metals by USEPA Method 6010. The sampling, decontamination, and chain-of-custody procedures were as described in the sampling and analysis plan located in Attachment A of the soil, sediment, and surface water workplan (ViroGroup, 1996). The sediment samples were collected using either a stainless steel hand auger, in shallow water, or a 6-inch by 6-inch stainless steel Ponar™ dredge sampler, in deeper water. The sampling method, decontamination method, and waste disposal method are documented on the sampling field data sheets and decontamination logs presented in Attachment A. Chain-of-custody forms are located with the analytical results located in Attachment G. All of the surface water and sediment sample locations were located by placing survey stakes on the shoreline. Two survey stakes were placed at each sample location, such that, when lined up they indicated the direction to the surface water or sediment sample location. Along Greenfield Creek the distance between the stake closest to the bank and the sample location was recorded. The sediment samples within the Cape Fear River were collected approximately 50 feet from the stake closest to the shoreline, consistent with the 1985 NUS sediment sample. The sediment samples in the south slip were collected near the bank and at the center of the slip. The distance between the stake closest to the shoreline and the sediment samples in the slip was recorded.

In order to provide continuity in the discussion on the sediment sample results, the 11 sediment samples collected in 1992 are discussed with the results from the 13 sediment samples collected in 1996. Visual observations indicated that 13 of the sediment samples had no staining or odor, 4 sediment samples had a faint odor, and 7 of the sediment samples were discolored (Figure 13).

The discolored sediments were limited to the on-site drainage ditch, Greenfield Creek, and at the background location along the Cape Fear River adjacent to the Highway 74 bridge north of the site. The sediment samples SS-12 and SS-13, from the southern tributary to Greenfield Creek, contained a strong hydrogen sulfide or sewage type odor. When these sediment samples were collected, the water in the creek appeared cloudy with a bluish-gray color that was distinctively different from Greenfield Creek and the on-site drainage ditch. In the 24 sediment samples collected, 13 semi-volatiles and 6 volatiles were detected (Figure 14; Attachment E). The semi-volatiles detected consisted of naphthalene (3 samples), acenaphthene (11 samples), phenanthrene (9 samples), anthracene (10 samples), fluoranthene (20 samples), chrysene (17 samples), benzo(a)anthracene (15 samples), benzo(b)fluoranthene (10 samples), benzo(k)fluoranthene (8 samples), benzo(a)pyrene (11 samples), indeno(1,2,3-cd)pyrene (5 samples), carbazole (5 samples), and dibenzo(a,h)anthracene (2 samples). The five volatile organic constituents that were detected were dichloromethane, ethyl benzene, x/p-xylene, o-xylene, toluene, and 1,2-dichloropropane. Dichloromethane was used by the laboratory in 1992 as the solvent during the extraction process and was only detected in the 1992 sediment samples. The dichloromethane is believed to have been introduced by the laboratory during analysis of the 1992 sediment samples (ViroGroup, 1993). 1,2-Dichloropropane was detected only in SS-15 located at the upgradient property boundary to the site. 1,2-Dichloropropane is not usually associated with wood-preserving sites. Sediment sample SS-9, located at the mouth of Greenfield Creek, had the highest concentration of total organic wood-preserving constituents (TO) at 357.3 mg/kg dw (Figure 14). Other concentrations of total organic wood-preserving constituents were detected in the former ditch at SS-5 (167.1 mg/kg dw), SS-6 (150.4 mg/kg dw), and SS-7 (203.3 mg/kg dw), at the background Cape Fear River location adjacent to the Highway 74 bridge at SS-14 (145.06 mg/kg dw), and in the south slip at SS-19 (153.1 mg/kg dw) and SS-21 (193 mg/kg dw). Eighteen of the 24 sediment samples (75%) contained detectable concentrations of arsenic. Chromium was detected in 23 of the sediment samples (96%) and all of the sediment samples had detectable concentrations of copper. The average concentration for the metals in the sediment is 4.6 mg/kg dw arsenic, 18.9 mg/kg dw chromium, and 19.3 mg/kg dw copper. Based on the 1984 USGS investigation, the concentrations of arsenic, chromium, and copper detected in the sediment samples are in the acceptable range for background concentrations.

To determine sediment grain size, total organic carbon (TOC) content, and the bioavailability of the metals in the sediments, nine sediment samples were collected for grain size analysis, total organic carbon analysis, and acid-volatile sulfide with simultaneous extracted metals (AVS-SEM) analysis. These nine sediment samples were collected in the following locations: two from the on-site drainage ditch at sediment sample locations SS-7 and SS-8; three from Greenfield Creek at sediment sample locations SS-1, SS-9, and SS-11; and four from the Cape Fear River at the Highway 74 bridge (SS-14), the T-head (SS-18), the southern slip (SS-20), and the mouth of Greenfield Creek (SS-23).

Coarse grain sediments were the predominant size in all of the samples. However, there is a direct correlation between the sediment grain size and the flow velocity of the water body from where the sediment samples were collected. A comparison between grain size distribution in the sediment samples collected in the drainage ditch, Greenfield Creek, and the Cape Fear River, indicate that the grain size decreases as the average velocity of the water body increases. The results from the grain size analysis are presented in Attachment G. The TOC soil samples were collected at a depth of 0- to 6-inches below the sediment bed. The average total organic carbon concentration from the 9 sediment samples is 36,756 mg/kg dw. The range for total organic carbon detected in the sediments is 3,000 mg/kg dw to 99,000 mg/kg dw (Attachment G). Please refer to Attachment G for the results of the AVS-SEM analysis.

Multiple sources of potential contamination to the Cape Fear River exist in this vicinity due to the heavy industrialization along its banks and along the banks of tributary creeks. Urbanization along Greenfield Creek, including a City waste water treatment facility and a chemical bulk storage tank farm present potential sources of contamination that may discharge to Greenfield Creek and to the Cape Fear River. The distribution of various constituents detected in sediment samples collected along Greenfield Creek suggested the likelihood that multiple sources exist.

2.5 Quality Assurance/Quality Control

Decontamination was completed between each borehole and between each discrete sample as described in Appendix B of the ECBSOPQAM (EPA, 1991) and in Section II.(A) of the Wilmington Sampling & Analysis (S&A) Plan (Attachment A of the workplan). Please refer to Attachment A which contains a copy of decontamination records that were completed between each discrete sample.

Soil sample collection procedures were as described in Section 4.11 of the ECBSOPQAM and in Section III of the Wilmington S&A plan.

Section 4.8 of the ECBSOPQAM and Section IV of the Wilmington S&A plan were followed during the collection of all surface water and sediment samples.

Sample containers, sample preservation, sample holding times, and permissible sample type were as listed in ECBSOPQAM Appendix A. Shipping was as listed in ECBSOPQAM Appendix C and as described in Section II.(C) of the Wilmington S&A plan. Chain-of-custody procedures were as described in Section 3.3 of the ECBSOPQAM and Section II.(B) of the Wilmington S&A plan.

Semi-volatile organic compounds were analyzed by USEPA Method 8270 and volatile organic compounds by USEPA Method 8240. Arsenic, chromium, and copper were analyzed by USEPA Method 6010. Total Kjeldahl nitrogen was analyzed by USEPA Method 351.2, nitrate + nitrite-

N by USEPA Method 353.1, total phosphorus by USEPA Method 365.1, total organic carbon by USEPA Method 415.1, chloride by USEPA Method 325.1, pH by USEPA Method 150.1, and AVS-SEM by USEPA Method 68-03-3534/6010. Dioxins and furans were analyzed by USEPA Method 8290.

Quality assurance/quality control (QA/QC) field samples were collected. Field QA/QC samples included: (1) one duplicate sample per medium per container type per field day; (2) an equipment rinsate blank, per sampling procedure, as appropriate, and; (3) a VOA trip blank, as necessary. A duplicate soil sample was collected at TWSB15, duplicate sediment samples were collected at SS-12 and SS-16, and a duplicate surface water sample was collected at SW-4. All of the duplicate samples were a reasonable match with the original sample. The duplicate sample results are reported with the respective matching original sample results in the attachments and on the figures in this report. Equipment blanks (4) and trip blanks (2) were non-detect and are reported in Attachment F.

Laboratory QA/QC procedures were as described in SW-846, EPA Test Methods for Evaluating Solid Waste for each EPA approved analytical methodology utilized during this investigation. Laboratory QA/QC included at a minimum:

1) A statement that samples were received in good condition and at the required temperature and that analysis of the samples complied with all procedures outlined in the USEPA methodology. Any deviations would be reported on the chain-of-custody forms by the laboratory. No deviations were reported.

2) Laboratory sheets for the analytical results, including sample identification, sampling dates, date samples received by laboratory, extraction dates, analysis dates, analytical methods used, dilution factors, and sample quantitative limits are included with the analytical results from the laboratory (Attachment G).

3) Laboratory sheets for all laboratory quality control samples, including results for bias and precision and control limits used (Attachment G). The following minimum laboratory quality control samples were required: (1) at least one matrix spike and one matrix spike duplicate per sample delivery group or 12-hour period, whichever is less; (2) at least one method blank per sample delivery group or 12-hour period, whichever is less; (3) system monitoring compounds, surrogate recovery analysis and laboratory control samples. All samples which exceeded control limits/acceptance criteria were flagged in the laboratory report.

4) Complete chain-of-custody with associated air bill attached (Attachment G).

5) The laboratory report includes the names and qualifications of the individuals who performed each analysis, the quality assurance officer who reviewed the data, and the laboratory manager (Attachment G).

6) The laboratory report also includes certification that the laboratory is either certified under 15A NCAC Subchapter 2H.0800, or that it is a contract laboratory under EPA's Contract Laboratory Program (Attachment G).

2.6 Investigation Derived Waste Management

Investigation derived waste (IDW) materials were generated during the field activities. Waste types included liquids, solids, and sludge. Since some of these materials may be hazardous wastes, it was handled, stored, and disposed of properly. Materials that became IDW included:

- Personnel protective equipment (PPE) - coveralls, gloves, etc.
- Cleaning fluids - spent solvent, wash water, etc.
- Disposable equipment (DE) - plastic ground and equipment covers, aluminum foil, sample containers, sample boxes, tape, etc.

Due to the low volume of waste that was generated at the site, IDWs were placed in 55-gallon drums. The liquid IDW and solid IDW was stored in separate drums. The drums were sealed to prevent accumulation of precipitation. A hazardous waste label was placed on each of the drums on the first day in which any waste was added to the container. A waste generation form was also completed at this time to notify SWP of waste generation. The IDW materials are presently being stored on-site awaiting proper disposal. The drums will not be stored more than 90 days from the first date of accumulation. At the end of the field activities, a sample (labeled "Drum") was collected and submitted to Savannah Laboratories for analysis of the Wilmington site-specific wood preserving constituents to determine the proper off-site disposal method. The results from the analysis are presented in Attachment F. The waste containers were labeled with the proper D.O.T. placards and will be manifested when shipped off-site to an approved waste disposal facility.

All non-hazardous IDW was disposed at the local sanitary landfill at the end of investigation activities. Soil cuttings from hand auguring were returned to the borehole from which they were excavated.

2.7 Health and Safety Plan

A health and safety plan that conformed to OSHA 1910.120 requirements was observed during the implementation of the field activities. A copy of the plan was submitted to Chief E.E. Benton

with the City of Wilmington Fire Department and Ms. Joyce Michaelis, Inpatient Registration Supervisor with the New Hanover Regional Medical Center. The health and safety plan that was followed is located in Attachment D of the workplan for this report (ViroGroup, 1996).

3.0 SUMMARY

This assessment was based on the discussions originating from the May 24, 1995 meeting between Southern Wood Piedmont Company (SWP), the City of Wilmington (City), the North Carolina State Ports Authority (NCSPA), the North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR), and the Region IV United States Environmental Protection Agency (EPA). The scope of work performed during this assessment was also based on recommendations suggested in the January 31, 1995 letter from the NCDEHNR to the EPA that summarizes the Site Inspection Prioritization (NCDEHNR, 1995). The assessment was performed in accordance with ViroGroup's Soil, Sediment, and Surface Water Assessment Workplan dated January 31, 1996.

To complete the remaining portions of the site wide soil investigation, ViroGroup assessed the main production area and the treated wood storage area B on February 12 through 14, 1996. A total of 78 boreholes were completed in a grid pattern to a depth of 18-inches. Each soil boring was described for degree of staining and odor and logged according to the Unified Soil Classification Scheme. Twenty-six of the boreholes (1/3) were randomly selected for chemical analysis using a random number table. A soil sample was collected from the 0- to 6-inch and 12- to 18-inch intervals (total of 52 soil samples) and submitted to the laboratory for analysis of the Wilmington site-specific wood-preserving constituent list. In the main production area, 33 soil borings were completed and 22 soil samples were collected. Visual observations indicated that 21 of the soil borings had no staining or odor, 3 soil borings had a faint odor, and 9 soil borings were discolored. In the 22 soil samples collected, 14 semi-volatiles and 2 volatiles were detected as indicated. The semi-volatiles detected consisted of naphthalene (4 samples), acenaphthylene (1 sample), acenaphthene (4 samples), phenanthrene (10 samples), anthracene (11 samples), fluoranthene (18 samples), chrysene (16 samples), benzo(a)anthracene (16 samples), benzo(b)fluoranthene (17 samples), benzo(k)fluoranthene (15 samples), benzo(a)pyrene (16 samples), indeno(1,2,3-cd)pyrene (12 samples), carbazole (5 samples), and dibenzo(a,h)anthracene (3 samples). The two volatile organic constituents that were detected were ethylbenzene (1 sample) and xylene (6 samples). Eighteen of the 22 samples contained detectable concentrations of arsenic. Chromium was detected in all of the samples and 19 of the samples had detectable concentrations of copper. Soil sample PDA1A, collected from the northwest corner of the former production area, had the highest levels of arsenic, chromium, and copper. Arsenic was detected at 1,300 mg/kg dw, chromium at 1,200 mg/kg dw, and copper at 1,600 mg/kg dw. Sample PDA1A is located in the vicinity of the former chromium, copper, and arsenic (CCA) treatment facility. The soil in the vicinity of the CCA treatment facility was

excavated, properly disposed, and backfilled. The high CCA concentrations in PDA1A are isolated to the 0- to 6-inch depth below land surface. The average concentration for the metals in the production area when PDA1A is not included in the data set is 22 mg/kg dw arsenic, 39 mg/kg dw chromium, and 37 mg/kg dw copper indicating that the concentrations of arsenic, chromium, and copper detected in the soil samples are within the acceptable range for background concentrations.

Investigation activities in the treated wood storage area B (TWSB) included the completion of 45 soil borings and the collection of 30 soil samples. Visual observations indicated that 44 of the soil borings had no staining or odor and 1 of the soil borings was discolored. In the 30 soil samples collected, 11 semi-volatile constituents and 1 volatile constituent were detected. The semi-volatiles detected consisted of acenaphthene (1 sample), phenanthrene (6 samples), anthracene (4 samples), fluoranthene (22 samples), chrysene (20 samples), benzo(a)anthracene (18 samples), benzo(b)fluoranthene (20 samples), benzo(k)fluoranthene (18 samples), benzo(a)pyrene (18 samples), indeno(1,2,3-cd)pyrene (11 samples), and carbazole (1 sample). The volatile constituent detected was m+p xylene, which was present in three samples. Arsenic was detected in 18 out of 30 samples, chromium was detected in all 30 samples, and copper was detected in 16 out of 30 samples. The average concentration of arsenic is 6.7 mg/kg dw, of chromium is 7.1 mg/kg dw, and of copper is 18.7 mg/kg dw. The metal concentrations in the TWSB area are all considered background concentrations.

The workplan proposed that dioxin and furan soil sampling would be conducted if pentachlorophenol was detected in the site soils (dioxins and furans are remnant from the pentachlorophenol formulation process). No pentachlorophenol was detected in the site soils, therefore, no dioxin or furan soil samples were collected.

To evaluate the bioavailability of organic compounds on site, total organic carbon (TOC) samples were collected on February 15, 1996. Two TOC samples were collected at a depth of 0- to 6-inches below land surface from each of the production area, non-treated wood storage area B (NTB), and treated wood storage area A (TWSA) on site. The average total organic carbon concentration from the 6 soil samples is 27,467 mg/kg dw.

ViroGroup, Inc. collected soil samples on February 15, 1996 from each landfarm area to evaluate the presence and continued degradation of wood-preserving constituents in the landfarm materials from 1991 to 1996. An upper composite sample 0- to 3-inches below the landfarm surface, a lower composite sample 2- to 8-inches above the base of the landfarm material and a substrate composite sample 2- to 6-inches below the base of the landfarm material was collected from each landfarm (LF1 and LF2). The average thickness of the landfarm material was 19 inches in LF1 and 22-inches in LF2. The analytical results from the 1996 landfarm soil samples indicate a decreasing trend in constituent concentration levels since 1991. Total wood-preserving constituent

concentrations in LF1 have decreased from 497.85 mg/kg dw in 1991 to 107.1 mg/kg dw in 1996 and in LF2 from 1,354.7 mg/kg dw to 131.5 mg/kg dw. A comparison between the results from the 1996 lower substrate soil samples and the results from the 1990 lower substrate samples indicated that all of the 1996 substrate sample analytical results were lower than the concentrations from the 1990 results, except for phenanthrene. Total organic wood-preserving constituent concentrations in the substrate beneath LF1 have decreased from 17 mg/kg dw in 1990 to not-detected (ND) in 1996 and have decreased in the substrate beneath LF2 from 4.3 mg/kg dw to 2.48 mg/kg dw.

To compare the present concentrations of dioxins and furans in the landfarm material to concentrations detected in 1990, two composite surficial soil samples were collected by ViroGroup on February 15, 1996. The dioxin and furan soil samples were collected at a depth of 0- to 6-inches from the landfarm and submitted to Triangle Laboratories for analysis by USEPA Method 8290, high-resolution chromatography/high-resolution mass spectrometry. The comparison of the 1990 and 1996 results for the dioxin and furan soil samples collected in the two landfarm areas indicated that the total concentrations for the dioxin and furan constituents have remained relatively consistent. Noteworthy changes in concentration included a decrease in the 2,3,7,8-tetrachlorodibenzodioxin congener at LF1 from 4 ng/kg dw in 1990 to 2.4 ng/kg in 1996 and a decrease at LF2 from 8 ng/kg dw in 1990 to 4.2 ng/kg dw in 1996.

One surface water sample from the on-site drainage ditch, three surface water samples from Greenfield Creek, and one surface water sample from a southern tributary to Greenfield Creek were collected on February 16, 1996 by ViroGroup. Surface water samples were also collected from the Cape Fear River on January 15, 1996 by a Southern Wood Piedmont Representative. All of the surface water sample were non-detect for the Wilmington site-specific constituent list.

No sediment samples had previously been collected in a southern tributary to Greenfield Creek or in the Cape Fear River. To evaluate the sediment in the southern tributary to Greenfield Creek and along the Cape Fear River, 13 additional sediment samples (SS-12 thru SS-24) were collected by ViroGroup, Inc. on February 15, 1996. The sediment samples were collected from 0- to 6-inches below the base of the stream bed and submitted to the laboratory for analysis of the Wilmington site-specific wood-preserving constituent list. In order to provide continuity to the the sediment sample results, the 11 sediment samples collected in 1992 are described with the results from the 13 sediment samples collected in 1996. Visual observations indicated that 13 of the sediment samples had no staining or odor, 4 sediment samples had a faint odor, and 7 of the sediment samples were discolored. The discolored soils were limited to the on-site drainage ditch, Greenfield Creek, and at the background location along the Cape Fear River adjacent to the Highway 74 bridge north of the site. The sediment samples SS-12 and SS-13, from the southern tributary to Greenfield Creek, contained a strong hydrogen sulfide or sewage type odor. When these sediment samples were collected, the water in the southern tributary appeared cloudy with

a bluish-gray color that was distinctively different from Greenfield Creek and the on-site drainage ditch. In the 24 sediment samples collected, 13 semi-volatiles and 6 volatiles were detected as indicated. The semi-volatiles detected consisted of naphthalene (3 samples), acenaphthene (11 samples), phenanthrene (9 samples), anthracene (10 samples), fluoranthene (20 samples), chrysene (17 samples), benzo(a)anthracene (15 samples), benzo(b)fluoranthene (10 samples), benzo(k)fluoranthene (8 samples), benzo(a)pyrene (11 samples), indeno(1,2,3-cd)pyrene (5 samples), carbazole (5 samples), and dibenzo(a,h)anthracene (2 samples). The five volatile organic constituents that were detected were dichloromethane, ethyl benzene, x/p-xylene, o-xylene, toluene, and 1,2-dichloropropane. Sediment sample SS-9, located at the mouth of Greenfield Creek, had the highest concentration of total organic wood-preserving constituents (TO) at 357.3 mg/kg dw. The Cape Fear River background sediment sample at the Highway 74 bridge has a total organic wood-preserving concentration of 145.06 mg/kg dw. Eighteen of the 24 sediment samples contained detectable concentrations of arsenic. Chromium was detected in 23 of the sediment samples and all of the sediment samples had detectable concentrations of copper. The average concentration for the metals in the sediment is 4.6 mg/kg dw arsenic, 18.9 mg/kg dw chromium, and 19.3 mg/kg dw copper. The concentrations of arsenic, chromium, and copper detected in the sediment samples are in the acceptable range for background concentrations.

To determine sediment grain size, total organic carbon (TOC) content, and the bioavailability of the metals in the sediments, nine sediment samples were collected for grain size analysis, total organic carbon analysis, and acid-volatile sulfide with simultaneous extracted metals (AVS-SEM) analysis. Coarse grain sediments were the predominant size in all of the samples. A comparison between grain size distribution in the sediment samples collected in the drainage ditch, Greenfield Creek, and the Cape Fear River, indicate that the grain size decreases as the flow velocity of the water body decreases. The average total organic carbon concentration from the 9 sediment samples is 36,756 mg/kg dw.

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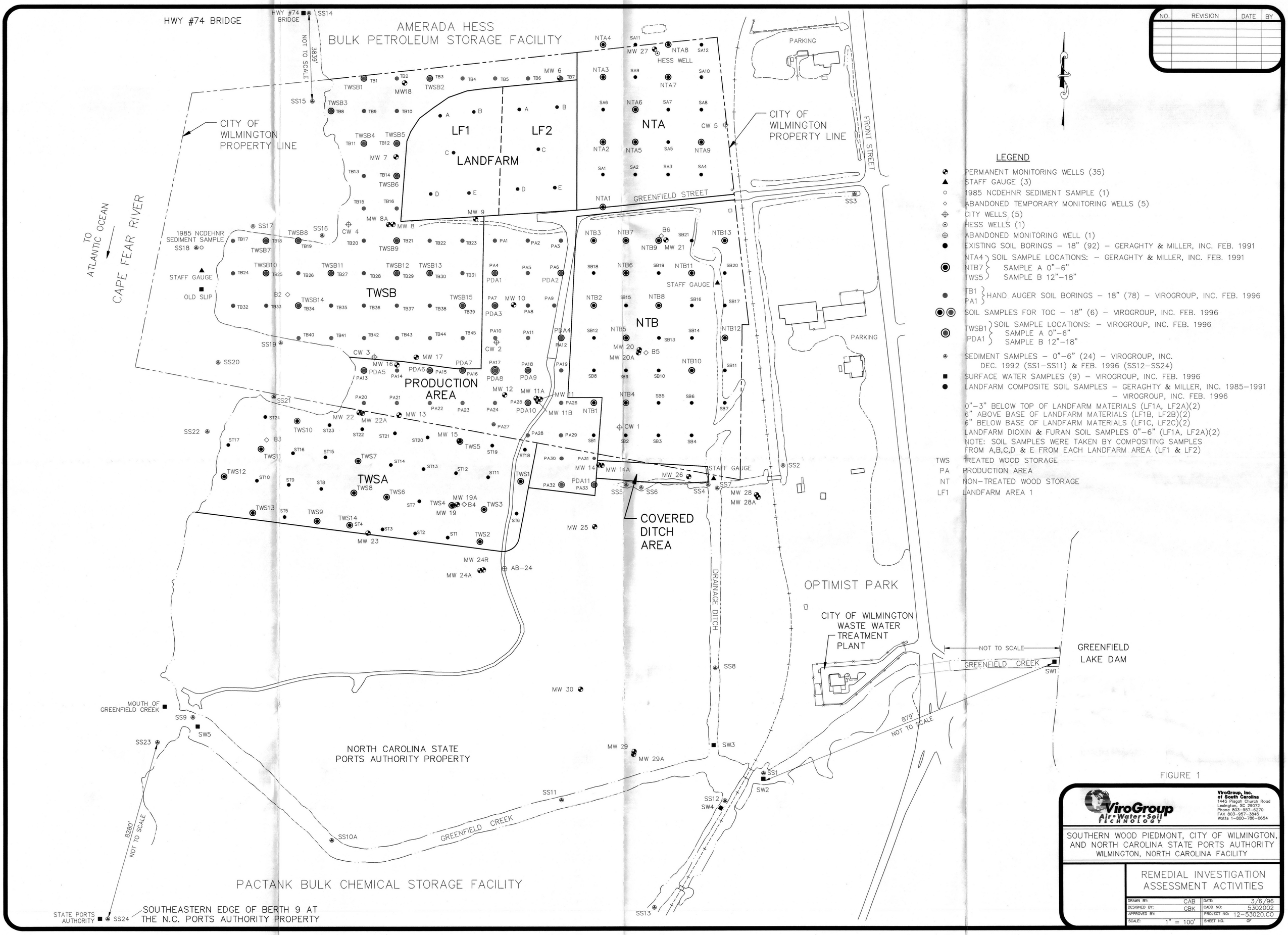
NO.	REVISION	DATE	BY



LEGEND

- PERMANENT MONITORING WELLS (35)
- STAFF GAUGE (3)
- 1985 NCDEHNR SEDIMENT SAMPLE (1)
- ABANDONED TEMPORARY MONITORING WELLS (5)
- CITY WELLS (5)
- HESS WELLS (1)
- ABANDONED MONITORING WELL (1)
- EXISTING SOIL BORINGS – 18" (92) – GERAGHTY & MILLER, INC. FEB. 1991
- NTA4, NTB7, TWS5 – SOIL SAMPLE LOCATIONS: – GERAGHTY & MILLER, INC. FEB. 1991
  - SAMPLE A 0"–6"
  - SAMPLE B 12"–18"
- TB1, PA1 – HAND AUGER SOIL BORINGS – 18" (78) – VIROGROUP, INC. FEB. 1996
- SOIL SAMPLES FOR TOC – 18" (6) – VIROGROUP, INC. FEB. 1996
- TWSB1, PDA1 – SOIL SAMPLE LOCATIONS: – VIROGROUP, INC. FEB. 1996
  - SAMPLE A 0"–6"
  - SAMPLE B 12"–18"
- SEDIMENT SAMPLES – 0"–6" (24) – VIROGROUP, INC. DEC. 1992 (SS1–SS11) & FEB. 1996 (SS12–SS24)
- SURFACE WATER SAMPLES (9) – VIROGROUP, INC. FEB. 1996
- LANDFARM COMPOSITE SOIL SAMPLES – GERAGHTY & MILLER, INC. 1985–1991 – VIROGROUP, INC. FEB. 1996
  - 0"–3" BELOW TOP OF LANDFARM MATERIALS (LF1A, LF2A)(2)
  - 6" ABOVE BASE OF LANDFARM MATERIALS (LF1B, LF2B)(2)
  - 6" BELOW BASE OF LANDFARM MATERIALS (LF1C, LF2C)(2)
  - LANDFARM DIOXIN & FURAN SOIL SAMPLES 0"–6" (LF1A, LF2A)(2)
  - NOTE: SOIL SAMPLES WERE TAKEN BY COMPOSITING SAMPLES FROM A,B,C,D & E FROM EACH LANDFARM AREA (LF1 & LF2)

TWS TREATED WOOD STORAGE
PA PRODUCTION AREA
NT NON-TREATED WOOD STORAGE
LF1 LANDFARM AREA 1

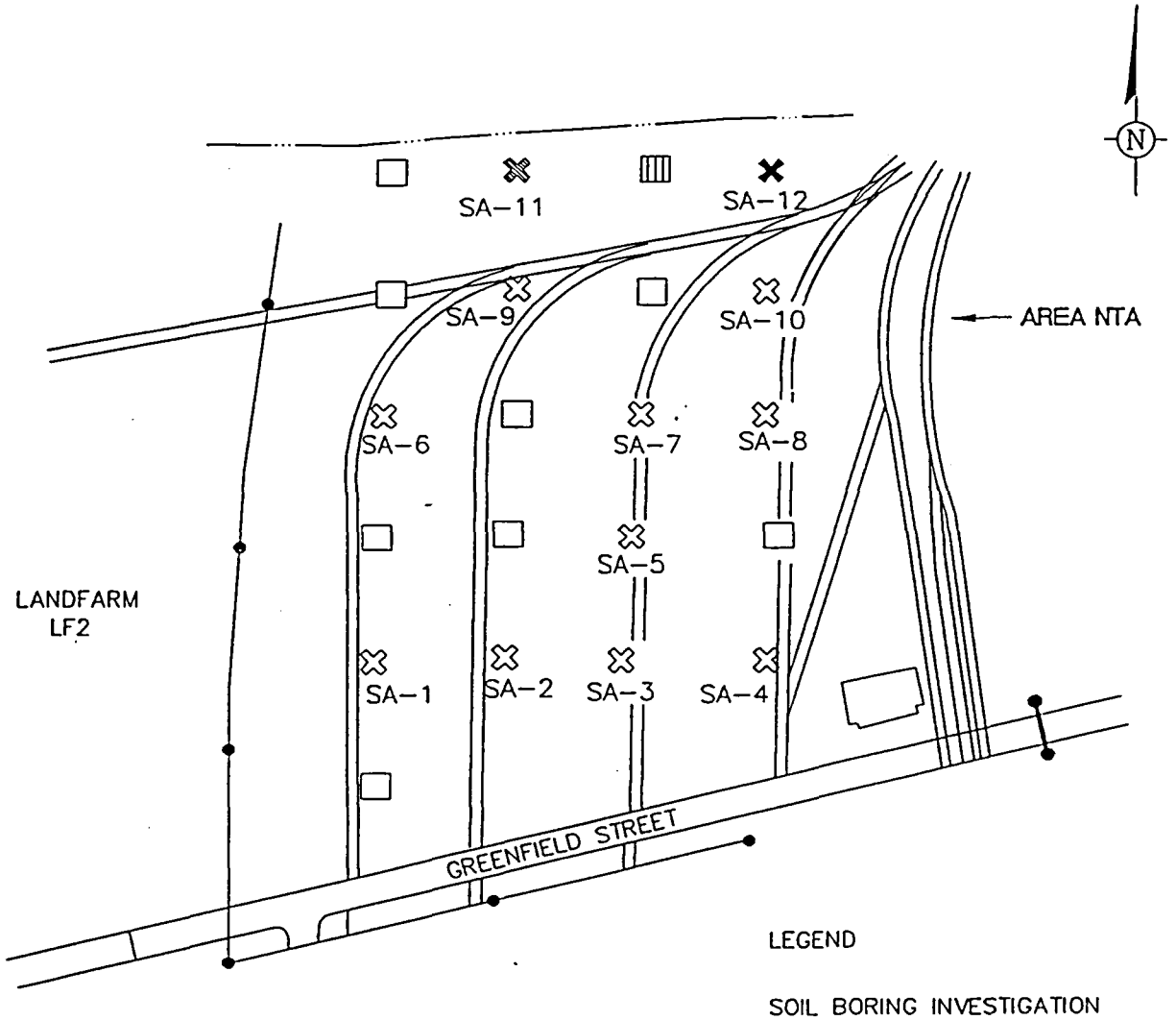
FIGURE 1

ViroGroup Air•Water•Soil TECHNOLOGY
ViroGroup, Inc. of South Carolina
1445 Pisgah Church Road
Lexington, SC 29072
Phone 803-957-6270
FAX 803-957-3845
Watts 1-800-786-0654

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

REMEDIAL INVESTIGATION ASSESSMENT ACTIVITIES

DRAWN BY:	CAB	DATE:	3/6/96
DESIGNED BY:	GBK	CADD NO:	5302002
APPROVED BY:		PROJECT NO:	12-53020.00
SCALE:	1" = 100'	SHEET NO.	OF



LEGEND

SOIL BORING INVESTIGATION

- NO ODOR
- FAINT ODOR
- DISCOLORED SOIL, ODOR

SOIL SAMPLING LOCATION

- NO ODOR
- FAINT ODOR
- DISCOLORED SOIL, ODOR

- OVERHEAD ELEC. AND POLE
- DRAINAGE DITCH

0 150 FT

GERAGHTY & MILLER, INC.
Environmental Services

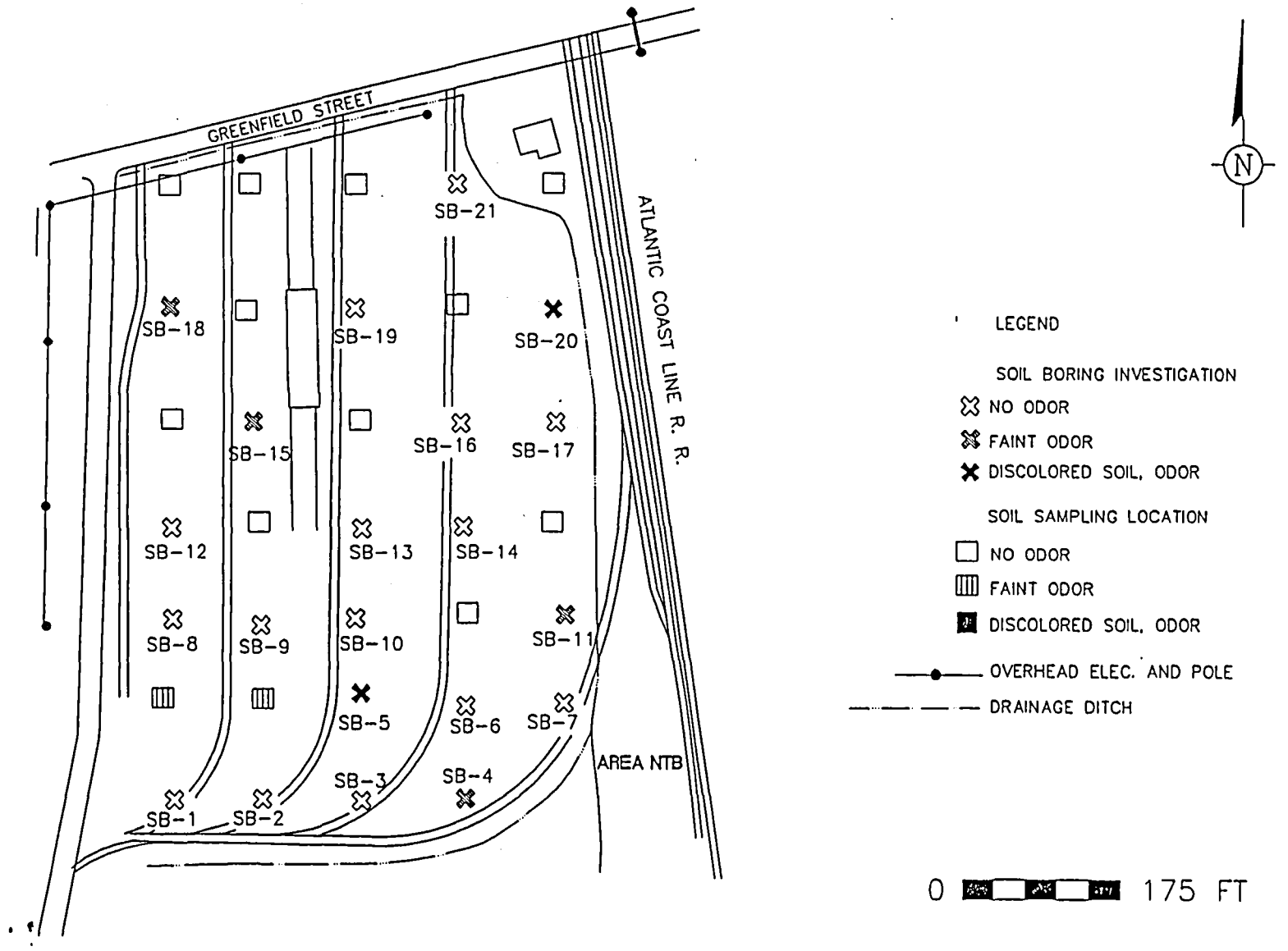
SOIL BORING INVESTIGATION LOCATIONS IN THE FORMER NON-TREATED WOOD STORAGE AREA SA

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

FIGURE 2

DWG DATE: 15 JUN 92 | PRJCT NO.: NC028.04 | FILE NO.: - | DRAWING: NF09003C | CHECKED: M. RADECKE | APPROVED: M. RADECKE | DRAFTER: T. GREER

DWG DATE: 15 JUN 92	PRJCT NO.: NC090.03	FILE NO.: -	DRAWING: NC09003G	CHECKED: M. RADECKE	APPROVED: M. RADECKE	DRAFTER: T. GREER



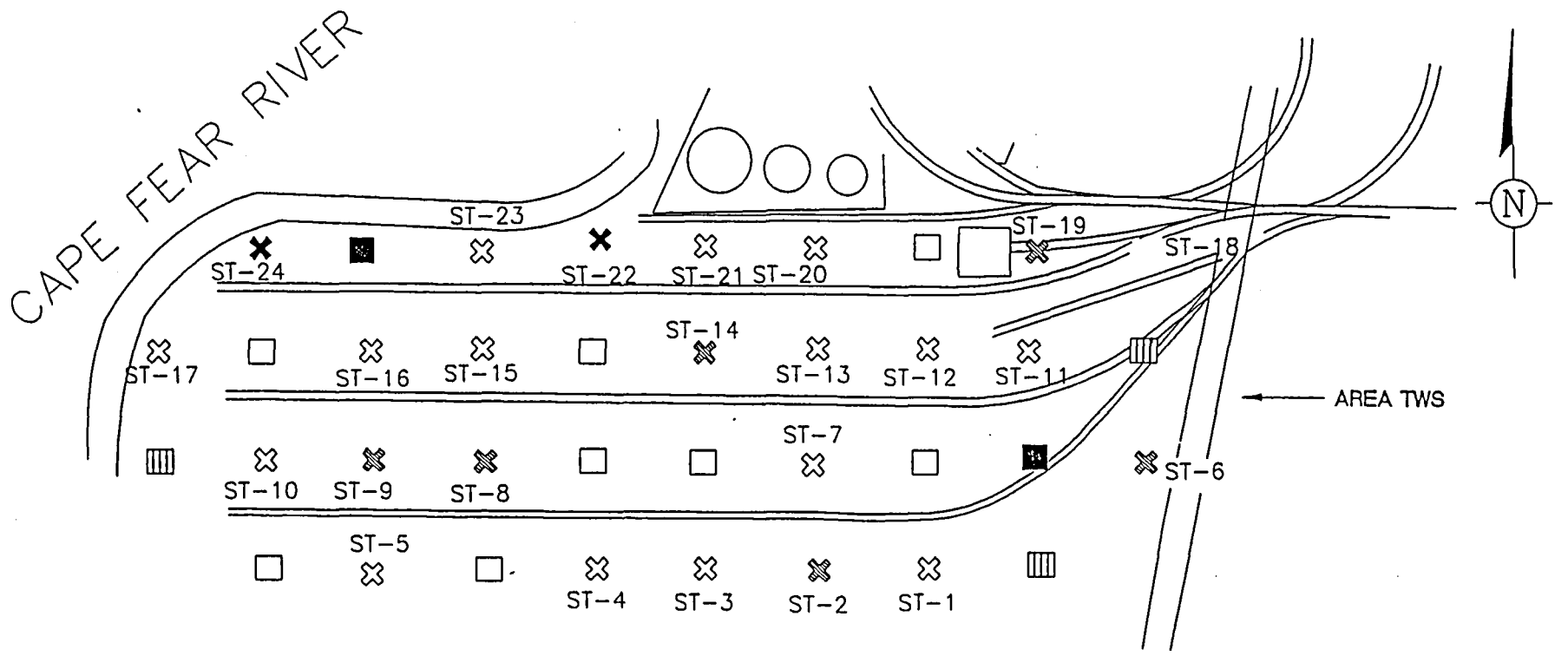
GERAGHTY & MILLER, INC.
Environmental Services

SOIL BORING INVESTIGATION LOCATIONS IN THE FORMER TREATED WOOD STORAGE AREA SB

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

FIGURE
3

DWG DATE: 15 JUN 92	PRJCT NO.: NC090.03	FILE NO.: -	DRAWING: NC09003H	CHECKED: M. RADECKE	APPROVED: M. RADECKE	DRAFTER: T. GREER



LEGEND

SOIL BORING INVESTIGATION

- NO ODOR
- FAINT ODOR
- DISCOLORED SOIL, ODOR

SOIL SAMPLING LOCATION

- NO ODOR
- FAINT ODOR
- DISCOLORED SOIL, ODOR

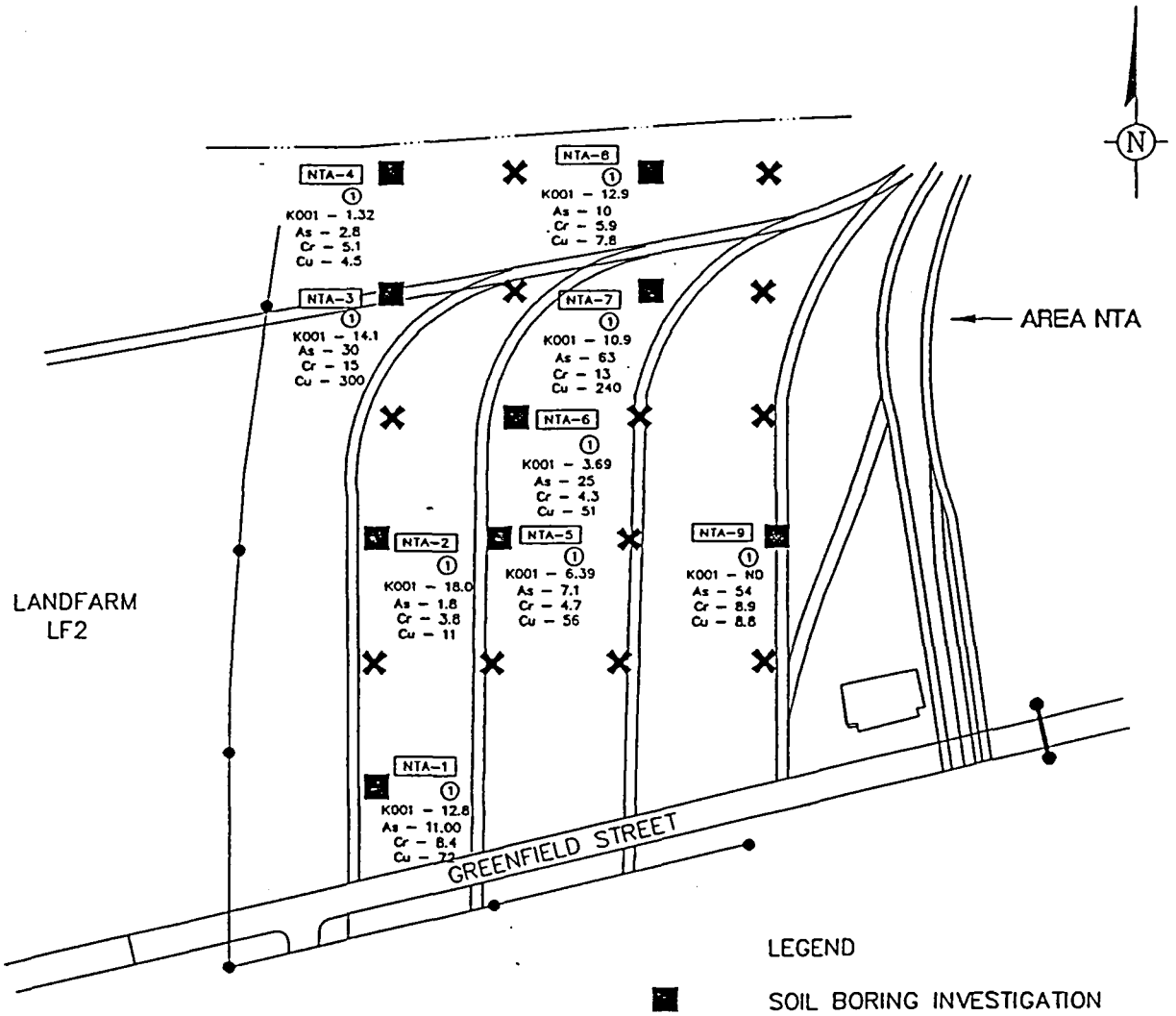
0 150 FT

GERAGHTY & MILLER, INC.
Environmental Services

SOIL BORING INVESTIGATION LOCATIONS IN THE FORMER TREATED WOOD STORAGE AREA ST

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

FIGURE 4



LEGEND

■ SOIL BORING INVESTIGATION

THE FOLLOWING DESIGNATIONS APPLY FOR ALL NTA SAMPLING LOCATIONS:

(1) DENOTES DEPTH AT 0"–6"

K001 – TOTAL DETECTABLE K001 (mg/kg dw)
As – TOTAL ARSENIC (mg/kg dw)
Cr – TOTAL CHROMIUM (mg/kg dw)
Cu – TOTAL COPPER (mg/kg dw)
ND – NOT DETECTED

✕ SOIL BORING INVESTIGATION LOCATION

—●— OVERHEAD ELEC. AND POLE

—·—·— DRAINAGE DITCH

0 150 FT

GERAGHTY & MILLER, INC.
Environmental Services

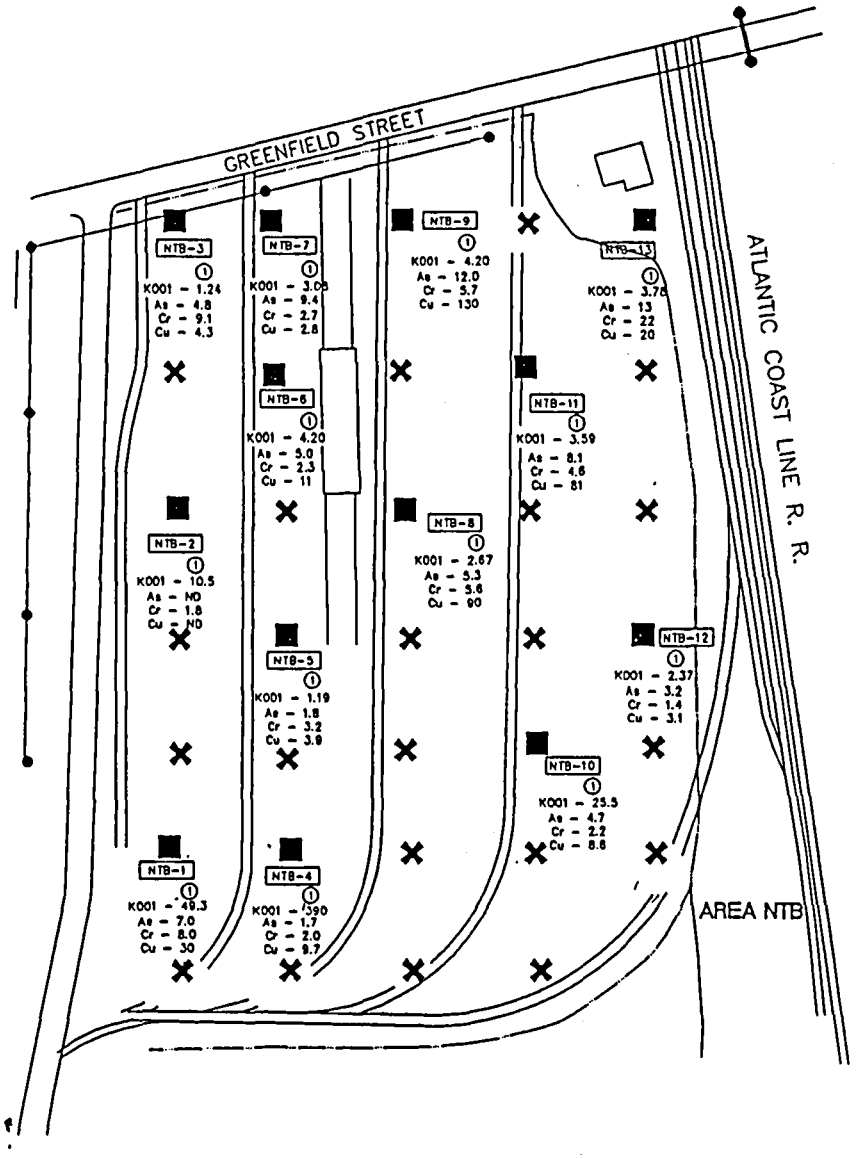
TOTAL DETECTED K001, ARSENIC, CHROMIUM, AND COPPER MEASURED IN SOIL SAMPLES THAT WERE COLLECTED IN THE FORMER NON-TREATED WOOD STORAGE AREA NTA

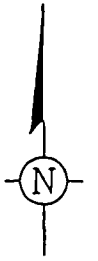
SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

FIGURE
5

DWG DATE: 15 JUN 92 | PRJCT NO.: NC028.04 | FILE NO.: – | DRAWING: NC09003J | CHECKED: M. RADECKE | APPROVED: M. RADECKE | DRAFTER: T. GREER

DWG DATE: 15 JUN 92	PRJCT NO.: NC090.03	FILE NO.: -	DRAWING: NC09003D	CHECKED: M. RADECKE	APPROVED: M. RADECKE	DRAFTER: T. GREER





LEGEND

■ SOIL SAMPLING LOCATION

THE FOLLOWING DESIGNATIONS APPLY FOR ALL NTB SAMPLING LOCATIONS:

① DENOTES DEPTH AT 0"-6"

K001 - TOTAL DETECTABLE K001 (mg/kg dw)
As - TOTAL ARSENIC (mg/kg dw)
Cr - TOTAL CHROMIUM (mg/kg dw)
Cu - TOTAL COPPER (mg/kg dw)

✕ SOIL BORING INVESTIGATION LOCATION (NOT SAMPLED FOR CHEMICAL ANALYSIS)

ND - NOT DETECTED

DRAINAGE DITCH

OVERHEAD ELEC. AND POLE

0 175 FT

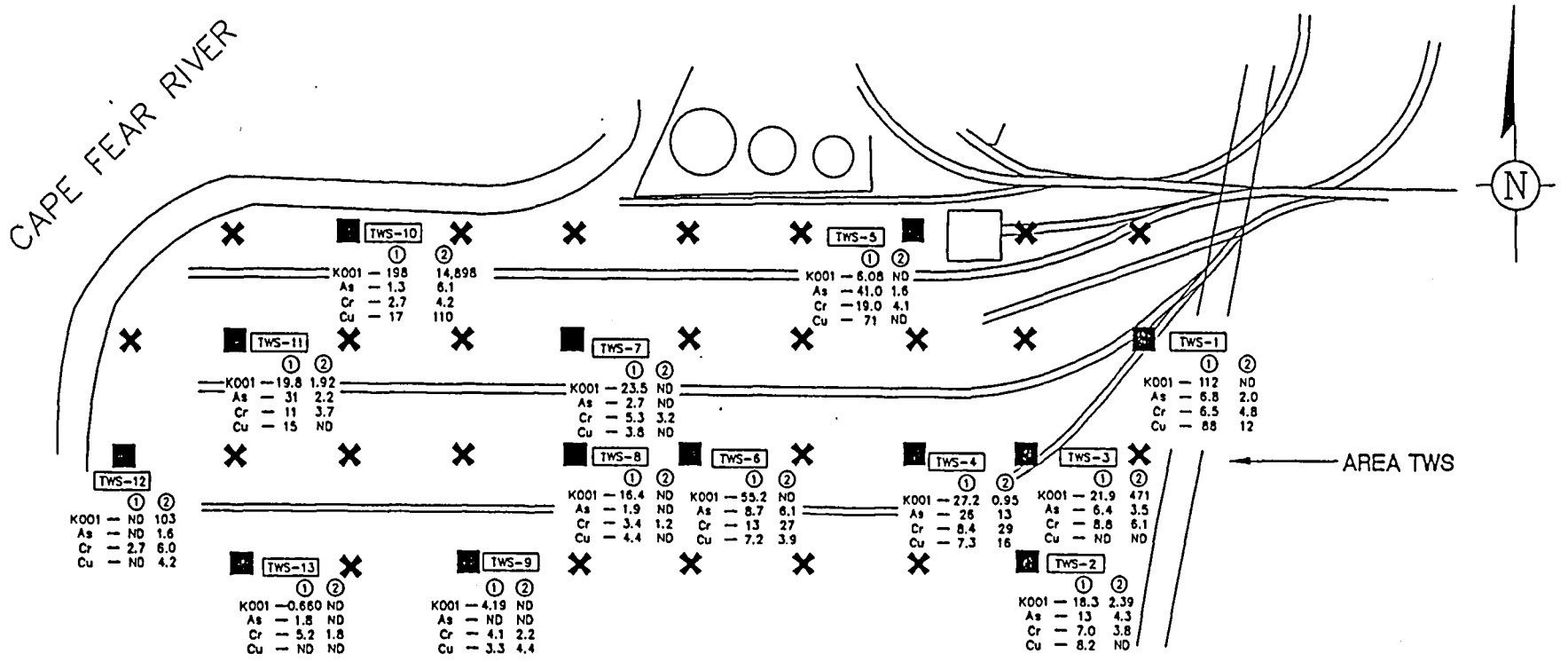
GERAGHTY & MILLER, INC.
Environmental Services

TOTAL DETECTED K001, ARSENIC, CHROMIUM, AND COPPER MEASURED IN SOIL SAMPLES THAT WERE COLLECTED IN THE FORMER NON-TREATED WOOD STORAGE AREA NTB

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

FIGURE
6

DWG DATE: 15 JUN 92	PRJCT NO.: NC090.03	FILE NO.: -	DRAWING: NC09003E	CHECKED: M. RADECKE	APPROVED: M. RADECKE	DRAFTER: T. GREER



LEGEND

■ SOIL SAMPLING LOCATION

THE FOLLOWING DESIGNATIONS APPLY FOR ALL TWS SAMPLING LOCATIONS

① DENOTES DEPTH AT 0"–6"

② DENOTES DEPTH AT 12"–18"

K001 – TOTAL DETECTABLE K001 (mg/kg dw)
As – TOTAL ARSENIC (mg/kg dw)
Cr – TOTAL CHROMIUM (mg/kg dw)
Cu – TOTAL COPPER (mg/kg dw)
ND – NOT DETECTED
✖ – SOIL BORING INVESTIGATION LOCATION (NOT SAMPLED FOR CHEMICAL ANALYSIS)

0 150 FT

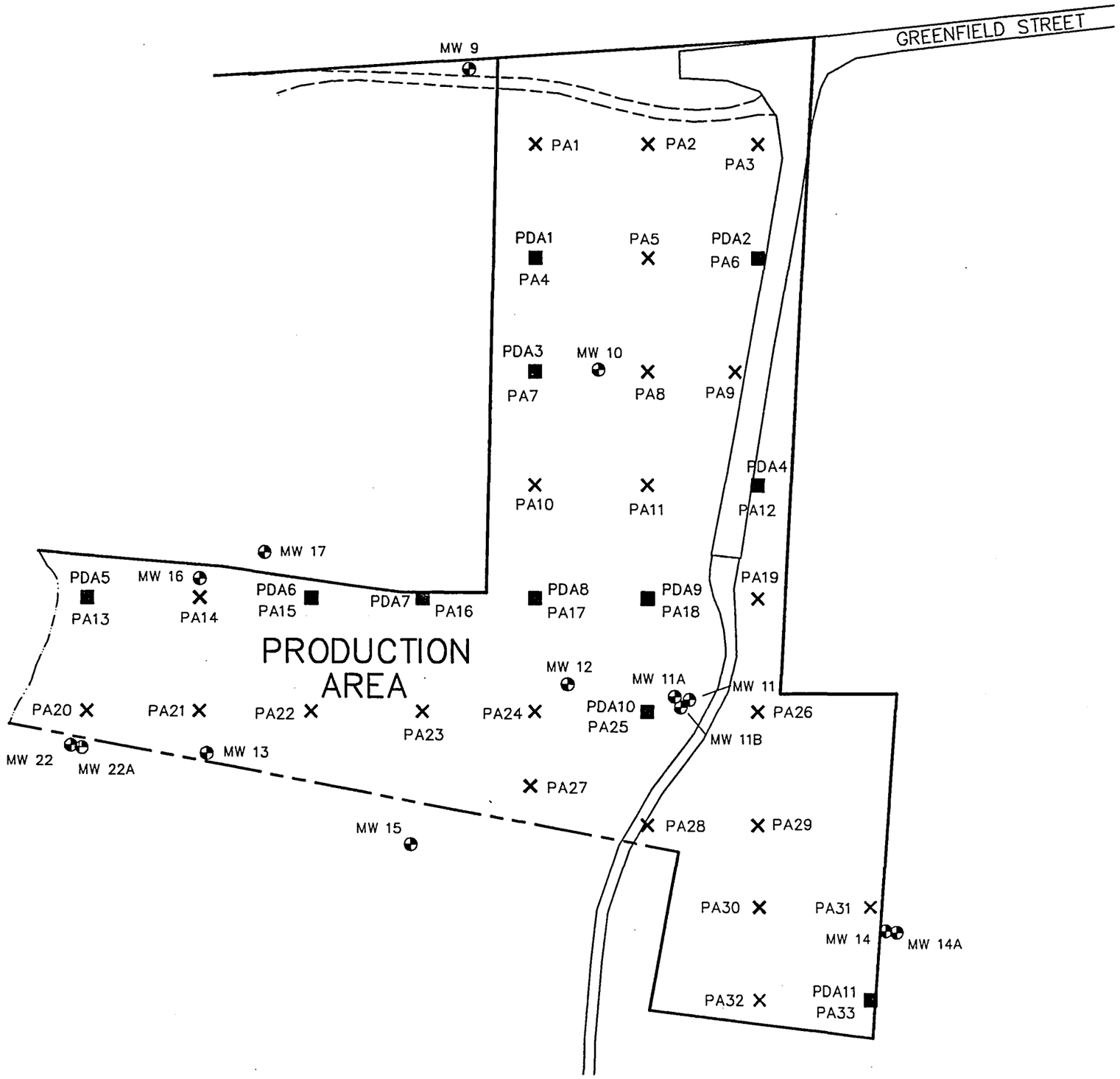
GERAGHTY & MILLER, INC.
Environmental Services

TOTAL DETECTED K001, ARSENIC, CHROMIUM, AND COPPER MEASURED IN SOIL SAMPLES THAT WERE COLLECTED IN THE FORMER TREATED WOOD STORAGE AREA TWS

SOUTHERN WOOD PIEDMONT COMPANY
WILMINGTON, NORTH CAROLINA

FIGURE 7

NO.	REVISION	DATE	BY



LEGEND

SOIL BORING INVESTIGATION (2/14/96)

- × NO ODOR
- × FAINT ODOR
- × DISCOLORED SOIL, ODOR

PDA1 SOIL SAMPLING LOCATION

- NO ODOR
- FAINT ODOR
- DISCOLORED SOIL, ODOR

PERMANENT MONITORING WELLS

PA PRODUCTION AREA

ViroGroup
Air•Water•Soil TECHNOLOGY

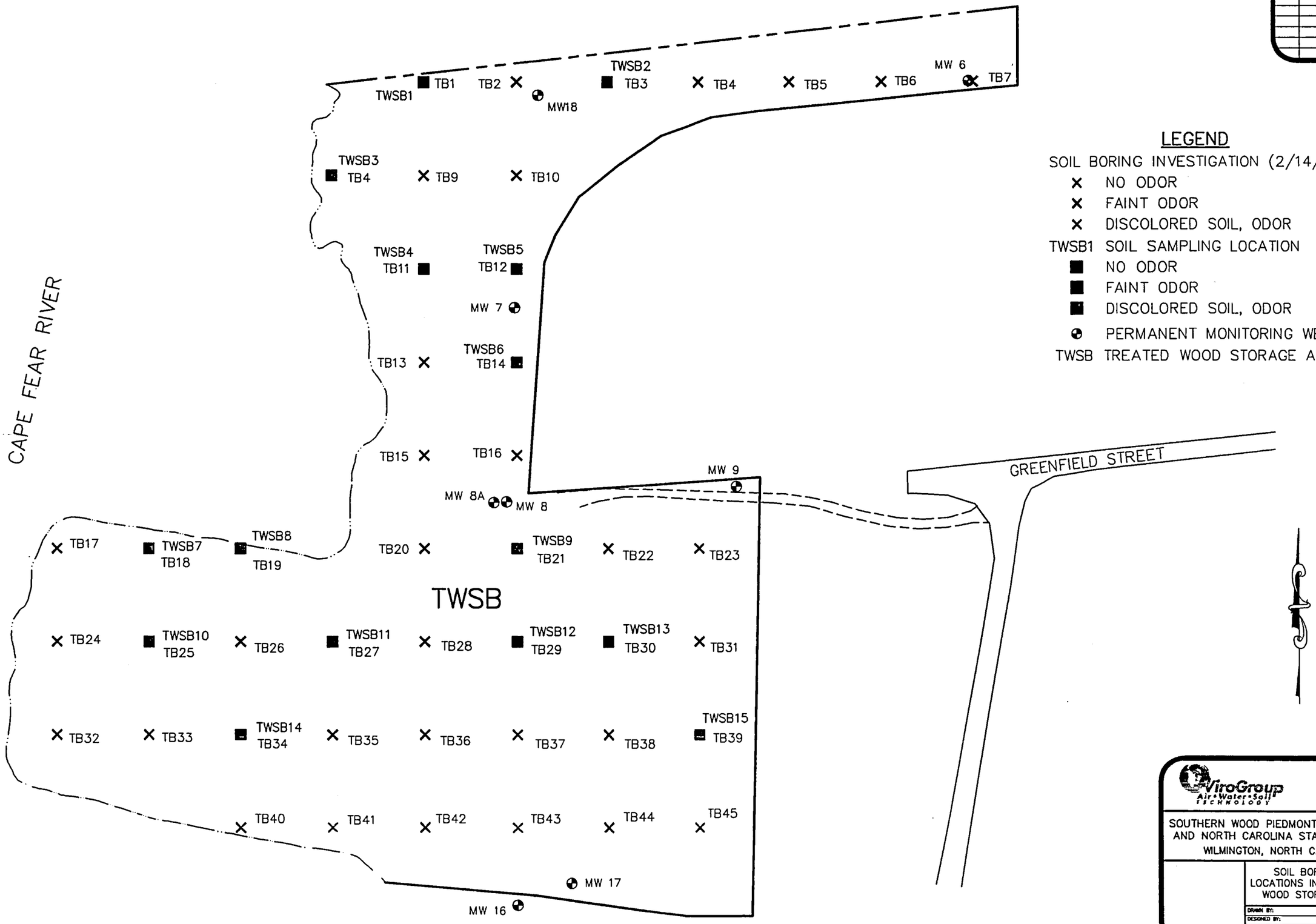
ViroGroup, Inc.
1445 Pleasant Church Road
Lexington, SC 29072
Phone 803-957-6270
FAX 803-957-3843
Wattle 1-800-786-0654

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

SOIL BORING INVESTIGATION LOCATIONS IN THE FORMER PRODUCTION AREA (PA)

DRAWN BY:	CAB	DATE:	3/18/96
DESIGNED BY:	GLF	CADD NO:	530PRODA
APPROVED BY:	GBK	PROJECT NO:	12-53020.CO
SCALE:	1"=100'	FIGURE NO.	8

NO.	REVISION	DATE	BY



LEGEND

SOIL BORING INVESTIGATION (2/14/96)

- × NO ODOR
- × FAINT ODOR
- × DISCOLORED SOIL, ODOR

TWSB1 SOIL SAMPLING LOCATION

- ■ NO ODOR
- ■ FAINT ODOR
- ■ DISCOLORED SOIL, ODOR
- ◕ PERMANENT MONITORING WELLS

TWSB TREATED WOOD STORAGE AREA B

ViroGroup Air•Water•Soil TECHNOLOGY

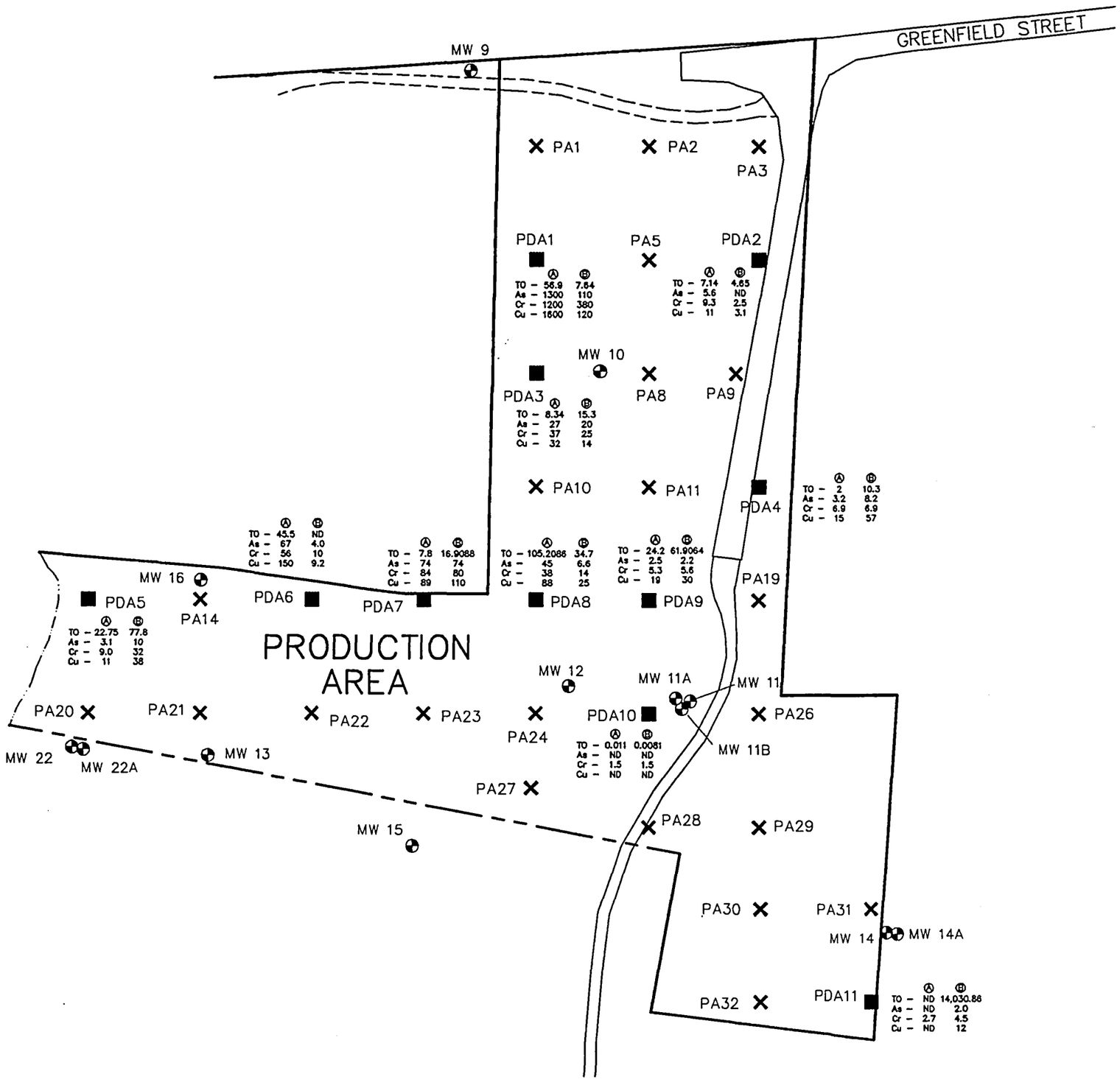
ViroGroup, Inc.
1445 Pisgah Church Road
Lexington, SC 29072
Phone 803-957-6270
FAX 803-957-3845
Wattle 1-800-786-0654

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

SOIL BORING INVESTIGATION LOCATIONS IN THE FORMER TREATED WOOD STORAGE AREA B (TWSB)

DRAWN BY:	CAB	DATE:	3/18/96
DESIGNED BY:	GLF	CADD NO:	530TWSB
APPROVED BY:	GBK	PROJECT NO:	12-53020.CO
SCALE:	1"=100'	FIGURE NO:	9

NO.	REVISION	DATE	BY



LEGEND

■ SOIL SAMPLING LOCATION (2–14–96)

THE FOLLOWING DESIGNATIONS APPLY FOR ALL PA SAMPLING LOCATIONS

Ⓐ DENOTES DEPTH AT 0"–6"

Ⓑ DENOTES DEPTH AT 12"–18"

TO – TOTAL ORGANIC WOOD–PRESERVING CONSTITUENTS (mg/kg dw)

As – ARSENIC (mg/kg dw)

Cr – CHROMIUM (mg/kg dw)

Cu – COPPER (mg/kg dw)

ND – NOT DETECTED

✕ SOIL BORING INVESTIGATION LOCATION

◕ PERMANENT MONITORING WELLS

PA PRODUCTION AREA

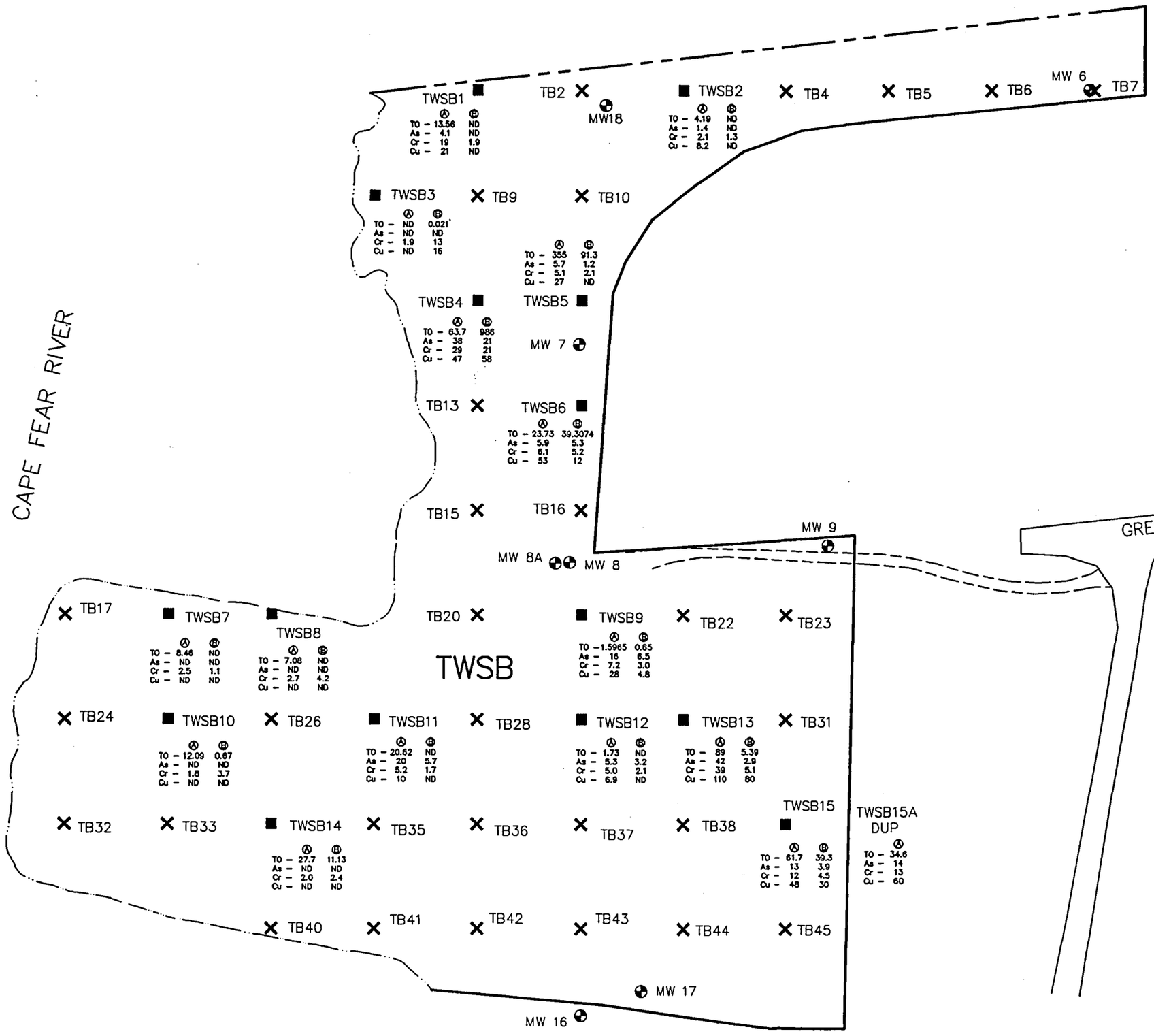
ViroGroup Air•Water•Soil TECHNOLOGY
ViroGroup, Inc.
1445 Piegah Church Road
Lexington, SC 29072
Phone 803-957-4270
FAX 803-957-3845
Wattle 1-800-786-0634

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

TOTAL DETECTED ORGANICS, ARSENIC, CHROMIUM, AND COPPER MEASURED IN SOIL SAMPLES COLLECTED IN THE FORMER PRODUCTION AREA

DRAWN BY:	CAB	DATE:	3/18/96
DESIGNED BY:	GLF	CADD NO:	530PRODS
APPROVED BY:	GBK	PROJECT NO:	12–53020.CO
SCALE:	1"=100'	FIGURE NO.	10

NO.	REVISION	DATE	BY



LEGEND

■ SOIL SAMPLING LOCATION (2–14–96)

THE FOLLOWING DESIGNATIONS APPLY FOR ALL TWS SAMPLING LOCATIONS

Ⓐ DENOTES DEPTH AT 0"–6"

Ⓑ DENOTES DEPTH AT 12"–18"

TO – TOTAL ORGANIC WOOD–PRESERVING CONSTITUENTS (mg/kg dw)

As – ARSENIC (mg/kg dw)

Cr – CHROMIUM (mg/kg dw)

Cu – COPPER (mg/kg dw)

ND – NOT DETECTED

✕ SOIL BORING INVESTIGATION LOCATION

◐ PERMANENT MONITORING WELLS

TWSB TREATED WOOD STORAGE AREA B

ViroGroup Air•Water•Soil TECHNOLOGY

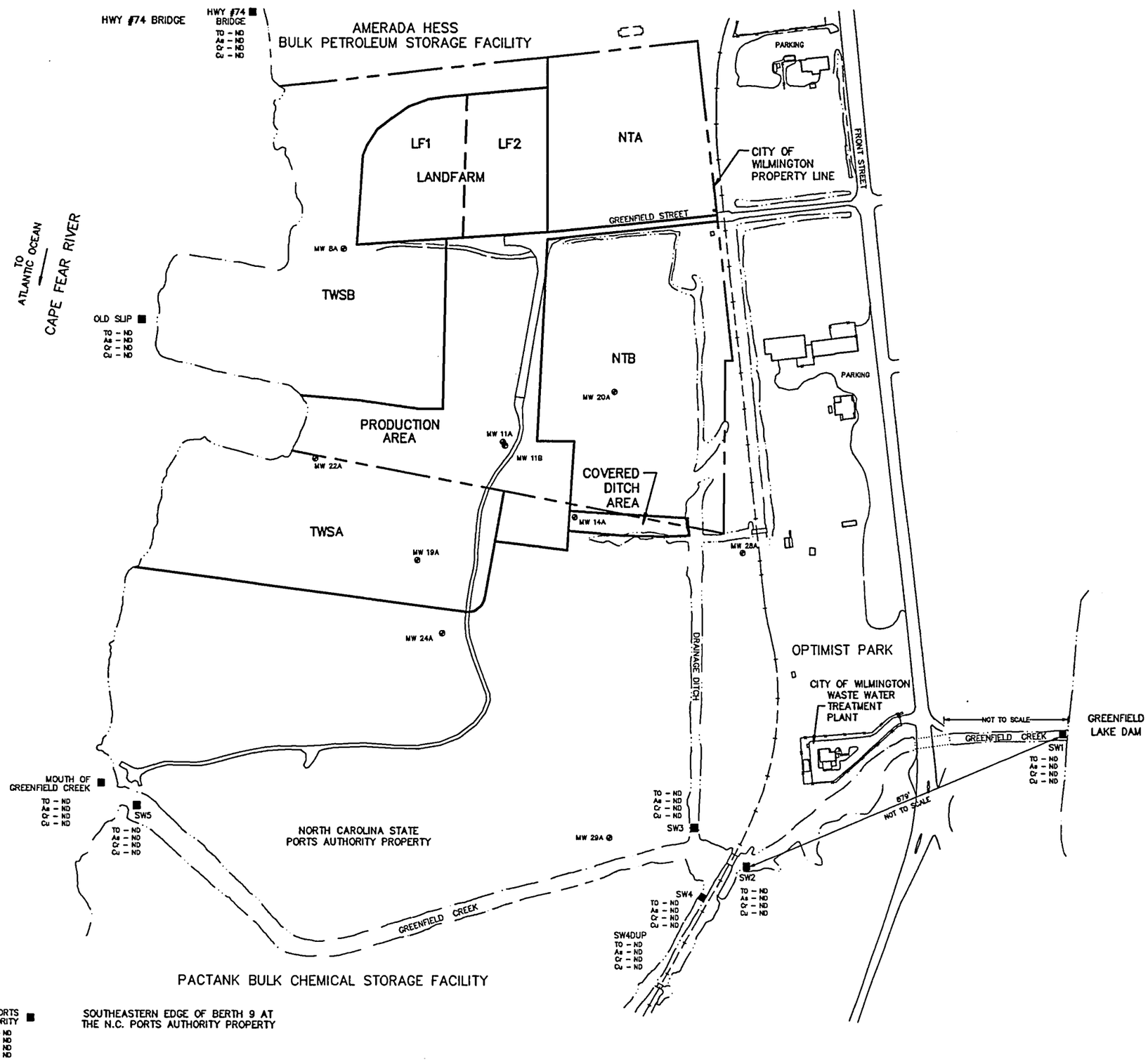
ViroGroup, Inc.
1445 Plaqah Church Road
Lexington, SC 29072
Phone 803–957–8270
FAX 803–957–3845
Wattle 1–800–786–0654

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

TOTAL DETECTED ORGANICS, ARSENIC, CHROMIUM, AND COPPER MEASURED IN SOIL SAMPLES COLLECTED IN THE FORMER TREATED WOOD STORAGE AREA B

DRAWN BY:	CAB	DATE:	3/18/96
DESIGNED BY:	GLF	CADD NO:	530TWSBS
APPROVED BY:	GBK	PROJECT NO:	12–53020.CO
SCALE:	1"=100'	FIGURE NO.	11

NO.	REVISION	DATE	BY



LEGEND

■ SURFACE WATER SAMPLE LOCATION

THE FOLLOWING DESIGNATIONS APPLY FOR ALL SAMPLING LOCATIONS

TO – TOTAL ORGANIC WOOD–PRESERVING CONSTITUENTS (mg/l)
As – TOTAL ARSENIC (mg/l)
Cr – TOTAL CHROMIUM (mg/l)
Cu – TOTAL COPPER (mg/l)
ND – NOT DETECTED

◐ PERMANENT MONITORING WELLS
TWS TREATED WOOD STORAGE
PA PRODUCTION AREA
NT NON–TREATED WOOD STORAGE
LF1 LANDFARM AREA 1

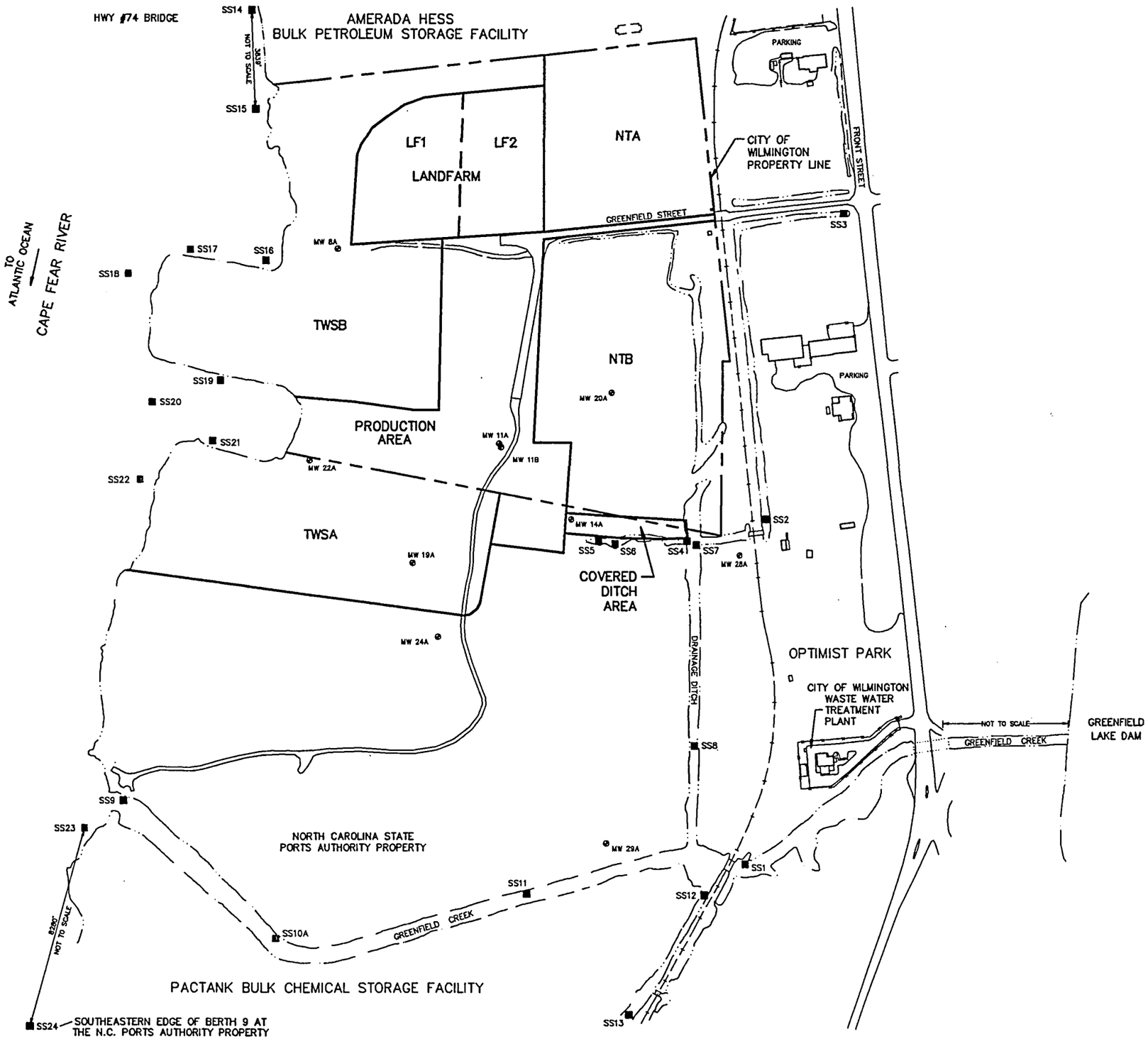
ViroGroup Air•Water•Soil TECHNOLOGY
ViroGroup, Inc. of South Carolina
1445 Pisgah Church Road
Lexington, SC 29072
Phone 803–957–8270
FAX 803–957–3845
Watts 1–800–786–0654

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

TOTAL DETECTED ORGANICS, ARSENIC, CHROMIUM, AND COPPER MEASURED IN SURFACE WATER SAMPLES

DRAWN BY:	CAB	DATE:	3/18/96
DESIGNED BY:	GLF	CADD NO:	53020SWS
APPROVED BY:	GBK	PROJECT NO:	12–53020.CO
SCALE:	1"=300'	FIGURE NO:	12

NO.	REVISION	DATE	BY



LEGEND

SEDIMENT SAMPLING LOCATION

- NO ODOR
- FAINT ODOR
- DISCOLORED SEDIMENT, ODOR
- PERMANENT MONITORING WELLS

TWS TREATED WOOD STORAGE
PA PRODUCTION AREA
NT NON-TREATED WOOD STORAGE
LF1 LANDFARM AREA 1

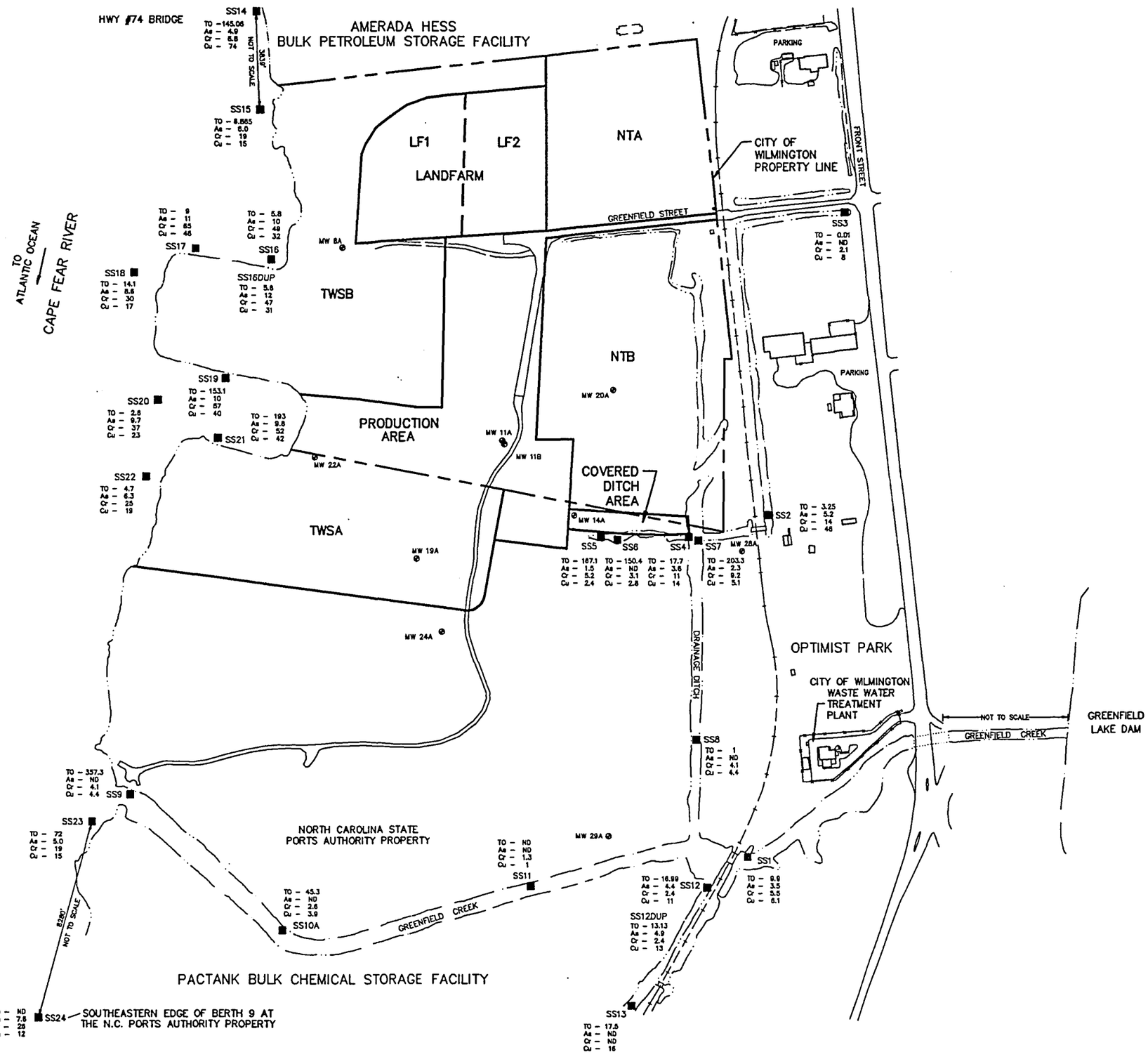
ViroGroup Air•Water•Soil TECHNOLOGY
ViroGroup, Inc. of South Carolina
1445 Pisgah Church Road
Lexington, SC 29072
Phone 803-957-8270
FAX 803-957-3645
Watts 1-800-786-0654

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

SEDIMENT SAMPLE INVESTIGATION
LOCATIONS IN DRAINAGE DITCH,
GREENFIELD CREEK & CAPE FEAR RIVER

DRAWN BY:	CAB	DATE:	3/18/96
DESIGNED BY:	GLF	CADD NO:	53020SED
APPROVED BY:	GBK	PROJECT NO:	12-53020.CO
SCALE:	1"=300'	FIGURE NO.	13

NO.	REVISION	DATE	BY



LEGEND

■ SEDIMENT SAMPLE LOCATION (2–16–96)

THE FOLLOWING DESIGNATIONS APPLY FOR ALL SAMPLING LOCATIONS

TO – TOTAL ORGANIC WOOD–PRESERVING CONSTITUENTS (mg/kg dw)
As – ARSENIC (mg/kg dw)
Cr – CHROMIUM (mg/kg dw)
Cu – COPPER (mg/kg dw)
ND – NOT DETECTED

◐ PERMANENT MONITORING WELLS
TWS TREATED WOOD STORAGE
PA PRODUCTION AREA
NT NON–TREATED WOOD STORAGE
LF1 LANDFARM AREA 1

ViroGroup Air•Water•Soil TECHNOLOGY
Virogroup, Inc. of South Carolina
1445 Pleasant Church Road
Lexington, SC 29072
Phone 803-957-6270
FAX 803-957-3845
Watts 1-800-786-0454

SOUTHERN WOOD PIEDMONT, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

TOTAL DETECTED ORGANICS, ARSENIC, CHROMIUM, AND COPPER MEASURED IN SEDIMENT SAMPLES

DRAWN BY:	CAB	DATE:	3/18/96
DESIGNED BY:	GLF	CADD NO:	53020SAM
APPROVED BY:	GBK	PROJECT NO:	12–53020.CO
SCALE:	1" = 300'	FIGURE NO:	14

ATTACHMENT A

FIELD DATA SHEETS

Unconsolidated Lithologic Logs

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	Danny Rawl / F. Robertson
DATE	3-12-96	RIG USED	Hand Auger	PAGE	1 OF

Borehole #	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB2A	0-6"						OL Bk	SL-C	M	5	M	SM	20	H		W	N			39.2			20% organics Collected in Drainage Ditch
TB2B	12-18"						Gray-Bk	SL-C	M	5	M	SM	20	H		W	N			15.3			30% organics
TB4A	0-6"						Dyl Br	F-M	F	1	W	SP SW	30	H		M	N			12.1			5% organics (roots)
~~B4A~~	~~0-6"~~																						
TB4B	12-18"						Med. Brn	F-C	M	3	W	SP SW	35	H	2" S	M	N			11.7			Brn Clayey SAND @ ~16"
TB5A	0"-6"						DYLBr	SL-C	M	1	W	SW	35	H		M	N			10.9			5% organics
TB5B	12-18"						DYLBr	SL-G	C	1	M	SP	35	H		W	N			14.4			
TB6A	0-4"						Blk	SL-SP	F	5	P	SM	20	N	G	M	N			12.1			organic (20%) small-med pebbles
"	4-6"						Gray Brn	F-M	F	1	W	SW	30	H	1" G	M	N			14.5			
TB6B	12-18"						Med. Yl. Brn	F-M	M	1	W	SW	35	H		W	N			25.2			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kurtz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Raul / F. Robertson
DATE	2/18/96	RIG USED	Hand Auger	PAGE	2 OF

Borehole #	Depth (Ft.)	Blow Counts 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB7A	0"-6"						OLBk	SL-SP	F	5	P	SM	20	H		M	N			13.4			25% organics
TB7B	12"-18"						Br Bk	SL-MP	C	5	P	GM	40	H		W	N			17.8			Fill, Brick, glass, dredge material, wood
TB10A	0"-6"						MYlBr	F-C	M	0	W	SW	40	H		D	N			11.3			Very well Sorted Medium
TB10B	12"-18"						MYlBr	F-C	M	0	W	SW	40	H		D	N			5.0			"
TB15A	0"-6"						YlBr	SL-MP	M	5	P	SP	35	H		D	N			13.8			
TB15B	12"-18						PYlBr	SL-C	M	0	W	SW	40	H	16" S	D	N			10.6			Bottom 2" DBr organic Sand w/wood chips
TB16A	0"-6"						OlBk	SL-C	SL	20	P	OL	15	H		W	N			14.8			PEAT - 30% SAND collected in drum not to analysis
TB16B	12"-18"						OlBk	SL-G	M	10	P	SP	30	H		W	N			19.8			30% organics
TB17A	0"-6"						MYlBr	F-C	M	0	W	SW	40	H		D	N			14.4			Trace organics
TB17B	12"-18"						PYlBr	F-G	M	0	W	SW	40	H		D	N			13.8			"

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020-CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kantz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2/12/96	RIG USED	Hand Auger	PAGE	3 OF

	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB 9A	0-6"						D. yl. Or.	SL-M	F	5	M	SW	25	H	3" G	M	N			19.2			upper 3" Blk organic Top Soil
TB 9B	12-18"						Mod. yl Brn	SL-M	F	5	M	SW	30	H	S	M	N			23.2			Blk organic S; lTy Sd @ Base of Auger
TB 13A	0-6"						Gray Blk	SL-MP	F	5	P	SM	20	H		M	N			17.8			~30% organic (roots) w/ small-med. pebbles
TB13B	12-18"						Gray Blk	SL-F	SC	5	P	OL	15	H		M	N			13.3			~80% wood chips
TB20A	0"-6"						PYlBr	F-MP	F	2	P	SP	35	H		D	N			15.0			15% Pebbles
TB 20B	12"-18"						MYlBr	VF-SP	M	2	P	SP	40	H		D	N			8.7			at 16"-18" BkBr Wood Chips.
TB22A	0"-6"						BK	SL-G	F	5	P	SP	25	H		D	N			9.8			15% organics
TB22B	12"-18"						DYlBr	VF-C	M	2	P	SP	35	H		D	N			14.3			Trace organics.
TB23A	0"-6"						PYlBr	VF-C	M	5	P	SP	35	H		D	N			18.3			15% organics
TB23B	12"-18"						PYlBr	VF-C	M	0	W	SW	40	H		W	N			14.3			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	
DATE	7-13-96	RIG USED	Hand Auger	PAGE	4 OF

	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB24A	0-5"						mod. yel. Brn	SL-C	SC	60	P	CC	10	N	G	M	N			3.9			
	6"						Dark yl. Brn.	SC	SC	80		CH	5	H	G	M	N			3.9			Clay @ 6" Plastic
TB24B	12-18"						"	SC	SC	85		CH	5	H		M	N			5.5			Plastic
TB26A	0-6						Brn gray	F-C	M	1	W	SW	35	H		M	N			6.9			
TB26B	~~6-7~~ 12-18						Gray orange	SC-C	F	10	M	SP	30	H		W	N			8.6			
TB28A	0-6"						Pale yl Brn.	F-MP	M	2	P	SP	30	N		M	N			16.2			
TB28B	12-18						Gray Brn	F-C	M	5	M	SP	30	H		W	N			5.4			
TB31A	0-6						Blk.	SC-MP	F	10	P	SP	25	H		M	N			5.3			Some roots ~ 10%
TB31B	12-18						light Brn. gray	F-C	M	5	M	~~MC~~ SP	30	H		W	N			4.2			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18'	DRILLER	D. Rawl / F. Robertson
DATE	2-13-96	RIG USED	Hand Auger	PAGE	5 OF

	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB32A	0-4						Gray-orange	F-C	M	40%	M	SW	35	H	S	D	N			10.6			
~~TB32B~~ DJ	4-6 ~~12-18~~ DJ						Med. Yel. Brn.	SL-F	SL	85	P	CL	5	H	S	D	N						
TB32B	12-16			Pale Yel. Brn.			Gray-orange	SL-F	SL	85	P	CH	5	H	S	M	N			7.2			
TB32B	16-18						Gray-orange	M-C	M	5	W	SW	35	H	S	M	N						
TB36A	0-6						Dark Yel. Brn.	CL-C	F	25	P	SM	20	H		M	N			10.3			
TB36B	12-18						Pale Yel. Brn	CL-C	C	~~10~~ 5	~~M~~ W	SW	35	H		W	N			8.6			
TB38A	0-6						Gray Brn	F-SP	M	5	W	SW	30	H		M	N			7.0			
TB38B	12-18						Gray orange	F-C	C	1	W	SW	35	H		M	N			6.1			
TB41A	0-6						Brn Blk	SL-M	SL	70	P	CL	15	N	G	M	N			5.2			~10% roots
TB41B	12-18						Dark Yel. Brn	SL-SP	C	20	M	SC	20	N	G	W	N			6.2			Some wood chips + roots ~5%

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Bawl / F. Robertson
DATE	2/13/96	RIG USED	Hand Auger	PAGE	6 OF

Borehole #	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB33A	0"-6"						MYlBr	SL-G	M	2	M	SP	35	H		D	N			8.2			SP size charcoal burnt wood
TB33B	12"-18"						PYlBr	VF-C	M	0	W	SW	40	H		D	N			41.6			clean Sand
TB35A	0"-6"						DYlBr	VF-C	M	2	W	SW	40	H		D	N			7.5			
TB35B	12"-18"						DYlBr	SL-M	F	35	P	SC	20	H		W	S	R	14"-18"	88.2			
TB37A	0"-6"						DYlBr	SL-SP	M	10	M	SP	35	H		D	N			13.7			Trace Pebble 5% organics
TB37B	12"-18"						DYlBr	F-C	M	0	W	SW	40	H		D	N			5.4			
TB40A	0"-6"						GyBr	SL-M	M	20	P	SC	25	H		D	N			6.0			20% Organics & wood chips
TB40B	12"-18"						MYlBr	SL-C	M	2	W	SW	40	H		D	N			8.4			Trace organics
TB42A	0"-6"						MYlBr	SL-MP	M	15	P	SP	30 ~~25~~	H		M	N			10.7			10% organics
TB42B	12"-18"						PYlBr	VF-C	M	5	W	SW	40	H		W	N			5.6			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020-CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2-13-96	RIG USED	Hand Auger	PAGE	2 OF

	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB44A	0-6"						Gray Blk.	F-LP	m	3	m	SP	25	H		M	N			13.5			
TB44B	12-18"						Pale yl. Brn	F-C	m	1	w	SW	30	H		w	N			6.7			
PA1A	0-6"						Brn Blk	F-SP	m	5	P	SP	25	H		m	N			12.2			~25% organic (roots)
PA1B	12-18"						Yl-Blk ~~SL-C~~	SL-C	c	30	P	SC	20	N		w	N			30.9			Clay lense @ ~14-16" w/ coarse sd above + below
PA8A	0-6"						Gray Blk	SL-SP	m	15	P	SP	25	H		w	N			13.4			10% organics 5% SP wood chips
PA8B	12-18"						Gray Blk	SL-SP	F	10	P	SP	25	H		m	m	R	8"-18"	6.4			5% charcoal Drip Track Area
PA9A	0-6"						Gray Blk	SL-MP	VF	15	P	SP	20	H		m	N			26.0			20% organics + wood chips
PA9B	12-18"																						Auger refusal (road base material)
PA10A	0-6"						Gray Blk	SL-MP	F	10	P	GR	30	H		m	N			40.8			10% organics 30% pebbles
PA10B	12-18"						Dark yl. Brn.	F-MP	m	2	W	SW	40	H		w	N			28.0			2% pebbles

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz/G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2/13/96	RIG USED		PAGE	8 OF

Borehole #	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB43A	0"-6"						GyBk	SL-MP	M	2	M	SP	35	H		D	N			24.2			M Pebble size slag
TB43B	12"-18"						DYlBr	SL-SP	M	15	M	SP	30	N		W	N			7.2			silty clay layer 12"-14"
TB45A	0"-6"						GyBl	SL-MP	F	5	P	SP	30	H		D	N			6.3			30% Slag, bricks, wood chip, etc... 10% organics
TB45B	12"-18						GyBl	SL-MP	F	5	P	SP	30	N		W	N			14.7			@ 15" MYlBr well sorted medium Sand
PA2A	0"-6"						DYlBr	SL-C	M	5	M	SP	30	H		M	N			12.2			
PA2B	12"-18"						PYlBr	SL-C	M	5	M	SP	35	H		W	N			6.5			
PA3A	0"-6"						PYlBr	F-MP	M	1	M	SP	35	H		D	N			6.0			
PA3B	12"-18"						Gray Blk	SL-SP	F	15	M	SP	25	H		M	N			9.6			@ 18" MYlBr well sorted M Sd
PA5A	0-6"						ol Gray	SL-C	M	2	W	SW	35	H		M	N			5.3			TRACE organics @ ~ 5%
PA5B	12-18"						ol Gray	SL-C	M	10	W	SW	30	H		W	N			5.5			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2-13-96	RIG USED	Hand Auger	PAGE	9 OF

	Depth (Ft.)	Blow Counts 0-.5'	.5'-1'	1'-1.5'	1.5'-2'	% Recovered	Color (1)	Description/Grain Size Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
PA11A	0-6"						Gray Blk	SL-SP	F	10	P	SP	25	H		M	N			14.0			5% organics 3% pebbles
PA11B	12-18"						Dark Gray	SL-SP	M	2	W	SW	35	H		W	~~S~~ G/W	R	12-18"	6.5			2% pebbles w/ Brick Frag.
PA14A	0-6"						Mod. yel. Brn	SL-C	M	2	W	SW	35	H		D	~~W~~ S/W			76.9			Diesel odor
PA14B	12-18"						Med. Dark Gry	SL-C	M	25	P	SC	25	H		W	S			173.0			No STAining Strong Diesel odor
PA19A	0-6"						Gray Blk	SL-MP	VF	10	P	SP	25	H		D	N			5.2			20% organics wood Chips
PA19B	12-18"						Dl. Blk	SL-MP	G	10	P	GP	35	H		W	N			18.4		Burnt Debris	Med. Pebble size wood Chips, Brick/gray
PA20A	0-6"						Dark yel. Brn.	SL-C	M	10	W	SW	30	H		M	W			13.9			No STAIN slight creosote odor
PA20B	12-18"						Pale yel. Brn.	SL-C	M	2	W	SW	40	H		W	S	R	12-18"	9.7			@ 12" Spotty STAINS
PA21A	0-6"						Pale yel. Brn.	VF-C	M	10	W	SW	30	H		M	N			13.0			
PA21B	12-18"						Pale yel. Brn.	SL-C	M	2	M	SP	35	H		W	N			17.4			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G.Kuntz/G.Force
BOREHOLE #		TOTAL DEPTH		DRILLER	D.Rawl/F.Robertson
DATE	2-13-96	RIG USED	Hand Auger	PAGE	10 OF

	Depth (Ft.)	Blow Counts 0-.5'	.5'-1'	1'-1.5'	1.5'-2'	% Recovered	Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
PA22A	0-6"						Gray Blk	SL-SP	M	5	P	SP	30	H		M	N			6.2			5% S Pebbles
PA22B	12-18"						Gray Blk	SL-MP	M	15	P	SP	30	H		W	N			6.6			Brick Frags m Pebble size
PA23A	0-6"						Brn. Blk	SL-SP	F	5	W	SW	30	H		M	N			14.8			2% S Pebbles 5% organics
PA23B	12-18"						Brn Gray	SL-SP	M	2	W	SW	35	H		W	N			16.5			2% S Pebbles
PA24A	0-6"						Dark yel. Brn	SL-MP	M	2	M	SP	30	H		D	N			42.1			Brick Frag (med Pebble size) 5% organics
PA24B	12-18"						Pale yel. Brn	SL-MP	M	2	M	SP	30	H		D	N			47.7			Auger refusal @ 15" 10% m Pebbles
PA26A	0"-6"						Gy Bk	SL-LP	F	10	P	SP	20	H		W M	N			41.9			5% organics & wood chips
PA26B	12"-18"						GyBk	F-LP	M	5	W	SW	35	H		W	S	R	7"-18"	53.4			15% Pebbles;
PA27A	0"-6"						GyBK	SL-MP	M	5	M	SP	25	H		M	N			30.4			15% Pebbles; 5% organics
PA27B	12"-18"						GyBk	SL-MP	M	10	M	SP	25	H		W	S	R	12"-18"	41.4			10% LP wood chips-5% MP

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.co	SITE	SWP-wilmington	GEOLOGIST	G.Kuntz/G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl/F. Robertson
DATE	2/13/96	RIG USED	Hand Auger	PAGE	11 OF

Borehole #	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
PA28A	0"-6"						Br Gy	SL-C	M	5	W	SW	30	H	-	M	N			25.2			5% organics
PA28B	12"-18"						Gy Bk	SL-MP	M	5	P	SP	25	H		M	S	R	12"-18"	15.1			20% Burnt wood chips MP pebble size
PA29A	0-6"						Gy Bk	SL-MP	m	5	m	SP	30	H		m	m	R	5"	82.8			5% m Pebbles
PA29B	12-18"						Blk	SL-MP	C	5	P	SP	30	H		w	S	S	12-18"	161.0			20% wood chips m Pebble size
PA30A	0-6"						Dark yel. org.	SL-C	m	5	w	SW	30	H		m	w			19.3			5% organics - weak creosote odor
PA30B	12-18"						Dark Yel. Brn	SL-G	m	5	w	SW	30	H		w	w			12.8			creosote odor weak no stains
PA31A	0-6"						Dark yel. Brn	SL-m	F	10	w	SW	25	H		m	N			27.7			
PA31B	12-18"						Dark Yel. Brn.	SL-C	m	10	w	SW	30	H		m	N			15.6			5% wood chips m Pebble size
PA32A	0-6"						Dark yel. Brn.	SL-C	F	15	P	SP	20	H		w	N			20.6			10% organics collected in MARSH AREA
PA32B	12-18"						Ol. Gray	SL-C	m	2	w	SW	40	H		w	N			7.4			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2-14-96	RIG USED	Hand Auger	PAGE	12 OF

	Depth (Ft.)	Blow Counts 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB1A	0-6"						Gry Blk	SL-C	SL	80	P	CL	10	H		M	N			6.0			moist sample location 36.4 feet south because in root bed ~10% orgs (roots)
TB1B	12-18"						Pale Yel. Brn.	SL-C	M	5	W	SW	35	H		W	N			4.6			Collected 6' SE of TB1A 0-6"
TB3A	0-6"					12	~~SL-MP~~ Brn-gray	SL-MP	C	5	~~M~~ 33	SP	30	H		M	N			15.9			~5% S-M Pebbles
TB3B	12-18"						Dark Yel. Org.	M-G	C	1	W	SW	40	H		M	N			5.5			
TB8A	0-6"						Mod Yel. Brn	SL-C	M	15	P	SP	25	H		W	N			9.1			In marsh grass on sand bar in area that floods @ ↑ Tide ~10% root!
TB8B	12"-18"						GRAY BROWN	SL-M	SL	60	P	CL SL	20	H		W	N			3.1			40% ORGANIC (WOOD)
TB11A	0"-6"						DUSKY BROWN	SL-MP	F	20	P	SP	20	H		M	N			12.4			20% ORGANIC WOOD CHIPS
TB11B	12"-18"						BROWN BLACK	SL-SP	F	20	P	SP	20	H		M	N			3.0			25% ORGANIC ROOT LARGE PEBLE SIZE WOOD CHIPS PLASTIC
TB12A	0-6"						BRN-GRAY	SL-C	M	10	M	SP	25	H		M	N			15.2			RUSTY TIN CAN IN SAMPLE 15% MP SIZE WOOD CHIPS
TB12B	12-18"						PALE YELLOW BRN	SL-LP	F	5	M	SP	30	H		M	N			5.0			5% LP

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2-14-96	RIG USED	Hand Auger	PAGE	13 OF

Borehole #	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB14A	0"-6"						BrBk	SL-LP	M	5	P	SP	25	H		D	N			2.4			5% organics 20% pebbles
TB14B	12"-18"						PYIBr	SL-C	F	5	M	SP	25	H		M	N			3.3			5% SP size wood chips
TB18A	0"-6"						MYIBr	F-C	M	5	W	SW	35	H		M	N			9.1			5% organics
TB18B	12"-18"						DYIOr	F-C	M	2	W	SW	35	H		M	N			7.5			
TB19A	0"-6"						DYIBr	SL-C	M	10	W	SW	30	H		W	N			4.2			5% organics
TB19B	12"-18"						DYIBr	SL-C	M	15	W	SW	35	H		W	N			6.2			5% organics
TB21A	0"-6"						DYIBr	SL-LP	M	5	P	SP	30	H		D	N			7.5			25% Pebbles
TB21B	12"-18"						PYIBr	F-SP	M	5	M	SP	30	H		M	N			17.0			10% Pebbles
TB25A	0"-6"						MYIBr	SL-C	M	5	W	SW	30	H		M	N			7.0			Trace burnt wood chips - MP size
TB25B	12"-18"						DKYIOG	M-C	M	2	W	SW	30	H		M	N			3.4			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-W11	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2/14/96	RIG USED	Hand Auger	PAGE	14 OF

Borehole #	Depth (Ft.)	Blow Counts 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
TB27A	0"-6"						DYlBr	SL-SP	M	5	W	SW	30	H		M	N			7.1			5% organics
TB27B	12"-18"						DYlOr	SL-C	C	5	W	SW	35	H		M	N			7.7			15% pebbles
TB29A	0"-6"						DYlBr	F-LP	M	5	M	SP	30	H		M	N			5.8			
TB29B	12"-18"						GyOr	M-C	C	0	W	SW	35	H		M	N			6.6			
TB30A	0"-6"						DYlBr	SL-LP	F	15	P	SP	25 20	H		M	N			6.2			10% organics 20% pebbles
TB30B	12"-18"						DYlBr	F-MP	C	5	P	SP	30	H		M	N			8.6			25% Pebbles
TB34A	0"-6"						MYlBr	SL-C	C	5	W	SW	30	N H	S	M	N			7.8			clay layer a 6"-2"
TB34B	12"-18"						PYlOr	SL-C	C	20	W	SW	35	N	S	M	N			9.0			clay layer at 18"-2"
TB39A	0"-6"						BK	SL-LP	SP	15	P	GP SP	20	H		M	N			3.4			20% organics 50% pebbles
TB39B	12"-18"						GyBK	SL-MP	MP	10	P	GP	25	H		M	N			3.4			50% pebbles

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-W.1	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2/14/96	RIG USED	Hand Auger	PAGE	15 OF

Borehole #	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
PA4A	0"-6"						Bk	SL-MP	C	10	P	SP	25	H		D	N			7.0			25% Pebbles 10% organics
PA4B	12"-18"						BrGy	SL-SP	C	5	W	SW	30	H		M	N			4.6			5% pebbles
PA6A	0"-6"						DrGy	SL-LP	F	10	P	SP	25	H		D	N			6.0			30% Pebbles 5% organics wood chips
PA6B	12"-18"						MDrGy	SL-MP	M	20	MP	SP	25	H		M	N			5.9			10% pebbles 5% organics & wood chips
PA7A	0"-6"						PYlBr	SL-C	M	5	M	SP	30	H		M	N			6.4			5% organics
PA7B	12"-18"						Dark YelBrn	F-SP	M	2	M	SP	30	H		W	N			4.8			5% pebbles
PA12A	0-6"						Ol. Blk	SL-LP	SL	25	P	SM	20	H		M	N			14.0			15% pebbles 10% organics
PA12B	12-18"						Gray Blk	SL-MP	G	10	P	GP	30	H		W	M	R	12-18"	9.3			Slight STAIN 40% pebbles
PA13A	0-6"						Dark Yel. org.	SL-SP	M	20	P	SP	25	H		M	N			7.1			
PA13B	12-18"						Dusky yel. Brn	SL-M	SL	40	M	SC	15	H		M	N			6.1			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	18"	DRILLER	D. Rawl / F. Robertson
DATE	2-14-96	RIG USED	Hand Auger	PAGE	16 OF

	Depth (Ft.)	Blow Counts 0-.5'	.5'-1'	1'-1.5'	1.5'-2'	% Recovered	Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
PA15A	0-6"						Gray Blk	SL-MP	SL	20	P	SP	20	H		W	N			11.2			20% pebbles 5% organics
PA15B	12-18"						Med Dark Gray	SL-C	M	20	M	SP	20	N	S	W	N			9.2			Bottom 2" Dark gray clay
PA16A	0-6"						Dark Yel. Brn	F-C	M	2	W	SW	35	H		W	N			8.0			
PA16B	12-18"						Gray Blk	SL-SP	M	5	W	SW	30	H		W	N			4.7			2% pebbles 2% organics
PA17A	0-6"						Brn Blk	SL-MP	C	5	P	GP	35	H		M	N			9.9			10% organics 35% pebbles Burnt wood M Peb size
PA17B	12-18"						Dark Yel Brn	SL-SP	F	5	P	SP	30	H		W	N			5.8			5% S Pebbles ~~Burnt Size~~ 2% organics Burnt wood chips
PA18A	0-6"						Dusk Yel Brn	SL-SP	M	5	M	SP	30	H		M	N			9.9			2% pebbles 5% organics
PA18B	12-18"						Brn Blk	SL-MP	F	5	W	SW	30	H		M	W			5.9			Nail, no staining 2% peb 5% org.
PA25A	0-6"						Dark Yel Brn	SL-C	M	2	W	SW	35	H		M	N			7.9			Trace organics
PA25B	12-18"						Dark Yel. Brn	SL-C	M	2	W	SW	35	H		M	N			10.8			
PA33A	0-6"						Med Yel Brn	SL-C	C	1	W	SW	35	H		W	W			12.0			Collected in Marsh 5% organics
PA33B	12-18"						Blk	SL-C	M	25	P	SP	25	N		W	S	R	12-18"	277			20% organics

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT # 12-53020.CO	SITE SWP-Wilmington	GEOLOGIST G. Kumbz/G. Force	
BOREHOLE #	TOTAL DEPTH 6"	DRILLER D. Rawl/F. Robertson	
DATE 2-15-96	RIG USED Hand Auger	PAGE 17 OF	

Borehole #	Depth (Ft.)	Blow Counts 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
NTB3	0"-6"						Brn Blk	SC-C	F	10	P	SP	20	H		M	N			17.9			50% Organic/MP Sized Wood Chips
NTB 4	0"-6"						DK Gray	SL-MP	F	10	P	SP	20	H		M	N			11.9			35% Pebbles/10% Organics
TWS 14	0"-6"						DK Yel Brown	F-C	M	5	W	SW	30	H		M	N			6.0			10% Organic (Coal)
TWS 10	0"-6"						Mod Yel Brown	SL-G	F	5	W	SW	30	H		M	N			3.2			10% organics
~~P~~	~~0"-6"~~						~~DYlBr~~																
LF2A	0"-6"						BrBk	SL-MP	F	10	M	SP	25	H		M	W			2.9			10% organics 5% pebbles
LF1(FR)A	0"-6"						BrBk	SL-SP	F	10	M	SP	20	H		D	N			5.0			5% Organic
LF2B	4"-24"						BrBk	F-LP	C	10	P	SP	25	H		M	M			3.2			30% Pebbles
LF2C	24"-40"						DYlBr	F-G	C	5	W	SW	35	H		W	N			4.2			
LF1B	8"-16"						BrBk	SL-MP	M	10	P	SP	25	H		M	N			3.8			20% Pebbles
LF1C	18"-33"						MYlBr	F-G	C	1	W	SW	35	H		W	N			0.9			

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz / G. Force
BOREHOLE #		TOTAL DEPTH	6"	DRILLER	D. Rawl / F. Robertson
DATE	2/15/96	RIG USED	Hand Auger	PAGE	18 OF

Borehole #	Depth (Ft.)	Blow Counts: 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Description/Grain Size: Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining: Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
SS9	0"-6"						OlGy	F-G	C	5	W	SW	35	H		W	M	R	0"-6"	8.4			sheen low tide
SS11	0"-6"						MDGy	FSL-SP	C	5	W	SW	35	H		W	S	R	0"-6"	16.7			sheen low tide
SS8	0"-6"						GyBk	SL-MP	SL	30	P	OL	20	H		W	S	R	0"-6"				sheen 5% pebbles 5% organics low tide Muck
SS7	0"-6"						GyBk	SL-C	F	20	M	OL	20	H		W	S	R	0"-6"	17.3			low tide
SS1	0"-6"						OlBk	SL-C	F	25	M	OL	20	H		W	W			11.4			low tide 10% organics
SS12	0"-6"						DGrGy	SL-CP	F	20	M	OL	20	H		W	M			10.7			mod tide bluish gray cloudy water strong sewer and
SS13	0"-6"						~~DGrC~~ DkGrGy	SL-C	SL	25	P	OL	20	H		W	S			11.3			mod tide hydrogen sulfide type odor this creek only one this color & odor 25% organics

UNCONSOLIDATED LITHOLOGIC LOG

PROJECT #	12-53020.CO	SITE	SWP-Wilmington	GEOLOGIST	G. Kuntz
BOREHOLE #		TOTAL DEPTH	60"	DRILLER	G. Force
DATE	2/16/96	RIG USED	Ponar/Hand Auger	PAGE	19 OF

ID	Depth (Ft.)	Blow Counts 0 - .5'	.5' - 1'	1' - 1.5'	1.5' - 2'	% Recovered	Color (1)	Range (2)	Dom. Sand Size (3)	% Clay	Sorting (4)	Unified Soil Class. (5)	Effective Porosity (6)	Homogeneity (7)	Contact Boundary (8)	Moisture Content (9)	Odor (10)	Staining Resid./Sat (11)	Thickness	OVA (ppm)	Lab. Sample Interval	Photo Interval	Comments (i.e. odor, type, saprolite)
SS14	0"-6"						Bk	SL-C	SL	20	M	OL	20	H		W	S	R		22.8			
SS15	0"-6"						LOlGy	SL-F	SL	~~30~~ 20	W	OL	15	H		W	N			7.8			10% organics - MP woodchips
SS16	0"-6"						GrBk	SL-F	SL	15	W	OL	15	H		W	N			4.4			
SS17	0"-6"						OlGy	SL-F	SL	15	W	OL	15	H		W	N			8.1			
SS18	0"-6"						OlGy	SL-F	SL	15	W	OL	15	H		W	N			6.2			5% organics/woodchips
SS19	0"-6"						OlGy	SL-F	SL	15	W	OL	15	H		W	N			5.1			
SS20	0"-6"						OlGy	SL-F	SL	10	W	OL	15	H		W	N			4.6			
SS21	0"-6"						OL-Gy	SL-F	SL	20	W	OL	15	H		W	N			8.1			
SS22	0"-6"						OL-Gy	SL-F	SL	20	W	OL	15	H		W	N			5.7			
SS23	0"-6"						OL-Gy	SL-F	SL	20	W	OL	15	H		W	N			8.5			
SS24	0"-6"						OL-Gy	SL-F	SL	20	W	SL	15	H		W	N			11.5			

Sampling Field Data Sheets

ATTACHMENT B
Sampling Field Data Sheets

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington ~~12-53020.CO~~

SAMPLING METHOD: (57) ~~Hand Auger~~ S+A Sec. III

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: As per Assess. Work Plan Sec. 2.6 (S+A II A)

WEATHER: windy (15mph w.) cloudy ~ 50°

WASTE DISPOSAL METHOD: As per Assess. Work Plan Sec. 2.7

WSB 1A

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
~~TB 1A~~	2/14 96	9:17	0"-6"				~~TA~~ TB1A		GBK
TWSB 1B	2/14 96	9:24	12"-18"				TB1B		GBK
TWSB 2A	2/14 96	9:29	0"-6"				TB3A		GBK
TWSB 2B	2/14 96	9:37	12"-18"				TB3B		GBK
TWSB 3A	2/14 96	9:52	0"-6"				TB8A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz Staff Geo

Date: 2/14/96

PAGE 1 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-W1

SAMPLING METHOD: SOA III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: SOA II A

WEATHER: 50° windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TWSB 3B	2/14 96	10:05	12"-18"	N	N		TB8B		S8
TWSB 4A	2/14 96	10:20	0-6"	N	N		TB11A		S2
TWSB 4B	2/14 96	1030	12-18"	N	N		TB11B		S8
TWSB 5A	2/14 96	1045	0-6"	N	N		TB12A		S2
TWSB 5B	2/14/96	1055	12-18"	N	N		TB12B		S2

Check When Complete:

- ✓ Bottles Labeled
- ✓ Samples Iced
- ✓ Sample Location Staked
- ✓ Copy Of All Field Notes Sent With Sample To Lab
- ✓ Lot Numbers Obtained For Samples
- ✓ Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- ✓ Data Recorded With Indelible Pen
- ✓ Custody Form Completed
- ✓ Sample Shipper Sealed
- ✓ All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Greg Boice

Date: 2-14-96

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP. Wil

SAMPLING METHOD: S+A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S+A II A

WEATHER: 50° Windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TWSB 6A	2/14/96	11:03	0"-6"				TB14A		GBK
TWSB 6B	2/14/96	11:10	12"-18"				TB14B		GBK
TWSB 7A	2/14/96	11:19	0"-6"				TB18A		GBK
TWSB 7B	2/14 96	11:24	12"-18"				TB18B		GBK
TWSB 8A	2/14 96	11:30	0"-6"				TB19A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Joy Force

Date: 2/14/96

PAGE 3 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-W11

SAMPLING METHOD: S&A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S&A II A

WEATHER: 50° windy cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TWSB 8B	2/14 96	11:40	12"-18"				TB19B		GBK
TWSB 9A	2/14 96	11:45	0"-6"				TB21A		GBK
TWSB 9B	2/14 96	11:50	12"-18"				TB21B		GBK
TWSB 10A	2/14/96	12:00	0"-6"				TB25A		GBK
TWSB 10B	2/14 96	12:05	12"-18"				TB25B		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Farr

Date: 2/14/96

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wil

SAMPLING METHOD: S&A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S&A II A

WEATHER: 50° cloudy windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TW SB 11A	2/14 96	12:12	0"-6"				TB27A		GBK
TW SB 11B	2/14 96	12:16	12"-18"				TB27B		GBK
TW SB 12A	2/14 96	13:05	0"-6"				TB29A		GBK
TW SB 12B	2/14 96	13:11	12"-18"				TB29B		GBK
TW SB 13A	2/14 96	13:18	0"-6"				TB30A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Peggy B. Kirby / Judy Force

Date: 2/14/96

PAGE 5 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wil

SAMPLING METHOD: S&A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S&A II A

WEATHER: 55° cloudy windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TWSB 13B	2/14 96	13:23	12"-18"				TB30B		GBK
TWSB 14A	2/14 96	13:28	0"-6"				TB34A		GBK
TWSB 14B	2/14 96	13:34	12"-18"				TB34B		GBK
TWSB 15A	2/14 96	13:42	0"-6"				TB39A		GBK
TWSB 15B	2/14 96	13:51	12"-18"				TB39B		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz

Date: 2/14/96

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-WIL

SAMPLING METHOD: SOA III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: SOA II A

WEATHER: 55° cloudy windy

WASTE DISPOSAL METHOD: workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
15A TWSB ~~15B~~ Dup 96	2/14	13:57	0"-6"				TB39A		GBK
PDA 1A 96	2/14	14:20	0"-6"				PA4A		GBK
PDA 1B 96	2/14	14:25	12"-18"				PA4B		GBK
PDA 2A 96	2/14	14:33	0"-6"				PA6A		GBK
PDA 2B 96	2/14	14:38	12"-18"				PA6B		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Force

Date: 2/14/96

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wil

SAMPLING METHOD: S&A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S&A II A

WEATHER: 50° cloudy windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 3A	2/14 96	14:42	0"-6"				PA7A		GBK
PDA 3B	2/14 96	14:52	12"-18"				PA7B		GBK
PDA 4A	~~21~~ 2/14/96	15:00	0-6"				PA12A		GBK
PDA 4B	2/14/96	15:05	12-18"	✓	✓		PA12B		GBK
PDA 5A	2/14/96	1520	0-6"				PA13A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Force

Date: 2/14/96

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SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S + A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S + A II A

WEATHER: 50° windy cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 5B	2/14/96	1528	12-18"				PA13B		DS
PDA 6A	2/14/96	1530	0-6				PA15A		DS
PDA 6B	2-14-96	DA ~~1545~~ 1535	12-18"				PA15B		DS
PDA 7A	2-14-96	DA ~~1540~~ 1540	0-6"				PA16A		DS
PDA 7B	2-14-96	1545	12-18"				PA16B		DS

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Greg Force

Gregory B. Kurtz

Date: 2/14-96

PAGE 9 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S+A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S+A II A

WEATHER: 50° Cloudy Windy

WASTE DISPOSAL METHOD: Work Plan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 8A	2-14-96	1555	0-6"				PA 17 A		JR
PDA 8B	2-14-96	1600	12-18"				PA 17B		JR
PDA 9A	2-14-96	1605	0-6"				PA 18A		JR
PDA 9B	2-14-96	1610	12-18"				PA 18B		JR
PDA 10A	2-14-96	1615	0-6"				PA 25A		JR

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Rusty

Date: 2-14-96

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SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-W;1

SAMPLING METHOD: S+A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S+A II A

WEATHER: Cloudy 50° windy

WASTE DISPOSAL METHOD: Work Plan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 10B	2-14-96	1620	12-18"				PA 25 B		SP
PDA 11A	2-14-96	1625	0-6"	SLIGHT	NO		PA 33 A		SP
PDA 11B	2-14-96	1630	12-18"	STRONG	yes		PA 33 B		SP

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Greg Force

Gregory B. Kirby

Date: 2-14-96

PAGE 11 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S&A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S&A II A

WEATHER: Cloudy 50° light wind from W.

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
NTB3	021596	0910	0"-6"	N			NTB3		G.F.
NTB4	021596	0920	0"-6"	N			NTB4		G.F
TWS14	021596	0935	0"-6"	N			TWS14		G.F.
TWS10	2/15/96	9:40	0"-6"	N			TWS10		GBK
PDA 12C	2/15/96	9:50	0"-6"	N			PA32A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Force

Date: 2/15/96

PAGE 12 OF

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

PROJECT NUMBER: 12-53020.00

WEATHER: 45° cloudy

SAMPLE METHOD: S&A III B

DECONTAMINATION METHOD: S&A II A

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 13C	2/15 96	9:55	0"-6"	S			PA8A		GBK
LF 2A	2/15 96	10:20	0"-6"				Sent to Triangle for High Resolution Dioxins & Furans Method 8290		GBK
LF 1A	2/15/96	1030	0"-6"				"	"	D7
LF 2A	2-15-96	10:35	0-3"						GBK
LF 1A	2/15 96	10:45	0"-3"						GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz

Date: 2/15/96

PAGE 13 OF

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: IWP-Wilmington

SAMPLING METHOD: S&A III B

PROJECT NUMBER: 12-53020.00

DECONTAMINATION METHOD: S&A II A

WEATHER: 50° Cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
LF 2 B	2/15/96	11:45	4"-24"	M					GBK
LF 2 C	2/15 96	11:55	24"-40"	N					GBK
LF 1 B	2/15 96	13:20	8"-16"	N					GBK
LF 1 C	2/15 96	13:25	18"-33"	N					GBK
SS9	2/15 96	13:55	0"-6"	M	Y				

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Pace

Date: 2/15/96

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SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S&A IV C

PROJECT NUMBER: 12-53020.co

DECONTAMINATION METHOD: S&A II A

WEATHER: 55° cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS-11	2/15 96	14:15	0"-6"	S	Y				GBK
SS-8	2/15 96	14:40	0"-6"	S	Y				GBK
SS-7	2/15 96	15:00	0"-6"	S	Y				GBK
SS 1	2/15 96	15:20	0"-6"	~~N~~ W	N				GBK
SS12	2/15 96	16:55	0"-6"	M	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B Kurtz Greg Force

Date: 2/15/96

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SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S&A IV C

PROJECT NUMBER: 12-53020-00

DECONTAMINATION METHOD: S&A II A

WEATHER: 60° cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS 12-Dup	2/15 96	17:00	0"-6"	M	N				GBK
SS 13	2/15 96	17:10	0"-6"	S	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kuntz / Greg Force

Date: 2/15/96

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SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S&A IV C

PROJECT NUMBER: 12-53020.00

DECONTAMINATION METHOD: S&A II A

WEATHER: 40° cloudy windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS14	2/16 96	9:00	0"-6"	Y	Y				GBK
SS15	2/16 96	9:45	0"-6"	N	N				GBK
SS16	2/16 96	9:55	0"-6"	N	N				GBK
SS16 Dup	2/16 96	9:55	0"-6"	N	N				GBK
SS17	2/16 96	10:05	0"-6"	N	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregg B. Kirby

Date: 2/16/96

PAGE 17 OF

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: 12-53020.CO

SAMPLING METHOD: SOA IV C

PROJECT NUMBER: SWP-Wilmington

DECONTAMINATION METHOD: SOA II A

WEATHER: Cloudy 40° Windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS 18	2/16 96	10:20	0"-6"	N	N				GBK
SS 19	2/16 96	10:25	0"-6"	N	N				GBK
SS20	2/16 96	10:35	0"-6"	N	N				GBK
SS21	2/16 96	10:40	0"-6"	N	N				GBK
SS22	2/16 96	10:50	0"-6"	N	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz

Date: 2/16/96

PAGE 18 OF

SURFACE WATER SAMPLE FIELD DATA SHEET

ID	TIDE	SAMPLE METHOD	ODOR*	SHEEN	CALIBRATION pH	CALIBRATION COND	TEMP (C)	COND (UMHOS)	pH	TURB**	SAMPLING DATE	SAMPLING TIME	SAMPLING SAMP. INT.	DEPTH	REMARKS
SW 5	H		N	N/A	7/10	1004	11.3	309	7.08	ST	2 14 96	0845	DKR FR		
SW 4	H		N	N/A	7/10	1004	11.6	260	7.51	C	021696	0945	DR FR		
SW 4 DUP.	H		N	N/A	7/10	1004	11.4	254	7.46	C	021696	0915	DR FR		
SW 3	H		N	N/A	7/10	1004	10.9	244	7.59	C	021696	0930	DR FR		
SW 2	H		N	N/A	7/10	1004	11.5	246	7.76	C	021696	0945	DR FR		
SW 1	H		N	N/A	7/10	1004	11.7	247	7.33	C	021696	1010	FR DR		
Drum water											021696	1035	D.R		Decon water from Drum

Note descrepencies from below comments in the remarks section for each well:

- Bottles Labeled
- Samples Iced

Check When Complete:

- X Copy of All Notes Sent with Samples To Lab
- X Log Numbers Obtained For Samples
- X Samples Shipped FedEx Priority Overnight Daily
- Confirmed Samples Arrived At Lab
- X All Data Recorded With An Indelible Waterproof Pen
- X Custody Form Completed
- X Cooler Sealed
- X All Sampling Derived Waste Disposed as Potentially Hazardous Waste (i.e. gloves, plastic, twine, etc..)

SITE: SWP-W. Irmington
WEATHER: 40° Cloudy windy
COLLECTOR'S SIGN.: Gregory Bikunty
DATE/TIME: 2/16/96
PAGE: 1 OF 1

*Very slight (VS), Slight (S), Moderate (M), Strong (ST), Very Strong (VST)

**Clear (C), Slight Turbid (ST), Turbid (T), Very Turbid (VT)

STANDARDIZED GROUNDWATER PURGING AND SAMPLING FIELD DATA SHEET

WELL ID	WATER LEVEL DATE	WATER LEVEL DEPTH (TOC)	WELL DEPTH (TOC)	FLOATER THICKNESS (FT)	SINKER THICKNESS (FT)	ODOR*	CALIBRATION pH	CALIBRATION COND	PURGING DATE	PURGING TIME	PURGE METHOD	CALC. PURGE VOL.	VOL. PURGED (GAL)	TEMP (C)	COND (UMHOS)	pH	TURB**	SAMPLING DATE	SAMPLING TIME	SAMP. INT.	REMARKS
Equip Blank																		2/14 96	14:01	GBK	Grid Sampling TWSA & PA
Equip Blank																		2/15 96	12:05	GBK	Landfarm Soil Sampling
Equip Blank																		2/15 96	15:50	GBK	Sediment Sampling
Equip Blank																		2/16 96	10:45	GBK	Cape Fear Sediments

Note descrepencies from below comments in the remarks section for each well:

- Well Locked
- Bailer Present
- Bottles Labeled
- Samples Iced
- Reference Point Inspected
- Well Casing Inspected
- Well Pad Inspected

Check When Complete:

- X Copy of All Notes Sent with Samples To Lab
- X Log Numbers Obtained For Samples
- X Samples Shipped FedEx Priority Overnight Daily
- ___ Confirmed Samples Arrived At Lab
- X All Data Recorded With An Indelible Waterproof Pen
- X Custody Form Completed
- X Cooler Sealed
- X All Purge Water Disposed Of At Designated Location
- X All Sampling Derived Waste Disposed as Potentially Hazardous Waste (i.e. gloves, plastic, twine, etc..)

SITE: SWP-W.1

WEATHER: 50° Cloudy Windy

COLLECTOR'S SIGN.: Gregory B. Kurtz / Greg Foster

DATE/TIME: 2/14/96 14:30

*Very slight (VS), Slight (S), Moderate (M), Strong (ST), Very Strong (VST)

**Clear (C), Slight Turbid (ST), Turbid (T), Very Turbid (VT)

Decontamination Logs

DECONTAMINATION LOG

PROJECT NAME SWP- Wilmington Project # 13-53020.00

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
TB 2	FR	021296	1430	2 H.A.	As per SHA SECT. II A	Drum
TB 4	FR	"	1450	2 HA	"	"
TB 5	DR	"	1450	2 HA	"	"
TB 6	DR	"	1520	2 HA	"	"
TB 7	DR	"	1520	2 HA	"	"
TB 9	FR	"	1540	2 HA	"	"
TB 10	FR	"	1540	2 HA	"	"
TB 13	FR	"	1600	2 HA	"	"
TB 15	FR	"	1600	2 HA	"	"
TB 16	FR	"	1625	2 HA	"	"
TB 17	DR	"	1640	2 HA	"	"
TB 20	DR	"	1650	2 HA	"	"
TB 22	FR	"	1708	2 HA	"	"
TB 23	DR	"	1716	2 HA	"	"

DECONTAMINATION LOG

PROJECT NAME SWP - Wilmington Project # 12-53020.00

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
TB 24	FR	021396	0940	2HA	AS PER A+S SECT. II A	DRUM
TB 26	FR	021396	0940	2HA	"	"
TB 28	DR	021396	0950	2HA	"	"
TB 31	DR	021396	1000	2HA	"	"
TB 32	FR	021396	1010	2HA	"	"
TB 33	FR	021396	1010	2HA	"	"
TB 35	DR	"	1025	2HA	"	"
TB 36	FR	"	1030	2HA	"	"
TB 37	FR	"	1035	2HA	"	"
TB 38	FR	"	1040	2HA	"	"
TB 40	FR	"	1050	2HA	"	"
TB-41	FR	"	1055	2HA	"	"
TB-42	FR	"	1100	2HA	"	"
TB-43	FR	"	1110	2HA	"	"

DECONTAMINATION LOG

PROJECT NAME SWP- Wilmington Project # 12-53020.CO

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
TB 44	DR	02/13/96	1120	2 HA	AS PER SHA SECT. II A	DRUM
TB 45	DR	"	1125	2HA	"	"
PA 1	FR	"	1140	2 HA	"	"
PA 2	DR	"	1150	2HA	"	"
PA 3	DR	"	1200	2 HA	"	"
PA 5	DR	"	1210	2 HA	"	"
PA 8	DR	"	1320	2 HA	"	"
PA 9	FR	"	1330	1 HA	"	"
PA 10	FR	"	1340	2 HA	"	"
PA 11	FR	"	1345	2 HA	"	"
PA 14	FR	"	1355	2 HA	"	"
PA 19	FR	"	1405	2 HA	"	"
PA 20	DR	"	1420	2 HA	"	"
PA 21	DR	"	1430	2 HA	"	"

DECONTAMINATION LOG

PROJECT NAME SWP Wilmington Project # 12-53020.C0

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
PA 22	FR	021396	1440	2 HA	AS PER SHA SECT. II A	DRUM
PA 23	FR	"	1450	"	"	"
PA 24	FR	"	1500	"	"	"
PA 26	DR	"	1510	"	"	"
PA 27	DR	"	1520	"	"	"
PA 28	FR	"	1530	"	"	"
PA 29	FR	"	1540	"	"	"
PA 30	DR	"	1550	"	"	"
PA 31	DR	"	1600	"	"	"
PA 32	FR	"	1615	"	"	"

DECONTAMINATION LOG

PROJECT NAME SWP Wilmington Project # 17-53020.CO

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
TB 1	FR DR	021496	0900	4 HA 4 SS Bowls 4 scoop SS 4 Scoopulas	AS PER SOA SECT. IIA	DRUM
TB 3	FR DR	021496	0930	2 HA 2 SS Bowls 2 SS Scoops 2 SS Scoopulas	"	"
TB 8	FR DR	"	1000	"	"	"
TB 11	FR DR	"	1015	"	"	"
TB 12	" "	"	1030	"	"	"
TB 14	" "	"	1045	"	"	"
TB 18	" "	"	1100	"	"	"
TB 19	" "	"	1120	"	"	"
TB 21	" "	"	1140	"	"	"
TB 25	" "	"	1200	"	"	"
TB 27	" "	"	1220	"	"	"
TB ~~34~~ 29	" "	"	1310	"	"	"
TB 30	" "	"	1330	"	"	"
TB 34	" "	"	1350	"	"	"

DECONTAMINATION LOG

PROJECT NAME SWP Wilmington Project # 12-53020.CO

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
TB 39	FR DR	021496	1400	2 HA 2 SS Bowls 2 SS Scoops 2 SS Compulas	AS PER STA SECT. II A	Drum
PA 4	"	"	1410	"	"	"
PA 6	"	"	1420	"	"	"
PA 7	"	"	1440	"	"	"
PA 12	"	"	1455	"	"	"
PA 13	"	"	1510	"	"	"
PA 15	"	"	1525	"	"	"
PA 16	"	"	1540	"	"	"
PA 17	"	"	1550	"	"	"
PA 18	"	"	1610	"	"	"
PA 25	"	"	1620	"	"	"
PA 33	"	"	1640	"	"	"

DECONTAMINATION LOG

PROJECT NAME SWP Wilmington Project # 12-53020.CO

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
NTB 3	FR DP	021596	0910	1 HA 1 SS Bowl	AS PER SHA SECT. II A	DRUM
NTB 4	"	"	0920	1 HA 1 SS Bowl	"	"
TWS 14	"	"	0935	1 HA 1 SS Bowl	"	"
TWS 10	"	"	0940	1 HA 1 SS Bowl	"	"
PDA 12C	"	"	0950	1 HA 1 SS Bowl	"	"
PDA 13C	"	"	0955	1 HA 1 SS Bowl	"	"
LF2A	"	"	1020	1 HA 1 SS Bowl	"	"
LF1 A	"	"	1030	1 HA 1 SS Bowl	"	"
LF2A	"	"	1035	1 HA 1 SS Bowl	"	"
LF1 A	"	"	1045	1 HA 1 SS Bowl	"	"
LF-2B	"	"	1150	~~1 HA~~ 1 SS Bowl 1 - H.A	"	"
LF-2C	"	"	1150	1 SS Bowl 1 - HA	"	"
LF-1B	"	"	1330	1 SS Bowl 1 HA	"	"
LF-1C	"	"	1330	1 SS Bowl 1 HA	"	"

DECONTAMINATION LOG

PROJECT NAME SWP Wilmington Project # 12-53620.60

DECON FOR TASK	EMPLOYEE	DATE	TIME	EQUIP. DECONED	DECON. METHOD	DISPOSAL METHOD
SS 9	FR DR	021596	1355	1 SS Bowl 1 HA	AS PER SHA SECT IIA	DRUM
SS 11	" "	"	1415	1 SS Bowl 1 HA	"	"
SS 8	" "	"	1440	1 SS Bowl 1 H.A	"	"
SS 7	" "	"	1500	1 SS Bowl 1 H.A	"	"
SS 1	" "	"	1520	1 SS Bowl 1 H.A.	"	"
SS 12	" "	"	1655	1 SS Bowl 1 H A	"	"
SS 13	" "	"	1710	1 SS Bowl 1 H.A	"	"

Random Numbers Table

RANDOM UNITS

Use of Table. If one wishes to select a random sample of N items from a universe of M items, the following procedure may be applied. ($M > N$.)

1. Decide upon some arbitrary scheme of selecting entries from the table. For example, one may decide to use the entries in the first line, second column; second line, third column; third line, fourth column; etc.

2. Assign numbers to each of the items in the universe from 1 to M. Thus, if $M = 500$, the items would be numbered from 001 to 500, and therefore, each designated item is associated with a three digit number.

3. Decide upon some arbitrary scheme of selecting positional digits from each entry chosen according to Step 1. Thus, if $M = 500$, one may decide to use the first, third, and fourth digit of each entry selected, and as a consequence a three digit number is created for each entry choice.

4. If the number formed is $\leqq M$, the correspondingly designated item in the universe is chosen for the random sample of N items. If a number formed is $> M$ or is a repeated number of one already chosen, it is passed over and the next desirable number is taken. This process is continued until the random sample of N items is selected.

A TABLE OF 14,000 RANDOM UNITS

Line/Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	10480	15011	01536	02011	81647	91646	69179	14194	62590	36207	20969	99570	91291	90700
2	22368	46573	25595	85393	30995	89198	27982	53402	93965	34095	52666	19174	39615	99505
3	24130	48360	22527	97265	76393	64809	15179	24830	49340	32081	30680	19655	63348	58629
4	42167	93093	06243	61680	07856	16376	39440	53537	71341	57004	00849	74917	97758	16379
5	37570	39975	81837	16656	06121	91782	60468	81305	49684	60672	14110	06927	01263	54613
6	77921	06907	11008	42751	27756	53498	18602	70659	90655	15053	21916	81825	44394	42880
7	99562	72905	56420	69994	98872	31016	71194	18738	44013	48840	63213	21069	10634	12952
8	96301	91977	05463	07972	18876	20922	94595	56869	69014	60045	18425	84903	42508	32307
9	89579	14342	63661	10281	17453	18103	57740	84378	25331	12566	58678	44947	05585	56941
10	85475	36857	43342	53988	53060	59533	38867	62300	08158	17983	16439	11458	18593	64952
11	28918	69578	88231	33276	70997	79936	56865	05859	90106	31595	01547	85590	91610	78188
12	63553	40961	48235	03427	49626	69445	18663	72695	52180	20847	12234	90511	33703	90322
13	09429	93969	52636	92737	88974	33488	36320	17617	30015	08272	84115	27156	30613	74952
14	10365	61129	87529	85689	48237	52267	67689	93394	01511	26358	85104	20285	29975	89868
15	07119	97336	71048	08178	77233	13916	47564	81056	97735	85977	29372	74461	28551	90707
16	51085	12765	51821	51259	77452	16308	60756	92144	49442	53900	70960	63990	75601	40719
17	02368	21382	52404	60268	89368	19885	55322	44819	01188	65255	64835	44919	05944	55157
18	01011	54092	33362	94904	31273	04146	18594	29852	71585	85030	51132	01915	92747	64951
19	52162	53916	46369	58586	23216	14513	83149	98736	23495	64350	94738	17752	35156	35749
20	07056	97628	33787	09998	42698	06691	76988	13602	51851	46104	88916	19509	25625	58104
21	48663	91245	85828	14346	09172	30168	90229	04734	59193	22178	30421	61666	99904	32812
22	54164	58492	22421	74103	47070	25306	76468	26384	58151	06646	21524	15227	96909	44592
23	32639	32363	05597	24200	13363	38005	94342	28728	35806	06912	17012	64161	18296	22851
24	29334	27001	87637	87308	58731	00256	45834	15398	46557	41135	10367	07684	36188	18510
25	02488	33062	28834	07351	19731	92420	60952	61280	50001	67658	32586	86679	50720	94953
26	81525	72295	04839	96423	24878	82651	66566	14778	76797	14780	13300	87074	79666	95725
27	29676	20591	68086	26432	46901	20849	89768	81536	86645	12659	92259	57102	80428	25280
28	00742	57392	39064	66432	84673	40027	32832	61362	98947	96067	64760	64584	96096	98253
29	05366	04213	25669	26422	44407	44048	37937	63904	45766	66134	75470	66520	34693	90449
30	91921	26418	64117	94305	26766	25940	39972	22209	71500	64568	91402	42416	07844	69618
31	00582	04711	87917	77341	42206	35126	74087	99547	81817	42607	43808	76655	62028	76630
32	00725	69884	62797	56170	86324	88072	76222	36086	84637	93161	76038	65855	77919	88006
33	69011	65797	95876	55293	18988	27354	26575	08625	40801	59920	29841	80150	12777	48501
34	25976	57948	29888	88604	67917	48708	18912	82271	65424	69774	33611	54262	85963	03547
35	09763	83473	73577	12908	30883	18317	28290	35797	05998	41688	34952	37888	38917	88050
36	91567	42595	27958	30134	04024	86385	29880	99730	55536	84855	29080	09250	79656	73211
37	17955	56349	90999	49127	20044	59931	06115	20542	18059	02008	73708	83517	36103	42791
38	46503	18584	18845	49618	02304	51038	20655	58727	28168	15475	56942	53389	20562	87338
39	92157	89634	94824	78171	84610	82834	09922	25417	44137	48413	25555	21246	35509	20468
40	14577	62765	35605	81263	39667	47358	56873	56307	61607	49518	89656	20103	77490	18062
41	98427	07523	33362	64270	01638	92477	66969	98420	04880	45585	46565	04102	46880	45709
42	34914	63976	88720	82765	34476	17032	87589	40836	32427	70002	70663	88863	77775	69348
43	70060	28277	39475	46473	23219	53416	94970	25832	69975	94884	19661	72828	00102	66794
44	53976	54914	06990	67245	68350	82948	11398	42878	80287	88267	47363	46634	06541	97809
45	76072	29515	40980	07391	58745	25774	22987	80059	39911	96189	41151	14222	60697	59583
46	90725	52210	83974	29992	65831	38857	50490	83765	55657	14361	31720	57375	56228	41546
47	64364	67412	33339	31926	14883	24413	59744	92351	97473	89286	35931	04110	23726	51900
48	08962	00358	31662	25388	61642	34072	81249	35648	56891	69352	48373	45578	78547	81788
49	95012	68379	93526	70765	10593	04542	76463	54328	02349	17247	28865	14777	62730	92277
50	15664	10493	20492	38391	91132	21999	59516	81652	27195	48223	46751	22923	32261	85653

ATTACHMENT B

SOIL DATA

1990 NTA, NTB, and TWSA Soil Analytical Summary Tables

Table 4-1. Semi-Volatile Organic and Inorganic Constituents Detected in 0- to 6-Inch Soil Samples Collected in the Former Non-Treated Wood Storage Area NTA, Southern Wood Piedmont, Wilmington, North Carolina.

CONSTITUENTS (mg/kg dw)	NTA-1/ 9329	NTA-2/ 9330	NTA-3/ 9331	NTA-4/ 9332	NTA-5/ 9333	NTA-6/ 9334	NTA-7/ 9335	NTA-8/ 9336	NTA-9/ 9337
Semi-Volatile Organics (8270)									
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	0.66	ND	ND	ND	0.99	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	0.48	ND
Phenanthrene	0.82	ND	1.0	ND	0.42	0.44	1.1	0.47	ND
Anthracene	0.77	ND	0.79	ND	0.36	0.55	1.1	0.95	ND
Fluoranthene	2.5	4.0	2.4	0.52	1.5	1.3	1.7	2.0	ND
Chrysene	1.7	2.7	1.7	ND	0.93	0.93	1.5	1.7	ND
Benzo(a)anthracene	1.2	1.6	1.1	ND	0.57	0.47	0.97	1.5	ND
Benzo(b,k)fluoranthene	4.1	5.9	4.1	0.80	2.2	ND	1.7	2.9	ND
Benzo(a)pyrene	1.0	1.1	1.0	ND	0.41	ND	0.77	1.3	ND
Indeno(1,2,3-c,d)pyrene	0.68	0.66	0.85	ND	ND	ND	ND	0.58	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	ND	0.54	0.49	ND	ND	ND	1.1	1.0	ND
Inorganics									
Arsenic (7060)	11	1.8	30	2.8	7.1	25	63	10	54
Chromium (6010)	8.4	3.8	15	5.1	4.7	4.3	13	5.9	8.9
Copper (6010)	72	11	300	4.5	56	51	240	7.8	8.8
Percent Solids, %	73	75	76	83	82	82	62	78	82

ND Constituent was not detected.
mg/kg dw Milligrams per kilogram dry weight.

Table 4-2. Semi-Volatile Organic and Inorganic Constituents Detected in the 0- to 6-Inch Soil Samples Collected in the Former Non-Treated Wood Storage Area NTB, Southern Wood Piedmont, Wilmington, North Carolina.

CONSTITUENTS (mg/kg dw)	NTB-1/ 9370	NTB-2/ 9367	NTB-3/ 9364	NTB-4/ 9369	NTB-5/ 9368	NTB-6/ 9365	NTB-7/ 9366	NTB-8/ 9371	NTB-9/ 9372	NTB-10/ 9374	NTB-11/ 9373	NTB-12/ 9375	NTB-13/ 9376
Semi-Volatile Organics (8270)													
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	2.0	1.0	ND	54	ND	ND	ND	ND	ND	3.0	ND	ND	ND
Anthracene	7.6	3.7	ND	84	ND	ND	ND	ND	ND	1.3	ND	ND	ND
Fluoranthene	7.5	1.3	0.39	97	0.70	0.91	0.83	0.68	1.0	5.8	0.63	0.58	0.86
Chrysene	4.6	0.74	0.40	52	0.49	0.82	0.75	0.79	1.2	4.5	0.76	0.59	0.93
Benzo(a)anthracene	3.1	0.56	ND	25	ND	0.38	ND	ND	ND	3.1	0.50	ND	0.69
Benzo(b,k)fluoranthene	11	1.0	0.45	50	ND	1.7	1.5	1.2	2.0	5.5	1.7	1.2	1.3
Benzo(a)pyrene	4.3	ND	ND	17	ND	0.39	ND	ND	ND	1.2	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	3.8	ND	ND	ND	ND	ND	ND	ND	ND	0.57	ND	ND	ND
Dibenzo(a,h)anthracene	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	1.6	2.2	ND	11	ND	ND	ND	ND	ND	0.51	ND	ND	ND
Inorganics													
Arsenic (7060)	7.0	ND	4.8	1.7	1.8	5.0	9.4	5.3	12	4.7	8.1	3.2	13
Chromium (6010)	8.0	1.8	9.1	2.0	3.2	2.3	2.7	5.6	5.7	2.2	4.6	1.4	22
Copper (6010)	30	ND	4.3	9.7	3.9	11	2.8	90	130	8.6	81	3.1	20
Percent Solids, %	68	91	88	87	78	87	79	78	71	71	89	72	51

ND Constituent was not detected.
mg/kg dw Milligrams per kilogram dry weight.

Table 4-3. Semi-Volatile Organic and Inorganic Constituents Detected in 0- to 6-Inch and 12- to 18-Inch Soil Samples Collected in the Former Treated Wood Storage Area TWS, Southern Wood Piedmont, Wilmington, North Carolina.

CONSTITUENTS (mg/kg dw)	TWS-1A/ 9362 0-6"	TWS-1B/ 9363 12-18"	TWS-2A/ 9360 0-6"	TWS-2B/ 9361 12-18"	TWS-3A/ 9358 0-6"	TWS-3B/ 9359 12-18"	TWS-4A/ 9356 0-6"	TWS-4B/ 9357 12-18"	TWS-5A/ 9354 0-6"	TWS-5B/ 9355 12-18"	TWS-6A/ 9352 0-6"	TWS-6B/ 9353 12-18"
Semi-Volatile Organics (8270)												
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	0.60	ND	0.48	ND	ND	ND	0.66	ND
Phenanthrene	13	ND	ND	ND	0.75	220	0.75	ND	0.64	ND	2.4	ND
Anthracene	36	ND	0.68	ND	1.7	51	1.4	ND	1.1	ND	2.3	ND
Fluoranthene	25	ND	3.4	1.0	3.9	150	5.9	0.95	1.2	ND	16	ND
Chrysene	8.0	ND	3.5	0.73	3.2	13	4.8	ND	0.95	ND	8.1	ND
Benzo(a)anthracene	6.2	ND	2.2	0.66	1.7	17	2.6	ND	0.88	ND	5.0	ND
Benzo(b,k)fluoranthene	12	ND	6.7	ND	7.0	20	8.2	ND	0.73	ND	13	ND
Benzo(a)pyrene	5.1	ND	1.3	ND	1.4	ND	1.4	ND	0.58	ND	3.5	ND
Indeno(1,2,3-c,d)pyrene	ND	ND	0.53	ND	0.84	ND	0.63	ND	ND	ND	1.9	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.49	ND
Carbazole	7.1	ND	ND	ND	0.77	ND	1.0	ND	ND	ND	1.8	ND
Inorganics												
Arsenic (7060)	6.8	2.0	13	4.3	6.4	3.5	26	13	41	1.6	8.7	6.1
Chromium (6010)	6.5	4.8	7.0	3.8	8.8	6.1	8.4	29	19	4.1	13	27
Copper (6010)	88	12	8.2	ND	ND	ND	7.3	16	71	ND	7.2	3.9
Percent Solids, %	89	79	72	72	71	55	74	56	70	79	83	55

ND Constituent was not detected.
mg/kg dw Milligrams per kilogram dry weight.

Table 4-3. Semi-Volatile Organic and Inorganic Constituents Detected in 0- to 6-Inch and 12- to 18-Inch Soil Samples Collected in the Former Treated Wood Storage Area TWS, Southern Wood Piedmont, Wilmington, North Carolina.

CONSTITUENTS (mg/kg dw)	TWS-7A/ 9350 0-6"	TWS-7B/ 9351 12-18"	TWS-8A/ 9346 0-6"	TWS-8B/ 9347 12-18"	TWS-9A/ 9348 0-6"	TWS-9B/ 9349 12-18"	TWS-10A/ 9344 0-6"	TWS-10B/ 9345 12-18"	TWS-11A/ 9342 0-6"	TWS-11B/ 9343 12-18"	TWS-12A/ 9338 0-6"	TWS-12B/ 9339 12-18"	TWS-13A/ 9340 0-6"	TWS-13B/ 9341 12-18"
Semi-Volatile Organics (8270)														
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	ND	ND	2.8	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	0.87	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	0.93	2000	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.50	ND	ND	ND	ND	ND	2.5	ND	0.46	ND	ND	ND	ND	ND
Phenanthrene	0.73	ND	0.74	ND	ND	ND	4.2	4000	0.43	ND	ND	ND	ND	ND
Anthracene	1.2	ND	1.2	ND	ND	ND	14	2200	1.2	ND	ND	ND	ND	ND
Fluoranthene	4.2	ND	3.6	ND	1.3	ND	33	3700	4.9	0.43	ND	42	0.66	ND
Chrysene	3.6	ND	2.5	ND	0.89	ND	27	740	4.0	0.49	ND	19	ND	ND
Benzo(a)anthracene	2.4	ND	1.2	ND	ND	ND	23	800	2.9	ND	ND	12	ND	ND
Benzo(b,k)fluoranthene	7.4	ND	4.9	ND	2.0	ND	60	690	2.7	1.0	ND	30	ND	ND
Benzo(a)pyrene	1.6	ND	0.89	ND	ND	ND	17	290	1.6	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	1.0	ND	0.64	ND	ND	ND	7.2	88	0.68	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND
Carbazole	0.90	ND	0.74	ND	ND	ND	3.4	390	0.93	ND	ND	ND	ND	ND
Inorganics														
Arsenic (7060)	2.7	ND	1.9	ND	ND	ND	1.3	6.1	31	2.2	ND	1.6	1.8	ND
Chromium (6010)	5.3	3.2	3.4	1.2	4.1	2.2	2.7	4.2	11	3.7	2.7	6.0	5.2	1.8
Copper (6010)	3.8	ND	4.4	ND	3.3	4.4	17	110	15	ND	ND	4.2	ND	ND
Percent Solids, %	75	77	79	85	80	80	80	50	78	79	92	87	77	81

ND Constituent was not detected.
mg/kg dw Milligrams per kilogram dry weight.

1996 TWSB and Production Area Soil Analytical Summary Tables

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB1A	TWSB1B	TWSB2A	TWSB2B	TWSB3A	TWSB3B	TWSB4A	TWSB4B	TWSB5A	TWSB5B	TWSB6A
Semivolatile Organics (8270)												
bis(2-Chloroethyl)ether	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	0.33	ND	ND	ND	ND	ND	ND	ND	75	ND	ND	ND
Phenanthrene	0.33	ND	ND	ND	ND	ND	ND	ND	280	ND	ND	0.73
Anthracene	0.33	ND	ND	ND	ND	ND	ND	ND	34	15	ND	ND
Fluoranthene	0.33	1.6	ND	0.86	ND	ND	ND	6.1	240	85	22	4.6
Chrysene	0.33	2.5	ND	0.88	ND	ND	ND	6.3	92	68	16	4.7
Benzo(a)anthracene	0.33	2.1	ND	0.5	ND	ND	ND	4.8	73	59	15	2.7
Benzo(b)fluoranthene	0.33	2.8	ND	1.1	ND	ND	ND	22	99	60	21	5.6
Benzo(k)fluoranthene	0.33	0.99	ND	0.4	ND	ND	ND	7.1	36	30	7.3	1.9
Benzo(a)pyrene	0.33	2.6	ND	0.45	ND	ND	ND	11	57	28	10	2
Indeno(1,2,3-cd)pyrene	0.33	0.97	ND	ND	ND	ND	ND	6.4	ND	10	ND	1.5
Dibenzo(a,h)anthracene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dilution factor	1	1	1	1	1	1	1	5	40	20	10	1
* DL = Detection Limit												
* All units are in mg/kg dw												

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB6B	TWSB7A	TWSB7B	TWSB8A	TWSB8B	TWSB9A	TWSB9B	TWSB10A	TWSB10B	TWSB11A
Semivolatile Organics (8270)											
bis(2-Chloroethyl)ether	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	0.33	ND	0.71	ND	ND	ND	ND	ND	0.53	ND	ND
Anthracene	0.33	ND	ND	ND	ND	ND	ND	ND	0.45	ND	ND
Fluoranthene	0.33	7.4	3.3	ND	2.2	ND	0.58	0.65	3.6	0.67	6.8
Chrysene	0.33	5.2	1.5	ND	1.4	ND	0.43	ND	2	ND	3.7
Benzo(a)anthracene	0.33	5.5	0.64	ND	0.85	ND	ND	ND	0.9	ND	2.4
Benzo(b)fluoranthene	0.33	8.7	1.4	ND	1.5	ND	0.58	ND	2.3	ND	3.9
Benzo(k)fluoranthene	0.33	3.2	0.55	ND	0.61	ND	ND	ND	1	ND	1.6
Benzo(a)pyrene	0.33	6	0.36	ND	0.52	ND	ND	ND	0.54	ND	1.3
Indeno(1,2,3-cd)pyrene	0.33	3.3	ND	ND	ND	ND	ND	ND	0.4	ND	0.92
Dibenzo(a,h)anthracene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	0.33	ND	ND	ND	ND	ND	ND	ND	0.37	ND	ND
Tetrachlorophenols	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dilution factor	1	4	1	1	1	1	1	1	1	1	2
* DL = Detection Limit											
* All units are in mg/kg dw											

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB11B	TWSB12A	TWSB12B	TWSB13A	TWSB13B	TWSB14A	TWSB14B	TWSB15A	TWSB15B
Semivolatile Organics (8270)										
bis(2-Chloroethyl)ether	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	0.33	ND	ND	ND	ND	ND	ND	ND	2.5	1.9
Anthracene	0.33	ND	ND	ND	ND	ND	ND	ND	2.2	ND
Fluoranthene	0.33	ND	0.53	ND	17	0.94	8.8	1.9	12	8.8
Chrysene	0.33	ND	0.54	ND	17	1.1	5.2	2.3	9.8	5.7
Benzo(a)anthracene	0.33	ND	ND	ND	10	0.57	2.4	1.6	7.7	4.7
Benzo(b)fluoranthene	0.33	ND	0.66	ND	20	1.4	7	2.2	13	7.9
Benzo(k)fluoranthene	0.33	ND	ND	ND	10	0.78	2.5	0.69	5.9	3.1
Benzo(a)pyrene	0.33	ND	ND	ND	8.8	0.6	1.8	1.7	5.5	4.6
Indeno(1,2,3-cd)pyrene	0.33	ND	ND	ND	6.2	ND	ND	0.74	3.1	2.6
Dibenzo(a,h)anthracene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dilution factor	1	1	1	1	10	1	4	1	4	4
* DL = Detection Limit										
* All units are in mg/kg dw										

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB15ADUP	PDA1A	PDA1B	PDA2A	PDA2B	PDA3A	PDA3B	PDA4A	PDA4B	PDA5A	PDA5B	PDA6A
Semivolatile Organics (8270)													
bis(2-Chloroethyl)ether	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0.86	ND	ND	ND
Acenaphthylene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	ND
Phenanthrene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	1.8	0.5	2.1	2.7
Anthracene	0.33	ND	ND	ND	1.1	ND	ND	ND	ND	0.47	3.6	28	2.6
Fluoranthene	0.33	6.6	13	1.3	1.1	1	1.5	7	0.9	1.9	1.7	2.8	9.4
Chrysene	0.33	6.4	11	1.3	0.91	0.93	1.4	2.4	ND	1	3	7.9	7.2
Benzo(a)anthracene	0.33	4.2	6.6	0.71	0.53	0.51	0.71	1.3	ND	0.64	1.6	4.2	3.7
Benzo(b)fluoranthene	0.33	8.4	15	2.2	1.7	1.3	2.4	2.5	1.1	1.7	6.2	12	10
Benzo(k)fluoranthene	0.33	3.4	6	0.74	0.49	0.44	0.86	1	ND	ND	2	7.1	3.9
Benzo(a)pyrene	0.33	3.6	5.3	0.78	0.68	0.47	0.9	1.1	ND	0.53	1.5	2.9	3.1
Indeno(1,2,3-cd)pyrene	0.33	2	ND	0.61	0.63	ND	0.57	ND	ND	ND	1.7	5.5	2.9
Dibenzo(a,h)anthracene	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51	ND	ND
2-Chlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44	5.3	ND
Tetrachlorophenols	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dilution factor	1	4	10	1	1	1	1	1	1	1	1	4	5
* DL = Detection Limit													
* All units are in mg/kg dw													

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	PDA6B	PDA7A	PDA7B	PDA8A	PDA8B	PDA9A	PDA9B	PDA10A	PDA10B	PDA11A	PDA11B
Semivolatile Organics (8270)												
bis(2-Chloroethyl)ether	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.33	ND	ND	ND	ND	ND	0.92	2.3	ND	ND	ND	2100
Acenaphthylene	0.33	ND	ND	ND	ND	ND	0.38	ND	ND	ND	ND	ND
Acenaphthene	0.33	ND	ND	ND	ND	ND	0.45	2	ND	ND	ND	1400
Phenanthrene	0.33	ND	ND	0.39	6.7	2.6	1.5	5	ND	ND	ND	4400
Anthracene	0.33	ND	ND	0.84	21	1.8	4.5	5.5	ND	ND	ND	3400
Fluoranthene	0.33	ND	1.9	3.6	14	4.9	3	12	ND	ND	ND	1800
Chrysene	0.33	ND	1.3	2.9	12	4.3	2	6.2	ND	ND	ND	ND
Benzo(a)anthracene	0.33	ND	1.1	2.8	8.1	4.9	1.4	2.8	ND	ND	ND	ND
Benzo(b)fluoranthene	0.33	ND	1.7	3.2	17	6.2	3.7	12	ND	ND	ND	ND
Benzo(k)fluoranthene	0.33	ND	0.67	1.2	6.3	2.8	1.5	3.3	ND	ND	ND	ND
Benzo(a)pyrene	0.33	ND	0.67	1.2	7.3	4.2	1.9	6.9	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.33	ND	0.46	0.77	5	2.4	2	3.9	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.33	ND	ND	ND	ND	0.6	0.39	ND	ND	ND	ND	ND
2-Chlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	0.33	ND	ND	ND	7.8	ND	0.56	ND	ND	ND	ND	930
Tetrachlorophenols	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dilution factor	1	1	1	1	5	1	1	5	1	1	1	1000
* DL = Detection Limit												
* All units are in mg/kg dw												

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB1A	TWSB1B	TWSB2A	TWSB2B	TWSB3A	TWSB3B	TWSB4A	TWSB4B	TWSB5A
Volatiles by GC/MS (8240)										
Chloromethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromomethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	ND	ND	ND	0.021	ND	ND	ND
o-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (6010)	1	4.1	ND	1.4	ND	ND	ND	38	21	5.7
Chromium (6010)	1	19	1.9	2.1	1.3	1.9	13	29	21	5.1
Copper (6010)	2.5	21	ND	8.2	ND	ND	16	47	58	27
* DL = Detection Limit										
* All units are in mg/kg dw										

1996 Treated Wood Storage Area B and Pr[illegible]ction Area Soil Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB5B	TWSB6A	TWSB6B	TWSB7A	TWSB7B	TWSB8A	TWSB8B	TWSB9A	TWSB9B
Volatiles by GC/MS (8240)										
Chloromethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromomethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	0.0074	ND	ND	ND	ND	0.0065	ND
o-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (6010)	1	1.2	5.9	5.3	ND	ND	ND	ND	16	6.5
Chromium (6010)	1	2.1	6.1	5.2	2.5	1.1	2.7	4.2	7.2	3
Copper (6010)	2.5	ND	53	12	ND	ND	ND	ND	28	4.8
* DL = Detection Limit										
* All units are in mg/kg dw										

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB10A	TWSB10B	TWSB11A	TWSB11B	TWSB12A	TWSB12B	TWSB13A	TWSB13B
Volatiles by GC/MS (8240)									
Chloromethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromomethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (6010)	1	ND	ND	20	5.7	5.3	3.2	42	2.9
Chromium (6010)	1	1.8	3.7	5.2	1.7	5	2.1	39	5.1
Copper (6010)	2.5	ND	ND	10	ND	6.9	ND	110	80
* DL = Detection Limit									
* All units are in mg/kg dw									

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	TWSB14A	TWSB14B	TWSB15A	TWSB15B	TWSB15ADUP	PDA1A	PDA1B	PDA2A	PDA2B
Volatiles by GC/MS (8240)										
Chloromethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromomethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (6010)	1	ND	ND	13	3.9	14	1300	110	5.6	ND
Chromium (6010)	1	2	2.4	12	4.5	13	1200	380	9.3	2.5
Copper (6010)	2.5	ND	ND	48	30	60	1600	120	11	3.1
* DL = Detection Limit										
* All units are in mg/kg dw										

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	PDA3A	PDA3B	PDA4A	PDA4B	PDA5A	PDA5B	PDA6A	PDA6B	PDA7A	PDA7B	PDA8A
Volatiles by GC/MS (8240)												
Chloromethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromomethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0088	0.0086
o-Xylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (6010)	1	27	20	3.2	8.2	3.1	10	67	4	74	74	45
Chromium (6010)	1	37	25	6.9	6.9	9	32	56	10	84	80	38
Copper (6010)	2.5	32	14	15	57	11	38	150	9.2	89	110	88
* DL = Detection Limit												
* All units are in mg/kg dw												

1996 Treated Wood Storage Area B and Production Area Soil Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	PDA8B	PDA9A	PDA9B	PDA10A	PDA10B	PDA11A	PDA11B
Volatiles by GC/MS (8240)								
Chloromethane	0.01	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.01	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.01	ND	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.05	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND	0.22
1,2-Dibromomethane	0.005	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.05	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	0.0064	0.011	0.0081	ND	0.44
o-Xylene	0.005	ND	ND	ND	ND	ND	ND	0.2
Arsenic (6010)	1	6.6	2.5	2.2	ND	ND	ND	2
Chromium (6010)	1	14	5.3	5.6	1.5	1.5	2.7	4.5
Copper (6010)	2.5	25	19	30	ND	ND	ND	12
* DL = Detection Limit								
* All units are in mg/kg dw								

ATTACHMENT C

LANDFARM SOIL DATA

1990 LF1 and LF2 Soil Analytical Summary Tables

Table 4-1. Analytical Results for Soil Samples Collected in 1990 Within the River Landfarm 1 and Underlying Substrate at the Southern Wood Piedmont Site, Wilmington, North Carolina.

Sample Identification # /1	LF1AU 9100A	LF1AM 9100B	LF1AL 9100C	LF1AS 9100D	LF1BU 9101A	LF1BM 9101B	LF1BL 9101C	LF1BS 9101D	LF1CU 9102A	LF1CM 9102B
Constituents (mg/kg dw)										
Semi-Volatile Organic Compounds (8270)										
Naphthalene	3.8J	ND	ND	ND	4.4J	12	ND	ND	4.8J	ND
2-Methylnaphthalene	4.0J	ND	ND	ND	5.9J	15	ND	ND	ND	ND
1-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Biphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	5.0J	ND	ND	ND	6.7J	11	ND	ND	6.6J	ND
Fluorene	14	ND	ND	ND	4.9J	27	ND	ND	20	ND
Phenanthrene	25	3.9J	6.2J	ND	36	41	ND	ND	130	8.1
Anthracene	88	3.4J	3.7J	ND	230	200	4.6J	ND	29	58
Carbazole	26	ND	ND	ND	46	90	ND	ND	43	9.6
Pyrene	44	13	80	ND	50	27	20	ND	150	11
Benzo(a)Anthracene	20	5.8J	39	ND	19	8.6	10	ND	32	ND
Chrysene	22	9.5	59	ND	27	15	18	ND	42	8.9
Benzo(a)pyrene	19	7.3	32	ND	20	9.4	10	ND	24	ND
Benzo(g,h,i)perylene	8.8	5.0J	16	ND	7.4	ND	3.9J	ND	10	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	58	13	80	ND	19	34	20	ND	140	8.9
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol (ortho)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol m&p	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
P-chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene	35J	19J	100J	ND	43J	19J	27J	ND	49J	14J
Ideno(1,2,3-cd)pyrene	10J	5.2J	17J	ND	10J	4.9J	5.2J	ND	11J	3.3J
Dibenzo(a,h)anthracene	4.2J	2.2J	7.5J	ND	4.3J	2.7J	2.3J	ND	5.0J	1.6J
Nitrogen Series										
Total Kjeldahl Nitrogen-N	1600	500	1200	58	1600	1600	7500	88	1900	1100
Nitrate + Nitrite-N	ND	6.7	ND	ND	ND	16	8.2	ND	8.1	ND
Total Nitrogen	1600	507	1200	58	1600	1616	7508	88	1908	1100
Total Phosphorous	830	560	900	40	1100	840	450	42	1000	620
Total Organic Carbon	35000	18000	25000	ND	32000	26000	15000	120	39000	23000
Chloride	ND	ND	ND	ND	29	28	26	ND	35	ND
pH	6	6.6	6.8	7.3	6.5	6.5	7.7	8	6.6	6.7
Percent Solids %	82	90	90	94	82	84	90	95	70	88

1 Represents Landfarm 1 location (A, B, C, D, or E) depth sampled (U, M, L, or S).
J Estimated concentration below the practical quantitation limit.
ND Compound was not detected.

Table 4-1. Analytical Results for Soil Samples Collected in 1990 Within the River Landfarm 1 and Underlying Substrate at the Southern Wood Piedmont Site, Wilmington, North Carolina.

Sample Identification # /1	LF1CL 9102C	LF1CS 9102D	LF1DU 9103A	LF1DM 9103B	LF1DL 9103C	LF1DS 9103D	LF1EU 9104A	LF1EM 9104B	LF1EL 9104C	LF1ES 9104D
Constituents (mg/kg dw)										
Semi-Volatile Organic Compounds (8270)										
Naphthalene	ND	ND	ND	ND	ND	ND	3.6J	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Biphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	5.0J	ND	ND	ND	6.0J	ND	ND	ND
Phenanthrene	13	ND	11	ND	14	6.5J	20	4.6J	ND	ND
Anthracene	6.8J	ND	35	4.7J	3.6J	3.0J	70	5.0J	ND	ND
Carbazole	ND	ND	ND	ND	ND	ND	23	ND	ND	ND
Pyrene	110	ND	28	9.5	68	23	41	6.0J	6.5J	ND
Benzo(a)Anthracene	42	ND	11	3.4J	18	13	21	7.4	ND	ND
Chrysene	59	ND	17	7.3	40	19	22	8.1	3.7J	ND
Benzo(a)pyrene	22	ND	16	7.3	16	5.9J	18	8.1	3.5J	ND
Benzo(g,h,i)perylene	6.5J	ND	6.3J	4.8J	7.4J	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	120	ND	29	9.5	71	24	51	4.4J	6.8J	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol (ortho)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol m&p	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
P-chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene	68J	ND	31J	14J	52J	18J	29J	120J	9.1J	1.1J
Ideno(1,2,3-cd)pyrene	9.3J	ND	8.0J	4.9J	8.7J	4.1J	8.1J	14J	2.0J	ND
Dibenzo(a,h)anthracene	4.7J	ND	4.3J	1.6J	3.9J	1.8J	3.2J	4.2J	0.76J	ND
Nitrogen Series										
Total Kjeldahl Nitrogen-N	1300	67	1600	1000	330	1500	1400	ND	470	ND
Nitrate + Nitrite-N	ND	ND	7	6.9	ND	ND	ND	ND	ND	ND
Total Nitrogen	1300	67	1607	1007	330	1500	1400	ND	470	ND
Total Phosphorous	250	66	630	530	240	340	980	640	320	88
Total Organic Carbon	21000	ND	34000	17000	26000	25000	30000	21000	8000	ND
Chloride	77	ND	ND	ND	ND	ND	40	27	ND	21
pH	6.5	6.8	6.3	6.3	6.6	6.9	6.4	6.7	7.1	7.3
Percent Solids %	88	90	86	90	86	87	88	88	91	97

1 Represents Landfarm 1 location (A, B, C, D, or E) depth sampled (U, M, L, or S).
J Estimated concentration below the practical quantitation limit.
ND Compound was not detected.

Table 4-2. Analytical Results for Soil Samples Collected in 1990 Within the Office Landfarm 2 and Underlying Substrate at the Southern Wood Piedmont Site, Wilmington, North Carolina.

Sample Identification # /1	LF2AU 9105A	LF2AM 9105B	LF2AL 9105C	LF2AS 9105D	LF2BU 9106A	LF2BM 9106B	LF2BL 9106C	LF2BS 9106D	LF2CU 9107A	LF2CM 9107B
Constituents (mg/kg dw)										
Semi-Volatile Organic Compounds (8270)										
Naphthalene	ND	ND	ND	0.33J	ND	30	ND	ND	ND	5.1J
2-Methylnaphthalene	ND	10	ND	ND	ND	41	ND	ND	ND	ND
1-Methylnaphthalene	ND	ND	ND	ND	ND	20	ND	ND	ND	ND
1,1-Biphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	28	ND	ND	49	ND	ND	ND	ND	ND
Dibenzofuran	ND	26	ND	ND	19	20	5.6J	ND	ND	3.8J
Fluorene	22	91	ND	ND	42	57	12	ND	12	ND
Phenanthrene	34	200	ND	0.49	82	86	24	ND	99	17
Anthracene	100	280	ND	0.36J	350	400	66	ND	900	72
Carbazole	45	200	ND	ND	100	160	30	ND	270	23
Pyrene	26	200	4.7J	2.0	55	23	78	0.60	130	36
Benzo(a)Anthracene	20	110	ND	1.2	33	13	21	0.21J	43	19
Chrysene	21	120	3.6J	1.9	35	18	31	0.35J	58	22
Benzo(a)pyrene	16	46	ND	1.3	24	30	41	0.30J	41	16
Benzo(g,h,i)perylene	7.8	17	ND	0.71	12	ND	16	ND	17	13
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	35	300	5.0J	2.3	92	27	82	0.63	110	38
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol (ortho)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol m&p	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
P-chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene	33J	89J	6.2J	2.6J	43J	24J	17J	0.78J	43J	5.7J
Ideno(1,2,3-cd)pyrene	8.6J	18J	1.1J	ND	11J	ND	ND	0.18J	11J	14J
Dibenzo(a,h)anthracene	3.9J	ND	ND	ND	ND	ND	ND	ND	5.3J	6.2J
Nitrogen Series										
Total Kjeldahl Nitrogen-N	1400	1400	170	1100	1700	1400	900	920	2200	340
Nitrate + Nitrite-N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrogen	1400	1400	170	1100	1700	1400	900	920	2200	340
Total Phosphorous	1100	290	120	800	920	970	390	61	740	90
Total Organic Carbon	37000	51000	3700	26000	36000	34000	31000	230	36000	24000
Chloride	26	51	ND	ND	ND	ND	ND	ND	ND	ND
pH	6.3	6.3	6.6	5.1	6.2	5.8	6.7	7.2	6.2	7.0
Percent Solids %	84	79	92	73	85	84	86	88	86	91

1 Represents Landfarm 2 location (A, B, C, D, or E) depth sampled (U, M, L, or S).
J Estimated concentration below the practical quantitation limit.
ND Compound was not detected.

1387rwp

Table 4-2. Analytical Results for Soil Samples Collected in 1990 Within the Office Landfarm 2 and Underlying Substrate at the Southern Wood Piedmont Site, Wilmington, North Carolina.

Sample Identification # /1	LF2CL 9107C	LF2CS 9107D	LF2DU 9108A	LF2DM 9108B	LF2DL 9108C	LF2DS 9108D	LF2EU 9109A	LF2EM 9109B	LF2EL 9109C	LF2ES 9109D
Constituents (mg/kg dw)										
Semi-Volatile Organic Compounds (8270)										
Naphthalene	ND	ND	ND	3.7J	11	ND	3.5J	ND	2.1J	ND
2-Methylnaphthalene	ND	ND	9.5	ND	11	ND	ND	ND	ND	ND
1-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Biphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	24	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	20	ND	3.7J	ND	ND	ND
Fluorene	ND	ND	37	ND	54	ND	ND	6.1J	ND	ND
Phenanthrene	6.0J	ND	70	12	130	0.40J	19	14	5.7	ND
Anthracene	ND	ND	170	15	290	0.97	70	50	14	ND
Carbazole	ND	ND	67	4.6J	75	ND	24	17	1.9J	ND
Pyrene	41	ND	51	66	500	2.2	34	34	30	ND
Benzo(a)Anthracene	18	ND	18	27	100	1.0	13	13	11	ND
Chrysene	32	ND	22	40	150	1.4	18	19	16	ND
Benzo(a)pyrene	11	ND	19	33	65	0.97	18	15	12	ND
Benzo(g,h,i)perylene	4.2J	ND	7.9	34	14	0.47	8.1	7.1J	8.6	ND
Pentachlorophenol	ND	ND	ND	ND	20J	0.80J	ND	ND	ND	ND
Fluoranthene	47	ND	74	65	500	2.3	36	36	32	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol (ortho)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol m&p	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
P-chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	ND	ND	ND	ND	1.2J	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene	38J	ND	1.4J	82J	99J	2.3J	35J	32J	31J	ND
Ideno(1,2,3-cd)pyrene	23J	ND	ND	19J	19J	0.53J	9.6J	8.3J	9.4J	ND
Dibenzo(a,h)anthracene	15J	ND	ND	8.0J	9.4J	0.23J	4.4J	3.2J	3.9J	ND
Nitrogen Series										
Total Kjeldahl Nitrogen-N	520	67	1300	1400	290	190	190	1400	520	90
Nitrate + Nitrite-N	ND	ND	ND	ND	ND	ND	ND	12	ND	ND
Total Nitrogen	520	67	1300	1400	290	190	190	1400	520	90
Total Phosphorous	200	49	910	250	130	580	1200	940	370	53
Total Organic Carbon	13000	580	36000	49000	44000	4700	35000	31000	20000	490
Chloride	ND	ND	63	99	85	64	27	ND	ND	ND
pH	7.5	7.7	6.5	5.9	5.8	5.6	6.0	6.1	6.7	7.5
Percent Solids %	87	86	83	85	78	77	88	87	80	91

1 Represents Landfarm 2 location (A, B, C, D, or E) depth sampled (U, M, L, or S).
J Estimated concentration below the practical quantitation limit.
ND Compound was not detected.

1387rwp

1991 LF1 and LF2 Soil Analytical Summary Tables

Table 4-1. Analytical Results for Soil Samples Collected in 1991 within the River Landfarm 1 at the Southern Wood Piedmont Site, Wilmington, North Carolina.

Sample Identification # /1	LF1AUS 9663A	LF1ALS 9663B	LF1BUS 9664A	LF1BLS 9664B	LF1CUS 9665A	LF1CLS 9665B	LF1DUS 9666A	LF1DLS 9666B	LF1EUS 9667A	LF1ELS 9667B
Constituents (mg/kg dw)										
Semi-Volatile Organic Compounds (8270)										
Naphthalene	2.8	0.56J	1.1J	0.27J	3.4J	0.23J	1.0	0.088J	4.7J	0.13J
2-Methylnaphthalene	2.7	0.29J	0.93J	0.18J	6.4J	0.14J	1.1	0.070J	7.7	0.11J
1-Methylnaphthalene	0.22J	0.17J	0.27J	0.11J	4.0J	0.097J	0.14J	0.067J	0.56J	0.063J
1,1-Biphenyl	0.42	0.092J	0.23J	0.066J	0.90J	0.040J	0.24J	0.022J	2.1J	0.028J
Acenaphthylene	3.8	0.59J	1.7J	4.1J	2.1J	0.58	1.4	0.13J	1.4J	0.35
Acenaphthene	0.95	1.9J	0.52J	1.1J	0.62J	0.15J	0.36	0.18J	0.78J	0.070J
Dibenzofuran	2.7	0.89J	1.2J	0.31J	5.6J	0.18J	1.6	0.21J	9.3	0.14J
Fluorene	6.9	2.4J	2.6J	1.1J	14	0.20J	4.9	0.21J	25	0.18J
Phenanthrene	16	15	6.4	17	21	1.4	7.7	3.3	34	0.98
Anthracene	54	5.7	23	16	140	2.3	36	1.0	350	1.8
Carbazole	23	1.1J	7	5.4J	38	0.97	8.2	0.98	98	1.1
Pyrene	20	69	18	62	34	10	28	5.7	25	4.2
Benzo(a)Anthracene	11	24	10	31	11	5.7	15	2.1	9.6	2.0
Chrysene	12	28	13	36	15	8.9	18	3.0	3.6J	2.9
Benzo(a)pyrene	13	14	11	21	14	4.1	11	1.8	11	1.5
Benzo(g,h,i)perylene	7.4	6.5	4.6	9.1	6.4J	1.8	2.1	0.70	4.3J	0.6
Pentachlorophenol	1.2	3.9J	1.6J	4.3J	ND	1.3J	0.79J	ND	ND	0.70J
Fluoranthene	22	77	17	72	15	12	24	4.7	22	3.7
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.060J	ND	ND	0.057J	0.86J	0.050J	0.028J	ND	0.14J	ND
Trichlorophenols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Creosol (ortho)	ND	ND	ND	ND	0.023J	ND	ND	ND	ND	ND
Creosol m&p	0.044J	ND	ND	0.047J	ND	ND	ND	ND	ND	ND
P-chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	0.19J	ND	0.31J	0.44J	ND	0.13J	ND	ND	ND	0.045J
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene	30	36	31	61	43	18	32	3.4	30	4.4
Ideno(1,2,3-cd)pyrene	9.6	9.2	5.6	12	7.9	1.9	4.4	0.74	5.3J	0.7
Dibenzo(a,h)anthracene	3.4	2.9J	ND	2.3J	ND	0.58	1.1	0.26J	ND	ND
Metals										
Arsenic (7060)	6.5	23	7.9	13	2.5	4.9	4.9	15	6.9	9.9
Chromium (6010)	6.2	14	8.2	7.9	12	5.4	5.5	1.9	6.7	2.8
Copper (6010)	37	70	30	35	39	38	22	12	44	17
Nitrogen Series										
Total Kjeldahl Nitrogen-N	1,500	980	5,000	1,000	1,100	1,000	1,200	290	1,600	300
Nitrate + Nitrite-N	ND	ND	ND	ND	7	ND	14	6.3	ND	ND
Total Nitrogen	1,500	980	5,000	1,000	1,100	1,000	1,200	300	1,600	300
Total Phosphorous	730	980	920	460	1,000	520	700	240	1,300	270
Total Organic Carbon	33,000	24,000	27,000	22,000	35,000	16,000	21,000	5,000	31,000	5,900
Chloride	ND	ND	29	ND	ND	ND	ND	ND	ND	ND
pH	6.3	6.9	7.1	7.4	6.6	7.6	6.3	6.7	7	7.4
Percent Solids %	86	89	88	88	84	92	92	94	88	95

1 Represents Landfarm 1 location (A, B, C, D, or E) depth sampled (US or LS).
J Estimated concentration below the practical quantitation limit.
ND Compound was not detected.

Table 4-2. Analytical Results for Soil Samples Collected in 1991 within the Office Landfarm 2 at the Southern Wood Piedmont Site, Wilmington, North Carolina.

Sample Identification # /1	LF2AUS 9668A	LF2ALS 9668B	LF2BUS 9669A	LF2BLS 9669B	LF2CUS 9670A	LF2CLS 9670B	LF2DUS 9671A	LF2DLS 9671B	LF2EUS 9672A	LF2ELS 9672B
Constituents (mg/kg dw)										
Semi-Volatile Organic Compounds (8270)										
Naphthalene	2.2J	0.36J	11J	1.4J	4.3J	1.9J	3.4J	14J	3.5J	2.5J
2-Methylnaphthalene	2.1J	0.22J	16J	0.88J	4.6J	0.85J	4.4J	8.0J	5.1	2.4J
1-Methylnaphthalene	0.22J	0.13J	0.59J	0.29J	0.46J	0.34J	0.26J	1.6J	0.26J	0.41J
1,1-Biphenyl	0.37J	0.078J	2.1J	0.18J	0.91J	0.27J	0.64J	2.3J	0.66J	0.59J
Acenaphthylene	5.2	2.4J	5.0J	2.4J	4.7J	4.3J	3.7J	5.4J	3.8J	5.0J
Acenaphthene	1.0J	0.62J	2.5J	1.6J	5.5J	1.7J	1.3J	92	1.0J	8.1J
Dibenzofuran	2.6J	0.49J	20	1.7J	8.4	2.2J	5.0J	21J	5.1	5.6J
Fluorene	7.1	1.2J	62	2.8J	26	7.2J	14	59J	13	19J
Phenanthrene	12	4.1	87	13	38	21	20	91	21	45
Anthracene	41	9.5	310	19	120	84	75	170	64	93
Carbazole	18	3.1J	170	6.8	60	15	34	46J	37	28J
Pyrene	21	25	64	25	35	74	17	980	19	310
Benzo(a)Anthracene	13	12	25	12	17	28	8.6	130	11	63
Chrysene	15	18	31	15	20	41	11	150	12	69
Benzo(a)pyrene	16	9.6	23	9.2	20	27	12	61J	12	29J
Benzo(g,h,i)perylene	7.2	3.7J	10J	5.5	6.0J	5.6J	7.0J	6.7J	5.1	8.3J
Pentachlorophenol	3.8J	2.8J	ND	10	4.6J	22J	6.4J	150J	4.1J	19J
Fluoranthene	20	24	78	30	37	83	19	520	20	350
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	2.2J	ND	ND
2,4-Dimethylphenol	0.092J	0.082J	ND	0.037J	0.087J	0.12J	ND	ND	0.081J	ND
Trichlorophenols	ND	ND	ND	0.048J	ND	ND	ND	ND	ND	ND
Creosol (ortho)	0.024J	ND	ND	0.040J	0.028J	0.026J	ND	ND	0.022J	ND
Creosol m&p	0.10J	0.070J	ND	ND	ND	ND	ND	ND	0.087J	ND
P-chloro-m-cresol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	0.48J	0.25J	ND	0.52J	ND	0.85J	0.34J	3.5J	0.47J	1.1J
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene	34	32	55	21	37	81	26	190	30	90
Ideno(1,2,3-cd)pyrene	9.2	5.2	13J	6.8	9.1	9.8	8.8	18J	7.3	12J
Dibenzo(a,h)anthracene	2.0J	1.2J	3.4J	2.6J	3.4J	4.0J	2.0J	6.6J	2.5J	5.1J
Metals										
Arsenic (7060)	7.9	18	8.3	84	5.6	14	6.4	22	6.7	9.5
Chromium (6010)	15	12	11	100	6.2	9.8	7.1	21	7.8	15
Copper (6010)	42	120	44	140	41	41	35	150	39	51
Nitrogen Series										
Total Kjeldahl Nitrogen-N	1,300	1,900	1,900	840	1,600	1,100	1,200	4,900	1,700	1,300
Nitrate + Nitrite-N	6.9	6.1	ND	12	ND	ND	ND	ND	7.2	ND
Total Nitrogen	1,300	1,900	1,900	850	1,600	1,100	1,200	4,900	1,700	1,300
Total Phosphorous	580	470	760	440	580	280	490	610	200	200
Total Organic Carbon	26,000	21,000	34,000	21,000	26,000	28,000	32,000	47,000	32,000	23,000
Chloride	ND	ND	ND	ND	ND	ND	46	100	ND	ND
pH	6.7	6.8	6.8	7.5	6.4	6.5	6.9	7.1	6.7	6.9
Percent Solids %	83	82	86	89	86	88	83	80	85	89

1 Represents Landfarm 2 location (A, B, C, D, or E) depth sampled (US or LS).
J Estimated concentration below the practical quantitation limit.
ND Compound was not detected.

1990 and 1991 LF1 and LF2 Constituent Comparision Summary Tables

Table 4-4. Comparison of Constituents Detected in Both 1990 and 1991 in Soil, Southern Wood Piedmont Facility, Wilmington, North Carolina.

Constituent	Frequency of Detects (%)*		Maximum Concentration		Mean		UCL	
	1990	1991	1990	1991	1990	1991	1990	1991
Phenols and Cresols								
o-Cresol	0	30	NA	0.04	NA	4.39	NA	8.14
m,p-Cresol	0	25	NA	0.1	NA	4.81	NA	8.52
2,4-Dimethylphenol	0	60	NA	0.86	NA	3.96	NA	7.76
Pentachlorophenol	3	80	20	150	19	16.22	19.00	29.21
Phenol	0	5	NA	2.2	NA	3.35	NA	4.98
Tetrachlorophenols	0	60	NA	3.5	NA	1.61	NA	2.54
Trichlorophenols	0	5	NA	0.048	NA	5.19	NA	8.85
PAHs								
tPAHs	100	100	2064.2	2572.6	527.51	458.18	732.88	725.82
cPAHs	100	100	78.4	72.64	25.9	19.78	30.90	25.73
Carbazole	100	100	270	170	43.2	30.08	63.20	45.99
Inorganics								
Arsenic	0	100	NA	84	NA	13.85	NA	20.60
Chromium	0	100	NA	100	NA	13.78	NA	21.82
Copper	0	100	NA	150	NA	53.40	NA	68.31

Concentrations are given in milligrams per kilogram (mg/kg).

* 1990 data included 30 samples; 1991 data included 20 samples.

NA Not available.

UCL 95 percent upper confidence limit of the mean.

Table 4-5. Degradation of Polycyclic Aromatic Hydrocarbons Based on Ring Number, Landfarms 1 and 2, Southern Wood Piedmont Facility, Wilmington, North Carolina.

# Rings	Constituent		Mean Concentration (mg/kg) 1990	1991	1990-1991	% Change
2	1,1-Biphenyl		3.77	0.61	3.16	-83.82
2	1-Methylnaphthalene		4.3	0.51	3.79	-88.14
2	2-Methylnaphthalene		6.05	3.21	2.84	-46.94
2	Naphthalene		5.18	2.94	2.24	-43.24
3	Acenaphthene		6.72	6.1	0.62	-9.23
3	Acenaphthylene		3.77	2.9	0.87	-23.08
3	Anthracene		117.66	80.77	36.89	-31.35
3	Carbazole		43.19	30.08	13.11	-30.35
3	Dibenzofuran		7.16	4.71	2.45	-34.22
3	Fluorene		15.53	13.44	2.09	-13.46
3	Phenanthrene		37.53	23.74	13.79	-36.74
		Total	250.86	169.01	81.85	-32.63
		Mean	22.81	15.36	7.44	-32.63
4	Benzo(a)anthracene		23.57	22.05	1.52	-6.45
4	Chrysene		32.14	26.12	6.02	-18.73
4	Fluoranthene		71.45	72.52	-1.07	1.50
4	Pyrene		65.76	92.3	-26.54	40.36
5	Benzo(a)pyrene		20.32	16.06	4.26	-20.96
5	Benzo(b,k)fluoranthene		40.7	44.24	-3.54	8.70
5	Dibenzo(a,h)anthracene		4.37	2.62	1.75	-40.05
6	Benzo(g,h,i)perylene		8.96	5.43	3.53	-39.40
6	Indeno(1,2,3-c,d)pyrene		9.38	7.83	1.55	-16.52
		Total	276.65	289.17	-12.52	4.53
		Mean	30.74	32.13	-1.39	4.53

mg/kg Milligrams per kilogram.

Table 4-6. Data Comparison for Polycyclic Aromatic Hydrocarbons, Landfarms 1 and 2, Southern Wood Piedmont Facility, Wilmington, North Carolina.

# Rings	Constituent	Mean Concnetration (mg/kg) 1990	1991	1990-1991	% Change
2	1,1-Biphenyl	3.77	0.61	3.16	-83.82
2	Naphthalene	5.18	2.94	2.24	-43.24
3	Acenaphthene	6.72	6.1	0.62	-9.23
3	Acenaphthylene	3.77	2.9	0.87	-23.08
3	Anthracene	117.66	80.77	36.89	-31.35
3	Carbazole*	43.19	30.08	13.11	-30.35
3	Dibenzofuran	7.16	4.71	2.45	-34.22
3	Fluorene	15.53	13.44	2.09	-13.46
3	Phenanthrene	37.53	23.74	13.79	-36.74
4	Fluoranthene	71.45	72.52	-1.07	1.50
4	Pyrene	65.76	92.3	-26.54	40.36
	Subtotal	377.72	330.11	47.61	-12.60
	Mean	34.34	30.01	4.33	-12.60
	cPAHs				
2	1-Methylnaphthalene	4.3	0.51	3.79	-88.14
2	2-Methylnaphthalene	6.05	3.21	2.84	-46.94
4	Benzo(a)anthracene	23.57	22.05	1.52	-6.45
4	Chrysene	32.14	26.12	6.02	-18.73
5	Benzo(a)pyrene	20.32	16.06	4.26	-20.96
5	Benzo(b,k)fluoranthene	40.7	44.24	-3.54	8.70
5	Dibenzo(a,h)anthracene	4.37	2.62	1.75	-40.05
6	Benzo(g,h,i)perylene	8.96	5.43	3.53	-39.40
6	Indeno(1,2,3-c,d)pyrene	9.38	7.83	1.55	-16.52
	Total cPAHs	149.79	128.07	21.72	-14.50
	Mean	16.64	14.23	2.41	-14.50
	Without 2-ring PAHs	139.44	124.35	15.09	-10.82
	tPAHs	527.51	458.18	69.33	-13.14

* Carbazole is also a cPAH but was considered separately from the other cPAHs.
cPAHs Carcinogenic polycyclic aromatic hydrocarbons included in the TEF scheme.
mg/kg Milligrams per kilogram.
TEF Toxicity equivalency factor based on benzo(a)pyrene (USEPA, 1989b).
tPAHs Total of all polycyclic aromatic hydrocarbons.

1996 LF1 and LF2 Soil Analytical Summary Tables

1996 Landfarm Soil Analytical Summary Table
Southern Wood Piedmont Company, City of Wilmington, North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	LF2A	LF1A	LF2B	LF2C	LF1B	LF1C
Semivolatile Organics (8270)							
bis(2-Chloroethyl)ether	0.33	ND	ND	ND	ND	ND	ND
Naphthalene	0.33	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.33	ND	ND	ND	ND	ND	ND
Acenaphthene	0.33	ND	ND	ND	ND	ND	ND
Phenanthrene	0.33	4.2	2	2.8	0.44	2.8	ND
Anthracene	0.33	10	5.7	5	ND	ND	ND
Fluoranthene	0.33	11	10	8.2	0.88	8.1	ND
Chrysene	0.33	8	8.7	5.5	0.48	5.8	ND
Benzo(a)anthracene	0.33	7	6.9	4.3	ND	4	ND
Benzo(b)fluoranthene	0.33	15	14	11	0.68	9.2	ND
Benzo(k)fluoranthene	0.33	5.7	5.5	3.5	ND	3.7	ND
Benzo(a)pyrene	0.33	9.2	8.1	6.2	ND	4.6	ND
Indeno(1,2,3-cd)pyrene	0.33	7.4	5.1	5.3	ND	3.2	ND
Dibenzo(a,h)anthracene	0.33	ND	ND	ND	ND	ND	ND
2-Chlorophenol	0.33	ND	ND	ND	ND	ND	ND
Phenol	0.33	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.33	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.33	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.7	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.7	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND
Carbazole	0.33	2.2	ND	ND	ND	ND	ND
Tetrachlorophenols	1.7	ND	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene	0.33	21	20	14	0.68	13	ND
1,1-Biphenyl	0.33	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	0.33	ND	ND	ND	ND	ND	ND
Cresol (ortho)	0.33	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	0.33	6.2	4.4	4.2	ND	2.8	ND
Fluorene	0.33	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.33	ND	ND	ND	ND	ND	ND
Cresol m & p	0.33	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.33	ND	ND	ND	ND	ND	ND
Dilution factor		5	5	5	1	5	1
Arsenic (6010)	1	6.2	5.9	13	5.3	22	6.4
Chromium (6010)	1	1.3	1.3	1.5	ND	2.6	ND
Copper (6010)	2.5	8.2	7.7	7.9	ND	8.3	ND
Total Kjeldahl Nitrogen-N (351.2)	25	2100	2100	1600	710	71	140
Nitrate + Nitrite-N (353.2)	5	ND	ND	ND	ND	ND	ND
Total Phosphorus (365.4)	25	730	1200	300	65	540	66
pH (9045)		6.94	7.8	6.13	7.31	7.46	7.33
Chloride (325.2)	20	77	110	150	ND	110	ND
Total Organic Carbon (415.1)	100	46000	41000	49000	2200	58000	930
Percent Solids (160.3)		85	89	81	81	90	90
* DL = Detection Limit							
All results are in mg/kg dw							

1991 and 1996 LF1 and LF2 Constituent Comparision Summary Table

COMPARISON BETWEEN THE 1991 LANDFARM SOIL SAMPLE ANALYSIS AND THE 1996 LANDFARM SOIL SAMPLE ANALYSIS

CONSTITUENTS DETECTED	1991 LF1U	1996 LF1A	1991 LF1L	1996 LF1B	1991 LF2U	1996 LF2A	1991 LF2L	1996 LF2B
Phenanthrene	17	2	7.5	2.8	36	4.2	35	2.8
Naphthalene	2.6	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	3.8	ND	ND	ND	6.4	ND	ND	ND
1,1-Biphenyl	0.8	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	2.1	ND	1.1	ND	4.5	ND	ND	ND
Acenaphthene	0.65	ND	ND	ND	ND	ND	21	ND
Dibenzofuran	4.1	ND	ND	ND	8.2	ND	ND	ND
Fluorene	33	ND	ND	ND	24.4	ND	ND	ND
Pyrene	25	ND	30	ND	31.2	ND	283	ND
Dibenzo(a,h)anthracene	0.9	ND	1.2	ND	ND	ND	10.4	ND
Anthracene	121	5.7	5.4	ND	122	10	75	5
Carbazole	35	ND	1.9	ND	64	2.2	20	ND
Benzo(a)anthracene	11	6.9	13	4	15	7	49	4.3
Chrysene	12	8.7	16	5.8	18	8	59	5.5
Benzo(a)pyrene	12	8.1	8.5	4.6	17	9.2	27	6.2
Fluoranthene	20	10	34	8.1	35	11	201	8.2
Benzo(g,h,i)perylene	5	ND	3.7	ND	7.1	ND	6	ND
Pentachlorophenol	0.7	ND	ND	ND	ND	ND	41	ND
Benzo(b,k)fluoranthene	33	19.5	24.5	12.9	36	20.7	83	14.5
Indeno(1,2,3-cd)pyrene	6.5	5.1	4.9	3.2	9.5	7.4	10	5.3
Arsenic	5.7	5.9	13.2	22	6.9	6.2	29	13
Chromium	4.7	1.3	6.4	2.6	9.4	1.3	32	1.5
Copper	34	4.7	34	8.3	40	8.2	100	7.9
Total Kjeldahl N	2080	2100	714	71	1540	2100	2008	1600
Nitrate + Nitrite-N	4.2	ND	1.3	ND	2.8	ND	3.6	ND
Total Phosphorous	930	1200	494	540	522	730	400	300
Total Organic Carbon	29400	41000	14600	58000	30000	46000	28000	49000
Chloride	5.8	110	ND	110	9.2	77	20	150

*Any concentrations below the practical quantiative limit (PQL) were considered non-detect (ND)
Results are in mg/kg dw
LF1 - Landfarm 1
LF2 - Landfarm 2
A,U - Upper soil sample taken approximately 3" below landfarm surface
L,B - Lower sample taken within bottom 6" of landfarm material

1990 and 1996 LF1 and LF2 Substrate Constituent Comparision Table

COMPARISON OF RESULTS FROM THE 1990 LANDFARM LOWER SUBSTRATE SAMPLES AND THE 1996 LANDFARM LOWER SUBSTRATE SAMPLES

CONSTITUENTS DETECTED	1990 LF1SUB	1996 LF1C	1990 LF2SUB	1996 LF2C
Phenanthrene	ND	ND	0.2	0.44
Pyrene	4.6	ND	1	ND
Benzo(g,h,i)perylene	ND	ND	0.2	ND
Anthracene	ND	ND	0.3	ND
Benzo(a)anthracene	2.6	ND	0.5	ND
Chrysene	3.8	ND	0.7	0.48
Benzo(a)pyrene	1.2	ND	0.5	ND
Fluoranthene	4.8	ND	0.9	0.88
Benzo(b,k)fluoranthene	ND	ND	ND	0.68
Arsenic	-	6.4	-	5.3
Chromium	-	ND	-	ND
Copper	-	ND	-	ND
Total Kjeldahl N	343	140	473	710
Nitrate + Nitrite-N	ND	ND	ND	ND
Total Phosphorous	115	66	309	65
Total Organic Carbon	5024	960	6400	2200
Chloride	4.2	ND	12.8	ND

*Any concentrations below the practical quantitative limit (PQL) were considered non-detect (ND)
Results in mg/kg dw
SUB,C - Sample collected 6" below the base of the landfarm material

ATTACHMENT D

LANDFARM DIOXIN AND FURAN SOIL DATA

1990 LF1 and LF2 Dioxin and Furan Soil Analytical Summary Tables

Table 4-3. Dioxin and Furan Concentrations for Composite Soil Samples Collected in Landfarms 1 and 2 at the Southern Wood Piedmont Site, Wilmington, North Carolina.

Parameters	Land Farm 1	Land Farm 2
Furans (µg/kg*)		
Tetrachlorodibenzofurans (total)	0.09	0.10
2,3,7,8-Tetrachlorodibenzofuran	0.02	0.02
Pentachlorodibenzofurans (total)	0.92	0.87
1,2,3,7,8-Pentachlorodibenzofuran	0.06	0.06
2,3,4,7,8-Pentachlorodibenzofuran	0.06	0.06
Hexachlorodibenzofurans (total)	31.4	34.4
1,2,3,4,7,8-Hexachlorodibenzofuran	0.71	0.76
1,2,3,6,7,8-Hexachlorodibenzofuran	0.24	0.21
2,3,4,6,7,8-Hexachlorodibenzofuran	0.16	0.14
1,2,3,7,8,9-Hexachlorodibenzofuran	0.04	0.05**
Heptachlorodibenzofurans (total)	147.0	164.0
1,2,3,4,6,7,8-Heptachlorodibenzofuran	59.5	66.0
1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.77	0.96
Octachlorodibenzofurans (total)	63.2	83.3
Dioxins (µg/kg*)		
Tetrachlorodibenzodioxins (total)	0.14	0.17
2,3,7,8-Tetrachlorodibenzodioxin	0.004**	0.008
Pentachlorodibenzodioxins (total)	0.48	0.65
1,2,3,7,8-Pentachlorodibenzodioxin	0.03	0.05
Hexachlorodibenzodioxins (total)	16.4	22.5
1,2,3,4,7,8-Hexachlorodibenzodioxin	0.10	0.18
1,2,3,6,7,8-Hexachlorodibenzodioxin	1.3	1.8
1,2,3,7,8,9-Hexachlorodibenzodioxin	0.22	0.89
Heptachlorodibenzodioxins (total)	461	573
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	65.5	98.7
Octachlorodibenzodioxins (total)	621	932

* µg/kg = micrograms per kilogram.
** Estimated Maximum Possible Concentration

1996 LF1 and LF2 Dioxin and Furan Soil Analytical Summary Tables

February 1996 Landfarm Dioxin Furan Soil Analytical Summary Table
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

PARAMETER	DETECTION LIMIT	LF1A	LF2A
DIOXINS			
Tetrachlorodibenzodioxins (total)	0.2	61	91.8
2,3,7,8-Tetrachlorodibenzodioxin	0.2	2.4	4.2
Pentachlorodibenzodioxins (total)	0.2	736	879
1,2,3,7,8-Pentachlorodibenzodioxin	0.2	42.2	55.2
Hexachlorodibenzodioxins (total)	0.2	18060	26080
1,2,3,4,7,8-Hexachlorodibenzodioxin	0.2	191	263
1,2,3,6,7,8-Hexachlorodibenzodioxin	0.2	1600	1910
1,2,3,7,8,9-Hexachlorodibenzodioxin	0.2	526	789
Heptachlorodibenzodioxins (total)	0.86	290890	298650
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	0.31	55750	90080
Octachlorodibenzodioxin (total)	3.1	583460	496210
FURANS			
Tetrachlorodibenzofurans (total)	0.2	68.9	96.5
2,3,7,8-Tetrachlorodibenzofuran	0.2	11.3	14.5
Pentachlorodibenzofuran (total)	0.2	1110	1050
1,2,3,7,8-Pentachlorodibenzofuran	0.2	55.2	63.3
2,3,4,7,8-Pentachlorodibenzofuran	0.2	51.1	53.1
Hexachlorodibenzofurans (total)	0.46	31580	38630
1,2,3,4,7,8-Hexachlorodibenzofuran	0.2	956	1160
1,2,3,6,7,8-Hexachlorodibenzofuran	0.1	206	217
2,3,4,6,7,8-Hexachlorodibenzofuran	0.46	469	171
1,2,3,7,8,9-Hexachlorodibenzofuran	0.2	* {44.8}	62.5
Heptachlorodibenzofurans (total)	0.46	133590	120130
1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.27	56260	51580
1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.2	1100	1080
Octachlorodibenzofurans (total)	0.17	154750	155250

* All results are in nannograms per kilogram (part per trillion)

* Analysis by USEPA Method 8290.

* {Estimated Maximum Possible Concentration}

1990 and 1996 LF1 and LF2 Dioxin and Furan Constituent Summary Table

COMPARISON OF 1990 AND 1996 DIOXIN AND FURAN CONCENTRATIONS FOR COMPOSITE SOIL SAMPLIES COLLECTED IN LANDFARMS 1 AND 2

PARAMETERS	LANDFARM 1		LANDFARM 2	
	10/90	2/96	10/90	2/96
Furans (ug/kg*)				
Tetrachlorodibenzofurans (total)	0.09	0.069	0.10	0.097
2,3,7,8-Tetrachlorodibenzofuran	0.02	0.011	0.02	0.015
Pentachlorodibenzofurans (total)	0.92	1.11	0.87	1.05
1,2,3,7,8-Pentachlorodibenzofuran	0.06	0.055	0.06	0.063
2,3,4,7,8-Pentachlorodibenzofuran	0.06	0.051	0.06	0.053
Hexachlorodibenzofurans (total)	31.4	31.58	34.4	38.63
1,2,3,4,7,8-Hexachlorodibenzofuran	0.71	0.956	0.76	1.16
1,2,3,6,7,8-Hexachlorodibenzofuran	0.24	0.206	0.21	0.217
2,3,4,6,7,8-Hexachlorodibenzofuran	0.16	0.469	0.14	0.171
1,2,3,7,8,9-Hexachlorodibenzofuran	0.04	0.048**	0.05**	0.063
Heptachlorodibenzofurans (total)	147.0	133.59	164.0	120.13
1,2,3,4,6,7,8-Heptachlorodibenzofuran	59.5	56.26	66.0	51.58
1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.77	1.1	0.96	1.08
Octachlorodibenzofurans (total)	63.2	154.75	83.3	155.25
Dioxins (ug/kg*)				
Tetrachlorodibenzodioxins (total)	0.14	0.061	0.17	0.092
2,3,7,8-Tetrachlorodibenzodioxin	0.004**	0.002	0.008	0.004
Pentachlorodibenzodioxins (total)	0.48	0.736	0.65	0.879
1,2,3,7,8-Pentachlorodibenzodioxin	0.03	0.042	0.05	0.055
Hexachlorodibenzodioxins (total)	16.4	18.06	22.5	26.08
1,2,3,4,7,8-Hexachlorodibenzodioxin	0.1	0.191	0.18	0.263
1,2,3,6,7,8-Hexachlorodibenzodioxin	1.3	1.6	1.8	1.91
1,2,3,7,8,9-Hexachlorodibenzodioxin	0.22	0.526	0.89	0.789
Heptachlorodibenzodioxins (total)	461	290.89	573	298.65
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	65.5	55.75	98.7	90.08
Octachlorodibenzodioxins (total)	621	583.46	932	496.21

* ug/kg dw = micrograms per kilogram dry weight

** Estimated Maximum Possible Concentration

Soil samples collected between 0" - 6" below the landfarm surface

ATTACHMENT E

SURFACE WATER AND SEDIMENT DATA

1985 NUS Surface Water and Sediment Analytical Summary Table

TABLE 1
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
SAMPLE CODES AND DESCRIPTIONS

SWP*-BK-W1	Surface Water sample collected from overflow stream from Greenfield Lake south of the site.
SWP-BK-51	Sediment sample collected from above location.
SWP-GW-1	Groundwater sample collected from onsite monitoring well #1.
SWP-GW-2	Groundwater sample collected from onsite monitoring well #2.
SWP-GW-4	Groundwater sample collected from onsite monitoring well #4.
SWP-GW-5	Groundwater sample collected from onsite monitoring well #5.
SWP-RB-W	Surface water sample collected at end of jetty from Cape Fear River.
SWP-RB-S	Sediment sample collected from above location.
SWP-JA-C1	Composite soil sample collected from jetty area.
SWP-LA-CZ	Composite soil sample collected form landfarm area A.
SWP-LB-C3	Composite soil sample collected from landfarm area B.
SWP-LC-C4	Composite soil sample collected from landfarm area C.
SWP-AW-01	Groundwater sample collected from artesian well, (public supply).

* SWP: Code short for Southern Wood Preserving. This designation will not be used in the narrative report.

TABLE 2
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
INORGANIC ANALYSES
WATER SAMPLES
in ug/l

	SWP-BK-W1	SWP-GW-1	SWP-GW-2	SWP-GW-4	SWP-GW-5	SWP-RB-W	SWP-AW-01
Arsenic*	-	-	22	44	-	-	-
Chromium*	-	-	20	-	20	-	-
Lead*	-	14	12	16	-	-	-
Zinc*	-	40	60	40	-	-	-
Aluminum	500	4,800	7,100	3,500	5,700	1,000	-
Manganese	20	2,000	1,100	300	150	130	-
Iron	680	91,000	46,000	17,000	5,300	2,400	-
Sodium	10,000	2,300,000	9,000	1,400,000	15,000	930,000	6,000
Potassium	-	14,000	6,000	49,000	-	36,000	-
Cyanide*	40	-	-	-	-	-	-

* Priority pollutant.
\- Material analyzed for but not detected.

TABLE 3
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
ORGANIC ANALYSES
WATER SAMPLES
in ug/l

	SWP-BK-W1	SWP-GW-1	SWP-GW-2	SWP-GW-4	SWP GW-5	SWP-RB-W	SWP-AW-01
Methylene Chloride*	-	-	-	-	-	-	37
1,1-Dichloroethene(1,1-Dichloroethylene)*	-	-	-	-	-	-	6.6
Chloroform*	-	-	-	-	-	-	63
1,2-Dichloroethane*	-	-	-	-	-	-	55
1,1,1-Trichloroethane*	-	-	-	-	-	-	14
Carbon Tetrachloride*	-	-	-	-	-	-	38
Bromodichloromethane	-	-	-	-	-	-	60
Trichloroethene(Trichloroethylene)*	-	-	-	-	-	-	15
Benzene*	-	0.3J	0.3J	-	-	-	-
Dibromochloromethane	-	-	-	-	-	-	38
Bromoform*	-	-	-	-	-	-	14
Tetrachloroethene(Tetrachloroethylene)*	-	-	-	-	-	-	81
Toluene*	-	-	5J	16	-	-	26
Chlorobenzene*							
Ethyl Benzene*	-	3J	5.1	-	-	-	-
Methyl Butyl Ketone	-	7J	7J	-	23	-	-
Propene	-	5J	-	-	26	-	-
Acetone	-	-	500	1,000	-	-	-
Chloromethylpropane	-	-	3JN	-	-	-	-
Methyl Ethyl Ketone	-	-	-	30	-	-	-
1 Unidentified Compound	-	4J	-	30JN	-	-	-
Naphthalene*	-	-	290	-	-	-	-
Acenaphthene*	-	-	40	3.2	-	-	-
Fluorene*	-	-	15	0.7J	-	-	-

TABLE 3
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
ORGANIC ANALYSES
WATER SAMPLES
in ug/l
PAGE 2

	SWP-BK-W1	SWP-GW-1	SWP-GW-2	SWP-GW-4	SWP GW-5	SWP-RB-W	SWP-AW-01
Phenanthrene*	-	-	7.8	0.5	-	-	-
Acenaphthylene*	-	-	-	0.9J	-	-	-
Anthracene*	-	-	-	2J	-	-	-
Fluoranthene*	-	-	-	7.8	-	-	-
Pyrene*	-	-	-	10J	-	-	-
Protect	-	8JN	-	-	-	-	-
Prometon	-	50JN	-	-	-	-	-
Tetrahydrodimethylpyranone	-	20JN	-	-	-	-	-
methylheptanol	-	10JN	-	-	-	-	-
C5 Alkyl Benzene	-	7JN	-	-	-	-	-
Dibenzafuran	-	-	14	8	-	-	-
2-Methyl Naphthalene	-	-	18	-	-	-	-
C3 Alkylbenzene	-	-	100JN	-	-	-	-
Benzothiophene	-	-	20JN	-	-	-	-
Nitrocarbazole	-	-	10JN	-	-	-	-
Tribromophenol	-	-	-	-	-	-	10JN
3 Unidentified Compounds	-	100J	-	-	-	-	-
3 Unidentified Compounds	-	-	30J	-	-	30J	-
2 Unidentified Compounds	-	-	-	-	10JN	-	20J
5 Unidentified Compounds	100J	-	-	-	-	-	-

* Priority pollutant.
\- Material analyzed for but not detected.
J Estimated quantity.
N Presumtive evidence of material.

TABLE 4
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
INORGANIC ANALYSES
SOIL/SEDIMENT SAMPLES
in ug/kg

	SWP-BK-S1	SWP-RB-S	SWP-JA-C1	SWP-LA-C2	SWP-LB-C3	SWP-LC-C4
Arsenic*	-	-	10,000	610,000	10,000	20,000
Copper*	-	-	40,000	620,000	30,000	60,000
Chromium*	-	-	-	390,000	-	10,000
Lead*	6,000	15,000	12,000	150,000	33,000	61,000
Vanadium	-	-	-	20,000	-	-
Zinc*	-	-	-	75,000	20,000	87,000
Mercury*	-	-	-	480	-	450
Aluminum	1,700,000	750,000	2,600,000	4,300,000	2,100,000	1,700,000
Manganese	-	20,000	40,000	100,000	52,000	50,000
Calcium	-	-	4,000,000	12,000,000	6,300,000	2,000,000
Iron	930,000	1,400,000	4,800,000	12,000,000	5,800,000	6,600,000
Cyanide*	430	225	880	410	110	-

* Priority pollutant.
\- Material analyzed for but not detected.

TABLE 5
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
ORGANIC ANALYSES
SOIL/SEDIMENT SAMPLES
in ug/kg

	SWP-BK-S1	SWP-RB-S	SWP-JA-C1	SWP-LA-C2	SWP-LB-C3	SWP-LC-C4
Naphthalene*	-	-	-	1,200	-	-
Isophorone*	80J	60J	-	-	-	-
2-Chloronaphthalene*	24	19	400J	500J	400J	-
Acenaphthylene*	-	30J	-	1,500	1,000J	6,300
Acenaphthene*	-	-	-	-	-	170,000
Fluorene*	-	-	-	-	-	170,000
Phenanthrene*	-	70	4,400	5,400	1,400	390,000
Anthracene*	-	70J	2,000J	5,200	2,000J	170,000
Di-N-Butylphthalate*	-	-	-	-	-	6,500
Fluoranthene*	300J	350	15,000	25,000	10,000	29,000
Pyrene*	500J	300J	12,000	22,000	10,000J	220,000
Benzo(A)Anthracene*	-	78	2,700	11,000	3,900	130,000
Chrysene*	-	160	-	-	7,100	120,000
Benzo(B and/or K)Fluoranthene* (1)	-	110	5,600	14,000	7,300	48,000
Benzo(B and/or K)Fluoranthene* (1)	-	100J	5,600	12,000	6,600	4,500
Benzo-A-Pyrene*	-	90J	4,600	11,000	5,800	37,000
Indeno(1,2,3-CD)Pyrene*	-	-	-	-	-	10,000J
Benzo(GHI)Perylene*	-	-	-	-	-	9,000
Pentachlorophenol*	-	-	-	4,000J	-	150,000
Dimethyheptanone	10,000JN					
Hexadecanoic Acid	20JN					
Acetyloxyhexanone	2,000JN	2,000JN				
Dimethylfuranone	8,000JN	5,000JN				

(1) For Benzol(B and/or K)Fluoranthene, there is no distinction on laboratory data sheets between the two isomers, the above data could represent total concentrations for the two isomers or replicate concentrations of one isomer.

TABLE 5
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
ORGANIC ANALYSES
SOIL/SEDIMENT SAMPLES
in ug/kg
PAGE 2

	SWP-BK-S1	SWP-RB-S	SWP-JA-C1	SWP-LA-C2	SWP-LB-C3	SWP-LC-C4
Dibenzofuran	-	-	300J	900J	300J	110,000
Tetrahydrodimethylpyranone	-	-	7,000JN	-	-	-
Benzo(J)Fluoranthene	-	-	3,000JN	6,000JN	4,000JN	40,000JN
Dimethyltetrahydropyran-2-one	-	-	-	8,000JN	-	-
Benzo(GHI)Fluoranthene	-	-	-	4,000JN	-	-
2-Methyl Naphthalene	-	-	-	-	-	16,000
Ethylideneindene	-	-	-	-	-	10,000JN
Dimethylnaphthalenes	-	-	-	-	-	20,000JN
Xanthene	-	-	-	-	-	20,000JN
Methyldibenzofuran	-	-	-	-	-	40,000JN
Methylfluorene	-	-	-	-	-	20,000JN
Dihydronapthafuran	-	-	-	-	-	8,000JN
Cyclopentaphenathrene	-	-	-	-	-	70,000JN
Benzo(B)Napthothiophene	-	-	-	-	-	40,000JN
11 Unidentified Compounds	200,000J	-	-	-	-	-
1 Unidentified Brominated Compound	5,000J	30,000JN	-	-	-	-
3 Unidentified Hydrocarbons	-	10,000J	-	-	-	-
2 Unidentified Polynuclear Aromatics	-	-	-	5,000J	-	-
2 Unidentified Methylphenanthrenes	-	-	-	-	-	70,000J
2 Unidentified Benzofluorene Compounds	-	-	-	-	-	100,000J
3 Unidentified Methylpyrenes	-	-	-	-	-	60,000J
Fluoratrichloromethane	-	-	-	10JN	10JN	-
Pinene	-	-	-	-	-	7JN
Trimethylcyclohexanone	-	-	-	-	-	6JN

* Priority pollutants.
\- Material analyzed for but not detected.

TABLE 6
SOUTHERN WOOD PIEDMONT SITE
WILMINGTON, NORTH CAROLINA
PESTICIDES AND PCB ANALYSES
SOIL/SEDIMENT SAMPLES
in ug/kg

	SWP-BK-S1	SWP-RB-S	SWP-JA-C1	SWP-LA-C2	SWP-LB-C3	SWP-LC-C4
4,4'-DDE (P,P'-DDE)*	7.4	-	-	-	-	-
4,4'-DDD (P,P'-DDD)*	5.9	-	-	-	-	-

* Priority pollutant.
\- Material analyzed for but not detected.

1985 to 1996 Cape Fear River Surface Water Analytical Summary Table

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	U.S. HIGHWAY #74 BRIDGE																											
	12/85		6/86		1/87		7/87		1/88		6/88		1/89		6/89		1/90		7/90		12/91		6/92		1/93		7/93	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Acenaphthylene	NA	--	NA	--	NA	--	NA	--	NA	--	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Anthracene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Anthracene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Pyrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Chrysene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Dibenzo(a,h)Anthracene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dinitrophenol	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.05	ND	0.05	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Fluoranthene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Indeno(1,2,3-cd)pyrene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Pentachlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Phenanthrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Tetrachlorophenols	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.050	ND	0.050	ND	0.050
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
METALS																												
Arsenic	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Chromium	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Copper	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.025	ND	--	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	U.S. HIGHWAY #74 BRIDGE									
	1/94		7/94		1/95		7/95		1/96	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Acenaphthylene	NA	0.01	NA	0.01	NA	0.01	NA	0.01	NA	0.01
Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chrysene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Dibenzo(a,h)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dinitrophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Indeno(1,2,3-cd)pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Pentachlorophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Phenanthrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Tetrachlorophenols	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
METALS										
Arsenic	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chromium	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Copper	ND	0.025	ND	0.025	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	OLD SUP																											
	12/85		6/86		1/87		7/87		1/88		6/88		1/89		6/89		1/90		7/90		12/91		6/92		1/93		7/93	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Acenaphthylene	NA	--	NA	--	NA	--	NA	--	NA	--	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Anthracene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Anthracene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Pyrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Chrysene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Dibenzo(a,h)Anthracene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dinitrophenol	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.05	ND	0.05	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Fluoranthene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Indeno(1,2,3-cd)pyrene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Pentachlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Phenanthrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Tetrachlorophenols	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.050	ND	0.050	ND	0.050
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
METALS																												
Arsenic	ND	0.01	NA	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Chromium	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.010	ND	0.010	ND	0.010	0.011	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Copper	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	0.02	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.025	ND	--	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	OLD SLIP									
	1/94		7/94		1/95		7/95		1/96	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Acenaphthylene	NA	0.01	NA	0.01	NA	0.01	NA	0.01	NA	0.01
Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chrysene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Dibenzo(a,h)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dinitrophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Indeno(1,2,3-cd)pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Pentachlorophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Phenanthrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Tetrachlorophenols	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
METALS										
Arsenic	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chromium	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Copper	ND	0.025	ND	0.025	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	GREENFIELD CREEK																													
	12/85		6/86		1/87		7/87		1/88		6/88		1/89		6/89		7/89		1/90		7/90		12/91		6/92		1/93		7/93	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Acenaphthylene	NA	--	NA	--	NA	--	NA	--	NA	--	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Anthracene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Anthracene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Pyrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Chrysene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Dibenzo(a,h)Anthracene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dinitrophenol	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.05	ND	0.05	ND	0.050	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Fluoranthene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Indeno(1,2,3-cd)pyrene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.050	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Pentachlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.050	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Phenanthrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Tetrachlorophenols	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.050	ND	0.050	ND	0.050
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
METALS																														
Arsenic	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Chromium	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.046	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Copper	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.052	0.025	ND	--	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	GREENFIELD CREEK									
	1/94		7/94		1/95		7/95		1/96	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Acenaphthylene	NA	0.01	NA	0.01	NA	0.01	NA	0.01	NA	0.01
Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chrysene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Dibenzo(a,h)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dinitrophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Indeno(1,2,3-cd)pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Pentachlorophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Phenanthrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Tetrachlorophenols	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
METALS										
Arsenic	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chromium	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Copper	ND	0.025	ND	0.025	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	STATE PORTS AUTHORITY																											
	12/85		6/86		1/87		7/87		1/88		6/88		1/89		6/89		1/90		7/90		12/91		6/92		1/93		7/93	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Acenaphthylene	NA	--	NA	--	NA	--	NA	--	NA	--	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Anthracene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Anthracene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(a)Pyrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Chrysene	ND	0.01	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Dibenzo(a,h)Anthracene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
2,4-Dinitrophenol	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.05	ND	0.05	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Fluoranthene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Indeno(1,2,3-cd)pyrene	ND	0.02	ND	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Pentachlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.050	ND	0.05	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Phenanthrene	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Tetrachlorophenols	ND	0.01	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.050	ND	0.050	ND	0.050
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010
METALS																												
Arsenic	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Chromium	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	--	ND	0.010	ND	0.010	ND	0.010
Copper	ND	0.01	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.010	ND	0.010	ND	0.010	ND	0.025	ND	--	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

SURFACE WATER SAMPLE PARAMETER SUMMARY TABLE
SEMI-VOLATILES AND METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	STATE PORTS AUTHORITY									
	1/94		7/94		1/95		7/95		1/96	
SEMI-VOLATILES	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Acenaphthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Acenaphthylene	NA	0.01	NA	0.01	NA	0.01	NA	0.01	NA	0.01
Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(a)Pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Benzo(b,k)Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Carbazole	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2-Chlorophenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chrysene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Dibenzo(a,h)Anthracene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dimethylphenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
2,4-Dinitrophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Fluoranthene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Indeno(1,2,3-cd)pyrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Naphthalene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
p-chloro-m-cresol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Pentachlorophenol	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Phenanthrene	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Phenol	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Tetrachlorophenols	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
Trichlorophenols	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
METALS										
Arsenic	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Chromium	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Copper	ND	0.025	ND	0.025	ND	0.025	ND	0.025	ND	0.025

NOTE: R* = Laboratory Result
DL* = Detection Limit
ND = Below Laboratory Detection Limit
NA = Not Analyzed
All units in mg/l

1996 Greenfield Creek Surface Water Analytical Summary Table

1996 Greenfield Creek Surface Water Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	SW1	SW2	SW3	SW4	SW4-Dup	SW5
Semivolatile Organics (8270)							
Naphthalene	0.010	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.010	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.010	ND	ND	ND	ND	ND	ND
Acenaphthene	0.010	ND	ND	ND	ND	ND	ND
Phenanthrene	0.010	ND	ND	ND	ND	ND	ND
Anthracene	0.010	ND	ND	ND	ND	ND	ND
Fluoranthene	0.010	ND	ND	ND	ND	ND	ND
Chrysene	0.010	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.010	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	0.010	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.010	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.010	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.010	ND	ND	ND	ND	ND	ND
2-Chlorophenol	0.010	ND	ND	ND	ND	ND	ND
Phenol	0.010	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.010	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.010	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.010	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	0.050	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.050	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.010	ND	ND	ND	ND	ND	ND
Carbazole	0.010	ND	ND	ND	ND	ND	ND
Tetrachlorophenols	0.050	ND	ND	ND	ND	ND	ND
Dilution factor		1	1	1	1	1	1
* DL = Detection Limit							
All results are in mg/l							

1996 Greenfield Creek Surface Water Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	SW1	SW2	SW3	SW4	SW4-Dup	SW5
Volatiles by GC/MS (8240)							
Chloromethane	0.010	ND	ND	ND	ND	ND	ND
Bromomethane	0.010	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.010	ND	ND	ND	ND	ND	ND
Chloroethane	0.010	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.050	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	0.005	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.010	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	ND	ND	ND	ND
o-Xylene	0.005	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND
Arsenic (6010)	0.010	ND	ND	ND	ND	ND	ND
Chromium (6010)	0.010	ND	ND	ND	ND	ND	ND
Copper (6010)	0.025	ND	ND	ND	ND	ND	ND
* DL = Detection Limit							
All results are in mg/l							

1992 Sediment Analytical Summary Table

1992 SEDIMENT SAMPLE PARAMETER SUMMARY TABLE
METALS
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	SS-1		SS-2		SS-3		SS-4		SS-5		SS-6		SS-7		SS-8		SS-9		SS-10		SS-10A**		SS-11	
METALS	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*	R*	DL*
Arsenic	3.5	1.2	5.2	1.2	ND	1.2	3.6	1.2	1.5	1.2	ND	1.2	2.3	1.2	ND	1.2	ND	1.2	ND	1.2	13.0	1.0	ND	1.2
Chromium	5.5	0.75	14.0	0.75	2.1	0.75	11.0	0.75	5.2	0.75	3.1	0.75	9.2	0.75	4.2	0.75	4.1	0.75	2.6	0.75	38.0	1.0	1.3	0.75
Copper	6.1	0.75	46.0	0.75	8.0	0.75	14.0	0.75	2.4	0.75	2.8	0.75	5.1	0.75	1.9	0.75	4.4	0.75	3.9	0.75	34.0	2.5	1.0	0.75
Lead	14.0	5.0	290.0	5.0	61.0	5.0	25.0	5.0	3.4	1.2	3.1	1.1	6.3	5.0	2.3	1.2	6.9	5.0	6.2	5.0			1.9	5.0

NOTE: All units in mg/kg dw
R = Laboratory Analytical Result
DL = Laboratory Detection Limit
**SS-10A resample for SS-10

1992 SEDIMENT SAMPLE PARAMETER SUMMARY TABLE
VOLATILES
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	SS-1		SS-2		SS-3		SS-4		SS-5		SS-6		SS-7		SS-8		SS-9		SS-10		SS-10A**		SS-11	
VOLATILES	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*
Benzene	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Bromodichloroethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Bromomethane	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.01	ND	0.001
Carbon Tetrachloride	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.005
Chlorobenzene	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Chloroethane	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.01	ND	0.001
2-Chloroethylvinyl Ether	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.05	ND	0.005
Chloroform	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001			ND	0.001
Chloromethane	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.01	ND	0.001
Cis-1,3-Dichloropropene	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.005
Dibromochloromethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
1,2-Dibromomethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001	ND	0.005	ND	0.001	ND	0.005	ND	0.001
Dichlorodifluoromethane	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005
1,1-Dichloroethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.005
1,2-Dichloroethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
1,1-Dichloroethene	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Dichloromethane	0.024	0.001	0.0064	0.001	0.015	0.001	0.017	0.001	0.012	0.001	0.014	0.001	0.059	0.001	0.007	0.001	0.020	0.001	0.008	0.001			0.0068	0.001
1,2-Dichloropropane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Ethyl Benzene	ND	0.001	ND	0.001	ND	0.02	ND	0.001	ND	0.001	ND	0.001	0.15	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Fluorotrichloromethane	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.001
M/P-Xylene	0.0025	0.001	ND	0.001	ND	0.02	0.001	0.001	0.0011	0.001	0.0014	0.001	0.084	0.001	ND	0.001	0.0071	0.001	ND	0.001	ND	0.005	ND	0.005
Methyl-T-Butyl Ether (Mtbe)	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.05	ND	0.001
o-Xylene	0.0011	0.001	ND	0.001	ND	0.02	ND	0.001	ND	0.001	ND	0.001	0.069	0.001	ND	0.001	0.0075	0.001	ND	0.001	ND	0.005	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Toluene	0.0024	0.001	ND	0.001	ND	0.001	ND	0.001	0.0013	0.001	0.0034	0.001	0.016	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Trans-1,2-Dichloroethylene	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
1,1,1-Trichloroethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
1,1,2-Trichloroethane	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Trichloroethene	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.005	ND	0.001
Vinyl Chloride	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.01	ND	0.005

NOTE: DL = Laboratory Detection Limit

All units in mg/kg dw

**SS-10A resample for SS-10

1992 SEDIMENT SAMPLE PARAMETER SUMMARY TABLE
SEMI–VOLATILES
SOUTHERN WOOD PIEDMONT FACILITY
WILMINGTON, NORTH CAROLINA

	SS–1		SS–2		SS–3		SS–4		SS–5		SS–6		SS–7		SS–8		SS–9		SS–10		SS–10A**		SS–11	
SEMI–VOLATILES	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*	RESULT	DL*
Acenaphthene	0.51	0.33	ND	0.33	ND	0.33	0.59	0.33	4.4	0.33	2.9	0.33	44.0	0.33	1.0	0.33	32.0	0.33	ND	0.33	3.3	0.33	ND	0.33
Anthracene	ND	0.33	ND	0.33	ND	0.33	ND	0.33	45.0	0.33	36.0	0.33	10.0	0.33	ND	0.33	49.0	0.33	ND	0.33	ND	0.33	ND	0.33
Benzo(a)Anthracene	1.1	0.33	0.54	0.33	ND	0.33	1.1	0.33	5.8	0.33	7.4	0.33	3.2	0.33	ND	0.33	26.0	0.33	730.0	0.33	7.3	0.33	ND	0.33
Benzo(a)Pyrene	0.42	0.33	ND	0.33	ND	0.33	2.0	0.33	3.1	0.33	1.9	0.33	0.64	0.33	ND	0.33	9.0	0.33	680.0	0.33	2.6	0.33	ND	0.33
Benzo(b)Fluoranthene	ND	0.33	0.75	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	15.0	0.33	1800.0	0.33	6.0	0.33	ND	0.33
Benzo(k)Fluoranthene	1.5	0.33	ND	0.33	ND	0.33	4.9	0.33	3.80	0.33	3.6	0.33	1.2	0.33	ND	0.33	ND	0.33	ND	0.33	2.1	0.33	ND	0.33
Bis(2–Chloroethyl)Ether	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Carbazole	ND	0.33	ND	0.33	ND	0.33	ND	0.33	18.0	0.33	4.4	0.33	17.0	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
4–Chloro–3–Methylphenol	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
2–Chlorophenol	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Chrysene	1.1	0.33	0.53	0.33	ND	0.33	1.6	0.33	4.5	0.33	5.5	0.33	1.90	0.33	ND	0.33	22.0	0.33	920.0	0.33	9.0	0.33	ND	0.33
Dibenzo(a,h)Anthracene	ND	0.33	ND	0.33	ND	0.33	3.7	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	0.94	0.33	ND	0.33	ND	0.33	ND	0.33
2,4–Dimethylphenol	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
2,4–Dinitrophenol	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.70	ND	1.60
Fluoranthene	3.8	0.33	0.87	0.33	ND	0.33	1.6	0.33	38.0	0.33	52.0	0.33	26.0	0.33	ND	0.33	130.0	0.33	1300.0	0.33	15.0	0.33	ND	0.33
Indeno(1,2,3–cd)Pyrene	ND	0.33	ND	0.33	ND	0.33	2.0	0.33	0.67	0.33	0.72	0.33	ND	0.33	ND	0.33	3.4	0.33	680.0	0.33	ND	0.33	ND	0.33
Naphthalene	ND	0.33	ND	0.33	ND	0.33	ND	0.33	1.8	0.33	ND	0.33	44.0	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Pentachlorophenol	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.60	ND	1.70	ND	1.60
Phenanthrene	1.5	0.33	0.56	0.33	ND	0.33	ND	0.33	42.0	0.33	36.0	0.33	55.0	0.33	ND	0.33	70.0	0.33	ND	0.33	ND	0.33	ND	0.33
Phenol	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Tetrachlorophenol	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	1.70	ND	0.33
2,4,5–Trichlorophenol	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	1.70	ND	0.33
2,4,6–Trichlorophenol	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33

NOTE: DL = Laboratory Detection Limit

All units in mg/kg dw

**SS–10A resample for SS–10

1996 Sediment Analytical Summary Table

1996 Sediment Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	SS-12	SS-12 DUP	SS-13	SS14	SS15	SS16	SS16-Dup	SS17	SS18	SS19	SS20	SS21	SS22	SS23	SS24
Semivolatile Organics (8270)																
Naphthalene	0.330	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	0.330	1.8	1.9	ND	24	ND	ND	ND	ND	1.1	ND	ND	11	ND	ND	ND
Phenanthrene	0.330	ND	ND	ND	40	ND	ND	ND	ND	ND	19	ND	31	ND	ND	ND
Anthracene	0.330	1.1	ND	ND	13	ND	ND	ND	ND	2.2	20	ND	40	1.8	17	ND
Fluoranthene	0.330	6.8	6	10	22	1.1	3	3.2	4.7	7.5	60	2.6	54	2.9	55	ND
Chrysene	0.330	2.4	1.6	3	5.7	1.2	1.2	1.2	1.4	1.6	15	ND	18	ND	ND	ND
Benzo(a)anthracene	0.330	1.9	1.4	2.3	6.4	1.4	ND	ND	1.3	1.7	12	ND	13	ND	ND	ND
Benzo(b)fluoranthene	0.330	2	1.5	2.2	6.6	1.8	ND	1.4	1.6	ND	11	ND	11	ND	ND	ND
Benzo(k)fluoranthene	0.330	ND	ND	ND	ND	ND	1.6	ND	ND	ND	5.5	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.330	0.99	0.73	ND	6.3	1.3	ND	ND	ND	ND	5.9	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	0.330	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.7	ND	15	ND	ND	ND
Tetrachlorophenols	1.700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dilution factor	1.000	1	1	1	10	1	1	1	1	1	4	1	10	1	10	1
*DL = Detection limit																
All results are in mg/kg dw																

1996 Sediment Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	SS-12	SS-12 DUP	SS-13	SS14	SS15	SS16	SS16-Dup	SS17	SS18	SS19	SS20	SS21	SS22	SS23	SS24
Volatiles by GC/MS (8240)																
Chloromethane	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	0.065	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	0.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	0.005	ND	ND	ND	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (6010)	1.000	4.4	4.9	ND	4.9	6	10	12	11	8.6	10	9.7	9.8	6.3	5	7.6
Chromium (6010)	1.000	2.4	2.4	ND	6.8	19	49	47	65	30	57	37	52	25	19	26
Copper (6010)	2.500	11	13	16	74	15	32	31	48	17	40	23	42	19	15	12
Percent Solids (160.3)	%	51	49	25	67	51	29	29	29	31	29	25	32	26	34	29
*DL = Detection limit																
All results are in mg/kg dw																

ATTACHMENT F

QA/QC DATA

Equipment and Trip Blanks Analytical Summary Table

1996 Field Quality Control/Quality Assurance Analytical Summary Table
Semi-Volatiles
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	Equip B-PDA	Equip B-LF	Equip B-SS	Equip B-CF
SAMPLE DATE		02/14/96	02/15/96	02/15/96	02/15/96
MATRIX	WATER	WATER	WATER	WATER	WATER
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether	0.01	ND	ND	ND	ND
Naphthalene	0.01	ND	ND	ND	ND
Acenaphthylene	0.01	ND	ND	ND	ND
Acenaphthene	0.01	ND	ND	ND	ND
Phenanthrene	0.01	ND	ND	ND	ND
Anthracene	0.01	ND	ND	ND	ND
Fluoranthene	0.01	ND	ND	ND	ND
Chrysene	0.01	ND	ND	ND	ND
Benzo(a)anthracene	0.01	ND	ND	ND	ND
Benzo(b)fluoranthene	0.01	ND	ND	ND	ND
Benzo(k)fluoranthene	0.01	ND	ND	ND	ND
Benzo(a)pyrene	0.01	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.01	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.01	ND	ND	ND	ND
2-Chlorophenol	0.01	ND	ND	ND	ND
Phenol	0.01	ND	ND	ND	ND
2,4-Dimethylphenol	0.01	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.01	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.01	ND	ND	ND	ND
2,4-Dinitrophenol	0.05	ND	ND	ND	ND
Pentachlorophenol	0.05	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.01	ND	ND	ND	ND
Carbazole	0.01	ND	ND	ND	ND
Tetrachlorophenols	0.05	ND	ND	ND	ND
Dilution factor		1	1	1	1
* DL= Detection limit					
All results are in mg/l					

1996 Field Quality Control/Quality Assurance Analytical Summary Table
Volatiles and Metals
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	DL*	Equip B-PDA	Equip B-LF	Equip B-SS	Equip B-CF	Trip Blank	Trip Blank
SAMPLE DATE		02/14/96	02/15/96	02/15/96	02/15/96	2/14/96	2/15/96
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Volatiles by GC/MS (8240)							
Chloromethane	0.01	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.01	ND	ND	ND	ND	ND	ND
Chloroethane	0.01	ND	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane)	0.005	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.005	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.005	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.005	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.005	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.005	ND	ND	ND	ND	ND	ND
Trichloroethene	0.005	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.005	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.005	ND	ND	ND	ND	ND	ND
Benzene	0.005	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.005	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	0.05	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND	ND
1,2-Dibromomethane	0.005	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.005	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.01	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND
m&p-Xylene	0.005	ND	ND	ND	ND	ND	ND
o-Xylene	0.005	ND	ND	ND	ND	ND	ND
Arsenic (6010)	0.01	ND	ND	ND	ND		
Chromium (6010)	0.01	ND	ND	ND	ND		
Copper (6010)	0.025	ND	ND	ND	ND		
*DL = Detection limit							
All results are in mg/l							

Waste Characterization Sample Summary Table

1996 Waste Characterization Analytical Summary Table
Southern Wood Piedmont Company, City of Wilmington, and North Carolina State Ports Authority
Wilmington, North Carolina Facility

SAMPLE ID	Detection Limits	Drum (#13622)
Semivolatile Organics (8270)	(mg/l)	(mg/l)
Naphthalene	0.01	1.5
bis(2-Chloroethyl)ether	0.01	ND
Acenaphthylene	0.01	ND
Acenaphthene	0.01	1
Phenanthrene	0.01	2.2
Anthracene	0.01	0.33
Fluoranthene	0.01	1.4
Chrysene	0.01	0.22
Benzo(a)anthracene	0.01	0.24
Benzo(b)fluoranthene	0.01	ND
Benzo(k)fluoranthene	0.01	ND
Benzo(a)pyrene	0.01	ND
Indeno(1,2,3-cd)pyrene	0.01	ND
Dibenzo(a,h)anthracene	0.01	ND
2-Chlorophenol	0.01	ND
Phenol	0.01	ND
2,4-Dimethylphenol	0.01	ND
2,4,6-Trichlorophenol	0.01	ND
4-Chloro-3-methylphenol	0.01	ND
2,4-Dinitrophenol	0.05	ND
Pentachlorophenol	0.05	ND
2,4,5-Trichlorophenol	0.01	ND
Carbazole	0.01	ND
Tetrachlorophenols	0.05	ND
Dilution factor	0.01	20
Volatiles by GC/MS (8240)		
Chloromethane	0.01	ND
Bromomethane	0.01	ND
Vinyl chloride	0.01	ND
Chloroethane	0.01	ND
Methylene chloride (Dichloromethan	0.005	ND
1,1-Dichloroethene	0.005	ND
1,1-Dichloroethane	0.005	ND
trans-1,2-Dichloroethylene	0.005	ND
1,2-Dichloroethane	0.005	ND
1,1,1-Trichloroethane	0.005	ND
Carbon tetrachloride	0.005	ND
Bromodichloromethane	0.005	ND
1,1,2,2-Tetrachloroethane	0.005	ND
1,2-Dichloropropane	0.005	ND
Trichloroethene	0.005	ND
Dibromochloromethane	0.005	ND
1,1,2-Trichloroethane	0.005	ND
Benzene	0.005	ND
cis-1,3-Dichloropropene	0.005	ND
2-Chloroethylvinyl ether	0.05	ND
Toluene	0.005	ND
Chlorobenzene	0.005	ND
Ethylbenzene	0.005	ND
1,2-Dibromoethane (EDB)	0.005	ND
Methyl tert-butyl ether (MTBE)	0.01	ND
m&p-Xylene	0.005	ND
o-Xylene	0.005	ND
Trichlorofluoromethane	0.005	ND
Dichlorodifluoromethane	0.005	ND
Arsenic (6010)	0.01	0.11
Chromium (6010)	0.01	0.14
Copper (6010)	0.025	0.35

ATTACHMENT G

ANALYTICAL DATA

Site Specific Wood-Preservative Constituent List

SITE-SPECIFIC WOOD-PRESERVATIVE CONSTITUENT LIST
SOUTHERN WOOD PIEDMONT COMPANY, CITY OF WILMINGTON,
& NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

SEMI-VOLATILE ORGANIC COMPOUNDS
USEPA METHOD 8270

Acenaphthene	Acenaphthylene
Anthracene	Benzo(a)anthracene
Benzo(a)pyrene	Benzo(b)fluoranthene
Benzo(k)fluoranthene	Bis(2-chloroethyl)ether
Carbazole	4-chloro-3-methylphenol
Chrysene	2-chlorophenol
Dibenzo(a,h)anthracene	2,4-dimethylphenol
2,4-dinitrophenol	Fluoranthene
Indeno(1,2,3-cd)pyrene	Naphthalene
Pentachlorophenol	Phenanthrene
Phenol	2,4,5-trichlorophenol
Tetrachlorophenols	2,4,6-trichlorophenol

SITE-SPECIFIC WOOD-PRESERVATIVE CONSTITUENT LIST cont.

VOLATILES ORGANIC COMPOUNDS
USEPA METHOD 8240

Benzene
Bromomethane
Chlorobenzene
2-chloroethylvinylether
Cis-1,3-dichloropropene
1,2-dibromomethane (Edb)
1,1-dichloroethane
1,1-dichloroethene
1,2-dichloropropane
Fluorotrichloromethane
Methyl-T-Butyl Ether (MTBE)
1,1,2,2-tetrachloroethane
Trans-1,2-dichloroethene
1,1,2-trichloroethane
Vinyl Chloride
Bromodichloromethane
Carbon Tetrachloride
Chloroethane
Chloromethane
Dibromochloromethane
Dichlorodifluoromethane
1,2-dichloroethane
Dichloromethane
Ethyl benzene
M/P-Xylene
O-Xylene
Toluene
1,1,1-trichloroethane
Trichloroethene

METALS
USEPA METHOD 6010

Arsenic
Copper
Chromium

Site Specific Landfarm Constituent List

LANDFARM WOOD-PRESERVATIVE CONSTITUENT LIST
SOUTHERN WOOD PIEDMONT COMPANY, CITY OF WILMINGTON,
AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

SEMI-VOLATILE ORGANIC COMPOUNDS
USEPA METHOD 8270

Acenaphthene	Acenaphthylene
Anthracene	Benzo(a)anthracene
Benzo(b)fluoranthene	Benzo(k)fluoranthene
Benzo(a)pyrene	Biz(2-chloroethyl)ether
Benzo(g,h,i)perylene	1,1-Biphenyl
Carbazole	Chrysene
2-chlorophenol	Dibenzo(a,h)anthracene
Dibenzofuran	2,4-dimethylphenol
2,4-dinitrophenol	Fluoranthene
Fluorene	Indeno(1,2,3-cd)pyrene
Naphthalene	1-Methylnaphthalene
2-Methylnaphthalene	o-Cresol
p-Chloro-m-cresol	Pentachlorophenol
Phenanthrene	Phenol
Pyrene	Tetrachlorophenols
2,4,5-Trichlorophenols	2,4,6-Trichlorophenols

METALS
USEPA METHOD 6010

Arsenic	Chromium
Copper	

LANDFARM WOOD-PRESERVATIVE CONSTITUENT LIST cont.

NITROGEN SERIES

Total Kjeldahl Nitrogen-N (Method 3-202)
Nitrate + Nitrite-N (Method EPACE 3-183)
Total Nitrogen

NUTRIENTS

Total Phosphorus (Method 365.4)
Chloride (Method 9251)
Total Organic Carbon (415.1)
pH (Method 9045)

Site Specific Dioxin and Furan Constituent List

SITE-SPECIFIC DIOXIN AND FURAN CONSTITUENT LIST
SOUTHERN WOOD PIEDMONT COMPANY, CITY OF WILMINGTON, AND NORTH CAROLINA STATE PORTS AUTHORITY
WILMINGTON, NORTH CAROLINA FACILITY

DIOXINS (USEPA METHOD 8290)

Tetrachlorodibenzodioxins (total)	TCDDs total
2,3,7,8-Tetrachlorodibenzodioxin	2,3,7,8-TCDD
Pentachlorodibenzodioxins (total)	PeCDDs (total)
1,2,3,7,8-Pentachlorodibenzodioxin	1,2,3,7,8-PeCDD
Hexachlorodibenzodioxins (total)	HxCDDs (total)
1,2,3,4,7,8-Hexachlorodibenzodioxin	1,2,3,4,7,8-HxCDD
1,2,3,6,7,8-Hexachlorodibenzodioxin	1,2,3,6,7,8-HxCDD
1,2,3,7,8,9-Hexachlorodibenzodioxin	1,2,3,7,8,9-HxCDD
Heptachlorodibenzodioxins (total)	HpCDDs (total)
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	1,2,3,4,6,7,8-HpCDD
Octachlorodibenzodioxins (total)	OCDD

FURANS (USEPA METHODS 8290)

Tetrachlorodibenzofurans (total)	TCDFs total
2,3,7,8-Tetrachlorodibenzofuran	2,3,7,8-TCDF
Pentachlorodibenzofurans (total)	PeCDFs (total)
1,2,3,7,8-Pentachlorodibenzofuran	1,2,3,7,8-PeCDF
2,3,4,7,8-Pentachlorodibenzofuran	2,3,4,7,8-PeCDF
Hexachlorodibenzofurans (total)	HxCDFs (total)
1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,4,7,8-HxCDF
1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-HxCDF
2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,6,7,8-HxCDF
1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8,9-HxCDD
Heptachlorodibenzofurans (total)	HpCDFs (total)
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,6,7,8-HpCDF
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8,9-HpCDF
Octachlorodibenzofurans (total)	OCDF

1996 Soil, Surface Water, and Sediment Analytical Reports

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STATE OF NORTH CAROLINA DEPARTMENT OF THE ENVIRONMENT, HEALTH & NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL MANAGEMENT LABORATORY CERTIFICATION PROGRAM

In accordance with the provisions of N.C.G.S. 143-215.3 (a) (1), 143-215.3 (a)(10) and NCAC 2H .0800:

SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

Is hereby certified to perform wastewater analyses (as listed on inorganics attachment I or organics attachment II) and report monitoring data to DEM for compliance with NPDES effluent, surface water, groundwater, and pretreatment regulations.

This certificate does not guarantee validity of data generated, but indicates the methodology, equipment, quality control procedures, records, and proficiency of the laboratory have been examined and found to be acceptable.

This certificate shall be valid until DECEMBER 31, 1997

Certificate No. 269

Bernard R. Shaw, PhD
Chief, Laboratory Section

ATTACHMENT I
NORTH CAROLINA WASTEWATER/GROUNDWATER LABORATORY CERTIFICATION
CERTIFIED PARAMETERS LISTING

INORGANICS

LABORATORY NAME:	SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES INC.	CERTIFICATE NUMBER:	269
STREET:	P.O. BOX 13548	EFFECTIVE DATE:	JANUARY 1, 1996
CITY/STATE/ZIP:	SAVANNAH, GA 31316-0548	EXPIRATION DATE:	DECEMBER 31, 1997

The above named laboratory, having duly met the requirements of 15A NCAC 2H .0800, is hereby certified for the measurement of the parameters listed below that are preceded by an (X).

(X) BOD	METALS GROUP II, REGULAR LEVEL	(X) TOTAL PHOSPHORUS
(X) COD	(X) ANTIMONY	(X) ORTHOPHOSPHATE
(X) CHLORIDE	(X) SILVER	(X) OIL & GREASE - WATER
(X) CHLORINE, TOTAL RESIDUAL	(X) THALLIUM	(X) OIL & GREASE - EPA 9071
( ) COLIFORM, FECAL MF	METALS GROUP I, LOW LEVEL	(X) pH
( ) COLIFORM, TOTAL MF	(X) ALUMINUM	(X) PHENOLS
( ) COLIFORM, FECAL TUBE	(X) ARSENIC	(X) RESIDUE, SETTLEABLE
( ) COLIFORM, TOTAL TUBE	(X) BERYLLIUM	(X) RESIDUE, TOTAL
(X) COLOR, PLATINUM COBALT	(X) CADMIUM	(X) RESIDUE, DISSOLVED 180 C
( ) COLOR, ADMI	(X) CHROMIUM, TOTAL	(X) RESIDUE, SUSPENDED
( ) CONDUCTIVITY	(X) COBALT	(X) SULFATE
(X) CYANIDE	(X) COPPER	(X) SULFIDE
(X) FLUORIDE	(X) IRON	(X) SULFITE
(X) HARDNESS, TOTAL	(X) LEAD	(X) TOTAL ORGANIC CARBON
(X) MBAS	(X) MANGANESE	(X) TURBIDITY
METALS I, REGULAR LEVEL	(X) NICKEL	(X) TCLP EPA METHOD 1311
(X) ALUMINUM	(X) SELENIUM	(X) TCLP METALS
(X) ARSENIC	(X) VANADIUM	(X) TCLP ORGANICS
(X) BERYLLIUM	(X) ZINC	
(X) CADMIUM	METALS GROUP II, LOW LEVEL	
(X) CHROMIUM, TOTAL	(X) ANTIMONY	
(X) COBALT	(X) SILVER	
(X) COPPER	(X) THALLIUM	DATES OF AMENDMENTS
(X) IRON	(X) BARIUM	APRIL 17, 1996
(X) LEAD	(X) MERCURY	
(X) MANGANESE	(X) AMMONIA NITROGEN	
(X) NICKEL	(X) TOTAL KJELDAHL NITROGEN	
(X) SELENIUM	(X) NO_2 + NO_3 NITROGEN	
(X) VANADIUM	(X) NITRATE NITROGEN	
(X) ZINC	(X) NITRITE NITROGEN	

This certification requires maintenance of an acceptable quality assurance program, use of approved methodology, and satisfactory performance on evaluation samples. Laboratories are subject to civil penalties and/or decertification for infractions as set forth in 15A NCAC 2H.0807.

ATTACHMENT II

NORTH CAROLINA WASTEWATER/GROUNDWATER LABORATORY CERTIFICATION

CERTIFIED PARAMETERS LISTING

ORGANICS

Laboratory Name: SAVANNAH LABORATORIES AND ENVVIRONMENTAL SERVICES, INC.
Address: P.O. BOX 13548
City/State/Zip: SAVANNAH, GA 31316-0548

Certificate No. 252
Effective Date: January 1, 1995
Expiration Date: December 31, 1997

The above named laboratory, having duly met the requirements of 15A NCAC 2H .0800, is hereby certified for the measurement of the parameters listed below that are preceded by an (X).

(X) PURGEABLE HALOCARBONS	(X) ORGANOCHLORINE PESTICIDES & PCBs	(X) BASE NEUTRAL/ACID ORGANICS
(X) EPA 601	(X) EPA 608	(X) EPA 625
( ) STANDARD METHODS 6230B	( ) STANDARD METHOD 6630B	( ) EPA 1625
( ) STANDARD METHODS 6230D	( ) STANDARD METHOD 6630C	( ) STANDARD METHODS 6410C
(X) EPA 5030 + 8010	(X) EPA 8080 + 3500 SERIES	( ) EPA 8250 + 3500 SERIES
( ) EPA 5030 + 8021	( ) EPA 8081 + 3500 SERIES	(X) EPA 8270 + 3500 SERIES
(X) PURGEABLE AROMATICS	(X) NITROAROMATICS & ISOPHORONE	(X) CHLORINATED ACID HERBICIDES
(X) EPA 602	(X) EPA 609	(X) STANDARD METHODS 6088
( ) STANDARD METHODS 6230B	(X) EPA 8090 + 3500 SERIES	( ) STANDARD METHODS 6640B
( ) STANDARD METHODS 6230D	(X) POLYNUCLEAR AROMATICS HYDROCARBONS	(X) EPA 8150 + 3500 SERIES
(X) EPA 5030 + 8020	(X) EPA 610	( ) EPA 8151 + 3500 SERIES
( ) EPA 5030 + 8021	( ) STANDARD METHOD 6440B	(X) ORGANOPHOSPHORUS PESTICIDES
(X) ACROLEIN, ACRYLONITRILE, ACETONITRILE	(X) EPA 8100 + 3500 SERIES	(X) EPA 8140 + 3500 SERIES
(X) EPA 603	( ) HALOETHERS	( ) EPA 8141 + 3500 SERIES
(X) EPA 5030 + 8030	( ) EPA 611	(X) TOTAL PETROLEUM HYDROCARBONS (TPH) CALIFORNIA METHOD
(X) PHENOLS	( ) EPA 8110 + 3500 SERIES	(X) GASOLINE RANGE
(X) EPA 604	( ) CHLORINATED HYDROCARBONS	(X) DIESEL RANGE
( ) STANDARD METHODS 6420B	( ) EPA 612	(X) NONHALOGENATED VOLATILE
(X) EPA 8040 + 3500 SERIES	( ) EPA 8120 + 3500 SERIES	ORGANICS EPA 8015A
( ) BENZIDINES EPA 605	( ) EPA 8121 + 3500 SERIES	( ) N-METHYLCARBAMATES
( ) PHTHALATE ESTERS	(X) PURGEABLE ORGANICS	( ) EPA 8318
( ) EPA 606	(X) EPA 624	( ) EPA 632
( ) EPA 8060 + 3500 SERIES	( ) EPA 1624	(X) 1,2, DIBROMOETHANE (EDB) EPA 504
( ) EPA 8061 + 3500 SERIES	( ) STANDARD METHODS 6210B	
( ) NITROSAMINES	( ) STANDARD METHODS 6210D	AMENDED DATES
( ) EPA 607	(X) EPA 5030 + 8240	
( ) EPA 8070 + 3500 SERIES	(X) EPA 5030 + 8260	

This certification requires maintenance of an acceptable quality assurance program, use of approved methodology, and satisfactory performance on evaluation samples. Laboratories are subject to civil penalties and/or decertification for infractions as set forth in 15A NCAC 2H.0807.

LC-218 11/92

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80422
Received: 24 JAN 96
Reported: 02 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80422-1	Greenfield Creek Cape Fear River # 80 (# 13514)	01-22-96

PARAMETER	80422-1
K001 (Method 8270)	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
Trichlorophenols, mg/l	ND
4-Chloro-m-cresol, mg/l	ND
Tetrachlorophenols, mg/l	ND
2,4-Dinitrophenol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Acenaphthylene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80422
Received: 24 JAN 96
Reported: 02 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80422-2	Method Blank
80422-3	Detection Limits
80422-4	Accuracy (mean % recovery)
80422-5	Precision (% RPD)
80422-6	Analyst Initials

PARAMETER	80422-2	80422-3	80422-4	80422-5	80422-6
K001 (Method 8270)					
Chlorophenol, mg/l	ND	0.010	82 %	4 %	CJR
Phenol, mg/l	ND	0.010	87 %	2 %	CJR
2,4-Dimethylphenol, mg/l	ND	0.010	90 %	1 %	CJR
Trichlorophenols, mg/l	ND	0.010	88 %	0 %	CJR
p-Chloro-m-cresol, mg/l	ND	0.010	90 %	2 %	CJR
Tetrachlorophenols, mg/l	ND	0.050	60 %	2 %	CJR
2,4-Dinitrophenol, mg/l	ND	0.050	135 %	7 %	CJR
Pentachlorophenol, mg/l	ND	0.050	90 %	3 %	CJR
Naphthalene, mg/l	ND	0.010	72 %	4 %	CJR
Acenaphthene, mg/l	ND	0.010	87 %	2 %	CJR
Acenaphthylene, mg/l	ND	0.010	87 %	2 %	CJR
Phenanthrene, mg/l	ND	0.010	93 %	4 %	CJR
Anthracene, mg/l	ND	0.010	94 %	3 %	CJR
Fluoranthene, mg/l	ND	0.010	83 %	7 %	CJR
Chrysene, mg/l	ND	0.010	105 %	10 %	CJR
Benzo(a)Anthracene, mg/l	ND	0.010	99 %	2 %	CJR
Benzo(b,k)fluoranthene, mg/l	ND	0.010	90 %	5 %	CJR
Benzo(a)pyrene, mg/l	ND	0.010	88 %	1 %	CJR
Indeno(1,2,3-cd)pyrene, mg/l	ND	0.010	94 %	5 %	CJR
Dibenzo(a,h)anthracene, mg/l	ND	0.010	92 %	3 %	CJR
Carbazole, mg/l	ND	0.010	78 %	4 %	CJR
Dilution factor	1	1	---	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80422
Received: 24 JAN 96
Reported: 02 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80422-7	EPA Method Numbers
80422-8	Dates Extracted
80422-9	Dates Analyzed

PARAMETER	80422-7	80422-8	80422-9
K001 (Method 8270)			
2-Chlorophenol	8270	01.25.96	1.29/30.96
Phenol	8270	01.25.96	1.29/30.96
2,4-Dimethylphenol	8270	01.25.96	1.29/30.96
Trichlorophenols	8270	01.25.96	1.29/30.96
p-Chloro-m-cresol	8270	01.25.96	1.29/30.96
Tetrachlorophenols	8270	01.25.96	1.29/30.96
2,4-Dinitrophenol	8270	01.25.96	1.29/30.96
Pentachlorophenol	8270	01.25.96	1.29/30.96
Naphthalene	8270	01.25.96	1.29/30.96
Acenaphthene	8270	01.25.96	1.29/30.96
Acenaphthylene	8270	01.25.96	1.29/30.96
Phenanthrene	8270	01.25.96	1.29/30.96
Anthracene	8270	01.25.96	1.29/30.96
Fluoranthene	8270	01.25.96	1.29/30.96
Chrysene	8270	01.25.96	1.29/30.96
Benzo(a)Anthracene	8270	01.25.96	1.29/30.96
Benzo(b,k)fluoranthene	8270	01.25.96	1.29/30.96
Benzo(a)pyrene	8270	01.25.96	1.29/30.96
Indeno(1,2,3-cd)pyrene	8270	01.25.96	1.29/30.96
Dibenzo(a,h)anthracene	8270	01.25.96	1.29/30.96
Carbazole	8270	01.25.96	1.29/30.96

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D., Project Manager

Serial Number 39799

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

[X] 5102 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
[ ] 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
[ ] 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
[ ] 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
[ ] 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
[ ] 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE:
PROJECT NO.:
P.O. NUMBER:
PROJECT LOC. (State): NC
SAMPLER(s) NAME: Henry Phillips
PHONE: 1-910-791-2706
FAX: 1-910-791-2706
CLIENT NAME: Southern Wood Piedmont
CLIENT PROJECT MANAGER: H. Phillips
CLIENT ADDRESS (CITY, STATE, ZIP): 214 Windemere Rd, Wilmington NC 28405-4026

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMI-SOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: K001

PAGE 1 OF 1

[X] STANDARD REPORT DELIVERY
[ ] EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS SUBMITTED	REMARKS
1/22/96	8:00 AM		GREENFIELD CREEK AT CAPE FEAR RIVER	2 L N/M GLASS W/TFE	
1-22-96			Sample No. 80		
			Log No. 13514		
			Both Bottles - ORANGE SPOT NO PRESERVATIVE		

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	1/17	4:10	H. Phillips	1/22/96	AM			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
H. Phillips	1/19/96	3:30 PM						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
A. Campbell	1/24/96	10:00	[X] YES [ ] NO		8024221	

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80296
Received: 17 JAN 96
Reported: 05 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80296-1	State Port Authority C/F River # 76 (# 13480)	01-15-96
80296-2	SWP Old Slip C/F River # 78 (# 13482)	01-15-96
80296-3	US 74 Hwy New Bridge C/F River # 79 (# 13483)	01-15-96

PARAMETER	80296-1	80296-2	80296-3
KO01 (Method 8270)			
Chlorophenol, mg/l	ND	ND	ND
henol, mg/l	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND
Trichlorophenols, mg/l	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND
Tetrachlorophenols, mg/l	ND	ND	ND
2,4-Dinitrophenol, mg/l	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND
Acenaphthylene, mg/l	ND	ND	ND
Phenanthrene, mg/l	ND	ND	ND
Anthracene, mg/l	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND
Chrysene, mg/l	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND
Carbazole, mg/l	ND	ND	ND
Dilution factor	1.0	1.0	1.0
Arsenic (6010), mg/l	ND	ND	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80296
Received: 17 JAN 96
Reported: 05 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80296-4	Greenfield Creek C/F River # 77 (# 13481)	01-15-96

PARAMETER	80296-4
Arsenic (6010), mg/l	ND
Chromium (6010), mg/l	ND
Copper (6010), mg/l	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80296
Received: 17 JAN 96
Reported: 05 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80296-5	Method Blank
80296-6	Detection Limits
80296-7	Accuracy (mean % recovery)
80296-8	Precision (% RPD)
80296-9	Analyst Initials

PARAMETER	80296-5	80296-6	80296-7	80296-8	80296-9
[illegible]1 (Method 8270)					
[illegible]Chlorophenol, mg/l	ND	0.010	64 %	8 %	LH
Phenol, mg/l	ND	0.010	66 %	2 %	LH
2,4-Dimethylphenol, mg/l	ND	0.010	66 %	4 %	LH
Trichlorophenols, mg/l	ND	0.010	62 %	5 %	LH
p-Chloro-m-cresol, mg/l	ND	0.010	72 %	6 %	LH
Tetrachlorophenols, mg/l	ND	0.050	42 %	7 %	LH
2,4-Dinitrophenol, mg/l	ND	0.050	87 %	21 %	LH
Pentachlorophenol, mg/l	ND	0.050	58 %	3 %	LH
Naphthalene, mg/l	ND	0.010	52 %	2 %	LH
Acenaphthene, mg/l	ND	0.010	60 %	7 %	LH
Acenaphthylene, mg/l	ND	0.010	62 %	8 %	LH
Phenanthrene, mg/l	ND	0.010	62 %	2 %	LH
Anthracene, mg/l	ND	0.010	64 %	2 %	LH
Fluoranthene, mg/l	ND	0.010	64 %	5 %	LH
Chrysene, mg/l	ND	0.010	69 %	3 %	LH
Benzo(a)Anthracene, mg/l	ND	0.010	66 %	4 %	LH
Benzo(b,k)fluoranthene, mg/l	ND	0.010	61 %	4 %	LH
Benzo(a)pyrene, mg/l	ND	0.010	61 %	3 %	LH
Indeno(1,2,3-cd)pyrene, mg/l	ND	0.010	60 %	8 %	LH
Dibenzo(a,h)anthracene, mg/l	ND	0.010	58 %	12 %	LH
Carbazole, mg/l	ND	0.010	62 %	5 %	LH
Dilution factor	1.0	1.0	---	---	LH

SL *SAVANNAH LABORATORIES*
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80296
Received: 17 JAN 96
Reported: 05 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80296-5	Method Blank
80296-6	Detection Limits
80296-7	Accuracy (mean % recovery)
80296-8	Precision (% RPD)
80296-9	Analyst Initials

PARAMETER	80296-5	80296-6	80296-7	80296-8	80296-9
Arsenic (6010), mg/l	ND	0.010	86 %	5.8 %	DM
Chromium (6010), mg/l	ND	0.010	93 %	6.5 %	DM
Copper (6010), mg/l	ND	0.025	88 %	5.6 %	DM

SL SAVANNAH LABORATORIES
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02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80296
Received: 17 JAN 96
Reported: 05 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80296-10	EPA Method Numbers
80296-11	Dates Extracted
80296-12	Dates Analyzed

PARAMETER	80296-10	80296-11	80296-12
K001 (Method 8270)			
2-Chlorophenol	8270	01.18.96	01.19.96
Phenol	8270	01.18.96	01.19.96
2,4-Dimethylphenol	8270	01.18.96	01.19.96
Trichlorophenols	8270	01.18.96	01.19.96
p-Chloro-m-cresol	8270	01.18.96	01.19.96
Tetrachlorophenols	8270	01.18.96	01.19.96
2,4-Dinitrophenol	8270	01.18.96	01.19.96
Pentachlorophenol	8270	01.18.96	01.19.96
Naphthalene	8270	01.18.96	01.19.96
Acenaphthene	8270	01.18.96	01.19.96
Acenaphthylene	8270	01.18.96	01.19.96
Phenanthrene	8270	01.18.96	01.19.96
Anthracene	8270	01.18.96	01.19.96
Fluoranthene	8270	01.18.96	01.19.96
Chrysene	8270	01.18.96	01.19.96
Benzo(a)Anthracene	8270	01.18.96	01.19.96
Benzo(b,k)fluoranthene	8270	01.18.96	01.19.96
Benzo(a)pyrene	8270	01.18.96	01.19.96
Indeno(1,2,3-cd)pyrene	8270	01.18.96	01.19.96
Dibenzo(a,h)anthracene	8270	01.18.96	01.19.96
Carbazole	8270	01.18.96	01.19.96
Dilution factor	8270	01.18.96	01.19.96
Arsenic (6010)	6010	---	01.19.96

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80296
Received: 17 JAN 96
Reported: 05 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80296-10	EPA Method Numbers
80296-11	Dates Extracted
80296-12	Dates Analyzed

PARAMETER	80296-10	80296-11	80296-12
Chromium (6010)	6010	---	01.19.96
Copper (6010)	6010	---	01.19.96

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D., Project Manager

Final Page Of Report

Serial Number 00102

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
☐ 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
		2706

PROJECT LOC. (State)	SAMPLER(s) NAME	PHONE	FAX
N.C.	Henry O Phillips Jr	1-910-791-2706	1-910-791-2706

CLIENT NAME	CLIENT PROJECT MANAGER
Southern Wood Piedmont Co.	Henry O Phillips Jr.

CLIENT ADDRESS (CITY, STATE, ZIP): (P.O. Box 450,) 214 Windemere Rd. Wilmington, NC 28405-4026

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: Kool / Cular Ash

PAGE 1 OF 1

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	Kool	Cular Ash								REMARKS
1-15-96	10 AM		State Ports Authy E/F River	3				*2	1								
			Sample # 76														
			Log # 13480														
1-15-96	955 AM		Greenfield Creek C/F River	3				**2	1								
			Sample # 77														
			Log # 13481														
			S.W.P. old Slip C/F River														
			Sample # 78	2				1	1	One Bottle (plastic) top Broken when Rec'd							
1-15-96	940 AM		Log # 13482														
			US #74 Hiway New Bridge C/F														
1-15-96	10:25 AM		River Sample # 79	3				2	1								
			Log # 13483														
								Lm/m Glass	Sgml Mm Plastic								

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	1/15/96	10:00	[signature]	1/15/96	AM			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	1/20	?						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
L. Bonds	1-17-96	10:30 am	☑ YES ☐ NO		80296	* one liter rec'd broken ** both liters rec'd broken - unable to analyze for KOOL.

ORIGINAL

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-1	TWSB1A 0-6" (# 13540)	02-14-96
80894-2	TWSB1B 12-18" (# 13541)	02-14-96
80894-3	TWSB2A 0-6" (# 13542)	02-14-96
80894-4	TWSB2B 12-18" (# 13543)	02-14-96
80894-5	TWSB3A 0-6" (# 13544)	02-14-96

PARAMETER	80894-1	80894-2	80894-3	80894-4	80894-5
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	ND	ND	ND	ND	ND
Anthracene, mg/kg dw	ND	ND	ND	ND	ND
Fluoranthene, mg/kg dw	1.6	ND	0.86	ND	ND
Chrysene, mg/kg dw	2.5	ND	0.88	ND	ND
Benzo(a)anthracene, mg/kg dw	2.1	ND	0.50	ND	ND
Benzo(b)fluoranthene, mg/kg dw	2.8	ND	1.1	ND	ND
Benzo(k)fluoranthene, mg/kg dw	0.99	ND	0.40	ND	ND
Benzo(a)pyrene, mg/kg dw	2.6	ND	0.45	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.97	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-1	TWSB1A 0-6" (# 13540)	02-14-96
80894-2	TWSB1B 12-18" (# 13541)	02-14-96
80894-3	TWSB2A 0-6" (# 13542)	02-14-96
80894-4	TWSB2B 12-18" (# 13543)	02-14-96
80894-5	TWSB3A 0-6" (# 13544)	02-14-96

PARAMETER	80894-1	80894-2	80894-3	80894-4	80894-5
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	1.0	1.0	1.0	1.0

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-1	TWSB1A 0-6" (# 13540)	02-14-96
80894-2	TWSB1B 12-18" (# 13541)	02-14-96
80894-3	TWSB2A 0-6" (# 13542)	02-14-96
80894-4	TWSB2B 12-18" (# 13543)	02-14-96
80894-5	TWSB3A 0-6" (# 13544)	02-14-96

PARAMETER	80894-1	80894-2	80894-3	80894-4	80894-5
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-1	TWSB1A 0-6" (# 13540)	02-14-96
80894-2	TWSB1B 12-18" (# 13541)	02-14-96
80894-3	TWSB2A 0-6" (# 13542)	02-14-96
80894-4	TWSB2B 12-18" (# 13543)	02-14-96
80894-5	TWSB3A 0-6" (# 13544)	02-14-96

PARAMETER	80894-1	80894-2	80894-3	80894-4	80894-5
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
oluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	4.1	ND	1.4	ND	ND
Chromium (6010), mg/kg dw	19	1.9	2.1	1.3	1.9
Copper (6010), mg/kg dw	21	ND	8.2	ND	ND
Percent Solids (160.3), %	72	79	96	92	68

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-6	TWSB3B 12-18" (# 13545)	02-14-96
80894-7	TWSB4A 0-6" (# 13546)	02-14-96
80894-8	TWSB4B 12-18" (# 13547)	02-14-96
80894-9	TWSB5A 0-6" (# 13548)	02-14-96
80894-10	TWSB5B 12-18" (# 13549)	02-14-96

PARAMETER	80894-6	80894-7	80894-8	80894-9	80894-10
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	75	ND	ND
Phenanthrene, mg/kg dw	ND	ND	280	ND	ND
Anthracene, mg/kg dw	ND	ND	34	15	ND
Fluoranthene, mg/kg dw	ND	6.1	240	85	22
Chrysene, mg/kg dw	ND	6.3	92	68	16
Benzo(a)anthracene, mg/kg dw	ND	4.8	73	59	15
Benzo(b)fluoranthene, mg/kg dw	ND	22	99	60	21
Benzo(k)fluoranthene, mg/kg dw	ND	7.1	36	30	7.3
Benzo(a)pyrene, mg/kg dw	ND	11	57	28	10
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	6.4	ND	10	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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80894-7	TWSB4A 0-6" (# 13546)	02-14-96
80894-8	TWSB4B 12-18" (# 13547)	02-14-96
80894-9	TWSB5A 0-6" (# 13548)	02-14-96
80894-10	TWSB5B 12-18" (# 13549)	02-14-96

PARAMETER	80894-6	80894-7	80894-8	80894-9	80894-10
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
entachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	5.0	40	20	10

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80894-9	TWSB5A 0-6" (# 13548)	02-14-96
80894-10	TWSB5B 12-18" (# 13549)	02-14-96

PARAMETER	80894-6	80894-7	80894-8	80894-9	80894-10
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
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80894-7	TWSB4A 0-6" (# 13546)	02-14-96
80894-8	TWSB4B 12-18" (# 13547)	02-14-96
80894-9	TWSB5A 0-6" (# 13548)	02-14-96
80894-10	TWSB5B 12-18" (# 13549)	02-14-96

PARAMETER	80894-6	80894-7	80894-8	80894-9	80894-10
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	0.021	ND	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	ND	38	21	5.7	1.2
Chromium (6010), mg/kg dw	13	29	21	5.1	2.1
Copper (6010), mg/kg dw	16	47	58	27	ND
Percent Solids (160.3), %	26	65	52	88	96

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-11	TWSB6A 0-6" (# 13550)	02-14-96
80894-12	TWSB6B 12-18" (# 13551)	02-14-96
80894-13	TWSB7A 0-6" (# 13552)	02-14-96
80894-14	TWSB7B 12-18" (# 13553)	02-14-96
80894-15	TWSB8A 0-6" (# 13554)	02-14-96

PARAMETER	80894-11	80894-12	80894-13	80894-14	80894-15
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	0.73	ND	0.71	ND	ND
Anthracene, mg/kg dw	ND	ND	ND	ND	ND
Fluoranthene, mg/kg dw	4.6	7.4	3.3	ND	2.2
Chrysene, mg/kg dw	4.7	5.2	1.5	ND	1.4
Benzo(a)anthracene, mg/kg dw	2.7	5.5	0.64	ND	0.85
Benzo(b)fluoranthene, mg/kg dw	5.6	8.7	1.4	ND	1.5
Benzo(k)fluoranthene, mg/kg dw	1.9	3.2	0.55	ND	0.61
Benzo(a)pyrene, mg/kg dw	2.0	6.0	0.36	ND	0.52
Indeno(1,2,3-cd)pyrene, mg/kg dw	1.5	3.3	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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80894-12	TWSB6B 12-18" (# 13551)	02-14-96
80894-13	TWSB7A 0-6" (# 13552)	02-14-96
80894-14	TWSB7B 12-18" (# 13553)	02-14-96
80894-15	TWSB8A 0-6" (# 13554)	02-14-96

PARAMETER	80894-11	80894-12	80894-13	80894-14	80894-15
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	4.0	1.0	1.0	1.0

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80894-12	TWSB6B 12-18" (# 13551)	02-14-96
80894-13	TWSB7A 0-6" (# 13552)	02-14-96
80894-14	TWSB7B 12-18" (# 13553)	02-14-96
80894-15	TWSB8A 0-6" (# 13554)	02-14-96

PARAMETER	80894-11	80894-12	80894-13	80894-14	80894-15
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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80894-12	TWSB6B 12-18" (# 13551)	02-14-96
80894-13	TWSB7A 0-6" (# 13552)	02-14-96
80894-14	TWSB7B 12-18" (# 13553)	02-14-96
80894-15	TWSB8A 0-6" (# 13554)	02-14-96

PARAMETER	80894-11	80894-12	80894-13	80894-14	80894-15
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	0.0074	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	5.9	5.3	ND	ND	ND
Chromium (6010), mg/kg dw	6.1	5.2	2.5	1.1	2.7
Copper (6010), mg/kg dw	53	12	ND	ND	ND
Percent Solids (160.3), %	92	92	96	96	82

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-16	TWSB8B 12-18" (# 13555)	02-14-96
80894-17	TWSB9A 0-6" (# 13556)	02-14-96
80894-18	TWSB9B 12-18" (# 13557)	02-14-96
80894-19	TWSB10A 0-6" (# 13558)	02-14-96
80894-20	TWSB10B 12-18" (# 13559)	02-14-96

PARAMETER	80894-16	80894-17	80894-18	80894-19	80894-20
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	ND	ND	ND	0.53	ND
Anthracene, mg/kg dw	ND	ND	ND	0.45	ND
Fluoranthene, mg/kg dw	ND	0.58	0.65	3.6	0.67
Chrysene, mg/kg dw	ND	0.43	ND	2.0	ND
Benzo(a)anthracene, mg/kg dw	ND	ND	ND	0.90	ND
Benzo(b)fluoranthene, mg/kg dw	ND	0.58	ND	2.3	ND
Benzo(k)fluoranthene, mg/kg dw	ND	ND	ND	1.0	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	ND	0.54	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	0.40	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-16	TWSB8B 12-18" (# 13555)	02-14-96
80894-17	TWSB9A 0-6" (# 13556)	02-14-96
80894-18	TWSB9B 12-18" (# 13557)	02-14-96
80894-19	TWSB10A 0-6" (# 13558)	02-14-96
80894-20	TWSB10B 12-18" (# 13559)	02-14-96

PARAMETER	80894-16	80894-17	80894-18	80894-19	80894-20
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	0.37	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	1.0	1.0	1.0	1.0

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80894-17	TWSB9A 0-6" (# 13556)	02-14-96
80894-18	TWSB9B 12-18" (# 13557)	02-14-96
80894-19	TWSB10A 0-6" (# 13558)	02-14-96
80894-20	TWSB10B 12-18" (# 13559)	02-14-96

PARAMETER	80894-16	80894-17	80894-18	80894-19	80894-20
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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80894-17	TWSB9A 0-6" (# 13556)	02-14-96
80894-18	TWSB9B 12-18" (# 13557)	02-14-96
80894-19	TWSB10A 0-6" (# 13558)	02-14-96
80894-20	TWSB10B 12-18" (# 13559)	02-14-96

PARAMETER	80894-16	80894-17	80894-18	80894-19	80894-20
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	0.0065	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	ND	16	6.5	ND	ND
Chromium (6010), mg/kg dw	4.2	7.2	3.0	1.8	3.7
Copper (6010), mg/kg dw	ND	28	4.8	ND	ND
Percent Solids (160.3), %	77	93	96	97	96

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-21	TWSB11A 0-6" (# 13560)	02-14-96
80894-22	TWSB11B 12-18" (# 13561)	02-14-96
80894-23	TWSB12A 0-6" (# 13562)	02-14-96
80894-24	TWSB12B 12-18" (# 13563)	02-14-96
80894-25	TWSB13A 0-6" (# 13564)	02-14-96

PARAMETER	80894-21	80894-22	80894-23	80894-24	80894-25
Semivolatile Organics (8270)					
Bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	ND	ND	ND	ND	ND
Anthracene, mg/kg dw	ND	ND	ND	ND	ND
Fluoranthene, mg/kg dw	6.8	ND	0.53	ND	17
Chrysene, mg/kg dw	3.7	ND	0.54	ND	17
Benzo(a)anthracene, mg/kg dw	2.4	ND	ND	ND	10
Benzo(b)fluoranthene, mg/kg dw	3.9	ND	0.66	ND	20
Benzo(k)fluoranthene, mg/kg dw	1.6	ND	ND	ND	10
Benzo(a)pyrene, mg/kg dw	1.3	ND	ND	ND	8.8
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.92	ND	ND	ND	6.2
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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80894-23	TWSB12A 0-6" (# 13562)	02-14-96
80894-24	TWSB12B 12-18" (# 13563)	02-14-96
80894-25	TWSB13A 0-6" (# 13564)	02-14-96

PARAMETER	80894-21	80894-22	80894-23	80894-24	80894-25
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	2.0	1.0	1.0	1.0	10

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80894-23	TWSB12A 0-6" (# 13562)	02-14-96
80894-24	TWSB12B 12-18" (# 13563)	02-14-96
80894-25	TWSB13A 0-6" (# 13564)	02-14-96

PARAMETER	80894-21	80894-22	80894-23	80894-24	80894-25
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-21	TWSB11A 0-6" (# 13560)	02-14-96
80894-22	TWSB11B 12-18" (# 13561)	02-14-96
80894-23	TWSB12A 0-6" (# 13562)	02-14-96
80894-24	TWSB12B 12-18" (# 13563)	02-14-96
80894-25	TWSB13A 0-6" (# 13564)	02-14-96

PARAMETER	80894-21	80894-22	80894-23	80894-24	80894-25
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	20	5.7	5.3	3.2	42
Chromium (6010), mg/kg dw	5.2	1.7	5.0	2.1	39
Copper (6010), mg/kg dw	10	ND	6.9	ND	110
Percent Solids (160.3), %	95	93	97	97	86

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-26	TWSB13B 12-18" (# 13565)	02-14-96
80894-27	TWSB14A 0-6" (# 13566)	02-14-96
80894-28	TWSB14B 12-18" (# 13567)	02-14-96
80894-29	TWSB15A 0-6" (# 13568)	02-14-96
80894-30	TWSB15B 12-18" (# 13569)	02-14-96

PARAMETER	80894-26	80894-27	80894-28	80894-29	80894-30
Semivolatile Organics (8270),					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	ND	ND	ND	2.5	1.9
Anthracene, mg/kg dw	ND	ND	ND	2.2	ND
Fluoranthene, mg/kg dw	0.94	8.8	1.9	12	8.8
Chrysene, mg/kg dw	1.1	5.2	2.3	9.8	5.7
Benzo(a)anthracene, mg/kg dw	0.57	2.4	1.6	7.7	4.7
Benzo(b)fluoranthene, mg/kg dw	1.4	7.0	2.2	13	7.9
Benzo(k)fluoranthene, mg/kg dw	0.78	2.5	0.69	5.9	3.1
Benzo(a)pyrene, mg/kg dw	0.60	1.8	1.7	5.5	4.6
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	0.74	3.1	2.6
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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REPORT OF RESULTS

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80894-27	TWSB14A 0-6" (# 13566)	02-14-96
80894-28	TWSB14B 12-18" (# 13567)	02-14-96
80894-29	TWSB15A 0-6" (# 13568)	02-14-96
80894-30	TWSB15B 12-18" (# 13569)	02-14-96

PARAMETER	80894-26	80894-27	80894-28	80894-29	80894-30
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	4.0	1.0	4.0	4.0

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80894-28	TWSB14B 12-18" (# 13567)	02-14-96
80894-29	TWSB15A 0-6" (# 13568)	02-14-96
80894-30	TWSB15B 12-18" (# 13569)	02-14-96

PARAMETER	80894-26	80894-27	80894-28	80894-29	80894-30
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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80894-29	TWSB15A 0-6" (# 13568)	02-14-96
80894-30	TWSB15B 12-18" (# 13569)	02-14-96

PARAMETER	80894-26	80894-27	80894-28	80894-29	80894-30
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	2.9	ND	ND	13	3.9
Chromium (6010), mg/kg dw	5.1	2.0	2.4	12	4.5
Copper (6010), mg/kg dw	80	ND	ND	48	30
Percent Solids (160.3), %	88	97	89	80	82

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

'02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-31	TWSB15ADUP 0-6" (# 13570)	02-14-96
80894-32	PDA1A 0-6" (# 13571)	02-14-96
80894-33	PDA1B 12-18" (# 13572)	02-14-96
80894-34	PDA2A 0-6" (# 13573)	02-14-96
80894-35	PDA2B 12-18" (# 13574)	02-14-96

PARAMETER	80894-31	80894-32	80894-33	80894-34	80894-35
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	ND	ND	ND	ND	ND
Anthracene, mg/kg dw	ND	ND	ND	1.1	ND
Fluoranthene, mg/kg dw	6.6	13	1.3	1.1	1.0
Chrysene, mg/kg dw	6.4	11	1.3	0.91	0.93
Benzo(a)anthracene, mg/kg dw	4.2	6.6	0.71	0.53	0.51
Benzo(b)fluoranthene, mg/kg dw	8.4	15	2.2	1.7	1.3
Benzo(k)fluoranthene, mg/kg dw	3.4	6.0	0.74	0.49	0.44
Benzo(a)pyrene, mg/kg dw	3.6	5.3	0.78	0.68	0.47
Indeno(1,2,3-cd)pyrene, mg/kg dw	2.0	ND	0.61	0.63	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-31	TWSB15ADUP 0-6" (# 13570)	02-14-96
80894-32	PDA1A 0-6" (# 13571)	02-14-96
80894-33	PDA1B 12-18" (# 13572)	02-14-96
80894-34	PDA2A 0-6" (# 13573)	02-14-96
80894-35	PDA2B 12-18" (# 13574)	02-14-96

PARAMETER	80894-31	80894-32	80894-33	80894-34	80894-35
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	4.0	10	1.0	1.0	1.0

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80894-35	PDA2B 12-18" (# 13574)	02-14-96

PARAMETER	80894-31	80894-32	80894-33	80894-34	80894-35
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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80894-35	PDA2B 12-18" (# 13574)	02-14-96

PARAMETER	80894-31	80894-32	80894-33	80894-34	80894-35
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	14	1300	110	5.6	ND
Chromium (6010), mg/kg dw	13	1200	380	9.3	2.5
Copper (6010), mg/kg dw	60	1600	120	11	3.1
Percent Solids (160.3), %	80	79	76	74	89

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-36	PDA3A 0-6" (# 13575)	02-14-96
80894-37	PDA3B 12-18" (# 13576)	02-14-96
80894-38	PDA4A 0-6" (# 13577)	02-14-96
80894-39	PDA4B 12-18" (# 13578)	02-14-96
80894-40	PDA5A 0-6" (# 13579)	02-14-96

PARAMETER	80894-36	80894-37	80894-38	80894-39	80894-40
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	0.86	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	1.4	ND
Phenanthrene, mg/kg dw	ND	ND	ND	1.8	0.50
Anthracene, mg/kg dw	ND	ND	ND	0.47	3.6
Fluoranthene, mg/kg dw	1.5	7.0	0.90	1.9	1.7
Chrysene, mg/kg dw	1.4	2.4	ND	1.0	3.0
Benzo(a)anthracene, mg/kg dw	0.71	1.3	ND	0.64	1.6
Benzo(b)fluoranthene, mg/kg dw	2.4	2.5	1.1	1.7	6.2
Benzo(k)fluoranthene, mg/kg dw	0.86	1.0	ND	ND	2.0
Benzo(a)pyrene, mg/kg dw	0.90	1.1	ND	0.53	1.5
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.57	ND	ND	ND	1.7
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	0.51
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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80894-38	PDA4A 0-6" (# 13577)	02-14-96
80894-39	PDA4B 12-18" (# 13578)	02-14-96
80894-40	PDA5A 0-6" (# 13579)	02-14-96

PARAMETER	80894-36	80894-37	80894-38	80894-39	80894-40
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	0.44
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	1.0	1.0	1.0	1.0

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80894-39	PDA4B 12-18" (# 13578)	02-14-96
80894-40	PDA5A 0-6" (# 13579)	02-14-96

PARAMETER	80894-36	80894-37	80894-38	80894-39	80894-40
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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80894-37	PDA3B 12-18" (# 13576)	02-14-96
80894-38	PDA4A 0-6" (# 13577)	02-14-96
80894-39	PDA4B 12-18" (# 13578)	02-14-96
80894-40	PDA5A 0-6" (# 13579)	02-14-96

PARAMETER	80894-36	80894-37	80894-38	80894-39	80894-40
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	27	20	3.2	8.2	3.1
Chromium (6010), mg/kg dw	37	25	6.9	6.9	9.0
Copper (6010), mg/kg dw	32	14	15	57	11
Percent Solids (160.3), %	88	74	57	80	85

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-41	PDA5B 12-18" (# 13580)	02-14-96
80894-42	PDA6A 0-6" (# 13581)	02-14-96
80894-43	PDA6B 12-18" (# 13582)	02-14-96
80894-44	PDA7A 0-6" (# 13583)	02-14-96
80894-45	PDA7B 12-18" (# 13584)	02-14-96

PARAMETER	80894-41	80894-42	80894-43	80894-44	80894-45
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	2.1	2.7	ND	ND	0.39
Anthracene, mg/kg dw	28	2.6	ND	ND	0.84
Fluoranthene, mg/kg dw	2.8	9.4	ND	1.9	3.6
Chrysene, mg/kg dw	7.9	7.2	ND	1.3	2.9
Benzo(a)anthracene, mg/kg dw	4.2	3.7	ND	1.1	2.8
Benzo(b)fluoranthene, mg/kg dw	12	10	ND	1.7	3.2
Benzo(k)fluoranthene, mg/kg dw	7.1	3.9	ND	0.67	1.2
Benzo(a)pyrene, mg/kg dw	2.9	3.1	ND	0.67	1.2
Indeno(1,2,3-cd)pyrene, mg/kg dw	5.5	2.9	ND	0.46	0.77
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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80894-42	PDA6A 0-6" (# 13581)	02-14-96
80894-43	PDA6B 12-18" (# 13582)	02-14-96
80894-44	PDA7A 0-6" (# 13583)	02-14-96
80894-45	PDA7B 12-18" (# 13584)	02-14-96

PARAMETER	80894-41	80894-42	80894-43	80894-44	80894-45
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	5.3	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	4.0	5.0	1.0	1.0	1.0

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80894-45	PDA7B 12-18" (# 13584)	02-14-96

PARAMETER	80894-41	80894-42	80894-43	80894-44	80894-45
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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80894-44	PDA7A 0-6" (# 13583)	02-14-96
80894-45	PDA7B 12-18" (# 13584)	02-14-96

PARAMETER	80894-41	80894-42	80894-43	80894-44	80894-45
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND	ND	0.0088
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	10	67	4.0	74	74
Chromium (6010), mg/kg dw	32	56	10	84	80
Copper (6010), mg/kg dw	38	150	9.2	89	110
Percent Solids (160.3), %	70	72	64	86	86

SL SAVANNAH LABORATORIES
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102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-46	PDA8A 0-6" (# 13585)	02-14-96
80894-47	PDA8B 12-18" (# 13586)	02-14-96
80894-48	PDA9A 0-6" (# 13587)	02-14-96
80894-49	PDA9B 12-18" (# 13588)	02-14-96
80894-50	PDA10A 0-6" (# 13589)	02-14-96

PARAMETER	80894-46	80894-47	80894-48	80894-49	80894-50
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	0.92	2.3	ND
Acenaphthylene, mg/kg dw	ND	ND	0.38	ND	ND
Acenaphthene, mg/kg dw	ND	ND	0.45	2.0	ND
Phenanthrene, mg/kg dw	6.7	2.6	1.5	5.0	ND
Anthracene, mg/kg dw	21	1.8	4.5	5.5	ND
Fluoranthene, mg/kg dw	14	4.9	3.0	12	ND
Chrysene, mg/kg dw	12	4.3	2.0	6.2	ND
Benzo(a)anthracene, mg/kg dw	8.1	4.9	1.4	2.8	ND
Benzo(b)fluoranthene, mg/kg dw	17	6.2	3.7	12	ND
Benzo(k)fluoranthene, mg/kg dw	6.3	2.8	1.5	3.3	ND
Benzo(a)pyrene, mg/kg dw	7.3	4.2	1.9	6.9	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	5.0	2.4	2.0	3.9	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	0.60	0.39	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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80894-47	PDA8B 12-18" (# 13586)	02-14-96
80894-48	PDA9A 0-6" (# 13587)	02-14-96
80894-49	PDA9B 12-18" (# 13588)	02-14-96
80894-50	PDA10A 0-6" (# 13589)	02-14-96

PARAMETER	80894-46	80894-47	80894-48	80894-49	80894-50
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	7.8	ND	0.56	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	5.0	1.0	1.0	5.0	1.0

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80894-49	PDA9B 12-18" (# 13588)	02-14-96
80894-50	PDA10A 0-6" (# 13589)	02-14-96

PARAMETER	80894-46	80894-47	80894-48	80894-49	80894-50
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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80894-50	PDA10A 0-6" (# 13589)	02-14-96

PARAMETER	80894-46	80894-47	80894-48	80894-49	80894-50
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	0.0086	ND	ND	0.0064	0.011
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	45	6.6	2.5	2.2	ND
Chromium (6010), mg/kg dw	38	14	5.3	5.6	1.5
Copper (6010), mg/kg dw	88	25	19	30	ND
Percent Solids (160.3), %	86	80	90	85	92

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80894-51	PDA10B 12-18" (# 13590)	02-14-96
80894-52	PDA11A 0-6" (# 13591)	02-14-96
80894-53	PDA11B 12-18" (# 13592)	02-14-96

PARAMETER	80894-51	80894-52	80894-53
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	2100
Acenaphthylene, mg/kg dw	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	1400
Phenanthrene, mg/kg dw	ND	ND	4400
Anthracene, mg/kg dw	ND	ND	3400
Fluoranthene, mg/kg dw	ND	ND	1800
Chrysene, mg/kg dw	ND	ND	ND
Benzo(a)anthracene, mg/kg dw	ND	ND	ND
Benzo(b)fluoranthene, mg/kg dw	ND	ND	ND
Benzo(k)fluoranthene, mg/kg dw	ND	ND	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	930
Tetrachlorophenols, mg/kg dw	ND	ND	ND
Dilution factor	1.0	1.0	1000

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80894-52	PDA11A 0-6" (# 13591)	02-14-96
80894-53	PDA11B 12-18" (# 13592)	02-14-96

PARAMETER	80894-51	80894-52	80894-53
Volatiles by GC/MS (8240)			
Chloromethane, mg/kg dw	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND

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REPORT OF RESULTS

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80894-51	PDA10B 12-18" (# 13590)	02-14-96
80894-52	PDA11A 0-6" (# 13591)	02-14-96
80894-53	PDA11B 12-18" (# 13592)	02-14-96

PARAMETER	80894-51	80894-52	80894-53
Chlorobenzene, mg/kg dw	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	0.22
1,2-Dibromomethane, mg/kg dw	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND
m&p-Xylene, mg/kg dw	0.0081	ND	0.44
o-Xylene, mg/kg dw	ND	ND	0.20
Arsenic (6010), mg/kg dw	ND	ND	2.0
Chromium (6010), mg/kg dw	1.5	2.7	4.5
Copper (6010), mg/kg dw	ND	ND	12
Percent Solids (160.3), %	89	82	64

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80894-54	Method Blank
80894-55	Detection Limits
80894-56	Accuracy (mean % recovery)
80894-57	Precision (% RPD)
80894-58	Analyst Initials

PARAMETER	80894-54	80894-55	80894-56	80894-57	80894-58
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	0.33	---	---	CB
Naphthalene, mg/kg dw	ND	0.33	68 %	4 %	CB
Acenaphthylene, mg/kg dw	ND	0.33	68 %	4 %	CB
Acenaphthene, mg/kg dw	ND	0.33	66 %	4 %	CB
Phenanthrene, mg/kg dw	ND	0.33	70 %	0 %	CB
Anthracene, mg/kg dw	ND	0.33	73 %	0 %	CB
Fluoranthene, mg/kg dw	ND	0.33	84 %	4 %	CB
Chrysene, mg/kg dw	ND	0.33	73 %	0 %	CB
Benzo(a)anthracene, mg/kg dw	ND	0.33	80 %	4 %	CB
Benzo(b)fluoranthene, mg/kg dw	ND	0.33	70 %	0 %	CB
Benzo(k)fluoranthene, mg/kg dw	ND	0.33	73 %	0 %	CB
Benzo(a)pyrene, mg/kg dw	ND	0.33	74 %	4 %	CB
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	0.33	82 %	7 %	CB
Dibenzo(a,h)anthracene, mg/kg dw	ND	0.33	86 %	11 %	CB
2-Chlorophenol, mg/kg dw	ND	0.33	67 %	0 %	CB
Phenol, mg/kg dw	ND	0.33	64 %	0 %	CB
2,4-Dimethylphenol, mg/kg dw	ND	0.33	72 %	4 %	CB
2,4,6-Trichlorophenol, mg/kg dw	ND	0.33	72 %	4 %	CB
4-Chloro-3-methylphenol, mg/kg dw	ND	0.33	86 %	3 %	CB

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80894-54	Method Blank
80894-55	Detection Limits
80894-56	Accuracy (mean % recovery)
80894-57	Precision (% RPD)
80894-58	Analyst Initials

PARAMETER	80894-54	80894-55	80894-56	80894-57	80894-58
2,4-Dinitrophenol, mg/kg dw	ND	1.7	51 %	12 %	CB
Pentachlorophenol, mg/kg dw	ND	1.7	82 %	0 %	CB
2,4,5-Trichlorophenol, mg/kg dw	ND	0.33	---	---	CB
Carbazole, mg/kg dw	ND	0.33	61 %	0 %	CB
Tetrachlorophenols, mg/kg dw	ND	1.7	90 %	3 %	CB
Dilution factor	1.0	1.0	---	---	---

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80894-54	Method Blank
80894-55	Detection Limits
80894-56	Accuracy (mean % recovery)
80894-57	Precision (% RPD)
80894-58	Analyst Initials

PARAMETER	80894-54	80894-55	80894-56	80894-57	80894-58
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	0.010	---	---	JJ
Bromomethane, mg/kg dw	ND	0.010	---	---	JJ
Vinyl chloride, mg/kg dw	ND	0.010	---	---	JJ
Chloroethane, mg/kg dw	ND	0.010	---	---	JJ
Methylene chloride (Dichloromethane), mg/kg dw	ND	0.0050	---	---	JJ
1,1-Dichloroethene, mg/kg dw	ND	0.0050	111 %	2 %	JJ
1,1-Dichloroethane, mg/kg dw	ND	0.0050	---	---	JJ
trans-1,2-Dichloroethylene, mg/kg dw	ND	0.0050	---	---	JJ
1,2-Dichloroethane, mg/kg dw	ND	0.0050	---	---	JJ
1,1,1-Trichloroethane, mg/kg dw	ND	0.0050	---	---	JJ
Carbon tetrachloride, mg/kg dw	ND	0.0050	---	---	JJ
Bromodichloromethane, mg/kg dw	ND	0.0050	---	---	JJ
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	0.0050	---	---	JJ
1,2-Dichloropropane, mg/kg dw	ND	0.0050	---	---	JJ
Trichloroethene, mg/kg dw	ND	0.0050	93 %	2 %	JJ
Dibromochloromethane, mg/kg dw	ND	0.0050	---	---	JJ
1,1,2-Trichloroethane, mg/kg dw	ND	0.0050	---	---	JJ
Benzene, mg/kg dw	ND	0.0050	100 %	0 %	JJ

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80894-54	Method Blank
80894-55	Detection Limits
80894-56	Accuracy (mean % recovery)
80894-57	Precision (% RPD)
80894-58	Analyst Initials

PARAMETER	80894-54	80894-55	80894-56	80894-57	80894-58
cis-1,3-Dichloropropene, mg/kg dw	ND	0.0050	---	---	JJ
2-Chloroethylvinyl ether, mg/kg dw	ND	0.050	---	---	JJ
Toluene, mg/kg dw	ND	0.0050	99 %	2 %	JJ
Chlorobenzene, mg/kg dw	ND	0.0050	100 %	0 %	JJ
Ethylbenzene, mg/kg dw	ND	0.0050	---	---	JJ
1,2-Dibromomethane, mg/kg dw	ND	0.0050	---	---	JJ
Trichlorofluoromethane, mg/kg dw	ND	0.0050	---	---	JJ
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	0.050	---	---	JJ
Dichlorodifluoromethane, mg/kg dw	ND	0.0050	---	---	JJ
m&p-Xylene, mg/kg dw	ND	0.0050	---	---	JJ
o-Xylene, mg/kg dw	ND	0.0050	---	---	JJ
Arsenic (6010), mg/kg dw	ND	1.0	80 %	2.5 %	DM
Chromium (6010), mg/kg dw	ND	1.0	100 %	4.0 %	DM
Copper (6010), mg/kg dw	ND	2.5	104 %	2.9 %	DM

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80894-59	EPA Method Numbers
80894-60	Dates Extracted
80894-61	Dates Analyzed

PARAMETER	80894-59	80894-60	80894-61
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether	8270	2.16/19.96	2.17/22.96
Naphthalene	8270	2.16/19.96	2.17/22.96
Acenaphthylene	8270	2.16/19.96	2.17/22.96
Acenaphthene	8270	2.16/19.96	2.17/22.96
Phenanthrene	8270	2.16/19.96	2.17/22.96
Anthracene	8270	2.16/19.96	2.17/22.96
Fluoranthene	8270	2.16/19.96	2.17/22.96
Chrysene	8270	2.16/19.96	2.17/22.96
Benzo(a)anthracene	8270	2.16/19.96	2.17/22.96
Benzo(b)fluoranthene	8270	2.16/19.96	2.17/22.96
Benzo(k)fluoranthene	8270	2.16/19.96	2.17/22.96
Benzo(a)pyrene	8270	2.16/19.96	2.17/22.96
Indeno(1,2,3-cd)pyrene	8270	2.16/19.96	2.17/22.96
Dibenzo(a,h)anthracene	8270	2.16/19.96	2.17/22.96
2-Chlorophenol	8270	2.16/19.96	2.17/22.96
Phenol	8270	2.16/19.96	2.17/22.96
2,4-Dimethylphenol	8270	2.16/19.96	2.17/22.96
2,4,6-Trichlorophenol	8270	2.16/19.96	2.17/22.96
4-Chloro-3-methylphenol	8270	2.16/19.96	2.17/22.96
2,4-Dinitrophenol	8270	2.16/19.96	2.17/22.96
Pentachlorophenol	8270	2.16/19.96	2.17/22.96
2,4,5-Trichlorophenol	8270	2.16/19.96	2.17/22.96
Carbazole	8270	2.16/19.96	2.17/22.96
Tetrachlorophenols	8270	2.16/19.96	2.17/22.96

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80894-59	EPA Method Numbers
80894-60	Dates Extracted
80894-61	Dates Analyzed

PARAMETER	80894-59	80894-60	80894-61
Volatiles by GC/MS (8240)			
Chloromethane	8240	---	02.16.96
Bromomethane	8240	---	02.16.96
Vinyl chloride	8240	---	02.16.96
Chloroethane	8240	---	02.16.96
Methylene chloride (Dichloromethane)	8240	---	02.16.96
1,1-Dichloroethene	8240	---	02.16.96
1,1-Dichloroethane	8240	---	02.16.96
trans-1,2-Dichloroethylene	8240	---	02.16.96
1,2-Dichloroethane	8240	---	02.16.96
1,1,1-Trichloroethane	8240	---	02.16.96
Carbon tetrachloride	8240	---	02.16.96
Bromodichloromethane	8240	---	02.16.96
1,1,2,2-Tetrachloroethane	8240	---	02.16.96
1,2-Dichloropropane	8240	---	02.16.96
Trichloroethene	8240	---	02.16.96
Dibromochloromethane	8240	---	02.16.96
1,1,2-Trichloroethane	8240	---	02.16.96
Benzene	8240	---	02.16.96
cis-1,3-Dichloropropene	8240	---	02.16.96
2-Chloroethylvinyl ether	8240	---	02.16.96
Toluene	8240	---	02.16.96

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LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80894-59	EPA Method Numbers
80894-60	Dates Extracted
80894-61	Dates Analyzed

PARAMETER	80894-59	80894-60	80894-61
Chlorobenzene	8240	---	02.16.96
Ethylbenzene	8240	---	02.16.96
1,2-Dibromomethane	8240	---	02.16.96
Trichlorofluoromethane	8240	---	02.16.96
Methyl tert-butyl ether (MTBE)	8240	---	02.16.96
Dichlorodifluoromethane	8240	---	02.16.96
m&p-Xylene	8240	---	02.16.96
o-Xylene	8240	---	02.16.96
Arsenic (6010)	6010	---	02.20.96
Chromium (6010)	6010	---	02.20.96
Copper (6010)	6010	---	02.20.96

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Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80894-62	Equipment Blank	02-14-96

PARAMETER	80894-62
Semivolatile Organics (8270)	
bis(2-Chloroethyl)ether, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthylene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)anthracene, mg/l	ND
Benzo(b)fluoranthene, mg/l	ND
Benzo(k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
4-Chloro-3-methylphenol, mg/l	ND
2,4-Dinitrophenol, mg/l	ND
Pentachlorophenol, mg/l	ND
2,4,5-Trichlorophenol, mg/l	ND
Carbazole, mg/l	ND
Tetrachlorophenols, mg/l	ND
Dilution factor	1.0

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80894-62	Equipment Blank	02-14-96

PARAMETER	80894-62
Volatiles by GC/MS (8240)	
Chloromethane, mg/l	ND
Bromomethane, mg/l	ND
Vinyl chloride, mg/l	ND
Chloroethane, mg/l	ND
Methylene chloride (Dichloromethane), mg/l	ND
1,1-Dichloroethene, mg/l	ND
1,1-Dichloroethane, mg/l	ND
trans-1,2-Dichloroethylene, mg/l	ND
1,2-Dichloroethane, mg/l	ND
1,1,1-Trichloroethane, mg/l	ND
Carbon tetrachloride, mg/l	ND
Bromodichloromethane, mg/l	ND
1,1,2,2-Tetrachloroethane, mg/l	ND
1,2-Dichloropropane, mg/l	ND
Trichloroethene, mg/l	ND
Dibromochloromethane, mg/l	ND
1,1,2-Trichloroethane, mg/l	ND
Benzene, mg/l	ND
cis-1,3-Dichloropropene, mg/l	ND
2-Chloroethylvinyl ether, mg/l	ND
Toluene, mg/l	ND
Chlorobenzene, mg/l	ND
Ethylbenzene, mg/l	ND

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Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80894-62	Equipment Blank	02-14-96

PARAMETER	80894-62
1,2-Dibromomethane, mg/l	ND
Trichlorofluoromethane, mg/l	ND
Methyl tert-butyl ether (MTBE), mg/l	ND
Dichlorodifluoromethane, mg/l	ND
m&p-Xylene, mg/l	ND
o-Xylene, mg/l	ND
Arsenic (6010), mg/l	ND
Chromium (6010), mg/l	ND
Copper (6010), mg/l	ND

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& ENVIRONMENTAL SERVICES, INC.

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Received: 15 FEB 96
Reported: 06 MAR 96

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Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80894-63	Trip Blank	02-14-96

PARAMETER	80894-63
Volatiles by GC/MS (8240)	
Chloromethane, mg/l	ND
Bromomethane, mg/l	ND
Vinyl chloride, mg/l	ND
Chloroethane, mg/l	ND
Methylene chloride (Dichloromethane), mg/l	ND
1,1-Dichloroethene, mg/l	ND
1,1-Dichloroethane, mg/l	ND
trans-1,2-Dichloroethylene, mg/l	ND
1,2-Dichloroethane, mg/l	ND
1,1,1-Trichloroethane, mg/l	ND
Carbon tetrachloride, mg/l	ND
Bromodichloromethane, mg/l	ND
1,1,2,2-Tetrachloroethane, mg/l	ND
1,2-Dichloropropane, mg/l	ND
Trichloroethene, mg/l	ND
Dibromochloromethane, mg/l	ND
1,1,2-Trichloroethane, mg/l	ND
Benzene, mg/l	ND
cis-1,3-Dichloropropene, mg/l	ND
2-Chloroethylvinyl ether, mg/l	ND
Toluene, mg/l	ND
Chlorobenzene, mg/l	ND
Ethylbenzene, mg/l	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

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P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80894-63	Trip Blank	02-14-96

PARAMETER	80894-63
1,2-Dibromomethane, mg/l	ND
Trichlorofluoromethane, mg/l	ND
Methyl tert-butyl ether (MTBE), mg/l	ND
Dichlorodifluoromethane, mg/l	ND
m&p-Xylene, mg/l	ND
o-Xylene, mg/l	ND

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Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80894-64	Method Blank - Liquid
80894-65	Detection Limits
80894-66	Accuracy (mean % recovery)
80894-67	Precision (% RPD)
80894-68	Analyst Initials

PARAMETER	80894-64	80894-65	80894-66	80894-67	80894-68
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/l	ND	0.010	---	---	CB
Naphthalene, mg/l	ND	0.010	---	---	CB
Acenaphthylene, mg/l	ND	0.010	---	---	CB
Acenaphthene, mg/l	ND	0.010	96 %	0 %	CB
Phenanthrene, mg/l	ND	0.010	---	---	CB
Anthracene, mg/l	ND	0.010	---	---	CB
Fluoranthene, mg/l	ND	0.010	---	---	CB
Chrysene, mg/l	ND	0.010	---	---	CB
Benzo(a)anthracene, mg/l	ND	0.010	---	---	CB
Benzo(b)fluoranthene, mg/l	ND	0.010	---	---	CB
Benzo(k)fluoranthene, mg/l	ND	0.010	---	---	CB
Benzo(a)pyrene, mg/l	ND	0.010	---	---	CB
Indeno(1,2,3-cd)pyrene, mg/l	ND	0.010	---	---	CB
Dibenzo(a,h)anthracene, mg/l	ND	0.010	---	---	CB
2-Chlorophenol, mg/l	ND	0.010	80 %	1 %	CB
Phenol, mg/l	ND	0.010	76 %	0 %	CB
2,4-Dimethylphenol, mg/l	ND	0.010	---	---	CB
2,4,6-Trichlorophenol, mg/l	ND	0.010	---	---	CB
4-Chloro-3-methylphenol, mg/l	ND	0.010	84 %	4 %	CB

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

'02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80894-69	EPA Method Numbers
80894-70	Dates Extracted
80894-71	Dates Analyzed

PARAMETER	80894-69	80894-70	80894-71
Chlorobenzene	8240	---	02.19.96
Ethylbenzene	8240	---	02.19.96
1,2-Dibromomethane	8240	---	02.19.96
Trichlorofluoromethane	8240	---	02.19.96
Methyl tert-butyl ether (MTBE)	8240	---	02.19.96
Dichlorodifluoromethane	8240	---	02.19.96
m&p-Xylene	8240	---	02.19.96
p-Xylene	8240	---	02.19.96
Arsenic (6010)	6010	---	02.26.96
Chromium (6010)	6010	---	02.26.96
Copper (6010)	6010	---	02.26.96

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D., Project Manager

Final Page Of Report

Serial Number 40101

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ 5102 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
☐ 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
SWP-Wilmington	12-53020.co	

PROJECT LOC. (State): NC
SAMPLER(s) NAME: G. Kuntz / G. Force
PHONE: 803-957-6270
FAX: 803-957-3845
CLIENT NAME: ViroGroup, Inc.
CLIENT PROJECT MANAGER: Greg Kuntz
CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Rd Lexington, SC 29072

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: VOC* 8240; SV* 8270; Metals*

PAGE 1 OF 5

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	VOC* 8240	SV* 8270	Metals*	REMARKS
2/14/96	9:17		TWSB1A SWP Log# 13540	X				1	1	1	*Wilmington Site Specific List Table 1
	9:24		TWSB1B 13541								
	9:29		TWSB 2A 13542								
	9:37		TWSB 2B 13543								
	9:52		TWSB 3A 13544								
	10:05		TWSB 3B 13545								
	10:20		TWSB 4A 13546								
	10:30		TWSB 4B 13547								
	10:45		TWSB 5A 13548								
	10:55		TWSB ~~5~~ 5B 13549								
	11:03		TWSB 6A 13550								
	11:10		TWSB 6B 13551								
	11:19		TWSB 7A 13552								

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	2/8	4:00				Gregory B. Kuntz	2/14/96	1730

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
Beverley Neeley	2/15/96	9:30	☒ YES ☐ NO		80894	

ORIGINAL

Serial Number 40106

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ 5102 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
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☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE: SWP-Wilmington
PROJECT NO.: 12-53020.co
P.O. NUMBER:
PAGE 2 OF 5

PROJECT LOC. (State): N
SAMPLER(s) NAME: G Kuntz/G. Force
PHONE: 803-957-6270
FAX: 803-957-3845

CLIENT NAME: ViroGroup, Inc
CLIENT PROJECT MANAGER: Greg Kuntz
CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Road Lexington, SC 29072

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (oil, solvent, etc)	VOC* 8240	SV* 8270	Metals*								REMARKS
2/14/96	11:24		TWSA7B SWP Log# 13553	X				1	1	1								*Wilmington
	11:30		TWSA 8A 13554															Site Specific
	11:40		TWSA 8B 13555															List Table 1
	11:45		TWSA 9A 13556															
	11:50		TWSA 9B 13557															
	12:00		TWSA 10A 13558															
	12:05		TWSA 10B 13559															
	12:12		TWSA 11A 13560															
	12:16		TWSA 11B 13561															
	13:05		TWSA 12A 13562															
	13:11		TWSA 12B 13563															
	13:18		TWSA 13A 13564															
	13:23		TWSA 13B 13565															

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	2/8	4:10				Gregory B. Kuntz	2/14/96	17:30
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
[signature]	2/15/96	9:30	☒ YES ☐ NO		80894	

ORIGINAL

Serial Number 40100

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ 5102 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
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☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
SWP-Wilmington	12-53020.co	

PROJECT LOC. (State): NC
SAMPLER(s) NAME: G. Kurtz / G. Force
PHONE: 803-957-6270
FAX: 803-957-3845
CLIENT NAME: ViroGroup, Inc.
CLIENT PROJECT MANAGER: Greg Kurtz
CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Rd Lexington SC 29072

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: VOC* 8240 / SV* 8270 / Metals*

PAGE 3 OF 5

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	VOC* 8240	SV* 8270	Metals*	REMARKS
2/14/96	13:28		TWSA14A SWP Log# 13566	X				1	1	1	*Wilmington
	13:34		TWSA14B 13567					1	1	1	Site Specific
	13:42		TWSA15A 13568					1	1	1	List Table 1
	13:51		TWSA15B 13569					1	1	1	
	13:57		TWSA15A-Dup 13570					1	1	1	
	14:20		~~TWS~~ PDA 1A 13571					1	1	1	
	14:25		PDA 1B 13572					1	1	1	
	14:33		PDA 2A 13573					1	1	1	
	14:38		PDA 2B 13574					1	1	1	
	14:42		PDA 3A 13575					1	1	1	
	14:52		PDA 3B 13576					1	1	1	
	15:00		PDA 4A 13577					1	1	1	
	15:05		PDA 4B 13578					1	1	1	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[illegible] Samuel	2/8	4:10				Theresa B. Kurtz	2/14/96	17:30
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
Beverley Neely	2/15/96	9:30	☐ YES ☐ NO		20894	

ORIGINAL

Serial Number 40104

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

- [X] 5102 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
- [ ] 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
- [ ] 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
- [ ] 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
- [ ] 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
- [ ] 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE: SWP-Wilmington
PROJECT NO.: 12-53020.co
P.O. NUMBER:
PAGE 4 OF 5

PROJECT LOC. (State): NC
SAMPLER(s) NAME: G. Kuntz/G. Force
PHONE: 803-957-6270
FAX: 803-957-3845

CLIENT NAME: ViroGroup, Inc
CLIENT PROJECT MANAGER: Greg Kuntz

CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Rd. Lexington, SC 29072

[ ] STANDARD REPORT DELIVERY
[ ] EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	MATRIX TYPE: AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (oil, solvent, etc)	REQUIRED ANALYSES: VOC * 8240	SVA 8270	Metals *	NUMBER OF CONTAINERS SUBMITTED	REMARKS
2-14-96	15:20		PDA 5A SWPLog# 13579	X				1	1	1		*Wilmington Site Specific List Table 1
	15:25		PDA 5B 13580									
	15:30		PDA 6A 13581									
	15:35		PDA 6B 13582									
	15:40		PDA 7A 13583									
	15:45		PDA 7B 13584									
	15:55		PDA 8A 13585									
	16:00		PDA 8B 13586									
	16:05		PDA 9A 13587									
	16:10		PDA 9B 13588									
	16:15		PDA 10A 13589									
	16:20		PDA 10B 13590									
	16:25		PDA 11A 13591									

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Samuel	2/8	4:00				Gregory B. Kuntz	2/14/96	17:30
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
Beverly Heeley	2/15/96	9:30	[X] YES [ ] NO		88894	

ORIGINAL

Serial Number 40103

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ 5102 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
☐ 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE: SWP-Wilmington
PROJECT NO.: 12-53020.00
P.O. NUMBER:
PAGE 5 OF 5

PROJECT LOC. (State): NC
SAMPLER(s) NAME: G. Kuntz / G. Force
PHONE: 803-957-6270
FAX: 803-957-3845

CLIENT NAME: VIroGroup, Inc.
CLIENT PROJECT MANAGER: Greg Kuntz

CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Rd Lexington, SC 29072

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: VOC* 8240 / SVA 8270 / Metals* / Temperature

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (oil, solvent, etc)	VOC* 8240	SVA 8270	Metals*	Temperature	REMARKS
2-14-96	16:30		PDA 11B SWP Log # 13592		X			1	1	1		*Wilmington
	14:01		Equipment Blank 13593	X				3	2	1		Site Specific
			Trip Blank	X				3				List
			Temperature Blank	X							4	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Daniel	2/8	4:00				Gregory B. Kuntz	2/14/96	17:30
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
Beverley Neely	2/15/96	9:30	☑ YES ☐ NO		80894	

ORIGINAL

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80894

PROJECT NAME: SWP-Wilmington ~~12-53020.CO~~

PROJECT NUMBER: 12-53020.CO

WEATHER: windy (15mph w.) cloudy - 50°

SAMPLING METHOD: (SS) ~~Hand Auger~~ S+A Sec. III B (S+A III A)

DECONTAMINATION METHOD: As per Assess. Work Plan Sec. 2.6

WASTE DISPOSAL METHOD: As per Assess. Work Plan Sec. 2.7

WSB 1A

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TB ~~1A~~	2/14 96	9:17	0"-6"				~~TA~~ TB1A		GBK
TWSB 1B	2/14 96	9:24	12"-18"				TB1B		GBK
TWSB 2A	2/14 96	9:29	0"-6"				TB3A		GBK
TWSB 2B	2/14 96	9:37	12"-18"				TB3B		GBK
TWSB 3A	2/14 96	9:52	0"-6"				TB8A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz

Date: 2/14/96

PAGE 1 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80894

PROJECT NAME: SWP-W1

SAMPLING METHOD: SOA III B

PROJECT NUMBER: 12-53020.00

DECONTAMINATION METHOD: SOA II A

WEATHER: 50° windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TWSB 3B	2/14 96	10:05	12"-18"	N	N		TB8B		SB
TWSB 4A	2/14 96	10:20	0-6"	N	N		TB11A		SB
TWSB 4B	2/14 96	1030	12-18"	N	N		TB11B		SB
TWSB 5A	2/14 96	1045	0-6"	N	N		TB12A		SB
TWSB 5B	2/14/96	1055	12-18"	N	N		TB12B		SB

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Greg Zorce

Gregory B. Kurtz

Date: 2-14-96

PAGE 2 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

808894

PROJECT NAME: SWP. Wil

SAMPLING METHOD: S+A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S+A II A

WEATHER: 50° Windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TWSB 6A	2/14/96	11:03	0"-6"				TB14A		GBK
TWSB 6B	2/14/96	11:10	12"-18"				TB14B		GBK
TWSB 7A	2/14/96	11:19	0"-6"				TB18A		GBK
TWSB 7B	2/14 96	11:24	12"-18"				TB18B		GBK
TWSB 8A	2/14 96	11:30	0"-6"				TB19A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Joy Force

Date: 2/14/96

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80894

PROJECT NAME: SWP-W11

PROJECT NUMBER: 12-53020.CO

WEATHER: 50° windy cloudy

SAMPLING METHOD: S&A III B

DECONTAMINATION METHOD: S&A II A

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TWSB 8B	2/14 96	11:40	12"-18"				TB19B		GBK
TWSB 9A	2/14 96	11:45	0"-6"				TB21A		GBK
TWSB 9B	2/14 96	11:50	12"-18"				TB21B		GBK
TWSB 10A	2/14/96	12:00	0"-6"				TB25A		GBK
TWSB 10B	2/14 96	12:05	12"-18"				TB25B		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Jay Farr

Date: 2/14/96

PAGE 4 OF 11

60844

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wil

PROJECT NUMBER: 12-53020.CO

WEATHER: 50° cloudy windy

SAMPLING METHOD: S&A III B

DECONTAMINATION METHOD: S&A II A

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TW SB 11A	2/14 96	12:12	0"-6"				TB27A		GBK
TW SB 11B	2/14 96	12:16	12"-18"				TB27B		GBK
TW SB 12A	2/14 96	13:05	0"-6"				TB29A		GBK
TW SB 12B	2/14 96	13:11	12"-18"				TB29B		GBK
TW SB 13A	2/14 96	13:18	0"-6"				TB30A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregg B. Kirby / Greg Force

Date: 2/14/96

PAGE 5 OF 11

80894

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wil

PROJECT NUMBER: 12-53020.CO

WEATHER: 55° cloudy windy

SAMPLING METHOD: S&A III B

DECONTAMINATION METHOD: S&A II A

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
TW SB 13B	2/14 96	13:23	12"-18"				TB30B		GBK
TW SB 14A	2/14 96	13:28	0"-6"				TB34A		GBK
TW SB 14B	2/14 96	13:34	12"-18"				TB34B		GBK
TW SB 15A	2/14 96	13:42	0"-6"				TB39A		GBK
TW SB 15B	2/14 96	13:51	12"-18"				TB39B		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz

Date: 2/14/96

PAGE 6 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80844

PROJECT NAME: SWP-WIL

SAMPLING METHOD: SOA III B

PROJECT NUMBER: 12-53020.00

DECONTAMINATION METHOD: SOA II A

WEATHER: 55° cloudy windy

WASTE DISPOSAL METHOD: Workplan 2.7

	SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
15A	TWSB ~~15B~~ Dup 96	2/14	13:57	0"-6"				TB39A		GBK
	PDA 1A 96	2/14	14:20	0"-6"				PA4A		GBK
	PDA 1B 96	2/14	14:25	12"-18"				PA4B		GBK
	PDA 2A 96	2/14	14:33	0"-6"				PA6A		GBK
	PDA 2B 96	2/14	14:38	12"-18"				PA6B		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Kurtz

Date: 2/14/96

PAGE 7 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80894

PROJECT NAME: SWP-W11

PROJECT NUMBER: 12-53020.CO

WEATHER: 50° cloudy windy

SAMPLING METHOD: S&A III B

DECONTAMINATION METHOD: S&A II A

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 3A	2/14 96	14:42	0"-6"				PA7A		GBK
PDA 3B	2/14 96	14:52	12"-18"				PA7B		GBK
PDA 4A	~~27~~ 2/14/96	15:00	0-6"				PA12A		GBK
PDA 4B	2/14/96	15:05	12-18"	✓	✓		PA12B		GBK
PDA 5A	2/14/96	1520	0-6"				PA13A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Power

Date: 2/14/96

PAGE 8 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80894

PROJECT NAME: SWP-Withington

SAMPLING METHOD: S + A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S + A II A

WEATHER: 50° windy cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 5B	2/14/96	1528	12-18"				PA13B		DS
PDA 6A	2/14/96	1530	0-6				PA15A		DS
PDA 6B	2-14-96	(DS) ~~1545~~ 1535	12-18"				PA15B		DS
PDA 7A	2-14-96	DS ~~1545~~ 1540	0-6"				PA16A		DS
PDA 7B	2-14-96	1545	12-18"				PA16B		DS

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Greg Force

Date: 2-14-96

PAGE 9 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80894

PROJECT NAME: SWP-Wilmington

PROJECT NUMBER: 12-53020.CO

WEATHER: 50° Cloudy Windy

SAMPLING METHOD: S+A III B

DECONTAMINATION METHOD: S+A II A

WASTE DISPOSAL METHOD: Work Plan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 8A	2-14-96	1555	0-6"				PA 17 A		JR
PDA 8B	2-14-96	1600	12-18"				PA 17B		JR
PDA 9A	2-14-96	1605	0-6"				PA 18A		JR
PDA 9B	2-14-96	1610	12-18"				PA 18B		JR
PDA 10A	2-14-96	1615	0-6"				PA 25A		JR

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Jay Rose

Gregory B. Rusch

Date: 2-14-96

PAGE 10 OF 11

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

80894

PROJECT NAME: SWP-W;1

SAMPLING METHOD: S+A III B

PROJECT NUMBER: 12-53020.CO

DECONTAMINATION METHOD: S+A II A

WEATHER: Cloudy 50° windy

WASTE DISPOSAL METHOD: Work Plan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 10B	2-14-96	1620	12-18"				PA 25 B		SR
PDA 11A	2-14-96	1625	0-6"	slight	no		PA 33 A		SR
PDA 11B	2-14-96	1630	12-18"	Strong	yes		PA 33 B		SR

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Greg Force

Gregory B. Force

Date: 2-14-96

PAGE 11 OF 11

90894

STANDARDIZED GROUNDWATER PURGING AND SAMPLING FIELD DATA SHEET

WELL ID	WATER LEVEL DATE	WATER LEVEL DEPTH (TOC)	WELL DEPTH (TOC)	FLOATER THICKNESS (FT)	SINKER THICKNESS (FT)	ODOR*	CALIBRATION pH	CALIBRATION COND	PURGING DATE	PURGING TIME	PURGE METHOD	CALC. PURGE VOL.	VOL. PURGED (GAL)	TEMP (C)	COND (UMHOS)	pH	TURB**	SAMPLING DATE	SAMPLING TIME	SAMP. INT.	REMARKS
Equip Blank																		2/14 96	14:01	GBK	

Note descrepencies from below comments in the remarks section for each well:

- Well Locked
- Bailer Present
- Bottles Labeled
- Samples Iced
- Reference Point Inspected
- Well Casing Inspected
- Well Pad Inspected

Check When Complete:

- X Copy of All Notes Sent with Samples To Lab
- X Log Numbers Obtained For Samples
- X Samples Shipped FedEx Priority Overnight Daily
- ___ Confirmed Samples Arrived At Lab
- X All Data Recorded With An Indelible Waterproof Pen
- X Custody Form Completed
- X Cooler Sealed
- X All Purge Water Disposed Of At Designated Location
- X All Sampling Derived Waste Disposed as Potentially Hazardous Waste (i.e. gloves, plastic, twine, etc..)

SITE: SWP-W.1

WEATHER: 50° Cloudy Windy

COLLECTOR'S SIGN.: Gregory B. Kirby / Greg Foster

DATE/TIME: 2/14/96 14:30

*Very slight (VS), Slight (S), Moderate (M), Strong (ST), Very Strong (VST)

**Clear (C), Slight Turbid (ST), Turbid (T), Very Turbid (VT)

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808894

RECIPIENT'S COPY

1 Date 2-14-96

From (Your Name) Please Print: Greg Kuntz
Your Phone Number (Very Important): 803-957-6270
Company: ENVIRONMENTAL TECHNOLOGY ENG
Department/Floor No.:
Street Address: 1445 PISGAH CHURCH RD
City: LEXINGTON State: SC ZIP Required: 29072

2 To (Recipient's Name) Please Print: Gloria Fulwood
Recipient's Phone Number (Very Important): (912) 354-7858
Company: SAVANNAH LABORATORIES
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5102 LaRoche Ave
City: SAVANNAH State: GA ZIP Required: 31404

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 12-53020.CO

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
*Declared Value Limit $500.
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [ ] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE (Dangerous Goods Shipper's Declaration not required) Dry Ice, 9, UN 1845 ____ x ____ kg. 904
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT (In Pounds Only) | YOUR DECLARED VALUE (See right)
Total | Total | Total
DIM SHIPMENT (Chargeable Weight) [ ] ____ lbs.
L x W x H
Received At: 1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B.S.C. 5 [ ] Station

7 Release Signature:

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 5/93
FORMAT #158
158
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FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 8138568200

4118M 8138568200

808894

RECIPIENT'S COPY

1 Date 2/1/

From (Your Name) Please Print: Dim Aron
Your Phone Number (Very Important): (912-354-7858
Company: SAVANNAH LAB & ENV SVCS INC
Department/Floor No.:
Street Address: 5102 LAROCHE AVE
City: SAVANNAH State: GA ZIP Required: 31404

2 To (Recipient's Name) Please Print: CUSTODY
Recipient's Phone Number (Very Important): 912 354-7858
Company: SAVANNAH LAB & ENV SVCS INC.
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5102 LAROCHE AVE
City: SAVANNAH State: GA ZIP Required: 31404

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): Mark Dooley

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [ ] Bill Sender 2 [X] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [X] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [X] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may
*Declared Value Limit $500.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [X] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [X] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE (Dangerous Goods Shipper's Declaration not required) Dry Ice, 9, UN 1845 ____ x ____ kg. 904
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES 1 | WEIGHT (In Pounds Only) 7 | YOUR DECLARED VALUE (See right)
Total 1 | Total 7 | Total 45
DIM SHIPMENT (Chargeable Weight) [ ] ____ lbs.
L x W x H
Received At: 1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B.S.C. 5 [ ] Station

7 Release Signature:

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 8/93
FORMAT #158
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FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7689730005

7689730005

3148M

1 Date 2-14-96

RECIPIENT'S COPY

From (Your Name) Please Print: Greg Kuntz
Your Phone Number (Very Important): (803-)957-6270
Company: ENVIRONMENTAL TECHNOLOGY ENG
Department/Floor No.
Street Address: 1445 PISGAH CHURCH RD
City: LEXINGTON State: SC ZIP Required: 29072

2 To (Recipient's Name) Please Print: Gloria Fulwood
Recipient's Phone Number (Very Important): (912) 354-7858
Company: SAVANNAH LABORITOIES
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5102 LA ROACH AVE
City: SAVANNAH State: GA ZIP Required: 31404

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 12-53020.CO

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY**
*Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
†Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [✓] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 ____ x ____ kg. 904 lb
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right)
Total | Total 19 lbs | Total

DIM SHIPMENT (Chargeable Weight)
[ ] ____ lbs.
L x W x H

Received At
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

7 Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number
Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 5/93
FORMAT #158
158
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FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7689729972

7689729972

3148M

1 Date 2-14-96

RECIPIENT'S COPY

From (Your Name) Please Print: Greg Kuntz
Your Phone Number (Very Important): (803-)957-6270
Company: ENVIRONMENTAL TECHNOLOGY ENG
Department/Floor No.
Street Address: 1445 PISGAH CHURCH RD
City: LEXINGTON State: SC ZIP Required: 29072

2 To (Recipient's Name) Please Print: Gloria Fulwood
Recipient's Phone Number (Very Important): (912) 354-7858
Company: SAVANNAH LABORITORIES
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5102 LaRoche Ave
City: SAVANNAH State: GA ZIP Required: 31404

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 12-53020.CO

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY**
*Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [ ] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right)
Total | Total 50 lbs | Total

DIM SHIPMENT (Chargeable Weight)
L x W x H

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 5/93
FORMAT #158

FEDERAL EXPRESS

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USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE TRACKING NUMBER

3148M 7689729983

Date 2-14-96

RECIPIENT'S COPY

1

From (Your Name) Please Print: Greg Kuntz
Your Phone Number (Very Important): (803)-957-6270
Company: ENVIRONMENTAL TECHNOLOGY ENG
Department/Floor No.:
Street Address: 1445 PISGAH CHURCH RD
City: LEXINGTON State: SC ZIP Required: 29072

2

To (Recipient's Name) Please Print: SAVANNAH LABORATORIES
Recipient's Phone Number (Very Important): 912 354-7858
Company: Att. Gloria Fulwood
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5102 La Roche Ave
City: SAVANNAH State: GA ZIP Required: 31404

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 12-53020.CO

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address:
City: State: ZIP Required:

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon; No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
*Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (For packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** If Confirmed (service required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [X] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available at all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, UN 1845 ____ x ____ kg. 904 III
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES (Not Required)	WEIGHT (In Pounds Only)	YOUR DECLARED VALUE (See right)
Total	Total 158	Total 125

DIM SHIPMENT (Chargeable Weight) [ ] ____ lbs.
L x W x H
Received At: 1 [ ] Regular Stop 3 [ ] Drop Box 2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No.: Date:
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address:
City: State: Zip:
Received By: X
Date/Time Received: FedEx Employee Number:

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 5/93
FORMAT #158

158

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SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80894-64	Method Blank - Liquid
80894-65	Detection Limits
80894-66	Accuracy (mean % recovery)
80894-67	Precision (% RPD)
80894-68	Analyst Initials

PARAMETER	80894-64	80894-65	80894-66	80894-67	80894-68
2,4-Dinitrophenol, mg/l	ND	0.050	---	---	CB
Pentachlorophenol, mg/l	ND	0.050	76 %	4 %	CB
2,4,5-Trichlorophenol, mg/l	ND	---	---	---	CB
Carbazole, mg/l	ND	0.010	---	---	CB
Tetrachlorophenols, mg/l	ND	0.050	---	---	CB
Dilution factor	1.0	1.0	---	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80894-64	Method Blank - Liquid
80894-65	Detection Limits
80894-66	Accuracy (mean % recovery)
80894-67	Precision (% RPD)
80894-68	Analyst Initials

PARAMETER	80894-64	80894-65	80894-66	80894-67	80894-68
Volatiles by GC/MS (8240)					
Chloromethane, mg/l	ND	0.010	---	---	JJ
Bromomethane, mg/l	ND	0.010	---	---	JJ
Vinyl chloride, mg/l	ND	0.010	---	---	JJ
Chloroethane, mg/l	ND	0.010	---	---	JJ
Methylene chloride (Dichloromethane), mg/l	ND	0.0050	---	---	JJ
1,1-Dichloroethene, mg/l	ND	0.0050	110 %	4 %	JJ
1,1-Dichloroethane, mg/l	ND	0.0050	---	---	JJ
trans-1,2-Dichloroethylene, mg/l	ND	0.0050	---	---	JJ
1,2-Dichloroethane, mg/l	ND	0.0050	---	---	JJ
1,1,1-Trichloroethane, mg/l	ND	0.0050	---	---	JJ
Carbon tetrachloride, mg/l	ND	0.0050	---	---	JJ
Bromodichloromethane, mg/l	ND	0.0050	---	---	JJ
1,1,2,2-Tetrachloroethane, mg/l	ND	0.0050	---	---	JJ
1,2-Dichloropropane, mg/l	ND	0.0050	---	---	JJ
Trichloroethene, mg/l	ND	0.0050	104 %	0 %	JJ
Dibromochloromethane, mg/l	ND	0.0050	---	---	JJ
1,1,2-Trichloroethane, mg/l	ND	0.0050	---	---	JJ
Benzene, mg/l	ND	0.0050	99 %	2 %	JJ

SL SAVANNAH LABORATORIES
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CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80894-64	Method Blank - Liquid
80894-65	Detection Limits
80894-66	Accuracy (mean % recovery)
80894-67	Precision (% RPD)
80894-68	Analyst Initials

PARAMETER	80894-64	80894-65	80894-66	80894-67	80894-68
cis-1,3-Dichloropropene, mg/l	ND	0.0050	---	---	JJ
2-Chloroethylvinyl ether, mg/l	ND	0.050	---	---	JJ
Toluene, mg/l	ND	0.0050	100 %	10 %	JJ
Chlorobenzene, mg/l	ND	0.0050	101 %	11 %	JJ
Ethylbenzene, mg/l	ND	0.0050	---	---	JJ
1,2-Dibromomethane, mg/l	ND	0.0050	---	---	JJ
Trichlorofluoromethane, mg/l	ND	0.0050	---	---	JJ
Methyl tert-butyl ether (MTBE), mg/l	ND	0.050	---	---	JJ
Dichlorodifluoromethane, mg/l	ND	0.0050	---	---	JJ
m&p-Xylene, mg/l	ND	0.0050	---	---	JJ
p-Xylene, mg/l	ND	0.0050	---	---	JJ
Arsenic (6010), mg/l	ND	0.010	88 %	2.3 %	RR
Chromium (6010), mg/l	ND	0.010	100 %	3.0 %	RR
Copper (6010), mg/l	ND	0.025	98 %	3.1 %	RR

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80894-69	EPA Method Numbers
80894-70	Dates Extracted
80894-71	Dates Analyzed

PARAMETER	80894-69	80894-70	80894-71
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether	8270	02.16.96	02.21.96
Naphthalene	8270	02.16.96	02.21.96
Acenaphthylene	8270	02.16.96	02.21.96
Acenaphthene	8270	02.16.96	02.21.96
Phenanthrene	8270	02.16.96	02.21.96
Anthracene	8270	02.16.96	02.21.96
Fluoranthene	8270	02.16.96	02.21.96
Chrysene	8270	02.16.96	02.21.96
Benzo(a)anthracene	8270	02.16.96	02.21.96
Benzo(b)fluoranthene	8270	02.16.96	02.21.96
Benzo(k)fluoranthene	8270	02.16.96	02.21.96
Benzo(a)pyrene	8270	02.16.96	02.21.96
Indeno(1,2,3-cd)pyrene	8270	02.16.96	02.21.96
Dibenzo(a,h)anthracene	8270	02.16.96	02.21.96
2-Chlorophenol	8270	02.16.96	02.21.96
Phenol	8270	02.16.96	02.21.96
2,4-Dimethylphenol	8270	02.16.96	02.21.96
2,4,6-Trichlorophenol	8270	02.16.96	02.21.96
4-Chloro-3-methylphenol	8270	02.16.96	02.21.96
2,4-Dinitrophenol	8270	02.16.96	02.21.96
Pentachlorophenol	8270	02.16.96	02.21.96
2,4,5-Trichlorophenol	8270	02.16.96	02.21.96
Carbazole	8270	02.16.96	02.21.96
Tetrachlorophenols	8270	02.16.96	02.21.96

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80894
Received: 15 FEB 96
Reported: 06 MAR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington - 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80894-69	EPA Method Numbers
80894-70	Dates Extracted
80894-71	Dates Analyzed

PARAMETER	80894-69	80894-70	80894-71
Volatiles by GC/MS (8240)			
Chloromethane	8240	---	02.19.96
Bromomethane	8240	---	02.19.96
Vinyl chloride	8240	---	02.19.96
Chloroethane	8240	---	02.19.96
Methylene chloride (Dichloromethane)	8240	---	02.19.96
1,1-Dichloroethene	8240	---	02.19.96
1,1-Dichloroethane	8240	---	02.19.96
trans-1,2-Dichloroethylene	8240	---	02.19.96
1,2-Dichloroethane	8240	---	02.19.96
1,1,1-Trichloroethane	8240	---	02.19.96
Carbon tetrachloride	8240	---	02.19.96
Bromodichloromethane	8240	---	02.19.96
1,1,2,2-Tetrachloroethane	8240	---	02.19.96
1,2-Dichloropropane	8240	---	02.19.96
Trichloroethene	8240	---	02.19.96
Dibromochloromethane	8240	---	02.19.96
1,1,2-Trichloroethane	8240	---	02.19.96
Benzene	8240	---	02.19.96
cis-1,3-Dichloropropene	8240	---	02.19.96
2-Chloroethylvinyl ether	8240	---	02.19.96
Toluene	8240	---	02.19.96

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Received: 16 FEB 96
Reported: 29 FEB 96
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Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-1	NTB3 (0-6") (# 13596)	02-15-96
80935-2	NTB4 (0-6") (# 13597)	02-15-96
80935-3	TWS14 (0-6") (# 13598)	02-15-96
80935-4	TWS10 (0-6") (# 13599)	02-15-96
80935-5	PDA12C (0-6") (# 13600)	02-15-96

PARAMETER	80935-1	80935-2	80935-3	80935-4	80935-5
Total Organic Carbon (415.1), mg/kg dw	62000	43000	5800	13000	12000
Percent Solids (160.3), %	68	79	84	91	72

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-6	PDA13C (0-6") (# 13601)	02-15-96

PARAMETER	80935-6
Total Organic Carbon (415.1), mg/kg dw	29000
Percent Solids (160.3), %	83

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-7	LF2A (0-3") (# 13602)	02-15-96
80935-8	LF1A (0-6") (# 13603)	02-15-96
80935-9	LF2B (4-24") (# 13604)	02-15-96
80935-10	LF2C (24-40") (# 13605)	02-15-96
80935-11	LF1B (8-16") (# 13606)	02-15-96

PARAMETER	80935-7	80935-8	80935-9	80935-10	80935-11
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	4.2	2.0	2.8	0.44	2.8
Anthracene, mg/kg dw	10	5.7	5.0	ND	ND
Fluoranthene, mg/kg dw	11	10	8.2	0.88	8.1
Chrysene, mg/kg dw	8.0	8.7	5.5	0.48	5.8
Benzo(a)anthracene, mg/kg dw	7.0	6.9	4.3	ND	4.0
Benzo(b)fluoranthene, mg/kg dw	15	14	11	0.68	9.2
Benzo(k)fluoranthene, mg/kg dw	5.7	5.5	3.5	ND	3.7
Benzo(a)pyrene, mg/kg dw	9.2	8.1	6.2	ND	4.6
Indeno(1,2,3-cd)pyrene, mg/kg dw	7.4	5.1	5.3	ND	3.2
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

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80935-7	LF2A (0-3") (# 13602)	02-15-96
80935-8	LF1A (0-6") (# 13603)	02-15-96
80935-9	LF2B (4-24") (# 13604)	02-15-96
80935-10	LF2C (24-40") (# 13605)	02-15-96
80935-11	LF1B (8-16") (# 13606)	02-15-96

PARAMETER	80935-7	80935-8	80935-9	80935-10	80935-11
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	2.2	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/kg dw	21	20	14	0.68	13
1,1-Biphenyl, mg/kg dw	ND	ND	ND	ND	ND
1-Methylnaphthalene, mg/kg dw	ND	ND	ND	ND	ND
Cresol (ortho), mg/kg dw	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene, mg/kg dw	6.2	4.4	4.2	ND	2.8
Fluorene, mg/kg dw	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/kg dw	ND	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND	ND
Dibenzofuran, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	5.0	5.0	5.0	1.0	5.0
Arsenic (6010), mg/kg dw	6.2	5.9	13	5.3	22
Chromium (6010), mg/kg dw	1.3	1.3	1.5	ND	2.6
Copper (6010), mg/kg dw	8.2	7.7	7.9	ND	8.3
Total Kjeldahl Nitrogen-N, mg/kg dw	2100	2100	1600	710	71
Nitrate + Nitrite-N, mg/kg dw	ND	ND	ND	ND	ND
Total Phosphorus (365.4), mg/kg dw	730	1200	300	65	540
Total Organic Carbon (415.1), mg/kg dw	46000	41000	49000	2200	58000

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REPORT OF RESULTS

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80935-7	LF2A (0-3") (# 13602)	02-15-96
80935-8	LF1A (0-6") (# 13603)	02-15-96
80935-9	LF2B (4-24") (# 13604)	02-15-96
80935-10	LF2C (24-40") (# 13605)	02-15-96
80935-11	LF1B (8-16") (# 13606)	02-15-96

PARAMETER	80935-7	80935-8	80935-9	80935-10	80935-11
pH (9045), units	6.94	7.80	6.13	7.31	7.46
Chloride, mg/kg dw	77	110	150	ND	110
Percent Solids (160.3), %	85	89	81	81	90

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-12	LF1C (18-33") (# 13607)	02-15-96

PARAMETER	80935-12
Semivolatile Organics (8270)	
bis(2-Chloroethyl)ether, mg/kg dw	ND
Naphthalene, mg/kg dw	ND
Acenaphthylene, mg/kg dw	ND
Acenaphthene, mg/kg dw	ND
Phenanthrene, mg/kg dw	ND
Anthracene, mg/kg dw	ND
Fluoranthene, mg/kg dw	ND
Chrysene, mg/kg dw	ND
Benzo(a)anthracene, mg/kg dw	ND
Benzo(b)fluoranthene, mg/kg dw	ND
Benzo(k)fluoranthene, mg/kg dw	ND
Benzo(a)pyrene, mg/kg dw	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND
2-Chlorophenol, mg/kg dw	ND
Phenol, mg/kg dw	ND
2,4-Dimethylphenol, mg/kg dw	ND
2,4,6-Trichlorophenol, mg/kg dw	ND
4-Chloro-3-methylphenol, mg/kg dw	ND
2,4-Dinitrophenol, mg/kg dw	ND
Pentachlorophenol, mg/kg dw	ND
2,4,5-Trichlorophenol, mg/kg dw	ND
Carbazole, mg/kg dw	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-12	LF1C (18-33") (# 13607)	02-15-96

PARAMETER	80935-12
Tetrachlorophenols, mg/kg dw	ND
Benzo(b,k)fluoranthene, mg/kg dw	ND
1,1-Biphenyl, mg/kg dw	ND
1-Methylnaphthalene, mg/kg dw	ND
Cresol (ortho), mg/kg dw	ND
Benzo(g,h,i)perylene, mg/kg dw	ND
Fluorene, mg/kg dw	ND
2-Methylnaphthalene, mg/kg dw	ND
Cresol m & p, mg/kg dw	ND
Dibenzofuran, mg/kg dw	ND
Dilution factor	1.0
Arsenic (6010), mg/kg dw	6.4
Chromium (6010), mg/kg dw	ND
Copper (6010), mg/kg dw	ND
Total Kjeldahl Nitrogen-N, mg/kg dw	140
Nitrate + Nitrite-N, mg/kg dw	ND
Total Phosphorus (365.4), mg/kg dw	66
Total Organic Carbon (415.1), mg/kg dw	930
pH (9045), units	7.33
Chloride, mg/kg dw	ND
Percent Solids (160.3), %	90

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-13	SS-9 (0-3") (# 13608)	02-15-96
80935-14	SS-11 (0-6") (# 13609)	02-15-96
80935-15	SS-8 (0-6") (# 13610)	02-15-96
80935-16	SS-7 (0-6") (# 13611)	02-15-96
80935-17	SS-1 (0-6") (# 13612)	02-15-96

PARAMETER	80935-13	80935-14	80935-15	80935-16	80935-17
AVS Extractable Metals					
Cadmium (6010), mg/kg dw	ND	ND	0.31	0.18	0.97
Copper (6010), mg/kg dw	0.58	1.7	10	3.0	21
Nickel (6010), mg/kg dw	ND	ND	1.5	ND	2.8
Zinc, mg/kg dw	6.7	8.9	89	36	160
Lead (6010), mg/kg dw	5.0	5.6	54	22	220
Acid Volatile Sulfide, mg/kg dw	ND	ND	370	ND	ND
Total Organic Carbon (415.1), mg/kg dw	3000	4600	41000	25000	99000
Percent Solids (160.3), %	80	78	46	52	26

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-18	SS-12 (0-6") (# 13613)	02-15-96
80935-19	SS-12 DUP (0-6") (# 13614)	02-15-96
80935-20	SS-13 (0-6") (# 13615)	02-15-96

PARAMETER	80935-18	80935-19	80935-20
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND
Acenaphthene, mg/kg dw	1.8	1.9	ND
Phenanthrene, mg/kg dw	ND	ND	ND
Anthracene, mg/kg dw	1.1	ND	ND
Fluoranthene, mg/kg dw	6.8	6.0	10
Chrysene, mg/kg dw	2.4	1.6	3.0
Benzo(a)anthracene, mg/kg dw	1.9	1.4	2.3
Benzo(b)fluoranthene, mg/kg dw	2.0	1.5	2.2
Benzo(k)fluoranthene, mg/kg dw	ND	ND	ND
Benzo(a)pyrene, mg/kg dw	0.99	0.73	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND
Dilution factor	1.0	1.0	1.0

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80935-19	SS-12 DUP (0-6") (# 13614)	02-15-96
80935-20	SS-13 (0-6") (# 13615)	02-15-96

PARAMETER	80935-18	80935-19	80935-20
Volatiles by GC/MS (8240)			
Chloromethane, mg/kg dw	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80935-18	SS-12 (0-6") (# 13613)	02-15-96
80935-19	SS-12 DUP (0-6") (# 13614)	02-15-96
80935-20	SS-13 (0-6") (# 13615)	02-15-96

PARAMETER	80935-18	80935-19	80935-20
Chlorobenzene, mg/kg dw	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND
1,2-Dibromomethane, mg/kg dw	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND
Arsenic (6010), mg/kg dw	4.4	4.9	ND
Chromium (6010), mg/kg dw	2.4	2.4	ND
Copper (6010), mg/kg dw	11	13	16
Percent Solids (160.3), %	51	49	25

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80935-21	Method Blank
80935-22	Detection Limits
80935-23	Accuracy (mean % recovery)
80935-24	Precision (% RPD)
80935-25	Analyst Initials

PARAMETER	80935-21	80935-22	80935-23	80935-24	80935-25
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/kg dw	ND	0.33	---	---	CB
Naphthalene, mg/kg dw	ND	0.33	74 %	4 %	CB
Acenaphthylene, mg/kg dw	ND	0.33	73 %	0 %	CB
Acenaphthene, mg/kg dw	ND	0.33	72 %	0 %	CB
Phenanthrene, mg/kg dw	ND	0.33	74 %	4 %	CB
Anthracene, mg/kg dw	ND	0.33	76 %	0 %	CB
Fluoranthene, mg/kg dw	ND	0.33	91 %	0 %	CB
Chrysene, mg/kg dw	ND	0.33	82 %	0 %	CB
Benzo(a)anthracene, mg/kg dw	ND	0.33	82 %	0 %	CB
Benzo(b)fluoranthene, mg/kg dw	ND	0.33	88 %	0 %	CB
Benzo(k)fluoranthene, mg/kg dw	ND	0.33	80 %	4 %	CB
Benzo(a)pyrene, mg/kg dw	ND	0.33	82 %	0 %	CB
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	0.33	66 %	4 %	CB
Dibenzo(a,h)anthracene, mg/kg dw	ND	0.33	66 %	4 %	CB
2-Chlorophenol, mg/kg dw	ND	0.33	76 %	8 %	CB
Phenol, mg/kg dw	ND	0.33	68 %	4 %	CB
2,4-Dimethylphenol, mg/kg dw	ND	0.33	73 %	8 %	CB
2,4,6-Trichlorophenol, mg/kg dw	ND	0.33	90 %	3 %	CB
4-Chloro-3-methylphenol, mg/kg dw	ND	0.33	86 %	3 %	CB

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80935-21	Method Blank
80935-22	Detection Limits
80935-23	Accuracy (mean % recovery)
80935-24	Precision (% RPD)
80935-25	Analyst Initials

PARAMETER	80935-21	80935-22	80935-23	80935-24	80935-25
2,4-Dinitrophenol, mg/kg dw	ND	1.7	39 %	15 %	CB
Pentachlorophenol, mg/kg dw	ND	1.7	46 %	6 %	CB
2,4,5-Trichlorophenol, mg/kg dw	ND	0.33	---	---	CB
Carbazole, mg/kg dw	ND	0.33	64 %	0 %	CB
Tetrachlorophenols, mg/kg dw	ND	1.7	79 %	0 %	CB
Benzo(b,k)fluoranthene, mg/kg dw	ND	0.33	95 %	5 %	CB
1,1-Biphenyl, mg/kg dw	ND	0.33	---	---	CB
1-Methylnaphthalene, mg/kg dw	ND	0.33	---	---	CB
Cresol (ortho), mg/kg dw	ND	0.33	78 %	9 %	CB
Benzo(g,h,i)perylene, mg/kg dw	ND	0.33	69 %	0 %	CB
Fluorene, mg/kg dw	ND	0.33	70 %	1 %	CB
2-Methylnaphthalene, mg/kg dw	ND	0.33	---	---	CB
Cresol m & p, mg/kg dw	ND	0.33	84 %	6 %	CB
Dibenzofuran, mg/kg dw	ND	0.33	---	---	CB
Dilution factor	1.0	1.0	---	---	---

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LOG NO: S6-80935
Received: 16 FEB 96
Reported: 29 FEB 96
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Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80935-21	Method Blank
80935-22	Detection Limits
80935-23	Accuracy (mean % recovery)
80935-24	Precision (% RPD)
80935-25	Analyst Initials

PARAMETER	80935-21	80935-22	80935-23	80935-24	80935-25
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	0.010	---	---	CD
Bromomethane, mg/kg dw	ND	0.010	---	---	CD
Vinyl chloride, mg/kg dw	ND	0.010	---	---	CD
Chloroethane, mg/kg dw	ND	0.010	---	---	CD
Methylene chloride (Dichloromethane), mg/kg dw	ND	0.0050	---	---	CD
1,1-Dichloroethene, mg/kg dw	ND	0.0050	107 %	2 %	CD
1,1-Dichloroethane, mg/kg dw	ND	0.0050	---	---	CD
trans-1,2-Dichloroethylene, mg/kg dw	ND	0.0050	---	---	CD
1,2-Dichloroethane, mg/kg dw	ND	0.0050	---	---	CD
1,1,1-Trichloroethane, mg/kg dw	ND	0.0050	---	---	CD
Carbon tetrachloride, mg/kg dw	ND	0.0050	---	---	CD
Bromodichloromethane, mg/kg dw	ND	0.0050	---	---	CD
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	0.0050	---	---	CD
1,2-Dichloropropane, mg/kg dw	ND	0.0050	---	---	CD
Trichloroethene, mg/kg dw	ND	0.0050	105 %	6 %	CD
Dibromochloromethane, mg/kg dw	ND	0.0050	---	---	CD
1,1,2-Trichloroethane, mg/kg dw	ND	0.0050	---	---	CD
Benzene, mg/kg dw	ND	0.0050	98 %	0 %	CD

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80935-21	Method Blank
80935-22	Detection Limits
80935-23	Accuracy (mean % recovery)
80935-24	Precision (% RPD)
80935-25	Analyst Initials

PARAMETER	80935-21	80935-22	80935-23	80935-24	80935-25
cis-1,3-Dichloropropene, mg/kg dw	ND	0.0050	---	---	CD
2-Chloroethylvinyl ether, mg/kg dw	ND	0.050	---	---	CD
Toluene, mg/kg dw	ND	0.0050	94 %	4 %	CD
Chlorobenzene, mg/kg dw	ND	0.0050	101 %	6 %	CD
Ethylbenzene, mg/kg dw	ND	0.0050	---	---	CD
1,2-Dibromomethane, mg/kg dw	ND	0.0050	---	---	CD
Trichlorofluoromethane, mg/kg dw	ND	0.0050	---	---	CD
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	0.050	---	---	CD
Dichlorodifluoromethane, mg/kg dw	ND	0.0050	---	---	CD
m&p-Xylene, mg/kg dw	ND	0.0050	---	---	CD
o-Xylene, mg/kg dw	ND	0.0050	---	---	CD
Arsenic (6010), mg/kg dw	ND	1.0	88 %	1.1 %	DM
Chromium (6010), mg/kg dw	ND	1.0	100 %	1.0 %	DM
Copper (6010), mg/kg dw	ND	2.5	98 %	1.0 %	DM
Total Organic Carbon (415.1), mg/kg dw	ND	100	117 %	1.7 %	TH
Total Kjeldahl Nitrogen-N, mg/kg dw	ND	25	87 %	2.3 %	MM
Nitrate + Nitrite-N, mg/kg dw	ND	5.0	100 %	2.0 %	MM
Total Phosphorus (365.4), mg/kg dw	ND	25	98 %	2.0 %	TH
pH (9045), units	---	---	100 %	0 %	SJR
Chloride, mg/kg dw	ND	20	102 %	2.0 %	MM

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80935-21	Method Blank
80935-22	Detection Limits
80935-23	Accuracy (mean % recovery)
80935-24	Precision (% RPD)
80935-25	Analyst Initials

PARAMETER	80935-21	80935-22	80935-23	80935-24	80935-25
AVS Extractable Metals					
Cadmium (6010), mg/kg dw	ND	0.072	109 %	0 %	JM
Copper (6010), mg/kg dw	ND	0.36	113 %	0 %	JM
Nickel (6010), mg/kg dw	ND	0.58	112 %	0.90 %	JM
Zinc, mg/kg dw	ND	0.29	111 %	0 %	JM
Lead (6010), mg/kg dw	ND	0.72	106 %	0.94 %	JM
Acid Volatile Sulfide, mg/kg dw	ND	10	104 %	17 %	AW

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80935-26	EPA Method Numbers
80935-27	Dates Extracted
80935-28	Dates Analyzed

PARAMETER	80935-26	80935-27	80935-28
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether, mg/kg dw	8270	02.19.96	02.21.96
Naphthalene, mg/kg dw	8270	02.19.96	02.21.96
Acenaphthylene, mg/kg dw	8270	02.19.96	02.21.96
Acenaphthene, mg/kg dw	8270	02.19.96	02.21.96
Phenanthrene, mg/kg dw	8270	02.19.96	02.21.96
Anthracene, mg/kg dw	8270	02.19.96	02.21.96
Fluoranthene, mg/kg dw	8270	02.19.96	02.21.96
Chrysene, mg/kg dw	8270	02.19.96	02.21.96
Benzo(a)anthracene, mg/kg dw	8270	02.19.96	02.21.96
Benzo(b)fluoranthene, mg/kg dw	8270	02.19.96	02.21.96
Benzo(k)fluoranthene, mg/kg dw	8270	02.19.96	02.21.96
Benzo(a)pyrene, mg/kg dw	8270	02.19.96	02.21.96
Indeno(1,2,3-cd)pyrene, mg/kg dw	8270	02.19.96	02.21.96
Dibenzo(a,h)anthracene, mg/kg dw	8270	02.19.96	02.21.96
2-Chlorophenol, mg/kg dw	8270	02.19.96	02.21.96
Phenol, mg/kg dw	8270	02.19.96	02.21.96
2,4-Dimethylphenol, mg/kg dw	8270	02.19.96	02.21.96
2,4,6-Trichlorophenol, mg/kg dw	8270	02.19.96	02.21.96
4-Chloro-3-methylphenol, mg/kg dw	8270	02.19.96	02.21.96
2,4-Dinitrophenol, mg/kg dw	8270	02.19.96	02.21.96
Pentachlorophenol, mg/kg dw	8270	02.19.96	02.21.96

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80935-26	EPA Method Numbers
80935-27	Dates Extracted
80935-28	Dates Analyzed

PARAMETER	80935-26	80935-27	80935-28
2,4,5-Trichlorophenol, mg/kg dw	8270	02.19.96	02.21.96
Carbazole, mg/kg dw	8270	02.19.96	02.21.96
Tetrachlorophenols, mg/kg dw	8270	02.19.96	02.21.96
Benzo(b,k)fluoranthene, mg/kg dw	8270	02.19.96	02.21.96
1,1-Biphenyl, mg/kg dw	8270	02.19.96	02.21.96
1-Methylnaphthalene, mg/kg dw	8270	02.19.96	02.21.96
Cresol (ortho), mg/kg dw	8270	02.19.96	02.21.96
Benzo(g,h,i)perylene, mg/kg dw	8270	02.19.96	02.21.96
Fluorene, mg/kg dw	8270	02.19.96	02.21.96
2-Methylnaphthalene, mg/kg dw	8270	02.19.96	02.21.96
Cresol m & p, mg/kg dw	8270	02.19.96	02.21.96
Dibenzofuran, mg/kg dw	8270	02.19.96	02.21.96

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80935-26	EPA Method Numbers
80935-27	Dates Extracted
80935-28	Dates Analyzed

PARAMETER	80935-26	80935-27	80935-28
Volatiles by GC/MS (8240)			
Chloromethane	8240	---	02.20.96
Bromomethane	8240	---	02.20.96
Vinyl chloride	8240	---	02.20.96
Chloroethane	8240	---	02.20.96
Methylene chloride (Dichloromethane)	8240	---	02.20.96
1,1-Dichloroethene	8240	---	02.20.96
1,1-Dichloroethane	8240	---	02.20.96
trans-1,2-Dichloroethylene	8240	---	02.20.96
1,2-Dichloroethane	8240	---	02.20.96
1,1,1-Trichloroethane	8240	---	02.20.96
Carbon tetrachloride	8240	---	02.20.96
Bromodichloromethane	8240	---	02.20.96
1,1,2,2-Tetrachloroethane	8240	---	02.20.96
1,2-Dichloropropane	8240	---	02.20.96
Trichloroethene	8240	---	02.20.96
Dibromochloromethane	8240	---	02.20.96
1,1,2-Trichloroethane	8240	---	02.20.96
Benzene	8240	---	02.20.96
cis-1,3-Dichloropropene	8240	---	02.20.96
2-Chloroethylvinyl ether	8240	---	02.20.96
Toluene	8240	---	02.20.96

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80935-26	EPA Method Numbers
80935-27	Dates Extracted
80935-28	Dates Analyzed

PARAMETER	80935-26	80935-27	80935-28
Chlorobenzene	8240	---	02.20.96
Ethylbenzene	8240	---	02.20.96
1,2-Dibromomethane	8240	---	02.20.96
Trichlorofluoromethane	8240	---	02.20.96
Methyl tert-butyl ether (MTBE)	8240	---	02.20.96
Dichlorodifluoromethane	8240	---	02.20.96
m&p-Xylene	8240	---	02.20.96
o-Xylene	8240	---	02.20.96
Arsenic (6010)	6010	---	02.21.96
Chromium (6010)	6010	---	02.22.96
Copper (6010)	6010	---	02.21.96
Total Organic Carbon (415.1)	9060	---	02.20.96
Total Kjeldahl Nitrogen-N	3-202	---	02.23.96
Nitrate + Nitrite-N	EPACE3-183	02.21.96	02.23.96
Total Phosphorus (365.4)	365.4	---	02.27.96
pH (9045)	9045	02.27.96	02.27.96
Chloride	9251	02.21.96	02.23.96
AVS Extractable Metals			
Cadmium (6010)	6010	02.22.96	02.23.96
Copper (6010)	6010	02.22.96	02.23.96
Nickel (6010)	6010	02.22.96	02.23.96
Zinc	6010	02.22.96	02.23.96
Lead (6010)	6010	02.22.96	02.23.96
Acid Volatile Sulfide	68-03-3534	---	02.29.96

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80935-29	Equipment Blank-LF	02-15-96
80935-30	Equipment Blank-SS	02-15-96

PARAMETER	80935-29	80935-30
Semivolatile Organics (8270)		
bis(2-Chloroethyl)ether, mg/l	ND	ND
Naphthalene, mg/l	ND	ND
Acenaphthylene, mg/l	ND	ND
Acenaphthene, mg/l	ND	ND
Phenanthrene, mg/l	ND	ND
Anthracene, mg/l	ND	ND
Fluoranthene, mg/l	ND	ND
Chrysene, mg/l	ND	ND
Benzo(a)anthracene, mg/l	ND	ND
Benzo(b)fluoranthene, mg/l	ND	ND
Benzo(k)fluoranthene, mg/l	ND	ND
Benzo(a)pyrene, mg/l	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND
2-Chlorophenol, mg/l	ND	ND
Phenol, mg/l	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND
4-Chloro-3-methylphenol, mg/l	ND	ND
2,4-Dinitrophenol, mg/l	ND	ND
Pentachlorophenol, mg/l	ND	ND
2,4,5-Trichlorophenol, mg/l	ND	ND
Carbazole, mg/l	ND	ND
Tetrachlorophenols, mg/l	ND	ND
Dilution factor	1.0	1.0

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80935-29	Equipment Blank-LF	02-15-96
80935-30	Equipment Blank-SS	02-15-96

PARAMETER	80935-29	80935-30
Volatiles by GC/MS (8240)		
Chloromethane, mg/l	ND	ND
Bromomethane, mg/l	ND	ND
Vinyl chloride, mg/l	ND	ND
Chloroethane, mg/l	ND	ND
Methylene chloride (Dichloromethane), mg/l	ND	ND
1,1-Dichloroethene, mg/l	ND	ND
1,1-Dichloroethane, mg/l	ND	ND
trans-1,2-Dichloroethylene, mg/l	ND	ND
1,2-Dichloroethane, mg/l	ND	ND
1,1,1-Trichloroethane, mg/l	ND	ND
Carbon tetrachloride, mg/l	ND	ND
Bromodichloromethane, mg/l	ND	ND
1,1,2,2-Tetrachloroethane, mg/l	ND	ND
1,2-Dichloropropane, mg/l	ND	ND
Trichloroethene, mg/l	ND	ND
Dibromochloromethane, mg/l	ND	ND
1,1,2-Trichloroethane, mg/l	ND	ND
Benzene, mg/l	ND	ND
cis-1,3-Dichloropropene, mg/l	ND	ND
2-Chloroethylvinyl ether, mg/l	ND	ND
Toluene, mg/l	ND	ND
Chlorobenzene, mg/l	ND	ND

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LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80935-29	Equipment Blank-LF	02-15-96
80935-30	Equipment Blank-SS	02-15-96

PARAMETER	80935-29	80935-30
Ethylbenzene, mg/l	ND	ND
1,2-Dibromomethane, mg/l	ND	ND
Trichlorofluoromethane, mg/l	ND	ND
Methyl tert-butyl ether (MTBE), mg/l	ND	ND
Dichlorodifluoromethane, mg/l	ND	ND
m&p-Xylene, mg/l	ND	ND
o-Xylene, mg/l	ND	ND
Arsenic (6010), mg/l	ND	ND
Chromium (6010), mg/l	ND	ND
Copper (6010), mg/l	ND	ND

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80935-31	Method Blank
80935-32	Detection Limits
80935-33	Accuracy (mean % recovery)
80935-34	Precision (% RPD)
80935-35	Analyst Initials

PARAMETER	80935-31	80935-32	80935-33	80935-34	80935-35
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/l	ND	0.010	---	---	LB
Naphthalene, mg/l	ND	0.010	62 %	2 %	LB
Acenaphthylene, mg/l	ND	0.010	76 %	1 %	LB
Acenaphthene, mg/l	ND	0.010	76 %	1 %	LB
Phenanthrene, mg/l	ND	0.010	78 %	0 %	LB
Anthracene, mg/l	ND	0.010	78 %	1 %	LB
Fluoranthene, mg/l	ND	0.010	79 %	0 %	LB
Chrysene, mg/l	ND	0.010	78 %	1 %	LB
Benzo(a)anthracene, mg/l	ND	0.010	88 %	0 %	LB
Benzo(b)fluoranthene, mg/l	ND	0.010	73 %	3 %	LB
Benzo(k)fluoranthene, mg/l	ND	0.010	78 %	0 %	LB
Benzo(a)pyrene, mg/l	ND	0.010	76 %	1 %	LB
Indeno(1,2,3-cd)pyrene, mg/l	ND	0.010	77 %	0 %	LB
Dibenzo(a,h)anthracene, mg/l	ND	0.010	74 %	0 %	LB
2-Chlorophenol, mg/l	ND	0.010	72 %	0 %	LB
Phenol, mg/l	ND	0.010	66 %	0 %	LB
2,4-Dimethylphenol, mg/l	ND	0.010	75 %	3 %	LB
2,4,6-Trichlorophenol, mg/l	ND	0.010	74 %	1 %	LB
4-Chloro-3-methylphenol, mg/l	ND	0.010	72 %	0 %	LB

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80935-31	Method Blank
80935-32	Detection Limits
80935-33	Accuracy (mean % recovery)
80935-34	Precision (% RPD)
80935-35	Analyst Initials

PARAMETER	80935-31	80935-32	80935-33	80935-34	80935-35
2,4-Dinitrophenol, mg/l	ND	0.050	105 %	10 %	LB
Pentachlorophenol, mg/l	ND	0.050	77 %	0 %	LB
2,4,5-Trichlorophenol, mg/l	ND	0.010	---	---	LB
Carbazole, mg/l	ND	0.010	84 %	1 %	LB
Tetrachlorophenols, mg/l	ND	0.050	74 %	0 %	LB
Dilution factor	1.0	1.0	---	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80935
Received: 16 FEB 96
Reported: 29 FEB 96
Revised 09 APR 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80935-31	Method Blank
80935-32	Detection Limits
80935-33	Accuracy (mean % recovery)
80935-34	Precision (% RPD)
80935-35	Analyst Initials

PARAMETER	80935-31	80935-32	80935-33	80935-34	80935-35
Volatiles by GC/MS (8240)					
Chloromethane, mg/l	ND	0.010	---	---	CD
Bromomethane, mg/l	ND	0.010	---	---	CD
Vinyl chloride, mg/l	ND	0.010	---	---	CD
Chloroethane, mg/l	ND	0.010	---	---	CD
Methylene chloride (Dichloromethane), mg/l	ND	0.0050	---	---	CD
1,1-Dichloroethene, mg/l	ND	0.0050	110 %	4 %	CD
1,1-Dichloroethane, mg/l	ND	0.0050	---	---	CD
trans-1,2-Dichloroethylene, mg/l	ND	0.0050	---	---	CD
1,2-Dichloroethane, mg/l	ND	0.0050	---	---	CD
1,1,1-Trichloroethane, mg/l	ND	0.0050	---	---	CD
Carbon tetrachloride, mg/l	ND	0.0050	---	---	CD
Bromodichloromethane, mg/l	ND	0.0050	---	---	CD
1,1,2,2-Tetrachloroethane, mg/l	ND	0.0050	---	---	CD
1,2-Dichloropropane, mg/l	ND	0.0050	---	---	CD
Trichloroethene, mg/l	ND	0.0050	104 %	0 %	CD
Dibromochloromethane, mg/l	ND	0.0050	---	---	CD
1,1,2-Trichloroethane, mg/l	ND	0.0050	---	---	CD
Benzene, mg/l	ND	0.0050	99 %	2 %	CD

SL SAVANNAH LABORATORIES
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REPORT OF RESULTS

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80935-31	Method Blank
80935-32	Detection Limits
80935-33	Accuracy (mean % recovery)
80935-34	Precision (% RPD)
80935-35	Analyst Initials

PARAMETER	80935-31	80935-32	80935-33	80935-34	80935-35
cis-1,3-Dichloropropene, mg/l	ND	0.0050	---	---	CD
2-Chloroethylvinyl ether, mg/l	ND	0.050	---	---	CD
Toluene, mg/l	ND	0.0050	100 %	0 %	CD
Chlorobenzene, mg/l	ND	0.0050	101 %	2 %	CD
Ethylbenzene, mg/l	ND	0.0050	---	---	CD
1,2-Dibromomethane, mg/l	ND	0.0050	---	---	CD
Trichlorofluoromethane, mg/l	ND	0.0050	---	---	CD
Methyl tert-butyl ether (MTBE), mg/l	ND	0.050	---	---	CD
Dichlorodifluoromethane, mg/l	ND	0.0050	---	---	CD
m&p-Xylene, mg/l	ND	0.0050	---	---	CD
o-Xylene, mg/l	ND	0.0050	---	---	CD
Arsenic (6010), mg/l	ND	0.010	95 %	4.2 %	DM
Chromium (6010), mg/l	ND	0.010	100 %	4.0 %	DM
Copper (6010), mg/l	ND	0.025	100 %	5.0 %	DM

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80935-36	EPA Method Numbers
80935-37	Dates Extracted
80935-38	Dates Analyzed

PARAMETER	80935-36	80935-37	80935-38
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether	8270	02.19.96	02.22.96
Naphthalene	8270	02.19.96	02.22.96
Acenaphthylene	8270	02.19.96	02.22.96
Acenaphthene	8270	02.19.96	02.22.96
Phenanthrene	8270	02.19.96	02.22.96
Anthracene	8270	02.19.96	02.22.96
Fluoranthene	8270	02.19.96	02.22.96
Chrysene	8270	02.19.96	02.22.96
Benzo(a)anthracene	8270	02.19.96	02.22.96
Benzo(b)fluoranthene	8270	02.19.96	02.22.96
Benzo(k)fluoranthene	8270	02.19.96	02.22.96
Benzo(a)pyrene	8270	02.19.96	02.22.96
Indeno(1,2,3-cd)pyrene	8270	02.19.96	02.22.96
Dibenzo(a,h)anthracene	8270	02.19.96	02.22.96
2-Chlorophenol	8270	02.19.96	02.22.96
Phenol	8270	02.19.96	02.22.96
2,4-Dimethylphenol	8270	02.19.96	02.22.96
2,4,6-Trichlorophenol	8270	02.19.96	02.22.96
4-Chloro-3-methylphenol	8270	02.19.96	02.22.96
2,4-Dinitrophenol	8270	02.19.96	02.22.96
Pentachlorophenol	8270	02.19.96	02.22.96
2,4,5-Trichlorophenol	8270	02.19.96	02.22.96
Carbazole	8270	02.19.96	02.22.96
Tetrachlorophenols	8270	02.19.96	02.22.96

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Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80935-36	EPA Method Numbers
80935-37	Dates Extracted
80935-38	Dates Analyzed

PARAMETER	80935-36	80935-37	80935-38
Volatiles by GC/MS (8240)			
Chloromethane	8240	---	02.19.96
Bromomethane	8240	---	02.19.96
Vinyl chloride	8240	---	02.19.96
Chloroethane	8240	---	02.19.96
Methylene chloride (Dichloromethane)	8240	---	02.19.96
1,1-Dichloroethene	8240	---	02.19.96
1,1-Dichloroethane	8240	---	02.19.96
trans-1,2-Dichloroethylene	8240	---	02.19.96
1,2-Dichloroethane	8240	---	02.19.96
1,1,1-Trichloroethane	8240	---	02.19.96
Carbon tetrachloride	8240	---	02.19.96
Bromodichloromethane	8240	---	02.19.96
1,1,2,2-Tetrachloroethane	8240	---	02.19.96
1,2-Dichloropropane	8240	---	02.19.96
Trichloroethene	8240	---	02.19.96
Dibromochloromethane	8240	---	02.19.96
1,1,2-Trichloroethane	8240	---	02.19.96
Benzene	8240	---	02.19.96
cis-1,3-Dichloropropene	8240	---	02.19.96
2-Chloroethylvinyl ether	8240	---	02.19.96
Toluene	8240	---	02.19.96

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80935-36	EPA Method Numbers
80935-37	Dates Extracted
80935-38	Dates Analyzed

PARAMETER	80935-36	80935-37	80935-38
Chlorobenzene	8240	---	02.19.96
Ethylbenzene	8240	---	02.19.96
1,2-Dibromomethane	8240	---	02.19.96
Trichlorofluoromethane	8240	---	02.19.96
Methyl tert-butyl ether (MTBE)	8240	---	02.19.96
Dichlorodifluoromethane	8240	---	02.19.96
m&p-Xylene	8240	---	02.19.96
o-Xylene	8240	---	02.19.96
Arsenic (6010)	6010	---	02.21.96
Chromium (6010)	6010	---	02.21.96
Copper (6010)	6010	---	02.21.96

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D., Project Manager

Final Page Of Report

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: SOA III B

PROJECT NUMBER: 12-53020.00

DECONTAMINATION METHOD: SOA II A

WEATHER: 45° cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
PDA 13C	2/15 96	9:55	0"-6"	S			PA8A		GBK
LF 2A	2/15 96	10:20	0"-6"				Sent to Triangle for High Resolution Dioxins & Furans Method 8290		GBK
LF 1A	2/15/96	1030	0"-6"				"	"	DP
LF 2A	2-15-96	10:35	0-3"						GBK
LF 1A	2/15 96	10:45	0"-3"						GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kenitz

Date: 2/15/96

PAGE 13 OF

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: IWP-Wilmington

SAMPLE METHOD: S&A III B

PROJECT NUMBER: 12-53020.co

DECONTAMINATION METHOD: S&A II A

WEATHER: 50° Cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
LF 2 B	2/15/96	11:45	4"-24"	M					GBK
LF 2 C	2/15 96	11:55	24"-40"	N					GBK
LF 1 B	2/15 96	13:20	8"-16"	N					GBK
LF 1 C	2/15 96	13:25	18"-33"	N					GBK
SS9	2/15 96	13:55	0"-6"	M	Y				

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Greg Force

Date: 2/15/96

PAGE 14 OF ___

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S&A IV C

PROJECT NUMBER: 12-53020.00

DECONTAMINATION METHOD: S&A II A

WEATHER: 55° cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS-11	2/15 96	14:15	0"-6"	S	Y				GBK
SS-8	2/15 96	14:40	0"-6"	S	Y				GBK
SS-7	2/15 96	15:00	0"-6"	S	Y				GBK
SS1	2/15 96	15:20	0"-6"	~~N~~ W	N				GBK
SS12	2/15 96	16:55	0"-6"	M	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B Kurtz Greg Force

Date: 2/15/96

PAGE 15 OF

SOIL/SEDIMENT SAMPLE COLLECTION

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: S&A IV C

PROJECT NUMBER: 12-53020-00

DECONTAMINATION METHOD: S&A II A

WEATHER: 60° cloudy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS 12 Dup	2/15 96	17:00	0"-6"	M	N				GBK
SS 13	2/15 96	17:10	0"-6"	S	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kenty / Greg Force

Date: 2/15/96

PAGE 16 OF ___

PROJECT NAME: SWP-Wilmington

PROJECT NUMBER: 12-53020.CO

WEATHER: Cloudy 50° light wind from W.

SAMPLING METHOD: S&A III B

DECONTAMINATION METHOD: S&A II A

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
NTB3	021596	0910	0"-6"	N			NTB3		G.F.
NTB4	021596	0920	0"-6"	N			NTB4		G.F
TWS14	021596	0935	0"-6"	N			TWS14		G.F.
TWS10	2/15/96	9:40	0"-6"	N			TWS10		GBK
PDA 12C	2/15/96	9:50	0"-6"	N			PA32A		GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz / Sig Force

Date: 2/15/96

PAGE 12 OF ___

STANDARDIZED GROUNDWATER PURGING AND SAMPLING FIELD DATA SHEET

WELL ID	WATER LEVEL DATE	WATER LEVEL DEPTH (TOC)	WELL DEPTH (TOC)	FLOATER THICKNESS (FT)	SINKER THICKNESS (FT)	ODOR*	CALIBRATION pH	CALIBRATION COND	PURGING DATE	PURGING TIME	PURGE METHOD	CALC. PURGE VOL.	VOL. PURGED (GAL)	TEMP (C)	COND (UMHOS)	pH	TURB**	SAMPLING DATE	SAMPLING TIME	SAMP. INT.	REMARKS
Equip Blank																		2/14 96	14:01	GBK	Grid Sampling TWSA & PA
Equip Blank																		2/15 96	12:05	GBK	Landfarm Soil Sampling
Equip Blank																		2/15 96	15:50	GBK	Sediment Sampling

Note descrepencies from below comments in the remarks section for each well:

- Well Locked
- Bailer Present
- Bottles Labeled
- Samples Iced
- Reference Point Inspected
- Well Casing Inspected
- Well Pad Inspected

Check When Complete:

- X Copy of All Notes Sent with Samples To Lab
- X Log Numbers Obtained For Samples
- X Samples Shipped FedEx Priority Overnight Daily
- ___ Confirmed Samples Arrived At Lab
- X All Data Recorded With An Indelible Waterproof Pen
- X Custody Form Completed
- X Cooler Sealed
- X All Purge Water Disposed Of At Designated Location
- X All Sampling Derived Waste Disposed as Potentially Hazardous Waste (i.e. gloves, plastic, twine, etc..)

SITE: SWP-W.1

WEATHER: 50° Cloudy Windy

COLLECTOR'S SIGN.: Gregory B. Kirby / Greg Foster

DATE/TIME: 2/14/96 14:30

*Very slight (VS), Slight (S), Moderate (M), Strong (ST), Very Strong (VST)

**Clear (C), Slight Turbid (ST), Turbid (T), Very Turbid (VT)

Serial Number 40051

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ 2 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
☐ 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
SWP-Wilmington	12-53020.00	

PROJECT LOC. (State)	SAMPLER(s) NAME	PHONE	FAX
NC	G. Kurtz / G. Force	803-957-6270	803-957-3845

CLIENT NAME	CLIENT PROJECT MANAGER
VIroGroup, Inc.	Greg Kurtz

CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Road Lexington, SC 29072

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: TOC 415.1; SV 8270; Metals-As, Cr, Cu *; Nutrients + Nitrogen *; AVS-SEM

PAGE 1 OF 2

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	TOC 415.1	SV 8270	Metals-As, Cr, Cu	Nutrients + Nitrogen	AVS-SEM		REMARKS
2/15/96	9:10		NTB3 SWP Log# 13596	X			1						Metals	As 7060
	9:20		NTB4 13597											Cr 6010
	9:35		TWS14 13598											Cu 6010
	9:40		TWS10 13599										Nutrients	Kjeldahl N 351.2
	9:50		PDA12C 13600											N+N-N 353.1
	9:55		PDA13C 13601											Phos 365.1
	10:35		LF2A 13602					1	1	1				TOC 415.1
	10:45		LF1A 13603											pH 150.1
	11:45		LF2B 13604											Chloride 325.1
	11:55		LF2C 13605											AVS-SEM 6010
	13:20		LF1B 13606											
	13:25		LF1C 13607											
	13:55		SS-9 13608				1				1			

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
S. Campbell	2/15/96	5:10				Gregory B. Kurtz	2/15/96	18:45

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
S. Campbell	2/16/96	9:32	☑ YES ☐ NO		80935	* analyze all AVS-SEM samples for AVS-H2S per G. Kurtz 2/20/96 G. Fulmer

ORIGINAL

Serial Number 40050

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ 5102 LaRoche Avenue, Savannah, GA 31404 Phone: (912) 354-7858 Fax: (912) 352-0165
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☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 Phone: (504) 764-1100 Fax: (504) 725-1163

PROJECT REFERENCE: SWP-Wilmington
PROJECT NO.: 12-53020.00
P.O. NUMBER:
PAGE 2 OF 2

PROJECT LOC. (State): NC
SAMPLER(s) NAME: G. Kuntz / G. Force
PHONE: 803-957-6270
FAX: 803-957-3845

CLIENT NAME: ViroGroup, Inc.
CLIENT PROJECT MANAGER: Greg Kuntz
CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Rd Lexington, SC 29072

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: AVS-SEM / VOC 8240 / SV 8270 / Metals* / Temperature / TOC 415.1

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION		AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	AVS-SEM	VOC 8240	SV 8270	Metals*	Temperature	TOC 415.1					REMARKS
2/15/96	14:15		SS-11	SWP Log# 13609	X				1					1					AVS-SEM 6010
	14:40		SS8	13610					1					1					
	15:00		SS7	13611					1					1					*Wilmington Site
	15:20		SS1	13612					1					1					Specific List
	16:55		SS12	13613						1	1	1							VOC, SV, As, Cr,
	12:05		Equipment Blank - LF		X					3	2	1							Cu
	15:50		Equipment Blank - SS							3	2	1							
			Trip Blank						*	3									
			Temperature Blank										2						
	17:00		SS12-Dup	13614		X				1	1	1							
	17:10		SS13	13615		X				1	1	1							

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
S. Campbell	2/16/96	4:50				Gregory B. Kuntz	2/15/96	18:45

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
A. Campbell	2/16/96	9:32	☒ YES ☐ NO		80935	* Did not receive Trip Blank. Notified Sandra Watson. 2/20/96 G. Fulmond

ORIGINAL

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE TRACKING NUMBER

3148M 7689732201

SENDER'S COPY

DROP OFF YOUR PACKAGE AND SAVE

1 SENDER'S FEDERAL EXPRESS ACCOUNT NUMBER: 1162-6416-1 | Date: 2-15-96

From (Your Name) Please Print: Greg Kuntz | Your Phone Number (Very Important): (803)-957-6270

Company: ENVIRONMENTAL TECHNOLOGY ENG | Department/Floor No.:

Street Address: 1445 PISGAH CHURCH RD

City: LEXINGTON | State: SC | ZIP Required: 29072

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 12 53020.CO

2 To (Recipient's Name) Please Print: Lisa Fulwood | Recipient's Phone Number (Very Important): (912)354-7[illegible]

Company: Savannah Laboratories | Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5102 LaRoche Ave

City: Savannah | State: GA | ZIP Required: 31404

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here: Street Address | City | State | ZIP Required

3 PAYMENT: 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check — Acct./Credit Card No. ____ Exp. Date ____

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning): 11 [X] OTHER PACKAGING; 16 [ ] FEDEX LETTER*; 12 [ ] FEDEX PAK*; 13 [ ] FEDEX BOX; 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery): 51 [ ] OTHER PACKAGING; 56 [ ] FEDEX LETTER*; 52 [ ] FEDEX PAK*; 53 [ ] FEDEX BOX; 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †): 30 [ ] ECONOMY*

Government Overnight (Restricted for authorized users only): 46 [ ] GOVT LETTER; 41 [ ] GOVT PACKAGE

* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Freight Service (for packages over 150 lbs): 70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required); 80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas. *Declared Value Limit $500 **Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service: 1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H); 2 [X] DELIVER WEEKDAY

Saturday Service: 31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H); 3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations); 9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling: 4 [ ] DANGEROUS GOODS (Extra charge); 6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required — Dry Ice: 9 UN 1845, ____ x ____ kg. 904 III; [ ] DESCRIPTION; 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right) — Total | Total | Total

DIM SHIPMENT (Chargeable Weight): [ ] lbs. L x W x H

Received At: 1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B.S.C. 5 [ ] Station

7 Release Signature: ____

SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY

Use of this airbill constitutes your agreement to the service conditions in our current Service Guide, available upon request. See back of sender's copy of this airbill for information. Service conditions may vary for Government Overnight Service. See U.S. Government Service Guide for details.

We will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss for a timely claim. Limitations found in the current Federal Express Service Guide apply. Your right to recover from Federal Express for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the declared value specified to the left. Recovery cannot exceed actual documented loss. The maximum Declared Value for FedEx Letter and FedEx Pak packages is $500.

In the event of untimely delivery, Federal Express will at your request and with some limitations refund all transportation charges paid. See Service Guide for further information.

Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

Federal Express Use: Base Charges; Declared Value Charge; Other 1; Other 2; Total Charges

REVISION DATE 12/92 PART #137204 FXEM 5/93 FORMAT #158 158 ©1992-93 FEDEX PRINTED IN USA

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7689732223

3148M 7689732223

SENDER'S COPY

DROP OFF YOUR PACKAGE AND SAVE

1 SENDER'S FEDERAL EXPRESS ACCOUNT NUMBER: 1162-6416-1 | Date: [illegible]

From (Your Name) Please Print: [illegible] | Your Phone Number (Very Important): (803)-957-6270

Company: ENVIRONMENTAL TECHNOLOGY ENG | Department/Floor No.:

Street Address: 1445 PISGAH CHURCH RD

City: LEXINGTON | State: SC | ZIP Required: 29072

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): [illegible]

2 To (Recipient's Name) Please Print: [illegible] | Recipient's Phone Number (Very Important): [illegible]

Company: [illegible] | Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): [illegible]

City: [illegible] | State: NC | ZIP Required: 27713

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here: Street Address | City | State | ZIP Required

3 PAYMENT: 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check — Acct./Credit Card No. ____ Exp. Date ____

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning): 11 [X] OTHER PACKAGING; 16 [ ] FEDEX LETTER*; 12 [ ] FEDEX PAK*; 13 [ ] FEDEX BOX; 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery): 51 [ ] OTHER PACKAGING; 56 [ ] FEDEX LETTER*; 52 [ ] FEDEX PAK*; 53 [ ] FEDEX BOX; 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †): 30 [ ] ECONOMY*

Government Overnight (Restricted for authorized users only): 46 [ ] GOVT LETTER; 41 [ ] GOVT PACKAGE

* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Freight Service (for packages over 150 lbs): 70 [ ] OVERNIGHT FREIGHT**; 80 [ ] TWO-DAY FREIGHT**

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service: 1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H); 2 [ ] DELIVER WEEKDAY

Saturday Service: 31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H); 3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations); 9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling: 4 [ ] DANGEROUS GOODS (Extra charge); 6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required — Dry Ice: 9 UN 1845, ____ x ____ kg. 904 III; [ ] DESCRIPTION

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right) — Total | Total | Total

DIM SHIPMENT (Chargeable Weight): [ ] lbs. L x W x H

Received At: 1 [ ] Regular Stop 3 [ ] Drop Box

7

SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY

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We will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss for a timely claim. Limitations found in the current Federal Express Service Guide apply. Your right to recover from Federal Express for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the declared value specified to the left. Recovery cannot exceed actual documented loss. The maximum Declared Value for FedEx Letter and FedEx Pak packages is $500.

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Federal Express Use: Base Charges; Declared Value Charge; Other 1; Other 2; Total Charges

REVISION DATE 12/92 PART #137204 FXEM 5/93 FORMAT #158 158 ©1992-93 FEDEX PRINTED IN

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE TRACKING NUMBER 7689732212

3148M

SENDER'S COPY

DROP OFF YOUR PACKAGE AND SAVE

1 SENDER'S FEDERAL EXPRESS ACCOUNT NUMBER: 1162-6416-1

Date: 2-15-96

From (Your Name) Please Print: Greg Kuntz

Your Phone Number (Very Important): 803-957-6270

Company: ENVIRONMENTAL TECHNOLOGY ENG

Department/Floor No.:

Street Address: 1445 PISGAH CHURCH RD

City: LEXINGTON State: SC ZIP Required: 29072

2 To (Recipient's Name) Please Print: Glen Fulwood

Recipient's Phone Number (Very Important): (912) 354-7[illegible]

Company: Savannah Laboratories

Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5162 Capital Ave

City: Savannah State: GA ZIP Required: 31404

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on Invoice.): [illegible] CO

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address:
City: State: ZIP Required:

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card
5 [ ] Cash/Check Acct./Credit Card No. Exp. Date

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

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*Declared Value Limit $500.
**Call for delivery schedule

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1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
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Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
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Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice: 9 UN 1845 _____ X _____ kg. 904 III
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	40	
Total 1	Total 40	Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.
L x W x H

Received At:
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 6 [ ] Station

SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY

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7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #1370[illegible] FXEM 5[illegible]
FORMAT #158
158
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SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80961
Received: 17 FEB 96
Reported: 29 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80961-1	SS14 (#13623)	02-15-96
80961-2	SS18 (#13628)	02-15-96
80961-3	SS20 (#13630)	02-15-96
80961-4	SS23 (#13633)	02-15-96

PARAMETER	80961-1	80961-2	80961-3	80961-4
Semivolatile Organics (8270)				
Naphthalene, mg/kg dw	20	ND	ND	ND
Bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND
Acenaphthene, mg/kg dw	24	1.1	ND	ND
Phenanthrene, mg/kg dw	40	ND	ND	ND
Anthracene, mg/kg dw	13	2.2	ND	17
Fluoranthene, mg/kg dw	22	7.5	2.6	55
Chrysene, mg/kg dw	5.7	1.6	ND	ND
Benzo(a)anthracene, mg/kg dw	6.4	1.7	ND	ND
Benzo(b)fluoranthene, mg/kg dw	6.6	ND	ND	ND
Benzo(k)fluoranthene, mg/kg dw	ND	ND	ND	ND
Benzo(a)pyrene, mg/kg dw	6.3	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND
Dilution factor	10	1.0	1.0	10

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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80961-3	SS20 (#13630)	02-15-96
80961-4	SS23 (#13633)	02-15-96

PARAMETER	80961-1	80961-2	80961-3	80961-4
Volatiles by GC/MS (8240)				
Chloromethane, mg/kg dw	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND
Methylene chloride (Dichloromethane)., mg/kg dw	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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Ms. Sandra Watson
Southern Wood Piedmont (WI)
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CC: Greg Kuntz-ETE

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REPORT OF RESULTS

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80961-2	SS18 (#13628)	02-15-96
80961-3	SS20 (#13630)	02-15-96
80961-4	SS23 (#13633)	02-15-96

PARAMETER	80961-1	80961-2	80961-3	80961-4
Toluene, mg/kg dw	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	0.54	ND	ND	ND
1,2-Dibromoethane (EDB) , mg/kg dw	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	0.30	ND	ND	ND
o-Xylene, mg/kg dw	0.22	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	4.9	8.6	9.7	5.0
Chromium (6010), mg/kg dw	6.8	30	37	19
Copper (6010), mg/kg dw	74	17	23	15
Total Organic Carbon (415.1), mg/kg dw	9200	49000	73000	27000
AVS Extractable Metals				
Cadmium (6010), mg/kg dw	0.96	0.29	0.54	ND
Copper (6010), mg/kg dw	ND	7.0	7.9	1.9
Nickel (6010), mg/kg dw	6.0	2.4	2.6	ND
Zinc (6010), mg/kg dw	610	100	81	54
Lead (6010), mg/kg dw	160	24	23	16
Acid Volatile Sulfide, mg/kg dw	ND	53	ND	ND
Percent Solids (160.3), %	67	31	25	34

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80961-5	SS15 (#13624)	02-15-96
80961-6	SS16 (#13625)	02-15-96
80961-7	SS16-Dup (#13626)	02-15-96
80961-8	SS17 (#13627)	02-15-96
80961-9	SS19 (#13629)	02-15-96

PARAMETER	80961-5	80961-6	80961-7	80961-8	80961-9
Semivolatile Organics (8270)					
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	ND	ND	ND	ND	19
Anthracene, mg/kg dw	ND	ND	ND	ND	20
Fluoranthene, mg/kg dw	1.1	3.0	3.2	4.7	60
Chrysene, mg/kg dw	1.2	1.2	1.2	1.4	15
Benzo(a)anthracene, mg/kg dw	1.4	ND	ND	1.3	12
Benzo(b)fluoranthene, mg/kg dw	1.8	ND	1.4	1.6	11
Benzo(k)fluoranthene, mg/kg dw	ND	1.6	ND	ND	5.5
Benzo(a)pyrene, mg/kg dw	1.3	ND	ND	ND	5.9
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND	ND	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80961
Received: 17 FEB 96
Reported: 29 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80961-5	SS15 (#13624)	02-15-96
80961-6	SS16 (#13625)	02-15-96
80961-7	SS16-Dup (#13626)	02-15-96
80961-8	SS17 (#13627)	02-15-96
80961-9	SS19 (#13629)	02-15-96

PARAMETER	80961-5	80961-6	80961-7	80961-8	80961-9
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	4.7
Tetrachlorophenols, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	1.0	1.0	1.0	4.0

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80961
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Reported: 29 FEB 96

Ms. Sandra Watson
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P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80961-5	SS15 (#13624)	02-15-96
80961-6	SS16 (#13625)	02-15-96
80961-7	SS16-Dup (#13626)	02-15-96
80961-8	SS17 (#13627)	02-15-96
80961-9	SS19 (#13629)	02-15-96

PARAMETER	80961-5	80961-6	80961-7	80961-8	80961-9
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	ND	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	0.065	ND	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND

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LOG NO: S6-80961
Received: 17 FEB 96
Reported: 29 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

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REPORT OF RESULTS

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80961-7	SS16-Dup (#13626)	02-15-96
80961-8	SS17 (#13627)	02-15-96
80961-9	SS19 (#13629)	02-15-96

PARAMETER	80961-5	80961-6	80961-7	80961-8	80961-9
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Chlorobenzene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB) , mg/kg dw	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND	ND	ND
Arsenic (6010), mg/kg dw	6.0	10	12	11	10
Chromium (6010), mg/kg dw	19	49	47	65	57
Copper (6010), mg/kg dw	15	32	31	48	40
Percent Solids (160.3), %	51	29	29	29	29

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
80961-10	SS21 (#13631)	02-15-96
80961-11	SS22 (#13632)	02-15-96
80961-12	SS24 (#13634)	02-15-96

PARAMETER	80961-10	80961-11	80961-12
Semivolatile Organics (8270)			
Naphthalene, mg/kg dw	ND	ND	ND
bis(2-Chloroethyl)ether, mg/kg dw	ND	ND	ND
Acenaphthylene, mg/kg dw	ND	ND	ND
Acenaphthene, mg/kg dw	11	ND	ND
Phenanthrene, mg/kg dw	31	ND	ND
Anthracene, mg/kg dw	40	1.8	ND
Fluoranthene, mg/kg dw	54	2.9	ND
Chrysene, mg/kg dw	18	ND	ND
Benzo(a)anthracene, mg/kg dw	13	ND	ND
Benzo(b)fluoranthene, mg/kg dw	11	ND	ND
Benzo(k)fluoranthene, mg/kg dw	ND	ND	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND
2-Chlorophenol, mg/kg dw	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND
4-Chloro-3-methylphenol, mg/kg dw	ND	ND	ND
2,4-Dinitrophenol, mg/kg dw	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND
2,4,5-Trichlorophenol, mg/kg dw	ND	ND	ND
Carbazole, mg/kg dw	15	ND	ND
Tetrachlorophenols, mg/kg dw	ND	ND	ND
Dilution factor	10	1.0	1.0

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80961-10	SS21 (#13631)	02-15-96
80961-11	SS22 (#13632)	02-15-96
80961-12	SS24 (#13634)	02-15-96

PARAMETER	80961-10	80961-11	80961-12
Volatiles by GC/MS (8240)			
Chloromethane, mg/kg dw	ND	ND	ND
Bromomethane, mg/kg dw	ND	ND	ND
Vinyl chloride, mg/kg dw	ND	ND	ND
Chloroethane, mg/kg dw	ND	ND	ND
Methylene chloride (Dichloromethane), mg/kg dw	ND	ND	ND
1,1-Dichloroethene, mg/kg dw	ND	ND	ND
1,1-Dichloroethane, mg/kg dw	ND	ND	ND
trans-1,2-Dichloroethylene, mg/kg dw	ND	ND	ND
1,2-Dichloroethane, mg/kg dw	ND	ND	ND
1,1,1-Trichloroethane, mg/kg dw	ND	ND	ND
Carbon tetrachloride, mg/kg dw	ND	ND	ND
Bromodichloromethane, mg/kg dw	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	ND	ND
1,2-Dichloropropane, mg/kg dw	ND	ND	ND
Trichloroethene, mg/kg dw	ND	ND	ND
Dibromochloromethane, mg/kg dw	ND	ND	ND
1,1,2-Trichloroethane, mg/kg dw	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND
cis-1,3-Dichloropropene, mg/kg dw	ND	ND	ND
2-Chloroethylvinyl ether, mg/kg dw	ND	ND	ND
Toluene, mg/kg dw	ND	ND	ND

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80961-12	SS24 (#13634)	02-15-96

PARAMETER	80961-10	80961-11	80961-12
Chlorobenzene, mg/kg dw	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND
1,2-Dibromoethane (EDB) , mg/kg dw	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	ND	ND
m&p-Xylene, mg/kg dw	ND	ND	ND
o-Xylene, mg/kg dw	ND	ND	ND
Trichlorofluoromethane, mg/kg dw	ND	ND	ND
Dichlorodifluoromethane, mg/kg dw	ND	ND	ND
Arsenic (6010), mg/kg dw	9.8	6.3	7.6
Chromium (6010), mg/kg dw	52	25	26
Copper (6010), mg/kg dw	42	19	12
Percent Solids (160.3), %	32	26	29

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80961-13	Method Blank
80961-14	Detection Limits
80961-15	Accuracy (mean % recovery)
80961-16	Precision (% RPD)
80961-17	Analyst Initials

PARAMETER	80961-13	80961-14	80961-15	80961-16	80961-17
Semivolatile Organics (8270)					
Naphthalene, mg/kg dw	ND	0.33	72 %	4 %	RALS
bis(2-Chloroethyl)ether, mg/kg dw	ND	0.33	---	---	RALS
Acenaphthylene, mg/kg dw	ND	0.33	76 %	8 %	RALS
Acenaphthene, mg/kg dw	ND	0.33	76 %	8 %	RALS
Phenanthrene, mg/kg dw	ND	0.33	79 %	8 %	RALS
Anthracene, mg/kg dw	ND	0.33	79 %	8 %	RALS
Fluoranthene, mg/kg dw	ND	0.33	79 %	8 %	RALS
Chrysene, mg/kg dw	ND	0.33	67 %	9 %	RALS
Benzo(a)anthracene, mg/kg dw	ND	0.33	64 %	9 %	RALS
Benzo(b)fluoranthene, mg/kg dw	ND	0.33	79 %	8 %	RALS
Benzo(k)fluoranthene, mg/kg dw	ND	0.33	90 %	10 %	RALS
Benzo(a)pyrene, mg/kg dw	ND	0.33	79 %	8 %	RALS
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	0.33	64 %	9 %	RALS
Dibenzo(a,h)anthracene, mg/kg dw	ND	0.33	66 %	4 %	RALS
2-Chlorophenol, mg/kg dw	ND	0.33	66 %	4 %	RALS
Phenol, mg/kg dw	ND	0.33	66 %	14 %	RALS
2,4-Dimethylphenol, mg/kg dw	ND	0.33	67 %	9 %	RALS
2,4,6-Trichlorophenol, mg/kg dw	ND	0.33	73 %	8 %	RALS
4-Chloro-3-methylphenol, mg/kg dw	ND	0.33	73 %	16 %	RALS

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80961-13	Method Blank
80961-14	Detection Limits
80961-15	Accuracy (mean % recovery)
80961-16	Precision (% RPD)
80961-17	Analyst Initials

PARAMETER	80961-13	80961-14	80961-15	80961-16	80961-17
2,4-Dinitrophenol, mg/kg dw	ND	1.7	40 %	37 %	RALS
Pentachlorophenol, mg/kg dw	ND	1.7	70 %	8 %	RALS
2,4,5-Trichlorophenol, mg/kg dw	ND	0.33	---	---	RALS
Carbazole, mg/kg dw	ND	0.33	70 %	12 %	RALS
Tetrachlorophenols, mg/kg dw	ND	1.7	70 %	17 %	RALS
Dilution factor	1.0	1.0	---	---	---

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80961-15	Accuracy (mean % recovery)
80961-16	Precision (% RPD)
80961-17	Analyst Initials

PARAMETER	80961-13	80961-14	80961-15	80961-16	80961-17
Volatiles by GC/MS (8240)					
Chloromethane, mg/kg dw	ND	0.010	---	---	CD
Bromomethane, mg/kg dw	ND	0.010	---	---	CD
Vinyl chloride, mg/kg dw	ND	0.010	---	---	CD
Chloroethane, mg/kg dw	ND	0.010	---	---	CD
Methylene chloride (Dichloromethane), mg/kg dw	ND	0.0050	---	---	CD
1,1-Dichloroethene, mg/kg dw	ND	0.0050	112 %	0 %	CD
1,1-Dichloroethane, mg/kg dw	ND	0.0050	---	---	CD
trans-1,2-Dichloroethylene, mg/kg dw	ND	0.0050	---	---	CD
1,2-Dichloroethane, mg/kg dw	ND	0.0050	---	---	CD
1,1,1-Trichloroethane, mg/kg dw	ND	0.0050	---	---	CD
Carbon tetrachloride, mg/kg dw	ND	0.0050	---	---	CD
Bromodichloromethane, mg/kg dw	ND	0.0050	---	---	CD
1,1,2,2-Tetrachloroethane, mg/kg dw	ND	0.0050	---	---	CD
1,2-Dichloropropane, mg/kg dw	ND	0.0050	---	---	CD
Trichloroethene, mg/kg dw	ND	0.0050	103 %	6 %	CD
Dibromochloromethane, mg/kg dw	ND	0.0050	---	---	CD
1,1,2-Trichloroethane, mg/kg dw	ND	0.0050	---	---	CD
Benzene, mg/kg dw	ND	0.0050	112 %	4 %	CD

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80961-13	Method Blank
80961-14	Detection Limits
80961-15	Accuracy (mean % recovery)
80961-16	Precision (% RPD)
80961-17	Analyst Initials

PARAMETER	80961-13	80961-14	80961-15	80961-16	80961-17
cis-1,3-Dichloropropene, mg/kg dw	ND	0.0050	---	---	CD
2-Chloroethylvinyl ether, mg/kg dw	ND	0.050	---	---	CD
Toluene, mg/kg dw	ND	0.0050	105 %	2 %	CD
Chlorobenzene, mg/kg dw	ND	0.0050	107 %	2 %	CD
Ethylbenzene, mg/kg dw	ND	0.0050	---	---	CD
1,2-Dibromoethane (EDB) , mg/kg dw	ND	0.0050	---	---	CD
Methyl tert-butyl ether (MTBE), mg/kg dw	ND	0.010	---	---	CD
m&p-Xylene, mg/kg dw	ND	0.0050	---	---	CD
o-Xylene, mg/kg dw	ND	0.0050	---	---	CD
Trichlorofluoromethane, mg/kg dw	ND	0.0050	---	---	CD
Dichlorodifluoromethane, mg/kg dw	ND	0.0050	---	---	CD
Arsenic (6010), mg/kg dw	ND	1.0	94 %	3.2 %	DM
Chromium (6010), mg/kg dw	ND	1.0	93 %	0 %	DM
Copper (6010), mg/kg dw	ND	2.5	94 %	2.1 %	DM
Total Organic Carbon (415.1), mg/kg dw	ND	100	116 %	1.7 %	TH

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80961-13	Method Blank
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80961-16	Precision (% RPD)
80961-17	Analyst Initials

PARAMETER	80961-13	80961-14	80961-15	80961-16	80961-17
VS Extractable Metals					
Cadmium (6010), mg/kg dw	ND	0.072	109 %	0 %	JM
Copper (6010), mg/kg dw	ND	0.36	113 %	0 %	JM
Nickel (6010), mg/kg dw	ND	0.58	112 %	0.90 %	JM
Zinc (6010), mg/kg dw	ND	0.29	111 %	0 %	JM
Lead (6010), mg/kg dw	ND	0.72	106 %	0.94 %	JM
Acid Volatile Sulfide, mg/kg dw	ND	10	104 %	17 %	AW

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80961-18	EPA Method Numbers
80961-19	Dates Extracted
80961-20	Dates Analyzed

PARAMETER	80961-18	80961-19	80961-20
Semivolatile Organics (8270)			
Naphthalene	8270	02.21.96	2.26/28.96
bis(2-Chloroethyl)ether	8270	02.21.96	2.26/28.96
Acenaphthylene	8270	02.21.96	2.26/28.96
Acenaphthene	8270	02.21.96	2.26/28.96
Phenanthrene	8270	02.21.96	2.26/28.96
Anthracene	8270	02.21.96	2.26/28.96
Fluoranthene	8270	02.21.96	2.26/28.96
Chrysene	8270	02.21.96	2.26/28.96
Benzo(a)anthracene	8270	02.21.96	2.26/28.96
Benzo(b)fluoranthene	8270	02.21.96	2.26/28.96
Benzo(k)fluoranthene	8270	02.21.96	2.26/28.96
Benzo(a)pyrene	8270	02.21.96	2.26/28.96
Indeno(1,2,3-cd)pyrene	8270	02.21.96	2.26/28.96
Dibenzo(a,h)anthracene	8270	02.21.96	2.26/28.96
2-Chlorophenol	8270	02.21.96	2.26/28.96
Phenol	8270	02.21.96	2.26/28.96
2,4-Dimethylphenol	8270	02.21.96	2.26/28.96
2,4,6-Trichlorophenol	8270	02.21.96	2.26/28.96
4-Chloro-3-methylphenol	8270	02.21.96	2.26/28.96
2,4-Dinitrophenol	8270	02.21.96	2.26/28.96
Pentachlorophenol	8270	02.21.96	2.26/28.96
2,4,5-Trichlorophenol	8270	02.21.96	2.26/28.96
Carbazole	8270	08.21.96	2.26/28.96
Tetrachlorophenols	8270	08.21.96	2.26/28.96

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
80961-18	EPA Method Numbers
80961-19	Dates Extracted
80961-20	Dates Analyzed

PARAMETER	80961-18	80961-19	80961-20
Volatiles by GC/MS (8240)			
Chloromethane	8240	---	02.24.96
Bromomethane	8240	---	02.24.96
Vinyl chloride	8240	---	02.24.96
Chloroethane	8240	---	02.24.96
Methylene chloride (Dichloromethane)	8240	---	02.24.96
1,1-Dichloroethene	8240	---	02.24.96
1,1-Dichloroethane	8240	---	02.24.96
trans-1,2-Dichloroethylene	8240	---	02.24.96
1,2-Dichloroethane	8240	---	02.24.96
1,1,1-Trichloroethane	8240	---	02.24.96
Carbon tetrachloride	8240	---	02.24.96
Bromodichloromethane	8240	---	02.24.96
1,1,2,2-Tetrachloroethane	8240	---	02.24.96
1,2-Dichloropropane	8240	---	02.24.96
Trichloroethene	8240	---	02.24.96
Dibromochloromethane	8240	---	02.24.96
1,1,2-Trichloroethane	8240	---	02.24.96
Benzene	8240	---	02.24.96
cis-1,3-Dichloropropene	8240	---	02.24.96
2-Chloroethylvinyl ether	8240	---	02.24.96
Toluene	8240	---	02.24.96

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80961-19	Dates Extracted
80961-20	Dates Analyzed

PARAMETER	80961-18	80961-19	80961-20
Chlorobenzene	8240	---	02.24.96
Ethylbenzene	8240	---	02.24.96
1,2-Dibromoethane (EDB)	8240	---	02.24.96
Methyl tert-butyl ether (MTBE)	8240	---	02.24.96
m&p-Xylene	8240	---	02.24.96
o-Xylene	8240	---	02.24.96
Trichlorofluoromethane	8240	---	02.24.96
Dichlorodifluoromethane	8240	---	02.24.96
Arsenic (6010)	6010	---	02.27.96
Chromium (6010)	6010	---	02.27.96
Copper (6010)	6010	---	02.27.96
Total Organic Carbon (415.1)	9060	---	02.22.96
AVS Extractable Metals			
Cadmium (6010)	6010	02.22.96	02.23.96
Copper (6010)	6010	02.22.96	02.23.96
Nickel (6010)	6010	02.22.96	02.23.96
Zinc (6010)	6010	02.22.96	02.23.96
Lead (6010)	6010	02.22.96	02.23.96
Acid Volatile Sulfide	68-03-3534	---	02.29.96

SL SAVANNAH LABORATORIES
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102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80961
Received: 17 FEB 96
Reported: 29 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80961-21	SW5 (#13616)	02-15-96
80961-22	SW4 (#13617)	02-15-96
80961-23	SW4-Dup (#13618)	02-15-96
80961-24	SW3 (#13619)	02-15-96
80961-25	SW2 (#13620)	02-15-96

PARAMETER	80961-21	80961-22	80961-23	80961-24	80961-25
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/l	ND	ND	ND	ND	ND
naphthalene, mg/l	ND	ND	ND	ND	ND
Acenaphthylene, mg/l	ND	ND	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND	ND	ND
Phenanthrene, mg/l	ND	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND	ND
Benzo(a)anthracene, mg/l	ND	ND	ND	ND	ND
Benzo(b)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(k)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol, mg/l	ND	ND	ND	ND	ND

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REPORT OF RESULTS

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80961-22	SW4 (#13617)	02-15-96
80961-23	SW4-Dup (#13618)	02-15-96
80961-24	SW3 (#13619)	02-15-96
80961-25	SW2 (#13620)	02-15-96

PARAMETER	80961-21	80961-22	80961-23	80961-24	80961-25
2,4-Dinitrophenol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND	ND
Tetrachlorophenols, mg/l	ND	ND	ND	ND	ND
Dilution factor	1.0	1.0	1.0	1.0	1.0

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80961-23	SW4-Dup (#13618)	02-15-96
80961-24	SW3 (#13619)	02-15-96
80961-25	SW2 (#13620)	02-15-96

PARAMETER	80961-21	80961-22	80961-23	80961-24	80961-25
Volatiles by GC/MS (8240)					
Chloromethane, mg/l	ND	ND	ND	ND	ND
Bromomethane, mg/l	ND	ND	ND	ND	ND
Vinyl chloride, mg/l	ND	ND	ND	ND	ND
Chloroethane, mg/l	ND	ND	ND	ND	ND
Methylene chloride (Dichloromethane), mg/l	ND	ND	ND	ND	ND
1,1-Dichloroethene, mg/l	ND	ND	ND	ND	ND
1,1-Dichloroethane, mg/l	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene, mg/l	ND	ND	ND	ND	ND
1,2-Dichloroethane, mg/l	ND	ND	ND	ND	ND
1,1,1-Trichloroethane, mg/l	ND	ND	ND	ND	ND
Carbon tetrachloride, mg/l	ND	ND	ND	ND	ND
Bromodichloromethane, mg/l	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/l	ND	ND	ND	ND	ND
1,2-Dichloropropane, mg/l	ND	ND	ND	ND	ND
Trichloroethene, mg/l	ND	ND	ND	ND	ND
Dibromochloromethane, mg/l	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, mg/l	ND	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND	ND

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80961-22	SW4 (#13617)	02-15-96
80961-23	SW4-Dup (#13618)	02-15-96
80961-24	SW3 (#13619)	02-15-96
80961-25	SW2 (#13620)	02-15-96

PARAMETER	80961-21	80961-22	80961-23	80961-24	80961-25
cis-1,3-Dichloropropene, mg/l	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether, mg/l	ND	ND	ND	ND	ND
Toluene, mg/l	ND	ND	ND	ND	ND
Chlorobenzene, mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB) , mg/l	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/l	ND	ND	ND	ND	ND
m&p-Xylene, mg/l	ND	ND	ND	ND	ND
o-Xylene, mg/l	ND	ND	ND	ND	ND
Trichlorofluoromethane, mg/l	ND	ND	ND	ND	ND
Dichlorodifluoromethane, mg/l	ND	ND	ND	ND	ND
Arsenic (6010), mg/l	ND	ND	ND	ND	ND
Chromium (6010), mg/l	ND	ND	ND	ND	ND
Copper (6010), mg/l	ND	ND	ND	ND	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80961-26	SW1 (#13621)	02-15-96
80961-27	Drum (#13622)	02-15-96
80961-28	Equipment Blank-CF	02-15-96

PARAMETER	80961-26	80961-27	80961-28
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether, mg/l	ND	ND	ND
Naphthalene, mg/l	ND	1.5	ND
Acenaphthylene, mg/l	ND	ND	ND
Acenaphthene, mg/l	ND	1.0	ND
Phenanthrene, mg/l	ND	2.2	ND
Anthracene, mg/l	ND	0.33	ND
Fluoranthene, mg/l	ND	1.4	ND
Chrysene, mg/l	ND	0.22	ND
Benzo(a)anthracene, mg/l	ND	0.24	ND
Benzo(b)fluoranthene, mg/l	ND	ND	ND
Benzo(k)fluoranthene, mg/l	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND
2-Chlorophenol, mg/l	ND	ND	ND
Phenol, mg/l	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND
4-Chloro-3-methylphenol, mg/l	ND	ND	ND
2,4-Dinitrophenol, mg/l	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND
2,4,5-Trichlorophenol, mg/l	ND	ND	ND
Carbazole, mg/l	ND	ND	ND
Tetrachlorophenols, mg/l	ND	ND	ND
Dilution factor	1.0	20	1.0

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80961-26	SW1 (#13621)	02-15-96
80961-27	Drum (#13622)	02-15-96
80961-28	Equipment Blank-CF	02-15-96

PARAMETER	80961-26	80961-27	80961-28
Volatiles by GC/MS (8240)			
Chloromethane, mg/l	ND	ND	ND
Bromomethane, mg/l	ND	ND	ND
Vinyl chloride, mg/l	ND	ND	ND
Chloroethane, mg/l	ND	ND	ND
Methylene chloride (Dichloromethane), mg/l	ND	ND	ND
1,1-Dichloroethene, mg/l	ND	ND	ND
1,1-Dichloroethane, mg/l	ND	ND	ND
trans-1,2-Dichloroethylene, mg/l	ND	ND	ND
1,2-Dichloroethane, mg/l	ND	ND	ND
1,1,1-Trichloroethane, mg/l	ND	ND	ND
Carbon tetrachloride, mg/l	ND	ND	ND
Bromodichloromethane, mg/l	ND	ND	ND
1,1,2,2-Tetrachloroethane, mg/l	ND	ND	ND
1,2-Dichloropropane, mg/l	ND	ND	ND
Trichloroethene, mg/l	ND	ND	ND
Dibromochloromethane, mg/l	ND	ND	ND
1,1,2-Trichloroethane, mg/l	ND	ND	ND
Benzene, mg/l	ND	ND	ND
cis-1,3-Dichloropropene, mg/l	ND	ND	ND
2-Chloroethylvinyl ether, mg/l	ND	ND	ND
Toluene, mg/l	ND	ND	ND

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LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
80961-26	SW1 (#13621)	02-15-96
80961-27	Drum (#13622)	02-15-96
80961-28	Equipment Blank-CF	02-15-96

PARAMETER	80961-26	80961-27	80961-28
Chlorobenzene, mg/l	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND
,2-Dibromoethane (EDB) , mg/l	ND	ND	ND
Methyl tert-butyl ether (MTBE), mg/l	ND	ND	ND
m&p-Xylene, mg/l	ND	ND	ND
o-Xylene, mg/l	ND	ND	ND
Trichlorofluoromethane, mg/l	ND	ND	ND
Dichlorodifluoromethane, mg/l	ND	ND	ND
Arsenic (6010), mg/l	ND	0.11	ND
Chromium (6010), mg/l	ND	0.14	ND
Copper (6010), mg/l	ND	0.35	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES
80961-29	Trip Blank

PARAMETER	80961-29
Volatiles by GC/MS (8240)	
Chloromethane, mg/l	ND
Bromomethane, mg/l	ND
Vinyl chloride, mg/l	ND
Chloroethane, mg/l	ND
Methylene chloride (Dichloromethane), mg/l	ND
1,1-Dichloroethene, mg/l	ND
1,1-Dichloroethane, mg/l	ND
trans-1,2-Dichloroethylene, mg/l	ND
1,2-Dichloroethane, mg/l	ND
1,1,1-Trichloroethane, mg/l	ND
Carbon tetrachloride, mg/l	ND
Bromodichloromethane, mg/l	ND
1,1,2,2-Tetrachloroethane, mg/l	ND
1,2-Dichloropropane, mg/l	ND
Trichloroethene, mg/l	ND
Dibromochloromethane, mg/l	ND
1,1,2-Trichloroethane, mg/l	ND
Benzene, mg/l	ND
cis-1,3-Dichloropropene, mg/l	ND
2-Chloroethylvinyl ether, mg/l	ND
Toluene, mg/l	ND
Chlorobenzene, mg/l	ND
Ethylbenzene, mg/l	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES
80961-29	Trip Blank

PARAMETER	80961-29
1,2-Dibromoethane (EDB) , mg/l	ND
Methyl tert-butyl ether (MTBE), mg/l	ND
m&p-Xylene, mg/l	ND
o-Xylene, mg/l	ND
Trichlorofluoromethane, mg/l	ND
Dichlorodifluoromethane, mg/l	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80961-30	Method Blank
80961-31	Detection Limits
80961-32	Accuracy (mean % recovery)
80961-33	Precision (% RPD)
80961-34	Analyst Initials

PARAMETER	80961-30	80961-31	80961-32	80961-33	80961-34
Semivolatile Organics (8270)					
bis(2-Chloroethyl)ether, mg/l	ND	0.010	---	---	LB
Naphthalene, mg/l	ND	0.010	66 %	2 %	LB
Acenaphthylene, mg/l	ND	0.010	66 %	4 %	LB
Acenaphthene, mg/l	ND	0.010	66 %	3 %	LB
Phenanthrene, mg/l	ND	0.010	68 %	4 %	LB
Anthracene, mg/l	ND	0.010	68 %	6 %	LB
Fluoranthene, mg/l	ND	0.010	80 %	5 %	LB
Chrysene, mg/l	ND	0.010	73 %	3 %	LB
Benzo(a)anthracene, mg/l	ND	0.010	76 %	4 %	LB
Benzo(b)fluoranthene, mg/l	ND	0.010	84 %	2 %	LB
Benzo(k)fluoranthene, mg/l	ND	0.010	82 %	5 %	LB
Benzo(a)pyrene, mg/l	ND	0.010	74 %	4 %	LB
Indeno(1,2,3-cd)pyrene, mg/l	ND	0.010	56 %	4 %	LB
Dibenzo(a,h)anthracene, mg/l	ND	0.010	58 %	3 %	LB
2-Chlorophenol, mg/l	ND	0.010	72 %	3 %	LB
Phenol, mg/l	ND	0.010	66 %	2 %	LB
2,4-Dimethylphenol, mg/l	ND	0.010	68 %	1 %	LB
2,4,6-Trichlorophenol, mg/l	ND	0.010	80 %	2 %	LB
4-Chloro-3-methylphenol, mg/l	ND	0.010	76 %	6 %	LB
2,4-Dinitrophenol, mg/l	ND	0.050	58 %	16 %	LB
Pentachlorophenol, mg/l	ND	0.050	54 %	9 %	LB
2,4,5-Trichlorophenol, mg/l	ND	0.010	---	---	LB
Carbazole, mg/l	ND	0.010	56 %	2 %	LB
Tetrachlorophenols, mg/l	ND	0.050	69 %	3 %	LB

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80961-30	Method Blank
80961-31	Detection Limits
80961-32	Accuracy (mean % recovery)
80961-33	Precision (% RPD)
80961-34	Analyst Initials

PARAMETER	80961-30	80961-31	80961-32	80961-33	80961-34
platiles by GC/MS (8240)					
Chloromethane, mg/l	ND	0.010	---	---	CD
Bromomethane, mg/l	ND	0.010	---	---	CD
Vinyl chloride, mg/l	ND	0.010	---	---	CD
Chloroethane, mg/l	ND	0.010	---	---	CD
Methylene chloride (Dichloromethane), mg/l	ND	0.0050	---	---	CD
1,1-Dichloroethene, mg/l	ND	0.0050	96 %	4 %	CD
1,1-Dichloroethane, mg/l	ND	0.0050	---	---	CD
trans-1,2-Dichloroethylene, mg/l	ND	0.0050	---	---	CD
1,2-Dichloroethane, mg/l	ND	0.0050	---	---	CD
1,1,1-Trichloroethane, mg/l	ND	0.0050	---	---	CD
Carbon tetrachloride, mg/l	ND	0.0050	---	---	CD
Bromodichloromethane, mg/l	ND	0.0050	---	---	CD
1,1,2,2-Tetrachloroethane, mg/l	ND	0.0050	---	---	CD
1,2-Dichloropropane, mg/l	ND	0.0050	---	---	CD
Trichloroethene, mg/l	ND	0.0050	88 %	0 %	CD
Dibromochloromethane, mg/l	ND	0.0050	---	---	CD
1,1,2-Trichloroethane, mg/l	ND	0.0050	---	---	CD
Benzene, mg/l	ND	0.0050	89 %	2 %	CD

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80961-30	Method Blank
80961-31	Detection Limits
80961-32	Accuracy (mean % recovery)
80961-33	Precision (% RPD)
80961-34	Analyst Initials

PARAMETER	80961-30	80961-31	80961-32	80961-33	80961-34
cis-1,3-Dichloropropene, mg/l	ND	0.0050	---	---	CD
2-Chloroethylvinyl ether, mg/l	ND	0.050	---	---	CD
Toluene, mg/l	ND	0.0050	91 %	2 %	CD
Chlorobenzene, mg/l	ND	0.0050	92 %	0 %	CD
Ethylbenzene, mg/l	ND	0.0050	---	---	CD
1,2-Dibromoethane (EDB) , mg/l	ND	0.0050	---	---	CD
Methyl tert-butyl ether (MTBE), mg/l	ND	0.010	---	---	CD
m&p-Xylene, mg/l	ND	0.0050	---	---	CD
o-Xylene, mg/l	ND	0.0050	---	---	CD
Trichlorofluoromethane, mg/l	ND	0.0050	---	---	CD
Dichlorodifluoromethane, mg/l	ND	0.0050	---	---	CD
Arsenic (6010), mg/l	ND	0.010	88 %	2.3 %	RR
Chromium (6010), mg/l	ND	0.010	100 %	3.0 %	RR
Copper (6010), mg/l	ND	0.025	98 %	3.1 %	RR

Methods: EPA SW-846
ND = Not Detected

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Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80961-35	EPA Method Numbers
80961-36	Dates Extracted
80961-37	Dates Analyzed

PARAMETER	80961-35	80961-36	80961-37
Semivolatile Organics (8270)			
bis(2-Chloroethyl)ether	8270	02.20.96	2.22/23.96
Naphthalene	8270	02.20.96	2.22/23.96
Acenaphthylene	8270	02.20.96	2.22/23.96
Acenaphthene	8270	02.20.96	2.22/23.96
Phenanthrene	8270	02.20.96	2.22/23.96
Anthracene	8270	02.20.96	2.22/23.96
Fluoranthene	8270	02.20.96	2.22/23.96
Chrysene	8270	02.20.96	2.22/23.96
Benzo(a)anthracene	8270	02.20.96	2.22/23.96
Benzo(b)fluoranthene	8270	02.20.96	2.22/23.96
Benzo(k)fluoranthene	8270	02.20.96	2.22/23.96
Benzo(a)pyrene	8270	02.20.96	2.22/23.96
Indeno(1,2,3-cd)pyrene	8270	02.20.96	2.22/23.96
Dibenzo(a,h)anthracene	8270	02.20.96	2.22/23.96
2-Chlorophenol	8270	02.20.96	2.22/23.96
Phenol	8270	02.20.96	2.22/23.96
2,4-Dimethylphenol	8270	02.20.96	2.22/23.96
2,4,6-Trichlorophenol	8270	02.20.96	2.22/23.96
4-Chloro-3-methylphenol	8270	02.20.96	2.22/23.96
2,4-Dinitrophenol	8270	02.20.96	2.22/23.96
Pentachlorophenol	8270	02.20.96	2.22/23.96
2,4,5-Trichlorophenol	8270	02.20.96	2.22/23.96
Carbazole	8270	02.20.96	2.22/23.96
Tetrachlorophenols	8270	02.20.96	2.22/23.96

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80961
Received: 17 FEB 96
Reported: 29 FEB 96

Ms. Sandra Watson
Southern Wood Piedmont (WI)
P.O. Box 5477
Spartanburg, SC 29304

CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80961-35	EPA Method Numbers
80961-36	Dates Extracted
80961-37	Dates Analyzed

PARAMETER	80961-35	80961-36	80961-37
Volatiles by GC/MS (8240)			
Chloromethane	8240	---	02.22.96
Bromomethane	8240	---	02.22.96
Vinyl chloride	8240	---	02.22.96
Chloroethane	8240	---	02.22.96
Methylene chloride (Dichloromethane)	8240	---	02.22.96
1,1-Dichloroethene	8240	---	02.22.96
1,1-Dichloroethane	8240	---	02.22.96
trans-1,2-Dichloroethylene	8240	---	02.22.96
1,2-Dichloroethane	8240	---	02.22.96
1,1,1-Trichloroethane	8240	---	02.22.96
Carbon tetrachloride	8240	---	02.22.96
Bromodichloromethane	8240	---	02.22.96
1,1,2,2-Tetrachloroethane	8240	---	02.22.96
1,2-Dichloropropane	8240	---	02.22.96
Trichloroethene	8240	---	02.22.96
Dibromochloromethane	8240	---	02.22.96
1,1,2-Trichloroethane	8240	---	02.22.96
Benzene	8240	---	02.22.96
cis-1,3-Dichloropropene	8240	---	02.22.96
2-Chloroethylvinyl ether	8240	---	02.22.96
Toluene	8240	---	02.22.96

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S6-80961
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Ms. Sandra Watson
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CC: Greg Kuntz-ETE

Project: Wilmington, NC 12-53020.00
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
80961-35	EPA Method Numbers
80961-36	Dates Extracted
80961-37	Dates Analyzed

PARAMETER	80961-35	80961-36	80961-37
Chlorobenzene	8240	---	02.22.96
Ethylbenzene	8240	---	02.22.96
1,2-Dibromoethane (EDB)	8240	---	02.22.96
Methyl tert-butyl ether (MTBE)	8240	---	02.22.96
m&p-Xylene	8240	---	02.22.96
o-Xylene	8240	---	02.22.96
Trichlorofluoromethane	8240	---	02.22.96
Dichlorodifluoromethane	8240	---	02.22.96
Arsenic (6010)	6010	---	02.26.96
Chromium (6010)	6010	---	02.26.96
Copper (6010)	6010	---	02.26.96

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D., Project Manager

Final Page Of Report

80961

SURFACE WATER SAMPLE FIELD DATA SHEET

ID	TIDE	SAMPLE METHOD	ODOR*	SHEEN	CALIBRATION pH	CALIBRATION COND	TEMP (C)	COND (UMHOS)	pH	TURB**	SAMPLING DATE	SAMPLING TIME	SAMP. INT.	DEPTH	REMARKS
SW 5	H		N	N/A	7/10	1004	11.3	309	7.08	ST	2 16 96	0845	DKR FR		
SW 4	H		N	N/A	7/10	1004	11.6	260	7.51	C	021696	0915	DR FR		
SW 4 DUP.	H		N	N/A	7/10	1004	11.4	254	7.46	C	021696	0915	DR FR		
SW 3	H		N	N/A	7/10	1004	10.9	244	7.59	C	021696	0950	DR FR		
SW 2	H		N	N/A	7/10	1004	11.5	246	7.76	C	021696	0945	DR FR		
SW 1	H		N	N/A	7/10	1004	11.7	247	7.33	C	021696	1010	FR DR		
Drum water											021696	1035	DR		Decon water from Drum

Note descrepencies from below comments in the remarks section for each well:

- Bottles Labeled
- Samples Iced

Check When Complete:

- X Copy of All Notes Sent with Samples To Lab
- X Log Numbers Obtained For Samples
- X Samples Shipped FedEx Priority Overnight Daily
- Confirmed Samples Arrived At Lab
- X All Data Recorded With An Indelible Waterproof Pen
- X Custody Form Completed
- X Cooler Sealed
- X All Sampling Derived Waste Disposed as Potentially Hazardous Waste (i.e. gloves, plastic, twine, etc..)

SITE: SWP-W. Irmington
WEATHER: 40° Cloudy windy
COLLECTOR'S SIGN.: Gregory Bikowski
DATE/TIME: 2/16/96
PAGE: 1 OF 1

*Very slight (VS), Slight (S), Moderate (M), Strong (ST), Very Strong (VST)

**Clear (C), Slight Turbid (ST), Turbid (T), Very Turbid (VT)

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: SWP-Wilmington

SAMPLING METHOD: SOA IV C 460461

PROJECT NUMBER: 12-53020.00

DECONTAMINATION METHOD: SOA II A

WEATHER: 40° Cloudy Windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS14	2/16 96	9:00	0"-6"	Y	Y				GBK
SS15	2/16 96	9:45	0"-6"	N	N				GBK
SS16	2/16 96	9:55	0"-6"	N	N				GBK
SS16 Dup	2/16 96	9:55	0"-6"	N	N				GBK
SS17	2/16 96	10:05	0"-6"	N	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- X Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz

Date: 2/16/96

PAGE _____ OF _____

SOIL/SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

PROJECT NAME: 12-53020.CO

SAMPLING METHOD: S&A IV C 8096

PROJECT NUMBER: SWP-Wilmington

DECONTAMINATION METHOD: S&A II A

WEATHER: Cloudy 40° windy

WASTE DISPOSAL METHOD: Workplan 2.7

SAMPLE ID	DATE	TIME	DEPTH	ODOR	STAIN	FIELD SCREENING	SAMPLE DESCRIPTION	LOCATION/ DESCRIPTION	SAMP. INT.
SS 18	2/16 96	10:20	0"-6"	N	N				GBK
SS 19	2/16 96	10:25	0"-6"	N	N				GBK
SS20	2/16 96	10:35	0"-6"	N	N				GBK
SS21	2/16 96	10:40	0"-6"	N	N				GBK
SS22	2/16 96	10:50	0"-6"	N	N				GBK

Check When Complete:

- X Bottles Labeled
- X Samples Iced
- X Sample Location Staked
- X Copy Of All Field Notes Sent With Sample To Lab
- X Lot Numbers Obtained For Samples
- X Samples Shipped For Overnight Delivery
- ___ Confirmed Samples Arrived At Lab
- X Data Recorded With Indelible Pen
- X Custody Form Completed
- X Sample Shipper Sealed
- X All Sampling Derived Waste Disposed Of Properly

Collector's Signature: Gregory B. Kurtz

Date: 2/16/96

PAGE _____ OF _____

PHOTOGRAPH LOG

PROJECT NAME

PHOTOGRAPHER JOB #

PHOTO #	DATE	TIME	LOOKING (DIR)	FROM (DIR)	DESCRIPTION

5523 2/14/96 11:00 6" 8 Mean slight

5524 2/14/96 11:15 0'-6" N N

GBK

GBK 8961

STANDARDIZED GROUNDWATER PURGING AND SAMPLING FIELD DATA SHEET

WELL ID	WATER LEVEL DATE	WATER LEVEL DEPTH (TOC)	WELL DEPTH (TOC)	FLOATER THICKNESS (FT)	SINKER THICKNESS (FT)	ODOR*	CALIBRATION pH	CALIBRATION COND	PURGING DATE	PURGING TIME	PURGE METHOD	CALC. PURGE VOL.	VOL. PURGED (GAL)	TEMP (C)	COND (UMHOS)	pH	TURB**	SAMPLING DATE	SAMPLING TIME	SAMP. INT.	REMARKS
Equip Blank																		2/14 96	14:01	GBK	Grid Sampling TWSA or PA
Equip Blank																		2/15 96	12:05	GBK	Landfarm Soil Sampling
Equip Blank																		2/15 96	15:50	GBK	Sediment Sampling
Equip Blank																		2/16 96	10:45	GBK	Cape Fear Sediments

Note descrepencies from below comments in the remarks section for each well:

- Well Locked
- Baller Present
- Bottles Labeled
- Samples Iced
- Reference Point Inspected
- Well Casing Inspected
- Well Pad Inspected

Check When Complete:

- X Copy of All Notes Sent with Samples To Lab
- X Log Numbers Obtained For Samples
- X Samples Shipped FedEx Priority Overnight Daily
- ___ Confirmed Samples Arrived At Lab
- X All Data Recorded With An Indelible Waterproof Pen
- X Custody Form Completed
- X Cooler Sealed
- X All Purge Water Disposed Of At Designated Location
- X All Sampling Derived Waste Disposed as Potentially Hazardous Waste (i.e. gloves, plastic, twine, etc..)

SITE: SWP-W.1

WEATHER: 50° Cloudy Windy

COLLECTOR'S SIGN.: Gregory B. Kemp / Greg Fowler

DATE/TIME: 2/14/96 14:30

*Very slight (VS), Slight (S), Moderate (M), Strong (ST), Very Strong (VST)

**Clear (C), Slight Turbid (ST), Turbid (T), Very Turbid (VT)

Serial Number

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: (912) 352-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
☐ 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
SWP-Wilmington	12-53020.00	

PROJECT LOC. (State)	SAMPLER(s) NAME	PHONE	FAX
NC	G. Kuntz/G. Force	803-957-6270	803-957-3845

CLIENT NAME	CLIENT PROJECT MANAGER
VIROGROUP, Inc.	Greg Kuntz

CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Rd Lexington, SC 29072

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: SVOC 8270 / VOC 8240 / Metals-As, Cd, Cr / TOC / AVS-SEM / Temperature

PAGE 2 OF 2

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	SVOC 8270	VOC 8240	Metals-As, Cd, Cr	TOC	AVS-SEM	Temperature						REMARKS
2/15/96	10:25		SS19 SWP Log# 13629	X				1	1	1									*Wilmington
	10:35		SS20 13630								1	1							Site Specific
	10:40		SS21 13631																List
	10:50		SS22 13632																
	11:00		SS23 13633								1	1							
	11:15		SS24 13634																
	10:45		Equipment Blank-CF	X				2	3	1									
			Trip Blank						3										
			Temperature Blank										3						

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Sharon Campbell	2/18/96	3:40				Gregory B. Kuntz	2/16/96	17:00

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY								

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
Beverly Nelly	2/17/96	11:05	☑ YES ☐ NO		80961	

ORIGINAL

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

☒ [redacted] LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: ([redacted] 52-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
☐ 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
SLVP Wilmington	12:53020.00	

PROJECT LOC. (State)	SAMPLER(s) NAME	PHONE	FAX
NC	G. Kuntz / G. Force	803-957-6270	803-957-3815

CLIENT NAME	CLIENT PROJECT MANAGER
ViroGroup, Inc.	Greg Kuntz

CLIENT ADDRESS (CITY, STATE, ZIP): 1445 Pisgah Church Rd Lexington, SC 29072

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: SV 8270 / VOC 8240 / Metals* As, Cr, Cu / TOC / AVS-SEM

PAGE 1 OF 2

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	SV 8270	VOC 8240	Metals* As, Cr, Cu	TOC	AVS-SEM							REMARKS
2/15/96	8:45		SW5 SWP Log# 13616	X				2	3	1									*Wilmington Site Specific List - Table 1
	9:45		SW 4																
	9:15		SW 4-Dup																
	9:30		SW3																
	9:45		SW 2																
	10:10		SW 1																
	10:35		Drum																
	9:00		SS14	X				1	1	1	1	1							
	9:45		SS15																
	9:55		SS16																
	9:55		SS16-Dup																
	10:05		SS17																
	10:20		SS18								1	1							

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
S. M. Campbell	2/16/96	3:40				Gregory B. Kuntz	2/16/96	12:00

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
Beverly Neely	2/17/96	11:05	☑ YES ☐ NO		80961	

ORIGINAL

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE TRACKING NUMBER

7689732234

3148M

SENDER'S COPY

1 SENDER'S FEDERAL EXPRESS ACCOUNT NUMBER: 1162-6416-1

Date: 2/16/96

From (Your Name) Please Print: Greg Kuntz

Your Phone Number (Very important): 803-957-6270

Company: ENVIRONMENTAL TECHNOLOGY ENG

Department/Floor No.:

Street Address: 1445 PISGAH CHURCH RD

City: LEXINGTON State: SC ZIP Required: 29072

2 To (Recipient's Name) Please Print: Gloria Fulwood

Recipient's Phone Number (Very Importan: (912) 354-7855

Company: Savannah Labs

Department/Floor No:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 5102 LaRoche Ave

City: Savannah State: GA ZIP Required: 31404

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 12 53070.00

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address:
City: State: ZIP Required:

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

Acct./Credit Card No.: Exp. Date: /

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter Rate not available. Minimum charge: One pound Economy rate

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
*Declared Value Limit $500.
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [ ] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [X] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice 9 UN 1845 _____ x _____ kg. 904 III
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
Total 3	Total	Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.
L x W x H

Reference #:

1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY

Use of this airbill constitutes your agreement to the service conditions in our current Service Guide, available upon request. See back of sender's copy of this airbill for information. Service conditions may vary for Government Overnight Service. See U.S. Government Service Guide for details.

We will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss for a timely claim. Limitations found in the current Federal Express Service Guide apply. Your right to recover from Federal Express for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the declared value specified to the left. Recovery cannot exceed actual documented loss. The maximum Declared Value for FedEx Letter and FedEx Pak packages is $500.

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Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #157204 FEDEX 5M
FORMAT #158
158
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DROP OFF YOUR PACKAGE AND SAVE

TRIANGLE LABS

RECEIVED
APR 02 1996
SOUTHERN WOOD PIEDMONT

CASE NARRATIVE

Analysis of Samples for the Presence of Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by High-Resolution Chromatography / High-Resolution Mass Spectrometry

Pico p

Method 8290 Rev. 0 (9/94)

Date: March 28, 1996

Client ID: Southern Wood Piedmont, Wilmington, NC

P.O. Number:

TLI Project Number: 36250

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Rev. 11/03/95

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

Overview

The samples and any associated QC samples were extracted and analyzed according to procedures described in the Triangle Laboratories' Data User's Manual (Rev. 12/92-LLW-7-AH-2/93). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the samples.

Quality Control Remarks

This release of this particular set of Southern Wood Piedmont analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Please consult Triangle Laboratories' Data User's Manual for further details. Specific QC issues associated with this particular project are:

Sample receipt: Two sediment samples were received from Southern Wood Piedmont at 4 °C in good condition February 16, 1996 and were stored in a refrigerator at 4°C.

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: The field samples were diluted ten-fold and reanalyzed on the DB-5 GC column due to saturated analyte peaks upon initial analyses. The reanalyses of those samples do not exhibit the same problem. This is with the exception of OCDD and a non-2378-HpCDD isomer on the analysis of sample LF2A SWF# 13594 that were still saturated. Further dilution of the sample resulted in loss of the internal standards.

The concentration of the TCDD/F PeCDD/F analytes in the samples is relatively low and were reported as Non Detect on the diluted analyses. Therefore the concentration for those analytes is reported from the original analyses of the samples. The HxCDF/D through OCDD/F are reported from the dilute analyses of the samples.

Other Comments: Any analytes found in the TLI Blank are detected at a level equal to or less than the Target Detection Limit. This level of contamination is acceptable as per TLI guidelines. OCDD is not subject to blank contamination criteria as per TLI guidelines.

Sample Calculations:

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RRF_{(\sigma)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the integrated current for the characteristic ions of the analyte,

A_β is the integrated current of the characteristic ions of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Detection Limits

The detection limit reported for a target analyte that is not detected or presents an analyte response that is less than 2.5 times the background level is calculated by using the following expression. The area of the analyte is replaced by the noise level measured in a region of the chromatogram clear of genuine GC signals multiplied by an empirically determined factor. The detection limits represent the maximum possible concentration of a target analyte that could be present without being detected.

$$DL_{(\sigma)} = \frac{2 * 2.5 * (F * H) * Q_{\beta}}{A_{\beta} * RRF_{(\sigma)} * W}$$

Where:

$DL_{(\sigma)}$ is the estimated detection limit for a target analyte,

2.5 is the minimum response required for a GC signal,

F is an empirical number that approximates the area to height ratio for a GC signal. This number is 5 for the DB-5 GC column and 3.5 for the DB-225 GC column,

H is the height of the noise

A_{β} is the integrated current of the characteristic ions of the corresponding internal standard,

Q_{β} represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Other sample calculations may be found in the Triangle Laboratories Data User's Manual.

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports, as discussed in Triangle Laboratories' Method 8290 Data User's Manual. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the tetra- through hepta-CDD/CDF levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples. If these conditions are satisfied or if the blank is unable to be reextracted, the

interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An **'E'** flag is used to indicate that an PCDF peak has eluted at the sample time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

A **'Q'** flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences. Affected analytes may be overestimated or underestimated as a result of this interference. A peak is flagged 'Q' only if it is affected by a QC ion deviation greater than 20% full scale as determined relative to the labeled standard against which it is quantitated. Total PCDF/PCDF quantitations will be flagged 'Q' if the interferences affect ten percent or more of the total PCDD/PCDF peak areas.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

A **'U'** flag is used to indicate that a specific (2,3,7,8-substituted) isomer cannot be resolved from a large, coeluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration/amount cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A 'V' flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

An 'N' flag indicates that an internal standard has a signal to noise ratio below 10:1 but greater than 2.5:1, and the percent recovery is within QC limits.

By our interpretation, the analytical data in this project are valid based on the guidelines of EPA Method 8290 Rev. 0 (9/94) and Triangle Laboratories' Method 8290 Data User's Manual. Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should Southern Wood Piedmont have any questions or comments regarding this data package, please feel free to contact our Project Scientist Mary McDonald, at 919/544-5729 ext. 269.

For Triangle Laboratories, Inc.,

Report Preparation	Quality Control
Bracha Rosenberg	3/29/96
Bracha Rosenberg Report Preparation Chemist	Amy F. Bahm Report Preparation Chemist

The total number of pages in the data package is : 164 .

Triangle Laboratories, Inc.

State Certifications and Accreditations

Alaska	State of Alaska, Department of Environmental Conservation
Alabama	State of Alabama, Department of Environmental Management. Laboratory ID # 40950
Arizona	State of Arizona, Department of Health Services. Certificate # AZ0423
Arkansas	State of Arkansas, Department of Pollution Control and Ecology. Primary # 94-06497
California	State of California, Department of Health Services. Certificate # 1922
CLIA	CLIA Registration. ID # 34D0705120
Connecticut	State of Connecticut, Department of Health Services. Registration # PH-0117
Delaware	Delaware Health and Social Services
Florida	Florida Department of Health and Rehabilitative Services . Drinking Water ID HRS # 87424. Environmental Water ID # E87411
Hawaii	Hawaii Department of Health
Idaho	Idaho Department of Health and Welfare
Kansas	State of Kansas, Department of Health and Environment. Drinking Water and/or Pollution Control # E-215. Solid or Hazardous Waste # E-1209
Kentucky	Commonwealth of Kentucky, Department for Environmental Protection. ID # 90060
Maryland	Maryland Department of Health and Mental Hygiene.
Michigan	State of Michigan, Department of Public Health.
Montana	Montana Department of Health and Environmental Services.

TRIANGLE LABS

DOCUMENT CONTROL

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Durham, NC 27713-4411
919-544-5729

P.O. Box 13485
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Fax # 919-544-5491

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

☐ [redacted] LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax: [redacted]52-0165
☐ [redacted] Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax: (904) 878-9504
☐ 414 SW 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax: (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax: (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax: (813) 885-7049
☐ 100 Alpha Drive, Suite 110, Destrehan, LA 70047 — Phone: (504) 764-1100 — Fax: (504) 725-1163

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Triangle Labs

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
SWP-Wilmington	R 53020.00	

PROJECT LOC. (State)	SAMPLER(s) NAME	PHONE	FAX
NC	G. Kuntz / G. Force	703-957-6270	703-957-3945

CLIENT NAME	CLIENT PROJECT MANAGER
VIOS Group, Inc.	Greg Kuntz

CLIENT ADDRESS (CITY, STATE, ZIP): 1415 Pisgah Church Rd, Lexington, SC 29072

MATRIX TYPE: AQUEOUS (WATER) / SOLID OR SEMISOLID / AIR / NONAQUEOUS LIQUID (oil, solvent, etc)

REQUIRED ANALYSES: Dioxins & Furans Method 8290 Temperature

PAGE 1 OF 1

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

SAMPLE DATE	SAMPLE TIME	SL NO.	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	NUMBER OF CONTAINERS SUBMITTED	REMARKS
4/15/96	10:20		LF2A SoaPlight 13594		X			1	* High Resolution
4/15/96	10:30		LF1A 13595		X			1	Dioxin Analysis
			Temperature Blank	X				1	Method 8290
									All congeners
									Tetra —
									Octa
									Call Sandra
									Watson at
									864-599-1070 or
									Greg Kuntz at
									703-957-6270
									for questions

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	4/16/96	4:12				[signature]	4/15/96	18:45

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]								

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
			☐ YES ☐ NO			

SAVANNAH LABORATORY COPY

Custody Seal : Present/Intact	Sample Seals: Present	TLI Project Number 36250	Book
Chain of Custody : Present			
Sample Tags : Present		Client: VGE01 Viro Group - ETE Division	114
Sample Tag Numbers: Listed			
SMO Forms : N/A		Date Received 02/16/96 By	Page
Ice Chest	ICE Temp 4.0 C	Carrier and Number AirBorne/	155

TLI Number mR/H:CPM	Client ID	Matrix Location	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init
114-155-1	LF2A SWP# 13594	SEDIMENT								
		CO2								
114-155-2	LF1A SWP# 13595	SEDIMENT								
		CO2								

In oven @ 9:30pm 2/19/96

Receiving Remarks: A temperature blank arrived with the samples.

Archive Remarks:

TRIANGLE LABORATORIES, INC.
SAMPLE TRACKING AND PROJECT MANAGEMENT FORM

----------ADMINISTRATIVE INFORMATION----------

TLI Proj#: 36250-	Samples: 2	TurnAround.: 21 Day(s)
Prod Code: D01011	Matrix.: Soil	Hold Time..: 30 Day(s)
DetectLim: 1 ppt	Type...: B	Date Recvd.: 02/16/96
		Date Due...: 03/08/96
		DWL Due Dt.: 02/29/96

Analyte List.: Tetra-Octa

Method.....: 8290X Tetra-Octa
Client Proj..: 12-53020.00:SWP-Wilmington
Client.....: Southern Wood Piedmont (SWP01)
P.O. No.....:
Contact.....: Sandra Watson
Proj. Mgr....: Mary McDonald

Collect Dt/Tm: 02/15/96
Phone.....: 803-599-1082
Fax.....: 803-599-1087
Sample Origin: NC

----------SPECIAL INSTRUCTIONS / QA REQUIREMENTS----------

Prespike Standard: n/a
Extraction Exp...: 03/16/96

----------REPORTING REQUIREMENTS----------

Reporting Format: Report Option II

See MILES for Instructions/Communications.

Completed by: Mary McDonald DATE: 2/19/96
Reviewed by: MCM DATE: 2/19/96 (PMGT0395)

TRIANGLE LABORATORIES,
Wet Lab Extraction and Obs ions
Project: 36250

Sample #	crd	TLI_Number..	Customer.Sample.Id.....	Init. pH...	NaOH mL..	Adj. pH.1.	H2SO4 mL...	Adj. pH.2.	Appearance.	Color.....	Odor...	Vol.	Entered.By.....	Date....	Time....	S
000		TLI Blank	TLI Soil Blank	n/a	n/a	n/a	n/a	n/a	DRY/SAND	BEIGE	N/A	0	PENDERGRAFT	02/20/96	15:46:09	F
001		114-155-1	LF2A SWP# 13594	n/a	n/a	n/a	n/a	n/a	SOIL	DARK/GRAY	N/A	0	PENDERGRAFT	02/20/96	15:46:09	F
002		114-155-2	LF1A SWP# 13595	n/a	n/a	n/a	n/a	n/a	SOIL	DARK/GRAY	N/A	0	PENDERGRAFT	02/20/96	15:46:09	F

*** End of Report ***

Project: 36250

Sa # crd	Empty Vial.Wt	Wet Vial Weight...	Dry Vial Weight...	Entered.By.....	Date....	Time....	%Moist	%Solid	Valid Weight From.....-To.....	Target Weight...
001	13.2067	21.4865	20.1812	CHUA	02/20/96	06:24:52	15.8	84.2		
	13.2067	21.4865	20.1818	CHUA	02/20/96	04:25:15				
	13.2067	21.4865	0.0000	STREETER	02/19/96	21:53:05				
	13.2067	0.0000	0.0000	STREETER	02/19/96	21:40:26			11.4014-12.3515	11.8765
002	13.2976	21.8367	20.7586	CHUA	02/20/96	06:24:53	12.6	87.4		
	13.2976	21.8367	20.7591	CHUA	02/20/96	04:25:15				
	13.2976	21.8367	0.0000	STREETER	02/19/96	21:53:06				
	13.2976	0.0000	0.0000	STREETER	02/19/96	21:40:26			10.9840-11.8993	11.4416

Percent Moisture/Solid Summary

TLI.MILES.ID....		TLI.Number..	Client.Id.Number.....	%Moist	%Solid	ExtrctWt	DryWtEqu	RPD..
36250-	-001	114-155-1	LF2A SWP# 13594	15.8	84.2			
36250-	-002	114-155-2	LF1A SWP# 13595	12.6	87.4			

*** End of Report ***

TRIANGLE LABORATORIES, INC.

PCDD/PCDF/PBDD/PBDF Sample Preparation Tracking & Management Form

Project: 36250

Client: Southern Wood Piedmont (SWP01)

Sample Information:

Method: 8290X Tetra-Octa

Extraction Date: __/__/__

Spiking Dates: 2/20/96 2/21/96 __/__/__ __/__/__

WL Spike: 20 µl, conc: 0.100 ng/µl

S#.crd	TLI SAMPLE ID /	CLIENT SAMPLE ID	GROSS WEIGHT Before	GROSS WEIGHT After	SAMPLE SIZE g ml	USF-I Ex/Cl Initials	USF-ACS Ex/Cl Initials	MISC Ex/Cl Initials	USFMX Extr. Initials	Sample Left ? Yes/No
						20 ul	20 ul			
000	TLI Blank	TLI Soil Blank			10.00	V.P.	J.S.			
001	114-155-1	LF2A SWP# 13594	463.7	451.9	11.87	V.P.	J.S.			Y
002	114-155-2	LF1A SWP# 13595	436.6	425.2 ~~451.9~~ EE V.P. 2-20-96	11.45	V.P.	J.S.			Y

Gross weight of sample container + sample before/after aliquot removal

COMMENTS: Sand 52-64-16 used For TLI Blank

V. Pendergraft 2/20/96

Initial/Date JN 2/20/96

INITIALS OF BOTH THE SPIKER AND OBSERVER MUST BE ENTERED.

(XXXXX = Gross Weight not provided for WATER Samples.)

Indicate below the TLI Identification Number of the Sample Fortification Solutions:

USF-AIS: _____

USF-I: 3345K 0.1ug/ml EXP: 11/26/96

USF-A: _____

USF-ACS: 1339AD 0.1ug/ml EXP: 7/11/96

USF-MX: _____

USF-C: _____

Other: _____

LOT # (Solvents): Toluene 950743

for extraction: _____

REV 03/07/95 (PSTMF 7)

TRIANGLE LABORATORIES, INC.
SAMPLE EXTRACTION and CLEANUP TRACKING FORM
TLI Project: 36250

Ext S#.crd and TLI Number	EXTRACTION: Spike before Extr.	Extr.	Spike after Extr.	CHROMATOGRAPHIC CLEANUP: Acid Base	Big Fish	Escltd Silica Gel	Acid Almina 6 gm	Flor-isil	Carbon Column	Trans-fer	Add'l Clean-up
000 TLI Blank								DSP	248	2/23/96	
001 114-155-1											
002 114-155-2	V.P. 2/20/96	V.P. 2/20/96	J.L. 2/21/96	SBM 2/22/96				SBM 2/22/96		95	

...PROCEDURE....	.....DETAILS.....	Performed.By	Observed.By	....DATE....
Spike BEFORE Ext		N.U.	V.P.	2 / 20 / 96
Extraction	Soxhlet / Jar	See above		/ /
Spike AFTER Ext		S.V.	J.Lewis	2 / 21 / 96
Add Tridecane		[illegible]	J.Lewis	2 / 21 / 96
Rotovap	40mL, 10mL, Dryness	[illegible]	J.Lewis	2 / 21 / 96
Combine		N/R		/ /
Divide		N/R		/ /
Solvent Exchange		[illegible]	J.Lewis	2 / 21 / 96

Comments

Rev 02/08/96 (PSTMF 4)

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 36250

Transfer From: DWLH5 To: DMS5

	Initials..	Date.....	Time...
Released by:	JS	2/23/96	8:30 PM
Accepted by:	JPL	2/26/96	1:00

MILES.ID.....		TLI_No.....	Cust.Id.....
36250-	-000	TLI Blank	TLI Soil Blank
36250-	-001	114-155-1	LF2A SWP# 13594
36250-	-002	114-155-2	LF1A SWP# 13595

XfrCOC (Rev 11/01/94)

Additional comments or instructions:

TRIANGLE LABORATORIES, INC.

HR GC/HRMS ANALYSIS

hod: 8290X Tetra-Octa

uired Detection Limit: 1 ppt

PROJECT: 36250

SAMPLE INFORMATION

1ST COLUMN

2ND COLUMN

RS Conc 20 µl @ 100.0 PG/µl

S#.crd	TLI / SAMPLE ID / CLIENT SAMPLE ID	GC/MS FILENAME COLUMN: DB-5	CONFIRM	CONFIRM FILENAME COLUMN: DB-225	USF-RS VOLUME SOLN ID	USF-RS INIT. DATE	ANALYSIS COMMENTS
000	TLI Blank / TLI Soil Blank	T961254 T961213	no	—	20µl 3553A	JFK 3/3/96	
001 *	114-155-1 / T961356 / LF2A SWP# 13594 5X	T961257 (10X) 20		X961140 (⊕) X961152	1X		
002 *	114-155-2 / T961357 / LF1A SWP# 13595 5X	T961258 (⊕) (10X) 21		X961141 (⊕) X961153			

Comments: 001 + 002 need dilution

(*) QC ion deflection @ TCDF-I.S. elution time. Reshoot. BD 3/19/96

(⊕) Overdiluted for confirm. therefore Reconstituted 12/ot.m.g.mill, WA 3/26/96

Scheduled for Re confirm.

* added 6 µl Nonan VLK 3/26/96

Type: B

Spike File: SPX2372S

Amt of Extract: 100%

REV 03/07/95 (PSTMF 6)

X correct QC deflection 3/26/96 JF

TRIANGLE LABORATORIES INC
RUN LOG

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
707	DB5 60m 0.25m	59064-14	[illegible]	(Gradient)	1.0 ul	EPCUS2	EPCUS

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
3/6/96	11:58	—	3499c	—	Rechk / (MMC/Gas)	(Sat'd)	8.2	VA	✓	✓	Auto	T96120J
	12:37	—	3490c	—	Gasolines Lowl (50)	(1:1)	5.2 EG	VA	✓	✓		T96120I
	14:56	—	3470c	—	Gasolines Lowl (50)	Adj (STD) 100. (70)%	6.8 EG	VA	✓	✓		T96120H
		—	3553A	—	RS-100			MM			Auto	T961211
	1550	360145-1	TL1 Blank	Ø	TL1 Soil Blank	No Gasoline Bellow Lowest Fuel Blank	1.1 EG			✓		12
	1631	36255		E	TL1 Soil Blank		1.2 EG			✓		13
	1712	36247		Ø	TL1 Sludge Blank		6.2 EG			✓		14
	1754	36369		Ø	960108= Method Blank		6.0 EG			✓		15
	18:31	36264B		Ø	TL1 Sludge Blank		6.1 SG			✓		16
	19:13	36288		Ø	TL1 Water Blank		8.1 SG			✓		17
	19:54	364106 SD 3/6/96 ~~363204~~ 3/6/96	↓	Ø	TL1 ~~Water~~ Sediment Blank SD 3/6/96		4.5 SG			✓		18
	20:35	360145-1	113-169-1A	1	Area J & Q	Sat'd	5.1 SG			✓		19
	21:17	36250	114-155-1	1	LF2A SWP# 13594	Sat'd	8.2 SG			✓		20
	21:58	↓	↓ -2	2	LF1A SWP# 13595	Sat'd	6.4 SG			✓		21
↓	22:39	36247	114-152-1	1	96-02-03201	NG	—	↓		✓	↓	22

PAGE #	17	

TRIANGLE LABORATORIES INC
RUN LOG

20

HS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
70T	DB-5	5906414	EtlipKd	→	2.0 µl	EPCWS.2	E.PC.US

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332:	OP INIT	P	Q	SYR #	FILE #
		36369	115-24-1	1	960106=511893	NG Filament Blown		MM			Auto	T961223
		↓	↓ -2	2	960107=511944	NG		↓			↓	24
		36369 B	114-174-1	1	LACRD-SL-026-Sludge lb	NG						25
		36288	114-193-1	1	01136016 Incinerator Blowdown	NG						26
		36330A	~~114-235-1~~	1	145-163-WO-026-WT PPAR			↓			↓	27
			3490C		~~8240/M23 Concal 50.0~~	(ED) Live not used	NOT SHOT					
		~~36276~~	~~114-143-1~~	~~1~~	~~960201B6~~ (ED mm 3/6/96)							28
		36406	115-61-1		DHC-4			MM			Auto	28
		-	3490C	-	8240/M23 Concal 50.0			↓			↓	29
3/7/96	1310	—	3490C	-	8290/M23 Concal	50.0	4.5 EG	G.G.	✓	✓	Auto	T961230 ~~T961229EE~~ GG 3-7-96
3/7/96	—	—	3490C	—	8290/M23 Concal 50.0	(ND)	—	SG/GG	—		Auto	T961231
3/7/96	17:01	—	3497E	-	~~CS1~~ ~~CS1.0~~ (ED mm 3/8/96)	RtchK			✓	✓		T1232-01
	17:36	—	3487A	-	~~CS2~~ ~~CS5.0~~ (ED mm 3/8/96)	CS1			✓	✓		-02
	18:11	—	3488A	-	~~CS3~~ (ED mm 3/8/96)	CS2			✓	✓		-03
	18:46	—	3489A	-	~~CS4~~ (ED mm 3/8/96)	CS3			✓	✓		-04

PAGE #	113	

TRIANGLE LABORATORIES INC
RUN LOG

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
70T	DB-5	5907144	Ethinkd	→	2.0 µl	EPCU$2	EPCU$

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
3/21/96	20:01	36458A	115-113-41145	4	76C0252 MS		1.0 45	MW	/	/	Auto	T961504
↓	20:43	↓	↓ -41451	5	↓ MSD		7.0 45	↓	/	/	↓	↓ -05
↓	21:25	↓	↓ -5	6	76C0253		3.4 45	↓	/	/	↓	↓ 06
↓	22:07	↓	↓ -6	7	76C0254		3.0 45	↓	/	/	↓	↓ 07
3/21/96	22:49	36110	TL1 Blank	0	TL1 Tar Blank		6.3 14	↓	/	/	↓	↓ 08
↓	—	↓	114-15-1	1	SI960128-01	Hot shot	—	↓	—	↓	↓	↓ 09
↓	—	↓	↓ -2	2	SI960207-01	off clock	—	↓	—	↓	↓	↓ 10
3/22/96	00:39	—	3490C	—	8290/m23 Concal 500.0	Δ septum inc 9600 f+B	1.5 26	BB	/	/	auto	T961511
3/22/96	01:27	—	3499F	—	Retention window check		11%	↓	/	/	↓	T961512
↓	—	—	3553D	-	RS-100		—	↓	/	/	↓	T961513
↓	02:48	36247-1	TL2 Blank	0	TL2 Sludge Blank		1.6 E6	↓	/	/	↓	T961514
↓	03:30	36114-2	TL2 Blank	0	TL2 Slurry Blank		1.2 E6	↓	/	/	↓	T961515
↓	04:12	36247-1	114-152-1	1	96-02-03201		1.1 E6	↓	/	/	↓	T961516
↓	04:54	36114-2	114-19-1	1	CCH-KF-Day 2		1.1 E6	↓	/	/	↓	T961517
↓	05:36	36360B	115-15-SA -CF	2	76065 = unit #2	run #1	3.3 E5	↓	/	/	↓	T961518

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TRIANGLE LABORATORIES INC
RUN LOG

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MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
70T	DB5 60m 0.25M	5907444	(W) TIAPKD	T02	2.0 M	EPCUS2	EPCUS

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
3/22/96	06:18	36126or1	114-31-1	1	T6-02-012-002		2.1 E5	BB	/	/	calib	T961519
↓	07:00	36381	115-36-1	2	muscle 29251		2.11 E6		/	/		T961520
↓	–	36381	115-36-1MS	3	matrix spike	- NO clean-up std. - No I's.	–		/	/		T961521
↓	08:25	36381	115-36-1MSD	4	matrix spike: P.O		1.7 E6		/	/		T961522
↓	–	36138R	114-43-2	1	IT-08 (5xdil)	- [illegible] - heavy of stars/over-shot	–		/	/		T961523
↓	09:49	36342A	114247-SA-OG	5	II-0-m23-1 (10xdil)		1.2 E5		/	/		T961524
↓	10:31	36110	114-15-1	1	SI960129-01	low IS Recovery	5.2 E5		/	/		T961525
↓	11:13	36110	114-15-2	2	SI960207-01		9.2 E5		/	/		T961526
↓	11:55	36250	114-155-1	1	LF2A SWP#13594 (5xdil)	OC DID still slightly [illegible]	1.3 E5		/	/		T961527
↓	12:37	36250	114-155-2	2	LF1A SWP# 13595 (5xdil)	OC DID O.K.	3.8 E4		/	/		T961528
↓	13:19	—	35530	–	RS-100		1.5 E6					T961529
↓	14:01	—	3490C	–	8290/m23 [illegible] 20.0 Good F/B		2.8 E6	✓			↓	T961530
↓		–	3499E	–	Rblk			MM			Auto	T961531

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TRIANGLE LABORATORIES INC
RUN LOG

HS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKO	AMOUNT INJ	ACQUISISTION	G/C
V6 X	DB225 30m 0.25M	5840822	@TLEPKN	TT1	2.0 λ	XCONF_TT	XCONF_TT

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
3/26/96	11:42	36712A	114-217-3	3	Bottom Ash Test #3		2.2 GC	VLH	✓	✓	X3251	X961145
↓	12:28	36584	115-229-2	0	960160=METHOD BLANK		6.7 GC	VLH	✓	✓	X3251	X961146
↓	13:43	—	3475A	–	Tetra Cond 50	Good	7.2 GC	VLH	✓	✓	Tetra 50	X961147
3/26/96	15:07	—	3449G	–	RTCHK	Good	13%	VLH	✓	✓	RTCHK	X961148
↓	15:53	—	3474A	–	Tetra Cond 5.0	Good	1.1 E7	VLH	✓	✓	Tetra 5	X961149
↓	16:30	—	3553F	–	RS100		4.0 E7	VLH	✓	✓	RS100	X961150
↓	17:16	36623	116-28-1	1	940046=SAFFIL		2.1 E7	VLH	✓	✓	X3251	X961151
↓	18:02	36250	114-155-1	1	LF2A SWP#	13594 10X DIL	4.2 EG	JF	✓	✓	X3251	X961152
↓	18:56	36250	114-155-2	2	LF1A SWP#	13595 10X DIL	3.0 GC	JF	✓	✓	X3251	X961153
↓	19:45	36534	115-189-4A	4	U1-M23-R3		3.1 E7	WH	✓	✓	X3251	X961154
↓	20:32	36534	115-189-5A	5	U2-M23-R1		3.2 E7	WH	✓	✓	X3251	X961155
↓	21:21	36534	115-189-6A	6	U2-M23-R2		3.0 E7	WH	✓	✓	X3251	X961156
↓	22:11	36534	115-189-7A	7	U2-M23-R3		2.0 E7	WH	✓	✓	X3251	X961157
↓	22:54	36534	115-189-8A	8	U3-M23-R1	Last Calibration	1.7 E7	WH	✓	✓	X3251	X961158
↓	—	36534	115-189-9A	9	U3-M23-R2	↓		WH	—	—	X3251	X961159

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CONCAL 3:52

CONCAL = 12:54

TRIANGLE LABORATORIES INC
LOG

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
VGX	DB225 30m 0.25	5840822	@TLI PKD	TTI	2.0 ml	X CONF_TT	X CONF_TT

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
3/27/96	0112	36534	115-181-9A	9	U3-M23-R2	Mass Cal prior	3.1 E7	GM	✓	✓	X3257	X961160
↓	0155	↓	8A	8	U3-M23-R1		2.7 E7	GM	✓	✓	↓	X961161
↓	0240	↓	10A	10	U3-M23-R3		2.7 E7	GM	✓	✓	↓	X961162
↓	0322	36563	TLI Blank	Ø	TLI Method 23 Blank	No ES	2.6 E7	GM	✓	✓	↓	X961163
↓	0409	—	3475A	-	Total Conc/SD	Good	2.5 E7	GM	✓	✓	Total SD	X961164
3/27/96		—	3499G	-	RTCHK			VM			RTCHK	X961165

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TRIANGLE LABS

SAMPLE DATA

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Research Triangle Park, NC 27709-3485
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TRIANGLE LABORATORIES OF RTP, INC.
Sample Result Summary for Project 36250
Method 8290X Full Screen Analyses (DB-5)

03/25/96

ta File	T961213	T961220	T961527		T961221
mple ID	TLI Soil Blank	LF2A SWP# 13594	LF2A SWP# 13594 5X DIL		LF1A SWP# 13595
Units	ppt	ppt	ppt		ppt
Analytes					
2378-TCDD	(0.2)	4.2			2.4
12378-PeCDD	(0.2)	55.2			42.2
123478-HxCDD	(0.2)		263		
123678-HxCDD	(0.2)		1910		
123789-HxCDD	(0.2)		789		
1234678-HpCDD	0.31		90080		
OCDD	3.1		496210		
2378-TCDF	(0.2)	14.5			11.3
12378-PeCDF	(0.2)	63.3			55.2
23478-PeCDF	(0.2)	53.1			51.1
123478-HxCDF	(0.2)		1160		
123678-HxCDF	(0.1)		217		
234678-HxCDF	{0.46}		171		
123789-HxCDF	(0.2)		62.5		
1234678-HpCDF	0.27		51580		
1234789-HpCDF	(0.2)		1080		
OCDF	{0.17}		155250		
TOTAL TCDD	(0.2)	91.8			61.0
TOTAL PeCDD	(0.2)	879			736
TOTAL HxCDD	(0.2)		26080		
TOTAL HpCDD	0.86		298650		
TOTAL TCDF	(0.2)	96.5			68.9
TOTAL PeCDF	(0.2)	1050			1110
TOTAL HxCDF	{0.46}		38630		
TAL HpCDF	0.46		120130		
Other Standards Percent Recovery Summary (% Rec)					
37Cl-TCDD	49.1	85.4			69.3
13C12-PeCDF 234	94.3	85.1			79.3
13C12-HxCDF 478	85.1		106		
13C12-HxCDD 478	94.5		107	RO	
13C12-HpCDF 789	93.4		104		
Other Standards Percent Recovery Summary (% Rec)					
13C12-HxCDF 789	90.6		99.8		
13C12-HxCDF 234	91.4		96.3		
Internal Standards Percent Recovery Summary (% Rec)					
13C12-2378-TCDF	43.7	91.5			77.0
13C12-2378-TCDD	54.1	93.4			77.1
13C12-PeCDF 123	58.2	89.6			75.9
13C12-PeCDD 123	98.3	96.2			80.1
13C12-HxCDF 678	65.0		93.4		
13C12-HxCDD 678	104		101		
13C12-HpCDF 678	83.8		120	RO	
13C12-HpCDD 678	92.0		92.4		
13C12-OCDD	94.6		43.2	RO	

Data File	T961528
Sample ID	LF1A SWP# 13595
	5X DIL
Units	ppt

Analytes	
123478-HxCDD	191
123678-HxCDD	1600
123789-HxCDD	526
1234678-HpCDD	55750
OCDD	583460
123478-HxCDF	956
123678-HxCDF	206
234678-HxCDF	469
123789-HxCDF	{44.8}
1234678-HpCDF	56260
1234789-HpCDF	1100
OCDF	154750
TOTAL HxCDD	18060
TOTAL HpCDD	290890
TOTAL HxCDF	31580
TOTAL HpCDF	133590

Other Standards Percent Recovery Summary (% Rec)

13C12-HxCDF 478	78.6	
13C12-HxCDD 478	105	
13C12-HpCDF 789	61.7	RO

Other Standards Percent Recovery Summary (% Rec)

13C12-HxCDF 789	55.6	RO
13C12-HxCDF 234	52.0	RO

Internal Standards Percent Recovery Summary (% Rec)

13C12-HxCDF 678	74.5	
13C12-HxCDD 678	68.8	
13C12-HpCDF 678	64.1	RO
13C12-HpCDD 678	63.3	
13C12-OCDD	18.3	RO

{Estimated Maximum Possible Concentration}, (Detection Limit).

Data File	X961152	X961153
Sample ID	LF2A SWP# 13594	LF1A SWP# 13595
Units	ppt	ppt
Analytes		
2378-TCDF	13.5	7.0
Internal Standards Percent Recovery Summary (% Rec)		
13C12-2378-TCDF	137	90.1

Southern Wood Piedmont

TLI Project: 36250 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: **TLI Soil Blank** — Analysis File: **T961213**

Client Project:	12-53020.00:SWP-Wilmington				
Sample Matrix:	SAND	Date Received:	/ /	Spike File:	SPX2372S
TLI ID:	TLI Blank	Date Extracted:	02/20/96	ICal:	TF5D065
		Date Analyzed:	03/06/96	ConCal:	T961210
Sample Size:	10.000 g	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	T961213	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.2				—
1,2,3,7,8-PeCDD	ND	0.2				—
1,2,3,4,7,8-HxCDD	ND	0.2				—
1,2,3,6,7,8-HxCDD	ND	0.2				—
1,2,3,7,8,9-HxCDD	ND	0.2				—
1,2,3,4,6,7,8-HpCDD	0.31			1.16	32:03	—
1,2,3,4,6,7,8,9-OCDD	3.1			0.97	34:31	—
2,3,7,8-TCDF	ND	0.2				—
1,2,3,7,8-PeCDF	ND	0.2				—
2,3,4,7,8-PeCDF	ND	0.2				—
1,2,3,4,7,8-HxCDF	ND	0.2				—
1,2,3,6,7,8-HxCDF	ND	0.1				—
2,3,4,6,7,8-HxCDF	EMPC		0.46			—
1,2,3,7,8,9-HxCDF	ND	0.2				—
1,2,3,4,6,7,8-HpCDF	0.27			1.05	31:12	—
1,2,3,4,7,8,9-HpCDF	ND	0.2				—
1,2,3,4,6,7,8,9-OCDF	EMPC		0.17			—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		0.2		—
Total PeCDD	ND		0.2		—
Total HxCDD	ND		0.2		—
Total HpCDD	0.86	2			—
Total TCDF	ND		0.2		—
Total PeCDF	ND		0.2		—
Total HxCDF	EMPC			0.46	—
Total HpCDF	0.46	2			—

X237_PSR v1.14, LARS 6.04.00

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Printed: 12:59 03/25/96

Southern Wood Piedmont

TLI Project: 36250 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: TLI Soil Blank — Analysis File: T961213

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	87.4	43.7	40%-130%	0.76	20:30	—
$^{13}C_{12}$-2,3,7,8-TCDD	108	54.1	40%-130%	0.79	21:18	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	116	58.2	40%-130%	1.48	24:47	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	197	98.3	40%-130%	1.47	25:55	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	130	65.0	40%-130%	0.49	28:31	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	208	104	40%-130%	1.23	29:14	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	168	83.8	25%-130%	0.43	31:12	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	184	92.0	25%-130%	1.03	32:03	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	378	94.6	25%-130%	0.86	34:30	—

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	9.8	49.1	40%-130%		21:20	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	189	94.3	40%-130%	1.47	25:32	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	170	85.1	40%-130%	0.51	28:25	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	189	94.5	40%-130%	1.20	29:09	—
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	187	93.4	25%-130%	0.43	32:24	—

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	181	90.6	40%-130%	0.50	29:44	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	183	91.4	40%-130%	0.50	29:01	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	21:06	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.21	29:31	—

Data Reviewer: KR 03/25/96

X237_PSR v1.14, LARS 6.04.00

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Printed: 12:59 03/25/96

Initial ....Date...

Data Review By: TR 3/25/96 Calculated Noise Area: 3.00

The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of T961213B.dbf
03/25/96 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
TCDF				0.65-0.89						0.826-1.100		
304-306	DC	NL		0:00		0.87	2.67			0.000		
	DC	SN		17:27		0.73	1.96			0.851		
	DC	SN		18:09	RO	1.60	2.10			0.885		
	DC	SN		18:12	RO	0.45	0.67			0.888		
	DC	SN		18:29	RO	1.45	1.35			0.902		
	DC	SN		18:36	RO	3.68	1.35			0.907		
	DC	SN		18:42	RO	2.52	0.37			0.912		
	DC	SN		18:48	RO	1.11	0.96			0.917		
	DC	SN		18:54	RO	0.11	0.30			0.922		
	DC	SN		19:02	RO	0.32	1.17			0.928		
	DC	SN		19:20	RO	1.25	2.04			0.943		
	DC	SN		19:35	RO	0.37	1.60			0.955		
	DC	SN		19:39	RO	1.53	1.77			0.959		
	DC	SN		20:08		0.66	1.46			0.982		
	DC	SN		20:13		0.83	1.90			0.986		
D	d	SN		20:31	RO	0.62	7.06			1.001	2378-TCDF	AN
	DC	SN		20:41	RO	0.22	0.48			1.009		
	DC	SN		21:15		0.74	2.64			1.037		
	DC	SN		21:51		0.68	2.69			1.066		
304-306			0	Peaks			0.00					
13C12-TCDF				0.65-0.89						0.951-1.049		
316-318	DC	NL		0:00	RO	1.91	0.39			0.000		
	DC	WL		19:20		0.79	40.92			0.943		
				19:39	RO	0.53	11.51	5.01	9.44	0.959		
				20:01		0.77	62.43	27.25	35.18	0.976		
				20:30		0.76	6,132.30	2,638.46	3,493.84	1.000	13C12-2378-TCDF	ISO
				20:58		0.78	76.46	33.55	42.91	1.023		
				21:07	RO	0.46	6.51	2.85	6.14	1.030		
	DC	WH		22:23	RO	0.49	12.62			1.092		
316-318			5	Peaks			6,289.21					

---------- Above: TCDF / TCDD Follows ----------

TCDD				0.65-0.89						0.860-1.059		
320-322	DC	NL		0:00	RO	1.50	0.35			0.000		
	DC	SN		18:25	RO	1.12	4.02			0.865		
	DC	SN		18:28	RO	0.26	0.73			0.867		
	DC	SN		18:31	RO	6.20	0.27			0.869		
	DC	SN		18:41	RO	0.34	0.64			0.877		
	DC	SN		18:45	RO	1.09	0.19			0.880		
	DC	SN		18:51	RO	0.52	2.08			0.885		
	DC	SN		18:54	RO	1.47	1.40			0.887		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	18:58	RO	1.44	0.80			0.890		
		DC	SN	19:03	RO	6.80	0.09			0.894		
		DC	SN	19:06	RO	4.20	0.18			0.897		
		DC	SN	19:09	RO	2.43	0.12			0.899		
		DC	SN	19:13	RO	0.25	0.37			0.902		
		DC	SN	19:16	RO	0.09	0.37			0.905		
		DC	SN	19:20		0.75	0.91			0.908		
		DC	SN	19:24	RO	0.43	0.48			0.911		
		DC	SN	19:42	RO	0.28	0.37			0.925		
		DC	SN	19:46		0.80	0.97			0.928		
		DC	SN	19:50	RO	0.49	0.82			0.931		
		DC	SN	19:55	RO	0.39	0.30			0.935		
		DC	SN	19:57	RO	3.61	0.32			0.937		
		DC	SN	20:00	RO	2.92	0.23			0.939		
		DC	SN	20:04		0.82	0.51			0.942		
		DC	SN	20:10	RO	4.33	0.21			0.947		
		DC	SN	20:15	RO	0.04	0.02			0.951		
		DC	SN	20:19		0.67	0.80			0.954		
		DC	SN	20:23	RO	0.12	0.12			0.957		
		DC	SN	20:26	RO	0.51	0.81			0.959		
		DC	SN	20:30	RO	11.41	0.57			0.962		
		DC	SN	20:43	RO	0.43	0.30			0.973		
		DC	SN	20:48	RO	0.20	0.19			0.977		
		DC	SN	20:52	RO	1.21	0.25			0.980		
		DC	SN	20:54	RO	0.15	0.12			0.981		
		DC	SN	20:59	RO	0.17	0.27			0.985		
		DC	SN	21:00	RO	0.17	0.21			0.986		
		DC	SN	21:07	RO	0.29	2.23			0.991		
		DC	SN	21:11	RO	1.97	0.58			0.995		
		DC	SN	21:18		0.67	2.02			1.000		
		DC	SN	21:27		0.89	0.85			1.007		
		DC	SN	21:30		0.87	2.17			1.009		
		DC	SN	21:34	RO	3.14	0.25			1.013		
		DC	SN	21:36	RO	0.12	0.07			1.014		
		DC	SN	21:43	RO	0.33	0.09			1.020		
		DC	SN	21:46		0.78	0.66			1.022		
		DC	SN	21:53	RO	0.44	0.62			1.027		
		DC	SN	21:58	RO	0.26	0.67			1.031		
		DC	SN	22:00	RO	4.44	0.32			1.033		
		DC	SN	22:05		0.75	0.28			1.037		
		DC	SN	22:17	RO	1.05	0.34			1.046		
		DC	SN	22:22	RO	0.48	1.22			1.050		
		DC	SN	22:27	RO	1.06	0.28			1.054		
		DC	SN	22:31	RO	0.41	0.70			1.057		
		DC	WH	22:35	RO	1.11	0.34			1.060		
		DC	WH	22:38	RO	2.89	0.16			1.063		
		DC	WH	22:42	RO	0.52	0.69			1.066		
		DC	WH	22:51	RO	17.50	0.07			1.073		
320-322		0	Peaks				0.00					
37Cl-TCDD										0.906-1.094		
328		DC	NL	0:00			0.23			0.000		

Compound/ % Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	WL		18:25			0.25			0.865		
	DC	WL		18:28			0.28			0.867		
	DC	WL		18:31			0.27			0.869		
	DC	WL		18:39			0.68			0.876		
	DC	WL		18:42			0.84			0.878		
	DC	WL		18:51			0.14			0.885		
	DC	WL		18:59			0.30			0.891		
	DC	WL		19:16			0.57			0.905		
	DC	SN		19:20			0.27			0.908		
	DC	SN		19:21			0.37			0.908		
	DC	SN		19:31			0.73			0.916		
	DC	SN		19:37			0.25			0.921		
				19:48			3.42	3.42		0.930		
	DC	SN		19:59			0.57			0.938		
	DC	SN		20:03			0.29			0.941		
	DC	SN		20:13			0.43			0.949		
	DC	SN		20:15			0.44			0.951		
	DC	SN		20:18			0.35			0.953		
	DC	SN		20:26			0.58			0.959		
	DC	SN		20:51			0.18			0.979		
	DC	SN		20:55			0.28			0.982		
	DC	SN		21:05			0.22			0.990		
	DC	SN		21:07			0.28			0.991		
	DC	SN		21:11			0.22			0.995		
				21:20			535.40	535.40		1.002	37Cl-TCDD	SUR1
				21:27			2.94	2.94		1.007		
	DC	SN		21:32			0.32			1.011		
	DC	SN		21:34			0.19			1.013		
	DC	SN		21:40			0.38			1.017		
	DC	SN		22:03			0.61			1.035		
	DC	SN		22:11			0.26			1.041		
	DC	SN		22:13			1.02			1.043		
	DC	SN		22:31			0.55			1.057		
	DC	SN		22:47			0.39			1.070		
	DC	SN		22:51			0.49			1.073		
	DC	SN		22:53			0.51			1.074		
	DC	SN		22:57			0.34			1.077		
328			3	Peaks			541.76					
13C12-TCDD					0.65-0.89					0.906-1.094		
332-334	DC	NL		0:00	RO	4.43	1.97			0.000		
				20:00	RO	1.14	21.52	13.84	12.18	0.939		
				21:06		0.79	10,230.45	4,523.31	5,707.14	0.991	13C12-1234-TCDD	RS1
				21:18		0.79	5,753.78	2,547.58	3,206.20	1.000	13C12-2378-TCDD	IS1
				21:40		0.74	66.36	28.12	38.24	1.017		
332-334			4	Peaks			16,072.11					

---------- Above: TCDD / PeCDF Follows ----------

PeCDF					1.32-1.78					0.909-1.076		
340-342	DC	NL		0:00	RO	1.00	0.44			0.000		
	DC	SN		22:33	RO	0.70	0.51			0.910		

Compound/ M Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		22:39	RO	0.90	2.43			0.914		
	DC	SN		22:43	RO	0.75	0.69			0.917		
	DC	SN		22:49	RO	0.28	0.30			0.921		
	DC	SN		22:55	RO	0.50	0.64			0.925		
	DC	SN		22:58	RO	0.42	0.41			0.927		
	DC	SN		23:08	RO	0.36	0.25			0.933		
	DC	SN		23:11	RO	3.95	1.05			0.935		
	DC	SN		23:16	RO	0.88	0.23			0.939		
	DC	SN		23:20		1.50	1.35			0.941		
	DC	SN		23:24	RO	2.93	0.69			0.944		
	DC	SN		23:30	RO	0.24	0.15			0.948		
	DC	SN		23:32	RO	0.75	0.15			0.950		
	DC	SN		23:35	RO	0.50	0.38			0.952		
	DC	SN		23:41	RO	2.38	0.33			0.956		
	DC	SN		23:45	RO	0.41	0.66			0.958		
	DC	SN		23:50	RO	4.10	0.26			0.962		
	DC	SN		23:52	RO	3.30	3.59			0.963		
	DC	SN		24:01	RO	0.27	0.15			0.969		
	DC	SN		24:05	RO	1.80	1.43			0.972		
	DC	SN		24:14	RO	4.31	0.41			0.978		
	DC	SN		24:18	RO	0.17	0.34			0.980		
	DC	SN		24:25	RO	0.94	1.38			0.985		
	DC	SN		24:30	RO	1.02	1.99			0.989		
	DC	SN		24:35	RO	4.26	0.69			0.992		
	DC	SN		24:40	RO	0.63	0.53			0.995		
	DC	SN		24:42	RO	0.60	0.79			0.997		
	DC	SN		24:47	RO	1.12	3.95			1.000	12378-PeCDF	AN
	DC	SN		24:53	RO	0.81	0.41			1.004		
	DC	SN		24:58	RO	3.50	0.36			1.007		
	DC	SN		25:01	RO	0.57	0.53			1.009		
	DC	SN		25:03	RO	0.66	0.31			1.011		
	DC	SN		25:06	RO	4.11	0.69			1.013		
	DC	SN		25:13	RO	5.22	0.23			1.017		
	DC	SN		25:24	RO	0.33	0.25			1.025		
	DC	SN		25:28	RO	0.77	0.82			1.028		
D	d	SN		25:33		1.54	6.62			1.031	23478-PeCDF	AN
	DC	SN		25:39	RO	0.78	0.51			1.035		
	DC	SN		25:41	RO	1.03	2.07			1.036		
	DC	SN		25:48	RO	0.88	0.25			1.041		
	DC	SN		25:51	RO	0.17	0.25			1.043		
	DC	SN		25:53	RO	0.69	0.44			1.044		
	DC	SN		25:57	RO	3.04	0.69			1.047		
	DC	SN		25:59	RO	6.11	0.46			1.048		
	DC	SN		26:01	RO	0.25	0.12			1.050		
	DC	SN		26:04	RO	0.84	0.59			1.052		
	DC	SN		26:15	RO	0.30	0.43			1.059		
	DC	SN		26:17	RO	0.06	0.43			1.061		
	DC	SN		26:22	RO	0.18	0.08			1.064		
	DC	SN		26:28	RO	0.92	1.62			1.068		
	DC	SN		26:32	RO	2.40	0.77			1.071		
	DC	SN		26:37	RO	0.40	0.58			1.074		
	DC	WH		26:41		1.58	0.62			1.077		

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	WH		26:57	RO	0.74	0.23			1.087		
	DC	WH		26:59	RO	0.19	0.18			1.089		
	DC	WH		27:02	RO	1.18	0.54			1.091		
340-342			0	Peaks			0.00					
13C12-PeCDF				1.32-1.78						0.839-1.161		
352-354	DC	NL		0:00	RO	1.07	0.48			0.000		
				23:51		1.33	244.25	139.53	104.72	0.962		
				24:25		1.50	32.18	19.32	12.86	0.985		
				24:47		1.48	6,176.28	3,689.66	2,486.62	1.000	13C12-PeCDF 123	IS2
				25:05		1.51	89.84	54.05	35.79	1.012		
				25:32		1.47	9,737.63	5,794.61	3,943.02	1.030	13C12-PeCDF 234	SUR2
				26:30	RO	1.20	16.70	10.15	8.46	1.069		
352-354			6	Peaks			16,296.88					

---------- Above: PeCDF / PeCDD Follows ----------

PeCDD				1.32-1.78						0.922-1.025		
356-358	DC	NL		0:00	RO	1.11	0.35			0.000		
	DC	SN		24:01	RO	2.17	2.12			0.927		
	DC	SN		24:05	RO	1.05	1.09			0.929		
	DC	SN		24:10	RO	0.70	0.74			0.932		
	DC	SN		24:12	RO	1.11	0.97			0.934		
	DC	SN		24:16	RO	1.18	0.66			0.936		
	DC	SN		24:18	RO	1.79	1.48			0.938		
	DC	SN		24:26	RO	4.00	0.89			0.943		
	DC	SN		24:32	RO	2.51	1.66			0.947		
	DC	SN		24:38	RO	5.78	0.23			0.950		
	DC	SN		24:40		1.51	0.93			0.952		
	DC	SN		24:43	RO	13.75	0.10			0.954		
	DC	SN		24:47	RO	3.59	3.03			0.956		
	DC	SN		24:54	RO	1.84	0.48			0.961		
	DC	SN		24:58		1.36	0.66			0.963		
	DC	SN		25:02	RO	1.22	0.74			0.966		
	DC	SN		25:05	RO	0.49	0.46			0.968		
	DC	SN		25:08	RO	3.71	0.89			0.970		
	DC	SN		25:13	RO	2.67	0.61			0.973		
	DC	SN		25:16	RO	0.23	0.25			0.975		
	DC	SN		25:20	RO	0.21	0.43			0.977		
	DC	SN		25:26	RO	12.38	0.33			0.981		
	DC	SN		25:31	RO	3.31	3.57			0.985		
	DC	SN		25:39	RO	3.26	0.59			0.990		
	DC	SN		25:44	RO	3.02	1.50			0.993		
	DC	SN		25:48	RO	0.57	0.33			0.995		
	DC	SN		25:53	RO	2.47	0.76			0.999		
	DC	SN		25:55		1.48	3.35			1.000	12378-PeCDD	AN
	DC	SN		26:03	RO	0.64	0.62			1.005		
	DC	SN		26:06	RO	2.55	0.51			1.007		
	DC	SN		26:14	RO	0.26	0.37			1.012		
	DC	SN		26:15	RO	0.43	0.30			1.013		
	DC	SN		26:18	RO	2.28	0.64			1.015		
	DC	SN		26:21	RO	9.09	0.28			1.017		

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		26:23	RO	2.73	0.28			1.018		
	DC	SN		26:27	RO	1.04	0.44			1.021		
	DC	SN		26:30		1.69	0.35			1.023		
	DC	SN		26:33	RO	2.41	0.69			1.024		
	DC	WH		26:39	RO	1.89	1.15			1.028		
	DC	WH		26:42	RO	0.10	0.19			1.030		
	DC	WH		26:45	RO	0.20	0.27			1.032		
	DC	WH		26:52		1.56	1.05			1.037		
	DC	WH		26:55	RO	0.85	0.46			1.039		
356-358			0	Peaks			0.00					
13C12-PeCDD				1.32-1.78						0.846-1.154		
368-370	DC	NL		0:00	RO	1.00	0.35			0.000		
				24:47	RO	1.16	8.07	4.90	4.23	0.956		
				25:55		1.47	5,831.59	3,471.63	2,359.96	1.000	13C12-PeCDD 123	IS3
				26:04		1.50	519.67	311.65	208.02	1.006		
				26:23	RO	2.26	11.36	10.07	4.45	1.018		
368-370			4	Peaks			6,370.69					

---------- Above: PeCDD / HxCDF Follows ----------

HxCDF				1.05-1.43						0.956-1.051		
374-376	DC	NL		0:00	RO	1.49	1.05			0.000		
	DC	SN		27:25	RO	0.90	1.01			0.961		
	DC	SN		27:27	RO	0.68	0.90			0.963		
	DC	SN		27:28	RO	1.70	0.22			0.963		
	DC	SN		27:30	RO	3.67	0.13			0.964		
D	d	SN		27:34		1.07	7.50			0.967		
	DC	SN		27:40	RO	0.17	0.07			0.970		
	DC	SN		27:47	RO	1.60	0.34			0.974		
	DC	SN		27:52	RO	3.77	0.29			0.977		
	DC	SN		27:55	RO	4.55	0.25			0.979		
	DC	SN		28:01	RO	0.48	3.09			0.982		
	DC	SN		28:07	RO	9.00	0.04			0.986		
	DC	SN		28:09	RO	0.67	0.07			0.987		
	DC	SN		28:16	RO	0.21	0.09			0.991		
D	dC	SN		28:21	RO	1.90	0.47			0.994		
D	d	SN		28:26	RO	0.73	5.26			0.997	123478-HxCDF	AN
	DC	SN		28:30	RO	1.04	0.94			0.999		
	DC	SN		28:31	RO	0.99	2.29			1.000	123678-HxCDF	AN
	DC	SN		28:35		1.36	0.33			1.002		
	DC	SN		28:37	RO	0.90	0.16			1.004		
	DC	SN		28:39	RO	2.00	0.22			1.005		
	DC	SN		28:55	RO	3.14	0.16			1.014		
	DC	SN		28:57	RO	3.40	0.22			1.015		
				29:01	RO	1.02	17.97	9.95	9.75	1.018	234678-HxCDF	AN
	DC	SN		29:14		1.33	0.98			1.025		
	DC	SN		29:17	RO	0.15	0.07			1.027		
	DC	SN		29:19	RO	0.57	0.31			1.028		
	DC	SN		29:21		1.13	0.17			1.029		
	DC	SN		29:23	RO	2.25	0.09			1.030		
	DC	SN		29:26	RO	3.00	0.07			1.032		

Compound/ M Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		29:28	RO	2.38	0.47			1.033		
	DC	SN		29:32	RO	2.82	0.87			1.036		
	DC	SN		29:43	RO	0.85	0.92			1.042		
	DC	SN		29:45	RO	3.03	0.65			1.043	123789-HxCDF	AN
	DC	SN		29:49	RO	2.13	0.52			1.046		
	DC	WH		30:00	RO	1.77	0.29			1.052		
	DC	WH		30:02	RO	0.13	0.04			1.053		
	DC	WH		30:05	RO	4.83	0.13			1.055		
	DC	WH		30:07	RO	1.92	0.27			1.056		
374-376			1	Peak			17.97					
13C12-HxCDF				0.43-0.59					0.860-1.140			
384-386	DC	NL		0:00		0.46	3.07			0.000		
				27:25		0.50	126.81	42.23	84.58	0.961		
				27:33		0.47	238.49	76.70	161.79	0.966		
				28:25		0.51	8,349.07	2,806.53	5,542.54	0.996	13C12-HxCDF 478	SUR3
				28:31		0.49	7,082.87	2,321.03	4,761.84	1.000	13C12-HxCDF 678	IS4
				29:01		0.50	9,180.54	3,058.66	6,121.88	1.018	13C12-HxCDF 234	ALT2
				29:44		0.50	7,361.58	2,440.52	4,921.06	1.043	13C12-HxCDF 789	ALT1
	DC	SN		29:52	RO	0.22	3.29			1.047		
384-386			6	Peaks			32,339.36					

---------- Above: HxCDF / HxCDD Follows ----------

HxCDD				1.05-1.43					0.950-1.014			
390-392	DC	NL		0:00	RO	0.28	0.38			0.000		
	DC	SN		27:57		1.13	2.62			0.956		
	DC	SN		27:58		1.09	0.73			0.957		
	DC	SN		28:02		1.17	0.26			0.959		
	DC	SN		28:03	RO	0.23	0.13			0.960		
	DC	SN		28:15	RO	0.36	0.09			0.966		
	DC	SN		28:18	RO	2.43	0.31			0.968		
	DC	SN		28:20	RO	0.69	0.74			0.969		
D	d	SN		28:25	RO	2.73	6.92			0.972		
	DC	SN		28:30	RO	3.67	2.37			0.975		
	DC	SN		28:34	RO	0.57	0.14			0.977		
	DC	SN		28:38	RO	4.51	1.37			0.979		
	DC	SN		28:42	RO	0.43	0.16			0.982		
	DC	SN		28:45	RO	0.45	0.18			0.983		
	DC	SN		28:50	RO	0.26	0.18			0.986		
	DC	SN		28:53	RO	4.67	0.13			0.988		
	DC	SN		29:00	RO	10.57	1.30			0.992		
	DC	SN		29:06	RO	1.76	0.65			0.995		
	DC	SN		29:09	RO	2.40	0.94			0.997		
	DC	SN		29:10	RO	0.48	1.28			0.998	123478-HxCDD	AN
	DC	SN		29:17	RO	4.33	0.20			1.002		
	DC	SN		29:19	RO	0.33	0.23			1.003		
	DC	SN		29:23	RO	0.97	1.09			1.005		
	DC	SN		29:25	RO	0.29	0.15			1.006		
	DC	SN		29:29	RO	1.03	0.60			1.009		
	DC	SN		29:32		1.21	4.06			1.010	123789-HxCDD	AN
	DC	SN		29:36	RO	0.96	0.40			1.013		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	WH		29:40	RO	0.41	0.27			1.015		
	DC	WH		29:44	RO	2.92	3.61			1.017		
	DC	WH		29:49	RO	0.78	0.38			1.020		
390-392			0	Peaks			0.00					
13C12-HxCDD				1.05-1.43					0.966-1.034			
402-404	DC	NL		0:00	RO	2.97	0.85			0.000		
				28:37		1.12	49.35	26.08	23.27	0.979		
				29:09		1.20	6,817.87	3,725.50	3,092.37	0.997	13C12-HxCDD 478	SUR4
				29:14		1.23	7,754.24	4,270.76	3,483.48	1.000	13C12-HxCDD 678	IS5
				29:31		1.21	8,228.75	4,503.56	3,725.19	1.010	13C12-HxCDD 789	RS2
	DC	SN		29:38	RO	0.87	4.24			1.014		
402-404			4	Peaks			22,850.21					
---------- Above: HxCDD / HpCDF Follows ----------												
HpCDF				0.88-1.20					0.994-1.043			
408-410	DC	NL		0:00	RO	0.74	0.33			0.000		
	DC	SN		31:04	RO	2.11	0.18			0.996		
				31:12		1.05	13.84	7.09	6.75	1.000	1234678-HpCDF	AN
				31:32		0.92	8.15	3.90	4.25	1.011		
	DC	SN		31:38	RO	2.08	0.74			1.014		
	DC	SN		31:47	RO	0.77	0.65			1.019		
	DC	SN		31:50	RO	0.82	0.53			1.020		
	DC	SN		31:59		1.01	1.61			1.025		
	DC	SN		32:02		1.06	0.99			1.027		
	DC	SN		32:07	RO	0.22	0.45			1.029		
	DC	SN		32:24	RO	8.54	0.27			1.038	1234789-HpCDF	AN
	DC	WH		32:37	RO	0.60	0.94			1.045		
	DC	WH		32:54	RO	1.79	1.55			1.054		
408-410			2	Peaks			21.99					
13C12-HpCDF				0.37-0.51					0.936-1.128			
418-420	DC	NL		0:00	RO	3.43	0.30			0.000		
				31:12		0.43	5,839.11	1,743.29	4,095.82	1.000	13C12-HpCDF 678	IS6
				32:24		0.43	5,320.52	1,588.82	3,731.70	1.038	13C12-HpCDF 789	SUR5
418-420			2	Peaks			11,159.63					
---------- Above: HpCDF / HpCDD Follows ----------												
HpCDD				0.88-1.20					0.976-1.005			
424-426	DC	NL		0:00		0.94	0.35			0.000		
M				31:28		0.91	17.44	8.31	9.13	0.982		
	DC	SN		31:36	RO	7.00	0.12			0.986		
	DC	SN		31:47	RO	6.00	0.31			0.992		
	DC	SN		31:54	RO	1.79	0.78			0.995		
M				32:03		1.16	9.97	5.35	4.62	1.000	1234678-HpCDD	AN
	DC	WH		32:13	RO	0.23	0.56			1.005		
	DC	WH		32:15	RO	0.27	0.23			1.006		
	DC	WH		32:23	RO	3.63	2.83			1.010		
	DC	WH		32:33	RO	0.77	0.45			1.016		
424-426			2	Peaks			27.41					

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
13C12-HpCDD				0.88-1.20						0.969-1.031		
436-438	DC	NL		0:00	RO	1.49	0.92			0.000		
				31:27		1.10	82.30	43.09	39.21	0.981		
				32:03		1.03	6,025.26	3,060.14	2,965.12	1.000	13C12-HpCDD 678	IS7
436-438			2	Peaks			6,107.56					

---------- Above: HpCDD / Octa-CDD and CDF Follows ----------

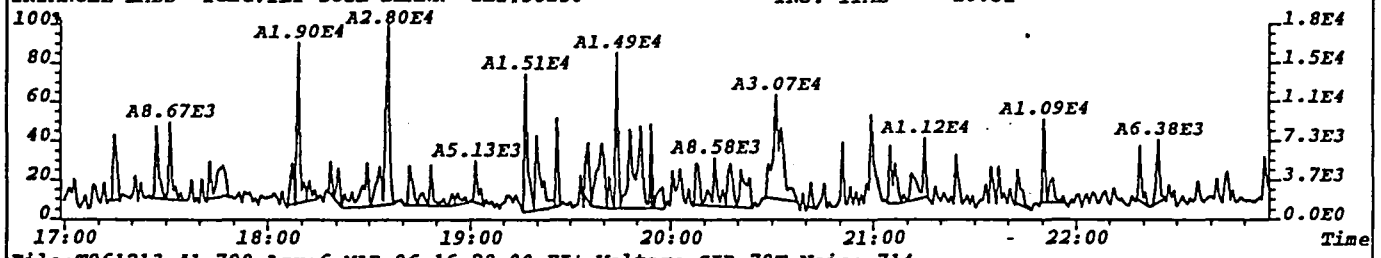
OCDF				0.76-1.02						0.884-1.116		
442-444	DC	NL		0:00		1.00	0.48			0.000		
	DC	SN		31:13		0.99	3.01			0.905		
	DC	SN		32:15	RO	0.59	0.74			0.935		
	DC	SN		32:28	RO	0.36	1.93			0.941		
	DC	SN		32:34		0.84	1.58			0.944		
	DC	SN		33:03		0.99	3.34			0.958		
	DC	SN		33:34	RO	0.56	0.98			0.973		
	DC	SN		33:58	RO	2.00	0.68			0.985		
	DC	SN		34:12	RO	0.27	1.25			0.991		
	DC	SN		34:28	RO	0.23	1.35			0.999		
	K			34:37	RO	0.58	4.95	2.33	4.01	1.003	OCDF	AN
	DC	SN		35:01	RO	0.10	0.38			1.015		
	DC	SN		35:25	RO	0.49	1.30			1.027		
	DC	SN		35:31	RO	1.05	1.55			1.029		
	DC	SN		35:43	RO	1.13	3.09			1.035		
	DC	SN		35:56	RO	1.68	1.34			1.042		
	DC	SN		36:10	RO	1.21	1.92			1.048		
	DC	SN		36:43	RO	0.20	0.57			1.064		
442-444			1	Peak			4.95					
OCDD				0.76-1.02						0.884-1.116		
458-460	DC	NL		0:00	RO	1.11	0.34			0.000		
	DC	SN		31:11	RO	0.06	0.23			0.904		
	DC	SN		32:02	RO	2.30	0.87			0.929		
	DC	SN		32:46	RO	0.44	0.60			0.950		
	DC	SN		33:09	RO	1.17	1.68			0.961		
	DC	SN		33:33	RO	0.42	0.81			0.972		
				34:31		0.97	77.44	38.11	39.33	1.000	OCDD	AN
	DC	SN		34:37	RO	0.44	1.04			1.003		
	DC	SN		35:02	RO	0.41	1.12			1.015		
	DC	SN		35:40		0.78	1.60			1.034		
	DC	SN		35:59	RO	1.34	1.00			1.043		
	DC	SN		36:35	RO	0.48	0.93			1.060		
458-460			1	Peak			77.44					
13C12-OCDD				0.76-1.02						0.995-1.004		
470-472	DC	NL		0:00		0.86	0.39			0.000		
				34:30		0.86	9,325.23	4,299.33	5,025.90	1.000	13C12-OCDD	IS8
470-472			1	Peak			9,325.23					

Compound/
M_Z.... QC.Log Omit Why ..RT. OK Ratio Total.Area... Area.Peak.1.. Area.Peak.2.. Rel.RT Compound.Name.. ID..

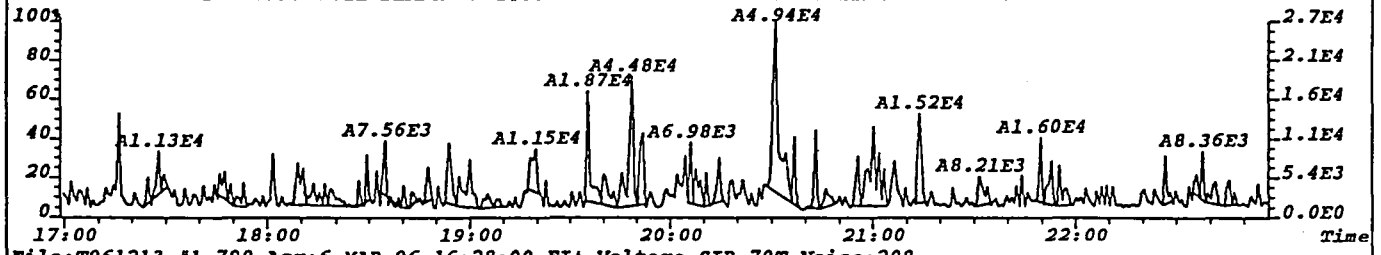
Column Description.....	'Why' Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

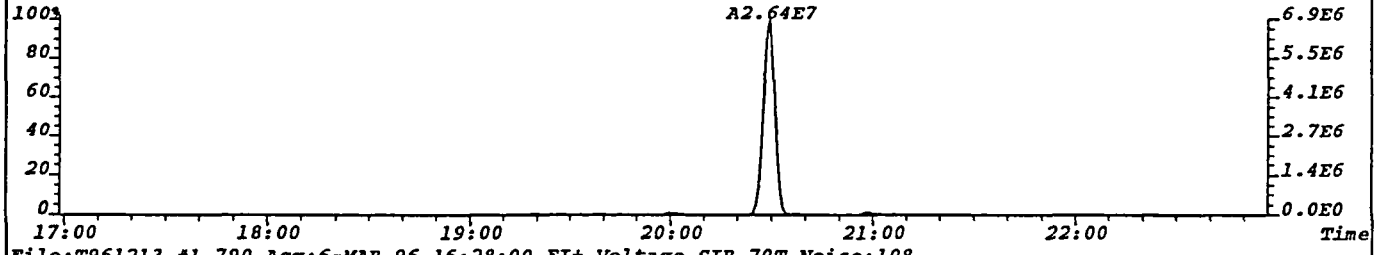
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:621
303.9016 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2484.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



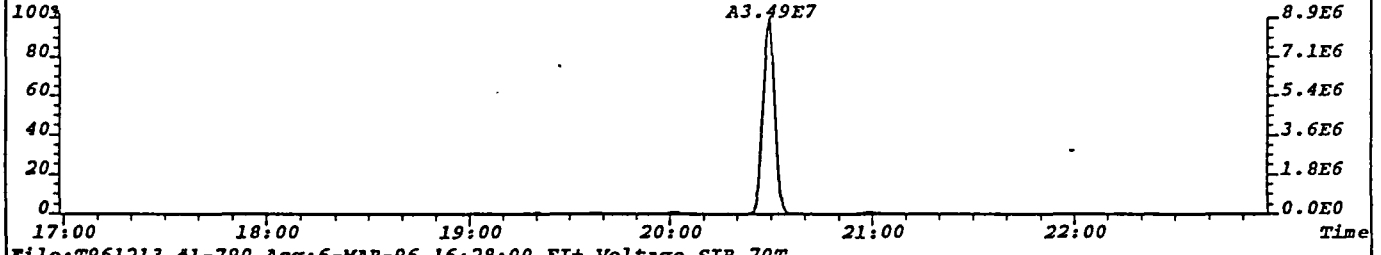
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:714
305.8987 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2856.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



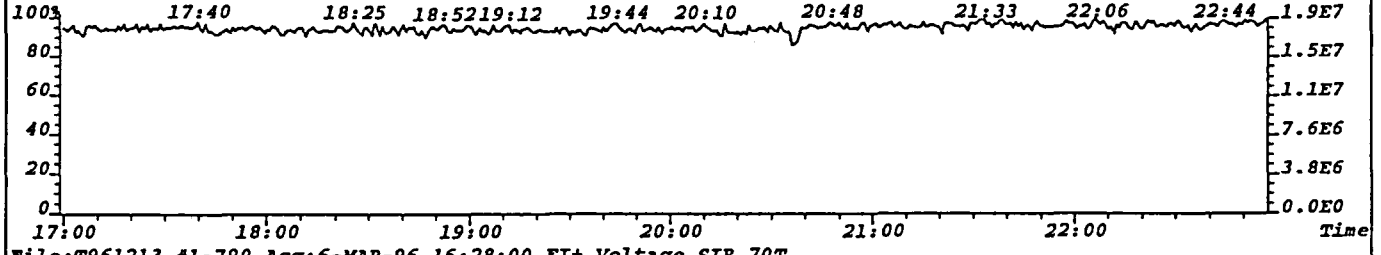
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:208
315.9419 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,832.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



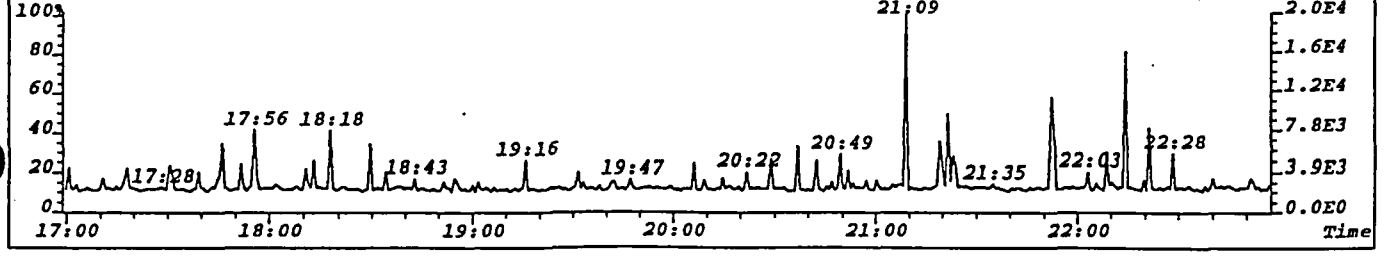
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:108
317.9389 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,432.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



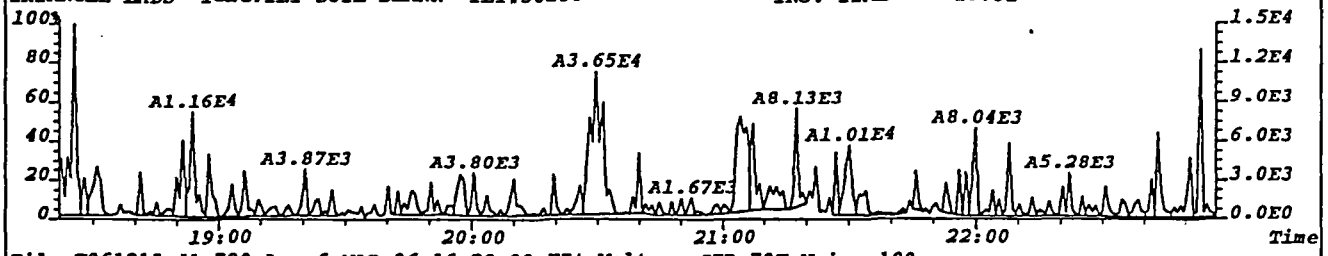
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



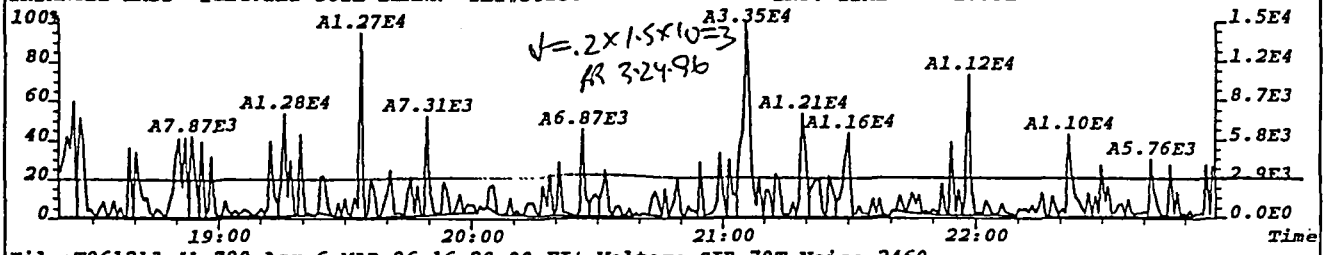
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:149
319.8965 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,596.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31

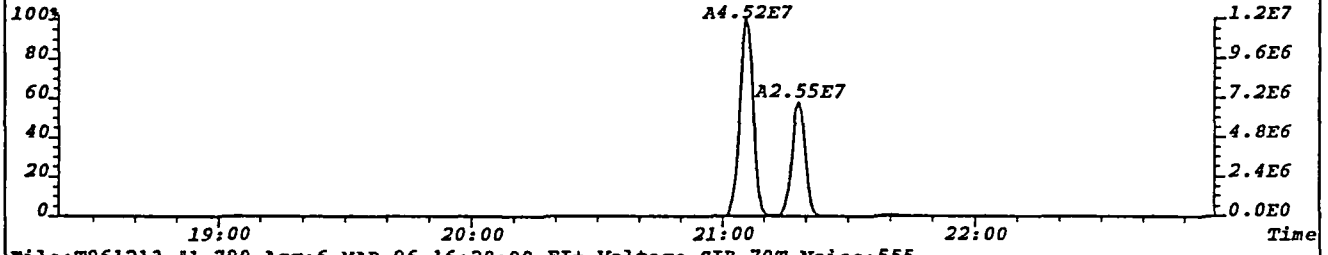


File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:100
321.8936 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,400.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31

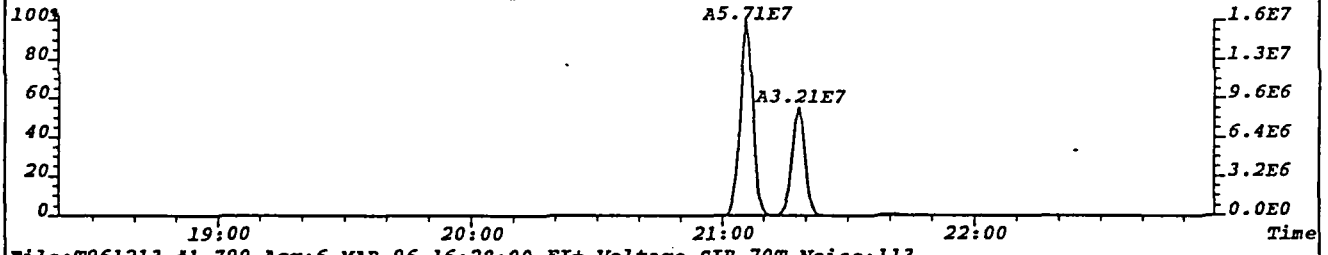


V=.2x1.5x10=3
AR 3-24-96

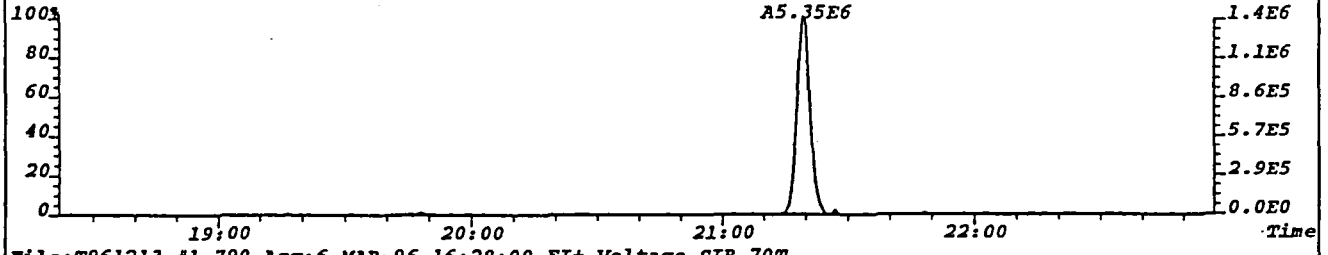
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:2460
331.9368 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,9840.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



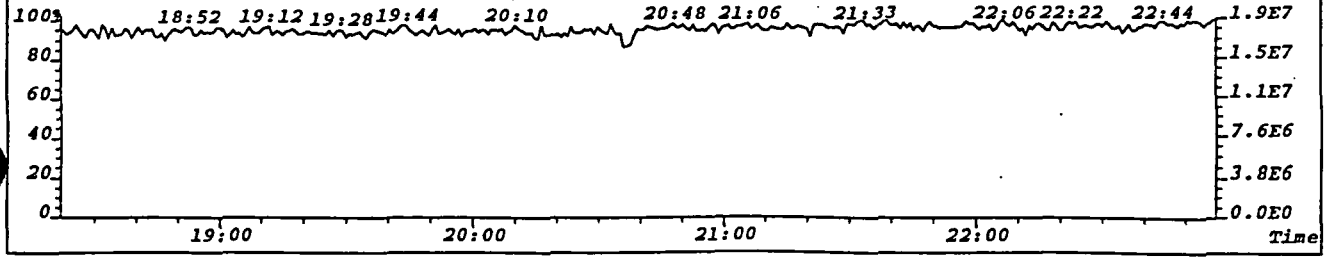
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:555
333.9338 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,2220.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



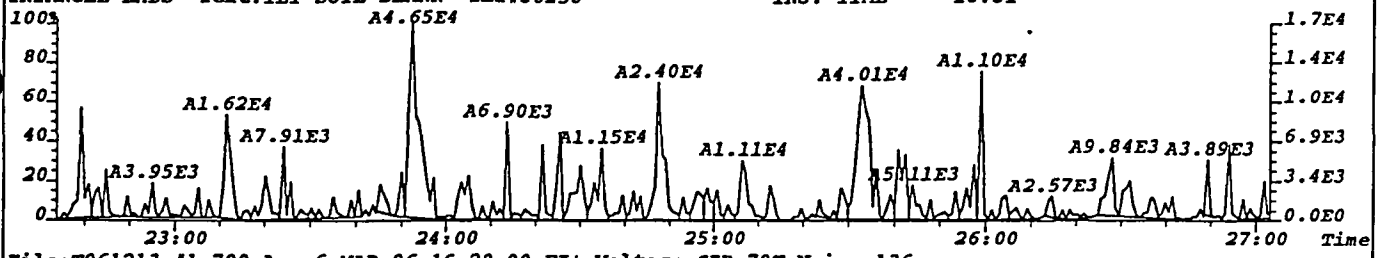
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:113
327.8847 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,452.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



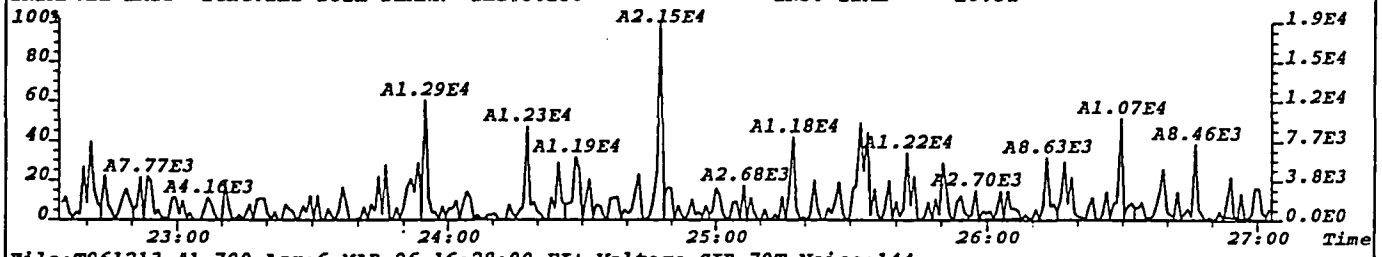
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



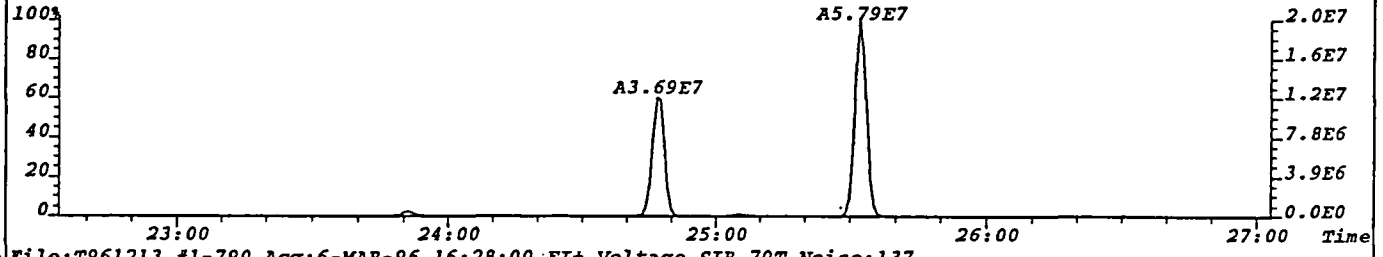
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:134
339.8597 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,536.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



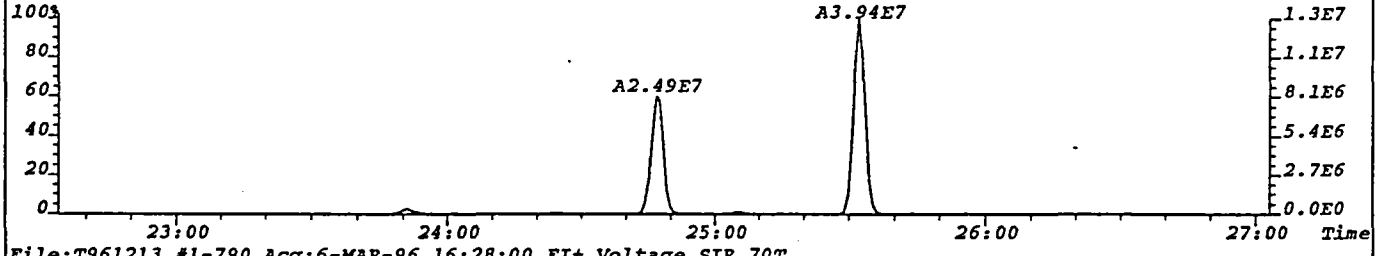
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:136
341.8567 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,544.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



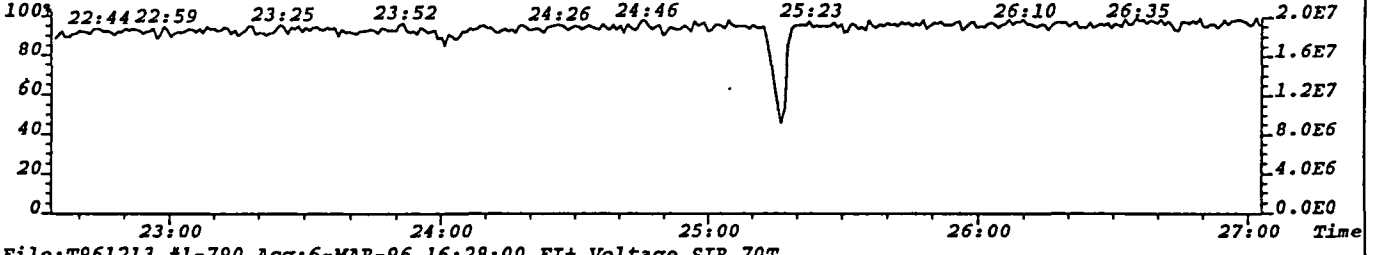
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:144
351.9000 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,576.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



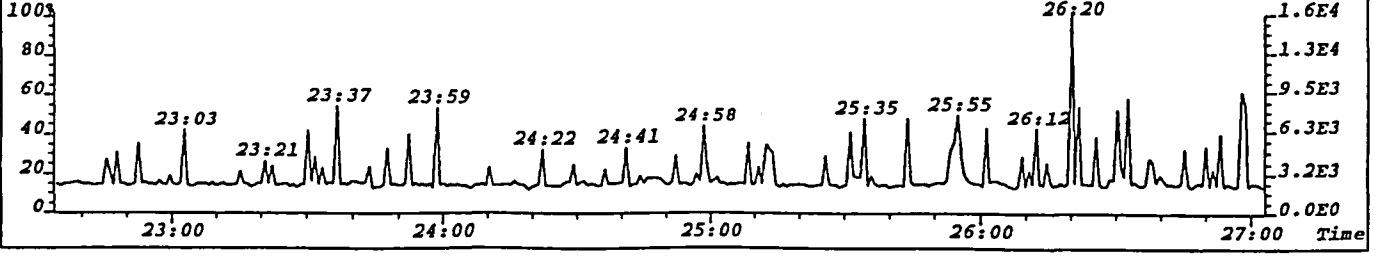
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:137
353.8970 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,548.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



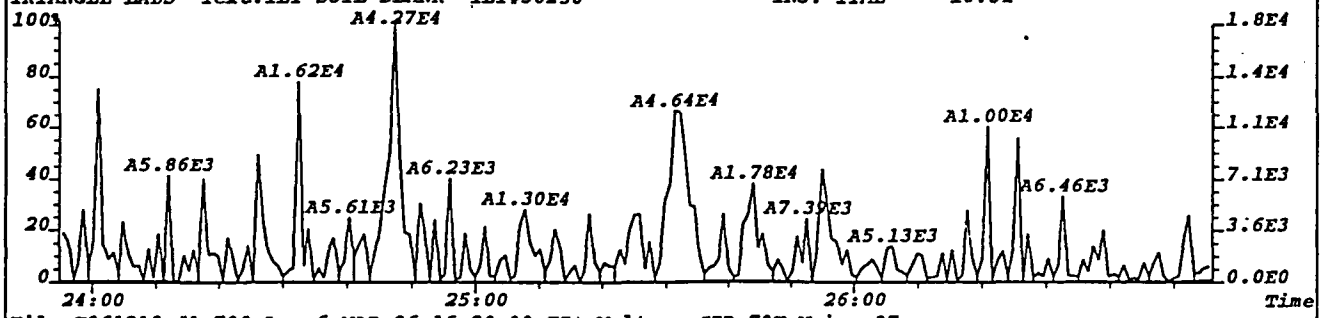
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



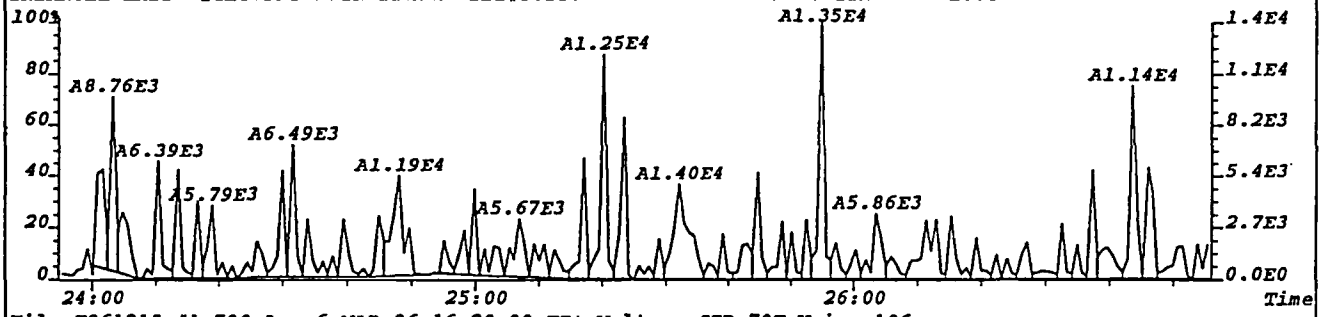
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



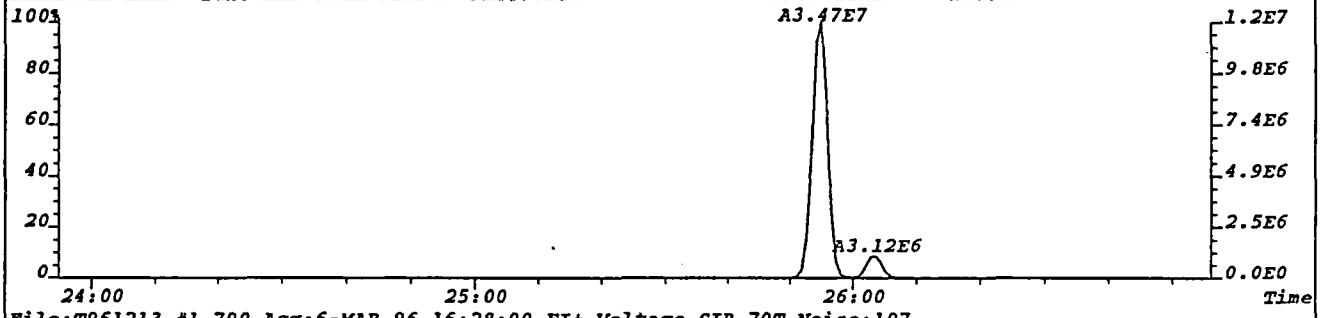
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:105
355.8546 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,420.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



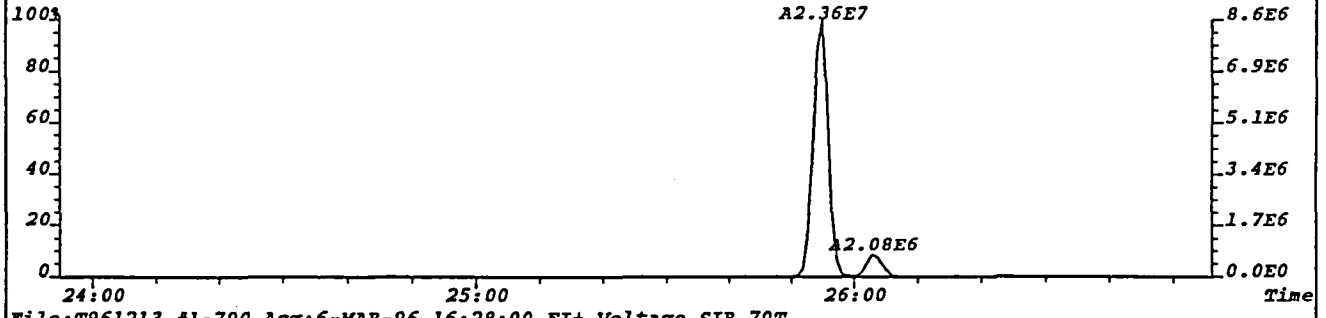
File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:97
357.8516 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,388.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:106
367.8949 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,424.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31

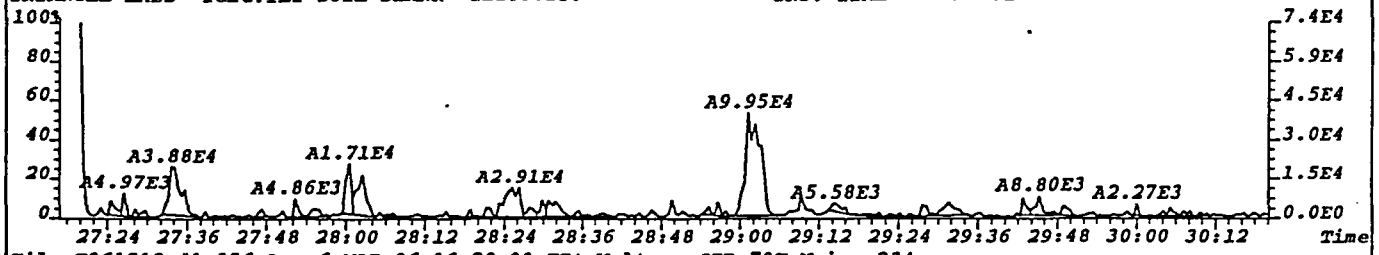


File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:107
369.8919 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,428.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31

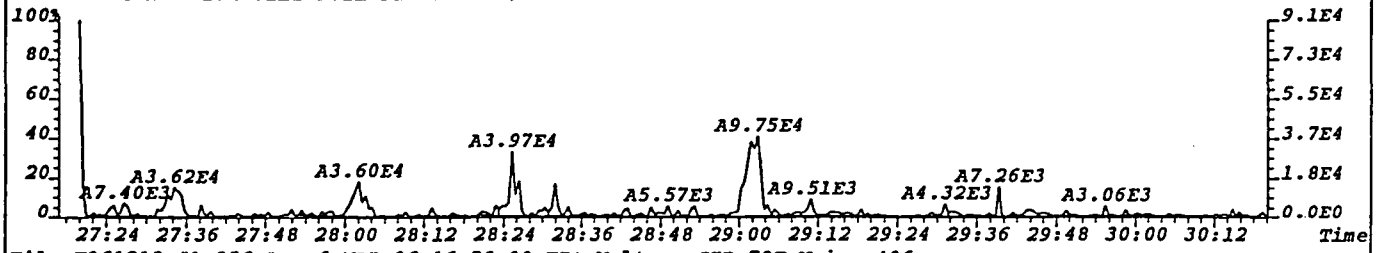


File:T961213 #1-790 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31

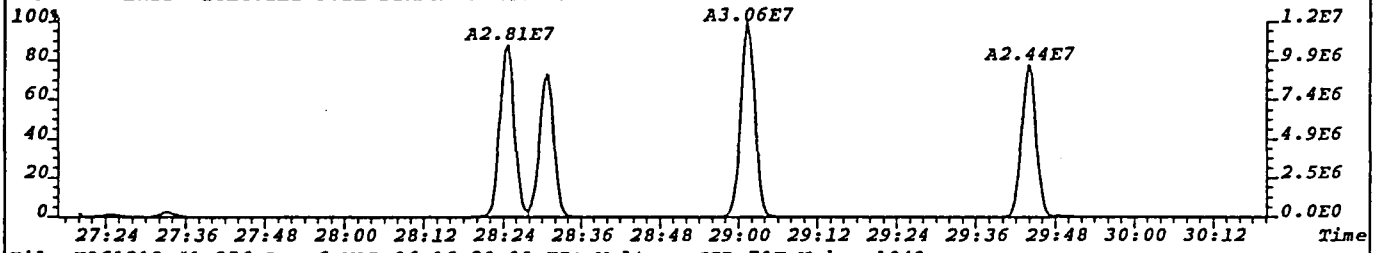
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:350
373.8208 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1400.0,0.00%,F,F) Exp:EPCUS.
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



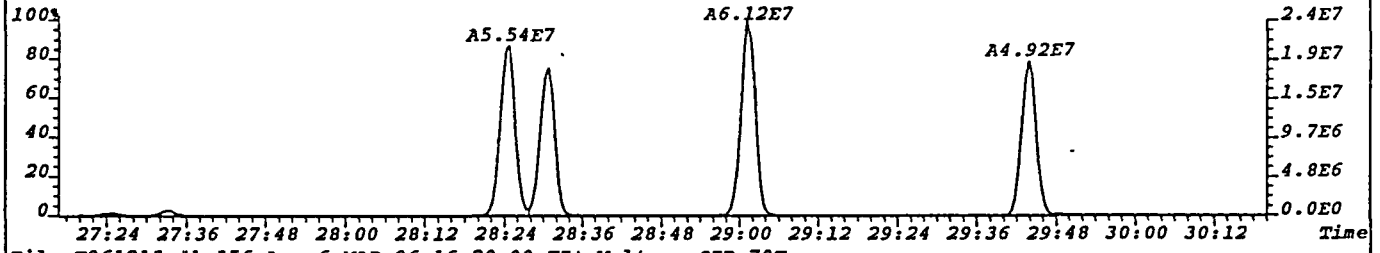
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:234
375.8178 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,936.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



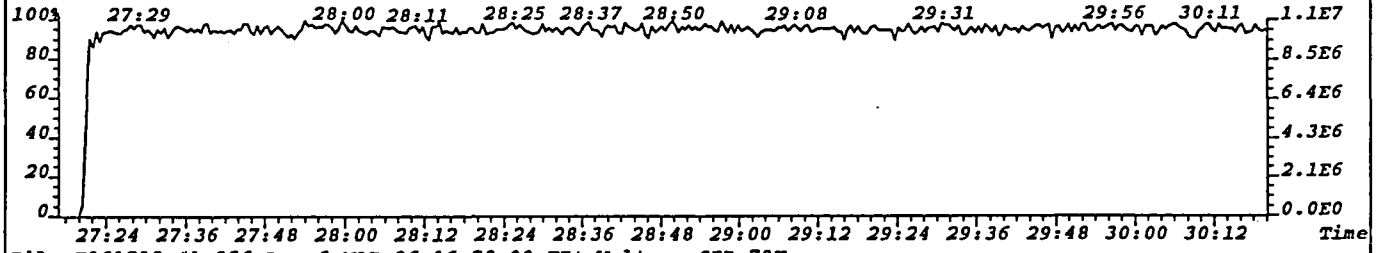
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:486
383.8639 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1944.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



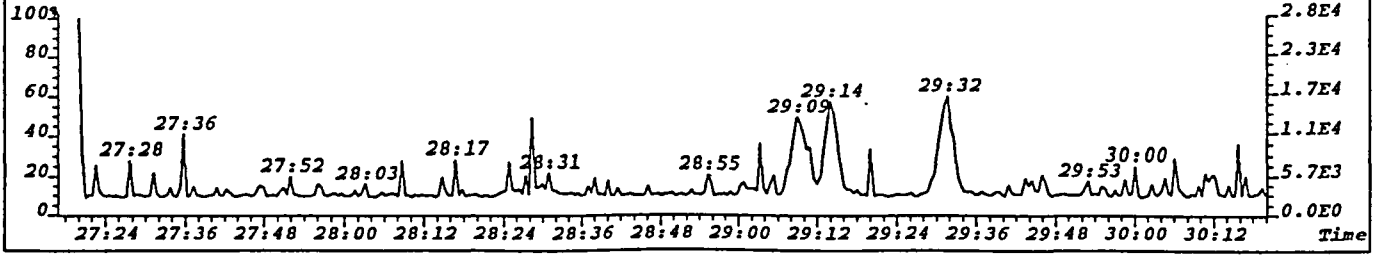
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:1049
385.8610 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,4196.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



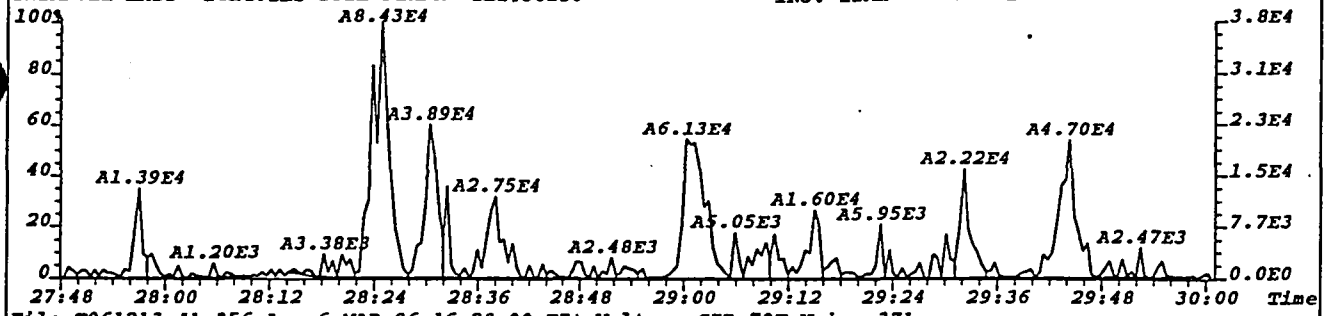
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



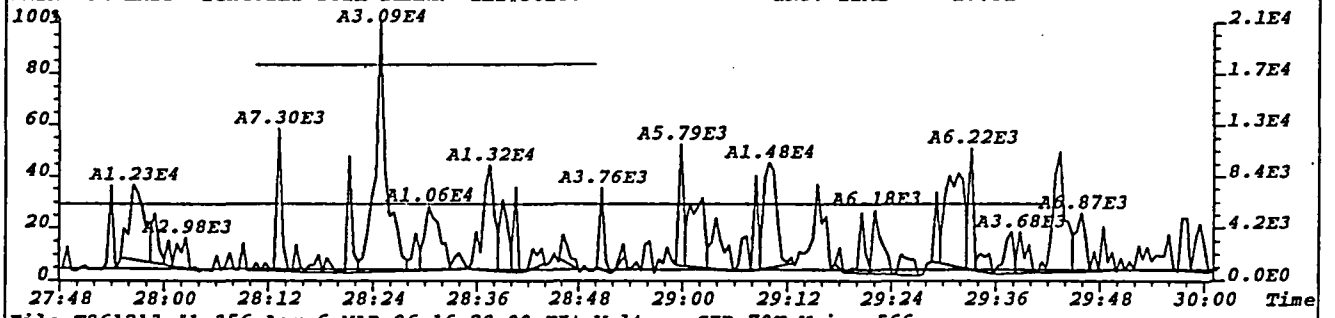
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



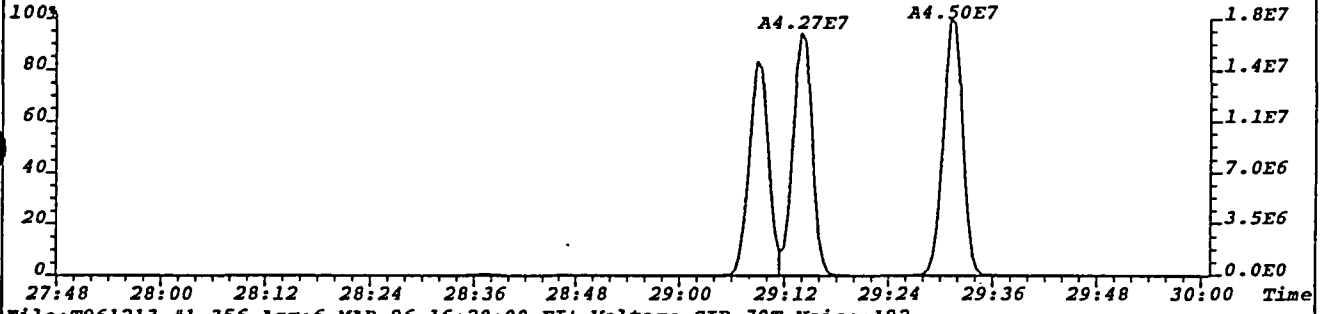
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:107
389.8156 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,428.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



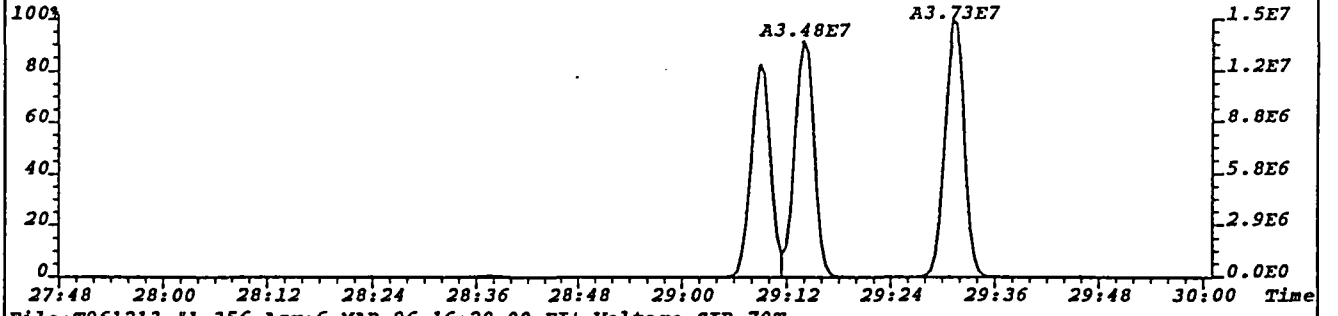
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:371
391.8127 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1484.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



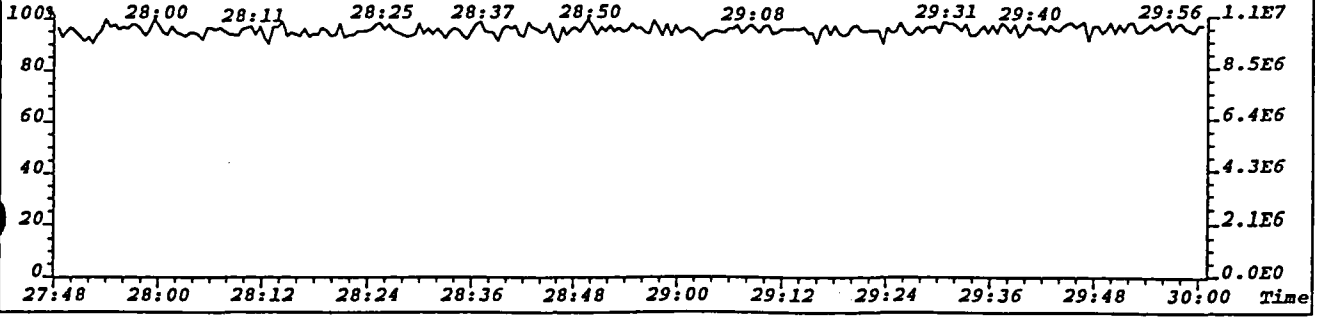
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:566
401.8558 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,2264.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



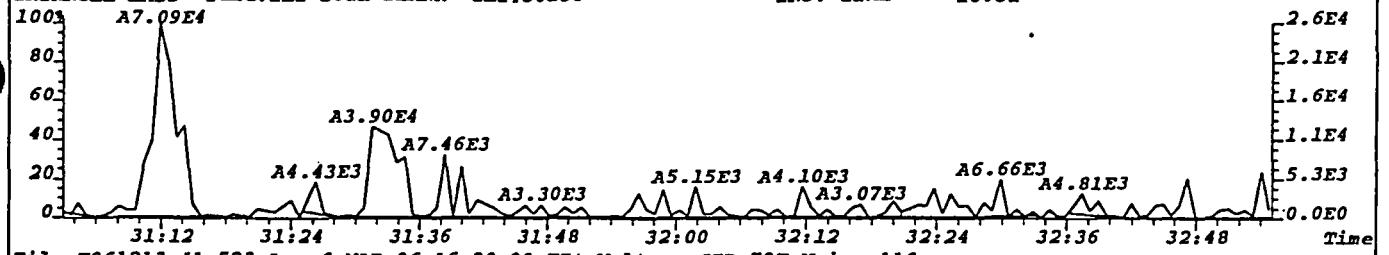
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:192
403.8529 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,768.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



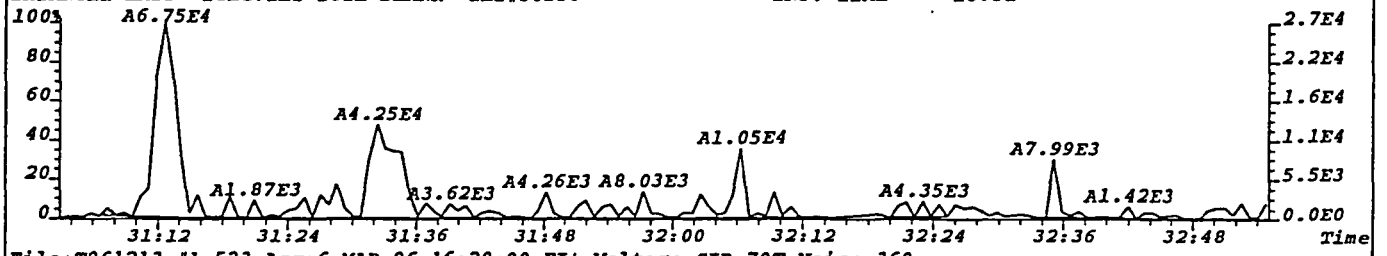
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



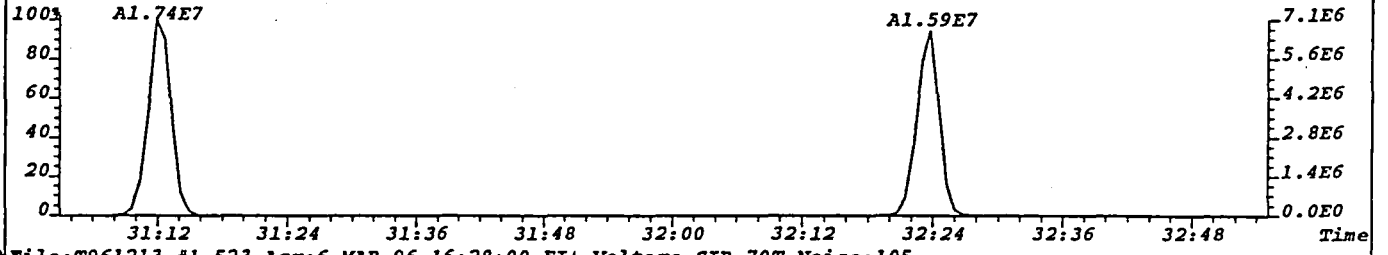
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:87
407.7818 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,348.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



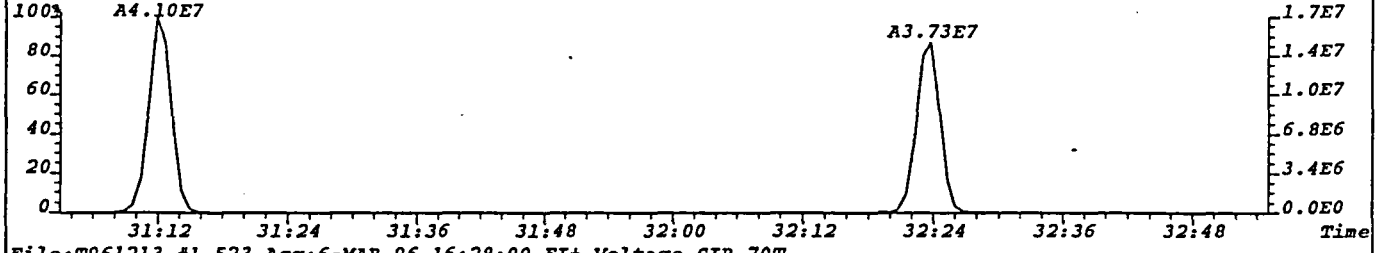
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:116
409.7789 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,464.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



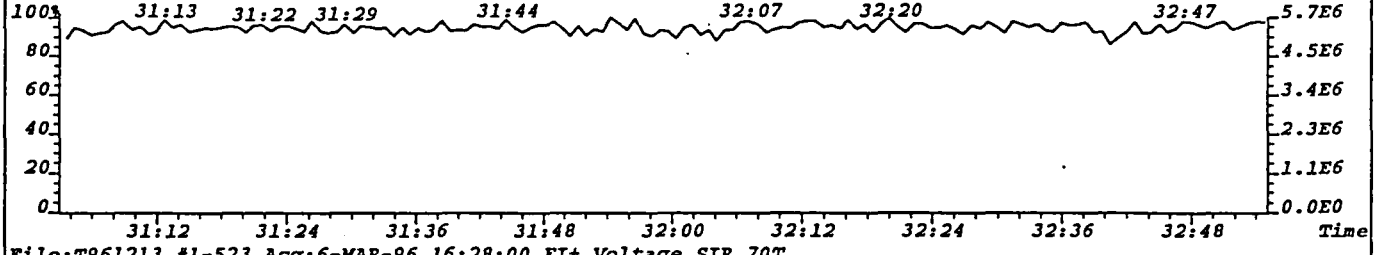
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:360
417.8253 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1440.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



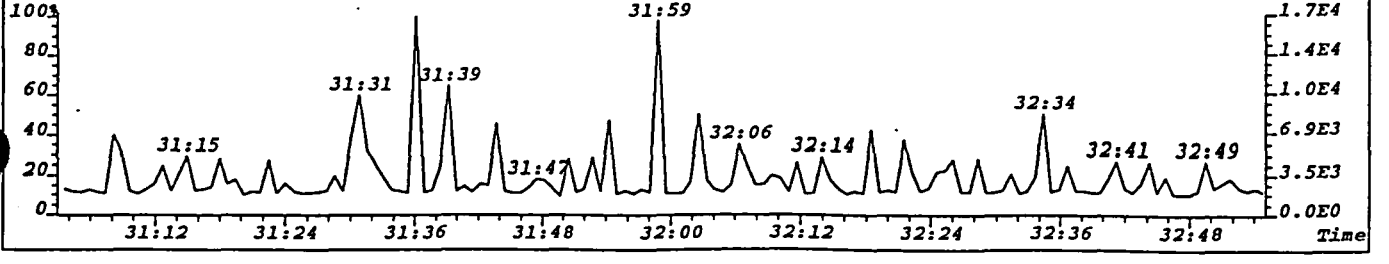
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:105
419.8220 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,420.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



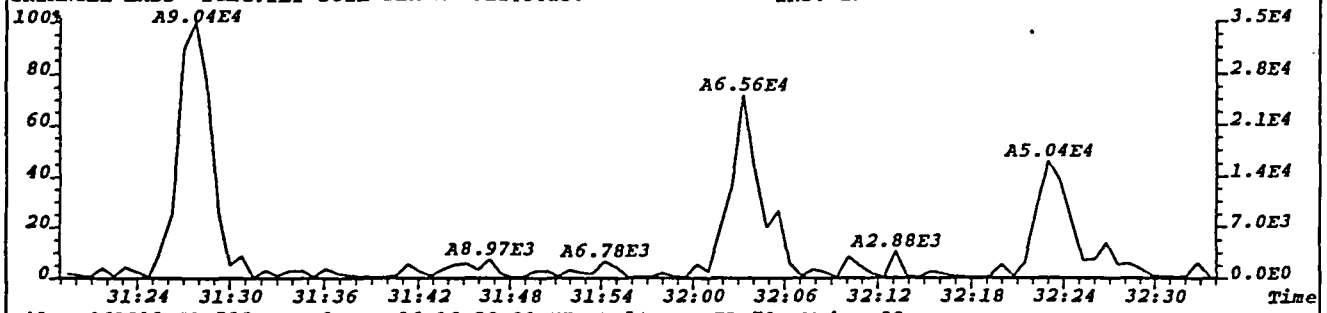
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



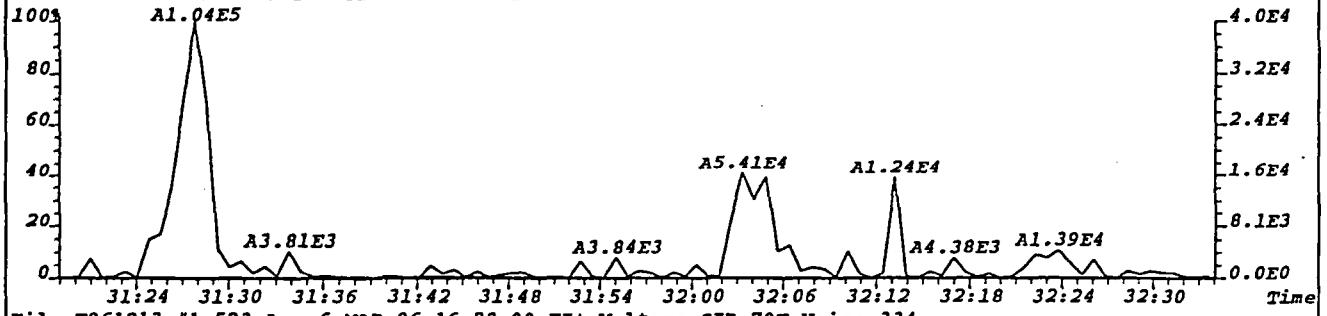
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



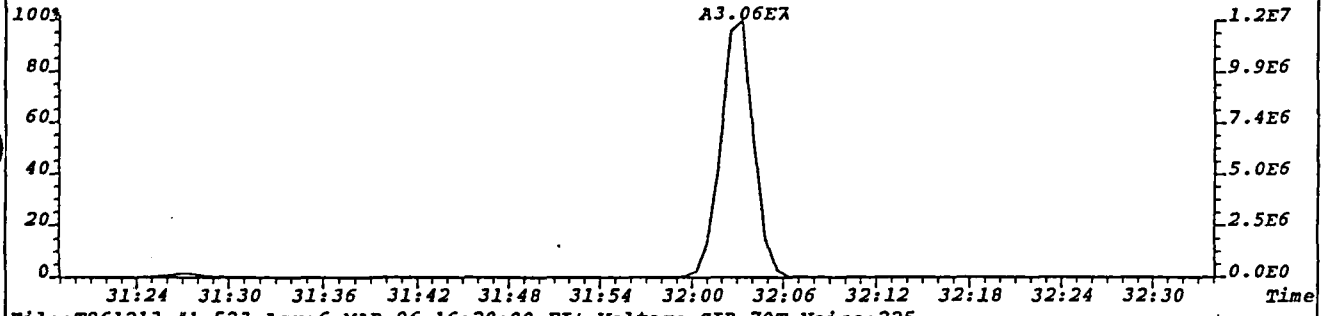
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:86
423.7766 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,344.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



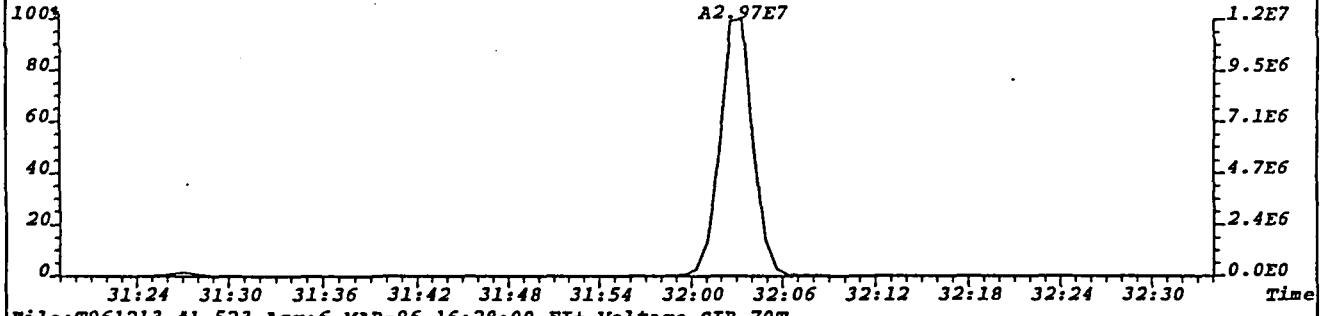
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:89
425.7737 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,356.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



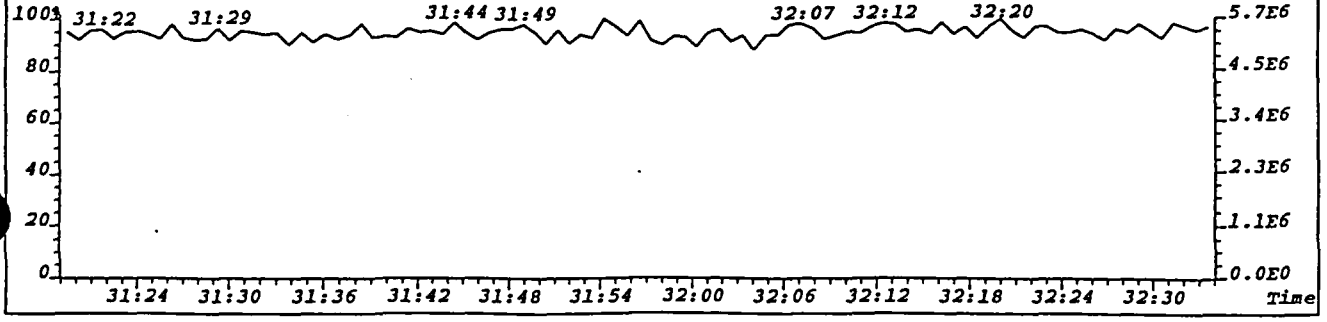
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:334
435.8169 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1336.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



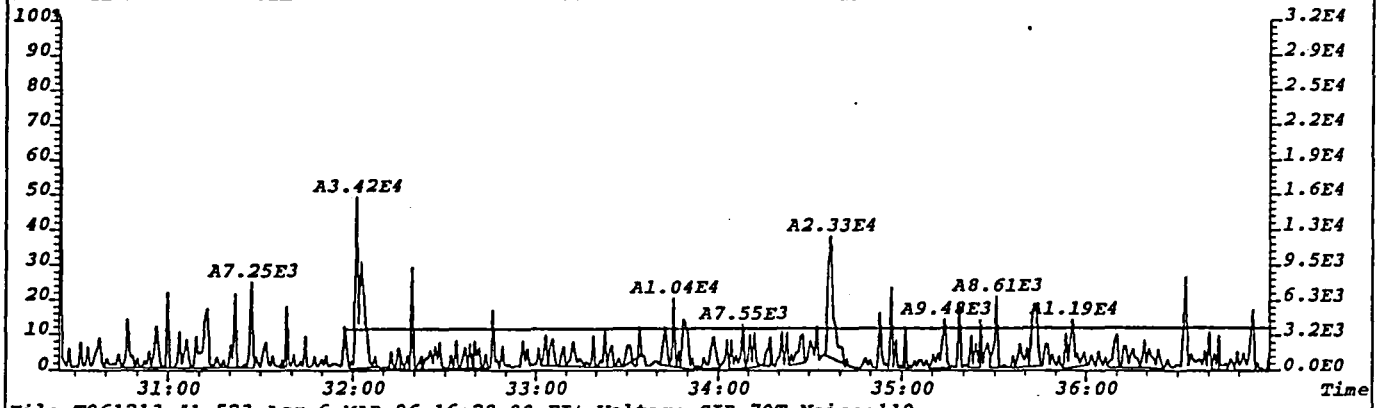
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:225
437.8140 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,900.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



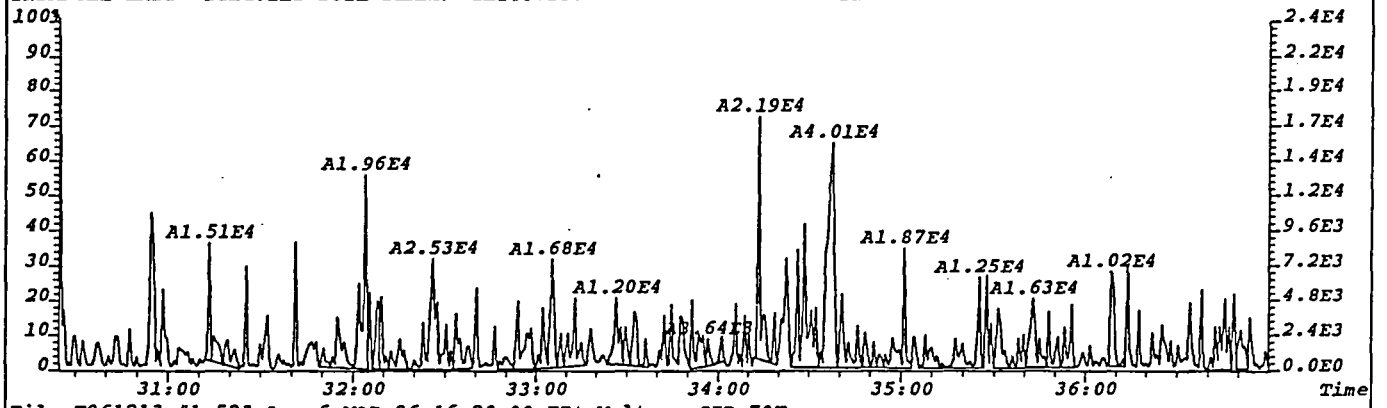
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



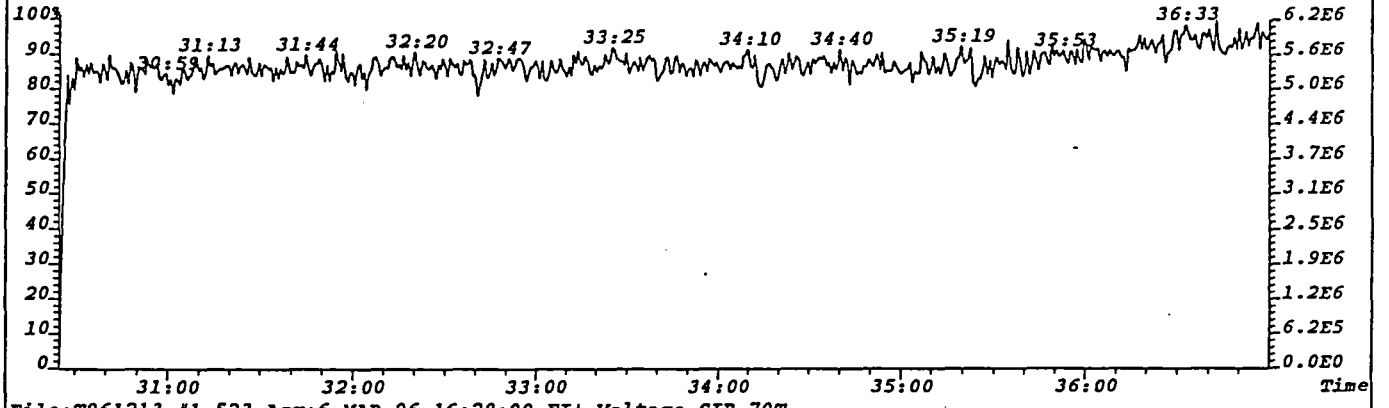
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:118
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,472.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



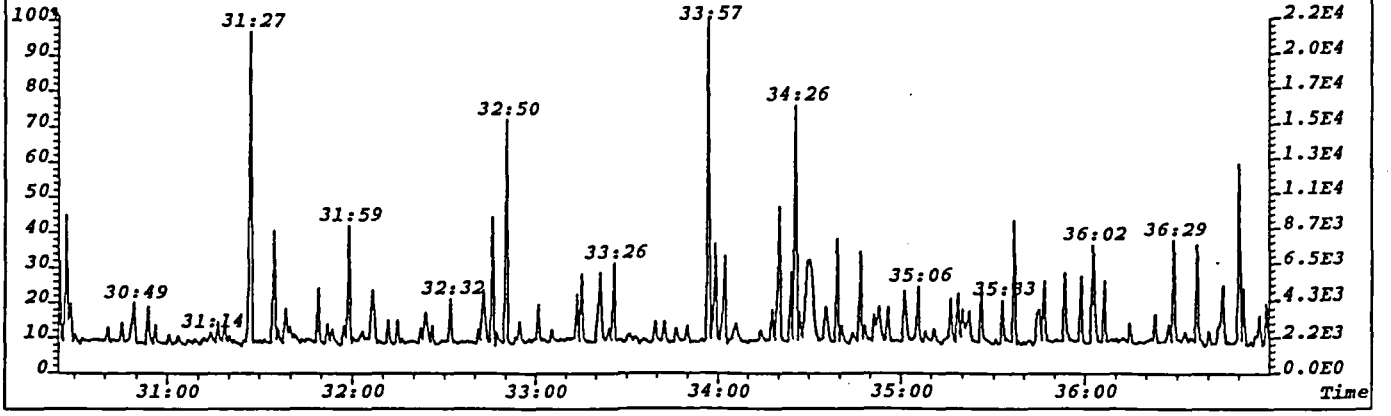
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:119
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,476.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



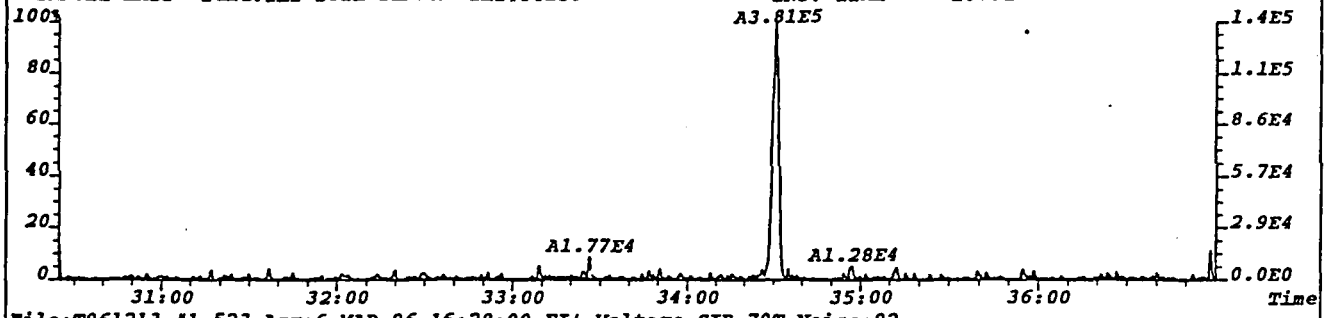
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



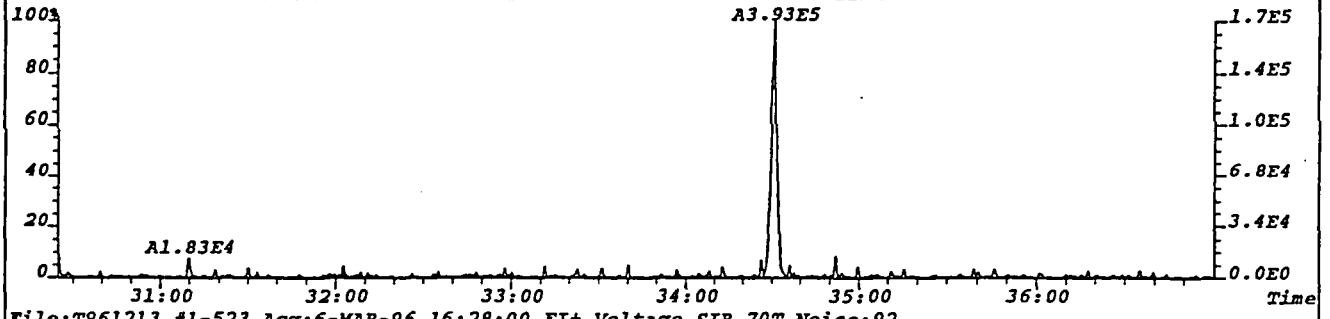
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



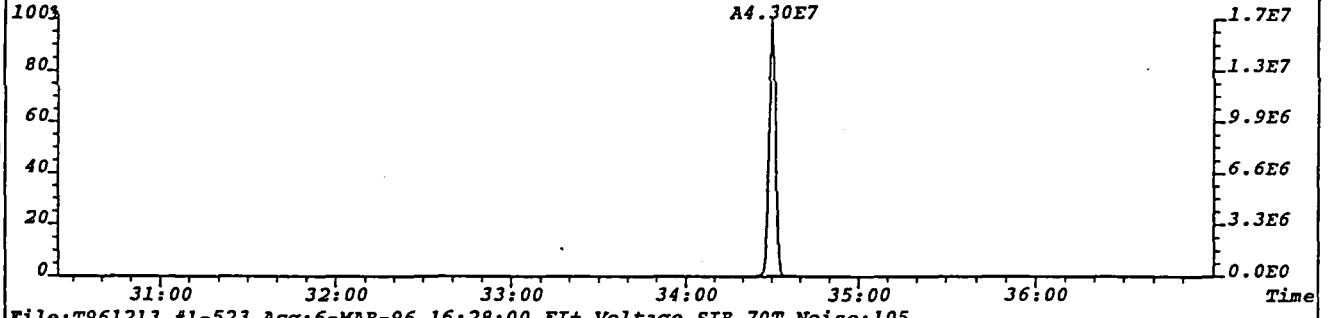
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:99
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,396.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



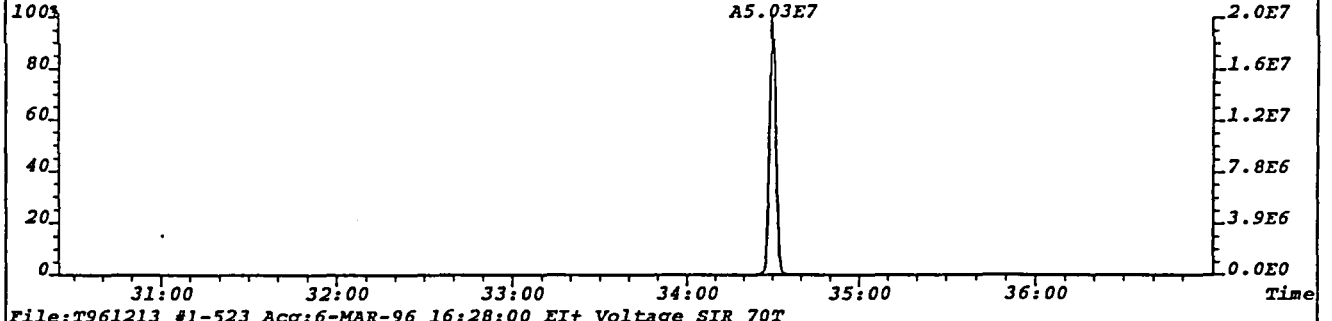
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:92
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,368.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



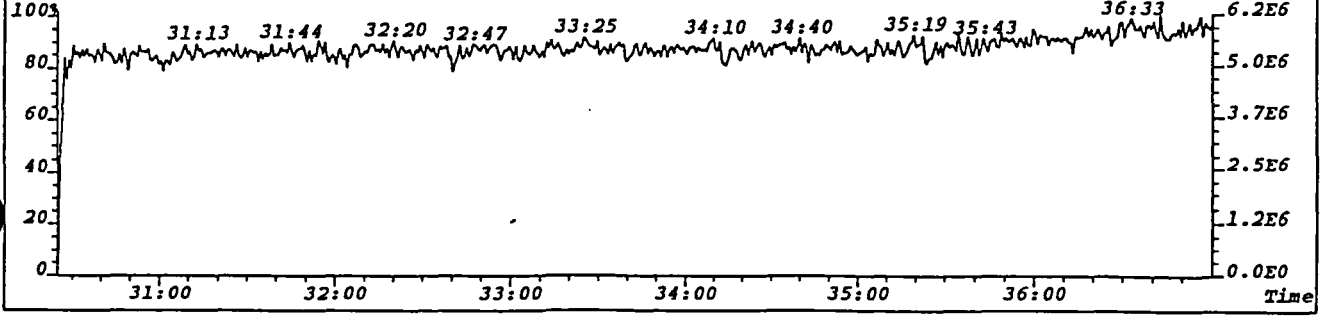
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:92
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,368.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31

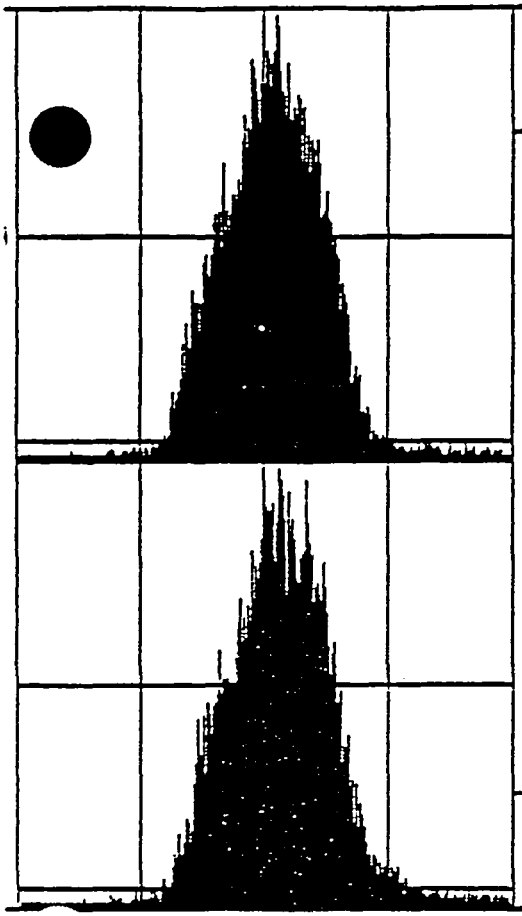


File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T Noise:105
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,420.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31



File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31





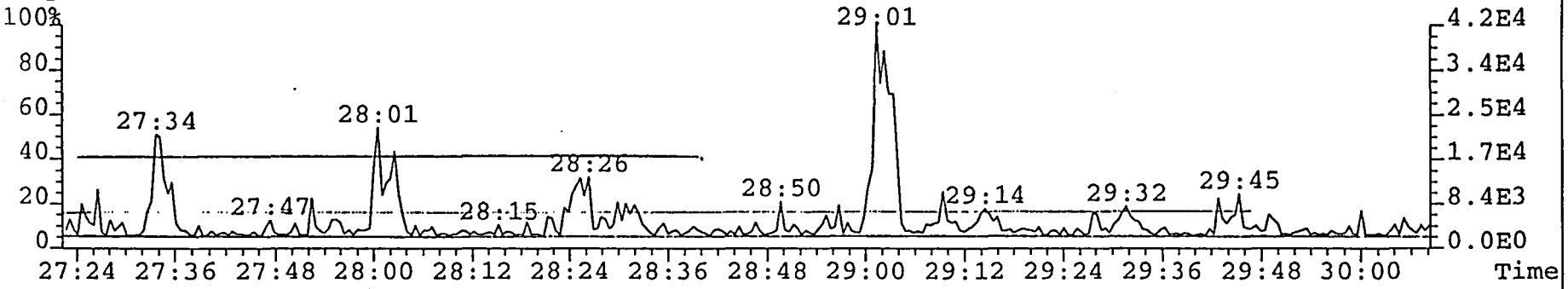
Ref. mass 292.9825 Peak top
Height 5.85 volts Span 200 ppm

System file name	EPCUS
Data file name	A:T961211
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

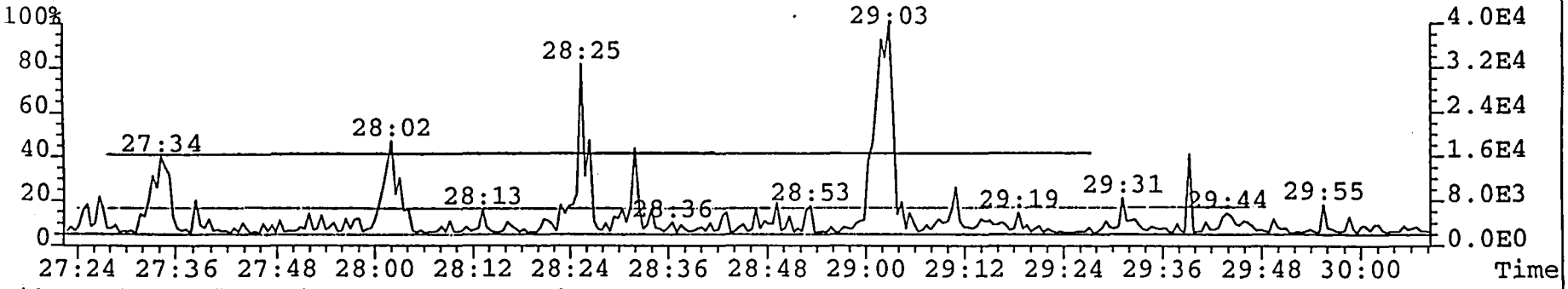
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height 3.75 volts Span 200 ppm

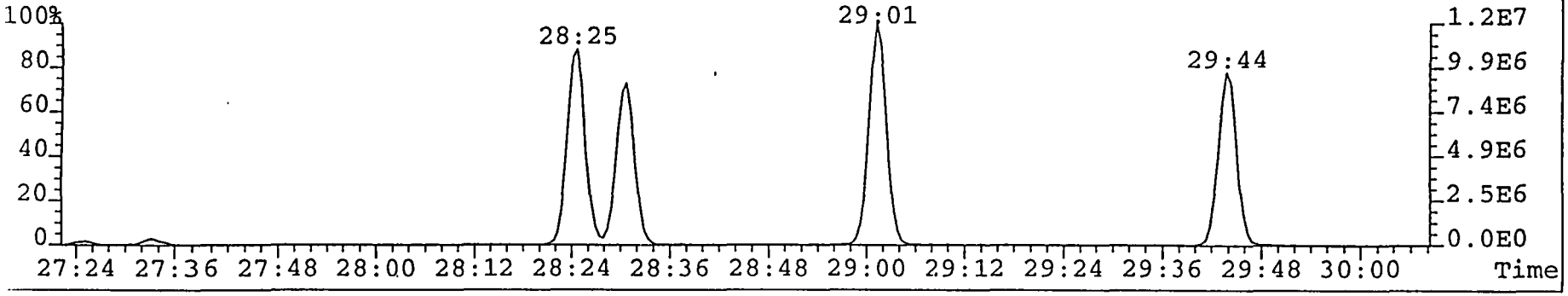
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
373.8208 F:3 Exp:EPCUS
Sample Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31 File Text:TLI SOIL BLAN»



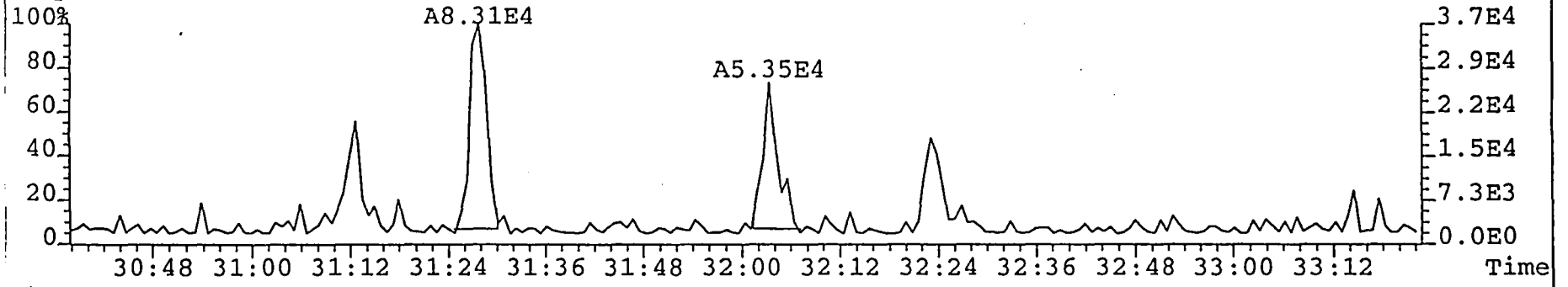
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
375.8178 F:3 Exp:EPCUS
Sample Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31 File Text:TLI SOIL BLAN»



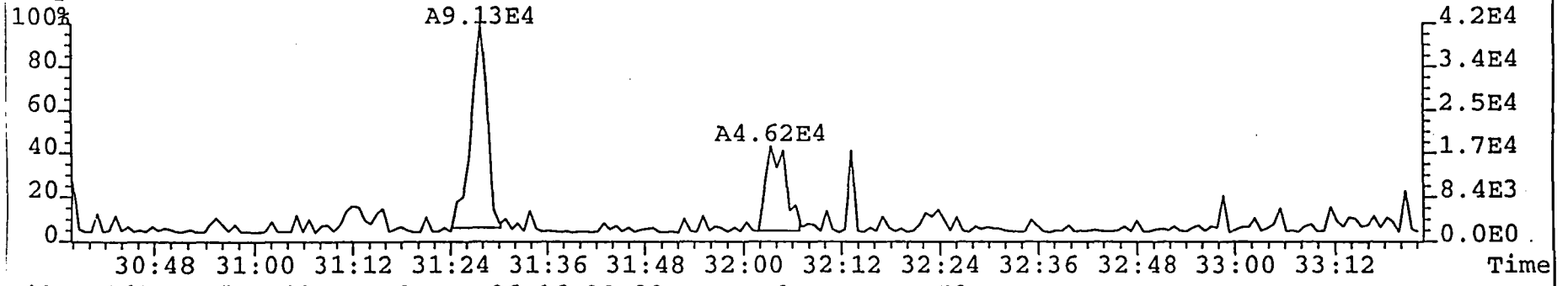
File:T961213 #1-356 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
383.8639 F:3 Exp:EPCUS
Sample Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31 File Text:TLI SOIL BLAN»



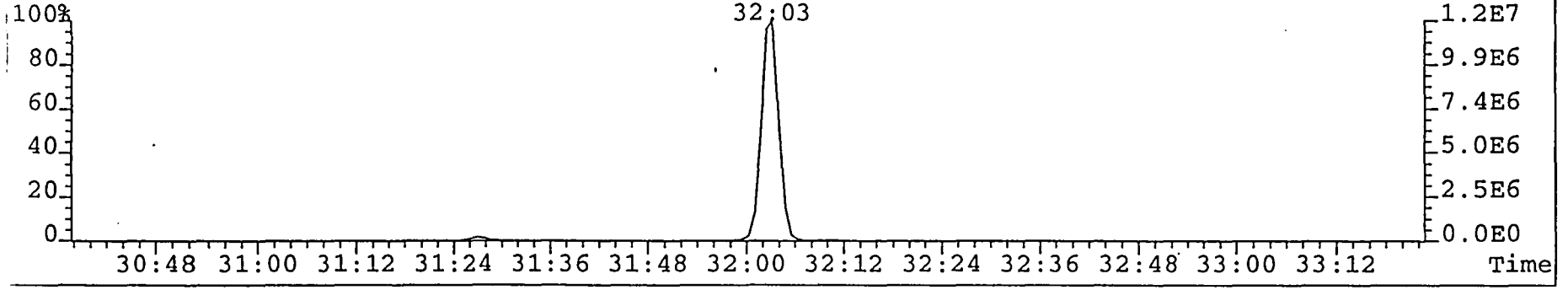
File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
423.7766 F:4 Exp:EPCUS
Sample Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31 File Text:TLI SOIL BLAN»



File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
425.7737 F:4 Exp:EPCUS
Sample Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31 File Text:TLI SOIL BLAN»



File:T961213 #1-523 Acq:6-MAR-96 16:28:00 EI+ Voltage SIR 70T
435.8169 F:4 Exp:EPCUS
Sample Text:TLI SOIL BLANK TLI#36250 INJ. TIME = 16:31 File Text:TLI SOIL BLAN»



Southern Wood Piedmont

TLI Project: 36250 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: LF2A SWP# 13594 — Analysis File: T961220

Client Project:	12-53020.00:SWP-Wilmington				
Sample Matrix:	SOIL	Date Received:	02/16/96	Spike File:	SPX2372S
TLI ID:	114-155-1	Date Extracted:	02/20/96	ICal:	TF5D065
		Date Analyzed:	03/06/96	ConCal:	T961210
Sample Size:	11.870 g	Dilution Factor:	n/a	% Moisture:	15.8
Dry Weight:	9.995 g	Blank File:	T961213	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	84.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	4.2			0.83	21:28	—
1,2,3,7,8-PeCDD	55.2			1.52	25:59	—
2,3,7,8-TCDF	14.5			0.88	20:38	—
1,2,3,7,8-PeCDF	63.3			1.47	24:52	—
2,3,4,7,8-PeCDF	53.1			1.60	25:37	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	91.8	13		96.6	—
Total PeCDD	879	12		881	—
Total TCDF	96.5	14		108	—
Total PeCDF	1050	12		1070	—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	183	91.5	40%-130%	0.73	20:37	—
$^{13}C_{12}$-2,3,7,8-TCDD	187	93.4	40%-130%	0.78	21:27	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	179	89.6	40%-130%	1.45	24:51	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	193	96.2	40%-130%	1.50	25:58	—

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	17.1	85.4	40%-130%		21:29	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	170	85.1	40%-130%	1.43	25:36	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	21:13	—

Data Reviewer: _____ 03/25/96

X237_PSR v1.14, LARS 6.04.00

Triangle Laboratories, Inc.®
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Printed: 14:17 03/25/96

Initial ....Date...

Data Review By: AR 3/24/96 Calculated Noise Area: n/a

Total Area for each peak with an ion abundance ratio outside
o limits has been recalculated according to method requirements.

Page No. 1 Listing of T961220B.dbf
03/25/96 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
TCDF				0.65-0.89					0.826-1.100			
304-306	DC	NL		0:00	RO	1.17	1.80			0.000		
				17:12		0.84	89.18	40.72	48.46	0.834		
	DC	SN		17:26	RO	1.45	0.55			0.846		
				17:38		0.80	385.13	170.67	214.46	0.855		
				17:54		0.79	522.28	230.28	292.00	0.868		
				18:18	RO	0.90	363.54	184.99	205.25	0.888		
				18:25		0.75	325.96	139.76	186.20	0.893		
				18:41		0.78	789.59	346.40	443.19	0.906		
				19:02		0.83	475.52	216.26	259.26	0.923		
				19:09		0.81	299.70	133.87	165.83	0.929		
				19:27		0.81	392.16	174.92	217.24	0.943		
				19:43		0.71	153.67	63.72	89.95	0.956		
				19:54		0.89	500.78	235.90	264.88	0.965		
				20:08		0.89	308.97	145.30	163.67	0.977		
				20:26		0.69	118.33	48.27	70.06	0.991		
				20:38		0.88	788.83	369.11	419.72	1.001	2378-TCDF	AN
				21:07		0.77	109.58	47.64	61.94	1.024		
				21:21	RO	0.90	92.93	47.30	52.45	1.036		
				21:36	RO	0.60	7.78	3.37	5.65	1.048		
				21:55	RO	0.91	77.15	39.62	43.63	1.063		
				22:02	RO	1.04	19.26	11.31	10.89	1.069		
				22:19	RO	2.67	7.45	11.23	4.21	1.082		
				22:34	RO	0.90	35.75	18.23	20.15	1.095		
	DC	WH		22:41	RO	1.53	2.67			1.100		
	DC	WH		22:48		0.77	828.63			1.106		
304-306			21	Peaks			5,863.54					
13C12-TCDF				0.65-0.89					0.951-1.049			
316-318	DC	NL		0:00	RO	0.97	0.57			0.000		
	DC	WL		19:27		0.88	50.37			0.943		
				20:08		0.86	31.63	14.58	17.05	0.977		
				20:37		0.73	9,292.72	3,933.64	5,359.08	1.000	13C12-2378-TCDF	ISO
	DC	SN		20:49		0.80	3.64			1.010		
				21:06	RO	0.90	99.52	50.65	56.18	1.023		
	DC	WH		22:34		0.65	10.84			1.095		
316-318			3	Peaks			9,423.87					

---------- Above: TCDF / TCDD Follows ----------

TCDD				0.65-0.89					0.860-1.059			
320-322	DC	NL		0:00	RO	1.00	0.35			0.000		
				18:32		0.80	305.60	135.45	170.15	0.864		
				19:01		0.73	185.71	78.21	107.50	0.887		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
				19:20	RO	0.41	192.91	83.86	204.75	0.901		
		DC	SN	19:48	RO	3.06	0.28			0.923		
				20:06		0.81	1,363.98	611.77	752.21	0.937		
				20:19		0.82	502.24	225.77	276.47	0.947		
				20:24		0.73	178.44	75.32	103.12	0.951		
				20:31		0.83	89.06	40.38	48.68	0.956		
		DC	SN	20:36	RO	3.52	2.53			0.960		
				20:52		0.67	175.36	70.34	105.02	0.973		
		DC	SN	21:03		0.68	0.67			0.981		
	M			21:10		0.78	426.00	186.00	240.00	0.987		
				21:19		0.77	540.70	234.72	305.98	0.994		
				21:28		0.83	199.30	90.48	108.82	1.001	2378-TCDD	AN
				21:37		0.76	90.57	39.14	51.43	1.008		
				21:50		0.82	292.90	132.09	160.81	1.018		
		DC	SN	22:00	RO	1.22	0.41			1.026		
				22:06		0.66	55.15	21.95	33.20	1.030		
				22:33	RO	0.62	39.84	17.36	27.92	1.051		
		DC	WH	22:46	RO	0.64	4.31			1.061		
		DC	WH	22:52	RO	0.52	1.23			1.066		
		DC	WH	22:56	RO	2.29	0.60			1.069		
320-322			15	Peaks			4,637.76					
37Cl-TCDD									0.906-1.094			
328		DC	NL	0:00			0.19			0.000		
		DC	WL	18:22			0.28			0.856		
		DC	WL	18:26			0.19			0.859		
		DC	WL	18:29			1.01			0.862		
		DC	WL	18:34			0.94			0.866		
		DC	WL	19:23			12.03			0.904		
		DC	WL	19:25			2.22			0.905		
		DC	SN	19:37			0.40			0.915		
		DC	SN	19:41			0.27			0.918		
		DC	SN	19:49			1.26			0.924		
				19:53			13.07	13.07		0.927		
				20:05			4.54	4.54		0.936		
		DC	SN	20:08			1.87			0.939		
		DC	SN	20:11			0.64			0.941		
		DC	SN	20:16			0.88			0.945		
		DC	SN	20:19			1.41			0.947		
		DC	SN	20:22			1.79			0.949		
		DC	SN	20:25			1.02			0.952		
		DC	SN	20:31			0.28			0.956		
		DC	SN	20:33			0.38			0.958		
		DC	SN	20:36			0.35			0.960		
		DC	SN	20:48			0.36			0.970		
		DC	SN	20:50			0.46			0.971		
		DC	SN	20:52			0.32			0.973		
		DC	SN	21:03			0.45			0.981		
		DC	SN	21:07			0.26			0.984		
		DC	SN	21:11			1.70			0.988		
		DC	SN	21:16			1.05			0.991		
				21:19			2.76	2.76		0.994		

Compound/ ?....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
				24:51		1.45	6,878.85	4,071.66	2,807.19	1.000	13C12-PeCDF 123	IS2
				25:02		1.76	20.47	13.04	7.43	1.007		
				25:09		1.47	59.32	35.34	23.98	1.012		
				25:36		1.43	6,351.55	3,738.03	2,613.52	1.030	13C12-PeCDF 234	SUR2
352-354			7	Peaks			13,372.01					

---------- Above: PeCDF / PeCDD Follows ----------

PeCDD						1.32-1.78				0.922-1.025		
356-358	DC	NL		0:00	RO	0.91	0.33			0.000		
				24:07		1.52	5,870.91	3,541.68	2,329.23	0.929		
				24:38		1.60	2,379.50	1,466.02	913.48	0.949		
				24:52		1.56	1,845.50	1,124.91	720.59	0.958		
				25:01		1.57	1,922.38	1,175.78	746.60	0.963		
				25:12		1.51	1,175.76	707.34	468.42	0.970		
				25:17	RO	0.60	40.21	24.43	40.74	0.974		
				25:23		1.55	1,440.49	875.79	564.70	0.978		
				25:28		1.58	3,245.99	1,988.84	1,257.15	0.981		
				25:41		1.53	537.57	324.77	212.80	0.989		
				25:48		1.34	166.13	95.06	71.07	0.994		
				25:59		1.52	1,364.57	823.64	540.93	1.001	12378-PeCDD	AN
				26:08		1.65	1,134.31	706.27	428.04	1.006		
				26:27		1.55	636.65	386.99	249.66	1.019		
	DC	WH		26:52	RO	0.51	10.72			1.035		
356-358			13	Peaks			21,759.97					
13C12-PeCDD						1.32-1.78				0.846-1.154		
368-370	DC	NL		0:00	RO	1.09	0.39			0.000		
				25:58		1.50	4,129.72	2,474.72	1,655.00	1.000	13C12-PeCDD 123	IS3
				26:07		1.42	346.84	203.27	143.57	1.006		
				26:26	RO	2.04	10.01	8.01	3.92	1.018		
				26:37	RO	1.91	10.14	7.59	3.98	1.025		
368-370			4	Peaks			4,496.71					

---------- Above: PeCDD / HxCDF Follows ----------

HxCDF						1.05-1.43				0.956-1.051		
374-376	DC	NL		0:00	RO	1.63	164.86			0.000		
				27:29		1.08	44,304.60	23,040.70	21,263.90	0.962		
				27:39		1.05	63,974.10	32,744.40	31,229.70	0.968		
				27:56		1.16	1,116.67	599.53	517.14	0.978		
				28:04	RO	1.04	68,988.57	38,190.10	36,821.60	0.982		
				28:29		1.23	24,202.50	13,338.50	10,864.00	0.997	123478-HxCDF	AN
				28:35		1.22	6,519.78	3,588.88	2,930.90	1.001	123678-HxCDF	AN
				28:51		1.24	1,012.93	561.25	451.68	1.010		
				29:02		1.24	5,318.68	2,939.18	2,379.50	1.016		
				29:06		1.25	3,645.56	2,024.29	1,621.27	1.019	234678-HxCDF	AN
	AN			29:51		1.08	1,048.00	544.00	504.00	1.045	123789-HxCDF	AN
	M			29:53		1.30	5,640.00	3,190.00	2,450.00	1.046		
374-376			11	Peaks			225,771.39					

Compound/ ...	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
13C12-HxCDF				0.43-0.59						0.860-1.140		
384-386	DC	NL		0:00	RO	0.72	3.01			0.000		
				27:29	RO	1.24	36.19	29.72	23.96	0.962		
				27:38	RO	2.24	64.63	95.93	42.75	0.967		
				28:07	RO	2.74	174.84	317.23	115.81	0.984		
				28:28		0.49	4,169.92	1,378.31	2,791.61	0.996	13C12-HxCDF 478	SUR3
				28:34		0.51	4,069.38	1,374.58	2,694.80	1.000	13C12-HxCDF 678	IS4
				29:05		0.49	3,497.69	1,148.56	2,349.13	1.018	13C12-HxCDF 234	ALT2
	DC	SN		29:44	RO	1.90	2.61			1.041		
				29:46	RO	0.62	7.28	2.98	4.83	1.042	13C12-HxCDF 789	ALT1
				29:51		0.50	2,704.18	898.05	1,806.13	1.045		
384-386			8	Peaks			14,724.11					

---------- Above: HxCDF / HxCDD Follows ----------

HxCDD				1.05-1.43						0.950-1.014		
390-392	DC	NL		0:00	RO	3.27	10.80			0.000		
M				28:02	RO	1.03	59,070.97	32,700.00	31,700.00	0.957		
				28:28		1.22	16,386.21	9,018.69	7,367.52	0.972		
				28:41	RO	1.03	54,940.64	30,440.30	29,501.00	0.979		
				28:51		1.15	31,437.60	16,838.70	14,598.90	0.985		
				29:14		1.19	2,724.97	1,482.82	1,242.15	0.998	123478-HxCDD	AN
				29:19		1.18	30,590.10	16,542.70	14,047.40	1.001	123678-HxCDD	AN
				29:37		1.20	11,146.69	6,089.83	5,056.86	1.011	123789-HxCDD	AN
390-392			7	Peaks			206,297.18					
13C12-HxCDD				1.05-1.43						0.966-1.034		
402-404	DC	NL		0:00	RO	1.65	2.44			0.000		
	DC	WL		28:02	RO	1.52	31.00			0.957		
	DC	WL		28:07		1.31	51.11			0.960		
	DC	SN		28:18		1.33	3.07			0.966		
				28:42	RO	1.49	25.56	16.98	11.43	0.980		
	DC	SN		29:00	RO	0.88	1.43			0.990		
				29:13		1.21	2,553.34	1,400.59	1,152.75	0.997	13C12-HxCDD 478	SUR4
				29:18		1.20	3,010.38	1,639.42	1,370.96	1.000	13C12-HxCDD 678	IS5
				29:37		1.19	2,949.31	1,602.18	1,347.13	1.011	13C12-HxCDD 789	RS2
402-404			4	Peaks			8,538.59					

---------- Above: HxCDD / HpCDF Follows ----------

HpCDF				0.88-1.20						0.994-1.043		
408-410	DC	NL		0:00		1.20	24.22			0.000		
				31:14		1.01	84,499.20	42,386.00	42,113.20	0.998		
				31:29		1.02	1,566.41	790.55	775.86	1.006		
				31:35		1.01	100,595.50	50,543.10	50,052.40	1.010		
D	d	NH		32:08		1.02	420.96			1.027		
				32:27		1.05	13,675.66	7,006.23	6,669.43	1.037	1234789-HpCDF	AN
408-410			4	Peaks			200,336.77					
13C12-HpCDF				0.37-0.51						0.936-1.128		
418-420	DC	NL		0:00	RO	0.93	2.93			0.000		
				31:17	RO	0.73	2,502.03	1,263.55	1,742.36	1.000	13C12-HpCDF 678	IS6

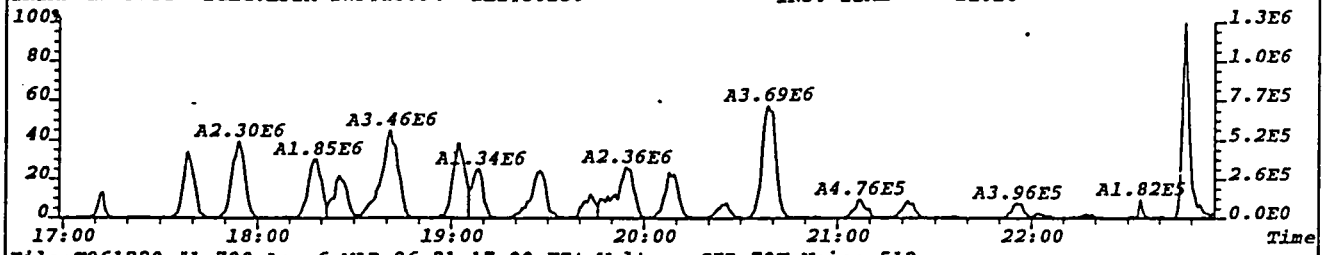
Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
				31:39	RO	2.61	527.81	956.38	366.81	1.012		
				32:07	RO	0.95	31.30	20.66	21.72	1.027		
				32:26		0.42	1,623.54	480.72	1,142.82	1.037	13C12-HpCDF 789	SUR5
				32:53	RO	3.49	15.50	37.56	10.76	1.051		
418-420			5	Peaks			4,700.18					
---------- Above: HpCDF / HpCDD Follows ----------												
HpCDD				0.88-1.20						0.976-1.005		
424-426		DC	NL	0:00	RO	1.34	33.99			0.000		
		DC	WL	31:17	RO	1.62	137.23			0.974		
	A .			31:30		0.99	120,400.00	60,000.00	60,400.00	0.981		
	N			32:06		0.99	74,074.50	36,814.90	37,259.60	0.999	1234678-HpCDD	AN
424-426			2	Peaks			194,474.50					
13C12-HpCDD				0.88-1.20						0.969-1.031		
436-438		DC	NL	0:00	RO	1.38	1.06			0.000		
				31:17		1.14	77.84	41.54	36.30	0.974		
				31:35	RO	1.44	348.03	245.56	170.71	0.983		
				31:39		1.19	104.28	56.59	47.69	0.985		
				31:47	RO	1.47	13.54	9.75	6.65	0.990		
				32:07		1.03	1,713.06	868.54	844.52	1.000	13C12-HpCDD 678	IS7
		DC	SN	32:16	RO	3.21	1.96			1.005		
436-438			5	Peaks			2,256.75					
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------												
OCDF				0.76-1.02						0.884-1.116		
2-444		DC	NL	0:00	RO	1.10	2.89			0.000		
				31:35	RO	1.25	272.61	180.36	144.17	0.912		
				32:08	RO	1.43	52.77	39.88	27.97	0.928		
				34:43		0.97	93,419.40	45,902.90	47,516.50	1.003	OCDF	AN
442-444			3	Peaks			93,744.78					
OCDD				0.76-1.02						0.884-1.116		
458-460	KMTN			34:37		0.95	108,400.00	52,800.00	55,600.00	1.000	OCDD	AN
458-460			1	Peak			108,400.00					
13C12-OCDD				0.76-1.02						0.995-1.004		
470-472		DC	NL	0:00		0.83	0.84			0.000		
				34:37	RO	2.07	841.38	921.59	445.10	1.000	13C12-OCDD	IS8
				34:43	RO	1.40	116.70	86.51	61.68	1.003		
		DC	WH	34:52		0.86	8.91			1.007		
470-472			2	Peaks			958.08					

Compound/
M_Z.... QC.Log Omit Why ..RT. OK Ratio Total.Area... Area.Peak.1.. Area.Peak.2.. Rel.RT Compound.Name.. ID..

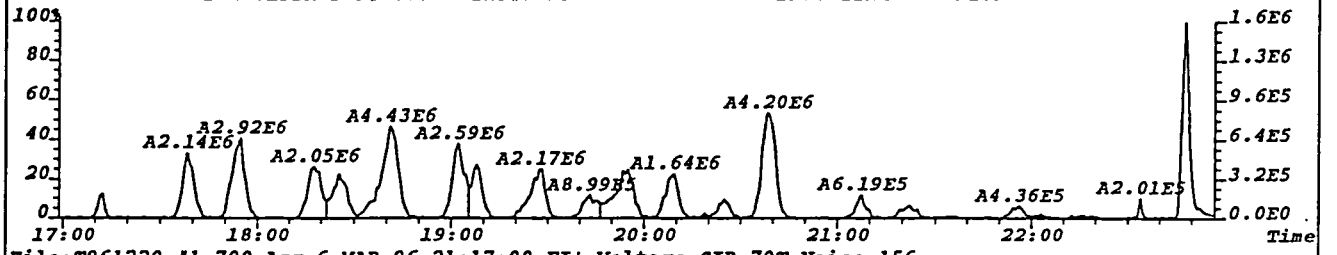
Column Description.....	'Why' Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

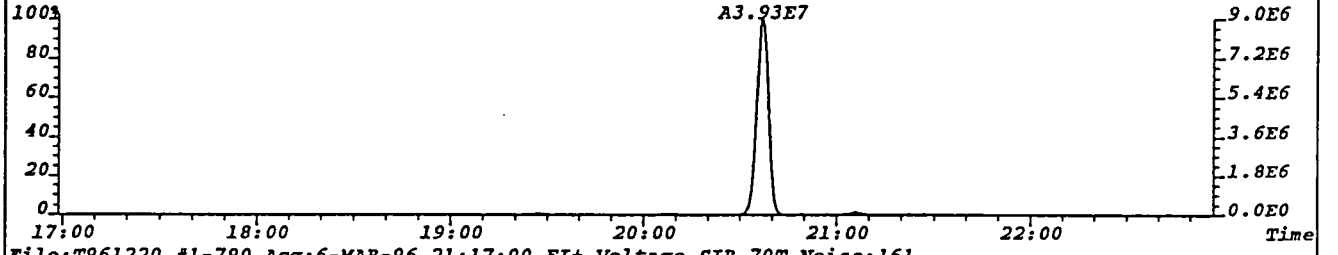
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:596
303.9016 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2384.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



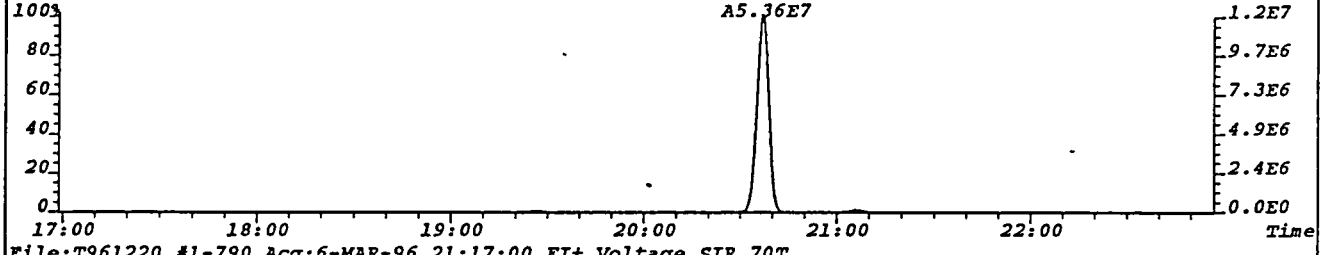
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:512
305.8987 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2048.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



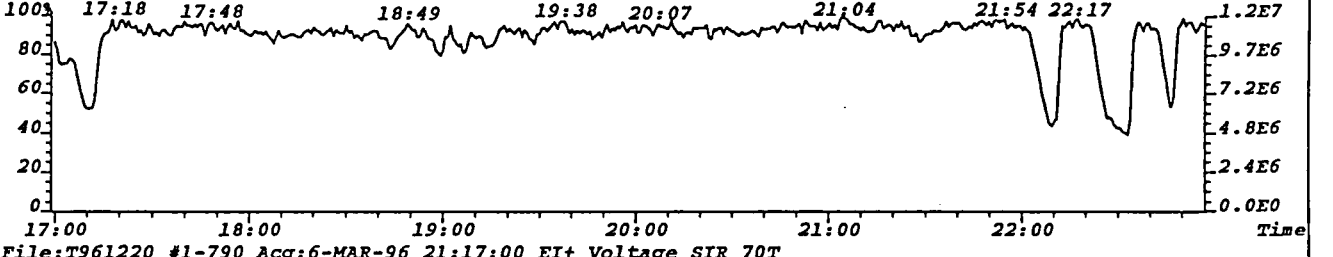
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:156
315.9419 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,624.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



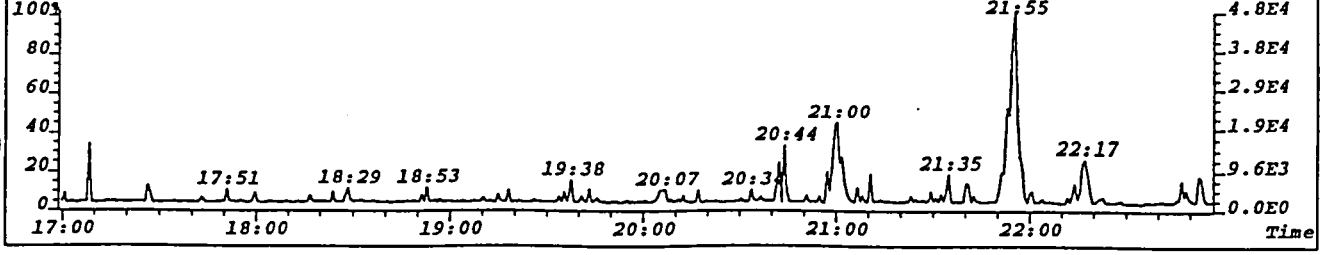
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:161
317.9389 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,644.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



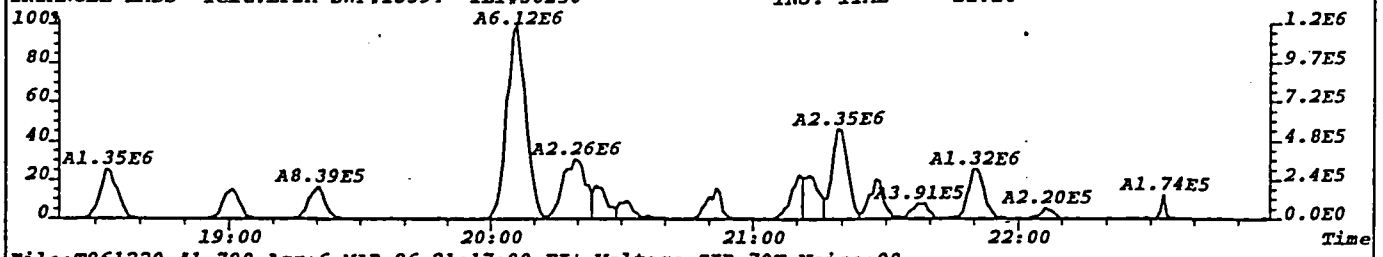
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



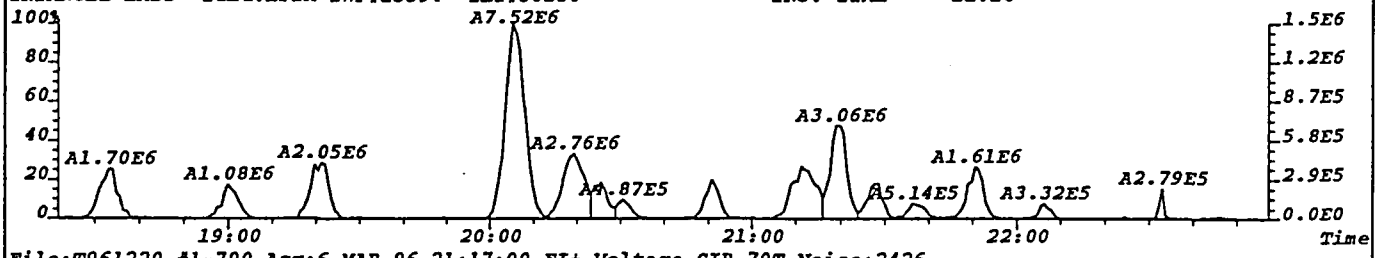
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



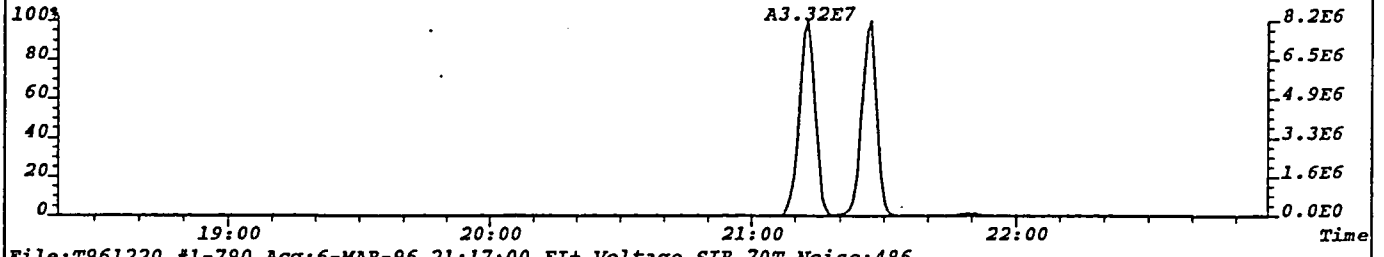
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:101
319.8965 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,404.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



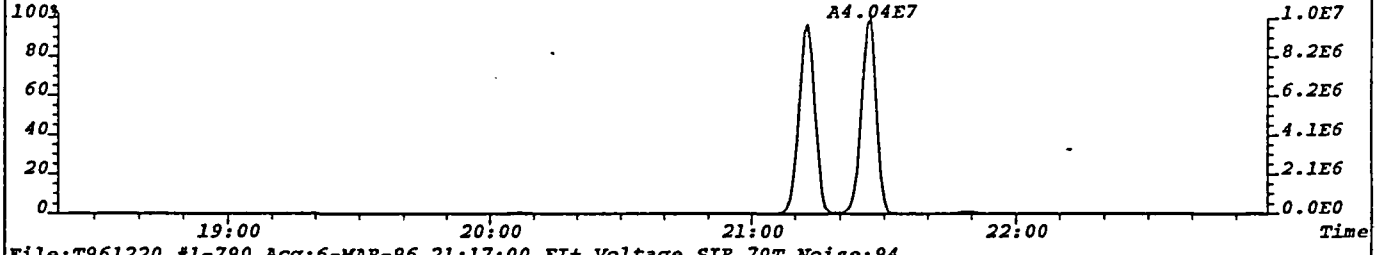
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:98
321.8936 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,392.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



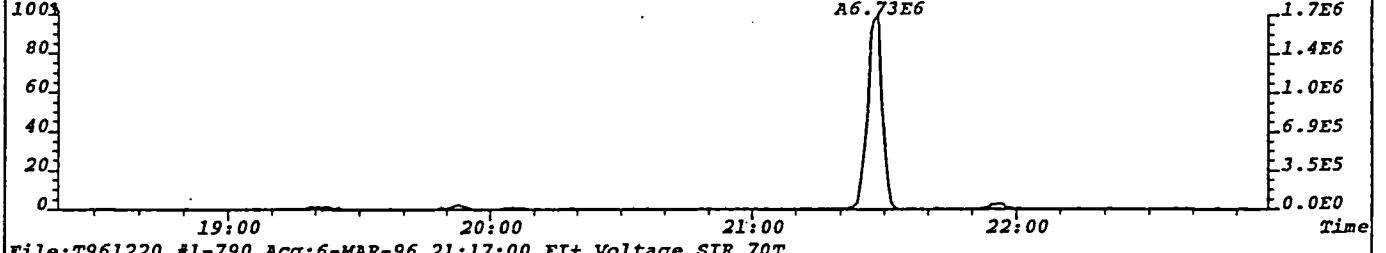
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:2426
331.9368 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,9704.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



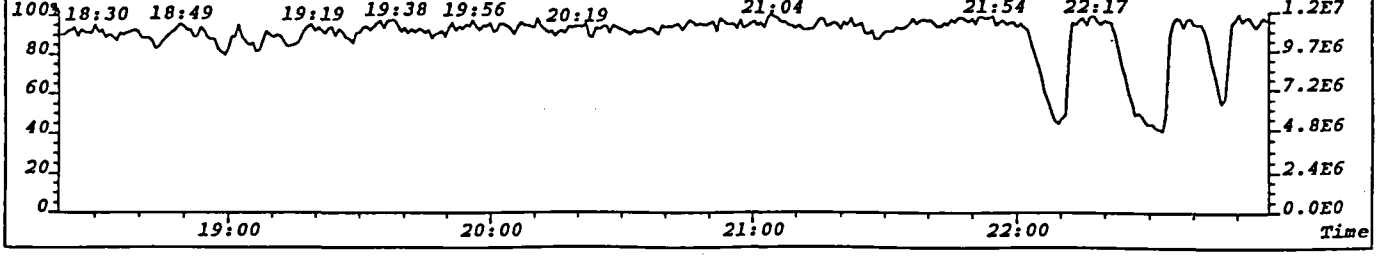
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:486
333.9338 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1944.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



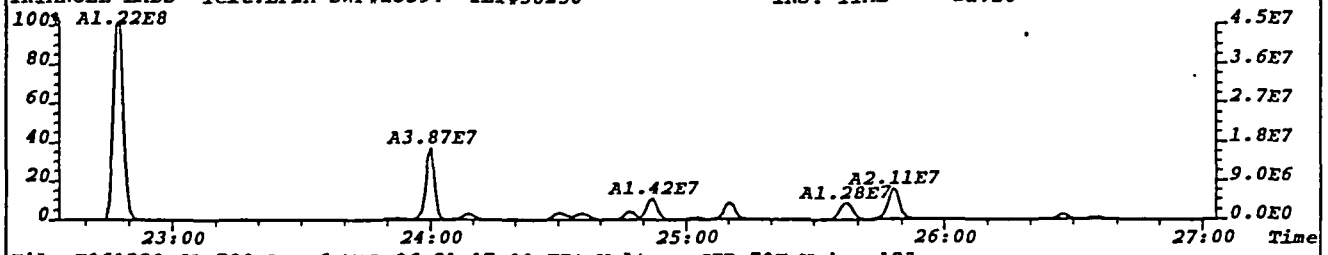
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:94
327.8847 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,376.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



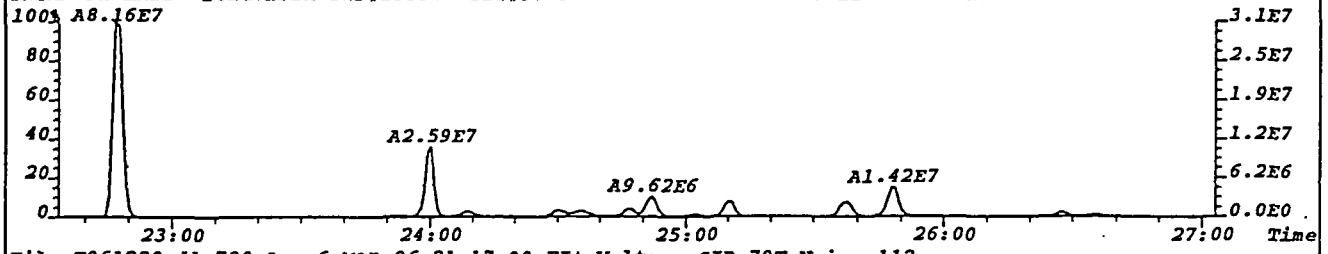
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



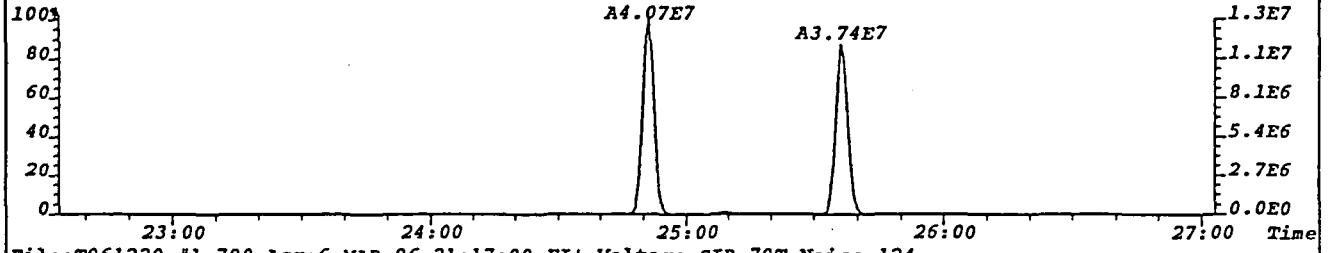
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:124
339.8597 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,496.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



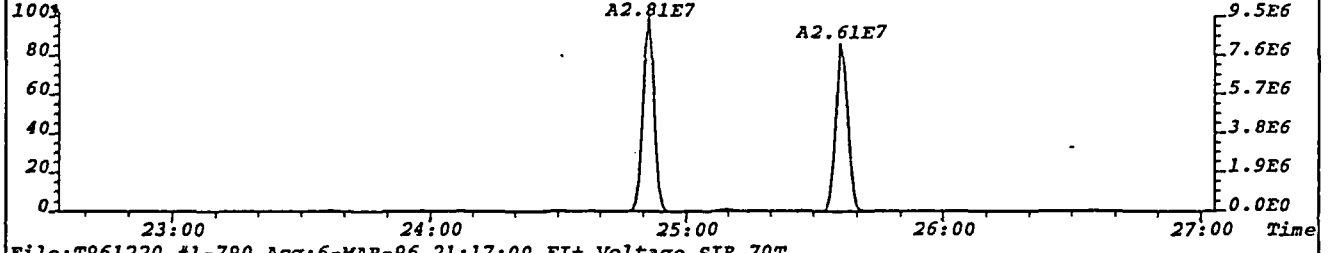
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:123
341.8567 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,492.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



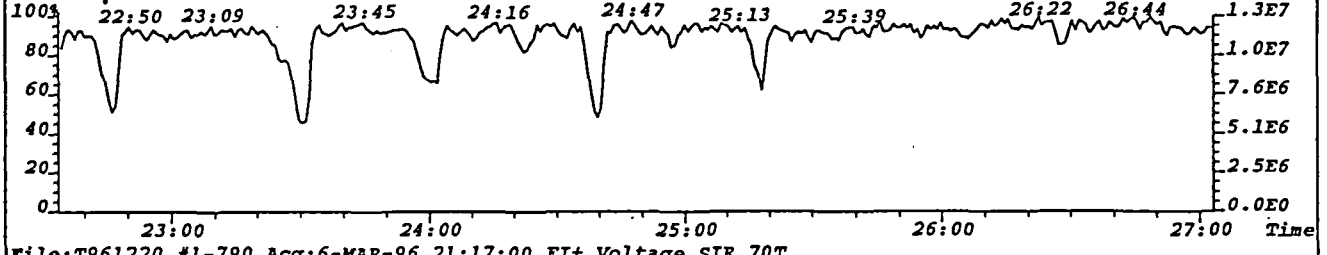
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:112
351.9000 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,448.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



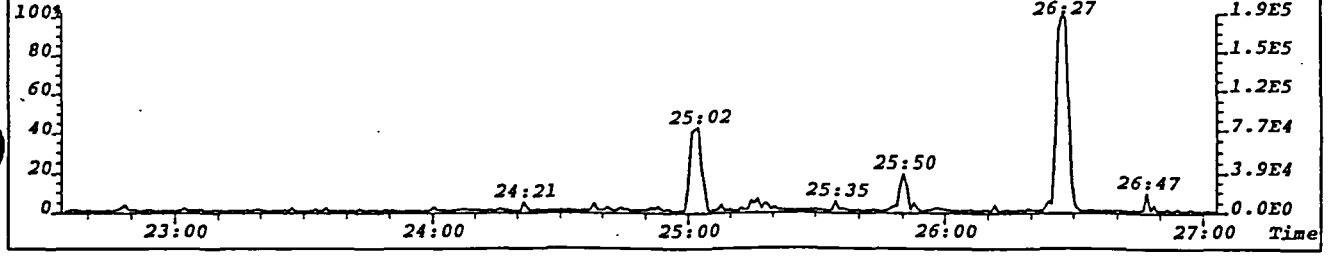
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:124
353.8970 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,496.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



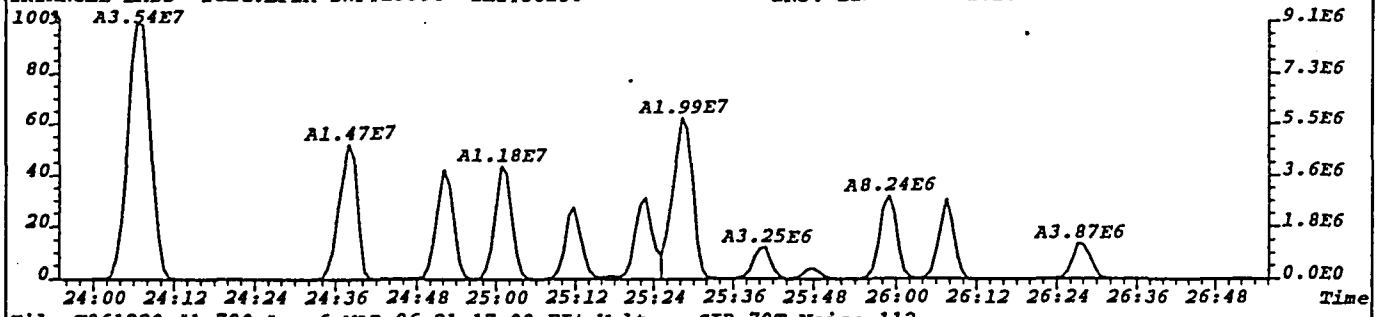
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



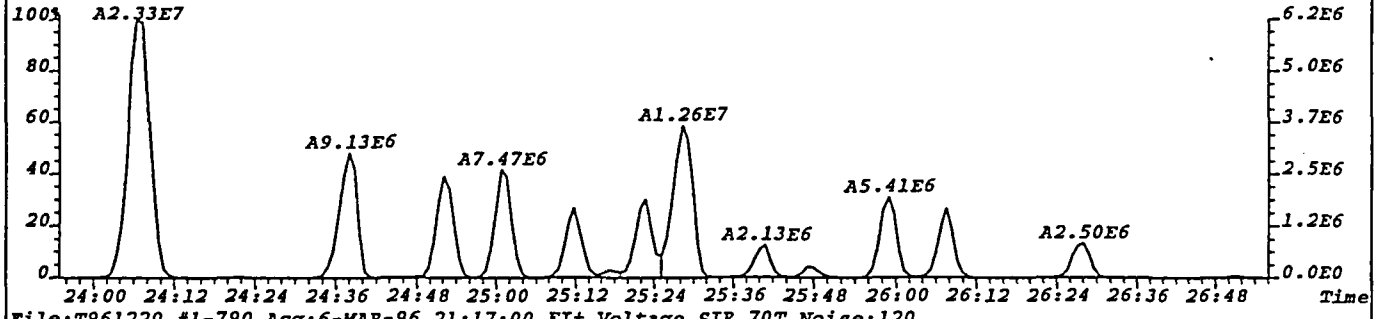
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



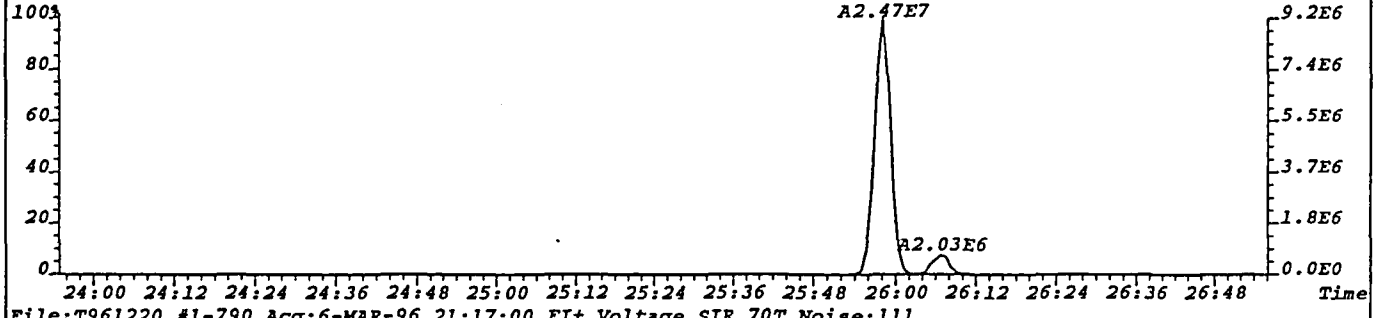
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:98
355.8546 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,392.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



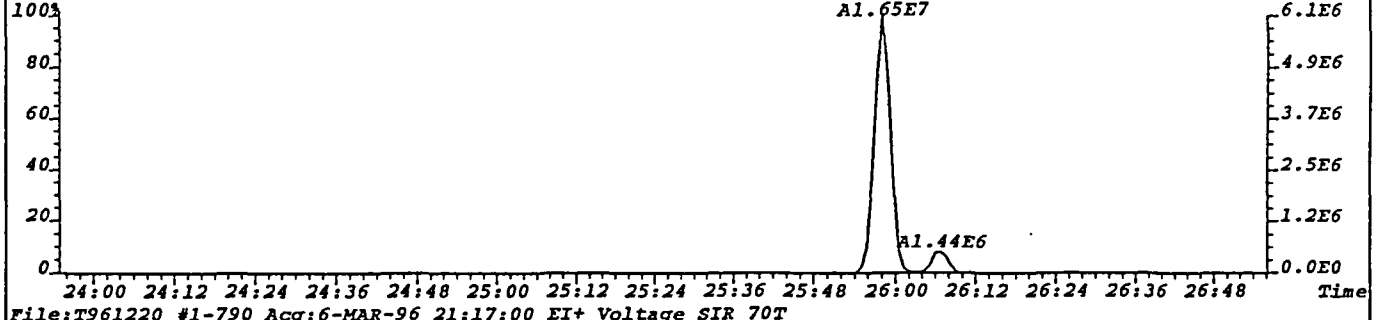
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:112
357.8516 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,448.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20



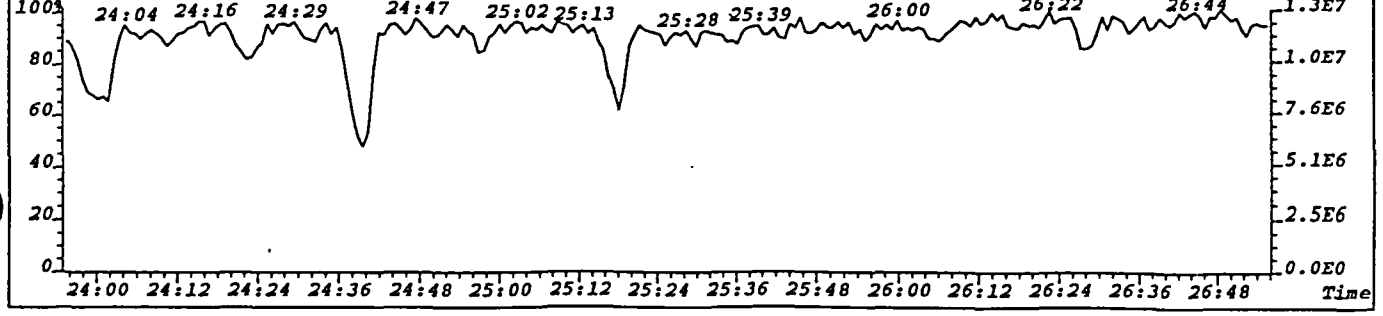
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:120
367.8949 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,480.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20

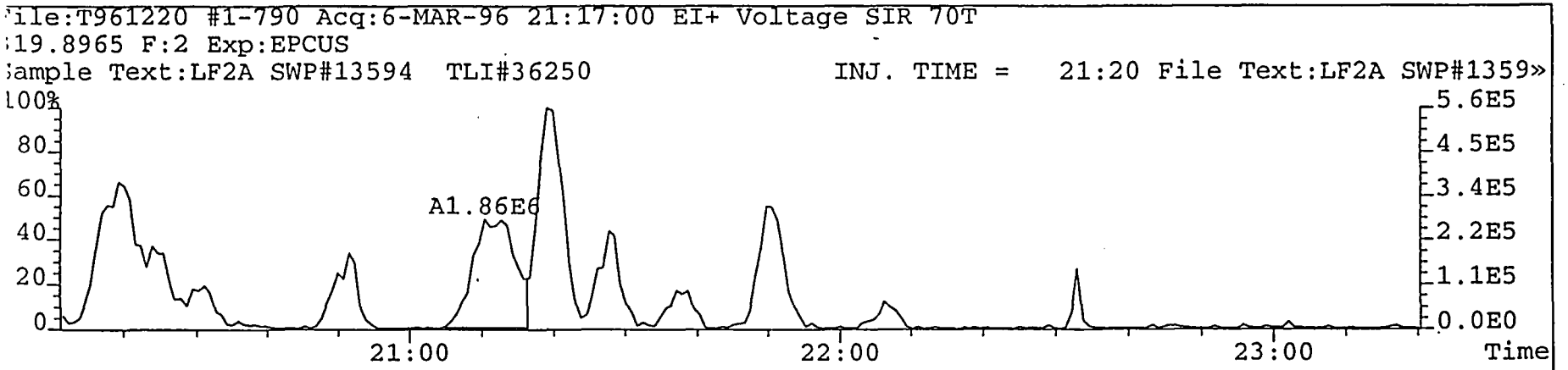


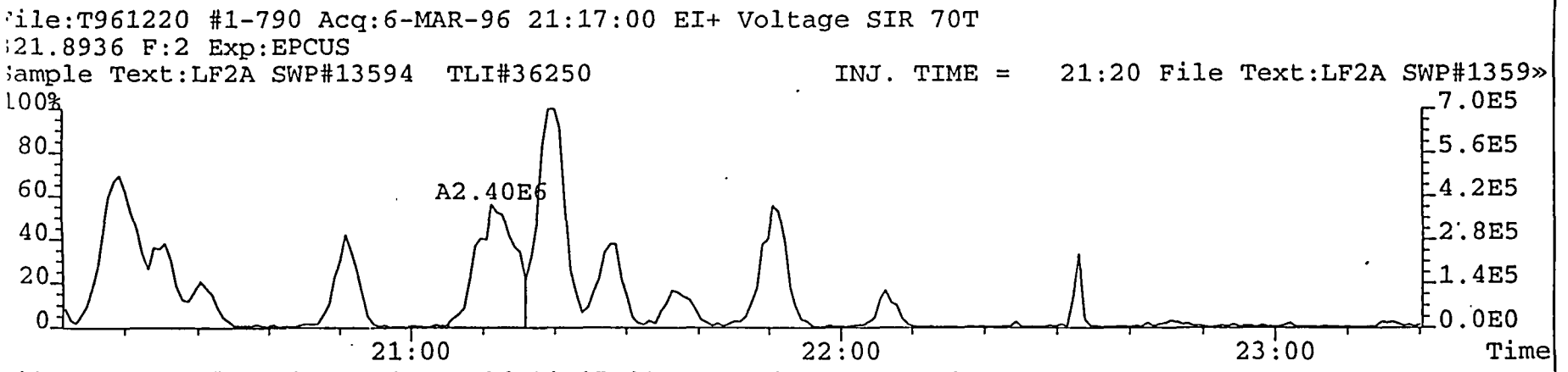
File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T Noise:111
369.8919 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,444.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20

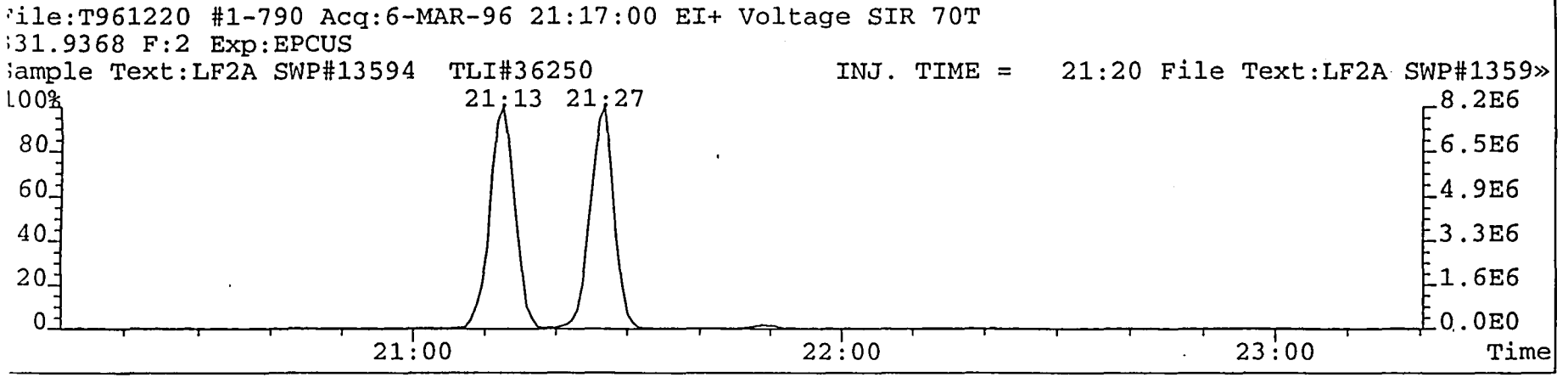


File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20

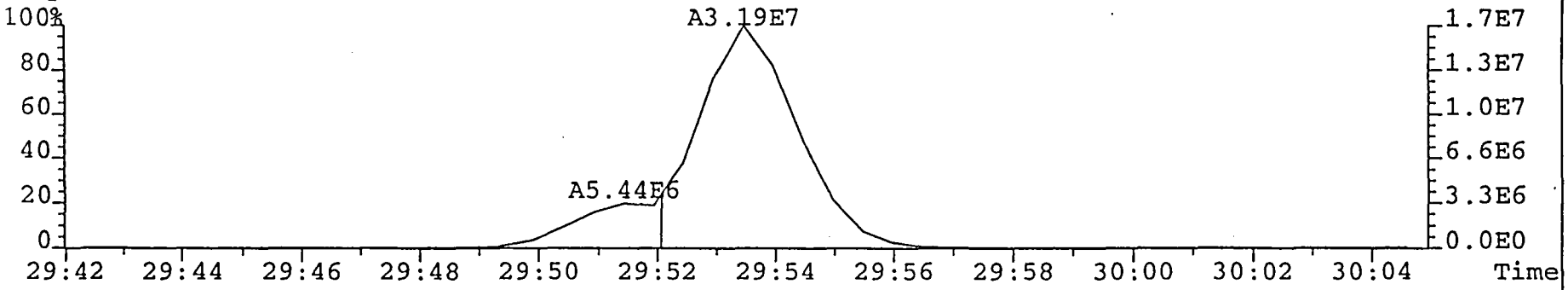



File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
319.8965 F:2 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250
INJ. TIME = 21:20 File Text:LF2A SWP#1359»
100%
80
60
40
20
0
A1.86E6
5.6E5
4.5E5
3.4E5
2.2E5
1.1E5
0.0E0
21:00
22:00
23:00
Time

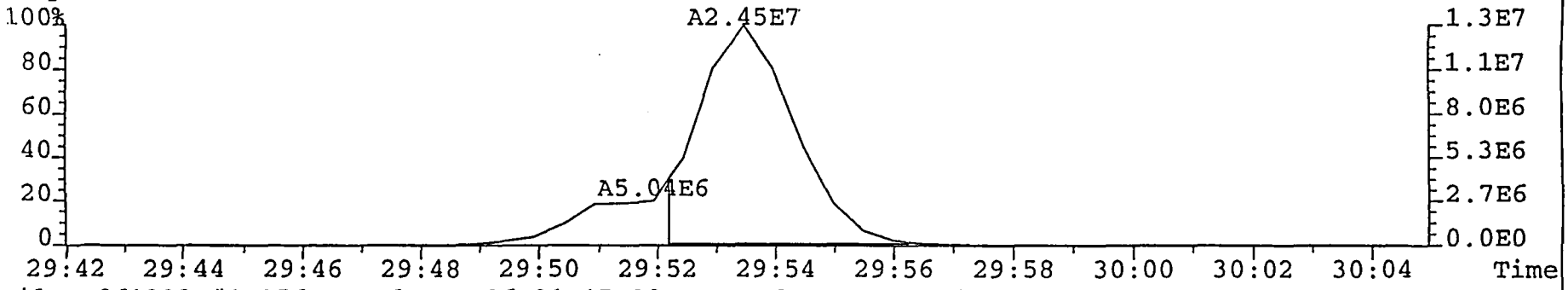

File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
321.8936 F:2 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250
INJ. TIME = 21:20 File Text:LF2A SWP#1359»
100%
80
60
40
20
0
A2.40E6
7.0E5
5.6E5
4.2E5
2.8E5
1.4E5
0.0E0
21:00
22:00
23:00
Time


File:T961220 #1-790 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
331.9368 F:2 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250
INJ. TIME = 21:20 File Text:LF2A SWP#1359»
100%
80
60
40
20
0
21:13
21:27
8.2E6
6.5E6
4.9E6
3.3E6
1.6E6
0.0E0
21:00
22:00
23:00
Time

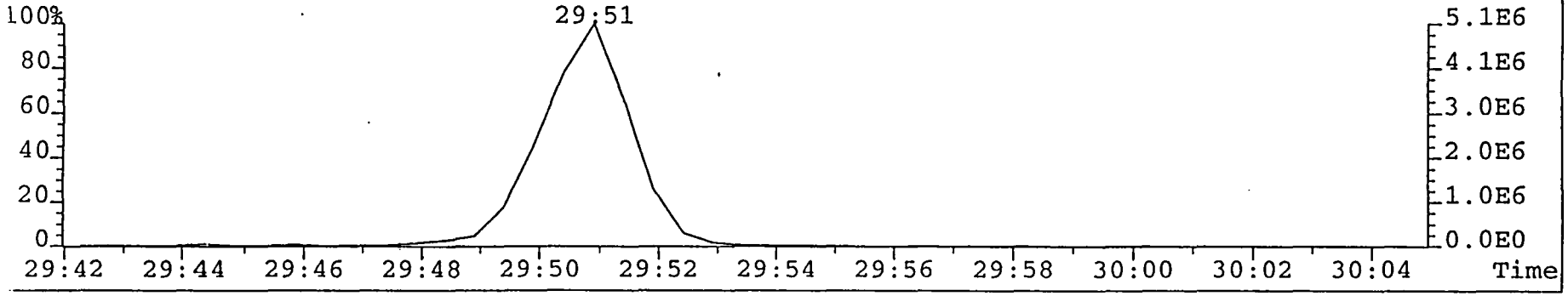
File:T961220 #1-356 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
373.8208 F:3 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20 File Text:LF2A SWP#1359»



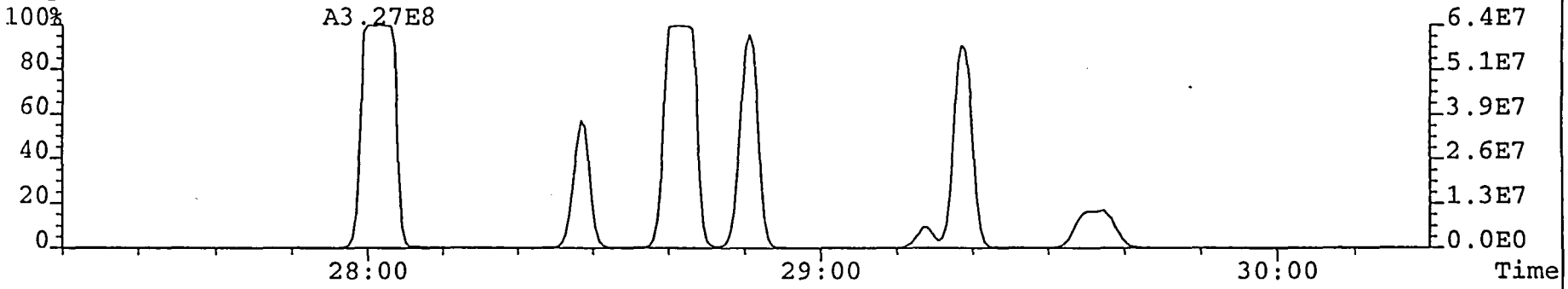
File:T961220 #1-356 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
375.8178 F:3 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20 File Text:LF2A SWP#1359»



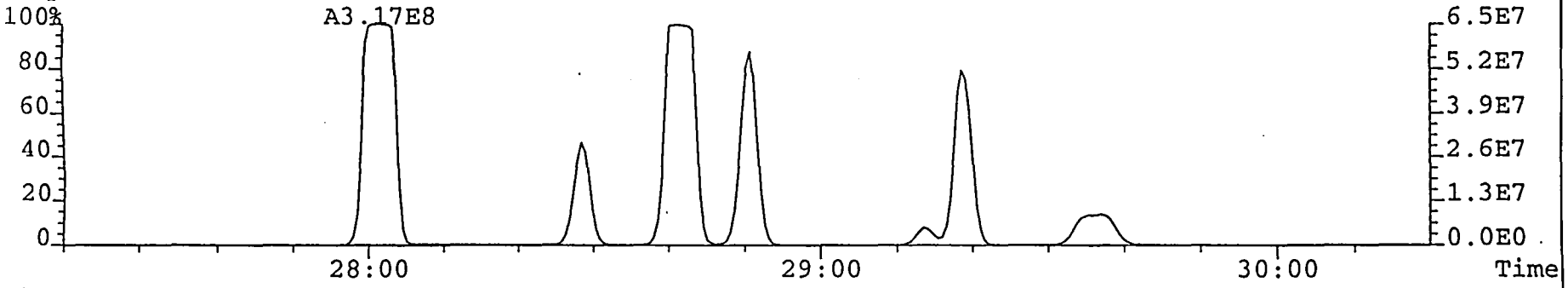
File:T961220 #1-356 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
383.8639 F:3 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20 File Text:LF2A SWP#1359»



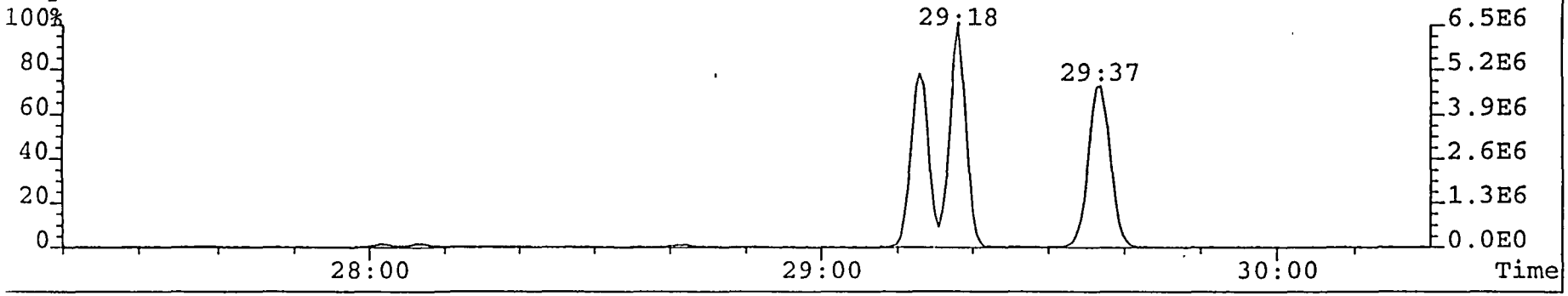
File:T961220 #1-356 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
389.8156 F:3 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20 File Text:LF2A SWP#1359»



File:T961220 #1-356 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
391.8127 F:3 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20 File Text:LF2A SWP#1359»



File:T961220 #1-356 Acq:6-MAR-96 21:17:00 EI+ Voltage SIR 70T
401.8558 F:3 Exp:EPCUS
Sample Text:LF2A SWP#13594 TLI#36250 INJ. TIME = 21:20 File Text:LF2A SWP#1359»



Southern Wood Piedmont

TLI Project: 36250 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: LF2A SWP# 13594 — Analysis File: T961527

Client Project:	12-53020.00:SWP-Wilmington				
Sample Matrix:	SOIL	Date Received:	02/16/96	Spike File:	SPX2372S
TLI ID:	114-155-1	Date Extracted:	02/20/96	ICal:	TF53086
		Date Analyzed:	03/22/96	ConCal:	T961511
Sample Size:	11.870 g	Dilution Factor:	5X	% Moisture:	15.8
Dry Weight:	9.995 g	Blank File:	T961213	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	84.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,7,8-HxCDD	263			1.27	29:38	
1,2,3,6,7,8-HxCDD	1910			1.25	29:43	
1,2,3,7,8,9-HxCDD	789			1.21	30:00	
1,2,3,4,6,7,8-HpCDD	90080			1.03	32:30	
1,2,3,4,6,7,8,9-OCDD	496210			0.91	35:01	S
1,2,3,4,7,8-HxCDF	1160			1.21	28:55	
1,2,3,6,7,8-HxCDF	217			1.10	29:01	
2,3,4,6,7,8-HxCDF	171			1.34	29:30	
1,2,3,7,8,9-HxCDF	62.5			1.17	30:13	
1,2,3,4,6,7,8-HpCDF	51580			1.02	31:40	
1,2,3,4,7,8,9-HpCDF	1080			1.11	32:50	
1,2,3,4,6,7,8,9-OCDF	155250			0.88	35:07	

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HxCDD	26080	7			
Total HpCDD	298650	2			S
Total HxCDF	38630	9		38670	
Total HpCDF	120130	3			

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	187	93.4	40%-130%	0.53	29:00	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	202	101	40%-130%	1.19	29:43	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	240	120	25%-130%	0.59	31:39	RO
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	185	92.4	25%-130%	0.95	32:29	
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	173	43.2	25%-130%	1.38	35:01	RO

X237_PSR v1.14, LARS 6.04.00

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Printed: 09:53 03/27/96

Southern Wood Piedmont

TLI Project: 36250 Method 8290 PCDD/PCDF Analysis (b)
Client Sample: LF2A SWP# 13594 Analysis File: T961527

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	213	106	40%-130%	0.55	28:54	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	215	107	40%-130%	0.98	29:38	RO___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	208	104	25%-130%	0.42	32:50	___

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	200	99.8	40%-130%	0.53	30:13	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	193	96.3	40%-130%	0.49	29:29	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.20	29:59	___

Data Reviewer: BS 03/27/96

X237_PSR v1.14, LARS 6.04.00

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Printed: 09:53 03/27/96

Initial ....Date...

Data Review By: PR 3/24/96 Calculated Noise Area: 3.12

The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of T961527B.dbf
03/25/96 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
TCDF						0.65-0.89				0.832-1.094		
304-306	DC	NL		0:00	RO	1.00	0.16			0.000		
	DC	SN		17:41	RO	0.20	0.05			0.833		
	DC	SN		17:43	RO	0.41	0.46			0.835		
	DC	SN		17:49	RO	1.20	0.89			0.840		
	DC	SN		17:55	RO	5.50	0.04			0.844		
	DC	SN		18:21	RO	0.63	3.78			0.865		
	DC	SN		18:36		0.66	5.39			0.877		
	DC	SN		19:03	RO	1.05	4.82			0.898		
	DC	SN		19:27	RO	1.16	6.14			0.917		
	DC	SN		19:42	RO	0.27	1.60			0.929		
	DC	SN		20:09	RO	0.57	4.76			0.950		
	DC	SN		20:15	RO	1.32	0.50			0.954		
	DC	SN		20:23	RO	1.40	0.83			0.961		
	DC	SN		20:27	RO	0.45	1.47			0.964		
	DC	SN		20:36	RO	0.45	4.52			0.971		
	DC	SN		20:47		0.84	3.12			0.980		
	DC	SN		21:00	RO	0.91	2.08			0.990		
				21:14		0.82	11.48	5.16	6.32	1.001	2378-TCDF	AN
	DC	SN		21:24	RO	1.17	0.11			1.009		
	DC	SN		21:29	RO	5.50	0.04			1.013		
	DC	SN		21:41	RO	0.57	0.78			1.022		
	DC	SN		21:58		0.68	1.11			1.035		
	DC	SN		22:09	RO	0.22	0.16			1.044		
	DC	SN		22:27	RO	3.05	0.37			1.058		
	DC	SN		22:35	RO	2.15	0.23			1.064		
	DC	SN		22:39	RO	1.53	0.27			1.068		
	DC	SN		23:05	RO	1.30	0.83			1.088		
	DC	SN		23:06	RO	0.13	0.04			1.089		
	DC	WH		23:19	RO	1.02	6.67			1.099		
304-306			1	Peak			11.48					
13C12-TCDF						0.65-0.89				0.953-1.047		
316-318	DC	NL		0:00	RO	1.13	0.14			0.000		
	DC	WL		17:46	RO	0.36	0.12			0.837		
	DC	WL		18:03	RO	3.75	0.07			0.851		
	DC	WL		18:13	RO	0.43	0.41			0.859		
	DC	WL		18:22	RO	18.50	0.07			0.866		
	DC	WL		18:33	RO	1.56	0.60			0.874		
	DC	WL		18:43	RO	0.43	0.07			0.882		
	DC	WL		19:11	RO	3.63	0.14			0.904		
	DC	WL		19:20	RO	1.68	0.39			0.911		
	DC	WL		19:23		0.73	0.38			0.914		
	DC	WL		19:32	RO	0.21	0.14			0.921		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	WL		19:50	RO	11.60	0.09			0.935		
	DC	WL		19:57	RO	2.33	0.05			0.940		
	DC	WL		20:04	RO	1.49	1.15			0.946		
	DC	WL		20:09	RO	0.25	0.09			0.950		
	DC	SN		20:15		0.79	0.34			0.954		
	DC	SN		20:22	RO	0.54	0.85			0.960		
	DC	SN		20:25	RO	6.55	0.19			0.962		
	DC	SN		20:39	RO	0.62	0.41			0.973		
	DC	SN		20:48	RO	3.00	0.80			0.980		
	DC	SN		20:51	RO	6.80	0.09			0.983		
	DC	SN		21:00	RO	1.33	0.43			0.990		
	DC	SN		21:04	RO	1.16	0.34			0.993		
				21:13		0.78	100.62	44.09	56.53	1.000	13C12-2378-TCDF	IS0
	DC	SN		21:24		0.80	0.18			1.009		
	DC	SN		21:33	RO	2.10	1.03			1.016		
	DC	SN		21:50	RO	19.92	0.23			1.029		
	DC	SN		22:02	RO	1.09	0.19			1.038		
	DC	SN		22:09	RO	0.44	0.09			1.044		
	DC	WH		22:20	RO	3.17	0.42			1.053		
	DC	WH		22:28	RO	1.14	0.12			1.059		
	DC	WH		22:47	RO	0.50	0.46			1.074		
	DC	WH		22:53	RO	0.43	0.28			1.079		
	DC	WH		23:08	RO	1.79	0.25			1.090		
	DC	WH		23:11	RO	1.00	0.57			1.093		
	DC	WH		23:15	RO	2.63	0.14			1.096		
	DC	WH		23:23	RO	2.33	0.43			1.102		
	DC	WH		23:32	RO	3.10	0.18			1.109		
316-318			1	Peak			100.62					

---------- Above: TCDF / TCDD Follows ----------

TCDD												
				0.65-0.89						0.868-1.055		
320-322	DC	NL		0:00	RO	1.13	0.14			0.000		
	DC	SN		19:18	RO	1.04	1.61			0.878		
	DC	SN		19:42	RO	0.23	0.85			0.896		
	DC	SN		19:48	RO	0.55	0.69			0.901		
	DC	SN		19:53	RO	2.20	0.09			0.904		
	DC	SN		19:57	RO	2.10	0.18			0.908		
	DC	SN		20:01	RO	3.33	0.58			0.911		
	DC	SN		20:09		0.86	0.13			0.917		
	DC	SN		20:14	RO	0.38	0.11			0.920		
	DC	SN		20:17	RO	0.29	0.05			0.923		
	DC	SN		20:19	RO	8.00	0.04			0.924		
	DC	SN		20:23	RO	0.36	0.18			0.927		
	DC	SN		20:25	RO	0.31	0.09			0.929		
	DC	SN		20:31		0.89	0.36			0.933		
	DC	SN		20:34	RO	12.00	0.04			0.936		
MK				20:45		0.80	14.34	6.37	7.97	0.944		
	DC	SN		20:53	RO	2.21	0.25			0.950		
	DC	SN		20:59		0.83	6.26			0.955		
	DC	SN		21:03	RO	1.11	0.83			0.958		
	DC	SN		21:08	RO	3.46	0.81			0.961		

Compound/ ...	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		21:16	RO	0.13	0.04			0.967		
	DC	SN		21:23	RO	3.50	0.07			0.973		
	DC	SN		21:26	RO	0.59	2.29			0.975		
	DC	SN		21:30	RO	1.86	0.25			0.978		
	DC	SN		21:33		0.69	0.27			0.980		
	DC	SN		21:36	RO	5.00	0.04			0.983		
	DC	SN		21:39	RO	0.33	0.07			0.985		
	DC	SN		21:45	RO	1.18	2.04			0.989		
	DC	SN		21:47	RO	0.27	1.32			0.991		
	DC	SN		21:53		0.83	5.46			0.995		
	DC	SN		22:03	RO	0.02	1.75			1.003		
	DC	SN		22:06	RO	0.07	0.05			1.005		
	DC	SN		22:09	RO	1.40	0.76			1.008		
	DC	SN		22:14	RO	1.11	0.16			1.011		
	DC	SN		22:20	RO	0.63	2.75			1.016		
	DC	SN		22:22	RO	1.16	0.55			1.017		
	DC	SN		22:33	RO	3.00	0.05			1.026		
	DC	SN		22:35	RO	0.07	0.21			1.027		
	DC	SN		22:37		0.65	0.28			1.029		
	DC	SN		22:39	RO	1.00	0.04			1.030		
	DC	SN		22:53	RO	2.00	0.16			1.041		
	DC	SN		22:57	RO	7.50	0.04			1.044		
	DC	SN		23:00	RO	6.67	0.11			1.046		
	DC	SN		23:02	RO	1.07	0.48			1.048		
	DC	SN		23:04	RO	2.19	0.37			1.049		
	DC	SN		23:08	RO	2.50	0.18			1.052		
	DC	WH		23:15	RO	2.00	0.12			1.058		
	DC	WH		23:18	RO	0.17	0.09			1.060		
	DC	WH		23:20	RO	0.27	0.07			1.061		
	DC	WH		23:23	RO	6.50	0.04			1.064		
	DC	WH		23:26	RO	3.88	0.14			1.066		
320-322			1	Peak			14.34					
37Cl-TCDD										0.909-1.091		
328	DC	NL		0:00			0.10			0.000		
	DC	WL		19:05			0.04			0.868		
	DC	WL		19:08			0.23			0.870		
	DC	WL		19:09			0.12			0.871		
	DC	WL		19:12			0.11			0.873		
	DC	WL		19:20			0.27			0.879		
	DC	WL		19:24			0.19			0.882		
	DC	WL		19:28			0.16			0.886		
	DC	WL		19:33			0.12			0.889		
	DC	WL		19:43			0.04			0.897		
	DC	WL		19:45			0.14			0.898		
	DC	WL		19:48			0.02			0.901		
	DC	WL		19:50			0.05			0.902		
	DC	WL		19:54			0.03			0.905		
	DC	WL		19:56			0.08			0.907		
	DC	WL		19:58			0.69			0.908		
	DC	SN		20:04			0.19			0.913		
	DC	SN		20:08			0.03			0.916		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	20:18			0.26			0.923		
		DC	SN	20:20			0.03			0.925		
		DC	SN	20:23			0.05			0.927		
		DC	SN	20:25			0.09			0.929		
		DC	SN	20:27			0.08			0.930		
		DC	SN	20:30			0.12			0.933		
		DC	SN	20:32			0.10			0.934		
		DC	SN	20:36			0.29			0.937		
		DC	SN	20:38			0.07			0.939		
		DC	SN	20:40			0.03			0.940		
		DC	SN	20:41			0.02			0.941		
		DC	SN	20:45			0.08			0.944		
		DC	SN	20:48			0.04			0.946		
		DC	SN	20:50			0.10			0.948		
		DC	SN	20:53			0.02			0.950		
		DC	SN	20:56			0.24			0.952		
		DC	SN	21:00			0.06			0.955		
		DC	SN	21:03			0.09			0.958		
		DC	SN	21:05			0.05			0.959		
		DC	SN	21:08			0.03			0.961		
		DC	SN	21:11			0.03			0.964		
		DC	SN	21:13			0.03			0.965		
		DC	SN	21:15			0.03			0.967		
		DC	SN	21:17			0.03			0.968		
		DC	SN	21:21			0.20			0.971		
		DC	SN	21:25			0.14			0.974		
		DC	SN	21:29			0.11			0.977		
		DC	SN	21:36			0.50			0.983		
		DC	SN	21:40			0.36			0.986		
		DC	SN	21:42			0.15			0.987		
		DC	SN	21:47			0.26			0.991		
		DC	SN	21:51			0.03			0.994		
		DC	SN	21:52			0.05			0.995		
		DC	SN	21:55			0.05			0.997		
				22:01			10.74	10.74		1.002	37Cl-TCDD	SUR1
		DC	SN	22:08			0.10			1.007		
		DC	SN	22:09			0.08			1.008		
		DC	SN	22:14			0.12			1.011		
		DC	SN	22:19			0.09			1.015		
		DC	SN	22:22			0.09			1.017		
		DC	SN	22:24			0.04			1.019		
		DC	SN	22:27			0.86			1.021		
		DC	SN	22:32			0.04			1.025		
		DC	SN	22:35			0.11			1.027		
		DC	SN	22:39			0.15			1.030		
		DC	SN	22:42			0.05			1.033		
		DC	SN	22:45			0.08			1.035		
		DC	SN	22:49			0.33			1.038		
		DC	SN	22:51			0.02			1.039		
		DC	SN	22:54			0.10			1.042		
		DC	SN	22:57			0.24			1.044		
		DC	SN	23:00			0.05			1.046		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		23:03			0.15			1.049		
	DC	SN		23:13			0.16			1.056		
	DC	SN		23:26			0.06			1.066		
	DC	SN		23:28			0.09			1.067		
328			1	Peak			10.74					
13C12-TCDD				0.65-0.89						0.909-1.091		
332-334	DC	NL		0:00	RO	6.73	0.19			0.000		
	DC	WL		19:05	RO	1.53	0.27			0.868		
	DC	WL		19:10	RO	5.12	0.44			0.872		
	DC	WL		19:16	RO	2.00	0.19			0.876		
	DC	WL		19:19	RO	0.19	0.27			0.879		
	DC	WL		19:24	RO	3.67	0.27			0.882		
	DC	WL		19:27	RO	4.63	0.48			0.885		
	DC	WL		19:31	RO	58.50	0.04			0.888		
	DC	WL		19:35	RO	3.29	0.25			0.891		
	DC	WL		19:39	RO	2.58	0.46			0.894		
	DC	WL		19:52	RO	7.25	0.07			0.904		
	DC	WL		19:56	RO	1.18	0.90			0.907		
	DC	WL		19:58	RO	11.20	0.09			0.908		
	DC	SN		20:03	RO	26.25	0.07			0.912		
	DC	SN		20:06	RO	1.58	0.21			0.914		
	DC	SN		20:08	RO	49.00	0.04			0.916		
	DC	SN		20:15	RO	2.97	0.55			0.921		
	DC	SN		20:19	RO	1.42	0.21			0.924		
	DC	SN		20:23		0.75	0.77			0.927		
	DC	SN		20:26	RO	3.00	0.27			0.929		
	DC	SN		20:30	RO	10.57	0.12			0.933		
	DC	SN		20:33	RO	8.75	0.07			0.935		
	DC	SN		20:36	RO	6.00	0.11			0.937		
	DC	SN		20:38	RO	3.88	0.14			0.939		
	DC	SN		20:41	RO	13.75	0.14			0.941		
	DC	SN		20:44	RO	2.17	0.74			0.943		
	DC	SN		20:49		0.76	0.51			0.947		
	DC	SN		20:53	RO	17.47	0.27			0.950		
	DC	SN		20:57	RO	16.80	0.18			0.953		
	DC	SN		21:04	RO	3.59	0.48			0.958		
	DC	SN		21:09	RO	4.64	0.25			0.962		
	DC	SN		21:14	RO	0.59	0.39			0.966		
	DC	SN		21:17	RO	2.00	0.64			0.968		
	DC	SN		21:22	RO	5.52	0.48			0.972		
	DC	SN		21:25	RO	5.13	0.14			0.974		
	DC	SN		21:28	RO	11.57	0.12			0.976		
	DC	SN		21:31	RO	1.43	0.74			0.979		
	DC	SN		21:33	RO	3.79	0.25			0.980		
	DC	SN		21:36	RO	2.47	0.64			0.983		
	DC	SN		21:39	RO	71.00	0.04			0.985		
				21:47		0.73	85.66	36.20	49.46	0.991	13C12-1234-TCDD	RS1
				21:59		0.86	89.70	41.38	48.32	1.000	13C12-2378-TCDD	IS1
	DC	SN		22:06	RO	5.74	0.41			1.005		
	DC	SN		22:10	RO	4.55	0.19			1.008		
	DC	SN		22:13	RO	2.33	0.43			1.011		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		22:17	RO	19.08	0.21			1.014		
	DC	SN		22:21	RO	2.49	1.08			1.017		
	DC	SN		22:24	RO	1.24	0.58			1.019		
	DC	SN		22:30	RO	1.72	0.96			1.024		
	DC	SN		22:31	RO	9.29	0.30			1.024		
	DC	SN		22:35	RO	10.44	0.16			1.027		
	DC	SN		22:39	RO	1.33	0.48			1.030		
	DC	SN		22:48	RO	3.50	0.39			1.037		
	DC	SN		22:55	RO	0.49	1.31			1.042		
	DC	SN		23:01	RO	6.00	0.23			1.047		
	DC	SN		23:05		0.73	0.97			1.050		
	DC	SN		23:12	RO	0.31	0.59			1.055		
	DC	SN		23:15	RO	1.85	0.46			1.058		
	DC	SN		23:19	RO	2.42	0.46			1.061		
	DC	SN		23:23	RO	2.06	1.10			1.064		
332-334			2	Peaks			175.36					

---------- Above: TCDD / PeCDF Follows ----------

PeCDF				1.32-1.78						0.912-1.074		
340-342	DC	NL		0:00	RO	1.00	0.15			0.000		
	DC	WL		23:07	RO	1.13	0.15			0.912		
				23:19		1.41	330.07	192.93	137.14	0.920		
	DC	SN		23:26	RO	3.00	0.15			0.924		
	DC	SN		23:41	RO	3.82	0.28			0.934		
	DC	SN		23:53	RO	0.69	0.48			0.942		
	DC	SN		24:11	RO	0.40	0.20			0.954		
	DC	SN		24:14	RO	0.91	0.16			0.956		
	DC	SN		24:17	RO	0.10	0.14			0.958		
	DC	SN		24:22	RO	2.81	1.45			0.961		
				24:30		1.40	124.91	72.91	52.00	0.966		
				24:39		1.38	11.72	6.79	4.93	0.972		
	DC	SN		24:48	RO	6.14	0.94			0.978		
	DC	SN		24:53	RO	2.22	0.46			0.982		
	DC	SN		24:56	RO	0.31	0.40			0.984		
				25:00		1.40	14.72	8.59	6.13	0.986		
				25:06		1.76	13.95	8.90	5.05	0.990		
				25:17	RO	2.07	12.29	9.98	4.82	0.997		
				25:21		1.73	33.48	21.20	12.28	1.000	12378-PeCDF	AN
	DC	SN		25:31	RO	1.22	2.49			1.007		
				25:39		1.44	30.75	18.16	12.59	1.012		
	DC	SN		25:46	RO	0.14	0.29			1.016		
	DC	SN		25:50	RO	4.10	0.51			1.019		
	DC	SN		25:57	RO	11.29	0.18			1.024		
				26:05		1.64	33.48	20.80	12.68	1.029	23478-PeCDF	AN
				26:17		1.78	49.75	31.88	17.87	1.037		
	DC	SN		26:25	RO	3.58	0.61			1.042		
	DC	SN		26:30	RO	0.24	0.13			1.045		
	DC	SN		26:33	RO	1.12	0.76			1.047		
	DC	SN		26:35	RO	0.38	0.24			1.049		
	DC	SN		26:37	RO	2.55	0.28			1.050		
	DC	SN		26:41		1.60	0.65			1.053		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		26:47	RO	0.87	0.33			1.057		
	DC	SN		26:55	RO	3.48	6.12			1.062		
	DC	SN		26:59	RO	0.54	0.82			1.064		
	DC	SN		27:03	RO	1.08	2.33			1.067		
	DC	SN		27:11	RO	0.74	0.28			1.072		
	DC	WH		27:16	RO	2.71	0.18			1.076		
	DC	WH		27:22		1.76	1.05			1.080		
340-342			10	Peaks			655.12					
13C12-PeCDF				1.32-1.78						0.842-1.158		
352-354	DC	NL		0:00	RO	0.89	0.13			0.000		
	DC	SN		23:10	RO	1.20	0.10			0.914		
	DC	SN		23:16	RO	3.60	0.13			0.918		
	DC	SN		23:19	RO	0.33	0.10			0.920		
	DC	SN		23:30	RO	0.55	0.10			0.927		
	DC	SN		23:34	RO	0.79	0.69			0.930		
	DC	SN		23:37	RO	0.19	0.08			0.932		
	DC	SN		23:44	RO	1.00	0.21			0.936		
	DC	SN		23:50	RO	4.67	0.08			0.940		
	DC	SN		23:53	RO	0.66	0.44			0.942		
	DC	SN		24:00	RO	0.23	0.21			0.947		
	DC	SN		24:07	RO	4.00	0.48			0.951		
	DC	SN		24:11		1.57	0.18			0.954		
	DC	SN		24:14	RO	0.08	0.18			0.956		
	DC	SN		24:23	RO	0.28	0.21			0.962		
	DC	SN		24:31	RO	0.75	0.39			0.967		
	DC	SN		24:38	RO	0.50	0.28			0.972		
	DC	SN		24:44	RO	2.03	0.82			0.976		
	DC	SN		24:49	RO	2.20	1.17			0.979		
	DC	SN		24:53	RO	2.57	0.36			0.982		
	DC	SN		24:55	RO	1.14	0.54			0.983		
	DC	SN		24:58	RO	15.86	0.18			0.985		
	DC	SN		25:01	RO	5.91	0.28			0.987		
	DC	SN		25:03	RO	8.33	0.15			0.988		
	DC	SN		25:05	RO	2.72	0.46			0.989		
	DC	SN		25:09	RO	1.85	0.66			0.992		
	DC	SN		25:11	RO	0.63	0.92			0.993		
				25:21		1.33	96.07	54.84	41.23	1.000	13C12-PeCDF 123	IS2
	DC	SN		25:27	RO	5.75	0.41			1.004		
	DC	SN		25:31	RO	1.10	0.36			1.007		
	DC	SN		25:34	RO	6.67	0.23			1.009		
	DC	SN		25:38	RO	2.73	0.38			1.011		
	DC	SN		25:40	RO	5.46	0.33			1.012		
	DC	SN		25:44	RO	8.80	0.13			1.015		
	DC	SN		25:47		1.40	0.12			1.017		
	DC	SN		25:49	RO	0.63	0.31			1.018		
	DC	SN		25:53		1.52	0.58			1.021		
				26:04		1.44	90.85	53.57	37.28	1.028	13C12-PeCDF 234	SUR2
	DC	SN		26:13	RO	0.76	0.64			1.034		
	DC	SN		26:16		1.51	1.48			1.036		
	DC	SN		26:21	RO	9.00	0.10			1.039		
	DC	SN		26:25	RO	0.37	0.38			1.042		

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	26:28	RO	0.68	0.85			1.044		
		DC	SN	26:31	RO	1.80	0.38			1.046		
		DC	SN	26:34		1.40	0.24			1.048		
		DC	SN	26:37		1.74	1.18			1.050		
		DC	SN	26:43	RO	2.05	0.54			1.054		
		DC	SN	26:47	RO	0.32	0.81			1.057		
		DC	SN	26:51	RO	0.24	0.22			1.059		
		DC	SN	26:53	RO	2.28	0.46			1.060		
		DC	SN	26:56	RO	0.95	0.67			1.062		
		DC	SN	26:59	RO	0.69	0.33			1.064		
		DC	SN	27:02	RO	1.11	1.94			1.066		
		DC	SN	27:08		1.50	0.90			1.070		
		DC	SN	27:10	RO	7.00	0.48			1.072		
		DC	SN	27:14	RO	0.91	0.48			1.074		
		DC	SN	27:17	RO	0.30	0.27			1.076		
		DC	SN	27:21	RO	12.00	0.08			1.079		
352-354			2	Peaks			186.92					

---------- Above: PeCDF / PeCDD Follows ----------

PeCDD						1.32-1.78				0.924-1.025		
356-358		DC	NL	0:00	RO	1.00	0.15			0.000		
		DC	WL	24:25	RO	4.40	0.13			0.924		
				24:36		1.45	87.48	51.78	35.70	0.931		
		DC	SN	24:43	RO	3.80	0.26			0.935		
		DC	SN	24:47	RO	2.00	0.20			0.938		
		DC	SN	24:59	RO	0.43	0.16			0.945		
				25:06		1.70	48.06	30.26	17.80	0.950		
		DC	SN	25:13	RO	2.19	0.41			0.954		
				25:21		1.56	30.33	18.47	11.86	0.959		
				25:30		1.72	26.62	16.83	9.79	0.965		
				25:42		1.61	22.25	13.71	8.54	0.972		
				25:50		1.50	23.89	14.33	9.56	0.977		
				25:57		1.65	44.74	27.87	16.87	0.982		
		DC	SN	26:02	RO	2.23	2.01			0.985		
		DC	SN	26:08	RO	2.34	7.86			0.989		
		DC	SN	26:14	RO	0.45	1.39			0.992		
	M			26:27	RO	1.24	20.24	12.30	9.93	1.001	12378-PeCDD	AN
				26:35	RO	1.95	18.52	14.16	7.27	1.006		
		DC	SN	26:42		1.50	0.25			1.010		
		DC	SN	26:45	RO	2.75	0.20			1.012		
		DC	SN	26:47		1.35	0.54			1.013		
		DC	SN	26:55	RO	4.26	5.31			1.018		
		DC	SN	27:02	RO	3.00	0.51			1.023		
		DC	WH	27:06	RO	2.75	0.41			1.025		
		DC	WH	27:07	RO	1.00	0.33			1.026		
		DC	WH	27:13	RO	3.00	0.26			1.030		
		DC	WH	27:22	RO	2.00	0.31			1.035		
356-358			9	Peaks			322.13					
13C12-PeCDD						1.32-1.78				0.849-1.151		
368-370		DC	NL	0:00	RO	0.80	0.13			0.000		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		24:25		1.50	0.40			0.924		
	DC	SN		24:29	RO	1.94	0.41			0.926		
	DC	SN		24:33	RO	6.17	0.15			0.929		
	DC	SN		24:37	RO	0.29	0.11			0.931		
	DC	SN		24:45	RO	2.47	0.82			0.936		
	DC	SN		24:50	RO	0.45	0.72			0.939		
	DC	SN		24:52	RO	7.47	0.38			0.941		
	DC	SN		24:58	RO	1.21	1.45			0.945		
	DC	SN		25:00	RO	41.33	0.15			0.946		
	DC	SN		25:02	RO	1.20	1.50			0.947		
	DC	SN		25:06	RO	11.94	0.43			0.950		
	DC	SN		25:09	RO	4.06	0.79			0.951		
	DC	SN		25:13	RO	2.04	1.30			0.954		
	DC	SN		25:16	RO	13.82	0.28			0.956		
	DC	SN		25:18	RO	2.04	1.79			0.957		
	DC	SN		25:22	RO	2.12	0.64			0.960		
	DC	SN		25:26	RO	0.33	0.40			0.962		
	DC	SN		25:31	RO	1.83	0.15			0.965		
	DC	SN		25:35	RO	3.68	1.20			0.968		
	DC	SN		25:39	RO	0.15	0.10			0.970		
	DC	SN		25:45	RO	18.00	0.08			0.974		
	DC	SN		25:49	RO	0.94	0.28			0.977		
	DC	SN		25:53	RO	0.47	0.25			0.979		
	DC	SN		25:57	RO	1.06	0.54			0.982		
	DC	SN		26:00	RO	0.10	0.13			0.984		
	DC	SN		26:03	RO	0.78	0.69			0.985		
	DC	SN		26:08	RO	2.10	1.00			0.989		
	DC	SN		26:13	RO	7.25	0.41			0.992		
	DC	SN		26:16	RO	5.53	0.43			0.994		
	DC	SN		26:21	RO	65.33	0.08			0.997		
				26:26		1.51	66.74	40.12	26.62	1.000	13C12-PeCDD 123 IS3	
	DC	SN		26:35	RO	3.83	4.57			1.006		
	DC	SN		26:41	RO	7.57	0.54			1.009		
	DC	SN		26:46	RO	0.63	0.41			1.013		
	DC	SN		26:50	RO	0.31	0.28			1.015		
	DC	SN		26:52	RO	2.00	0.26			1.016		
	DC	SN		26:55	RO	1.11	0.64			1.018		
	DC	SN		26:59	RO	0.55	0.56			1.021		
	DC	SN		27:09	RO	0.94	0.49			1.027		
	DC	SN		27:12	RO	0.24	0.11			1.029		
	DC	SN		27:15	RO	3.33	0.46			1.031		
	DC	SN		27:18	RO	0.11	0.16			1.033		
368-370			1	Peak			66.74					

---------- Above: PeCDD / HxCDF Follows ----------

HxCDF					1.05-1.43					0.957-1.050		
374-376	DC	NL		0:00	RO	0.62	1.48			0.000		
				27:56		1.18	1,146.63	620.06	526.57	0.963		
				28:04		1.22	3,813.27	2,095.71	1,717.56	0.968		
				28:22	RO	1.04	15.99	8.86	8.50	0.978		
				28:32		1.24	11,142.68	6,160.11	4,982.57	0.984		

Compound/ %....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
				28:55		1.21	472.67	258.47	214.20	0.997	123478-HxCDF	AN
				29:01		1.10	124.44	65.25	59.19	1.001	123678-HxCDF	AN
	M			29:28		1.24	191.30	106.00	85.30	1.016		
				29:30		1.34	71.59	40.96	30.63	1.017	234678-HxCDF	AN
	AN			30:13		1.17	23.40	12.60	10.80	1.042	123789-HxCDF	AN
	M			30:18		1.25	126.10	70.10	56.00	1.045		
374-376			10	Peaks			17,128.07					
13C12-HxCDF					0.43-0.59					0.862-1.138		
384-386		DC	NL	0:00	RO	0.12	0.23			0.000		
		DC	SN	27:44	RO	0.13	0.12			0.956		
		DC	SN	27:58	RO	3.00	0.18			0.964		
		DC	SN	28:04	RO	2.29	0.73			0.968		
		DC	SN	28:07	RO	0.65	0.30			0.970		
		DC	SN	28:09	RO	0.83	0.18			0.971		
		DC	SN	28:11	RO	0.24	0.15			0.972		
		DC	SN	28:28	RO	1.48	0.50			0.982		
		DC	SN	28:32	RO	2.54	1.90			0.984		
		DC	SN	28:35		0.52	0.35			0.986		
		DC	SN	28:39	RO	8.75	0.06			0.988		
		DC	SN	28:40	RO	0.64	0.21			0.989		
		DC	SN	28:42	RO	0.25	0.24			0.990		
		DC	SN	28:44	RO	0.41	0.27			0.991		
		DC	SN	28:46	RO	0.37	0.42			0.992		
		DC	SN	28:47		0.50	0.18			0.993		
				28:54		0.55	81.92	28.94	52.98	0.997	13C12-HxCDF 478	SUR3
				29:00		0.53	88.66	30.59	58.07	1.000	13C12-HxCDF 678	IS4
		DC	SN	29:05		0.43	0.33			1.003		
		DC	SN	29:09	RO	0.39	0.47			1.005		
		DC	SN	29:14	RO	0.40	0.51			1.008		
		DC	SN	29:17	RO	1.00	0.24			1.010		
		DC	SN	29:19		0.48	0.31			1.011		
		DC	SN	29:21	RO	0.61	0.47			1.012		
		DC	SN	29:23	RO	1.28	0.38			1.013		
		DC	SN	29:24	RO	0.86	0.21			1.014		
				29:29		0.49	79.71	26.16	53.55	1.017	13C12-HxCDF 234	ALT2
		DC	SN	29:34	RO	0.20	0.24			1.020		
		DC	SN	29:36		0.43	0.30			1.021		
		DC	SN	29:38	RO	0.39	0.42			1.022		
		DC	SN	29:41	RO	0.89	0.27			1.024		
		DC	SN	29:42		0.50	0.30			1.024		
		DC	SN	29:44	RO	1.94	0.26			1.025		
		DC	SN	29:46	RO	1.71	0.32			1.026		
		DC	SN	29:48	RO	0.29	0.33			1.028		
		DC	SN	29:51	RO	1.56	0.14			1.029		
		DC	SN	29:53	RO	0.41	0.27			1.030		
		DC	SN	29:55	RO	0.79	0.21			1.032		
		DC	SN	30:03	RO	0.18	0.09			1.036		
		DC	SN	30:06	RO	3.67	0.18			1.038		
				30:13		0.53	65.04	22.64	42.40	1.042	13C12-HxCDF 789	ALT1
		DC	SN	30:17	RO	0.27	0.59			1.044		
		DC	SN	30:19	RO	4.00	0.12			1.045		

Compound/ ?....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	30:21	RO	1.36	0.21			1.047		
		DC	SN	30:25	RO	1.36	0.38			1.049		
		DC	SN	30:26	RO	0.70	0.84			1.049		
		DC	SN	30:28	RO	0.94	0.74			1.051		
		DC	SN	30:31		0.52	1.55			1.052		
		DC	SN	30:33	RO	2.38	0.36			1.053		
		DC	SN	30:38	RO	1.41	0.26			1.056		
		DC	SN	30:39	RO	3.45	0.17			1.057		
		DC	SN	30:41	RO	1.00	0.08			1.058		
		DC	SN	30:44		0.49	0.79			1.060		
384-386			4	Peaks			315.33					

---------- Above: HxCDF / HxCDD Follows ----------

HxCDD						1.05-1.43				0.952-1.015		
390-392		DC	NL	0:00		1.15	2.30			0.000		
				28:27		1.22	3,810.19	2,093.59	1,716.60	0.957		
		DC	SN	28:32	RO	1.46	5.76			0.960		
				28:54		1.23	340.38	187.64	152.74	0.973		
				29:07		1.21	2,663.02	1,460.44	1,202.58	0.980		
				29:16		1.18	666.48	360.52	305.96	0.985		
		DC	SN	29:23	RO	0.55	1.37			0.989		
				29:38		1.27	69.18	38.73	30.45	0.997	123478-HxCDD	AN
				29:43		1.25	700.64	389.65	310.99	1.000	123678-HxCDD	AN
	D	d	co	29:58	RO	1.90	87.38			1.008		
	M			30:00		1.21	270.00	148.00	122.00	1.010	123789-HxCDD	AN
390-392			7	Peaks			8,519.89					

12-HxCDD						1.05-1.43				0.966-1.034		
-404		DC	NL	0:00	RO	0.90	0.16			0.000		
		DC	WL	28:15	RO	2.29	0.38			0.951		
		DC	WL	28:19	RO	0.93	0.47			0.953		
		DC	WL	28:20	RO	0.67	0.36			0.953		
		DC	WL	28:23		1.17	0.13			0.955		
		DC	WL	28:26	RO	2.07	0.61			0.957		
		DC	WL	28:27	RO	0.67	0.54			0.957		
		DC	WL	28:29	RO	4.18	0.49			0.958		
		DC	WL	28:32	RO	1.50	0.49			0.960		
		DC	WL	28:34	RO	0.31	0.20			0.961		
		DC	WL	28:35	RO	3.86	0.16			0.962		
		DC	WL	28:38	RO	1.56	0.36			0.964		
		DC	WL	28:40	RO	0.69	0.52			0.965		
		DC	SN	28:43		1.29	0.32			0.966		
		DC	SN	28:45	RO	1.58	0.27			0.967		
		DC	SN	28:46	RO	0.38	0.09			0.968		
		DC	SN	28:48	RO	0.31	0.07			0.969		
		DC	SN	28:50	RO	1.71	0.16			0.970		
		DC	SN	28:52	RO	2.40	0.22			0.971		
		DC	SN	28:55	RO	0.13	0.17			0.973		
		DC	SN	28:57	RO	1.00	0.16			0.974		
		DC	SN	28:59	RO	0.18	0.06			0.975		
		DC	SN	29:02	RO	0.31	0.07			0.977		

Compound/ ...	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		29:05		1.28	0.82			0.979		
	DC	SN		29:06	RO	0.88	0.41			0.979		
	DC	SN		29:10	RO	7.33	0.07			0.981		
	DC	SN		29:11	RO	1.47	0.34			0.982		
	DC	SN		29:14	RO	0.83	0.18			0.984		
	DC	SN		29:16	RO	0.58	0.20			0.985		
	DC	SN		29:24	RO	0.14	0.07			0.989		
	DC	SN		29:27	RO	5.67	0.07			0.991		
	DC	SN		29:28	RO	0.65	0.23			0.992		
	DC	SN		29:31	RO	0.42	0.25			0.993		
	DC	SN		29:34	RO	0.50	0.09			0.995		
				29:38	RO	0.98	53.36	29.50	30.18	0.997	13C12-HxCDD 478	SUR4
				29:43		1.19	71.24	38.78	32.46	1.000	13C12-HxCDD 678	IS5
	DC	SN		29:47	RO	1.65	0.58			1.002		
	DC	SN		29:49	RO	0.52	0.22			1.003		
	DC	SN		29:52	RO	3.75	0.18			1.005		
	DC	SN		29:55	RO	0.58	0.20			1.007		
				29:59		1.20	68.71	37.42	31.29	1.009	13C12-HxCDD 789	RS2
	DC	SN		30:05		1.19	0.35			1.012		
	DC	SN		30:06	RO	0.17	0.11			1.013		
	DC	SN		30:08	RO	1.94	0.40			1.014		
	DC	SN		30:13		1.36	0.26			1.017		
	DC	SN		30:15		1.22	0.20			1.018		
	DC	SN		30:18	RO	0.44	0.54			1.020		
	DC	SN		30:20	RO	0.30	0.11			1.021		
	DC	SN		30:22	RO	0.24	0.07			1.022		
	DC	SN		30:25	RO	2.34	2.04			1.024		
402-404			3	Peaks			193.31					

---------- Above: HxCDD / HpCDF Follows ----------

HpCDF						0.88-1.20				0.995-1.043		
408-410	DC	NL		0:00		0.88	8.40			0.000		
				31:40		1.02	29,126.70	14,713.10	14,413.60	1.001	1234678-HpCDF	AN
				32:01		1.03	31,432.70	15,964.00	15,468.70	1.012		
				32:50		1.11	394.79	207.46	187.33	1.037	1234789-HpCDF	AN
408-410			3	Peaks			60,954.19					
13C12-HpCDF						0.37-0.51				0.937-1.127		
418-420	DC	NL		0:00	RO	0.70	1.65			0.000		
				31:39	RO	0.59	66.35	27.22	46.04	1.000	13C12-HpCDF 678	IS6
	DC	SN		31:56		0.40	6.62			1.009		
				32:00	RO	3.31	5.93	13.63	4.12	1.011		
	DC	SN		32:13	RO	0.13	2.21			1.018		
	DC	SN		32:21	RO	0.83	1.53			1.022		
	DC	SN		32:30	RO	0.71	1.36			1.027		
	DC	SN		32:35		0.49	2.18			1.029		
				32:50		0.42	45.15	13.38	31.77	1.037	13C12-HpCDF 789	SUR5
418-420			3	Peaks			117.43					

---------- Above: HpCDF / HpCDD Follows ----------

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Compound/
M_Z.... QC.Log Omit Why ..RT. OK Ratio Total.Area... Area.Peak.1.. Area.Peak.2.. Rel.RT Compound.Name.. ID..

HpCDD                          0.88-1.20                                    0.977-1.005
424-426          DC  NL   0:00 RO  0.70          9.90                              0.000
                         31:54     0.99     46,580.50     23,200.10     23,380.40  0.982
                         32:30     1.03     20,119.07     10,232.50      9,886.57  1.001 1234678-HpCDD   AN
424-426                2 Peaks               66,699.57

13C12-HpCDD                    0.88-1.20                                    0.969-1.031
436-438          DC  NL   0:00 RO  0.71          0.20                              0.000
                 DC  SN  31:40 RO  0.79          1.98                              0.975
                 DC  SN  31:48 RO  0.36          0.30                              0.979
                         31:55 RO  1.29          8.66          5.47          4.25  0.983
                 DC  SN  32:02 RO  1.25          2.27                              0.986
                 DC  SN  32:07 RO  0.70          2.47                              0.989
                 DC  SN  32:13     1.05          1.60                              0.992
                 DC  SN  32:16 RO  0.49          0.41                              0.993
                 DC  SN  32:22 RO  1.23          1.06                              0.996
                         32:29     0.95         46.60         22.69         23.91  1.000 13C12-HpCDD 678 IS7
                 DC  SN  32:39 RO  3.67          0.49                              1.005
                 DC  SN  32:42 RO  0.43          1.08                              1.007
                 DC  SN  32:54 RO  1.74          1.10                              1.013
                 DC  SN  32:57 RO  1.54          0.84                              1.014
436-438                2 Peaks                  55.26

                    ---------------------- Above: HpCDD / Octa-CDD and CDF Follows ----------

OCDF                           0.76-1.02                                    0.886-1.114
442-444          DC  NL   0:00 RO  0.11          0.23                              0.000
                         35:07     0.88     15,367.91      7,201.98      8,165.93  1.003 OCDF            AN
442-444                1 Peak                15,367.91

OCDD                           0.76-1.02                                    0.886-1.114
458-460          DC  NL   0:00 RO  0.51          1.00                              0.000
                         35:01     0.91     40,299.40     19,174.60     21,124.80  1.000 OCDD            AN
458-460                1 Peak                40,299.40

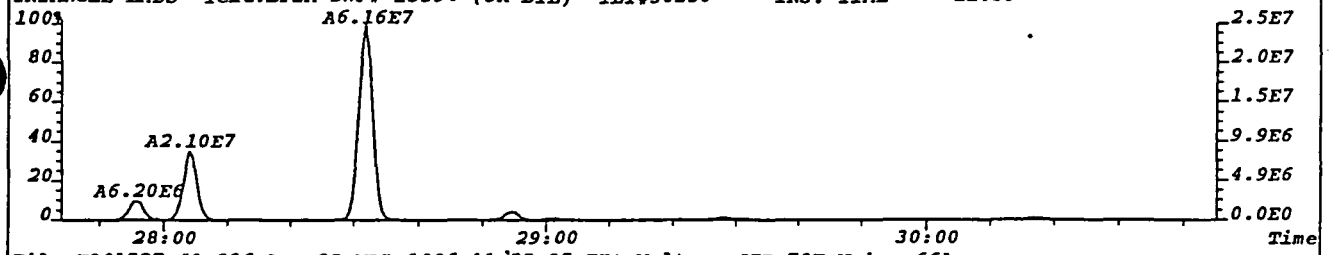
13C12-OCDD                     0.76-1.02                                    0.995-1.005
470-472          DC  NL   0:00 RO  1.20          0.19                              0.000
                 DC  SN  34:52 RO  2.87          2.25                              0.996
                         35:01 RO  1.38         32.93         24.01         17.46  1.000 13C12-OCDD      IS8
                 DC  WH  35:16 RO  0.64          2.35                              1.007
470-472                1 Peak                   32.93


Column Description............ "Why" Code Description......... QC Log Desc.........

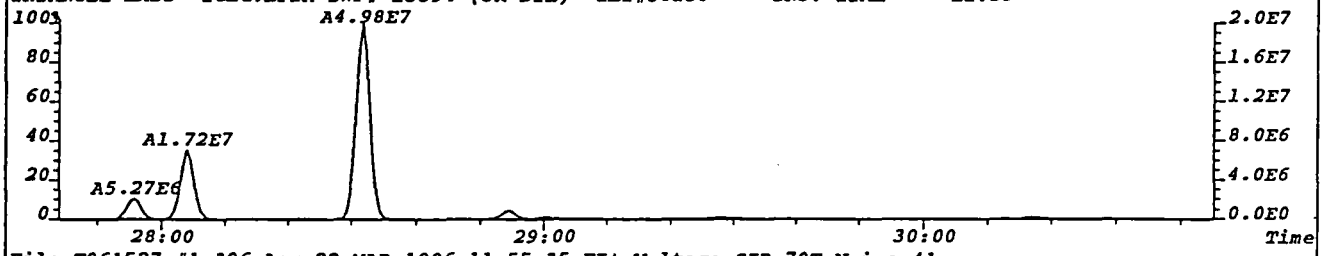
M_Z   -Nominal Ion Mass(es)     WL-Below Retention Time Window   A-Peak Added
..RT. -Retention Time (mm:ss)   WH-Above Retention Time Window   K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions      SN-Below Signal to Noise Level   D-Peak Deleted
OK    -RO=Ratio Outside Limits  <M-Below Method Detection Limit  T-Time Changed
Rel.RT-Relative Retention Time  NL-Channel Specific Noise Level  M-Peak Area Changed
                                                                 N-Name Changed
                                                                 E-Ether Interference

*** End of Report ***
```

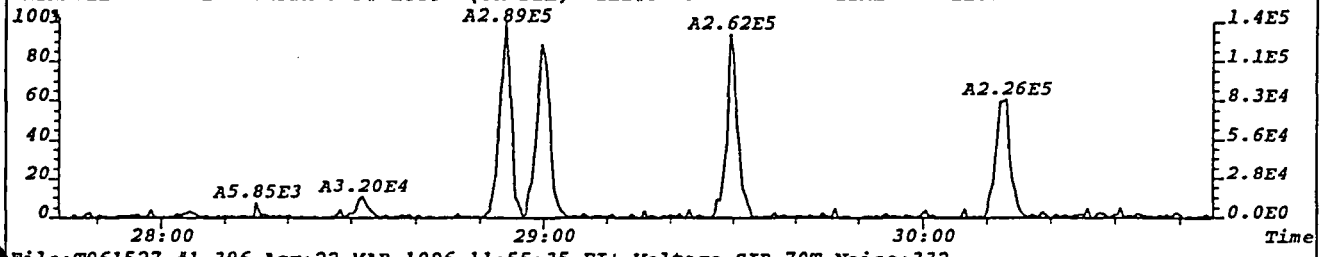
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:410
373.8208 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1640.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



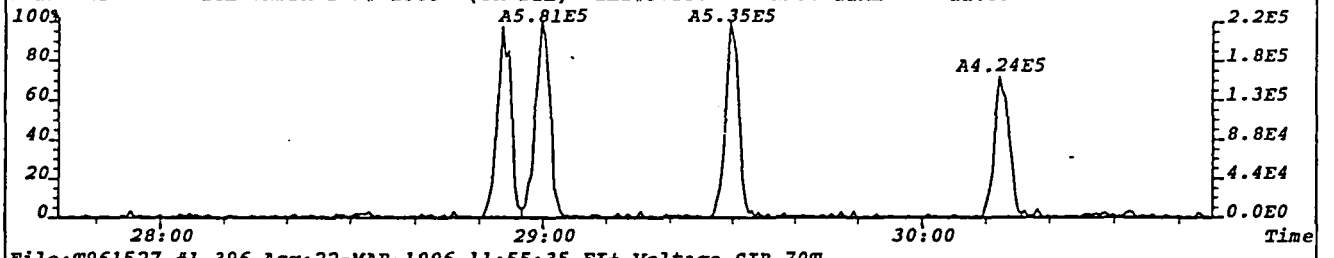
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:661
375.8178 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,2644.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



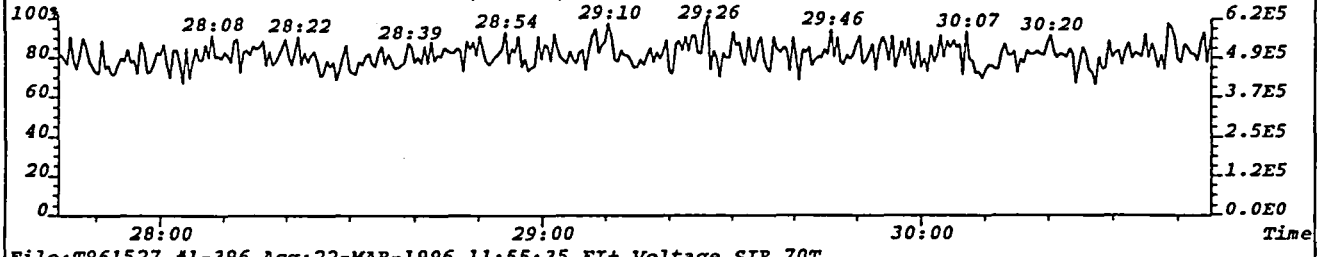
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:41
383.8639 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,164.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



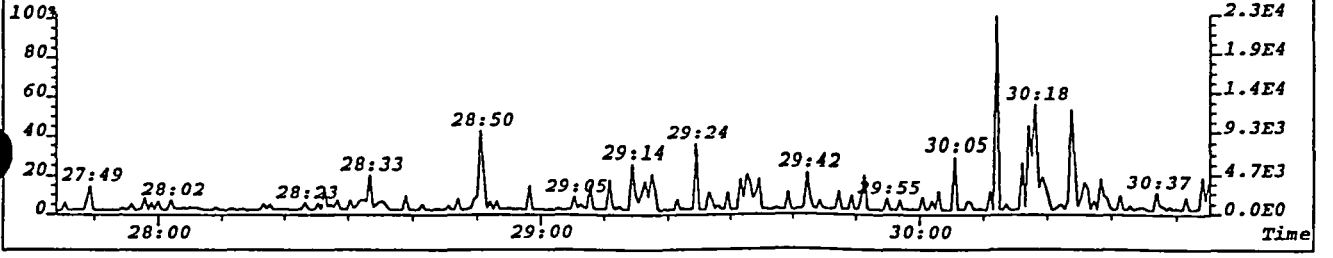
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:332
385.8610 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1328.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



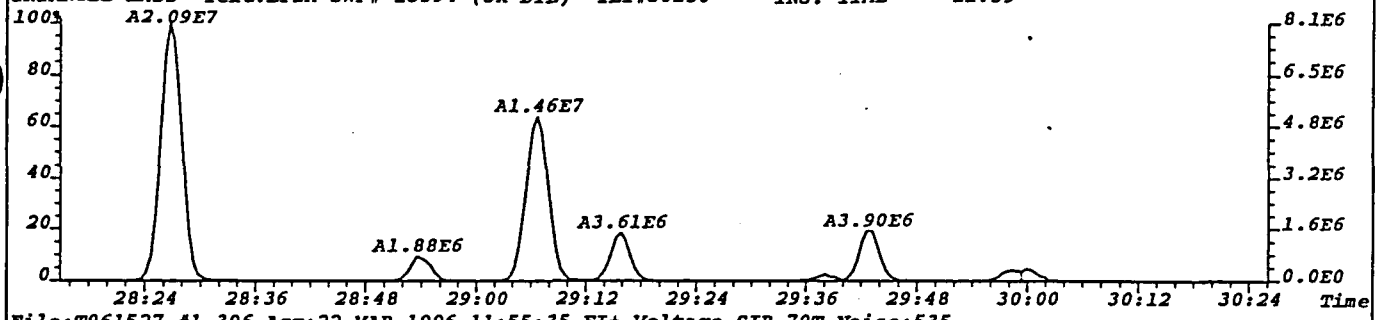
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



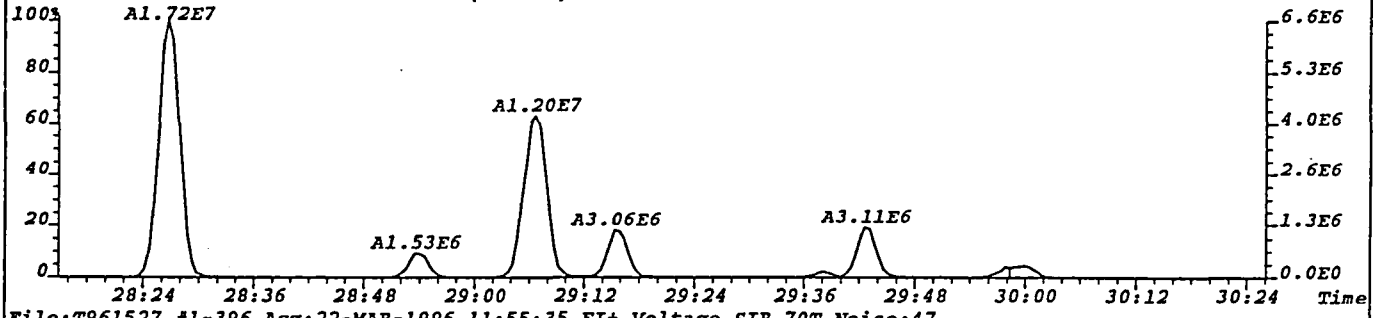
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



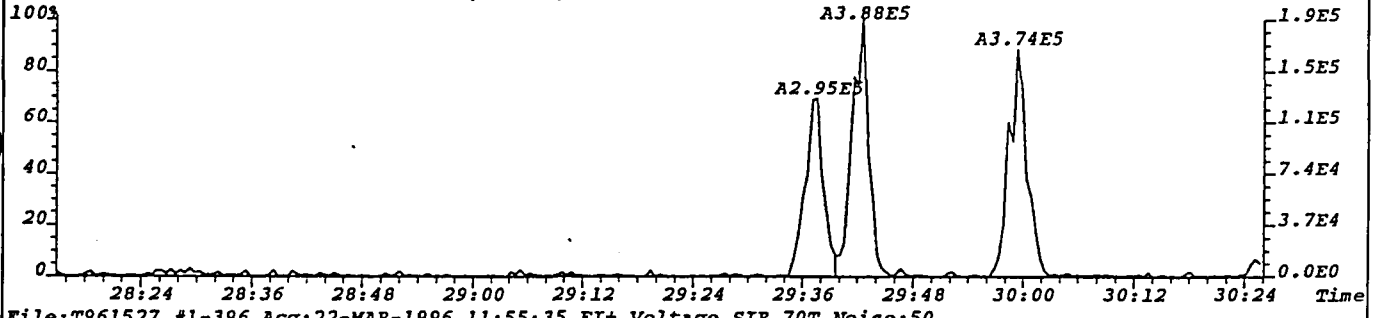
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:613
389.8156 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,2452.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



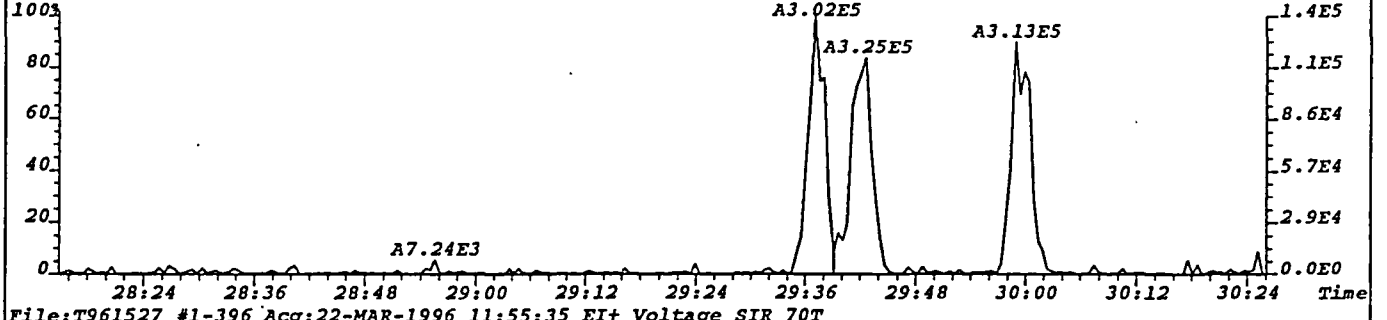
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:535
391.8127 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,2140.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



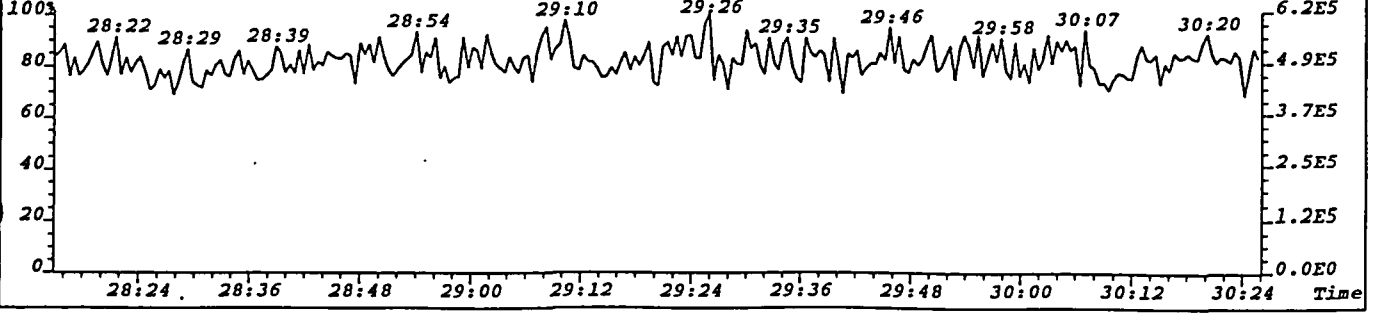
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:47
401.8558 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,188.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



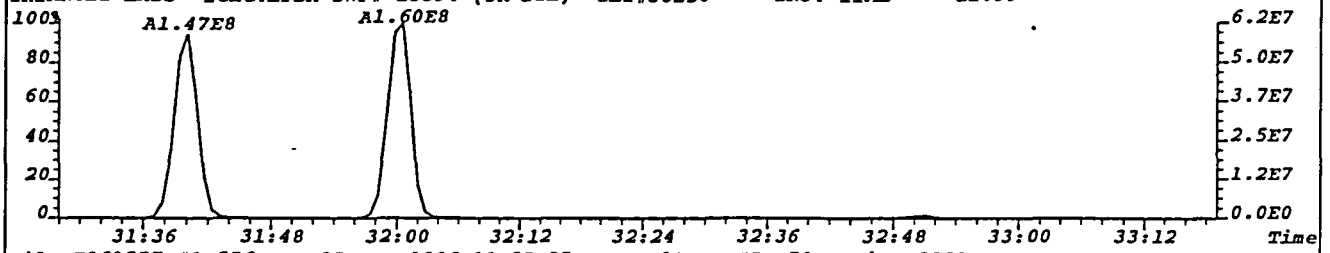
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:50
403.8529 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,200.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



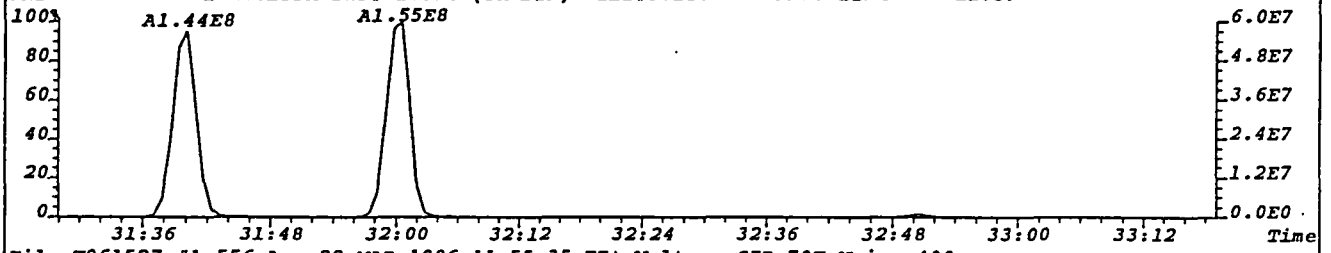
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



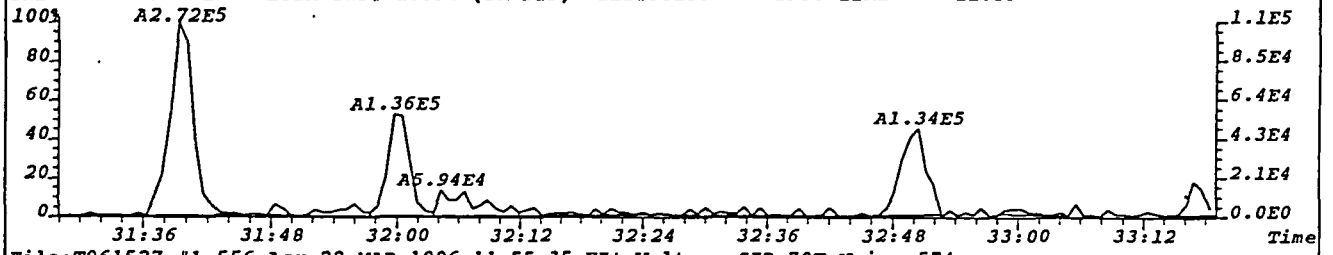
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:1970
407.7818 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,7880.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



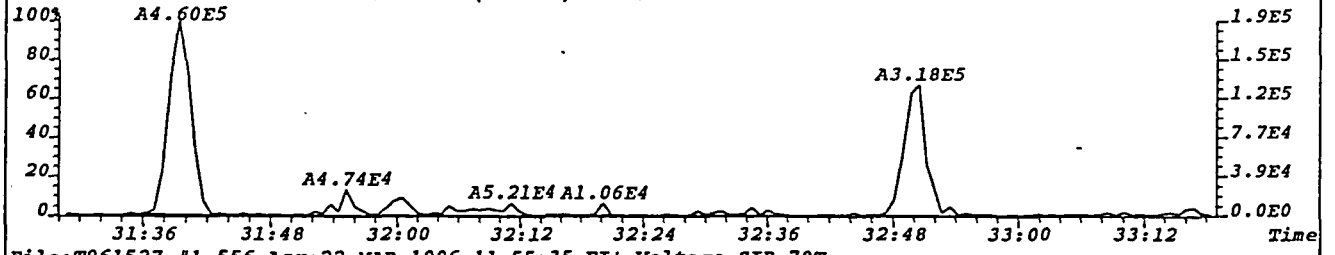
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:2231
409.7789 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,8924.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



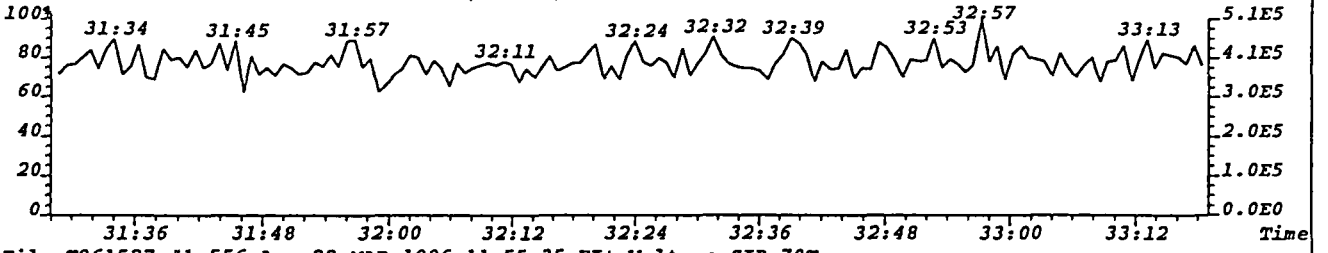
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:400
417.8253 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1600.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



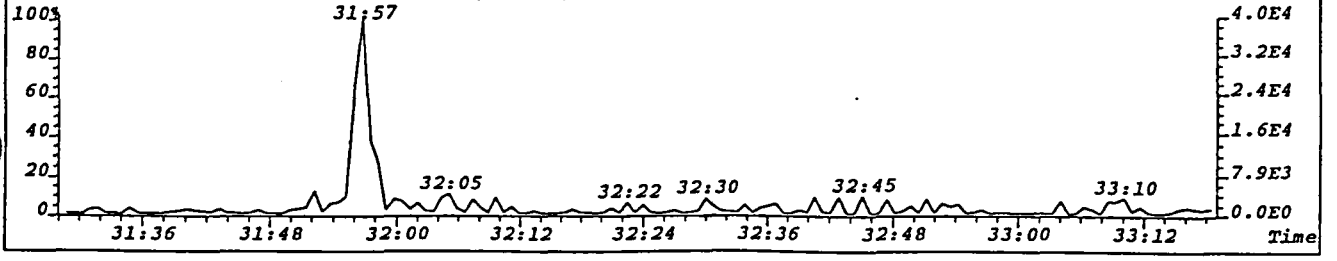
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:574
419.8220 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2296.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



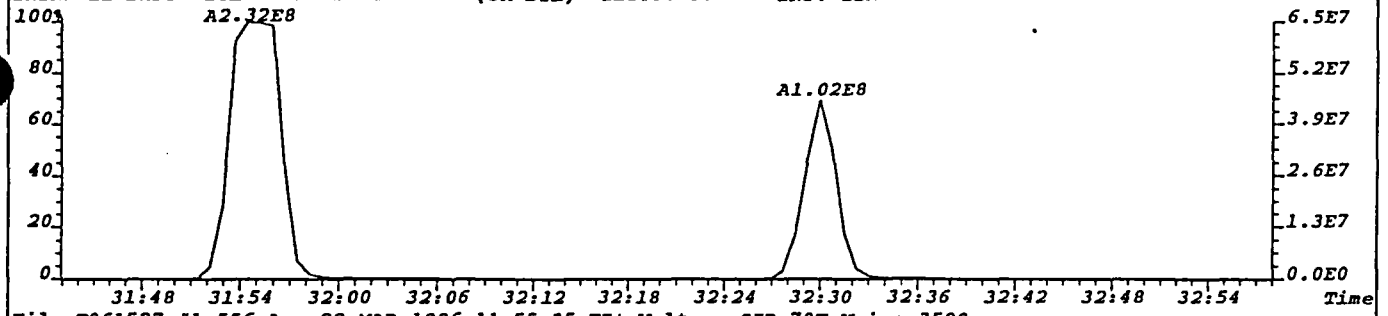
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



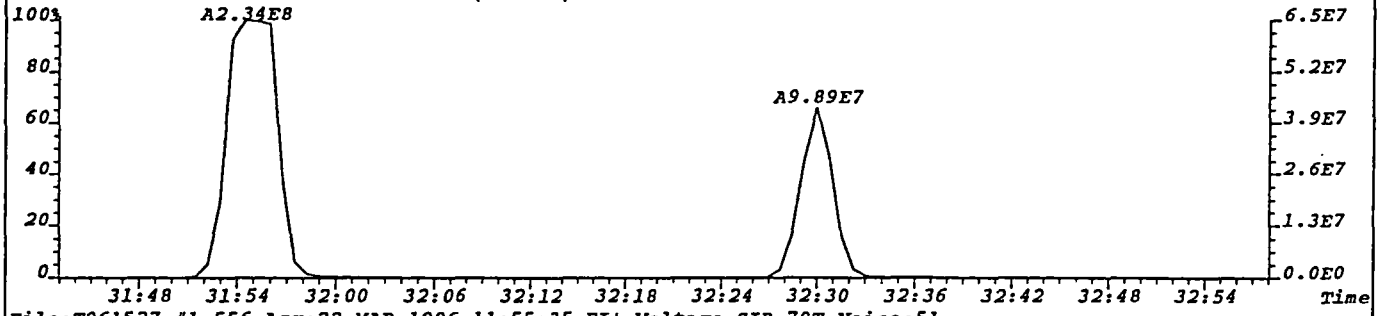
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



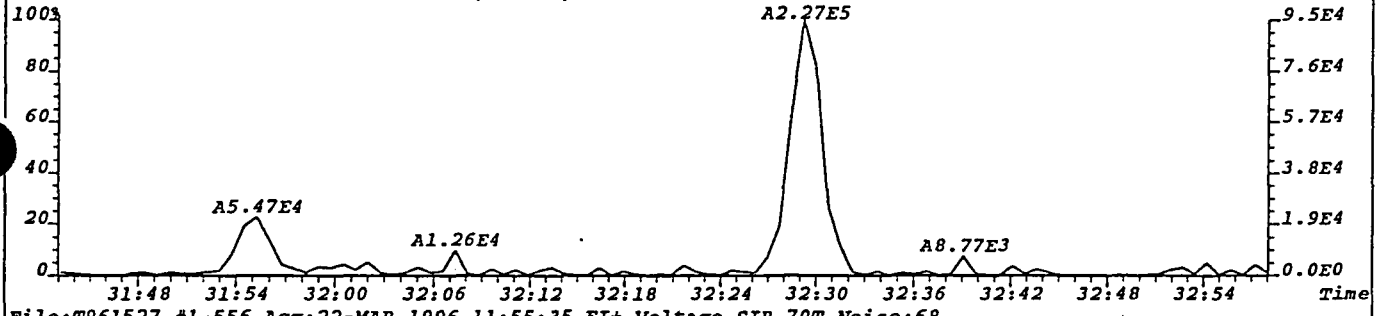
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:2529
423.7766 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,10116.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



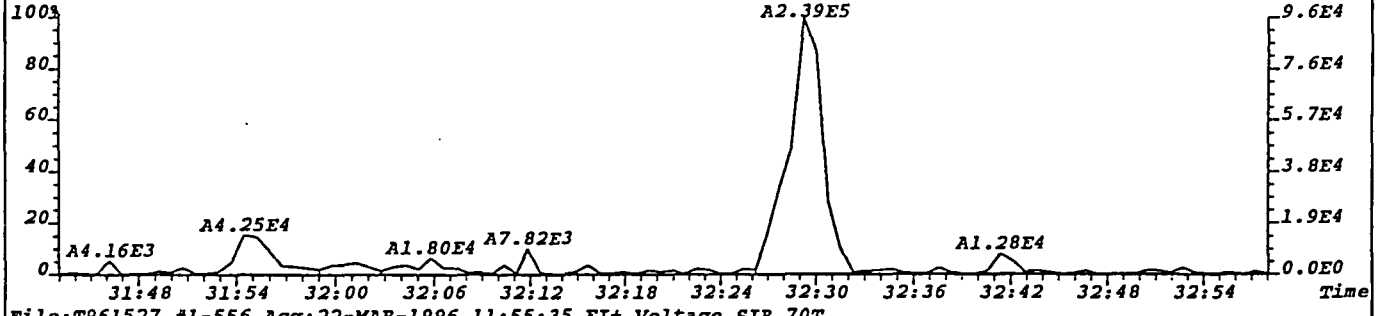
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:3598
425.7737 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,14392.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



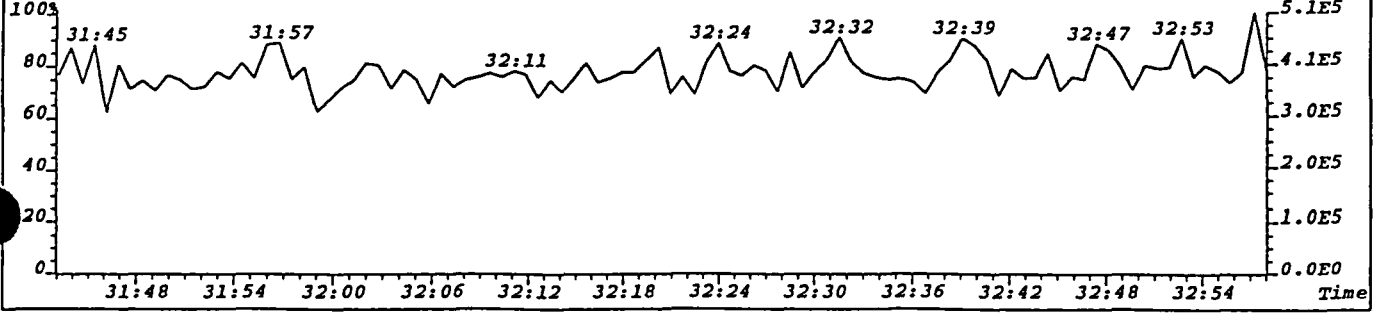
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:51
435.8169 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,204.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



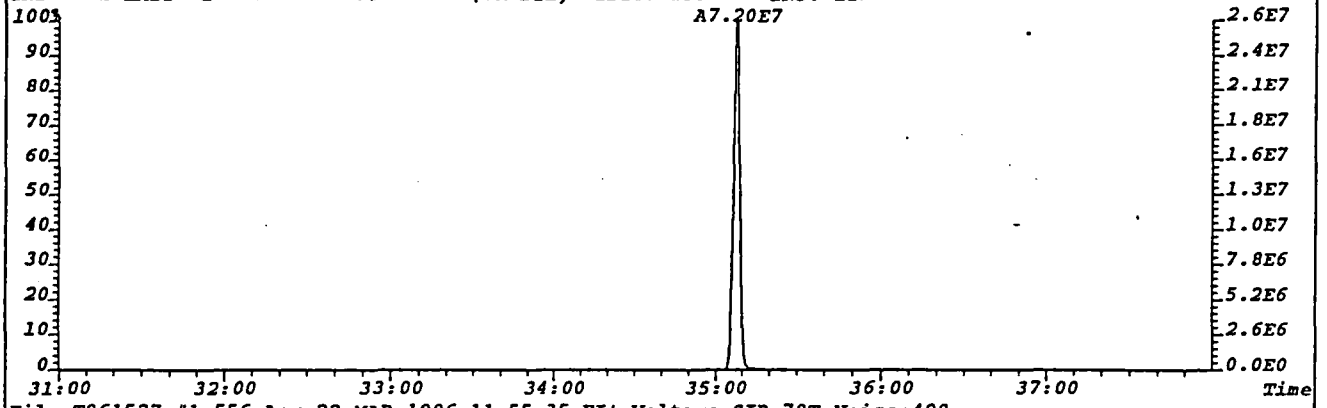
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:68
437.8140 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,272.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



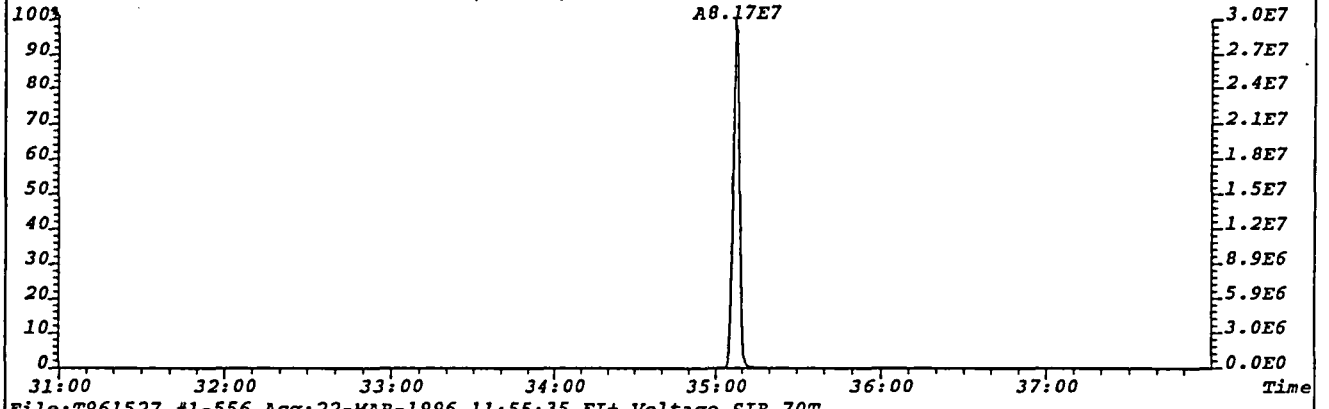
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



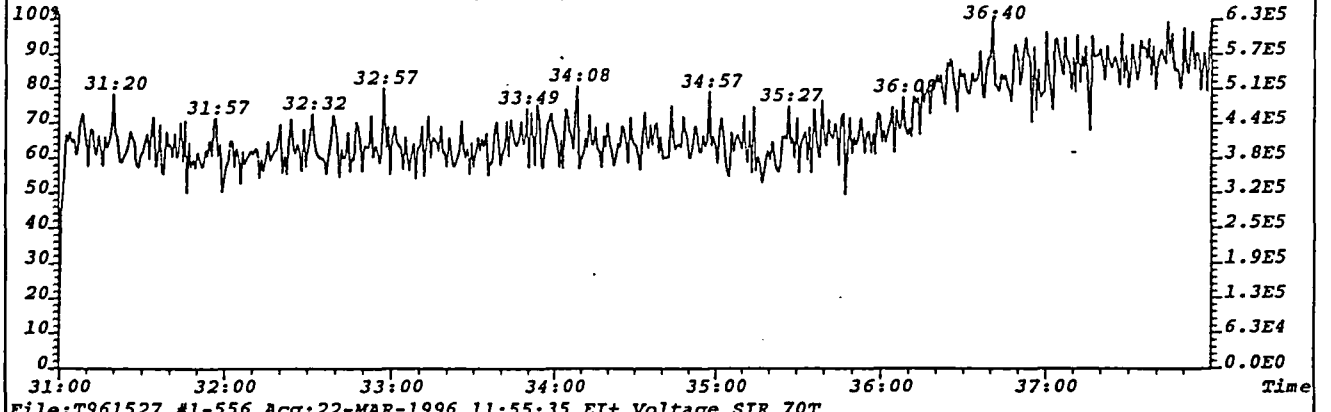
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:53
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,212.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



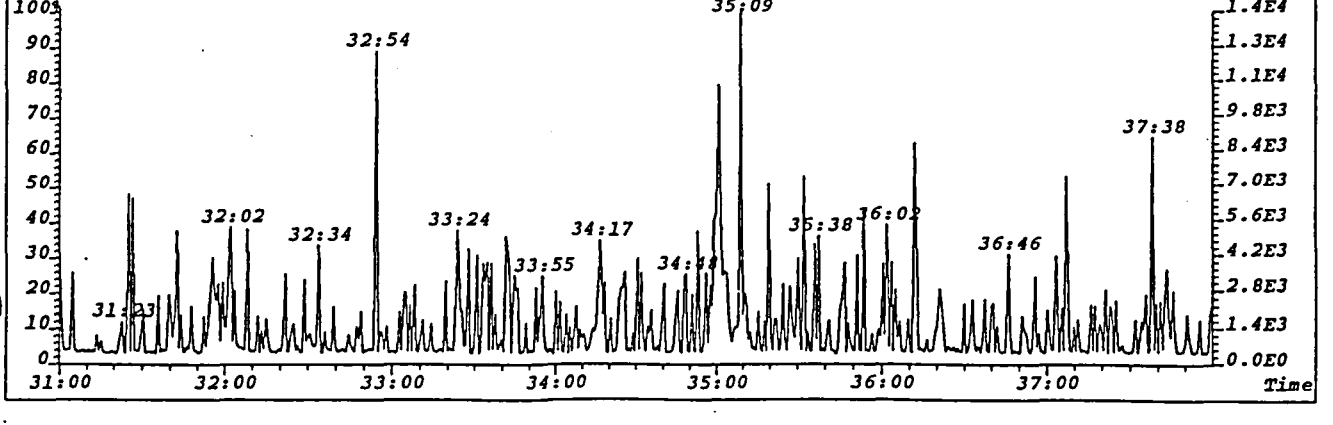
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:498
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,1992.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



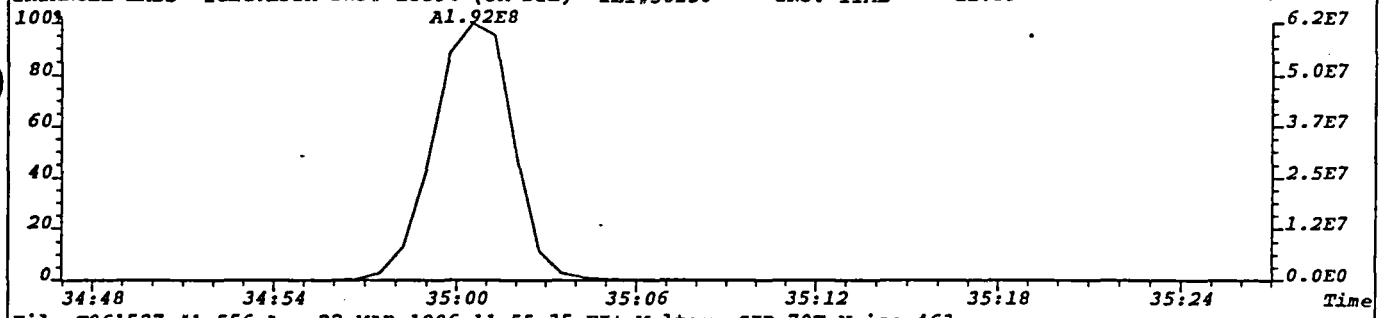
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



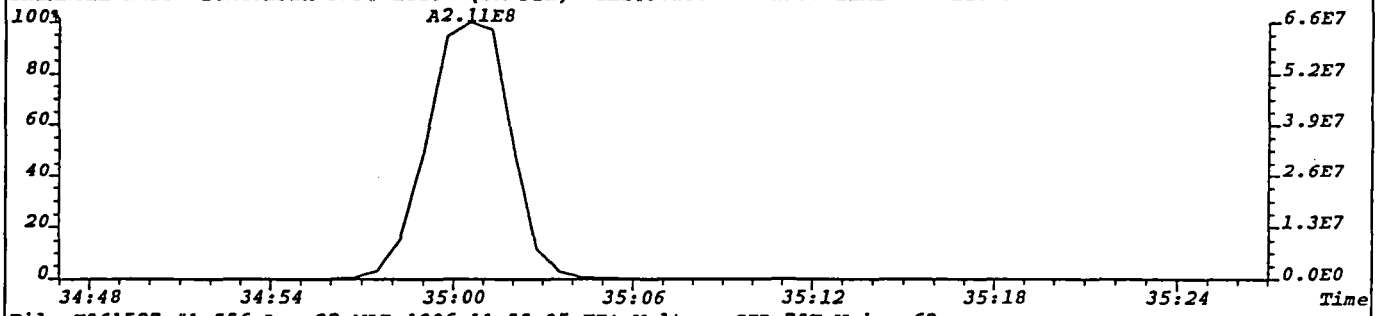
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



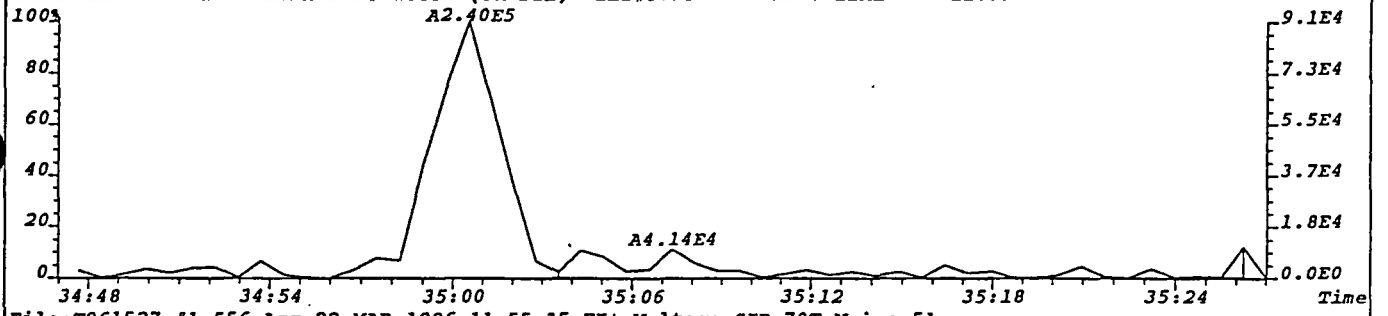
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:235
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,940.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



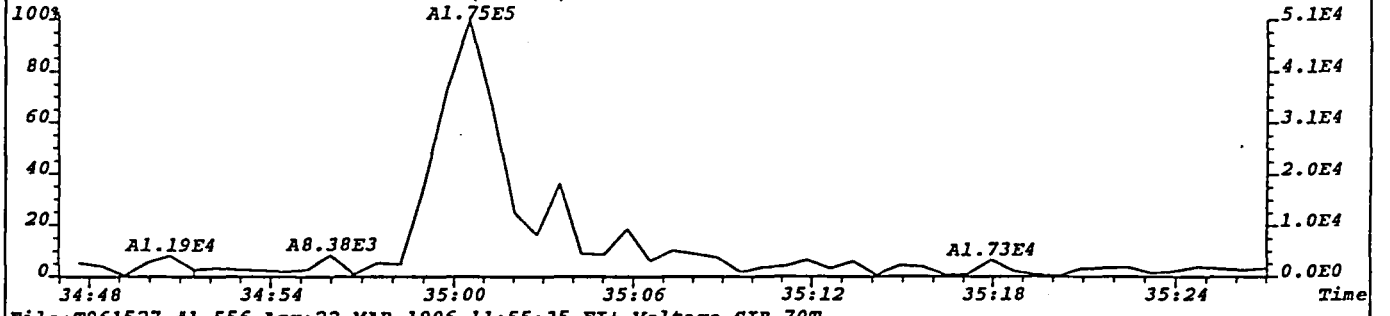
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:463
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,1852.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



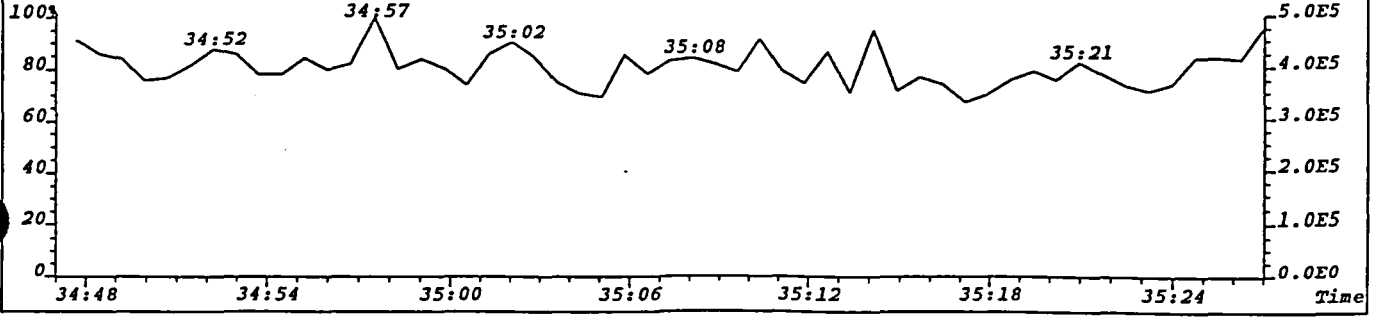
File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:62
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,248.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59

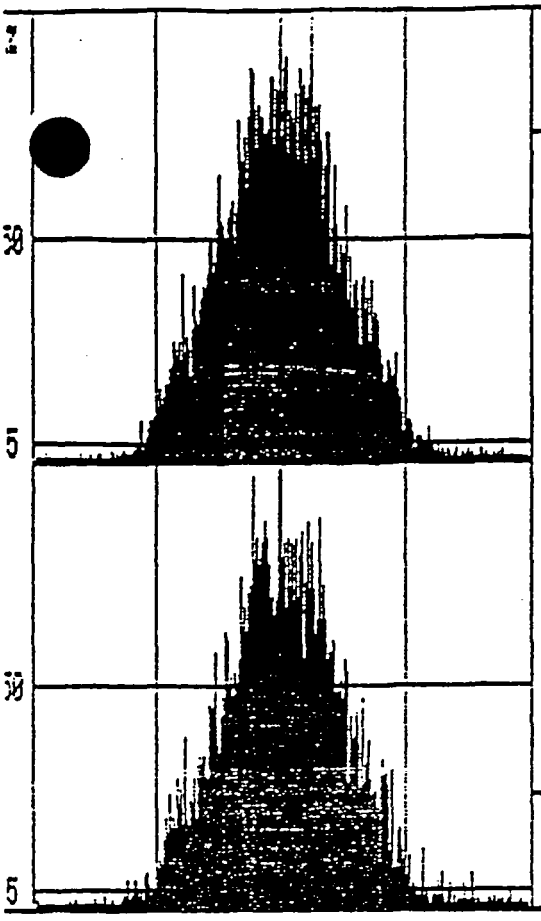


File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T Noise:51
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,204.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59



File:T961527 #1-556 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59





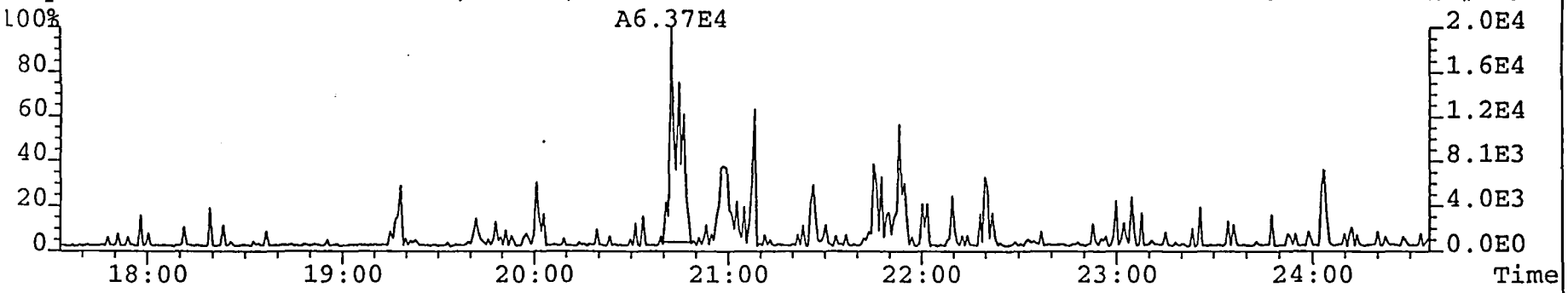
Ref. mass 292.9825 Peak top
Height 1.73 volts Span 200 ppm

System file name	EPCUS
Data file name	A:T961511
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

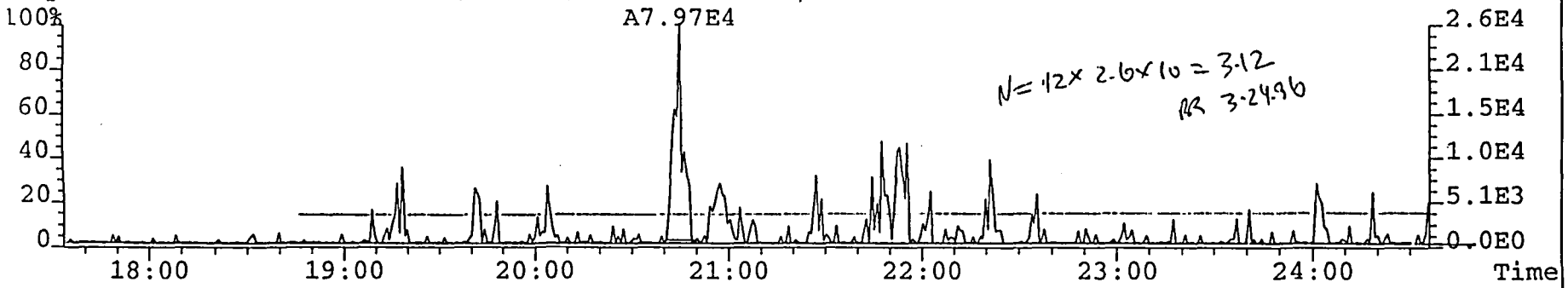
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height 1.51 volts Span 200 ppm

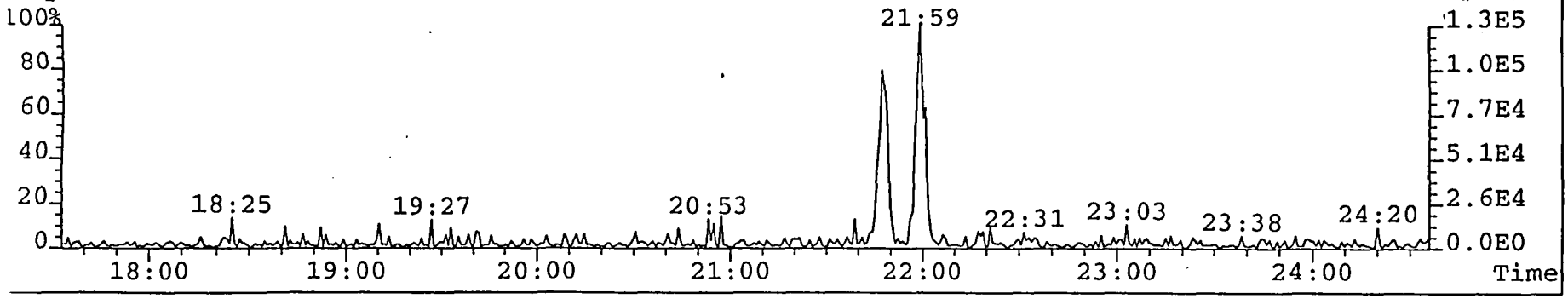
File:T961527 #1-784 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
319.8965 F:2 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»

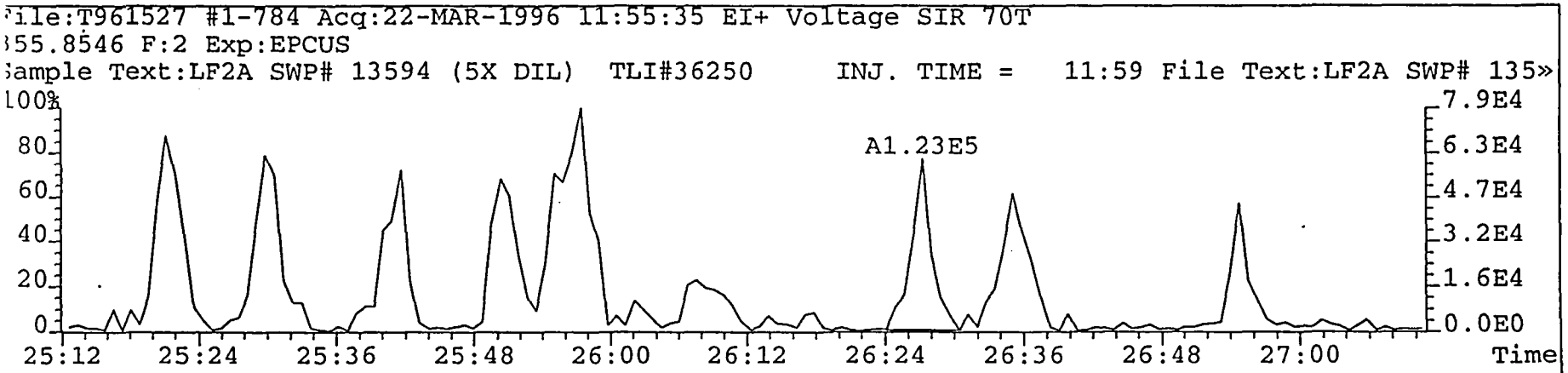


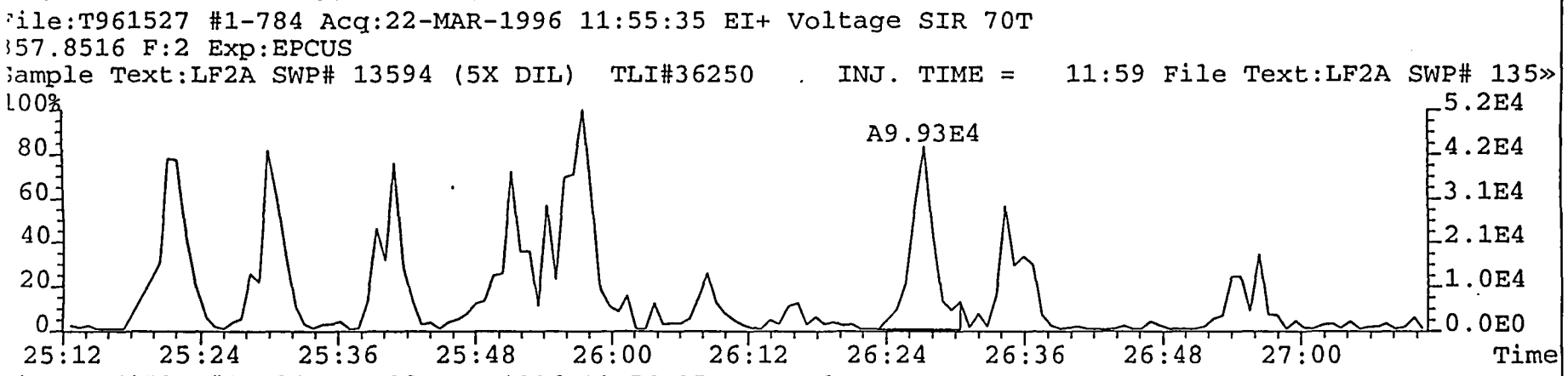
File:T961527 #1-784 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
321.8936 F:2 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»

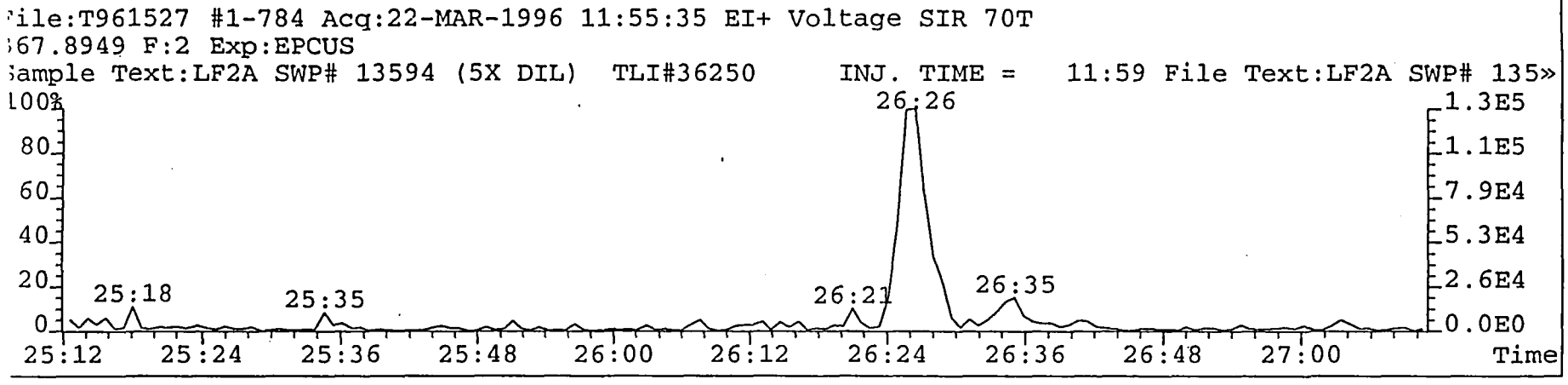


File:T961527 #1-784 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
331.9368 F:2 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»

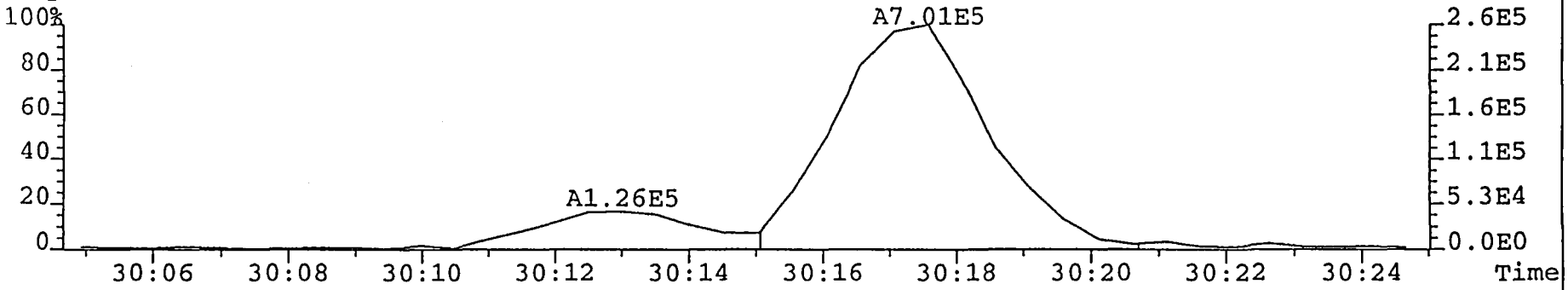



File:T961527 #1-784 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
355.8546 F:2 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»
100%
80
60
40
20
0
A1.23E5
7.9E4
6.3E4
4.7E4
3.2E4
1.6E4
0.0E0
25:12
25:24
25:36
25:48
26:00
26:12
26:24
26:36
26:48
27:00
Time

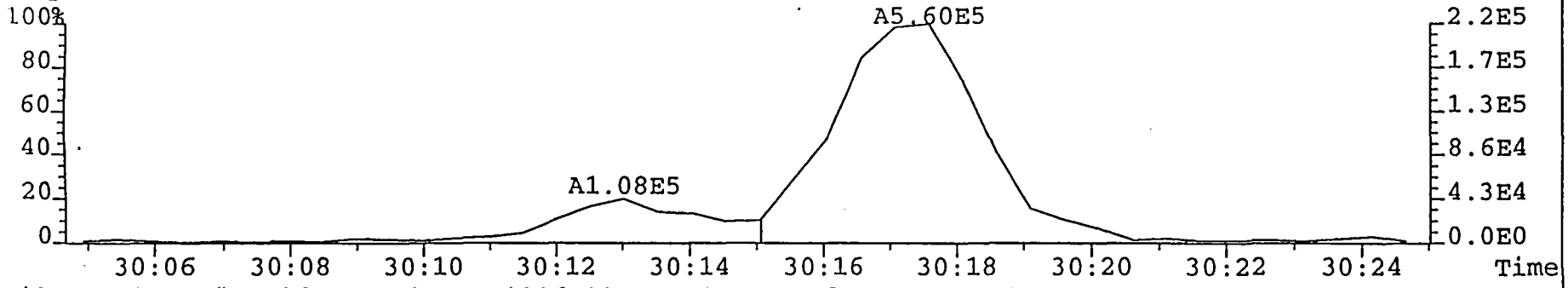

File:T961527 #1-784 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
357.8516 F:2 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»
100%
80
60
40
20
0
A9.93E4
5.2E4
4.2E4
3.1E4
2.1E4
1.0E4
0.0E0
25:12
25:24
25:36
25:48
26:00
26:12
26:24
26:36
26:48
27:00
Time


File:T961527 #1-784 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
367.8949 F:2 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»
100%
80
60
40
20
0
26:26
25:18
25:35
26:21
26:35
1.3E5
1.1E5
7.9E4
5.3E4
2.6E4
0.0E0
25:12
25:24
25:36
25:48
26:00
26:12
26:24
26:36
26:48
27:00
Time

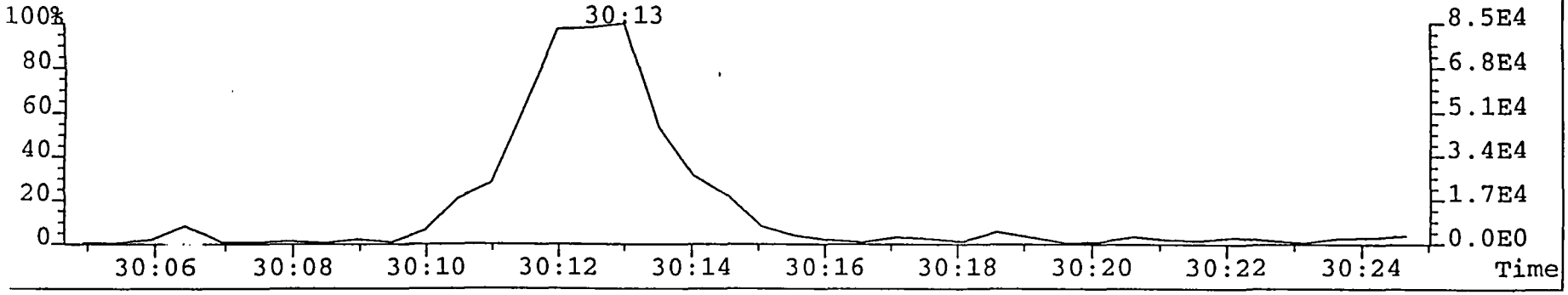
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
373.8208 F:3 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»



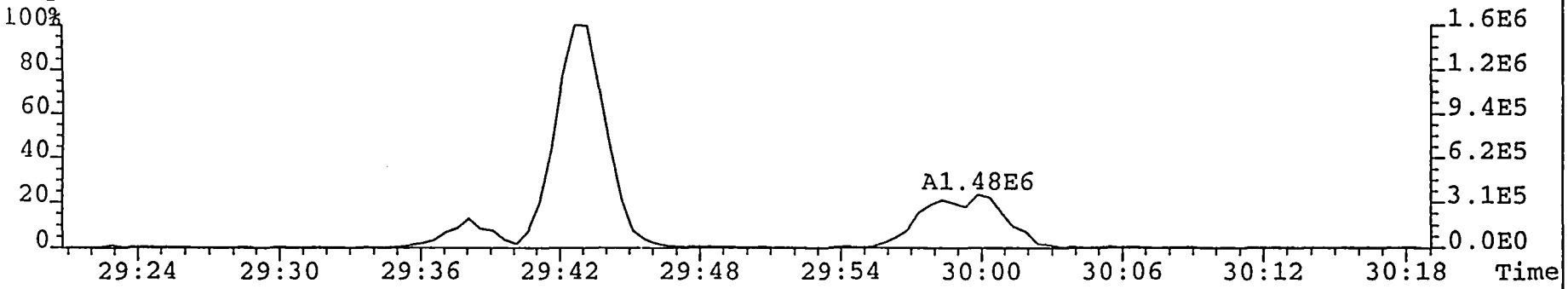
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
375.8178 F:3 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»



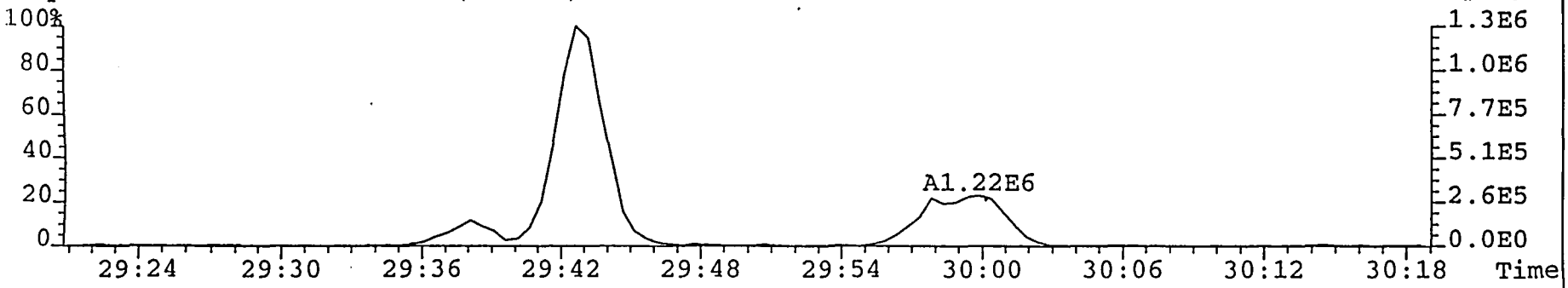
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
383.8639 F:3 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»



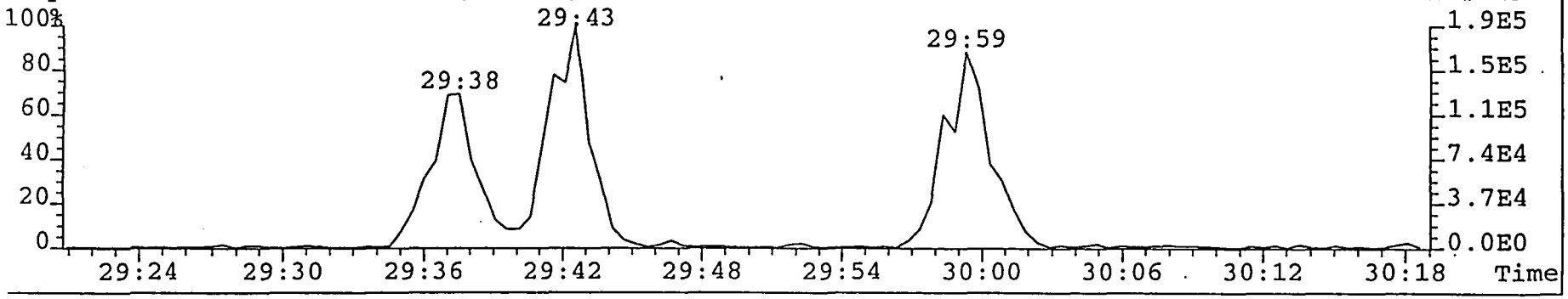
File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
389.8156 F:3 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»



File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
391.8127 F:3 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»



File:T961527 #1-396 Acq:22-MAR-1996 11:55:35 EI+ Voltage SIR 70T
401.8558 F:3 Exp:EPCUS
Sample Text:LF2A SWP# 13594 (5X DIL) TLI#36250 INJ. TIME = 11:59 File Text:LF2A SWP# 135»



Southern Wood Piedmont

TLI Project: 36250 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: LF2A SWP# 13594 Analysis File: X961152

Client Project:	12-53020.00:SWP-Wilmington				
Sample Matrix:	SOIL	Date Received:	02/16/96	Spike File:	SPC2NF2S
TLI ID:	114-155-1	Date Extracted:	02/20/96	ICal:	XF21266
		Date Analyzed:	03/26/96	ConCal:	X961149
Sample Size:	11.870 g	Dilution Factor:	10X	% Moisture:	15.8
Dry Weight:	9.995 g	Blank File:	T961213	% Lipid:	n/a
GC Column:	DB-225	Analyst:	JF	% Solids:	84.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	13.5			0.83	23:44	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	275	137	40%-130%	0.78	23:43	G

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.77	22:35	—

Data Reviewer: RR 03/27/96

C2NF_PSR v1.14, LARS 6.04.00

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 09:48 03/27/96

Initial ....Date...

Data Review By: HR 3/27/96 Calculated Noise Area: 200 mg

Total Area for each peak with an ion abundance ratio outside
o limits has been recalculated according to method requirements.

Page No. 1 Listing of X961152B.dbf
03/26/96 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
TCDF				0.65-0.89						0.796-1.108		
304-306	DC	NL		0:00	RO	0.92	15.86			0.000		
	DC	SN		19:02	RO	0.40	17.28			0.803		
				19:07		0.76	96.18	41.40	54.78	0.806		
				20:11		0.84	50.76	23.11	27.65	0.851		
	DC	SN		20:18		0.82	33.05			0.856		
				20:22		0.78	117.80	51.55	66.25	0.859		
	DC	SN		20:28		0.84	31.98			0.863		
				20:46		0.70	63.81	26.34	37.47	0.876		
				20:54		0.81	516.62	231.90	284.72	0.881		
				21:03		0.76	195.22	84.39	110.83	0.888		
				21:13		0.82	548.79	246.51	302.28	0.895		
				21:22		0.81	497.69	222.28	275.41	0.901		
				21:48		0.78	414.15	181.10	233.05	0.919		
				22:15		0.72	151.93	63.59	88.34	0.938		
				22:30		0.76	139.21	60.21	79.00	0.949		
				22:48		0.72	124.25	51.94	72.31	0.961		
	DC	SN		23:02	RO	0.53	26.83			0.971		
				23:11		0.80	124.08	55.31	68.77	0.978		
				23:19		0.77	581.28	253.36	327.92	0.983		
	DC	SN		23:28	RO	1.24	4.10			0.989		
				23:37		0.87	69.89	32.50	37.39	0.996		
				23:44		0.83	515.26	233.28	281.98	1.001	2378-TCDF	AN
				23:58		0.83	115.74	52.33	63.41	1.011		
	DC	SN		24:16		0.80	35.60			1.023		
	DC	SN		24:24	RO	1.95	16.51			1.029		
				24:38		0.74	81.34	34.69	46.65	1.039		
	DC	SN		25:15	RO	0.25	17.67			1.065		
				26:00	RO	0.56	56.18	24.34	43.74	1.096		
				26:03		0.73	95.42	40.17	55.25	1.098		
	DC	WH		26:19	RO	0.60	34.44			1.110		
304-306			20	Peaks			4,555.60					
13C12-TCDF				0.65-0.89						0.958-1.042		
316-318	DC	NL		0:00	RO	1.41	16.29			0.000		
				23:43		0.78	6,799.44	2,973.84	3,825.60	1.000	13C12-2378-TCDF	ISO
				24:22	RO	1.33	36.04	27.07	20.37	1.027		
	DC	WH		25:26	RO	8.61	4.28			1.072		
	DC	WH		25:58		0.81	243.53			1.095		
	DC	WH		26:06	RO	1.11	13.52			1.100		
316-318			2	Peaks			6,835.48					

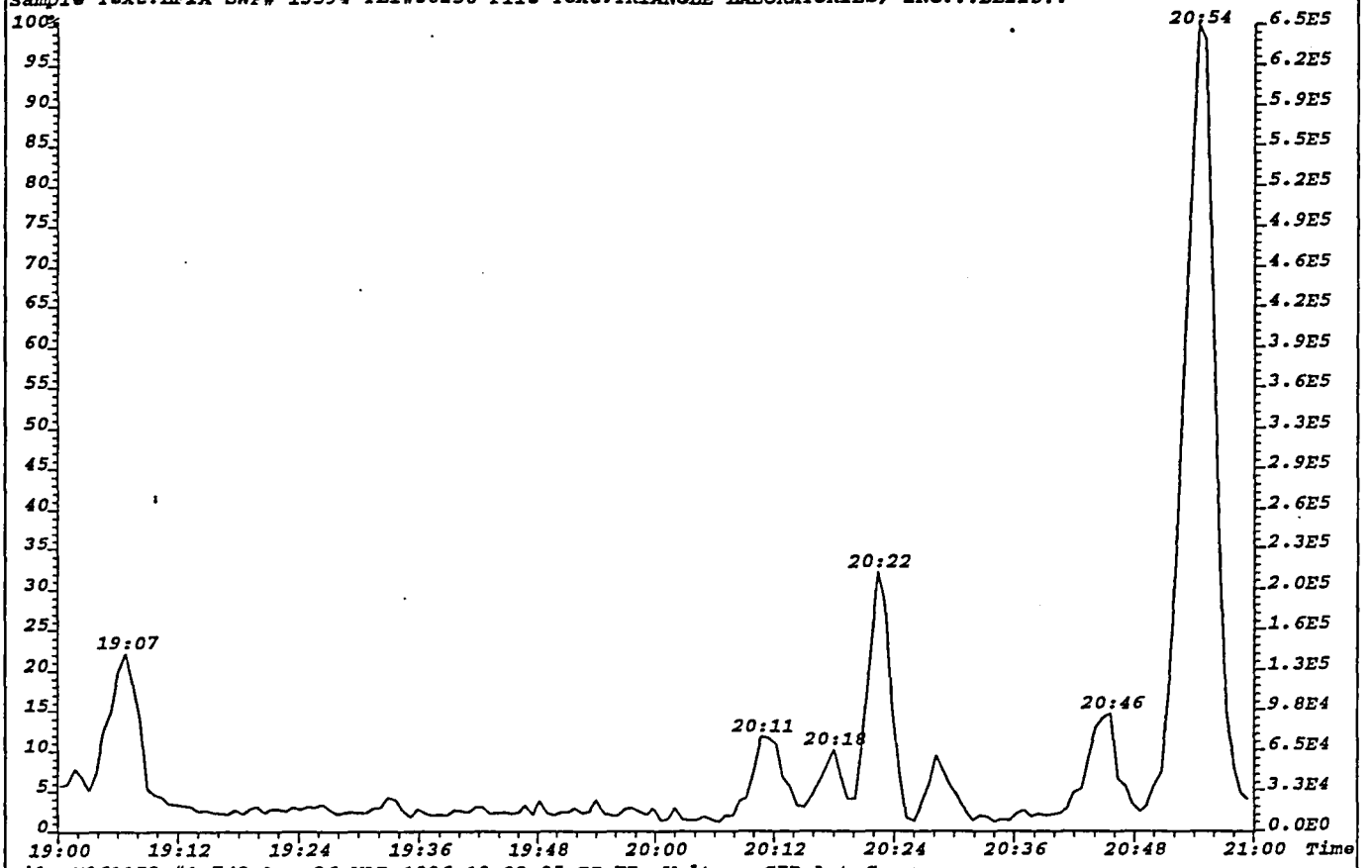
---------- Above: TCDF / TCDD Follows ----------

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
13C12-TCDD					0.65-0.89					0.910-1.090		
332-334	DC	NL		0:00	RO	2.86	40.60			0.000		
				22:15		0.73	2,396.32	1,012.88	1,383.44	1.000	13C12-2378-TCDD	IS1
				22:35		0.77	3,567.61	1,556.25	2,011.36	1.015	13C12-1234-TCDD	RS1
332-334			2 Peaks				5,963.93					

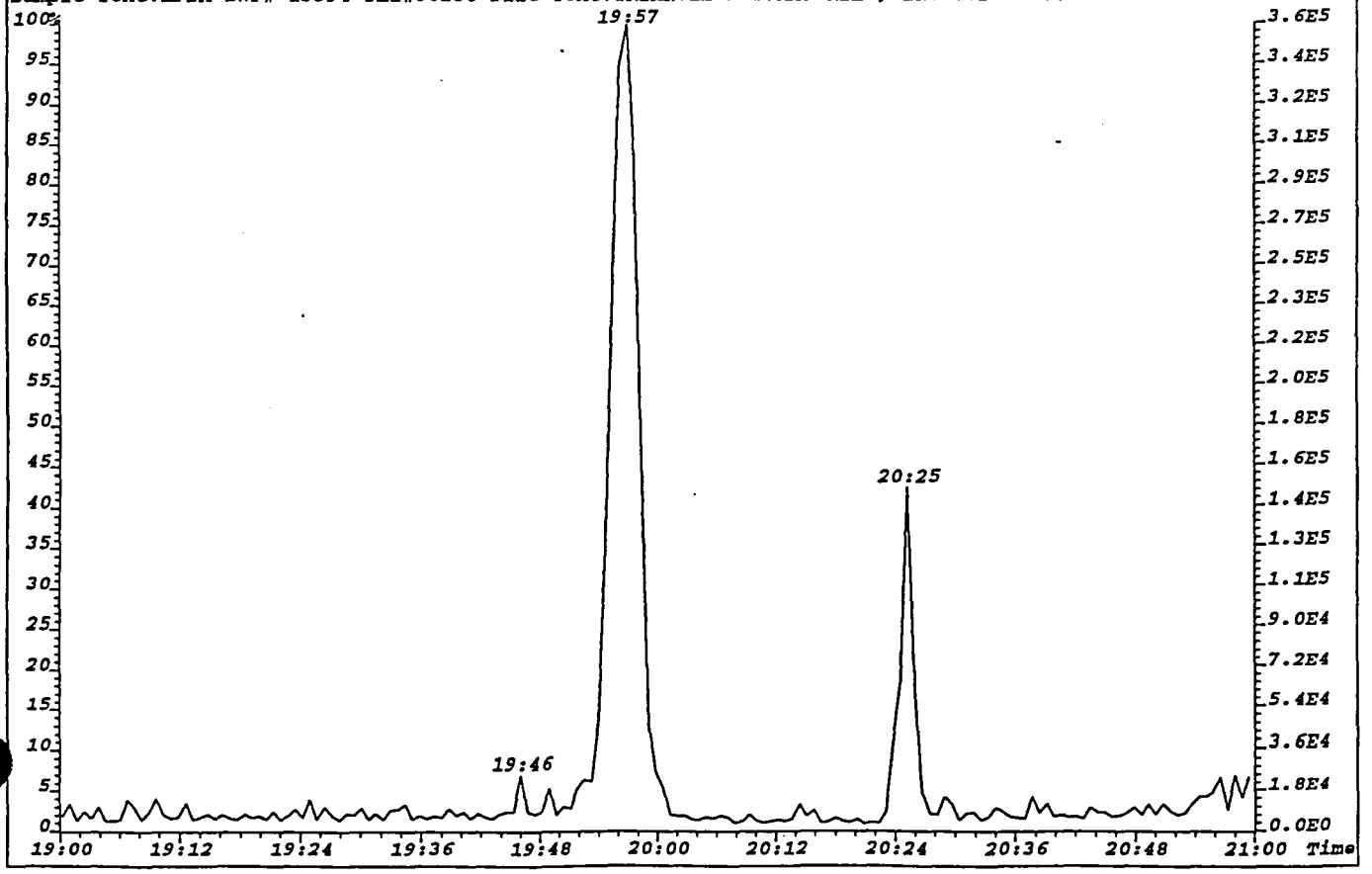
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

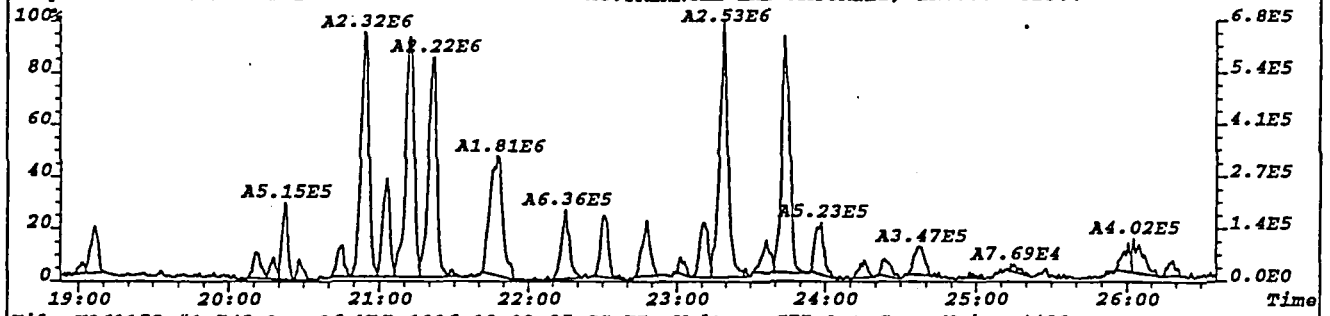
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
303.9016 Exp:XCONF_TT
Sample Text:LP2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



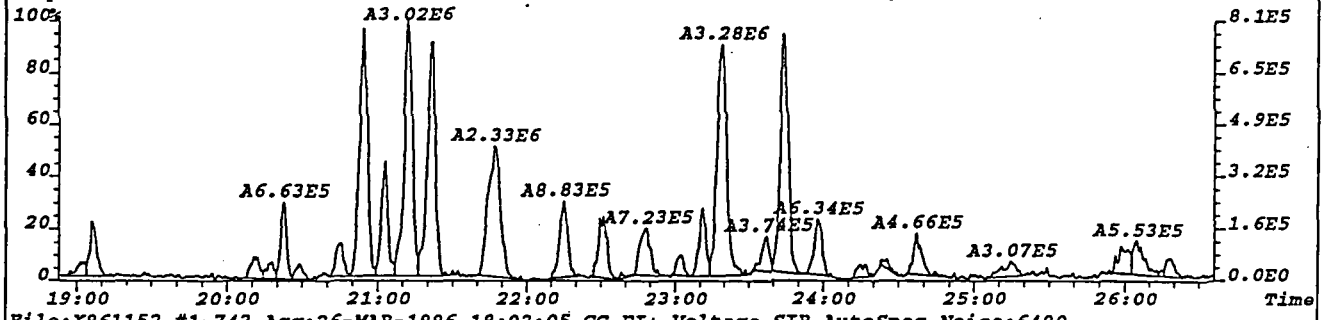
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
319.8965 Exp:XCONF_TT
Sample Text:LP2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



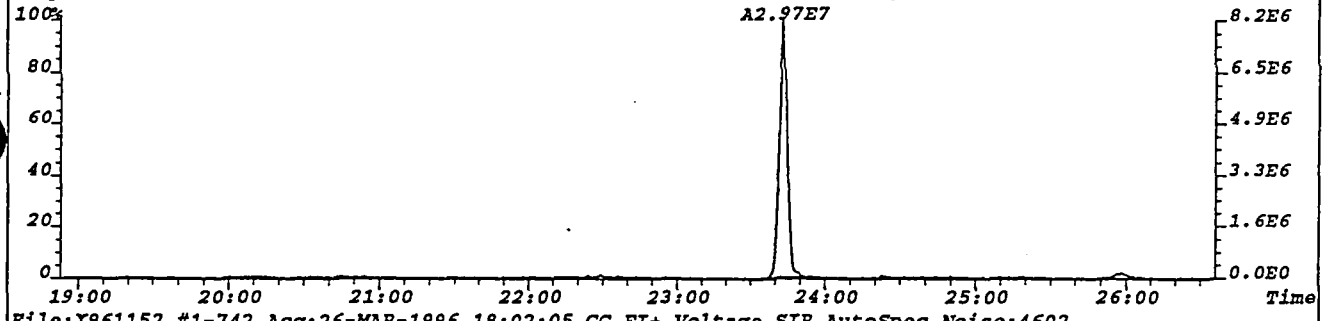
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:4111
303.9016 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,16444.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



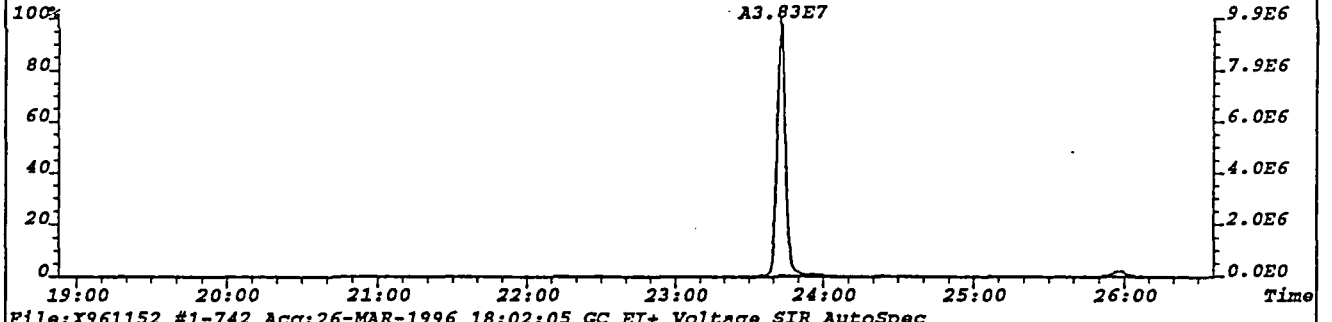
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:4488
305.8987 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,17952.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



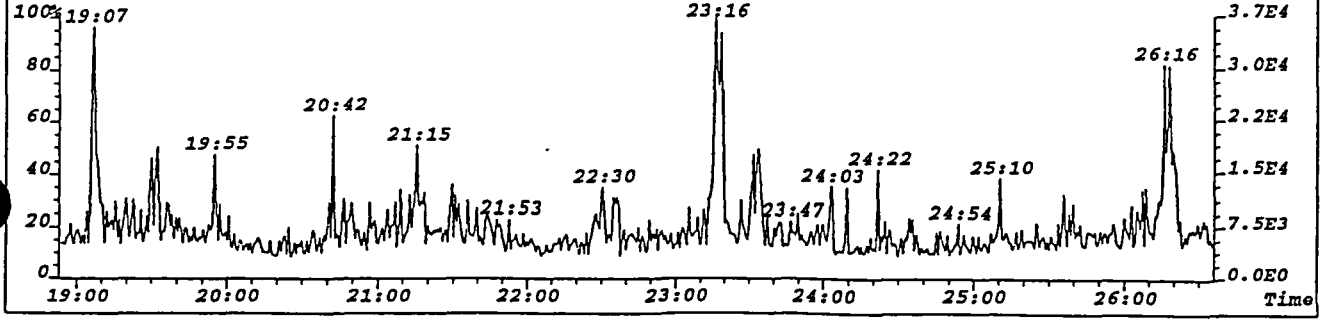
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:6490
315.9419 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,25960.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



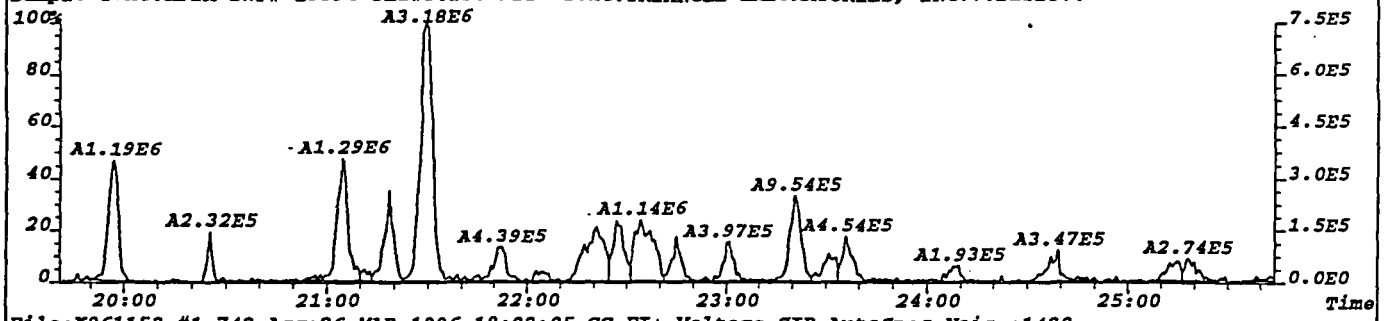
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:4602.
317.9389 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,18408.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



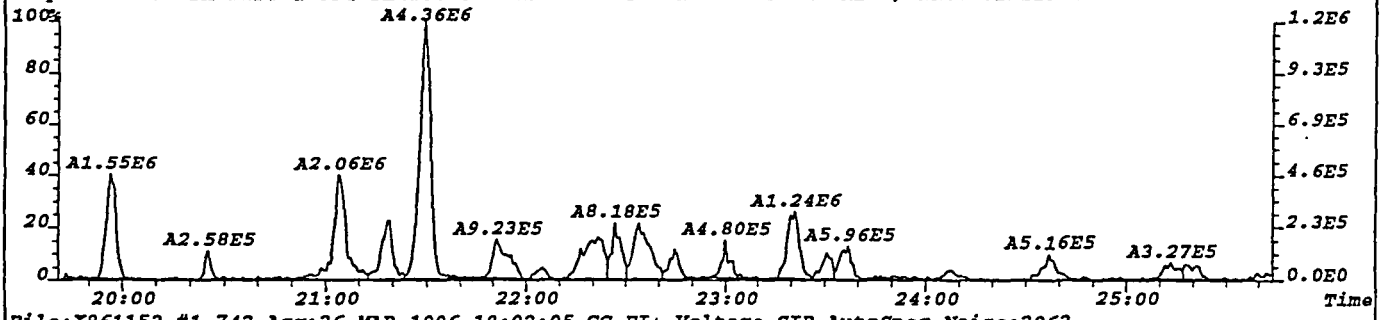
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
375.8364 Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



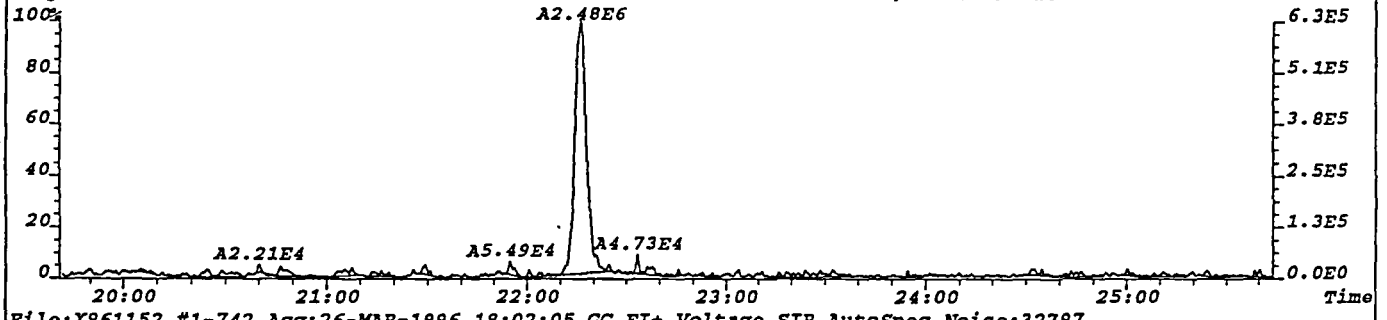
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:1321
319.8965 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,5284.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



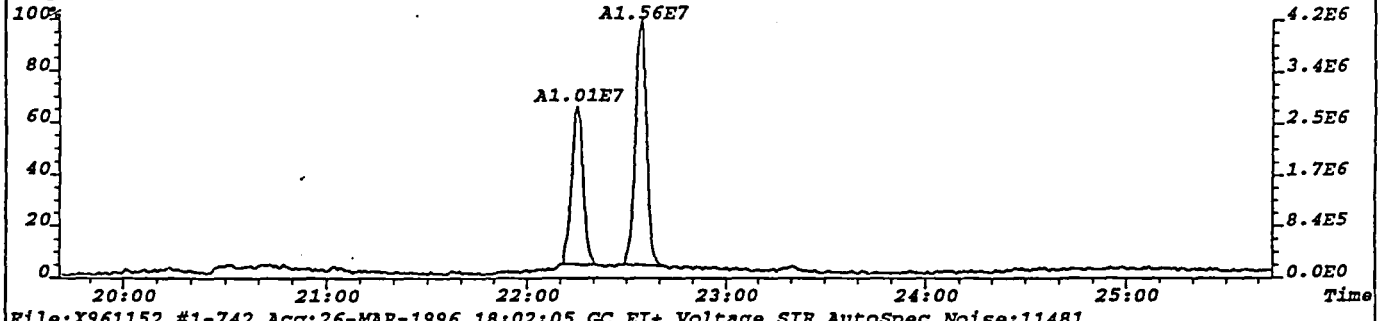
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:1420
321.8936 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,5680.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



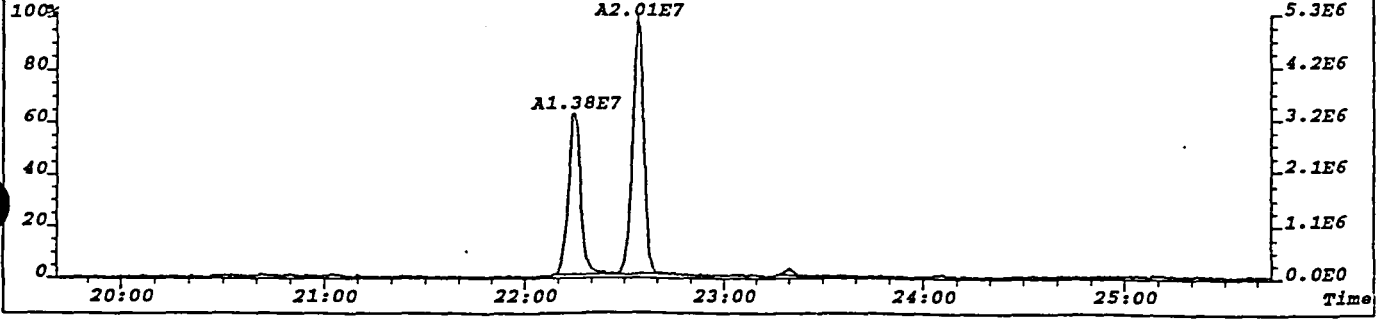
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:2062
327.8847 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,8248.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



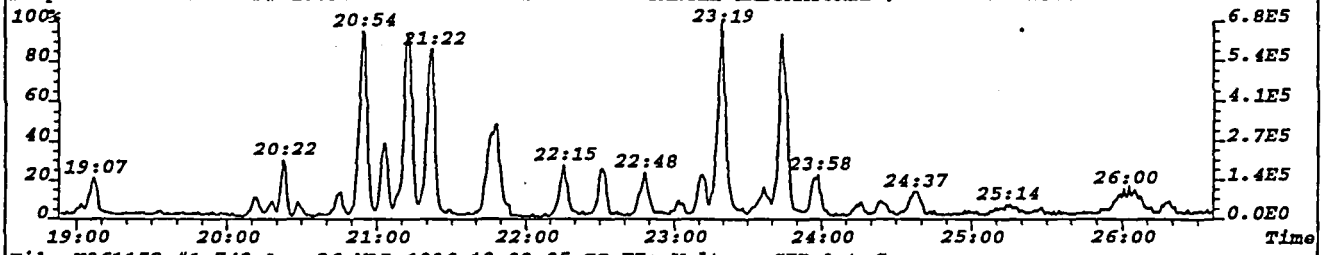
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:32797
331.9368 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,131188.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



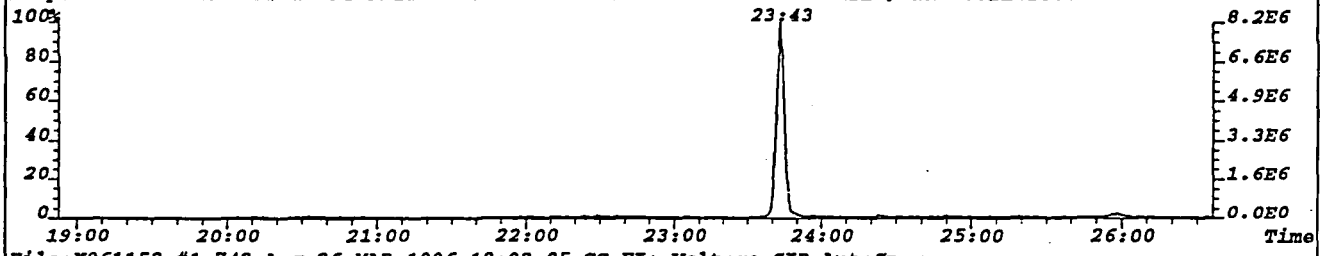
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec Noise:11481
333.9338 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,45924.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



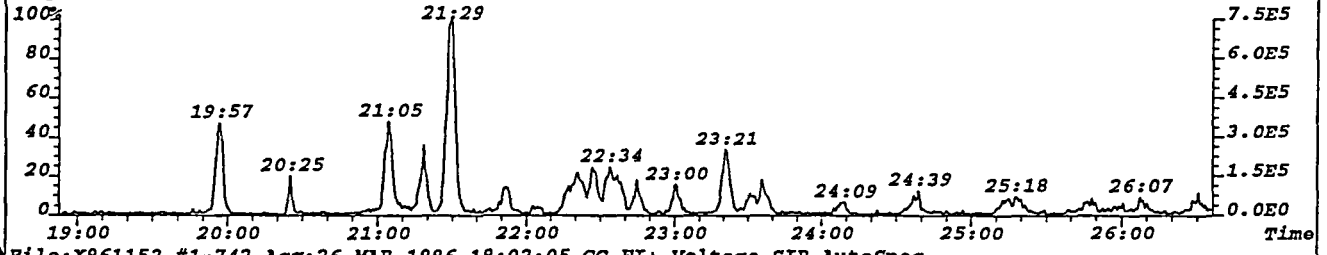
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
303.9016 Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



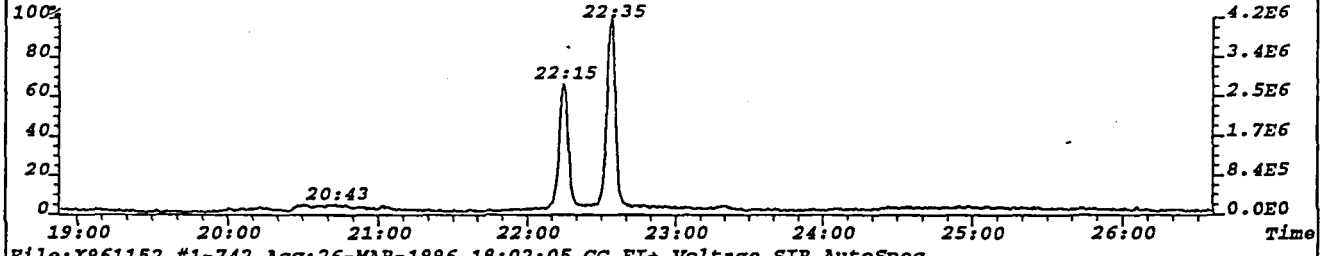
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
315.9419 Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



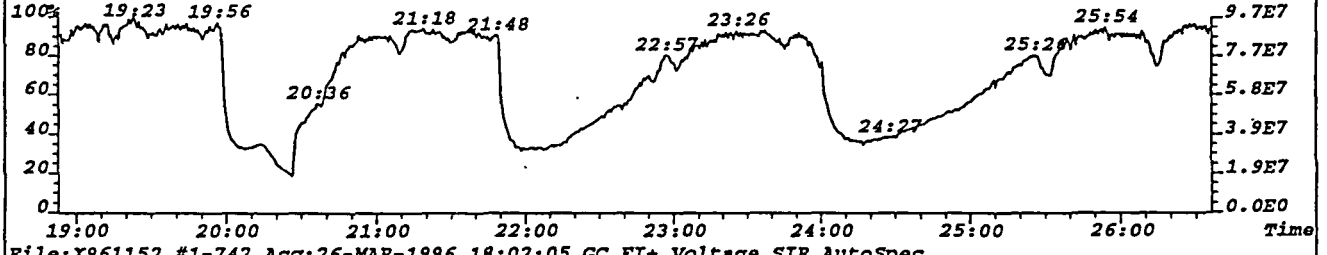
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
319.8965 Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



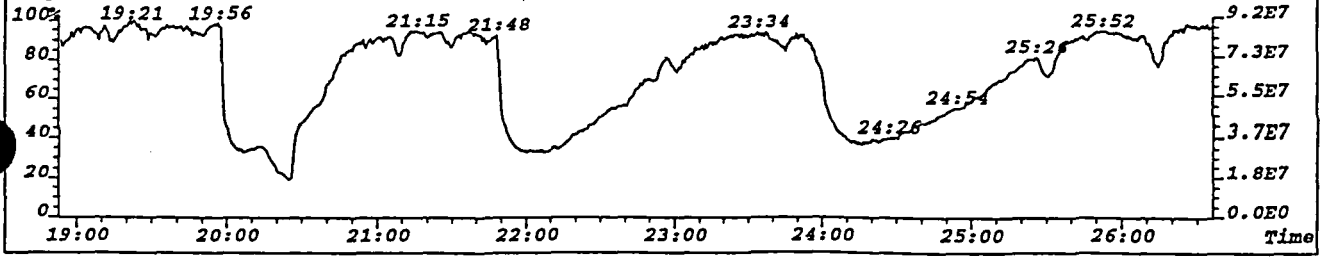
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
331.9368 Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



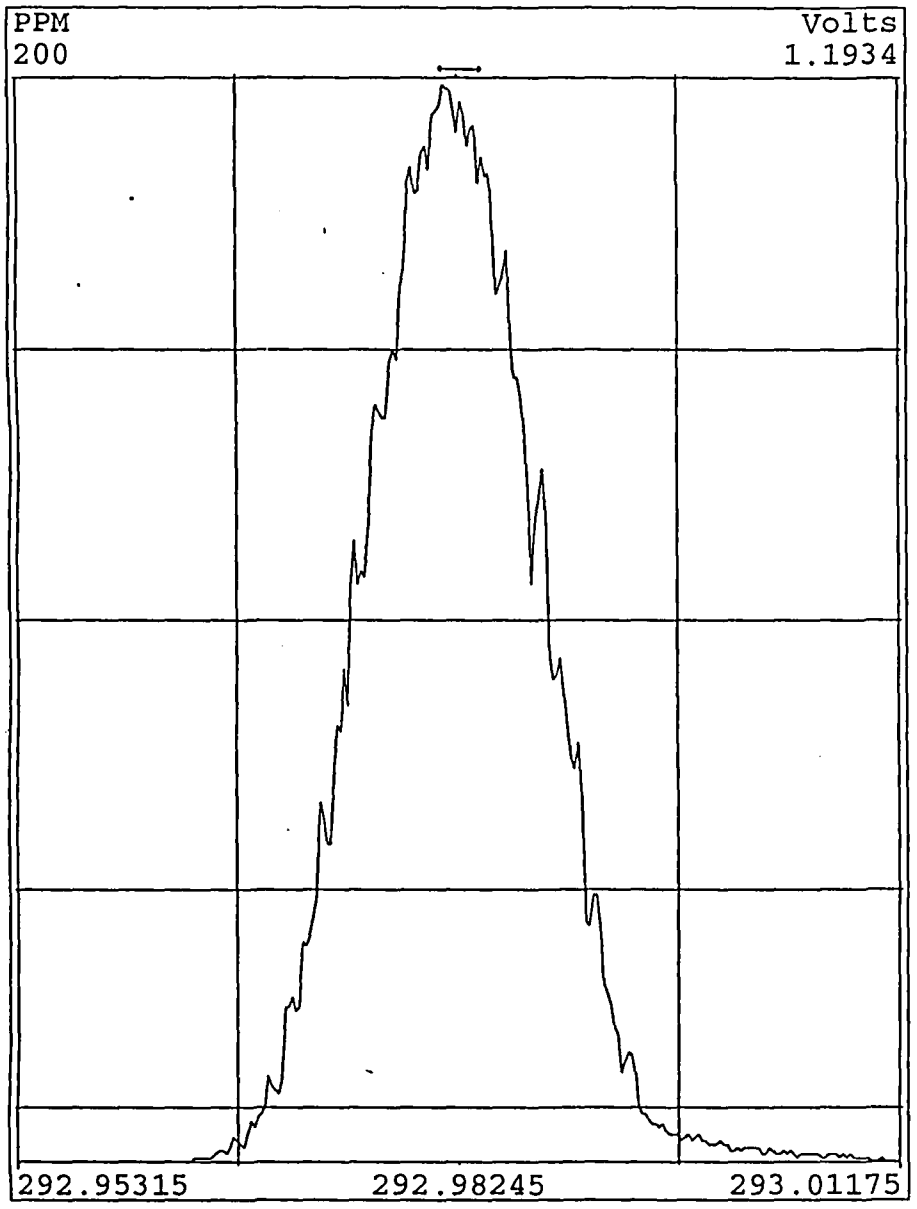
File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
292.9825 Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::

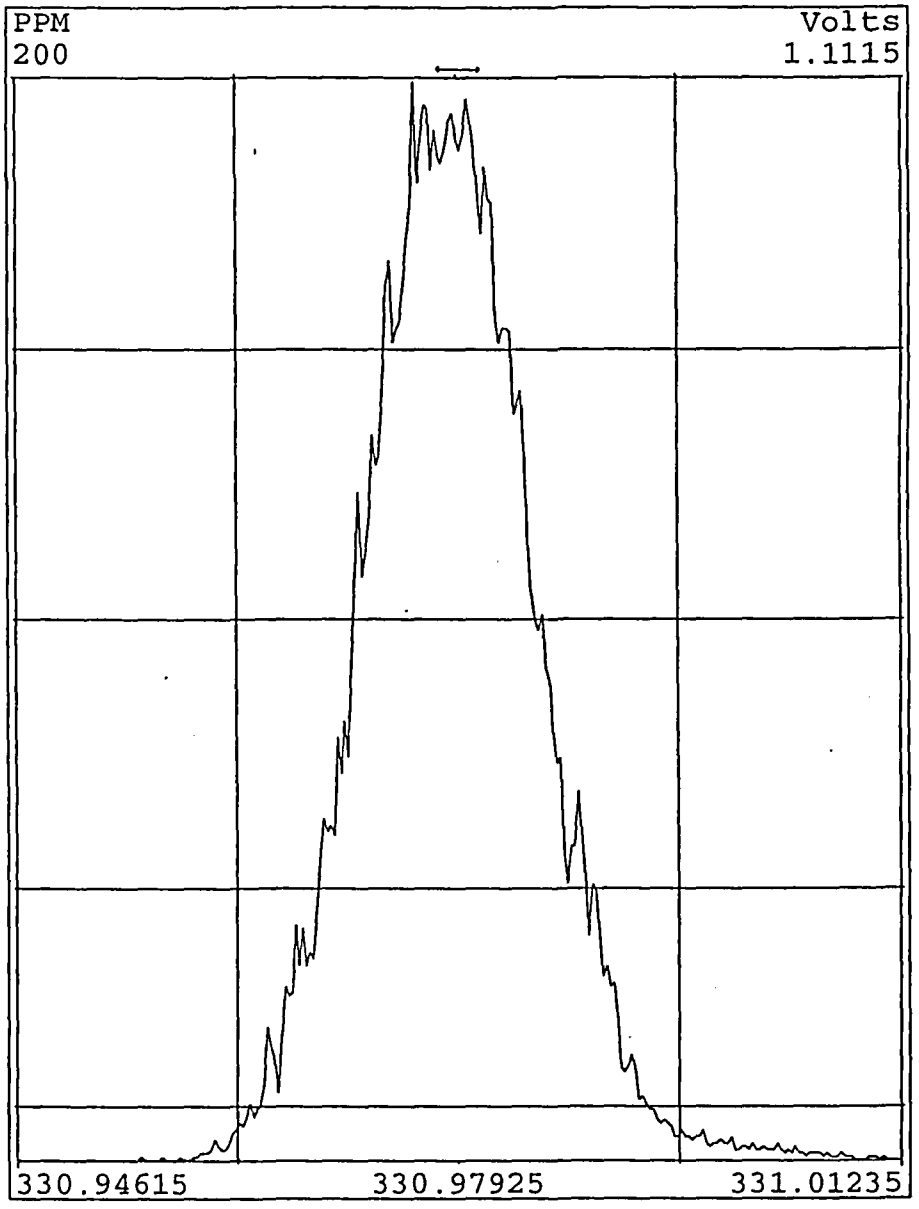


File:X961152 #1-742 Acq:26-MAR-1996 18:02:05 GC EI+ Voltage SIR AutoSpec
330.9792 Exp:XCONF_TT
Sample Text:LF2A SWP# 13594 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



Peak Locate Examination:26-MAR-1996:18:01 File:X961152
Experiment:XCONF_TT Function:1 Reference:PFK





Southern Wood Piedmont

TLI Project: 36250 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: LF1A SWP# 13595 — Analysis File: T961221

Client Project:	12-53020.00:SWP-Wilmington				
Sample Matrix:	SOIL	Date Received:	02/16/96	Spike File:	SPX2372S
TLI ID:	114-155-2	Date Extracted:	02/20/96	ICal:	TF5D065
		Date Analyzed:	03/06/96	ConCal:	T961210
Sample Size:	11.450 g	Dilution Factor:	n/a	% Moisture:	12.6
Dry Weight:	10.007 g	Blank File:	T961213	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	87.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	2.4			0.77	21:21	—
1,2,3,7,8-PeCDD	42.2			1.46	25:56	—
2,3,7,8-TCDF	11.3			0.80	20:33	—
1,2,3,7,8-PeCDF	55.2			1.51	24:49	—
2,3,4,7,8-PeCDF	51.1			1.47	25:34	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	61.0	11		64.8	—
Total PeCDD	736	12			—
Total TCDF	68.9	13		80.3	—
Total PeCDF	1110	14		1140	—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	154	77.0	40%-130%	0.74	20:31	—
$^{13}C_{12}$-2,3,7,8-TCDD	154	77.1	40%-130%	0.79	21:20	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	152	75.9	40%-130%	1.45	24:48	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	160	80.1	40%-130%	1.42	25:55	—

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	13.9	69.3	40%-130%		21:21	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	159	79.3	40%-130%	1.47	25:33	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	21:08	—

Data Reviewer: AK 03/25/96

X237_PSR v1.14, LARS 6.04.00

Triangle Laboratories, Inc.®
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Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 14:18 03/25/96

Initial ....Date...

Data Review By: PR 3/25/96 Calculated Noise Area: n/a

e Total Area for each peak with an ion abundance ratio outside
io limits has been recalculated according to method requirements.

Page No. 1 Listing of T961221B.dbf
03/25/96 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
TCDF						0.65-0.89				0.826-1.100		
304-306		DC	NL	0:00	RO	1.63	1.33			0.000		
				17:04		0.87	101.49	47.13	54.36	0.832		
		DC	SN	17:19		0.74	0.54			0.844		
				17:34		0.87	192.02	89.44	102.58	0.856		
				17:48		0.79	287.41	126.90	160.51	0.868		
				18:14		0.71	151.86	63.22	88.64	0.889		
				18:21	RO	0.93	147.84	77.58	83.62	0.894		
				18:37		0.81	344.34	153.96	190.38	0.907		
				18:57		0.70	217.37	89.75	127.62	0.924		
				19:04		0.84	134.72	61.65	73.07	0.929		
				19:23		0.81	182.63	81.78	100.85	0.945		
				19:38		0.89	67.39	31.75	35.64	0.957		
				19:49		0.67	168.99	67.84	101.15	0.966		
				20:04	RO	0.94	97.44	51.69	55.11	0.978		
				20:21	RO	0.61	36.85	16.01	26.30	0.992		
				20:33		0.80	376.91	167.73	209.18	1.002	2378-TCDF	AN
				21:01		0.85	44.73	20.55	24.18	1.024		
				21:18	RO	0.96	46.02	24.95	26.01	1.038		
		DC	SN	21:29		0.75	3.34			1.047		
		DC	SN	21:36	RO	1.88	0.30			1.053		
		DC	SN	21:40		0.75	1.26			1.056		
	E		E	21:50	RO	0.85	45.68	21.83	25.81	1.064		
				22:10	RO	0.37	7.23	3.15	8.49	1.080		
				22:25		0.86	28.33	13.11	15.22	1.093		
		DC	WH	22:35	RO	1.54	1.77			1.101		
		DC	WH	22:42		0.81	619.38			1.106		
		DC	WH	22:56	RO	0.25	4.84			1.118		
304-306			19	Peaks			2,679.25					
13C12-TCDF						0.65-0.89				0.951-1.049		
316-318		DC	NL	0:00	RO	0.55	0.42			0.000		
		DC	WL	19:21	RO	0.29	16.84			0.943		
		DC	SN	19:36	RO	0.35	1.25			0.955		
				20:03		0.67	25.93	10.41	15.52	0.977		
				20:31		0.74	5,678.61	2,410.11	3,268.50	1.000	13C12-2378-TCDF	ISO
				21:02		0.72	57.82	24.19	33.63	1.025		
		DC	SN	21:07	RO	0.45	3.45			1.029		
		DC	WH	21:55	RO	0.61	2.80			1.068		
		DC	WH	22:25		0.86	13.31			1.093		
		DC	WH	22:38	RO	3.35	1.36			1.103		
316-318			3	Peaks			5,762.36					

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
---------- Above: TCDF / TCDD Follows ----------												
TCDD				0.65-0.89						0.860-1.059		
320-322		DC	NL	0:00	RO	1.57	0.25			0.000		
				18:28		0.80	111.31	49.60	61.71	0.866		
		DC	SN	18:42	RO	1.05	0.39			0.877		
				18:54		0.82	69.16	31.19	37.97	0.886		
		DC	SN	19:05	RO	0.18	0.28			0.895		
		DC	SN	19:07	RO	1.00	0.16			0.896		
				19:16	RO	0.62	79.59	34.69	55.78	0.903		
		DC	SN	19:25	RO	0.44	0.44			0.910		
		DC	SN	19:38		0.71	0.53			0.920		
		DC	SN	19:43	RO	0.61	0.57			0.924		
		DC	SN	19:45		0.68	0.64			0.926		
		DC	SN	19:49	RO	1.06	0.32			0.929		
				20:01		0.79	539.63	237.90	301.73	0.938		
	M			20:14		0.83	320.00	145.00	175.00	0.948		
	D	D	CO	20:20	RO	1.08	60.87			0.953		
	D	D	CO	20:26	RO	0.45	24.27			0.958		
		DC	SN	20:31	RO	3.30	1.82			0.962		
		DC	SN	20:39	RO	2.18	0.39			0.968		
				20:46		0.76	71.02	30.75	40.27	0.973		
		DC	SN	20:52	RO	0.50	0.51			0.978		
		DC	SN	20:58	RO	3.88	0.28			0.983		
	M			21:07		0.89	162.60	76.40	86.20	0.990		
				21:14		0.76	240.64	104.13	136.51	0.995		
				21:21		0.77	67.87	29.47	38.40	1.001	2378-TCDD	AN
				21:31	RO	0.64	29.61	12.94	20.07	1.009		
				21:43		0.73	103.87	43.72	60.15	1.018		
		DC	SN	21:50	RO	0.26	0.39			1.023		
				21:58		0.73	27.97	11.77	16.20	1.030		
		DC	SN	22:09	RO	0.16	0.25			1.038		
		DC	SN	22:14	RO	2.91	1.67			1.042		
				22:25		0.74	44.25	18.78	25.47	1.051		
		DC	SN	22:34	RO	0.53	0.57			1.058		
		DC	WH	22:42	RO	0.06	0.69			1.064		
		DC	WH	22:48	RO	1.22	0.57			1.069		
		DC	WH	22:51	RO	0.08	0.90			1.071		
		DC	WH	22:53	RO	0.48	0.44			1.073		
		DC	WH	22:58	RO	2.86	0.12			1.077		
320-322			13	Peaks			1,867.52					
37Cl-TCDD										0.906-1.094		
328		DC	NL	0:00			0.23			0.000		
		DC	WL	18:21			0.47			0.860		
		DC	WL	18:29			0.39			0.866		
		DC	WL	18:32			0.29			0.869		
		DC	WL	18:54			0.66			0.886		
		DC	WL	18:58			0.17			0.889		
		DC	WL	19:06			0.22			0.895		
		DC	WL	19:14			0.50			0.902		
		DC	WL	19:17			3.78			0.904		

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		19:24			0.31			0.909		
	DC	SN		19:28			0.40			0.913		
	DC	SN		19:32			0.21			0.916		
	DC	SN		19:37			0.38			0.920		
	DC	SN		19:40			0.34			0.922		
	DC	SN		19:44			0.32			0.925		
				19:51			31.51	31.51		0.930		
	DC	SN		19:57			0.46			0.935		
	DC	SN		19:59			0.66			0.937		
	DC	SN		20:01			1.72			0.938		
	DC	SN		20:04			0.41			0.941		
	DC	SN		20:06			0.48			0.942		
	DC	SN		20:13			0.74			0.948		
	DC	SN		20:15			0.82			0.949		
	DC	SN		20:25			0.22			0.957		
	DC	SN		20:32			0.73			0.963		
	DC	SN		20:35			1.45			0.965		
	DC	SN		20:42			0.32			0.970		
	DC	SN		20:45			0.72			0.973		
	DC	SN		20:54			0.28			0.980		
	DC	SN		21:07			0.13			0.990		
	DC	SN		21:10			0.51			0.992		
	DC	SN		21:14			0.63			0.995		
				21:21			396.65	396.65		1.001	37Cl-TCDD	SUR1
	DC	SN		21:29			0.60			1.007		
	DC	SN		21:32			0.32			1.009		
	DC	SN		21:37			0.31			1.013		
	DC	SN		21:40			0.38			1.016		
	DC	SN		21:43			0.57			1.018		
				21:48			8.90	8.90		1.022		
				21:51			3.36	3.36		1.024		
	DC	SN		21:54			0.30			1.027		
	DC	SN		21:57			0.18			1.029		
	DC	SN		21:58			0.64			1.030		
	DC	SN		22:09			0.26			1.038		
	DC	SN		22:11			0.25			1.040		
	DC	SN		22:15			0.61			1.043		
	DC	SN		22:18			0.92			1.045		
	DC	SN		22:20			0.40			1.047		
	DC	SN		22:24			0.54			1.050		
	DC	SN		22:31			0.96			1.055		
	DC	SN		22:35			0.27			1.059		
	DC	SN		22:39			0.38			1.062		
	DC	SN		22:53			0.78			1.073		
328			4	Peaks			440.42					
13C12-TCDD					0.65-0.89					0.906-1.094		
332-334	DC	NL		0:00	RO	4.70	1.75			0.000		
				20:02	RO	0.54	10.92	4.73	8.82	0.939		
				21:08		0.82	5,372.40	2,423.98	2,948.42	0.991	13C12-1234-TCDD	RS1
				21:20		0.79	4,305.24	1,901.94	2,403.30	1.000	13C12-2378-TCDD	IS1
	DC	SN		21:28		0.75	5.03			1.006		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
				21:31	RO	2.38	4.51	6.07	2.55	1.009		
				21:41		0.83	52.58	23.78	28.80	1.016		
	DC	SN		21:47	RO	0.94	2.07			1.021		
	DC	SN		21:59	RO	1.96	1.59			1.030		
332-334			5	Peaks			9,745.65					

---------- Above: TCDD / PeCDF Follows ----------

PeCDF				1.32-1.78					0.909-1.076			
340-342	DC	NL		0:00	RO	1.09	0.41			0.000		
				22:42		1.51	14,728.69	8,867.59	5,861.10	0.915		
				23:46	RO	2.40	56.42	53.12	22.10	0.958		
				23:56		1.49	4,385.72	2,621.99	1,763.73	0.965		
				24:05		1.40	318.76	185.70	133.06	0.971		
				24:15		1.45	77.74	46.01	31.73	0.978		
				24:19		1.74	41.95	26.66	15.29	0.981		
				24:26		1.56	445.11	271.15	173.96	0.985		
				24:31		1.55	464.17	282.43	181.74	0.989		
				24:43		1.50	421.49	252.85	168.64	0.997		
				24:49		1.51	1,276.90	767.34	509.56	1.001	12378-PeCDF	AN
				24:59		1.72	90.23	57.09	33.14	1.007		
				25:07		1.47	918.96	546.66	372.30	1.013		
				25:15	RO	0.70	32.46	19.74	28.18	1.018		
				25:34		1.47	1,238.14	736.85	501.29	1.031	23478-PeCDF	AN
				25:46		1.54	1,887.11	1,143.09	744.02	1.039		
	E		E	26:26	RO	1.50	610.37	371.01	247.46	1.066		
				26:32		1.69	107.02	67.22	39.80	1.070		
340-342			17	Peaks			27,101.24					
2-PeCDF				1.32-1.78					0.839-1.161			
-354	DC	NL		0:00	RO	0.91	0.33			0.000		
				23:34		1.46	10.66	6.33	4.33	0.950		
				24:25	RO	1.16	13.46	8.19	7.04	0.985		
				24:48		1.45	4,230.71	2,504.70	1,726.01	1.000	13C12-PeCDF 123	IS2
	DC	SN		24:56	RO	1.05	4.15			1.005		
				24:58	RO	0.86	8.36	5.07	5.92	1.007		
				25:06	RO	1.30	30.26	18.40	14.14	1.012		
				25:33		1.47	4,299.22	2,559.37	1,739.85	1.030	13C12-PeCDF 234	SUR2
	DC	SN		26:32	RO	0.57	3.66			1.070		
352-354			6	Peaks			8,592.67					

---------- Above: PeCDF / PeCDD Follows ----------

PeCDD				1.32-1.78					0.922-1.025			
356-358	DC	NL		0:00	RO	1.25	0.41			0.000		
				24:03		1.58	2,897.55	1,774.80	1,122.75	0.928		
	DC	SN		24:24	RO	0.28	1.26			0.941		
				24:33		1.59	1,439.80	883.34	556.46	0.947		
	DC	SN		24:40		1.66	1.17			0.952		
				24:49		1.64	941.50	584.75	356.75	0.958		
				24:58		1.54	935.47	566.66	368.81	0.963		
				25:09		1.55	543.22	330.19	213.03	0.970		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
				25:19		1.53	688.36	416.65	271.71	0.977		
				25:25		1.59	1,701.50	1,043.39	658.11	0.981		
				25:38		1.46	216.77	128.68	88.09	0.989		
				25:45		1.40	64.13	37.39	26.74	0.994		
	DC	SN		25:50	RO	0.48	1.00			0.997		
				25:56		1.46	630.51	373.91	256.60	1.001	12378-PeCDD	AN
				26:04		1.57	659.77	402.96	256.81	1.006		
				26:25		1.56	285.25	174.02	111.23	1.019		
	DC	WH		26:48	RO	0.49	8.62			1.034		
356-358			12	Peaks			11,003.83					
13C12-PeCDD				1.32-1.78					0.846-1.154			
368-370	DC	NL		0:00	RO	1.19	0.41			0.000		
	DC	SN		25:16	RO	0.57	0.92			0.975		
				25:55		1.42	2,494.99	1,464.48	1,030.51	1.000	13C12-PeCDD 123	IS3
				26:04		1.39	244.26	142.08	102.18	1.006		
	DC	SN		26:22	RO	0.70	1.50			1.017		
	DC	SN		26:24	RO	1.92	3.39			1.019		
				26:34	RO	0.49	7.76	4.71	9.64	1.025		
368-370			3	Peaks			2,747.01					

---------- Above: PeCDD / HxCDF Follows ----------

HxCDF				1.05-1.43					0.956-1.051			
374-376	DC	NL		0:00	RO	1.02	66.21			0.000		
				27:27		1.18	33,618.50	18,199.20	15,419.30	0.963		
				27:36	RO	1.99	32,327.99	28,738.50	14,413.60	0.968		
				27:53		1.24	616.46	341.08	275.38	0.978		
				28:05	RO	1.04	64,250.77	35,631.80	34,135.00	0.985		
				28:26		1.23	13,660.07	7,525.10	6,134.97	0.997	123478-HxCDF	AN
				28:32		1.22	3,802.92	2,089.13	1,713.79	1.001	123678-HxCDF	AN
				28:49		1.29	519.46	292.46	227.00	1.011		
				29:00		1.23	3,020.69	1,667.51	1,353.18	1.017		
				29:03		1.25	1,997.30	1,111.49	885.81	1.019	234678-HxCDF	AN
				29:06		1.33	260.17	148.39	111.78	1.020		
				29:45		1.15	548.28	292.71	255.57	1.043	123789-HxCDF	AN
				29:49		1.23	3,588.70	1,975.83	1,612.87	1.046		
374-376			12	Peaks			158,211.31					
13C12-HxCDF				0.43-0.59					0.860-1.140			
384-386	DC	NL		0:00	RO	0.85	1.99			0.000		
				27:26	RO	1.39	17.35	15.98	11.48	0.962		
				27:35	RO	2.26	34.57	51.73	22.91	0.967		
				28:04	RO	2.77	102.38	187.75	67.85	0.984		
				28:25		0.50	2,681.57	897.70	1,783.87	0.996	13C12-HxCDF 478	SUR3
				28:31		0.50	2,778.75	926.63	1,852.12	1.000	13C12-HxCDF 678	IS4
	DC	SN		28:39	RO	2.47	2.40			1.005		
				29:02		0.49	2,338.78	773.35	1,565.43	1.018	13C12-HxCDF 234	ALT2
	DC	SN		29:07	RO	0.65	2.85			1.021		
				29:44		0.51	1,812.73	608.85	1,203.88	1.043	13C12-HxCDF 789	ALT1
384-386			7	Peaks			9,766.13					

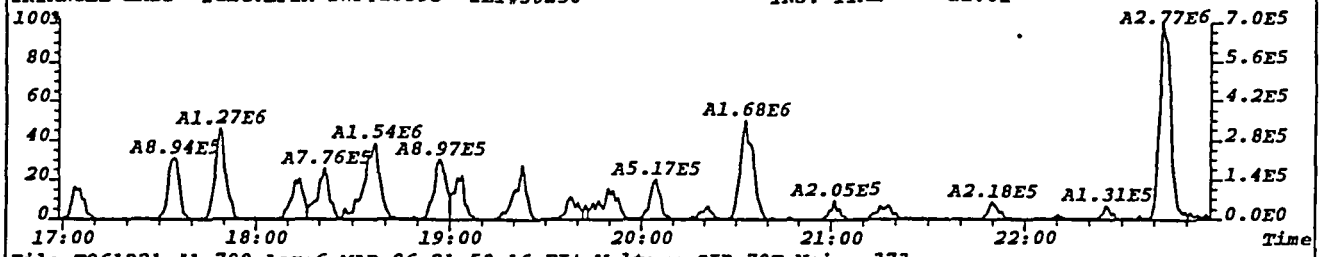
Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
---------- Above: HxCDF / HxCDD Follows ----------												
HxCDD				1.05-1.43						0.950-1.014		
390-392	DC	NL		0:00	RO	0.97	11.01			0.000		
				27:57	RO	1.04	49,254.98	27,329.60	26,154.00	0.956		
				28:26		1.22	6,936.42	3,805.06	3,131.36	0.972		
				28:38		1.06	47,390.10	24,440.30	22,949.80	0.979		
				28:48		1.21	13,334.42	7,289.04	6,045.38	0.985		
				29:10		1.21	1,265.66	691.95	573.71	0.997	123478-HxCDD	AN
				29:15		1.19	15,158.15	8,244.03	6,914.12	1.000	123678-HxCDD	AN
				29:33		1.22	4,814.26	2,646.96	2,167.30	1.010	123789-HxCDD	AN
390-392			7	Peaks			138,153.99					
13C12-HxCDD				1.05-1.43						0.966-1.034		
402-404	DC	NL		0:00		1.14	3.77			0.000		
	DC	WL		27:58		1.38	12.44			0.956		
	DC	WL		28:04		1.19	31.59			0.960		
	DC	WL		28:08	RO	1.00	0.90			0.962		
	DC	SN		28:24		1.07	0.87			0.971		
	DC	SN		28:26	RO	1.51	1.79			0.972		
				28:38	RO	2.20	9.75	9.58	4.35	0.979		
				29:10		1.22	1,705.46	937.69	767.77	0.997	13C12-HxCDD 478	SUR4
				29:15		1.18	2,066.42	1,119.24	947.18	1.000	13C12-HxCDD 678	IS5
	DC	SN		29:23	RO	2.32	1.34			1.005		
				29:32		1.19	2,427.54	1,319.55	1,107.99	1.010	13C12-HxCDD 789	RS2
	DC	SN		29:38	RO	0.31	0.66			1.013		
	DC	SN		29:39	RO	0.89	1.51			1.014		
	DC	SN		29:59	RO	2.17	0.78			1.025		
2-404			4	Peaks			6,209.17					
---------- Above: HxCDD / HpCDF Follows ----------												
HpCDF				0.88-1.20						0.994-1.043		
408-410	DC	NL		0:00		0.89	19.82			0.000		
				31:12		1.01	74,543.00	37,476.40	37,066.60	0.999		
				31:26		1.20	600.02	326.76	273.26	1.006		
				31:33		1.01	81,746.30	41,121.80	40,624.50	1.010		
D	d	SN		32:06		1.11	183.83			1.028		
				32:25		1.06	6,467.15	3,325.72	3,141.43	1.038	1234789-HpCDF	AN
408-410			4	Peaks			163,356.47					
13C12-HpCDF				0.37-0.51						0.936-1.128		
418-420	DC	NL		0:00	RO	1.34	2.18			0.000		
				31:14	RO	0.69	1,653.12	794.20	1,145.92	1.000	13C12-HpCDF 678	IS6
				31:35	RO	2.63	266.95	487.40	185.53	1.011		
	DC	SN		31:45	RO	1.62	2.39			1.017		
				32:05	RO	1.03	12.37	8.83	8.61	1.027		
				32:25		0.45	994.41	309.24	685.17	1.038	13C12-HpCDF 789	SUR5
	DC	SN		32:33	RO	1.91	1.47			1.042		
	DC	SN		32:41	RO	0.17	1.51			1.046		
				32:52	RO	2.48	11.87	20.44	8.25	1.052		
418-420			5	Peaks			2,938.72					

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
---------- Above: HpCDF / HpCDD Follows ----------												
HpCDD				0.88-1.20						0.976-1.005		
424-426	DC	NL		0:00	RO	1.35	16.67			0.000		
	DC	WL		31:14	RO	1.46	83.89			0.974		
				31:30		1.00	87,366.70	43,575.60	43,791.10	0.982		
				32:05		0.98	60,612.80	30,053.50	30,559.30	1.001	1234678-HpCDD	AN
424-426			2	Peaks			147,979.50					
13C12-HpCDD				0.88-1.20						0.969-1.031		
436-438	DC	NL		0:00		0.96	3.27			0.000		
				31:15	RO	1.32	42.03	27.18	20.62	0.975		
				31:31	RO	1.57	152.10	117.17	74.45	0.983		
				31:36		1.08	69.24	36.02	33.22	0.985		
				31:45		1.18	16.57	8.97	7.60	0.990		
				32:04		1.06	1,079.18	555.56	523.62	1.000	13C12-HpCDD 678	IS7
	DC	SN		32:32	RO	1.57	4.45			1.015		
	DC	SN		32:34	RO	1.47	1.87			1.016		
436-438			5	Peaks			1,359.12					
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------												
OCDF				0.76-1.02						0.884-1.116		
442-444	DC	NL		0:00	RO	1.15	1.99			0.000		
				31:32	RO	1.18	158.70	99.09	83.96	0.913		
				34:39		0.97	68,559.30	33,719.10	34,840.20	1.003	OCDF	AN
442-444			2	Peaks			68,718.00					
OCDD				0.76-1.02						0.884-1.116		
458-460	DC	NL		0:00	RO	1.35	1.30			0.000		
				34:32		0.94	75,160.50	36,513.10	38,647.40	1.000	OCDD	AN
458-460			1	Peak			75,160.50					
13C12-OCDD				0.76-1.02						0.995-1.004		
470-472	DC	NL		0:00	RO	1.07	0.53			0.000		
				34:33	RO	1.73	407.39	372.53	215.92	1.000	13C12-OCDD	IS8
				34:39	RO	1.33	41.58	29.29	21.97	1.003		
470-472			2	Peaks			448.97					

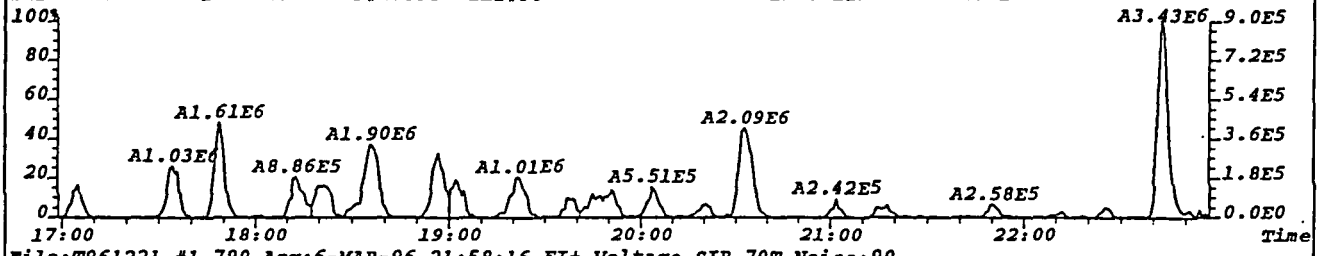
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

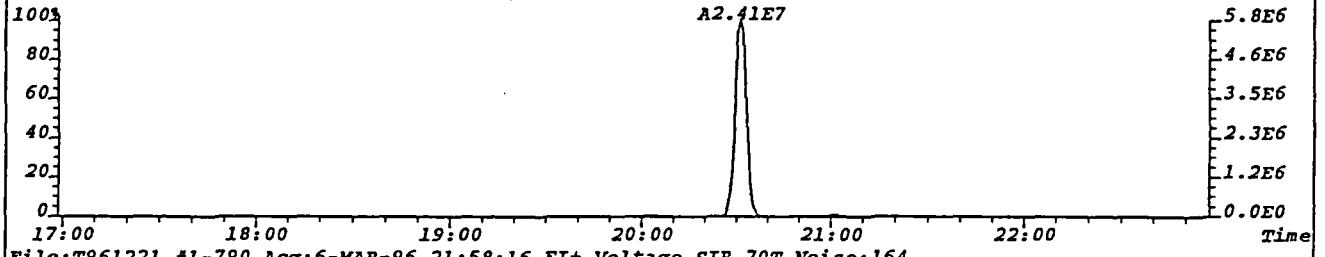
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:608
303.9016 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2432.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



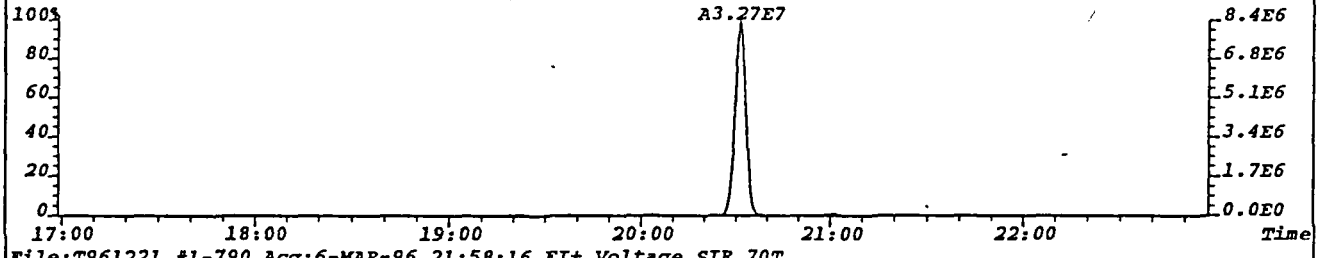
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:373
305.8987 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1492.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



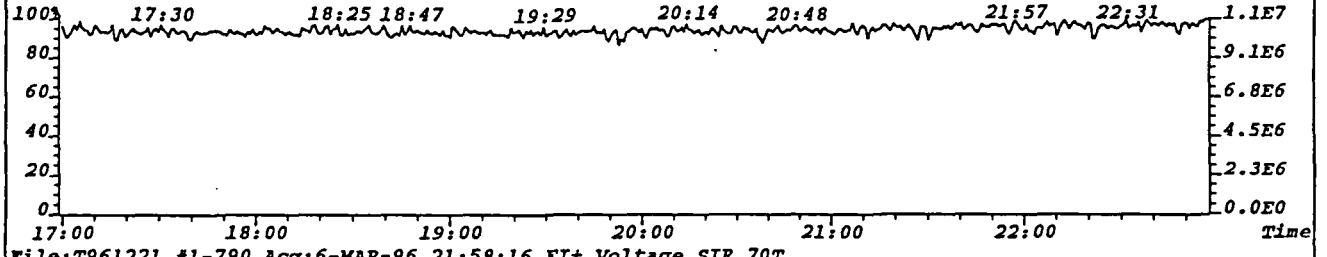
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:90
315.9419 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,360.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



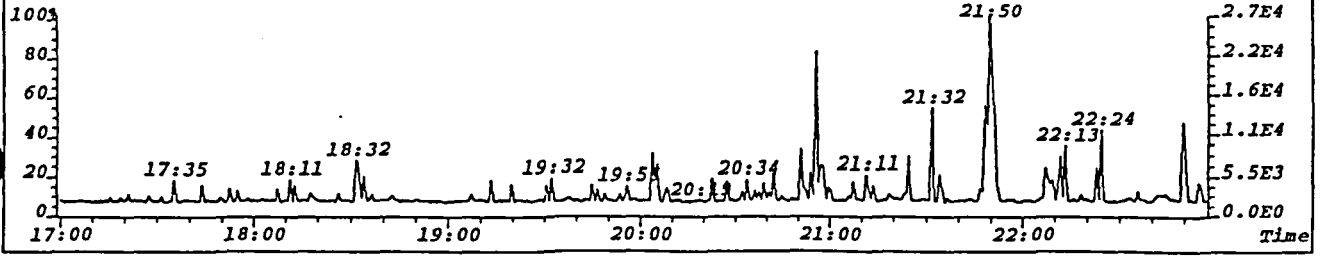
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:164
317.9389 F:2 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,656.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



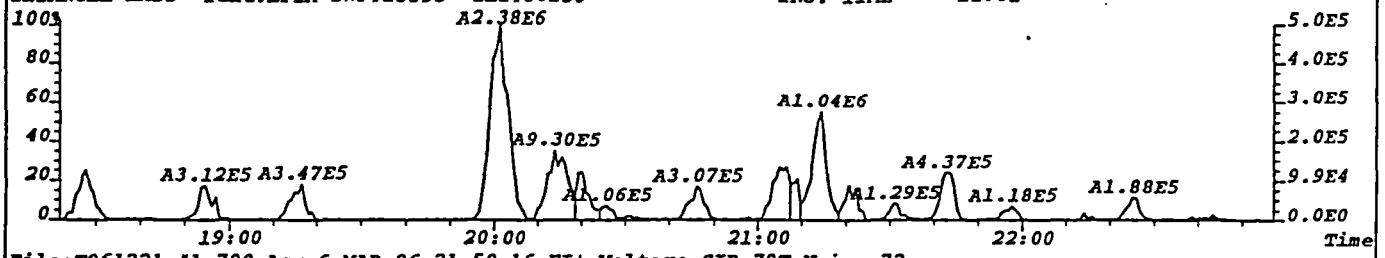
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



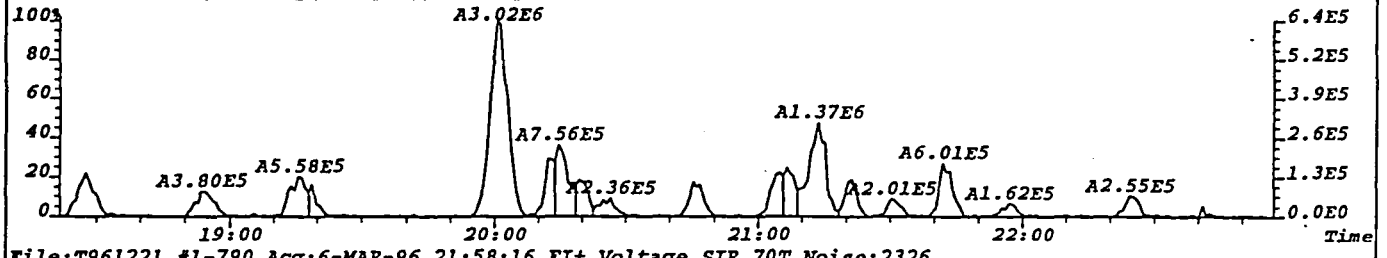
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



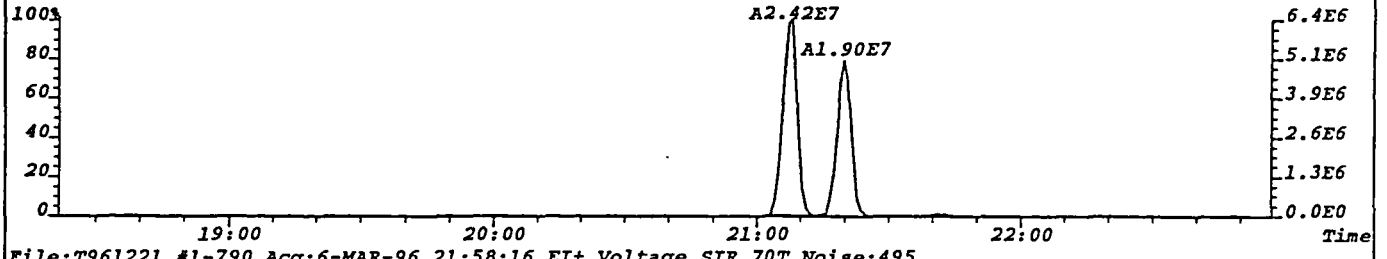
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:111
319.8965 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,444.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



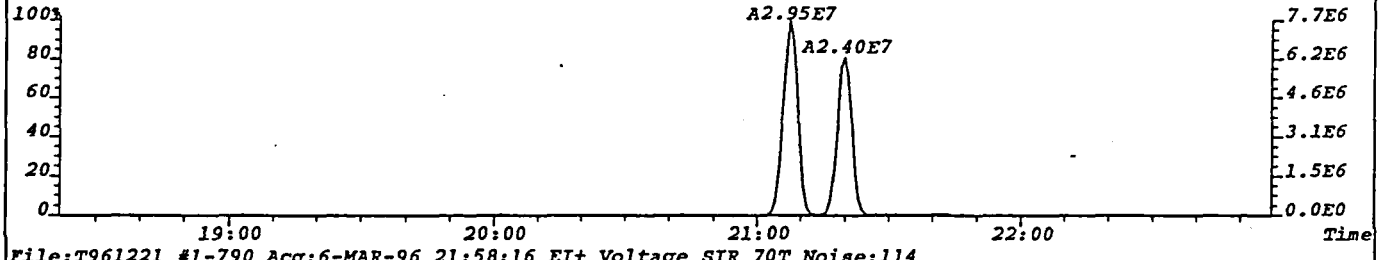
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:72
321.8936 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,288.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



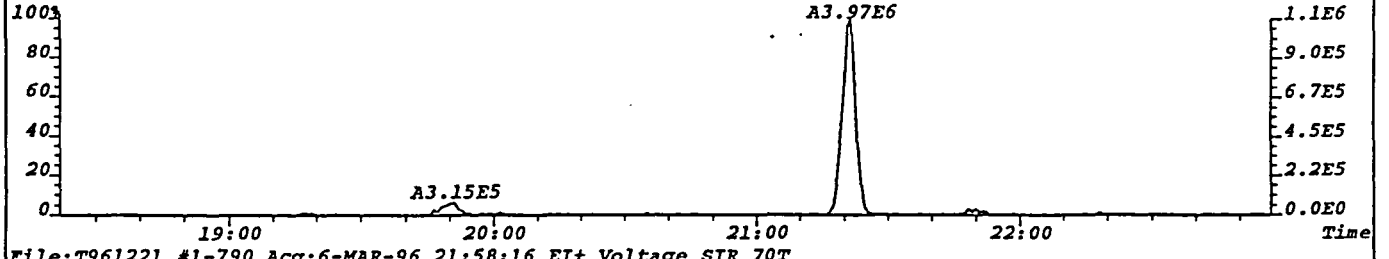
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:2326
331.9368 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,9304.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



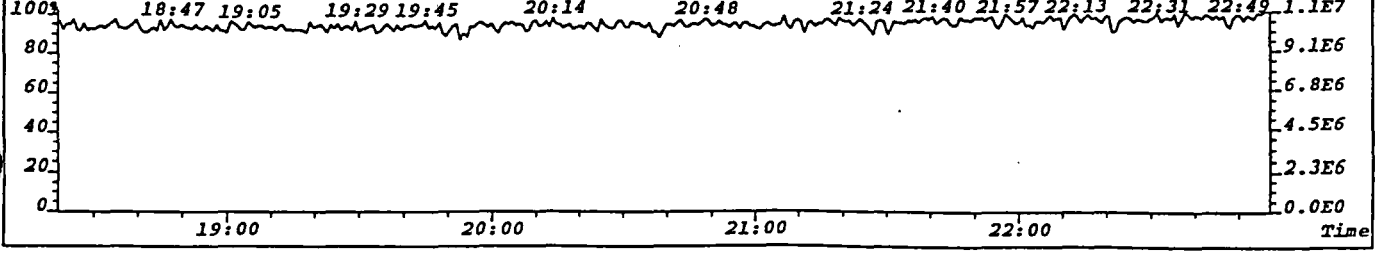
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:495
333.9338 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1980.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



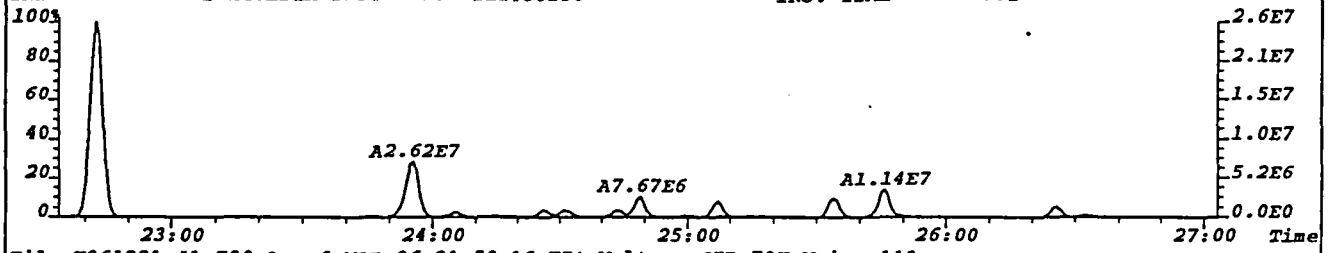
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:114
327.8847 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,456.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



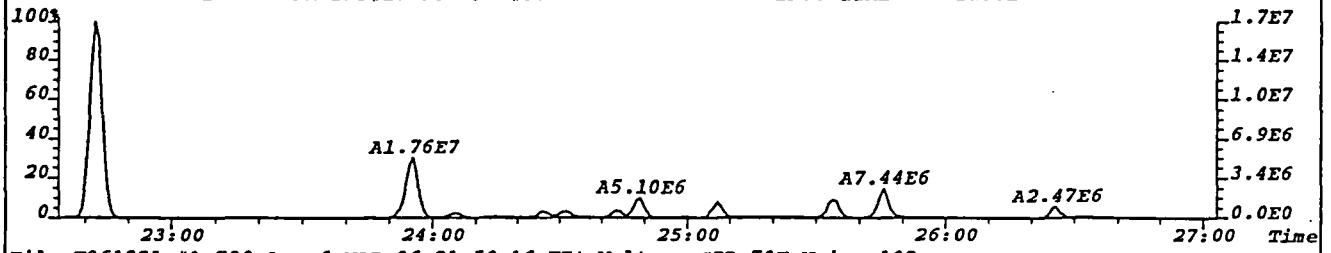
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



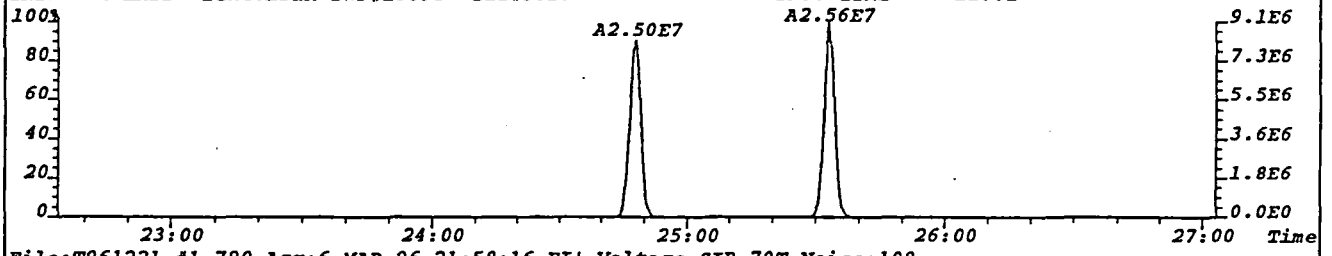
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:124
339.8597 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,496.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



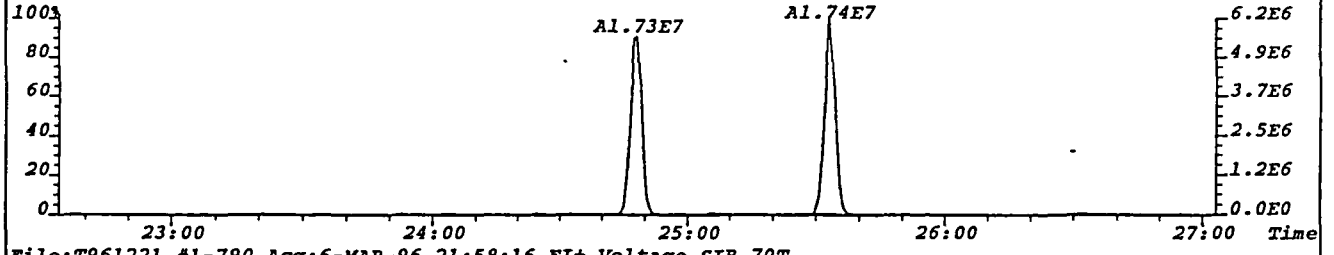
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:113
341.8567 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,452.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



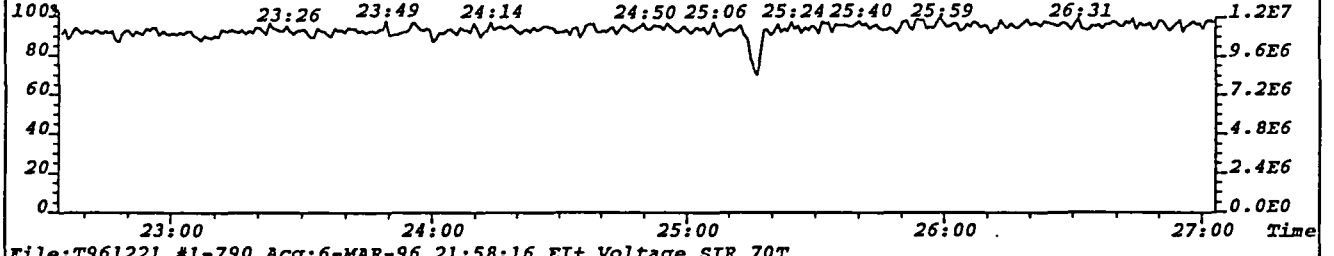
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:102
351.9000 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,408.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



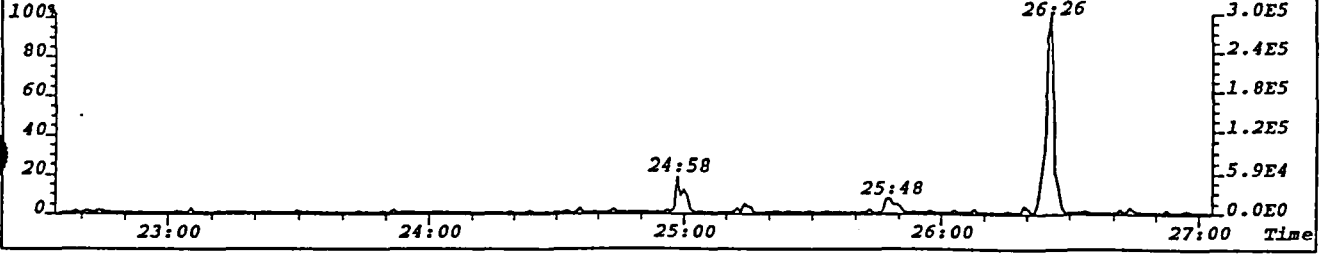
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:108
353.8970 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,432.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



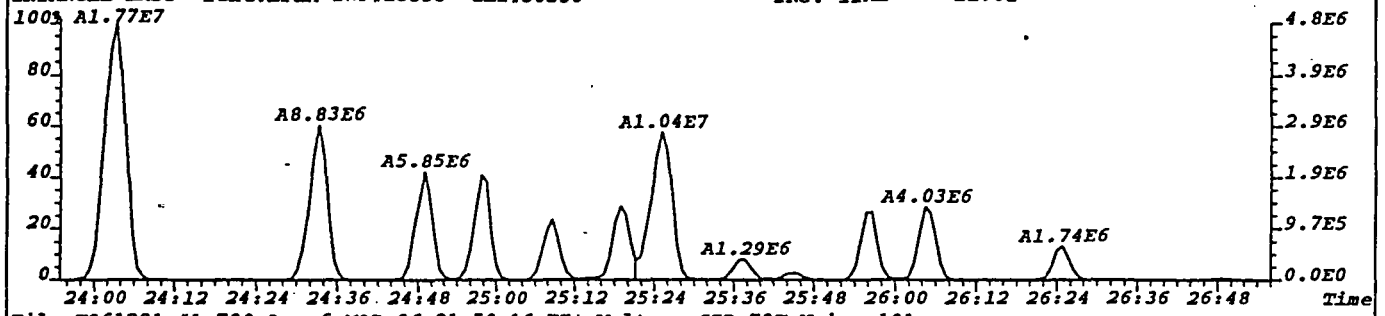
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



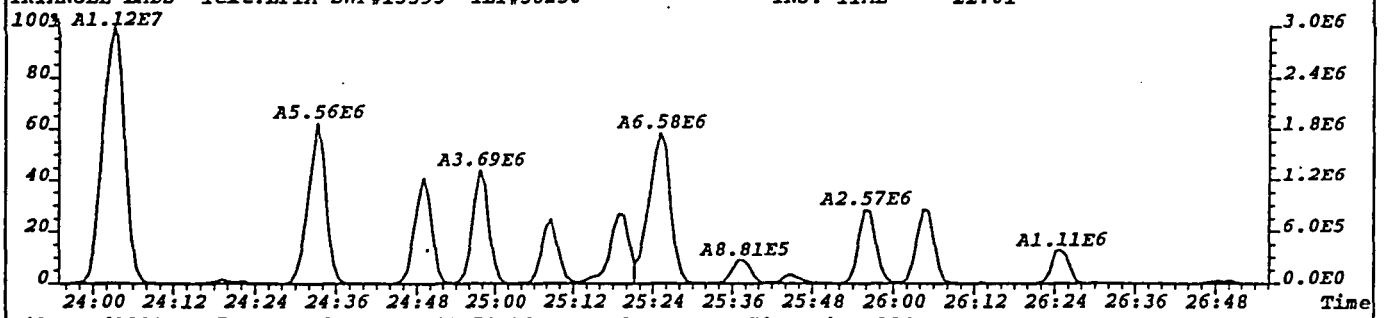
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



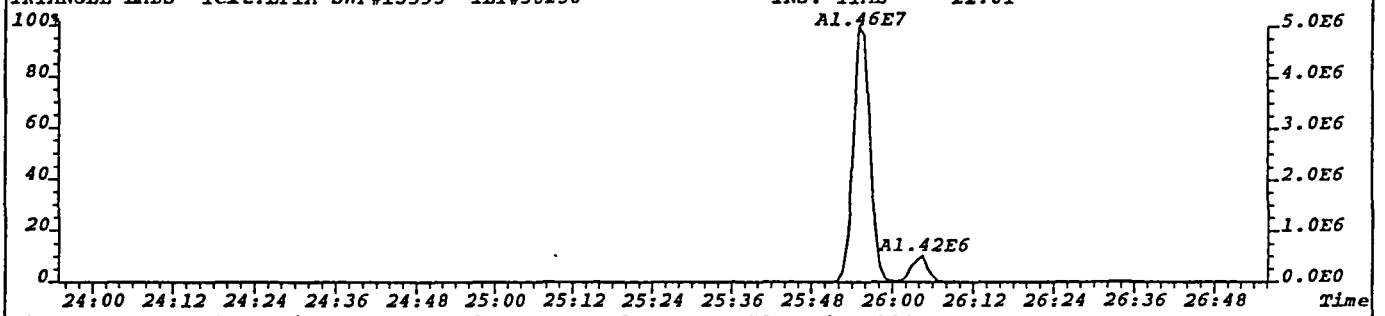
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:126
355.8546 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,504.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



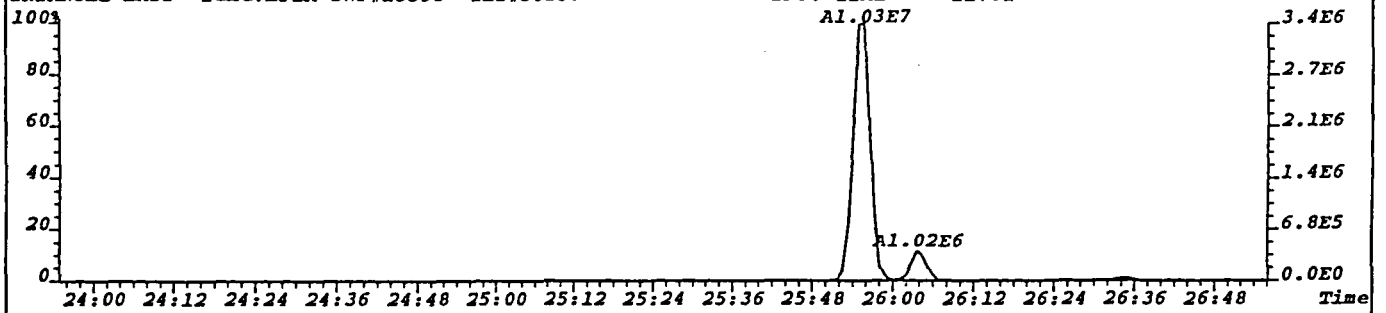
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:101
357.8516 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,404.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



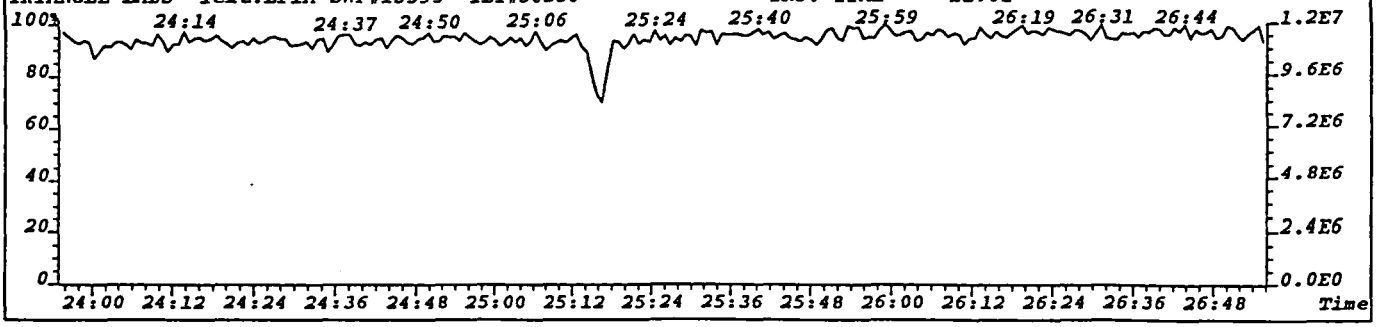
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:124
367.8949 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,496.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01

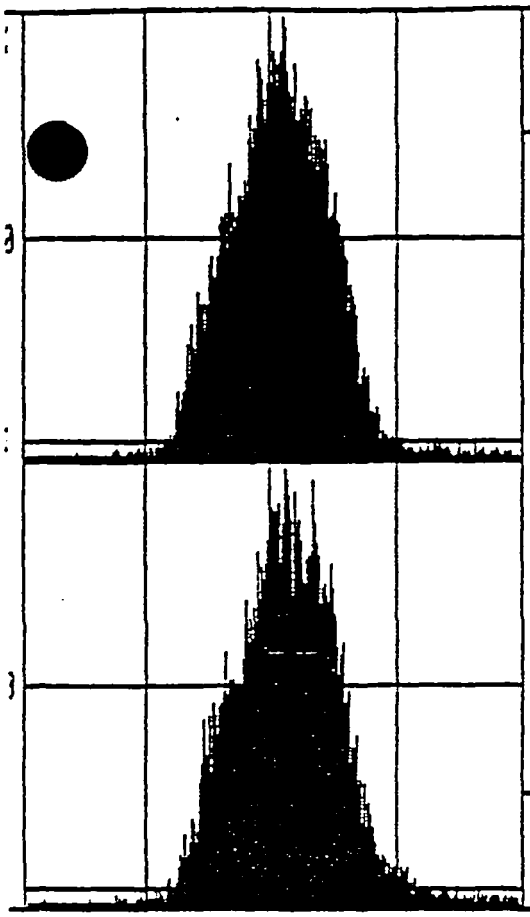


File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T Noise:104
369.8919 F:2 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,416.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01



File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01





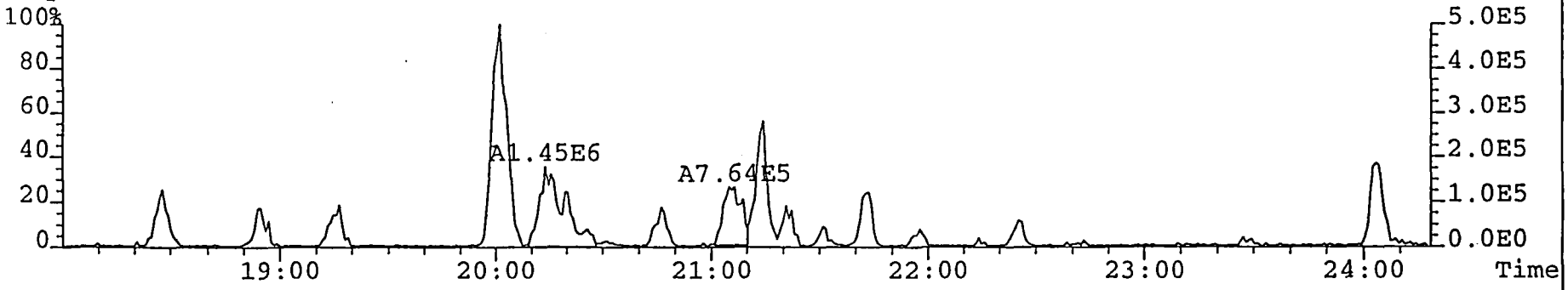
Ref. mass 292.9825 Peak top
Height 5.85 volts Span 200 ppm

System file name	EPCUS
Data file name	A:T961211
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

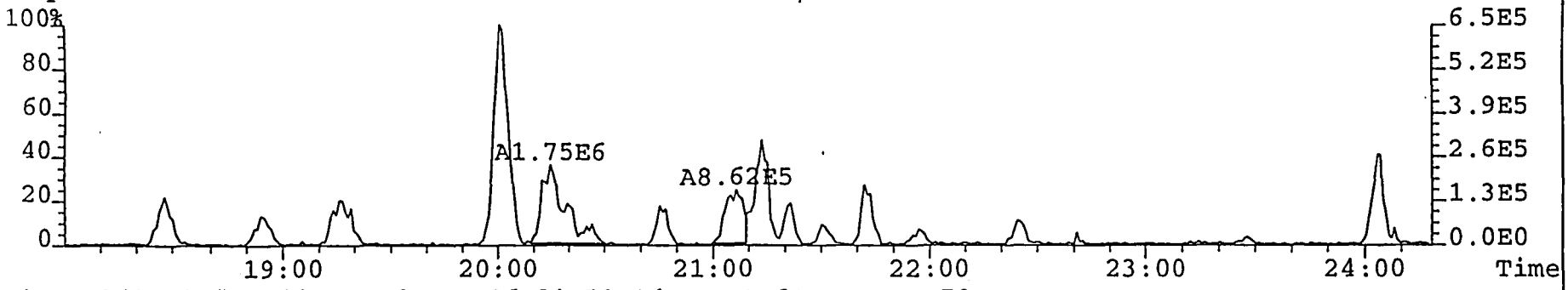
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height 3.75 volts Span 200 ppm

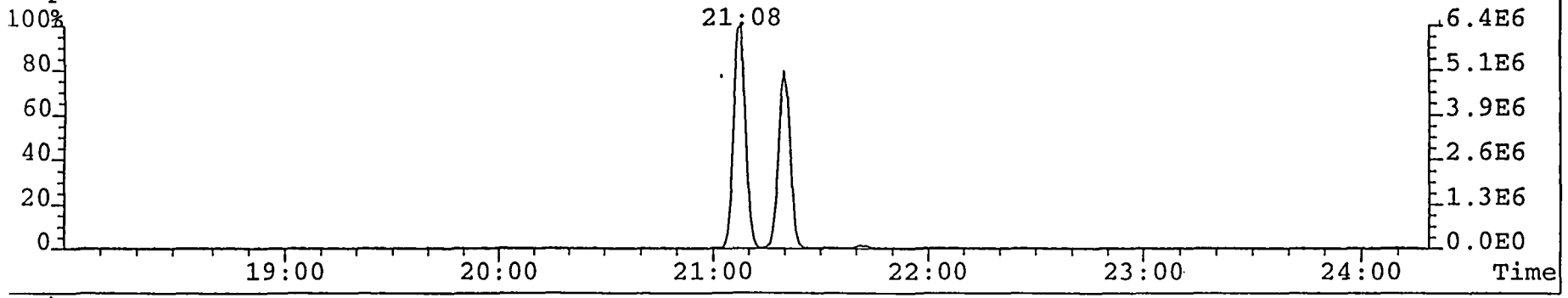
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
319.8965 F:2 Exp:EPCUS
Sample Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01 File Text:LF1A SWP#1359»



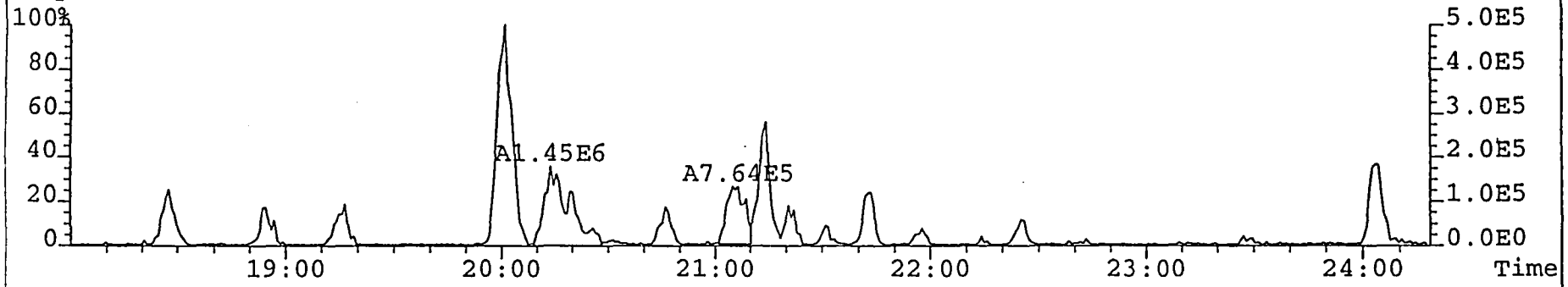
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
321.8936 F:2 Exp:EPCUS
Sample Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01 File Text:LF1A SWP#1359»



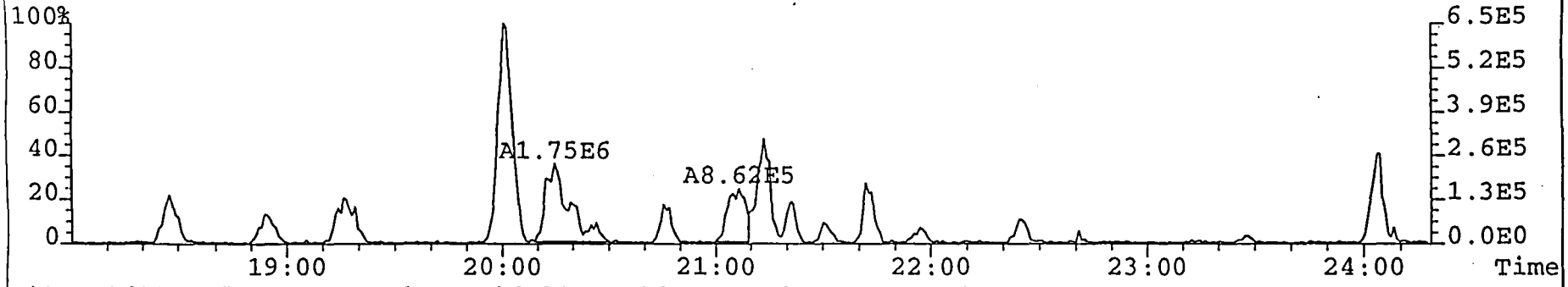
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
331.9368 F:2 Exp:EPCUS
Sample Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01 File Text:LF1A SWP#1359»



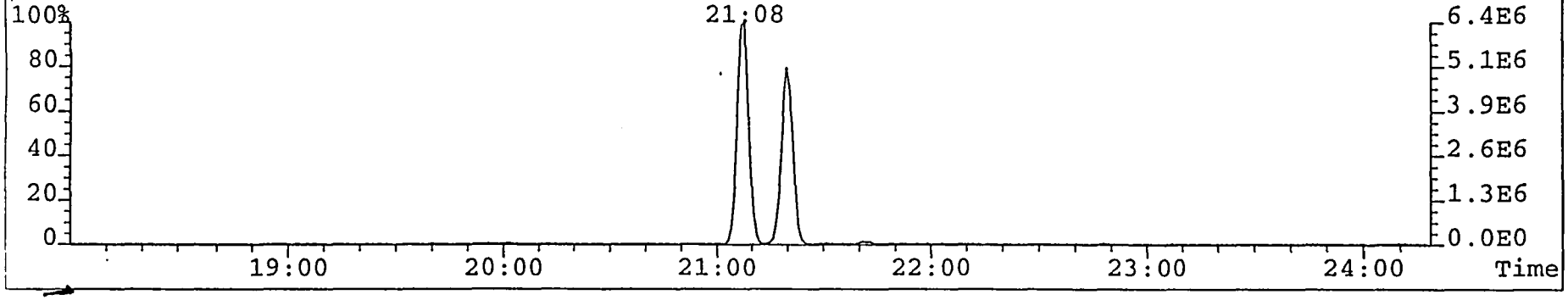
File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
319.8965 F:2 Exp:EPCUS
Sample Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01 File Text:LF1A SWP#1359»



File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
321.8936 F:2 Exp:EPCUS
Sample Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01 File Text:LF1A SWP#1359»



File:T961221 #1-790 Acq:6-MAR-96 21:58:16 EI+ Voltage SIR 70T
331.9368 F:2 Exp:EPCUS
Sample Text:LF1A SWP#13595 TLI#36250 INJ. TIME = 22:01 File Text:LF1A SWP#1359»



Southern Wood Piedmont

TLI Project: 36250 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: LF1A SWP# 13595 — Analysis File: T961528

Client Project:	12-53020.00:SWP-Wilmington				
Sample Matrix:	SOIL	Date Received:	02/16/96	Spike File:	SPX2372S
TLI ID:	114-155-2	Date Extracted:	02/20/96	ICal:	TF53086
		Date Analyzed:	03/22/96	ConCal:	T961511
Sample Size:	11.450 g	Dilution Factor:	5X	% Moisture:	12.6
Dry Weight:	10.007 g	Blank File:	T961231	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	87.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,7,8-HxCDD	191			1.34	29:38	___
1,2,3,6,7,8-HxCDD	1600			1.20	29:43	___
1,2,3,7,8,9-HxCDD	526			1.15	29:59	___
1,2,3,4,6,7,8-HpCDD	55750			1.00	32:30	___
1,2,3,4,6,7,8,9-OCDD	583460			0.86	35:00	___
1,2,3,4,7,8-HxCDF	956			1.20	28:54	___
1,2,3,6,7,8-HxCDF	206			1.28	29:00	___
2,3,4,6,7,8-HxCDF	469			1.34	29:27	___
1,2,3,7,8,9-HxCDF	EMPC		44.8			___
1,2,3,4,6,7,8-HpCDF	56260			1.05	31:39	___
1,2,3,4,7,8,9-HpCDF	1100			1.17	32:50	___
1,2,3,4,6,7,8,9-OCDF	154750			0.89	35:07	___

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HxCDD	18060	7			___
Total HpCDD	290890	2			___
Total HxCDF	31580	7		31620	___
Total HpCDF	133590	3			___

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	149	74.5	40%-130%	0.49	29:00	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	138	68.8	40%-130%	1.14	29:42	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	128	64.1	25%-130%	0.61	31:39	RO___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	127	63.3	25%-130%	0.97	32:28	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	73.0	18.3	25%-130%	1.24	35:00	RO_N

X237_PSR v1.14, LARS 6.04.00

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Printed: 09:55 03/27/96

Southern Wood Piedmont

TLI Project: 36250 Method 8290 PCDD/PCDF Analysis (b)
Client Sample: LF1A SWP# 13595 Analysis File: T961528

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	157	78.6	40%-130%	0.57	28:54	N
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	209	105	40%-130%	1.19	29:38	
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	123	61.7	25%-130%	0.29	32:50	RO

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	111	55.6	40%-130%	0.36	30:12	RO
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	104	52.0	40%-130%	0.41	29:29	RO

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.31	29:59	

Data Reviewer: BR 03/27/96

X237_PSR v1.14, LARS 6.04.00

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Printed: 09:55 03/27/96

Initial ....Date...

Data Review By: AR 3/24/96 Calculated Noise Area: 1.20

e Total Area for each peak with an ion abundance ratio outside
tio limits has been recalculated according to method requirements.

Page No. 1 Listing of T961528B.dbf
03/25/96 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
TCDF						0.65-0.89				0.832-1.094		
304-306	DC	NL		0:00	RO	1.13	0.14			0.000		
	DC	SN		17:52	RO	0.36	0.48			0.842		
	DC	SN		18:19	RO	2.77	0.46			0.863		
	DC	SN		18:25	RO	0.18	0.05			0.868		
	DC	SN		18:36	RO	1.11	1.10			0.877		
	DC	SN		19:04	RO	3.29	0.55			0.899		
	DC	SN		19:08	RO	0.30	0.19			0.902		
	DC	SN		19:10	RO	0.26	0.76			0.903		
	DC	SN		19:22	RO	0.25	0.39			0.913		
	DC	SN		19:43		0.74	2.71			0.929		
	DC	SN		20:19	RO	1.73	0.19			0.958		
	DC	SN		20:24	RO	0.60	0.28			0.962		
	DC	SN		20:32	RO	0.27	0.76			0.968		
	DC	SN		20:44		0.72	1.74			0.977		
	DC	SN		21:05	RO	1.32	0.34			0.994		
	DC	SN		21:18	RO	0.35	0.85			1.004	2378-TCDF	AN
	DC	SN		21:21		0.80	0.27			1.006		
	DC	SN		21:28	RO	5.00	0.05			1.012		
	DC	SN		21:45	RO	0.05	0.05			1.025		
	DC	SN		21:52	RO	1.18	0.19			1.031		
	DC	SN		22:03	RO	5.75	0.07			1.039		
	DC	SN		22:11	RO	3.00	0.07			1.046		
	DC	SN		22:17	RO	0.30	0.07			1.050		
	DC	SN		22:24	RO	0.44	0.46			1.056		
	DC	SN		22:31	RO	3.00	0.27			1.061		
	DC	SN		22:34	RO	3.08	0.23			1.064		
	DC	SN		23:04	RO	0.61	0.80			1.087		
	DC	WH		23:20	RO	0.61	2.81			1.100		
304-306			0	Peaks			0.00					
13C12-TCDF						0.65-0.89				0.953-1.047		
316-318	DC	NL		0:00	RO	1.00	0.14			0.000		
	DC	WL		17:45	RO	7.60	0.09			0.837		
	DC	WL		17:45	RO	5.00	0.07			0.837		
	DC	WL		18:02	RO	2.25	0.07			0.850		
	DC	WL		18:10	RO	2.25	0.14			0.856		
	DC	WL		18:14		0.70	0.17			0.859		
	DC	WL		18:52	RO	10.75	0.07			0.889		
	DC	WL		19:01		0.84	0.68			0.896		
	DC	WL		19:07	RO	3.00	0.12			0.901		
	DC	WL		19:34	RO	4.33	0.05			0.922		
	DC	WL		19:38	RO	1.25	0.14			0.925		
	DC	WL		20:04	RO	2.14	0.39			0.946		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		20:14	RO	1.47	0.34			0.954		
	DC	SN		20:36	RO	1.25	0.21			0.971		
	DC	SN		20:40	RO	3.38	0.28			0.974		
	DC	SN		20:56	RO	7.86	0.12			0.987		
	DC	SN		21:02	RO	0.20	0.05			0.991		
				21:13		0.66	47.27	18.74	28.53	1.000	13C12-2378-TCDF	IS0
	DC	SN		21:26	RO	13.57	0.12			1.010		
	DC	SN		21:38	RO	0.57	0.58			1.020		
	DC	SN		21:51	RO	0.45	0.11			1.030		
	DC	SN		22:00	RO	2.33	0.05			1.037		
	DC	SN		22:04	RO	2.17	0.11			1.040		
	DC	WH		22:17	RO	1.95	0.34			1.050		
	DC	WH		22:29	RO	0.33	0.57			1.060		
	DC	WH		22:57	RO	1.03	0.53			1.082		
	DC	WH		23:06	RO	3.38	0.37			1.089		
	DC	WH		23:23		0.83	0.55			1.102		
316-318			1	Peak			47.27					

---------- Above: TCDF / TCDD Follows ----------

TCDD						0.65-0.89				0.868-1.055		
320-322	DC	NL		0:00	RO	1.29	0.12			0.000		
	DC	SN		19:16	RO	10.00	0.05			0.876		
	DC	SN		19:18	RO	0.38	0.21			0.878		
	DC	SN		19:20		0.75	0.14			0.879		
	DC	SN		19:30		0.67	0.10			0.887		
	DC	SN		19:43	RO	7.67	0.21			0.897		
	DC	SN		20:03	RO	1.07	0.51			0.912		
	DC	SN		20:08	RO	1.00	0.04			0.916		
	DC	SN		20:15	RO	1.00	0.04			0.921		
	DC	SN		20:31	RO	2.00	0.04			0.933		
	DC	SN		20:42		0.84	1.27			0.942		
	DC	SN		20:45	RO	1.15	1.57			0.944		
	DC	SN		20:47	RO	0.60	0.48			0.945		
	DC	SN		20:49	RO	7.00	0.04			0.947		
	DC	SN		20:53	RO	2.20	0.09			0.950		
	DC	SN		20:55	RO	1.68	0.44			0.951		
	DC	SN		20:58	RO	1.25	0.35			0.954		
	DC	SN		21:02	RO	1.43	0.37			0.957		
	DC	SN		21:06	RO	2.67	0.21			0.960		
	DC	SN		21:23	RO	0.43	0.07			0.973		
	DC	SN		21:26	RO	1.08	0.21			0.975		
	DC	SN		21:31	RO	0.22	0.16			0.979		
	DC	SN		21:36		0.88	0.15			0.983		
	DC	SN		21:43	RO	0.33	0.14			0.988		
	DC	SN		21:45	RO	0.54	0.64			0.989		
	DC	SN		21:55	RO	7.45	0.19			0.997		
	DC	SN		22:01		0.66	0.78			1.002	2378-TCDD	AN
	DC	SN		22:08	RO	4.00	0.09			1.007		
	DC	SN		22:11	RO	27.00	0.02			1.009		
	DC	SN		22:16	RO	0.08	0.02			1.013		
	DC	SN		22:21	RO	4.71	0.25			1.017		

Compound/ ?....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	22:50	RO	0.50	0.07			1.039		
		DC	SN	22:55	RO	1.75	0.07			1.042		
		DC	SN	23:01	RO	2.92	0.21			1.047		
		DC	SN	23:08	RO	2.25	0.07			1.052		
		DC	WH	23:15	RO	0.17	0.05			1.058		
		DC	WH	23:23	RO	0.50	0.18			1.064		
		DC	WH	23:26	RO	0.40	0.05			1.066		
		DC	WH	23:30	RO	0.40	0.05			1.069		
320-322			0	Peaks			0.00					
37Cl-TCDD										0.909-1.091		
328		DC	NL	0:00			0.07			0.000		
		DC	WL	19:04			0.05			0.867		
		DC	WL	19:07			0.01			0.870		
		DC	WL	19:16			0.09			0.876		
		DC	WL	19:19			0.01			0.879		
		DC	WL	19:24			0.06			0.882		
		DC	WL	19:26			0.18			0.884		
		DC	WL	19:30			0.02			0.887		
		DC	WL	19:34			0.23			0.890		
		DC	WL	19:39			0.03			0.894		
		DC	WL	19:42			0.06			0.896		
		DC	WL	19:44			0.17			0.898		
		DC	WL	19:50			0.25			0.902		
		DC	WL	19:53			0.05			0.904		
		DC	WL	19:55			0.01			0.906		
		DC	WL	19:58			0.03			0.908		
		DC	SN	20:01			0.09			0.911		
		DC	SN	20:03			0.02			0.912		
		DC	SN	20:06			0.22			0.914		
		DC	SN	20:18			0.01			0.923		
		DC	SN	20:21			0.01			0.926		
		DC	SN	20:23			0.02			0.927		
		DC	SN	20:29			0.79			0.932		
		DC	SN	20:34			1.48			0.936		
		DC	SN	20:38			0.02			0.939		
		DC	SN	20:49			0.08			0.947		
		DC	SN	20:52			0.04			0.949		
		DC	SN	20:57			0.09			0.953		
		DC	SN	21:00			0.01			0.955		
		DC	SN	21:02			0.01			0.957		
		DC	SN	21:05			0.03			0.959		
		DC	SN	21:09			0.03			0.962		
		DC	SN	21:22			0.12			0.972		
		DC	SN	21:36			0.11			0.983		
		DC	SN	21:54			0.11			0.996		
				22:02			3.87	3.87		1.002	37Cl-TCDD	SUR1
		DC	SN	22:06			0.06			1.005		
		DC	SN	22:10			0.09			1.008		
		DC	SN	22:13			0.08			1.011		
		DC	SN	22:17			0.04			1.014		
		DC	SN	22:20			0.39			1.016		

Compound/ ...	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		22:24			0.02			1.019		
	DC	SN		22:27			0.02			1.021		
	DC	SN		22:28			0.05			1.022		
	DC	SN		22:31			0.02			1.024		
	DC	SN		22:35			0.01			1.027		
	DC	SN		22:49			0.09			1.038		
	DC	SN		22:53			0.02			1.041		
	DC	SN		22:55			0.21			1.042		
	DC	SN		22:58			0.57			1.045		
	DC	SN		23:00			1.76			1.046		
	DC	SN		23:03			0.11			1.049		
	DC	SN		23:08			0.04			1.052		
	DC	SN		23:12			0.22			1.055		
	DC	SN		23:15			0.08			1.058		
	DC	SN		23:19			0.31			1.061		
	DC	SN		23:23			0.05			1.064		
328			1	Peak			3.87					
13C12-TCDD				0.65-0.89						0.909-1.091		
332-334	DC	NL		0:00	RO	8.13	0.14			0.000		
	DC	WL		19:06		0.77	1.91			0.869		
	DC	WL		19:10	RO	16.60	0.09			0.872		
	DC	WL		19:20		0.89	0.89			0.879		
	DC	WL		19:24	RO	2.08	0.23			0.882		
	DC	WL		19:35	RO	1.95	0.37			0.891		
	DC	WL		19:42	RO	1.43	0.25			0.896		
	DC	WL		19:46	RO	7.78	0.16			0.899		
	DC	WL		19:49	RO	1.74	0.41			0.901		
	DC	WL		19:52	RO	4.53	0.27			0.904		
	DC	WL		19:56	RO	12.50	0.04			0.907		
	DC	SN		20:02	RO	7.00	0.12			0.911		
	DC	SN		20:13	RO	0.48	0.69			0.920		
	DC	SN		20:15	RO	6.94	0.30			0.921		
	DC	SN		20:20	RO	2.00	0.64			0.925		
	DC	SN		20:23	RO	2.30	0.53			0.927		
	DC	SN		20:29	RO	6.40	0.09			0.932		
	DC	SN		20:31	RO	3.57	0.41			0.933		
	DC	SN		20:34	RO	0.38	0.25			0.936		
	DC	SN		20:37	RO	6.83	0.11			0.938		
	DC	SN		20:41	RO	4.25	0.14			0.941		
	DC	SN		20:43	RO	13.00	0.02			0.942		
	DC	SN		20:55	RO	2.33	0.37			0.951		
	DC	SN		20:58	RO	5.50	0.18			0.954		
	DC	SN		21:00	RO	4.56	0.16			0.955		
	DC	SN		21:11	RO	7.36	0.19			0.964		
	DC	SN		21:14	RO	4.59	0.30			0.966		
	DC	SN		21:16		0.70	0.90			0.967		
	DC	SN		21:19	RO	20.00	0.05			0.970		
	DC	SN		21:21	RO	6.56	0.32			0.971		
	DC	SN		21:23	RO	5.95	0.35			0.973		
	DC	SN		21:27	RO	1.75	1.04			0.976		
	DC	SN		21:31	RO	1.41	0.73			0.979		

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		21:34	RO	9.40	0.09			0.981		
	DC	SN		21:39	RO	2.67	0.27			0.985		
				21:47		0.66	41.61	16.49	25.12	0.991	13C12-1234-TCDD	RS1
	DC	SN		21:53	RO	2.06	0.96			0.995		
M				21:59		0.70	32.20	13.30	18.90	1.000	13C12-2378-TCDD	IS1
	DC	SN		22:07	RO	1.79	0.67			1.006		
	DC	SN		22:14	RO	3.44	0.48			1.011		
	DC	SN		22:22	RO	20.67	0.05			1.017		
	DC	SN		22:29	RO	13.25	0.14			1.023		
	DC	SN		22:35	RO	2.38	0.37			1.027		
	DC	SN		22:38	RO	1.11	0.34			1.030		
	DC	SN		22:41	RO	29.67	0.05			1.032		
	DC	SN		22:45	RO	4.67	0.53			1.035		
	DC	SN		22:53	RO	1.42	1.01			1.041		
	DC	SN		22:58	RO	1.93	0.50			1.045		
	DC	SN		23:01		0.88	0.64			1.047		
	DC	SN		23:03		0.72	1.05			1.049		
	DC	SN		23:11	RO	2.00	0.25			1.055		
	DC	SN		23:12	RO	4.33	0.11			1.055		
	DC	SN		23:20	RO	10.06	0.30			1.061		
	DC	SN		23:23	RO	1.27	0.80			1.064		
332-334			2	Peaks			73.81					

---------- Above: TCDD / PeCDF Follows ----------

PeCDF				1.32-1.78						0.912-1.074		
340-342	DC	NL		0:00	RO	1.13	0.15			0.000		
	DC	SN		23:08	RO	3.40	0.13			0.913		
				23:19		1.42	129.43	75.88	53.55	0.920		
	DC	SN		23:34	RO	0.28	0.17			0.930		
	DC	SN		23:37	RO	0.80	0.20			0.932		
	DC	SN		23:39	RO	0.35	0.21			0.934		
	DC	SN		23:49	RO	0.55	0.10			0.940		
	DC	SN		23:55	RO	1.00	0.28			0.944		
	DC	SN		23:58	RO	0.46	0.21			0.946		
	DC	SN		24:02	RO	0.20	0.16			0.949		
	DC	SN		24:06	RO	0.22	0.10			0.951		
	DC	SN		24:11	RO	0.65	0.18			0.955		
	DC	SN		24:20	RO	0.38	0.28			0.961		
	DC	SN		24:22	RO	1.20	0.81			0.962		
				24:29		1.43	39.48	23.22	16.26	0.966		
	DC	SN		24:36	RO	4.87	0.99			0.971		
	DC	SN		24:39	RO	4.42	1.22			0.973		
	DC	SN		24:45	RO	2.71	0.18			0.977		
	DC	SN		24:47	RO	3.76	0.54			0.978		
	DC	SN		24:51	RO	0.60	0.83			0.981		
	DC	SN		24:55	RO	2.05	1.53			0.984		
	DC	SN		25:00	RO	1.16	4.87			0.987		
	DC	SN		25:06	RO	3.12	5.16			0.991		
	DC	SN		25:07	RO	4.07	2.76			0.991		
	DC	SN		25:11	RO	1.22	3.44			0.994		
D	d	SN		25:17		1.55	12.59			0.998		

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	D	d	SN	25:20		1.65	21.00			1.000	12378-PeCDF	AN
		DC	SN	25:30	RO	1.05	2.52			1.007		
		DC	SN	25:39	RO	2.85	8.23			1.013		
		DC	SN	25:45	RO	0.52	0.56			1.016		
		DC	SN	25:48	RO	0.30	0.28			1.018		
		DC	SN	25:50	RO	0.17	0.50			1.020		
		DC	SN	25:56	RO	0.08	0.99			1.024		
		DC	SN	25:59	RO	0.25	0.50			1.026		
	D	d	SN	26:04	RO	0.59	22.23			1.029	23478-PeCDF	AN
		DC	SN	26:12	RO	0.76	1.04			1.034		
	D	d	SN	26:17		1.67	22.92			1.038		
		DC	SN	26:26	RO	0.86	1.50			1.043		
		DC	SN	26:31	RO	1.80	0.64			1.047		
		DC	SN	26:33	RO	0.54	0.73			1.048		
		DC	SN	26:40	RO	12.75	0.20			1.053		
		DC	SN	26:42	RO	0.70	0.43			1.054		
		DC	SN	26:47	RO	1.15	0.25			1.057		
		DC	SN	26:51	RO	1.08	0.89			1.060		
		DC	SN	26:55	RO	2.12	7.22			1.063		
		DC	SN	27:02	RO	0.27	0.54			1.067		
		DC	SN	27:04	RO	3.11	0.46			1.068		
		DC	SN	27:10	RO	4.17	0.31			1.072		
		DC	SN	27:12	RO	0.75	0.30			1.074		
		DC	WH	27:14		1.71	0.38			1.075		
340-342			2	Peaks			168.91					
13C12-PeCDF				1.32-1.78					0.842-1.158			
352-354		DC	NL	0:00	RO	1.00	0.15			0.000		
		DC	SN	23:08	RO	0.24	0.08			0.913		
		DC	SN	23:23	RO	9.50	0.05			0.923		
		DC	SN	23:26	RO	4.50	0.05			0.925		
		DC	SN	23:31	RO	3.33	0.08			0.928		
		DC	SN	23:40		1.50	0.10			0.934		
		DC	SN	23:43	RO	0.55	0.10			0.936		
		DC	SN	23:45	RO	0.75	0.10			0.938		
		DC	SN	23:57	RO	10.00	0.05			0.945		
		DC	SN	24:03		1.43	0.17			0.949		
		DC	SN	24:10	RO	0.63	0.31			0.954		
		DC	SN	24:11	RO	0.40	0.35			0.955		
		DC	SN	24:16	RO	0.93	0.21			0.958		
		DC	SN	24:26	RO	2.00	0.13			0.964		
		DC	SN	24:31	RO	1.18	0.54			0.968		
		DC	SN	24:40	RO	3.56	0.41			0.974		
		DC	SN	24:51	RO	0.90	1.69			0.981		
		DC	SN	24:55	RO	2.39	2.11			0.984		
		DC	SN	24:58	RO	2.58	2.07			0.986		
		DC	SN	25:02	RO	12.26	1.07			0.988		
		DC	SN	25:09		1.34	6.79			0.993		
		DC	SN	25:13	RO	2.90	2.91			0.995		
				25:20		1.56	56.55	34.49	22.06	1.000	13C12-PeCDF 123	IS2
		DC	SN	25:31	RO	1.80	3.39			1.007		
		DC	SN	25:34	RO	1.84	0.64			1.009		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	25:37	RO	1.92	0.64			1.011		
		DC	SN	25:40	RO	7.83	0.15			1.013		
		DC	SN	25:53	RO	0.66	0.94			1.022		
		DC	SN	25:57	RO	0.07	0.07			1.024		
				26:05	RO	1.28	51.78	31.44	24.62	1.030	13C12-PeCDF 234 SUR2	
		DC	SN	26:11	RO	1.98	2.42			1.034		
		DC	SN	26:17	RO	3.90	1.05			1.038		
		DC	SN	26:19	RO	11.25	0.31			1.039		
		DC	SN	26:23	RO	4.67	0.38			1.041		
		DC	SN	26:24	RO	3.52	1.07			1.042		
		DC	SN	26:28	RO	3.06	1.30			1.045		
		DC	SN	26:31	RO	2.75	0.71			1.047		
		DC	SN	26:36	RO	14.25	0.51			1.050		
		DC	SN	26:41		1.42	2.30			1.053		
		DC	SN	26:44	RO	3.78	0.69			1.055		
		DC	SN	26:47	RO	0.53	0.83			1.057		
		DC	SN	26:52	RO	5.50	0.66			1.061		
		DC	SN	26:56	RO	1.81	0.82			1.063		
		DC	SN	27:02	RO	0.45	0.53			1.067		
		DC	SN	27:04	RO	2.48	0.74			1.068		
		DC	SN	27:07	RO	0.19	0.51			1.070		
		DC	SN	27:10	RO	0.82	1.12			1.072		
		DC	SN	27:12	RO	0.93	2.29			1.074		
		DC	SN	27:14	RO	0.46	0.58			1.075		
		DC	SN	27:22	RO	0.25	0.44			1.080		
352-354			2	Peaks			108.33					

---------- Above: PeCDF / PeCDD Follows ----------

DD				1.32-1.78						0.924-1.025		
356-358		DC	NL	0:00	RO	0.89	0.13			0.000		
		DC	SN	24:26	RO	1.83	0.31			0.924		
		DC	SN	24:29	RO	1.00	0.10			0.926		
				24:37	RO	1.21	31.63	19.21	15.90	0.931		
		DC	SN	24:47	RO	1.00	0.33			0.938		
		DC	SN	24:54	RO	6.31	0.41			0.942		
		DC	SN	24:57	RO	4.82	0.28			0.944		
		DC	SN	25:01	RO	1.13	0.30			0.946		
				25:06		1.43	17.69	10.42	7.27	0.950		
		DC	SN	25:11	RO	0.56	0.31			0.953		
		DC	SN	25:13	RO	3.81	0.41			0.954		
		DC	SN	25:17		1.77	0.83			0.956		
				25:23	RO	1.14	12.67	7.70	6.73	0.960		
		DC	SN	25:24	RO	1.05	0.38			0.961		
	D	d	SN	25:31		1.49	13.00			0.965		
		DC	SN	25:35	RO	2.40	0.13			0.968		
		DC	SN	25:41	RO	5.89	2.32			0.972		
		DC	SN	25:48	RO	0.59	1.17			0.976		
		DC	SN	25:50	RO	2.26	6.53			0.977		
				25:57		1.50	24.64	14.78	9.86	0.982		
	D	d	SN	26:04	RO	4.80	12.85			0.986		
		DC	SN	26:08	RO	1.17	5.61			0.989		

Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		26:10	RO	4.37	1.58			0.990		
	DC	SN		26:14	RO	1.09	2.49			0.992		
	DC	SN		26:16	RO	0.83	1.43			0.994		
	DC	SN		26:20	RO	6.14	0.74			0.996		
	DC	SN		26:24	RO	1.31	2.01			0.999		
	DC	SN		26:26	RO	3.18	4.06			1.000	12378-PeCDD	AN
	DC	SN		26:31	RO	1.91	0.89			1.003		
	DC	SN		26:35	RO	2.19	6.31			1.006		
	DC	SN		26:41	RO	3.14	1.12			1.009		
	DC	SN		26:44	RO	10.38	0.20			1.011		
	DC	SN		26:46	RO	0.86	1.02			1.013		
	DC	SN		26:51	RO	0.58	0.50			1.016		
	DC	SN		26:56	RO	4.90	2.73			1.019		
	DC	SN		27:00		1.47	1.21			1.021		
	DC	SN		27:03	RO	0.62	0.13			1.023		
	DC	WH		27:09	RO	1.22	0.72			1.027		
	DC	WH		27:13	RO	1.97	0.82			1.030		
	DC	WH		27:16	RO	0.15	0.24			1.032		
	DC	WH		27:18	RO	0.41	0.41			1.033		
	DC	WH		27:25	RO	0.50	0.30			1.037		
356-358			4	Peaks			86.63					
13C12-PeCDD				1.32-1.78						0.849-1.151		
368-370	DC	NL		0:00	RO	1.00	0.15			0.000		
	DC	SN		24:29	RO	2.75	0.10			0.926		
	DC	SN		24:32	RO	0.11	0.05			0.928		
	DC	SN		24:34	RO	0.53	0.26			0.929		
	DC	SN		24:40	RO	3.05	0.54			0.933		
	DC	SN		24:46	RO	3.69	1.25			0.937		
	DC	SN		24:51	RO	6.03	0.82			0.940		
	DC	SN		24:54	RO	13.00	0.69			0.942		
	DC	SN		24:58	RO	8.30	1.94			0.945		
	DC	SN		25:02	RO	4.78	3.77			0.947		
	DC	SN		25:06	RO	8.47	1.48			0.950		
	DC	SN		25:11	RO	2.72	6.75			0.953		
	DC	SN		25:13	RO	5.81	3.09			0.954		
	DC	SN		25:17	RO	4.68	1.66			0.956		
	DC	SN		25:21	RO	40.43	0.54			0.959		
	DC	SN		25:25	RO	6.13	2.73			0.962		
	DC	SN		25:28	RO	7.20	1.40			0.963		
	DC	SN		25:31	RO	12.59	1.12			0.965		
	DC	SN		25:39		1.62	1.44			0.970		
	DC	SN		25:42	RO	5.18	0.71			0.972		
	DC	SN		25:47	RO	0.45	0.74			0.975		
	DC	SN		25:50	RO	0.94	1.61			0.977		
	DC	SN		25:56	RO	0.70	1.96			0.981		
	DC	SN		25:58	RO	0.50	1.97			0.982		
	DC	SN		26:02	RO	0.38	4.40			0.985		
	DC	SN		26:04	RO	0.48	3.62			0.986		
	DC	SN		26:10	RO	0.66	2.82			0.990		
	DC	SN		26:15	RO	0.79	2.12			0.993		
	DC	SN		26:19	RO	2.33	1.40			0.996		

Compound/ ?....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		26:21	RO	2.67	1.33			0.997		
				26:26		1.55	34.73	21.13	13.60	1.000	13C12-PeCDD 123	IS3
	DC	SN		26:35	RO	5.55	2.17			1.006		
	DC	SN		26:38	RO	6.11	1.86			1.008		
	DC	SN		26:45	RO	3.13	0.97			1.012		
	DC	SN		26:48	RO	10.50	0.77			1.014		
	DC	SN		26:52	RO	4.00	0.48			1.016		
	DC	SN		26:54	RO	0.73	1.01			1.018		
	DC	SN		26:58	RO	1.93	1.12			1.020		
	DC	SN		26:59	RO	3.69	0.41			1.021		
	DC	SN		27:05		1.43	1.46			1.025		
	DC	SN		27:12	RO	0.45	0.33			1.029		
	DC	SN		27:18	RO	5.71	0.43			1.033		
368-370			1	Peak			34.73					

---------- Above: PeCDD / HxCDF Follows ----------

HxCDF												
				1.05-1.43						0.957-1.050		
374-376	DC	NL		0:00	RO	9.43	0.16			0.000		
				27:55		1.21	442.40	242.49	199.91	0.963		
				28:04		1.21	1,557.68	852.07	705.61	0.968		
	DC	SN		28:10	RO	0.58	1.31			0.971		
	DC	SN		28:22	RO	1.54	5.29			0.978		
				28:32		1.21	4,333.74	2,374.22	1,959.52	0.984		
	DC	SN		28:40	RO	2.31	2.36			0.989		
				28:54		1.20	187.30	102.32	84.98	0.997	123478-HxCDF	AN
				29:00		1.28	56.85	31.90	24.95	1.000	123678-HxCDF	AN
	MN			29:27		1.34	94.60	54.20	40.40	1.016	234678-HxCDF	AN
	AN			30:12	RO	0.95	8.06	4.46	4.70	1.041	123789-HxCDF	AN
	M			30:17		1.17	54.30	29.30	25.00	1.044		
[illegible]-376			8	Peaks			6,734.93					

13C12-HxCDF												
				0.43-0.59						0.862-1.138		
384-386	DC	NL		0:00	RO	0.88	0.12			0.000		
	DC	SN		27:44	RO	0.19	0.32			0.956		
	DC	SN		27:46		0.53	0.26			0.957		
	DC	SN		27:48	RO	0.14	0.12			0.959		
	DC	SN		27:51	RO	1.36	0.21			0.960		
	DC	SN		27:53	RO	0.13	0.20			0.961		
	DC	SN		27:55	RO	7.22	0.14			0.963		
	DC	SN		27:58	RO	2.30	0.15			0.964		
	DC	SN		28:01	RO	0.25	0.18			0.966		
	DC	SN		28:04	RO	1.20	0.67			0.968		
	DC	SN		28:07	RO	2.31	0.20			0.970		
	DC	SN		28:11	RO	1.50	0.06			0.972		
	DC	SN		28:14	RO	0.73	0.17			0.974		
	DC	SN		28:17	RO	0.65	0.26			0.975		
	DC	SN		28:18	RO	0.41	0.27			0.976		
	DC	SN		28:21	RO	1.21	0.36			0.978		
	DC	SN		28:22	RO	4.17	0.09			0.978		
	DC	SN		28:25	RO	1.00	0.69			0.980		
	DC	SN		28:27		0.50	4.72			0.981		

Compound/	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	28:29	RO	1.58	0.76			0.982		
		DC	SN	28:32	RO	3.16	1.04			0.984		
		DC	SN	28:35	RO	0.31	0.71			0.986		
		DC	SN	28:37	RO	0.25	0.30			0.987		
		DC	SN	28:41	RO	0.20	0.15			0.989		
		DC	SN	28:44	RO	2.00	0.14			0.991		
		DC	SN	28:46	RO	9.00	0.06			0.992		
				28:54		0.57	36.45	13.21	23.24	0.997	13C12-HxCDF	478 SUR3
				29:00		0.49	42.59	14.02	28.57	1.000	13C12-HxCDF	678 IS4
		DC	SN	29:05	RO	3.42	0.18			1.003		
		DC	SN	29:06	RO	6.75	0.06			1.003		
		DC	SN	29:10	RO	2.45	0.17			1.006		
		DC	SN	29:11	RO	2.25	0.06			1.006		
		DC	SN	29:14	RO	0.18	0.27			1.008		
		DC	SN	29:17		0.51	0.53			1.010		
		DC	SN	29:18	RO	1.00	0.32			1.010		
		DC	SN	29:23	RO	7.27	0.17			1.013		
	M			29:29	RO	0.41	25.91	8.75	21.11	1.017	13C12-HxCDF	234 ALT2
		DC	SN	29:35	RO	0.02	0.03			1.020		
		DC	SN	29:37	RO	4.00	0.05			1.021		
		DC	SN	29:41	RO	1.21	0.29			1.024		
		DC	SN	29:45		0.46	0.51			1.026		
		DC	SN	29:47	RO	0.06	0.47			1.027		
		DC	SN	29:53	RO	0.25	0.27			1.030		
		DC	SN	29:56	RO	2.25	0.06			1.032		
		DC	SN	29:58	RO	1.15	0.20			1.033		
		DC	SN	30:01	RO	0.06	0.44			1.035		
				30:12	RO	0.36	21.83	7.30	20.56	1.041	13C12-HxCDF	789 ALT1
		DC	SN	30:16		0.57	0.22			1.044		
		DC	SN	30:18	RO	0.15	0.06			1.045		
		DC	SN	30:20	RO	6.50	0.03			1.046		
		DC	SN	30:22	RO	0.08	0.38			1.047		
		DC	SN	30:27	RO	0.42	3.81			1.050		
		DC	SN	30:31	RO	1.22	0.54			1.052		
		DC	SN	30:34	RO	0.19	0.54			1.054		
		DC	SN	30:35	RO	1.87	0.23			1.055		
		DC	SN	30:40	RO	12.40	0.08			1.057		
384-386			4	Peaks			126.78					

---------- Above: HxCDF / HxCDD Follows ----------

HxCDD											
				1.05-1.43					0.952-1.015		
390-392		DC	NL	0:00	RO	0.50	0.14			0.000	
				28:26		1.24	907.70	502.33	405.37	0.957	
		DC	SN	28:31		1.26	1.83			0.960	
		DC	SN	28:34	RO	0.96	0.99			0.962	
		DC	SN	28:36	RO	1.02	0.78			0.963	
				28:54		1.25	106.20	59.01	47.19	0.973	
				29:06		1.25	885.27	490.96	394.31	0.980	
				29:15		1.22	199.03	109.22	89.81	0.985	
		DC	SN	29:21	RO	1.54	0.54			0.988	
		DC	SN	29:24	RO	0.53	0.34			0.990	

Compound/ ?....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
		DC	SN	29:26	RO	4.59	0.38			0.991		
				29:38		1.34	20.67	11.84	8.83	0.998	123478-HxCDD	AN
				29:43		1.20	240.46	131.29	109.17	1.001	123678-HxCDD	AN
		DC	SN	29:52	RO	1.04	0.45			1.006		
	D	D	CO	29:57	RO	0.98	20.12			1.008		
	M			29:59		1.15	74.10	39.60	34.50	1.010	123789-HxCDD	AN
		DC	SN	30:04	RO	0.37	0.47			1.012		
		DC	SN	30:07	RO	0.76	0.51			1.014		
		DC	WH	30:24		1.17	1.39			1.024		
		DC	WH	30:27		1.06	4.19			1.025		
390-392			7	Peaks			2,433.43					
13C12-HxCDD				1.05-1.43					0.966-1.034			
402-404		DC	NL	0:00	RO	0.73	0.14			0.000		
		DC	WL	28:15	RO	1.67	0.07			0.951		
		DC	WL	28:18	RO	0.55	0.33			0.953		
		DC	WL	28:26	RO	1.47	8.38			0.957		
		DC	WL	28:28	RO	6.08	1.93			0.958		
		DC	WL	28:31		1.25	1.35			0.960		
		DC	WL	28:35		1.06	1.09			0.962		
		DC	WL	28:37	RO	0.89	0.60			0.964		
		DC	WL	28:38		1.23	0.67			0.964		
		DC	WL	28:41	RO	2.07	0.34			0.966		
		DC	SN	28:43	RO	0.50	0.34			0.967		
		DC	SN	28:44	RO	6.75	0.09			0.967		
		DC	SN	28:48	RO	0.55	0.20			0.970		
		DC	SN	28:50	RO	2.64	0.31			0.971		
		DC	SN	28:53	RO	1.50	0.13			0.973		
		DC	SN	28:55	RO	0.67	0.14			0.974		
		DC	SN	28:56	RO	1.00	0.49			0.974		
		DC	SN	28:59	RO	1.63	0.18			0.976		
		DC	SN	29:02	RO	0.23	0.27			0.978		
		DC	SN	29:05	RO	2.25	0.09			0.979		
		DC	SN	29:07	RO	2.17	0.13			0.980		
		DC	SN	29:10		1.13	0.51			0.982		
		DC	SN	29:12	RO	1.89	0.20			0.983		
		DC	SN	29:18	RO	0.60	0.33			0.987		
		DC	SN	29:21		1.12	0.36			0.988		
		DC	SN	29:22	RO	4.17	0.13			0.989		
		DC	SN	29:25		1.14	0.62			0.990		
		DC	SN	29:29	RO	3.29	0.16			0.993		
		DC	SN	29:33	RO	1.00	0.25			0.995		
				29:38		1.19	31.37	17.05	14.32	0.998	13C12-HxCDD 478	SUR4
	M			29:42		1.14	29.30	15.60	13.70	1.000	13C12-HxCDD 678	IS5
		DC	SN	29:46	RO	3.47	0.72			1.002		
		DC	SN	29:51	RO	0.47	0.14			1.005		
		DC	SN	29:54	RO	0.91	0.36			1.007		
				29:59		1.31	41.38	23.43	17.95	1.010	13C12-HxCDD 789	RS2
		DC	SN	30:04	RO	1.75	0.27			1.012		
		DC	SN	30:05	RO	0.47	0.14			1.013		
		DC	SN	30:09		1.27	0.34			1.015		
		DC	SN	30:13	RO	0.83	0.27			1.017		

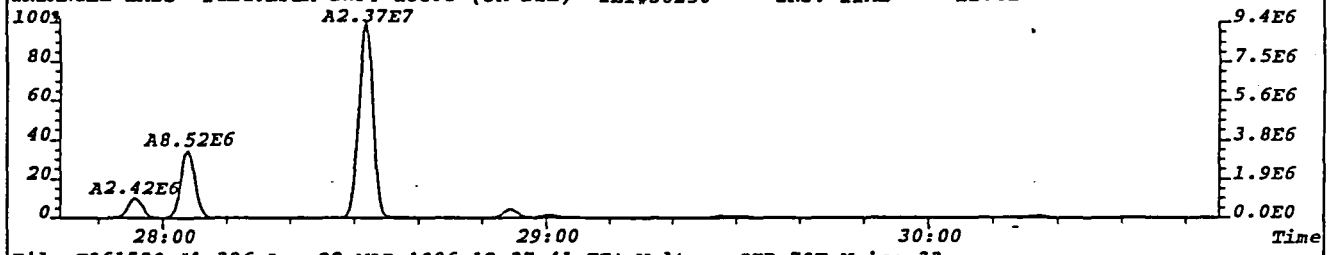
Compound/ Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
	DC	SN		30:15	RO	2.60	0.11			1.019		
	DC	SN		30:19	RO	0.20	0.11			1.021		
				30:26		1.35	12.28	7.05	5.23	1.025		
402-404			4	Peaks			114.33					
---------- Above: HxCDD / HpCDF Follows ----------												
HpCDF				0.88-1.20						0.995-1.043		
408-410	DC	NL		0:00		0.93	5.45			0.000		
				31:39		1.05	10,215.82	5,227.59	4,988.23	1.000	1234678-HpCDF	AN
				32:00		1.05	11,419.57	5,841.10	5,578.47	1.011		
				32:50		1.17	130.21	70.14	60.07	1.037	1234789-HpCDF	AN
408-410			3	Peaks			21,765.60					
13C12-HpCDF				0.37-0.51						0.937-1.127		
418-420	DC	NL		0:00	RO	1.26	0.66			0.000		
M				31:39	RO	0.61	21.31	8.98	14.80	1.000	13C12-HpCDF 678	IS6
	DC	SN		31:53	RO	1.50	0.95			1.007		
	DC	SN		32:00	RO	3.50	1.99			1.011		
				32:07	RO	1.36	15.70	14.84	10.89	1.015		
	DC	SN		32:22	RO	2.35	0.75			1.023		
	DC	SN		32:25	RO	0.14	1.73			1.024		
M				32:50	RO	0.29	16.13	4.93	17.20	1.037	13C12-HpCDF 789	SUR5
	DC	SN		33:12	RO	0.90	0.84			1.049		
	DC	SN		33:17	RO	3.13	0.55			1.052		
418-420			3	Peaks			53.14					
---------- Above: HpCDF / HpCDD Follows ----------												
DD				0.88-1.20						0.977-1.005		
4-426	DC	NL		0:00	RO	0.72	5.81			0.000		
				31:54		1.02	21,708.80	10,943.80	10,765.00	0.983		
				32:30		1.00	5,146.41	2,571.40	2,575.01	1.001	1234678-HpCDD	AN
424-426			2	Peaks			26,855.21					
13C12-HpCDD				0.88-1.20						0.969-1.031		
436-438	DC	NL		0:00	RO	5.00	0.18			0.000		
	DC	SN		32:06	RO	0.61	5.03			0.989		
				32:28		0.97	19.24	9.48	9.76	1.000	13C12-HpCDD 678	IS7
	DC	SN		32:53		1.11	1.90			1.013		
436-438			1	Peak			19.24					
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------												
OCDF				0.76-1.02						0.886-1.114		
442-444	DC	NL		0:00	RO	0.47	0.15			0.000		
				32:07	RO	0.46	14.57	6.84	14.94	0.918		
				33:34	RO	0.57	10.95	5.15	9.05	0.959		
				35:07		0.89	3,907.54	1,838.46	2,069.08	1.003	OCDF	AN
	DC	SN		36:55	RO	1.52	3.82			1.055		
442-444			3	Peaks			3,933.06					

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
						0.76-1.02				0.886-1.114		
458-460		DC	NL	0:00		0.78	0.16			0.000		
				35:00		0.86	12,087.41	5,579.88	6,507.53	1.000	OCDD	AN
458-460			1	Peak			12,087.41					
13C12-OCDD						0.76-1.02				0.995-1.005		
470-472		DC	NL	0:00	RO	1.29	0.13			0.000		
		DC	WL	34:48	RO	1.68	0.78			0.994		
		DC	SN	34:51		0.89	2.51			0.996		
	M			35:00	RO	1.24	8.39	5.51	4.44	1.000	13C12-OCDD	IS8
		DC	WH	35:13	RO	1.26	2.06			1.006		
470-472			1	Peak			8.39					

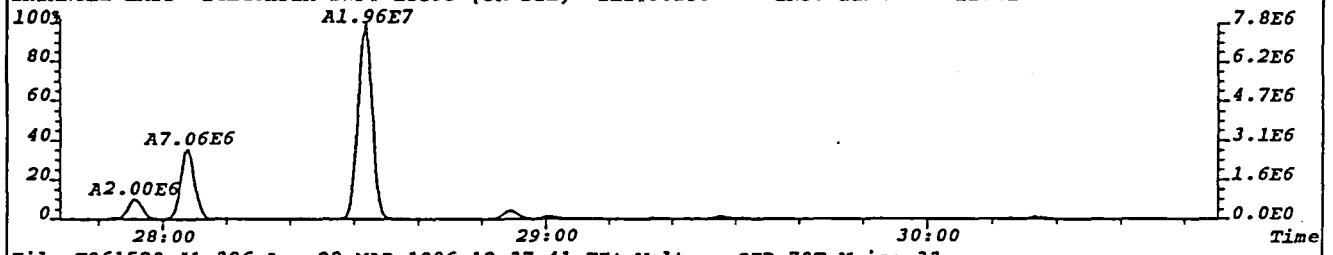
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

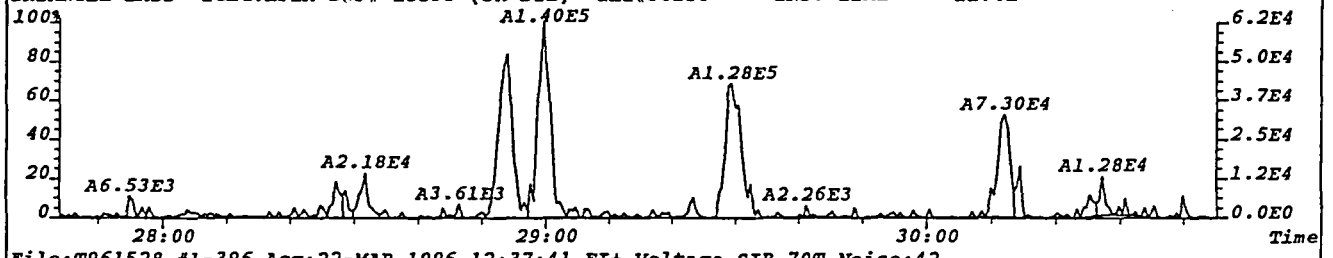
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:331
373.8208 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,1324.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



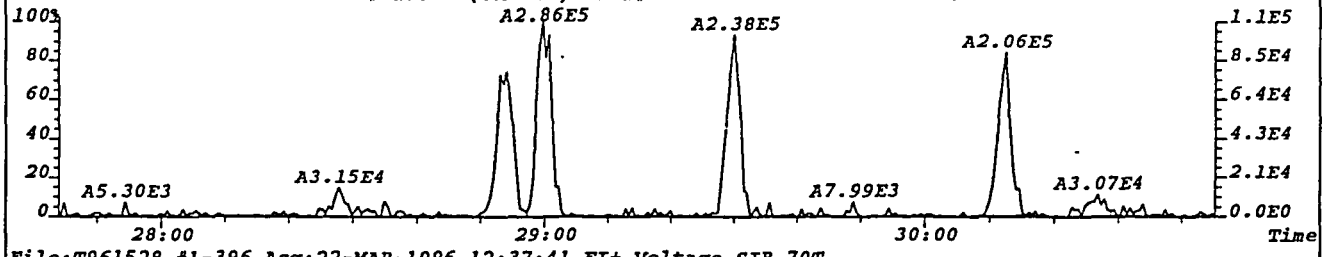
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:33
375.8178 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,132.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



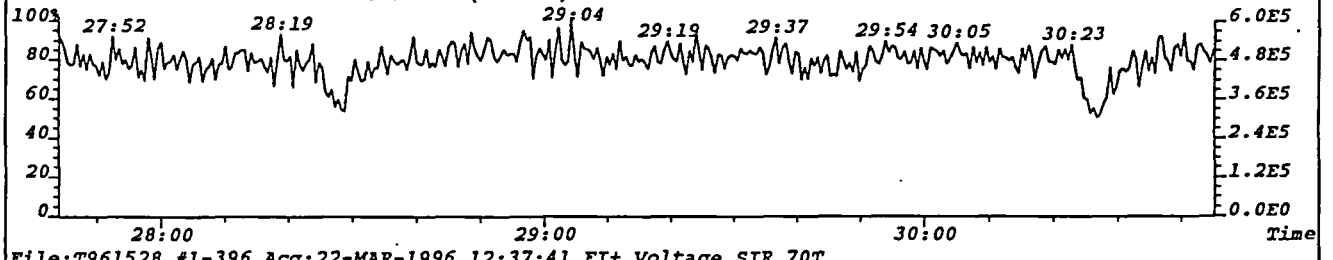
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:33
383.8639 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,132.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



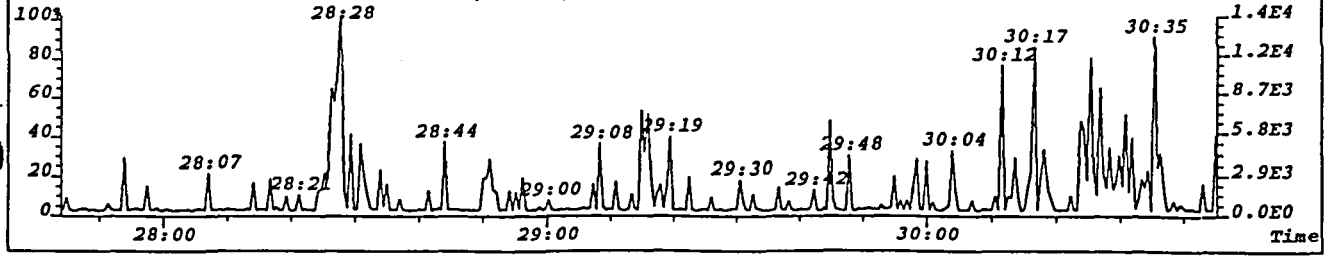
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:42
385.8610 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,168.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



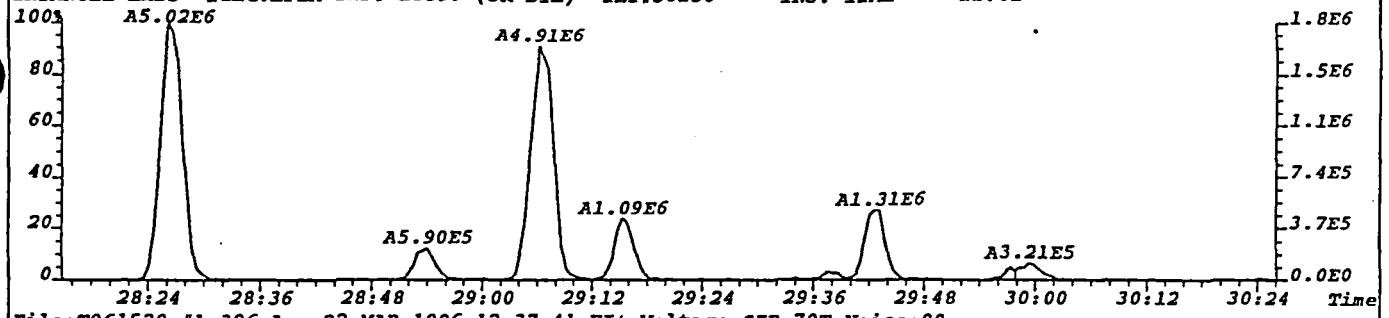
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



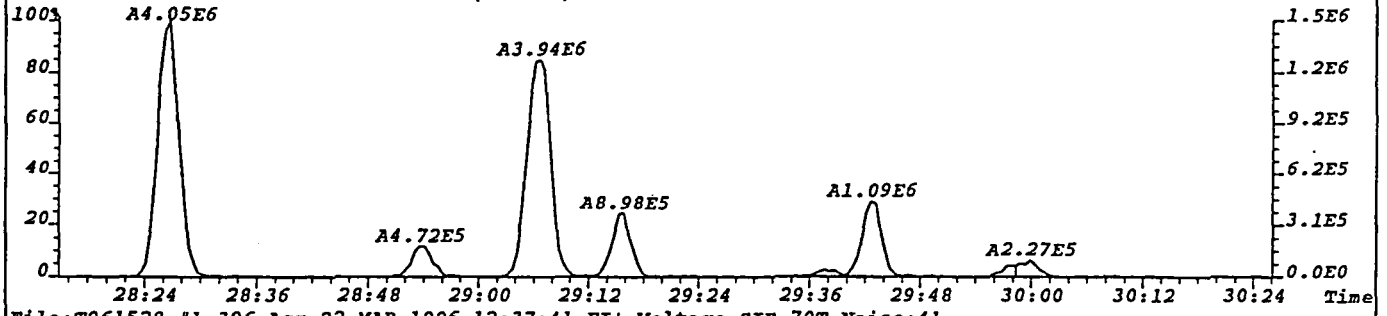
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



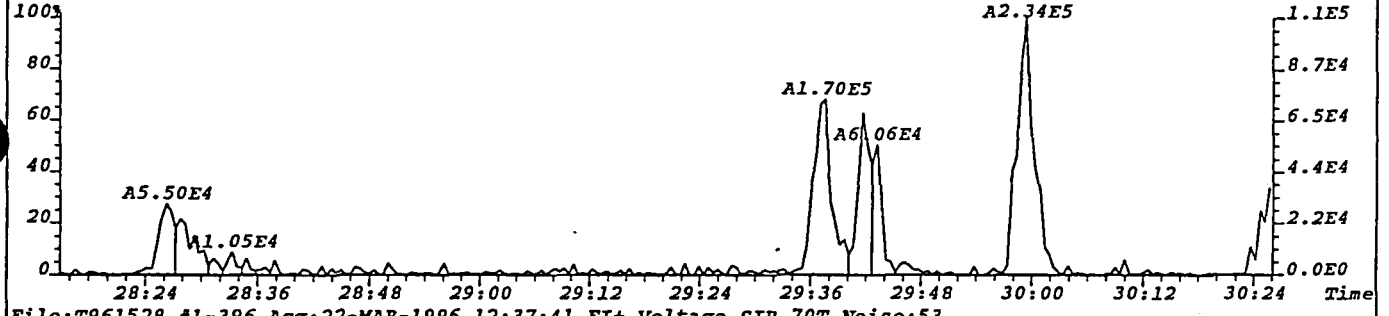
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:42
389.8156 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,168.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



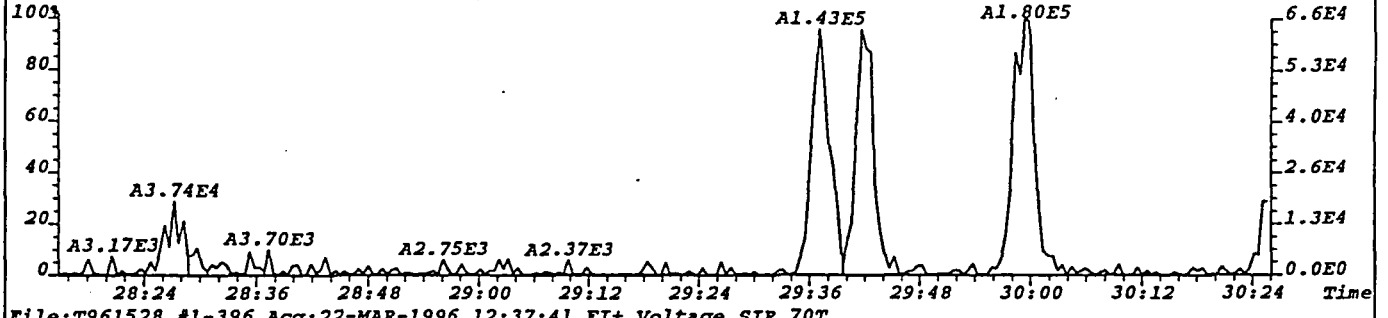
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:80
391.8127 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,320.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



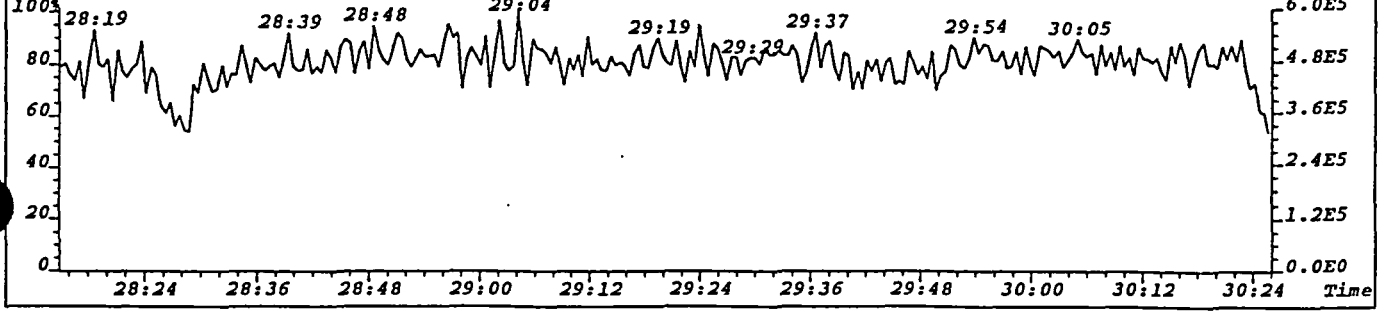
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:41
401.8558 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,164.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



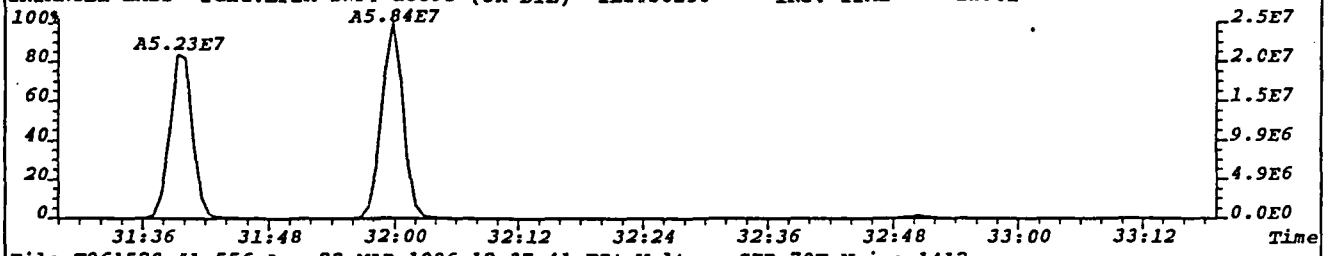
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:53
403.8529 F:3 BSUB(256,30,-3.0) PKD(3,3,1,0.10%,212.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



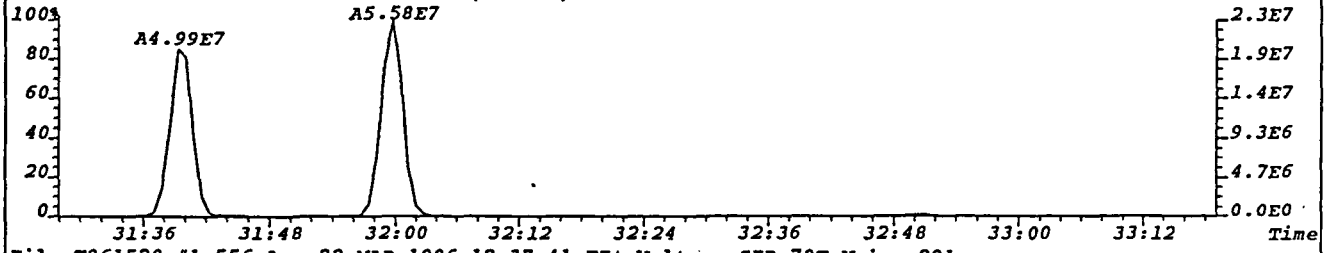
File:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



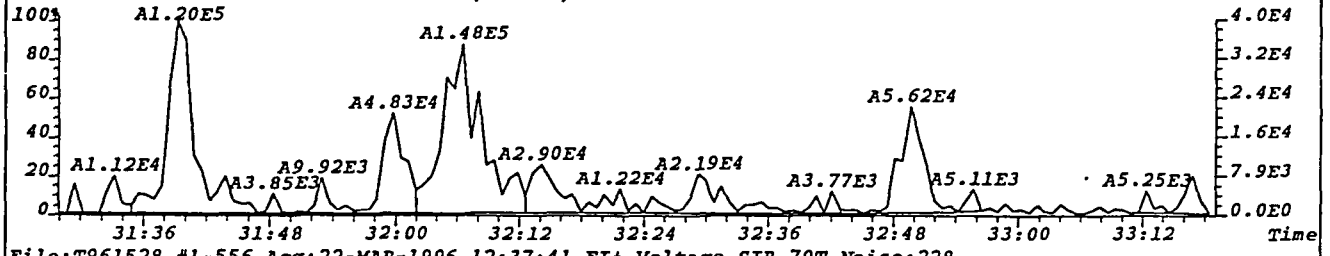
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:1317
407.7818 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,5268.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



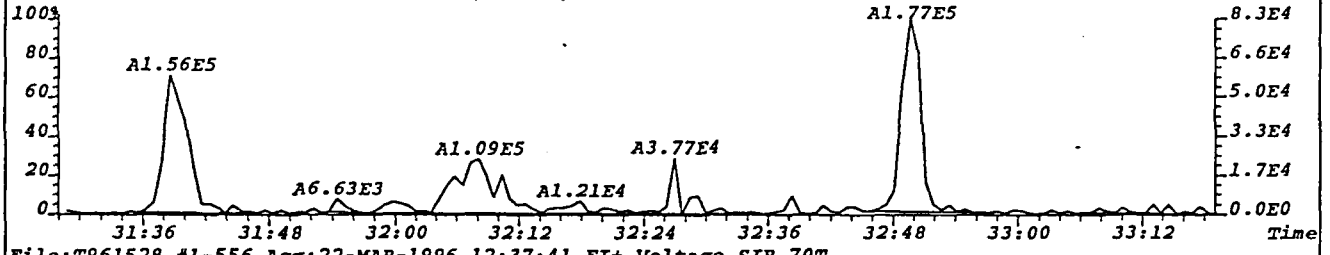
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:1412
409.7789 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,5648.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



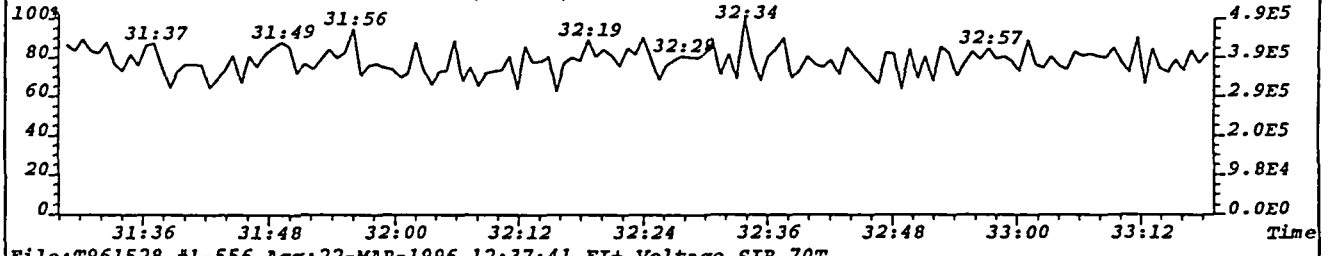
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:291
417.8253 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1164.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



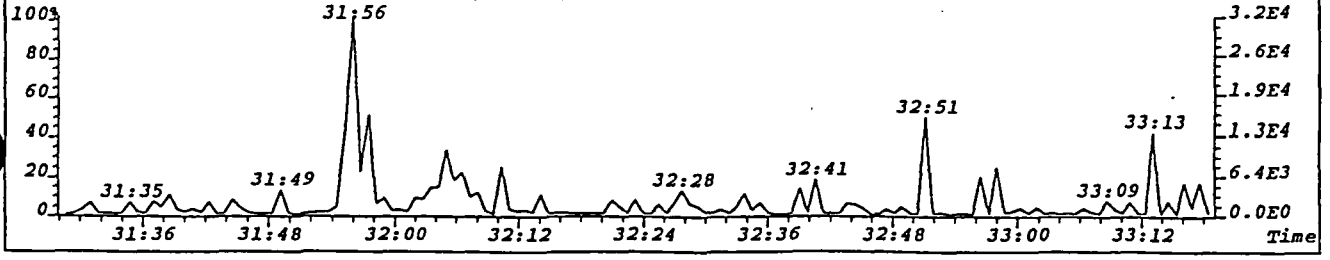
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:228
419.8220 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,912.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



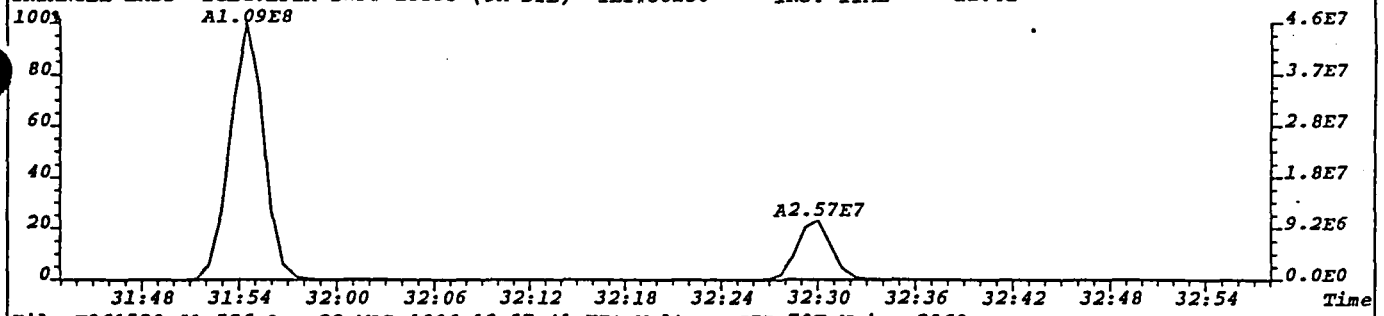
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



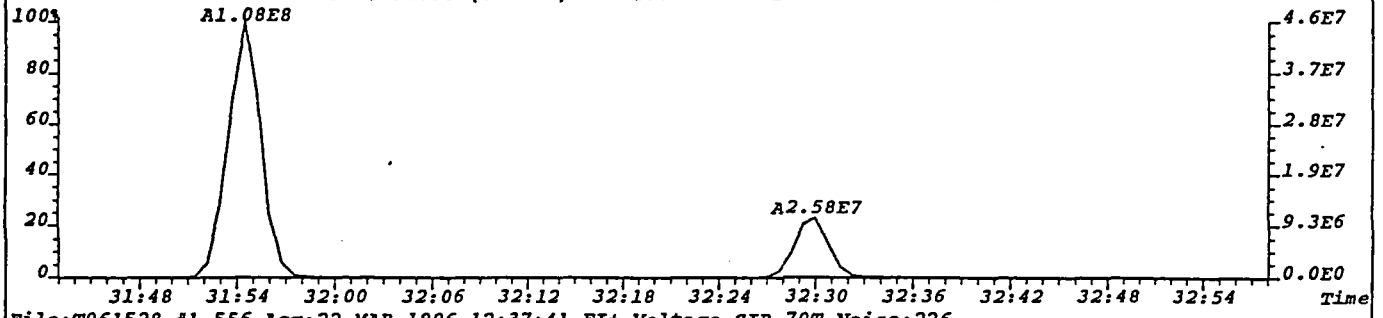
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



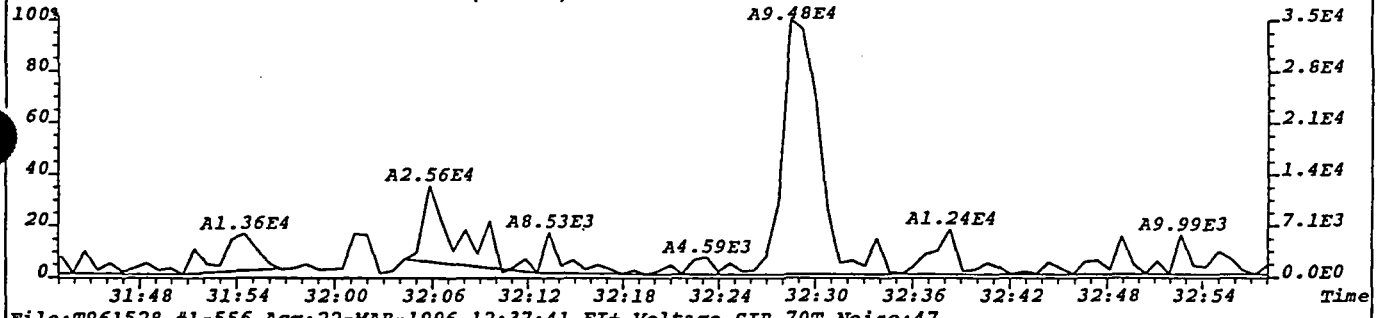
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:1477
423.7766 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,5908.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



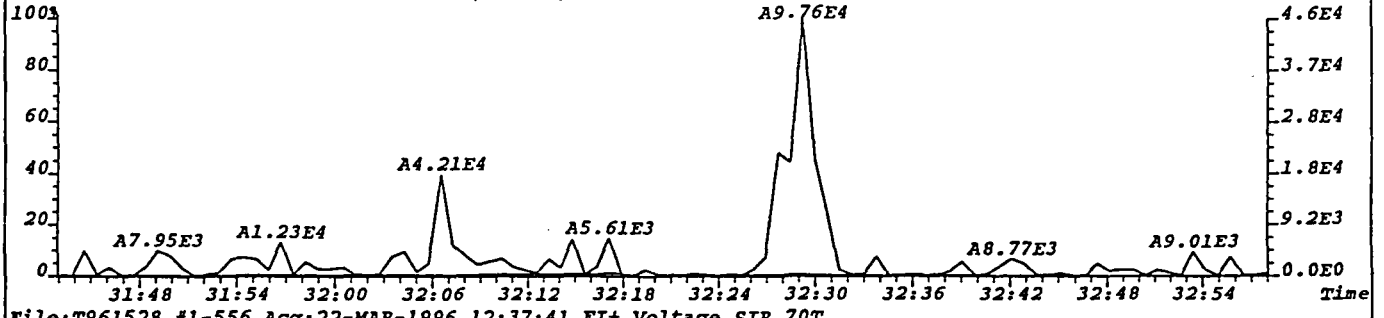
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:2060
425.7737 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,8240.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



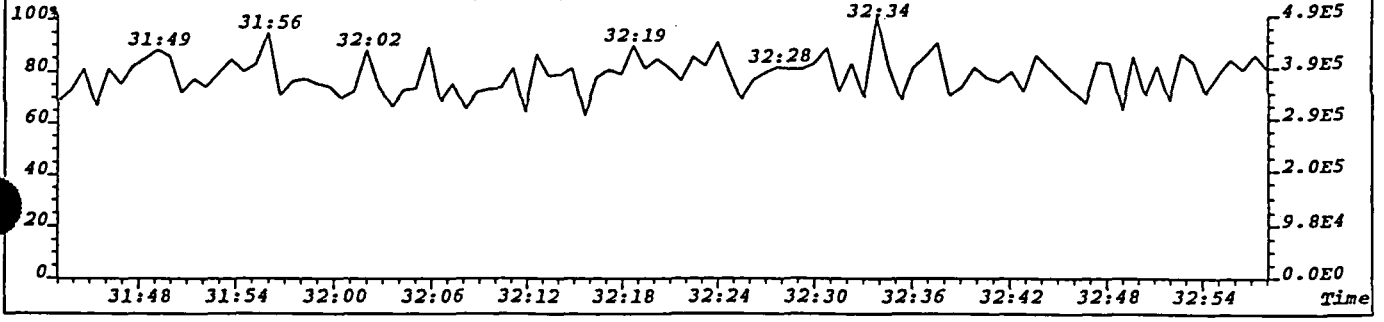
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:226
435.8169 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,904.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



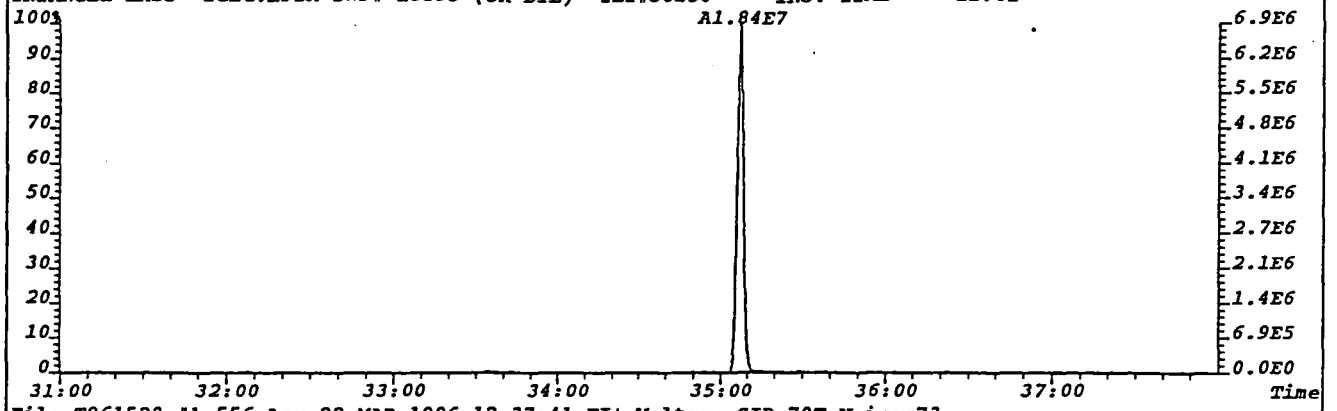
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:47
437.8140 F:4 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,188.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



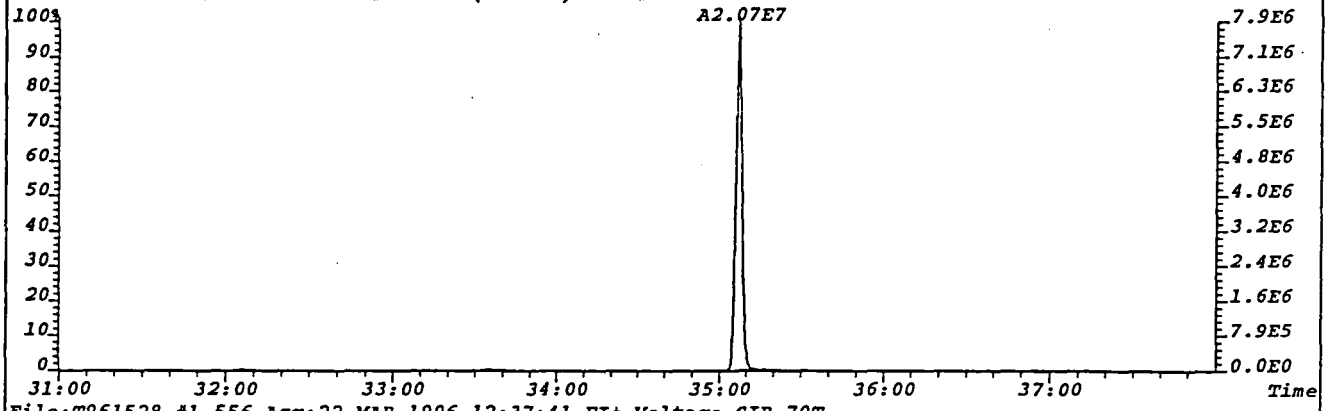
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



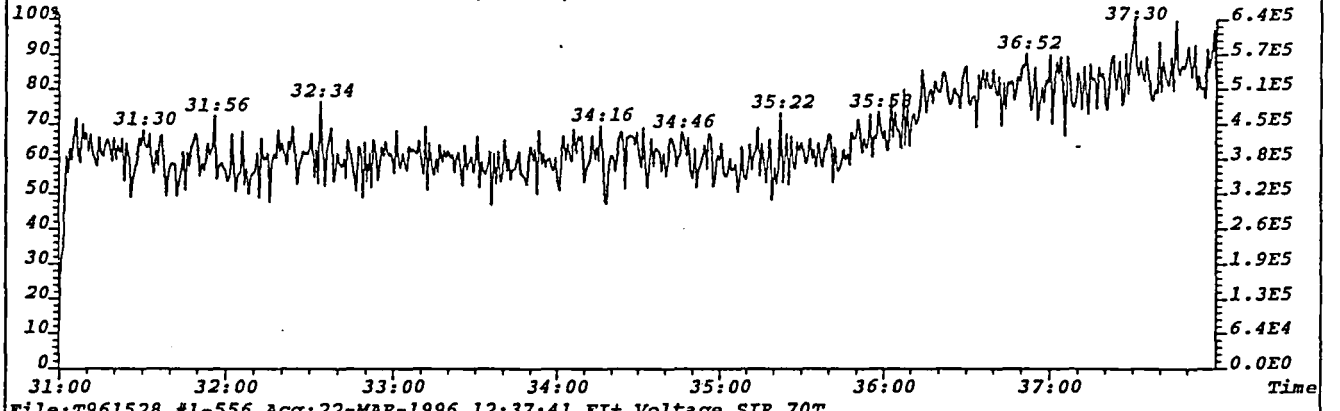
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:34
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,136.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



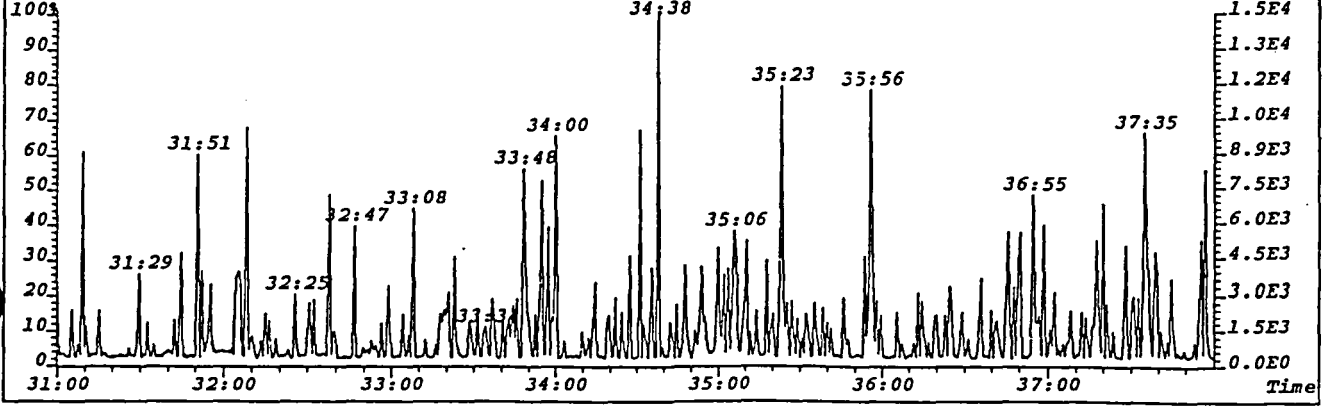
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:73
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,292.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



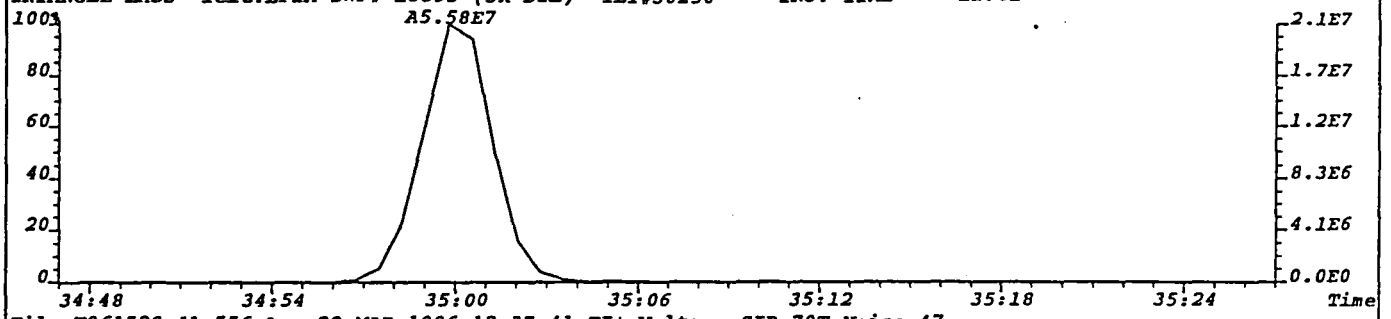
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



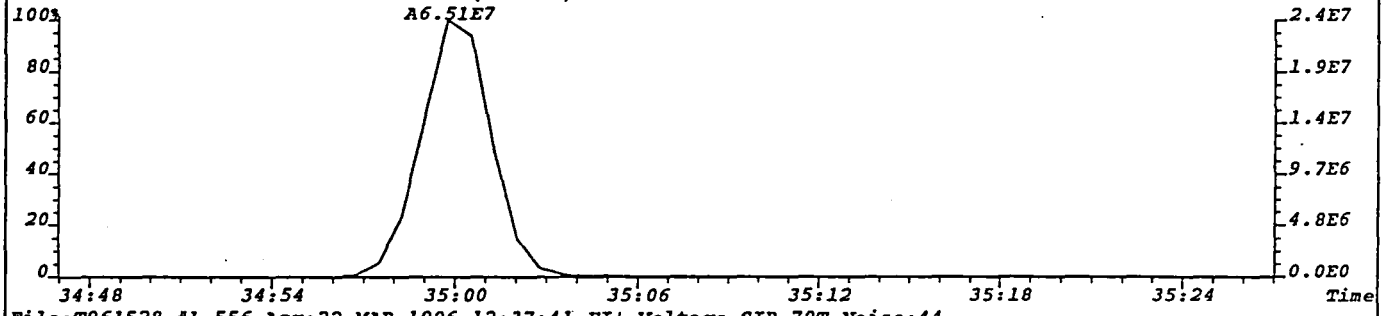
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



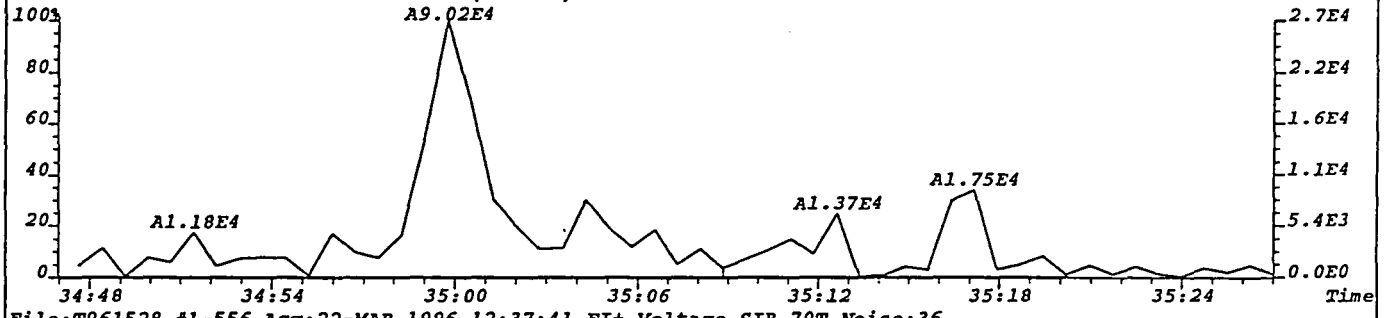
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:33
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,132.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



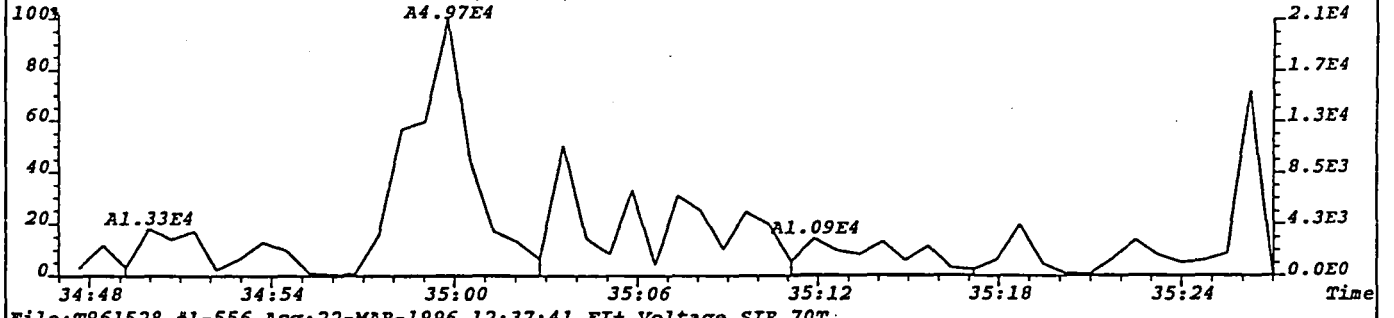
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:47
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,188.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



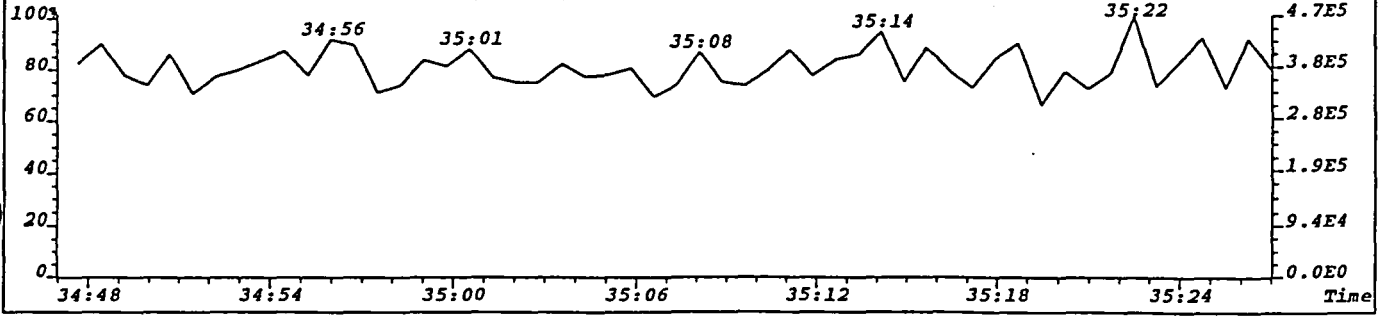
File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:44
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,176.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41

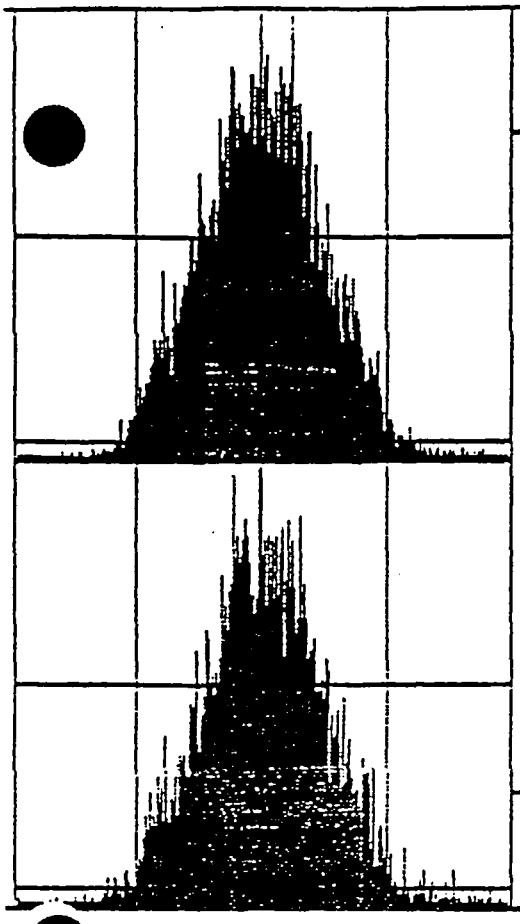


File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T Noise:36
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,2,3,0.10%,144.0,0.00%,F,F) Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41



File:T961528 #1-556 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41





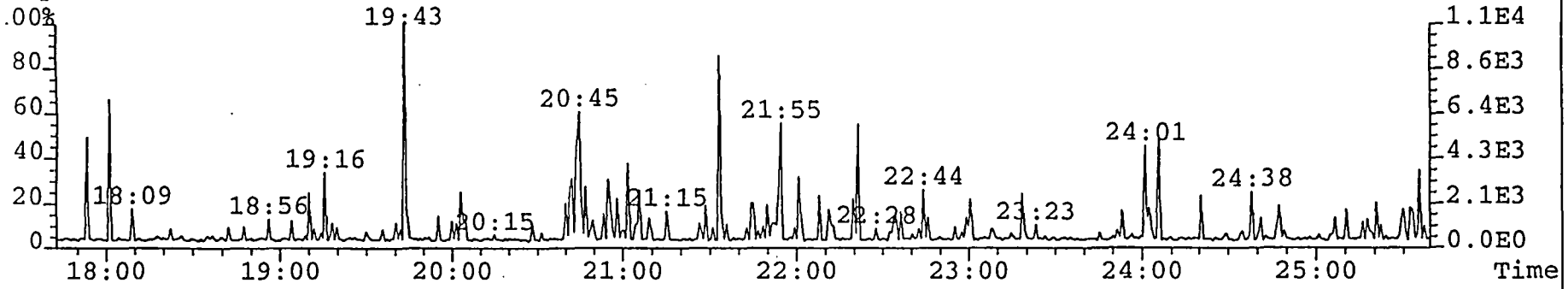
Ref. mass 292.9825 Peak top
Height 1.73 volts Span 200 ppm

System file name	EPCUS
Data file name	A:T961511
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

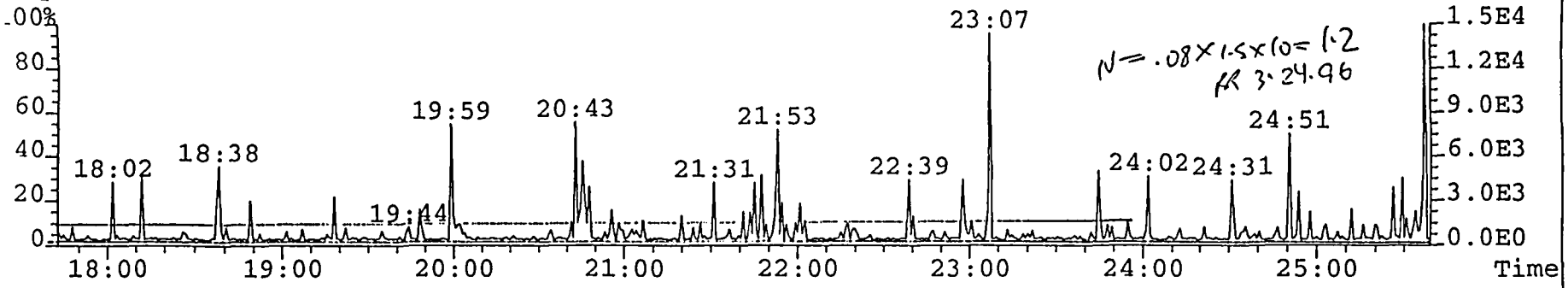
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height 1.51 volts Span 200 ppm

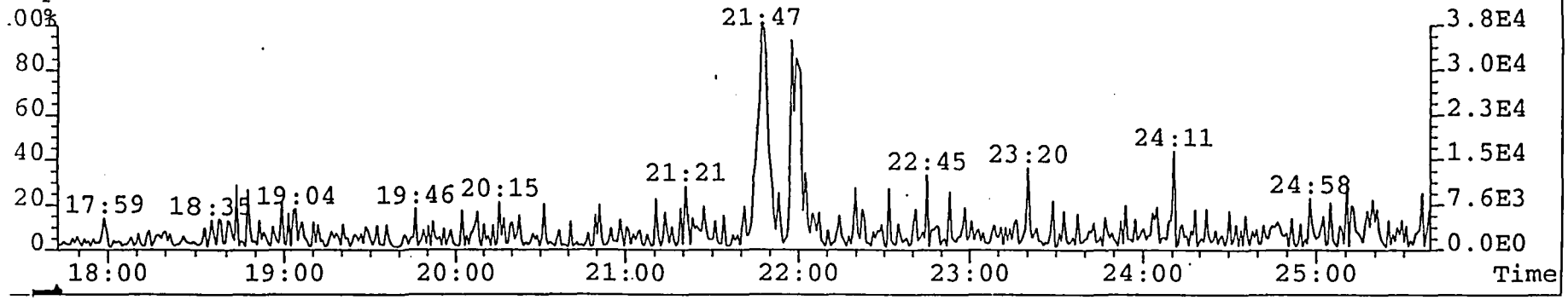
'ile:T961528 #1-784 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
19.8965 F:2 Exp:EPCUS
'ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



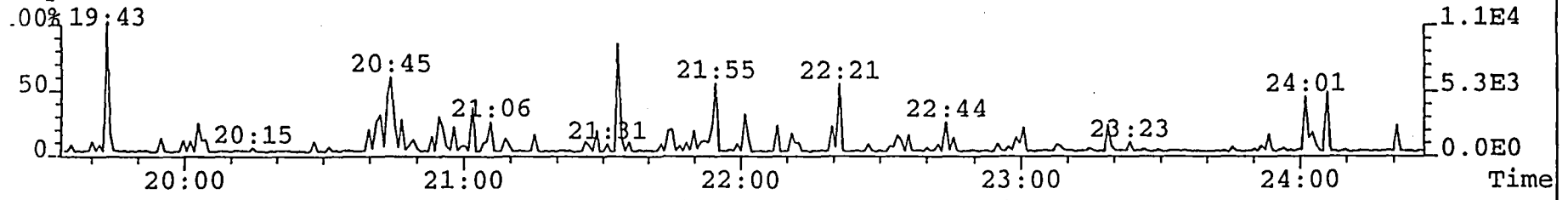
'ile:T961528 #1-784 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
21.8936 F:2 Exp:EPCUS
'ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



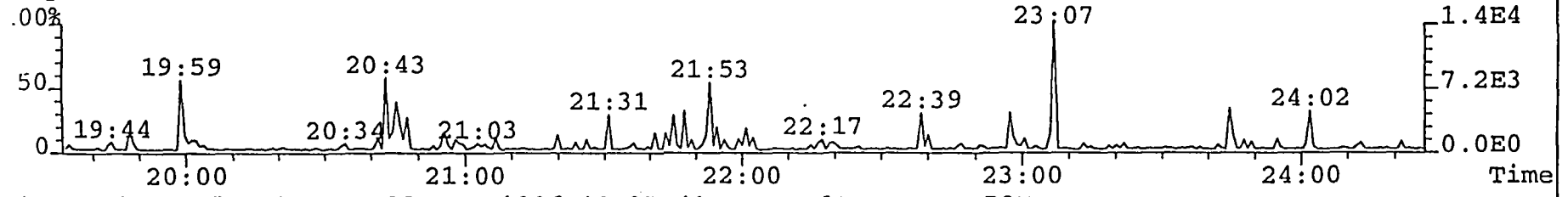
'ile:T961528 #1-784 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
31.9368 F:2 Exp:EPCUS
'ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



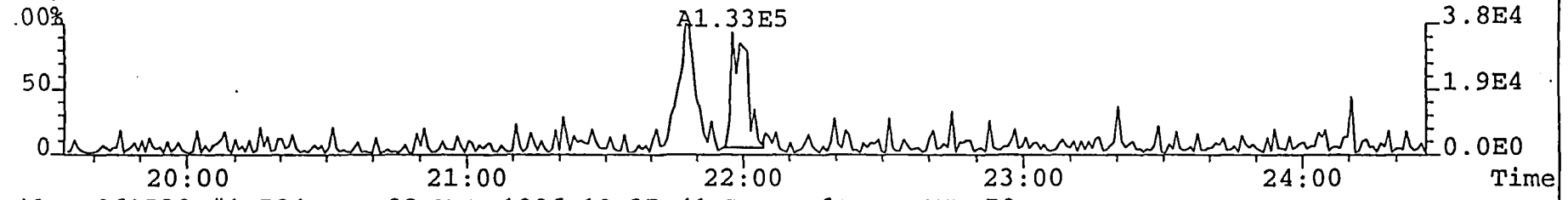
ile:T961528 #1-784 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
19.8965 F:2 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



ile:T961528 #1-784 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
21.8936 F:2 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



ile:T961528 #1-784 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
31.9368 F:2 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



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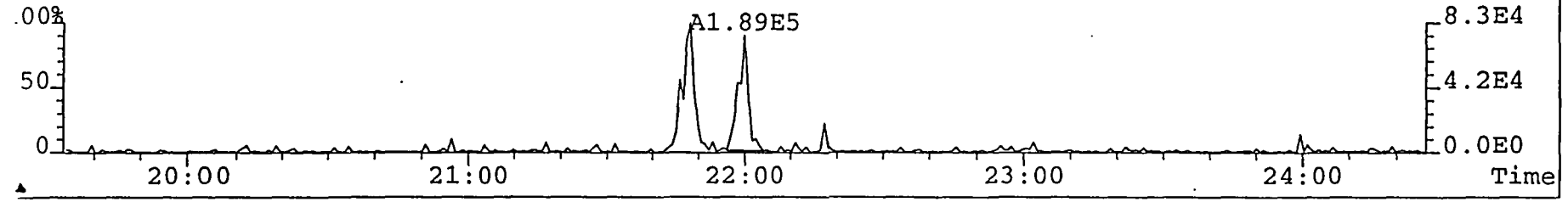
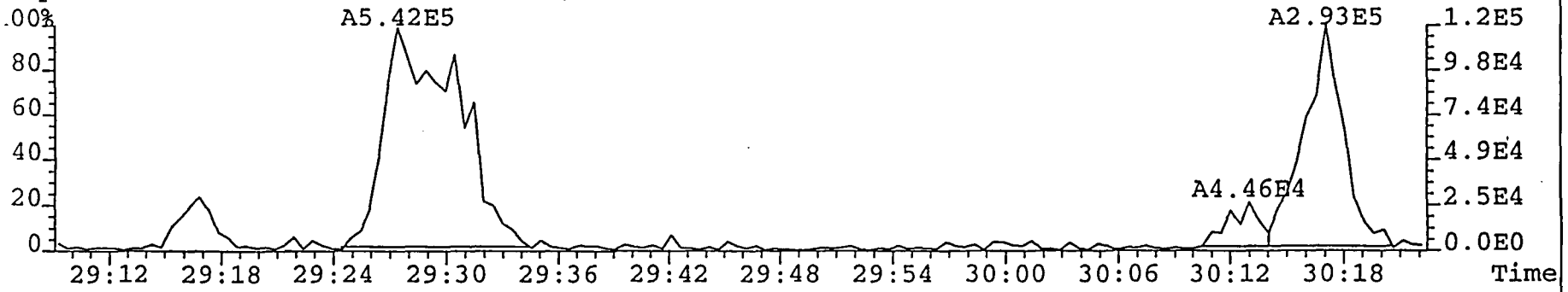
33.9338 F:2 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



ile:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
73.8208 F:3 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



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75.8178 F:3 Exp:EPCUS
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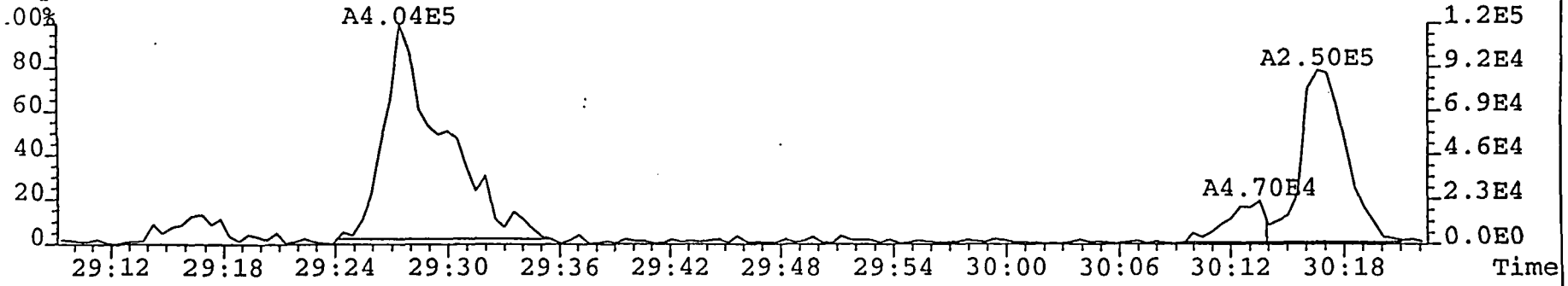
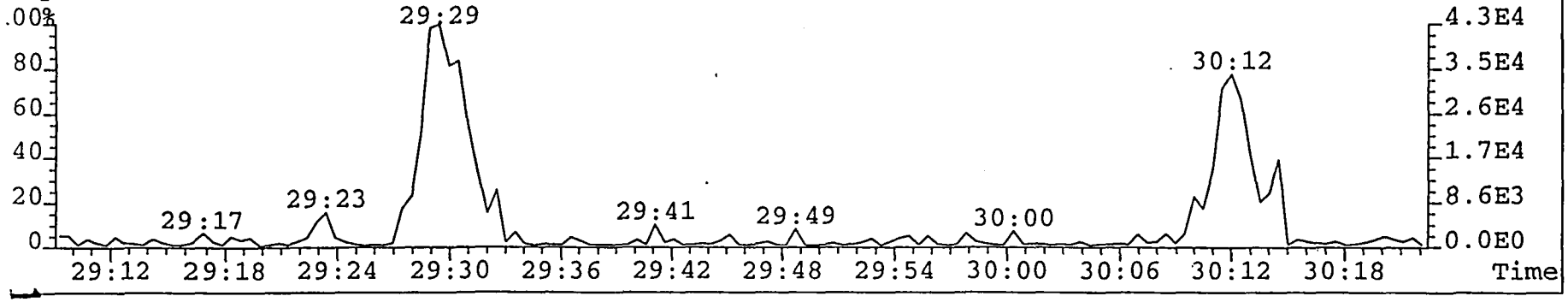
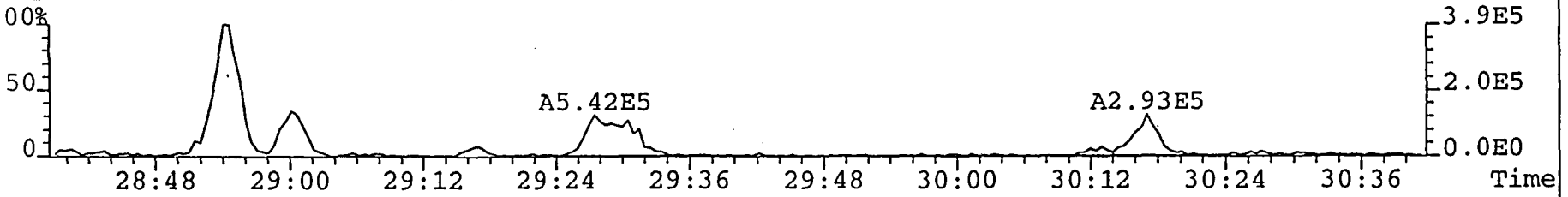


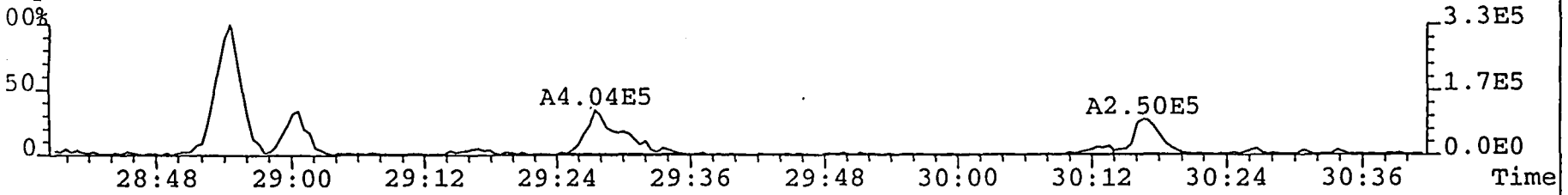
ile:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
83.8639 F:3 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



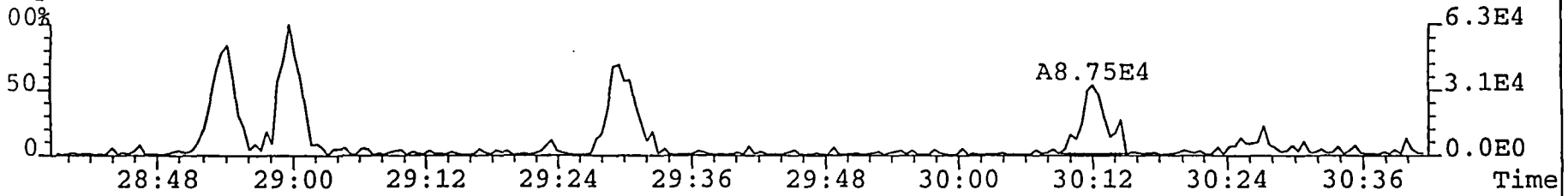
ile:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
73.8208 F:3 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



ile:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
75.8178 F:3 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



ile:T961528 #1-396 Acq:22-MAR-1996 12:37:41 EI+ Voltage SIR 70T
83.8639 F:3 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



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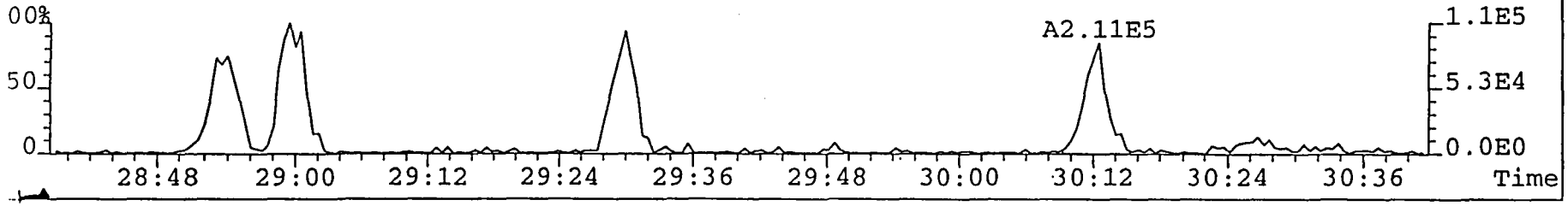

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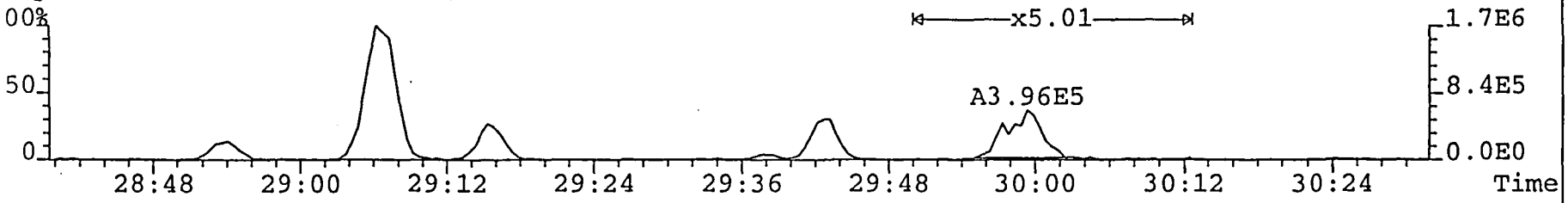

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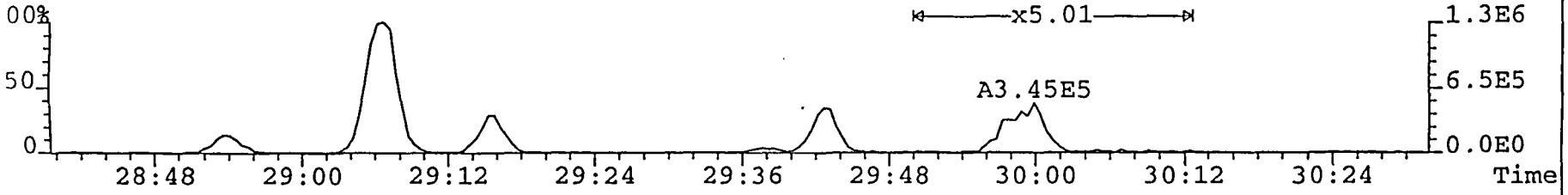
91.8127 F:3 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



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01.8558 F:3 Exp:EPCUS
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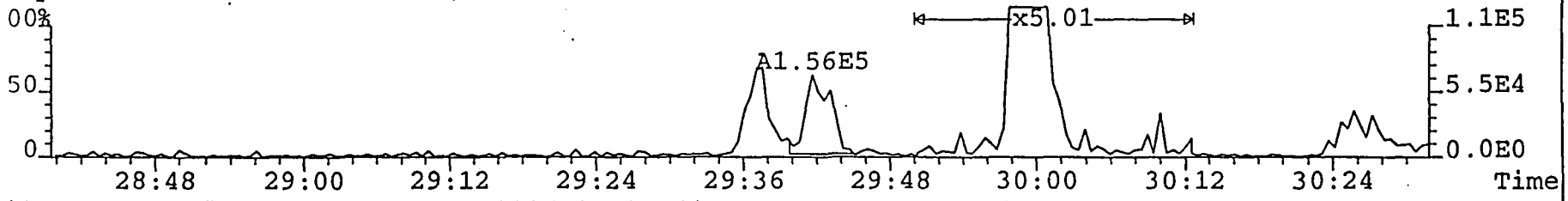

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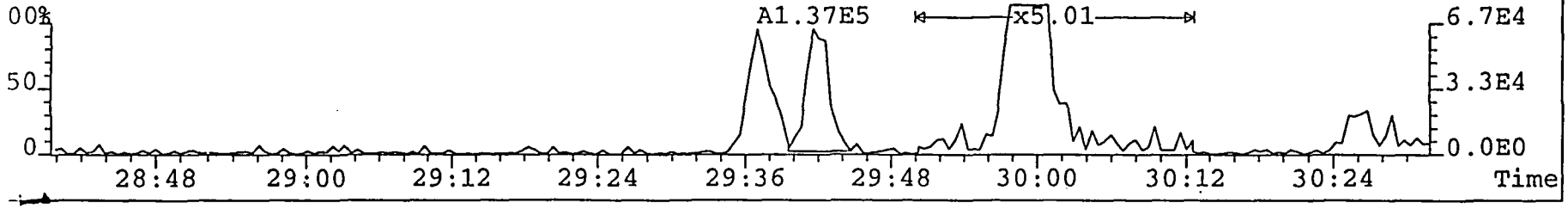
03.8529 F:3 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



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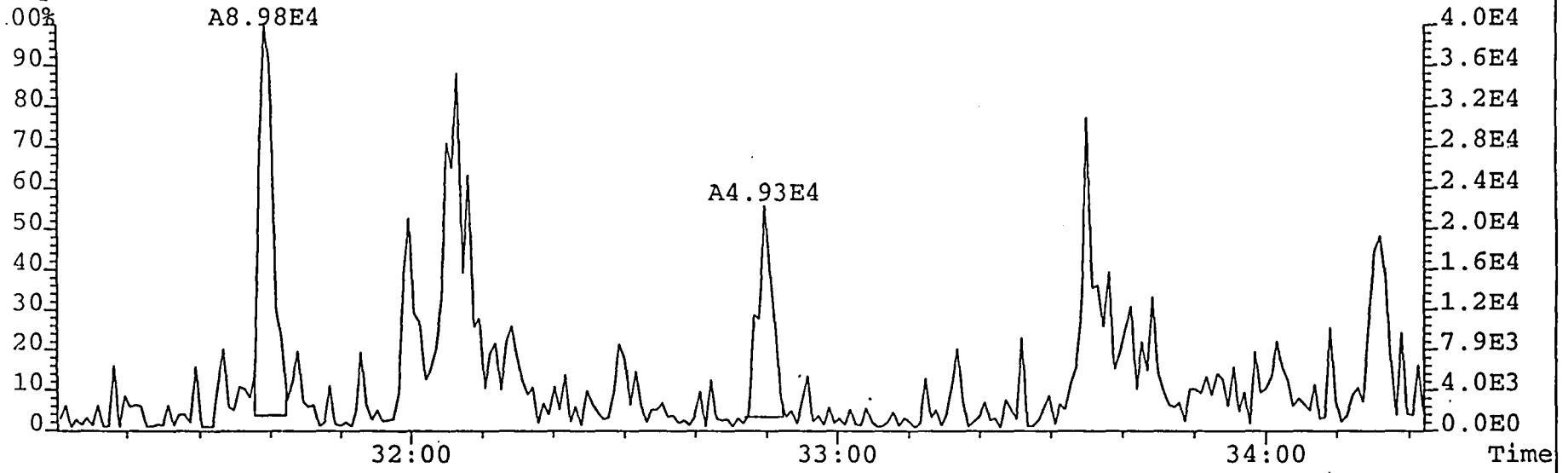

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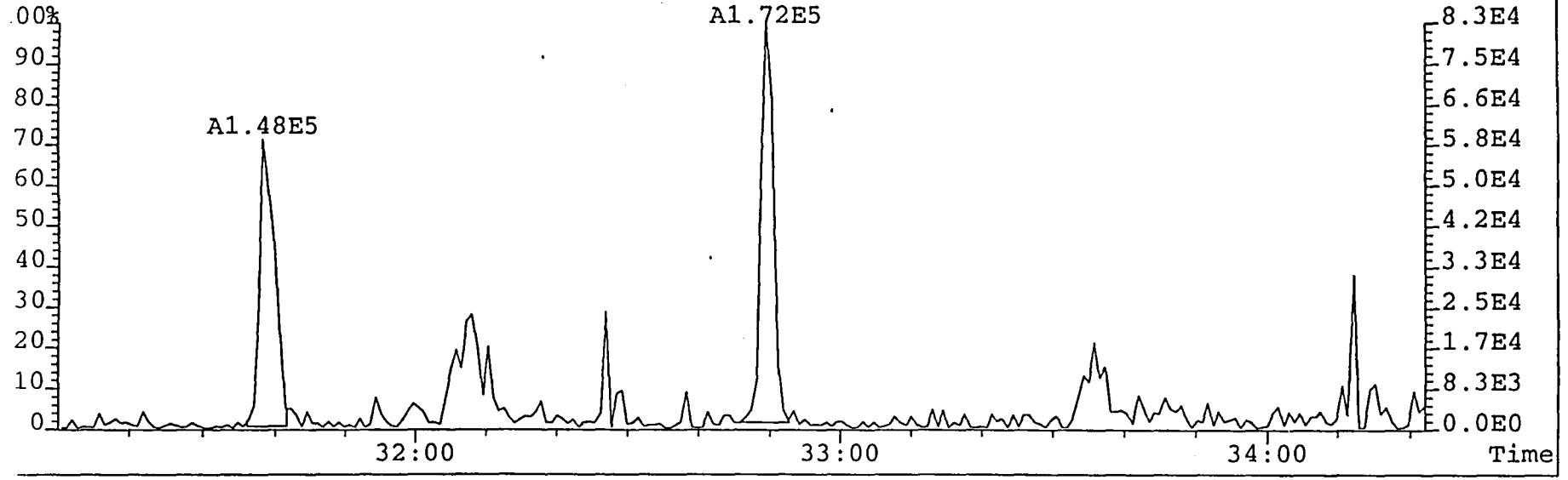
19.8220 F:4 Exp:EPCUS
ample Text:LF1A SWP# 13595 (5X DIL) TLI#36250 INJ. TIME = 12:41 File Text:LF1A SWP# 135»



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69.7779 F:4 Exp:EPCUS
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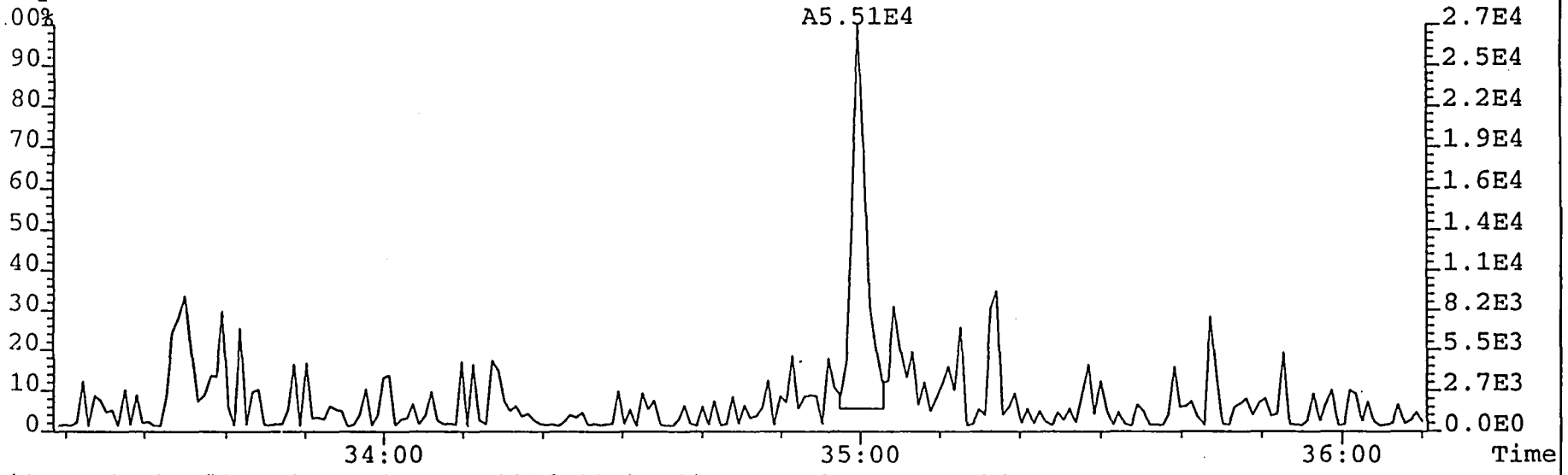

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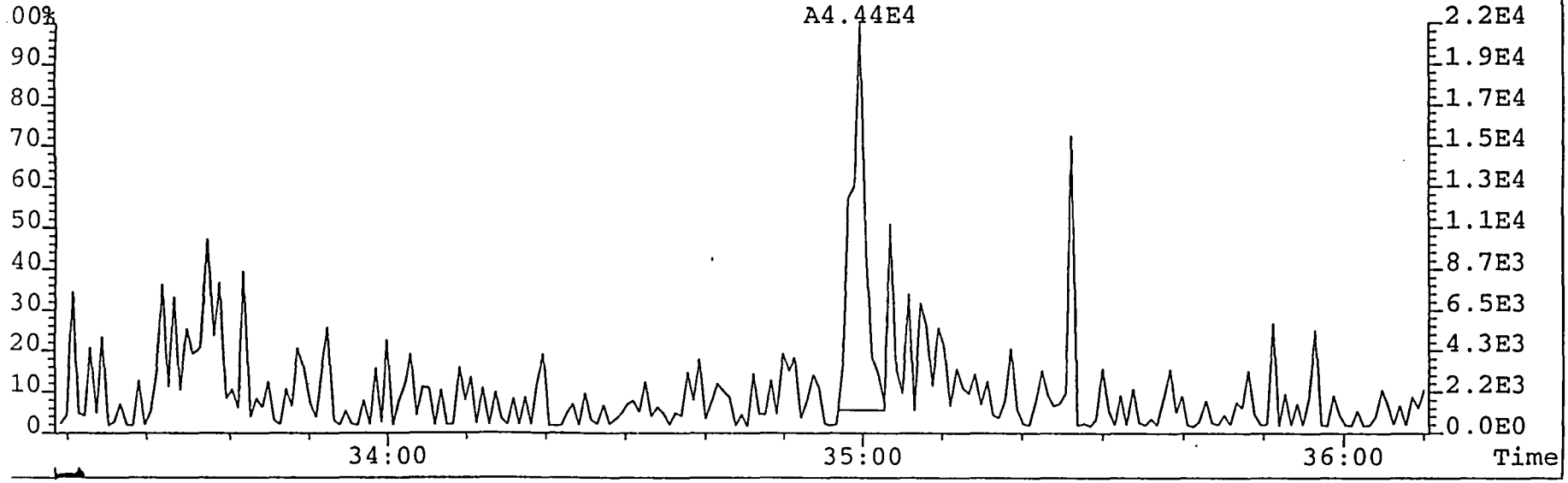


Southern Wood Piedmont

TLI Project: 36250 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: LF1A SWP# 13595 Analysis File: X961153

Client Project:	12-53020.00:SWP-Wilmington				
Sample Matrix:	SOIL	Date Received:	02/16/96	Spike File:	SPC2NF2S
TLI ID:	114-155-2	Date Extracted:	02/20/96	ICal:	XF21266
		Date Analyzed:	03/26/96	ConCal:	X961149
Sample Size:	11.450 g	Dilution Factor:	10X	% Moisture:	12.6
Dry Weight:	10.007 g	Blank File:	T961213	% Lipid:	n/a
GC Column:	DB-225	Analyst:	JF	% Solids:	87.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	7.0			0.74	23:43	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	180	90.1	40%-130%	0.78	23:42	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	22:33	—

Data Reviewer: RR 03/27/96

C2NF_PSR v1.14, LARS 6.04.00

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 09:48 03/27/96

Initial ....Date...

Data Review By: AR 3/27/96 Calculated Noise Area: 700 ng

Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of X961153B.dbf
03/26/96 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..
TCDF						0.65-0.89				0.796-1.108		
304-306	DC	NL		0:00		0.89	19.32			0.000		
				19:02		0.78	46.46	20.33	26.13	0.803		
	DC	SN		20:01	RO	0.50	9.06			0.845		
				20:15		0.69	73.61	30.05	43.56	0.854		
	DC	SN		20:43	RO	0.98	5.84			0.874		
				20:53		0.89	154.10	72.42	81.68	0.881		
				21:02	RO	0.97	51.90	28.38	29.38	0.887		
				21:10	RO	0.98	147.23	81.69	83.01	0.893		
				21:20		0.88	195.18	91.62	103.56	0.900		
	DC	SN		22:13		0.67	29.99			0.937		
				22:28		0.72	56.88	23.90	32.98	0.948		
	DC	SN		22:36	RO	0.92	4.04			0.954		
				22:47		0.79	59.74	26.35	33.39	0.961		
	DC	SN		23:10	RO	1.14	20.50			0.977		
				23:17		0.83	224.63	101.74	122.89	0.982		
	DC	SN		23:36	RO	1.26	10.43			0.996		
				23:43		0.74	128.07	54.66	73.41	1.001	2378-TCDF	AN
				24:35	RO	1.09	32.67	20.12	18.46	1.037		
	DC	SN		25:55	RO	0.33	14.21			1.094		
	DC	SN		26:15	RO	1.53	12.17			1.108		
304-306			11	Peaks			1,170.47					
13C12-TCDF						0.65-0.89				0.958-1.042		
316-318	DC	NL		0:00	RO	3.69	14.38			0.000		
				23:42		0.78	3,235.87	1,421.71	1,814.16	1.000	13C12-2378-TCDF	IS0
316-318			1	Peak			3,235.87					

---------- Above: TCDF / TCDD Follows ----------

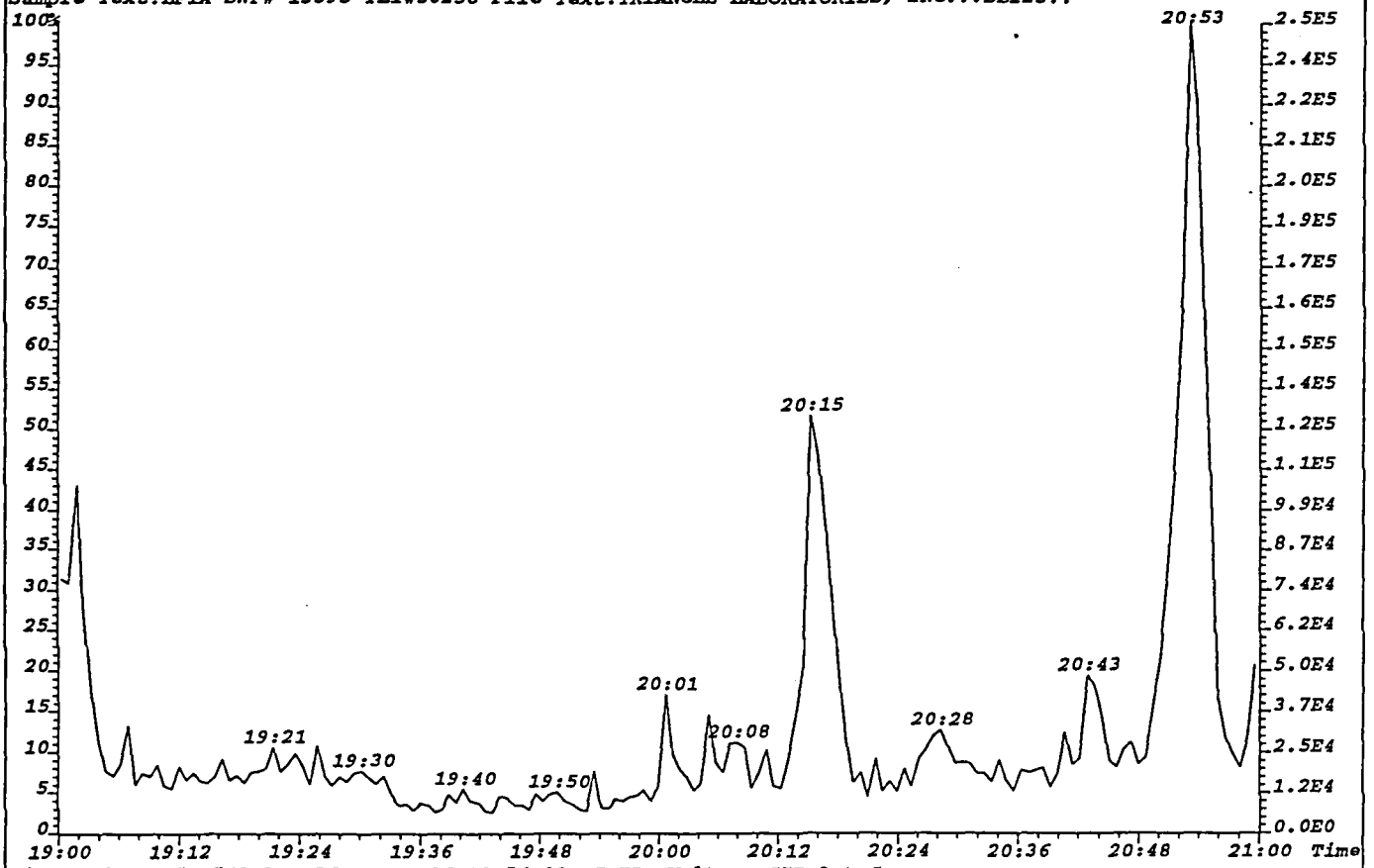
13C12-TCDD						0.65-0.89				0.910-1.090		
332-334	DC	NL		0:00	RO	3.40	34.99			0.000		
				22:13		0.78	1,413.91	617.71	796.20	1.000	13C12-2378-TCDD	IS1
				22:33		0.80	2,589.25	1,153.83	1,435.42	1.015	13C12-1234-TCDD	RS1
332-334			2	Peaks			4,003.16					

```
 npound/
.... QC.Log Omit Why ..RT. OK Ratio Total.Area... Area.Peak.1.. Area.Peak.2.. Rel.RT Compound.Name.. ID..
```

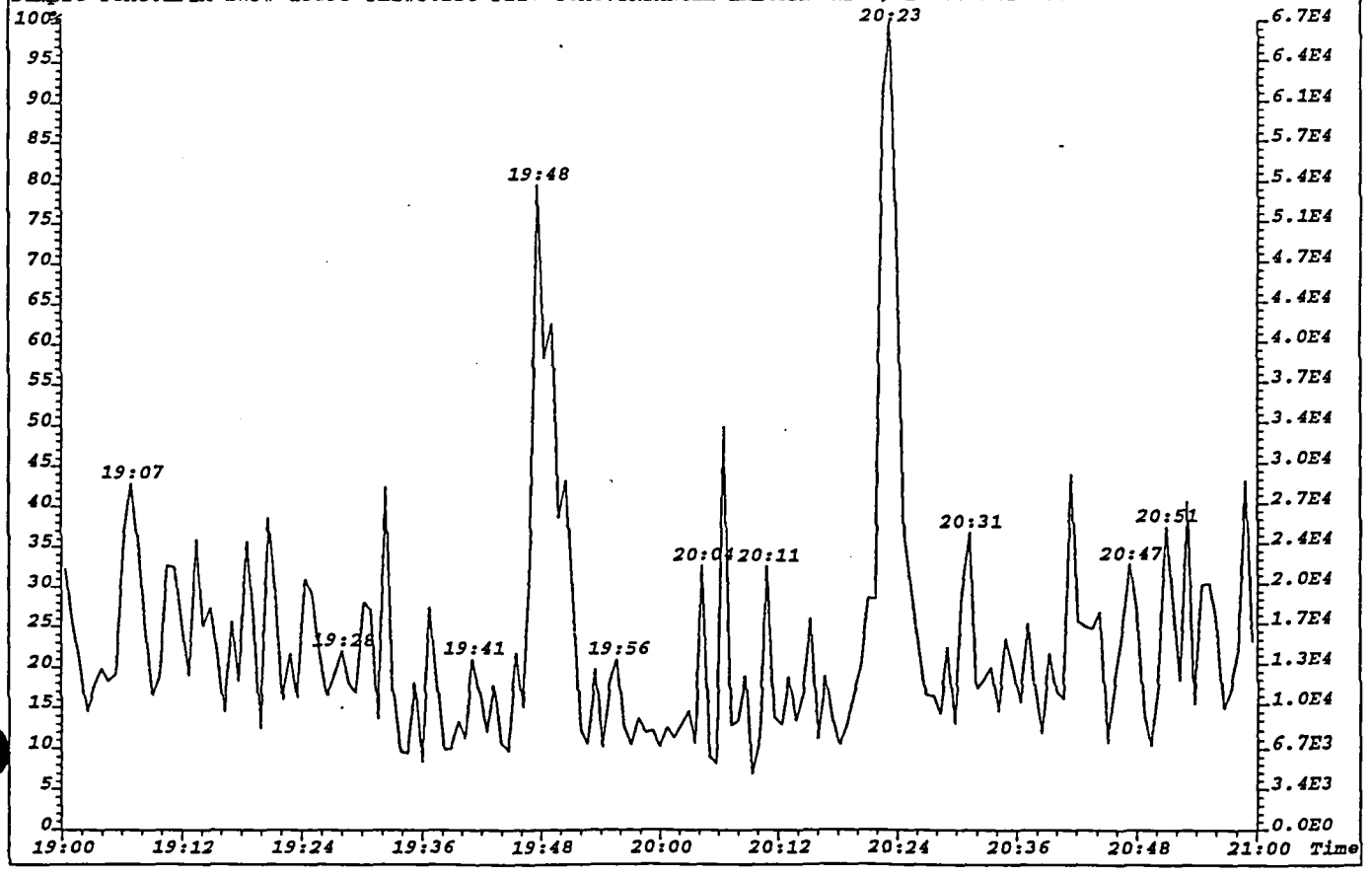
Column Description.....	'Why' Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

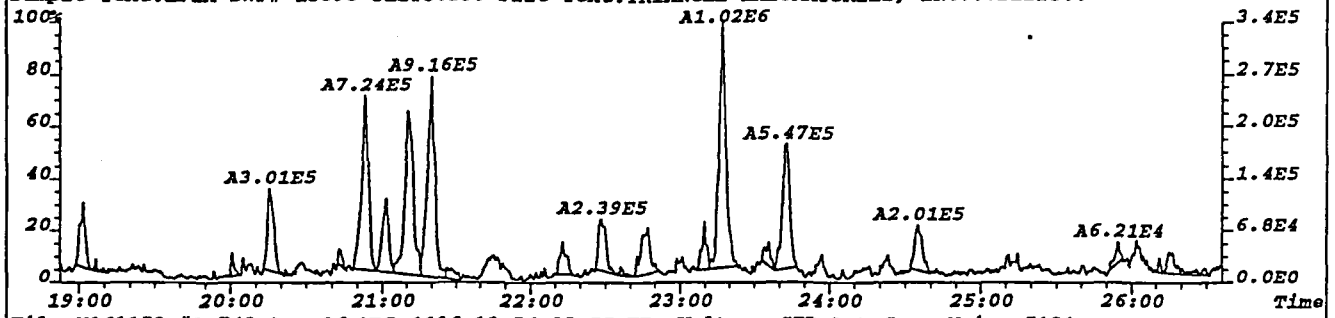
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
303.9016 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



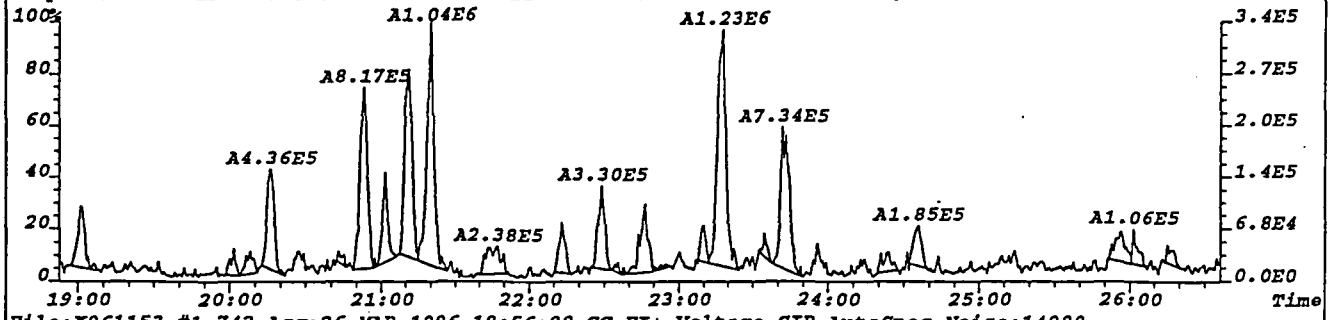
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
319.8965 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



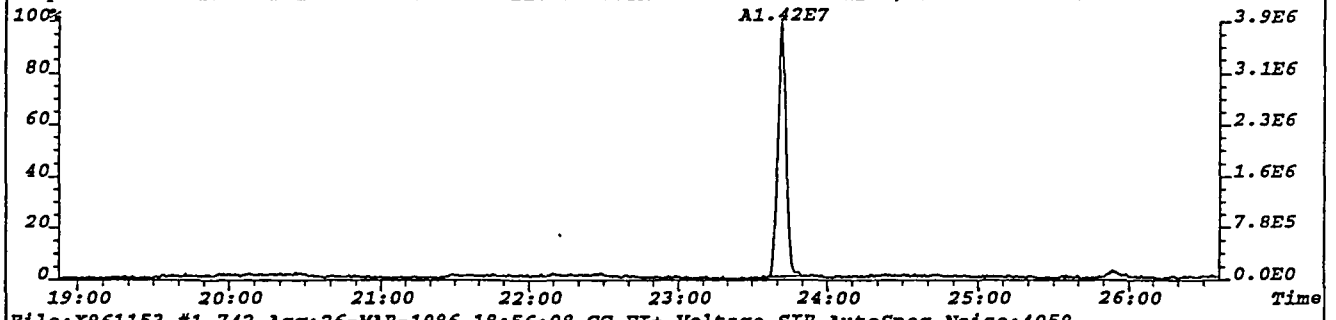
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:4539
303.9016 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,18156.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



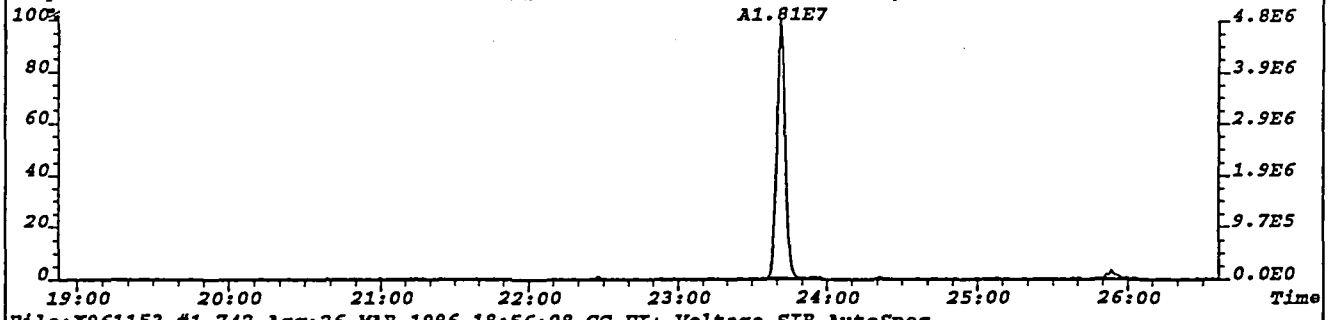
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:5121
305.8987 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,20484.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



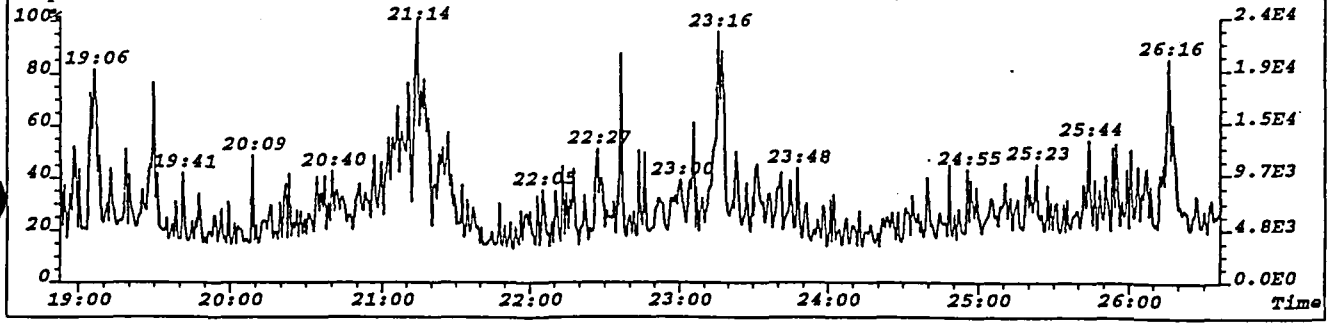
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:14988
315.9419 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,59952.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



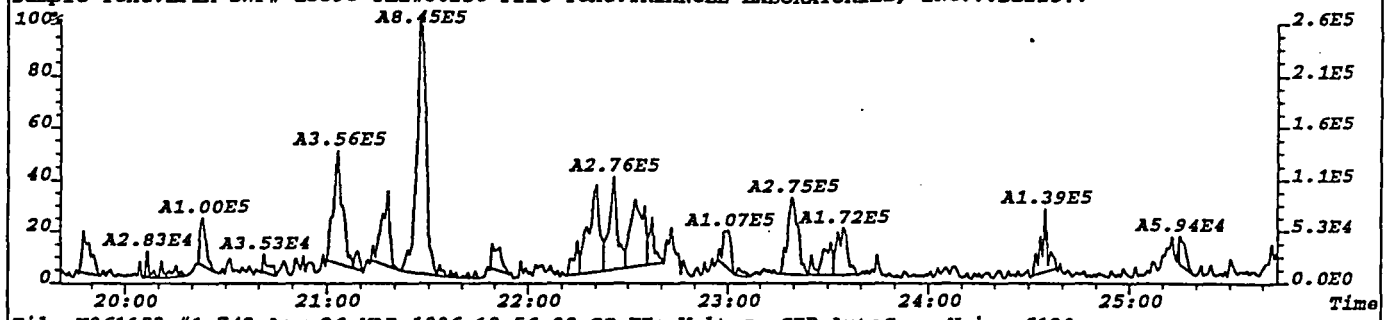
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:4059
317.9389 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,16236.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



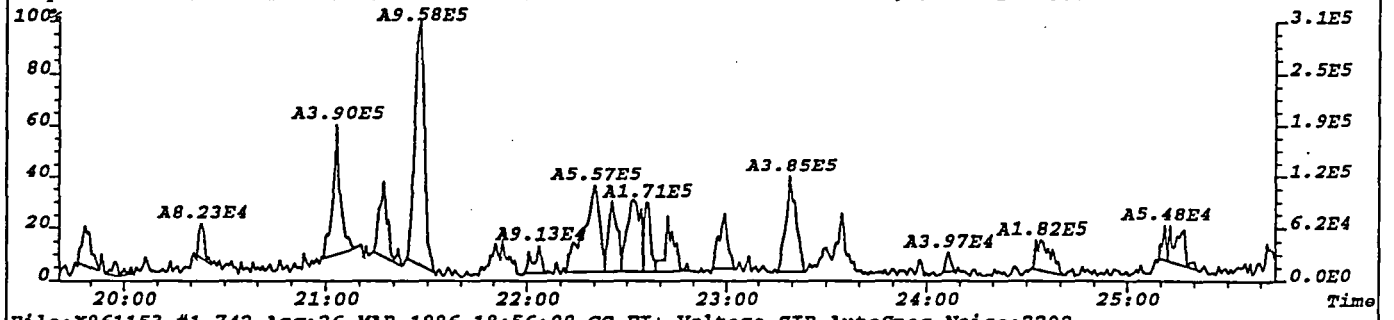
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
375.8364 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



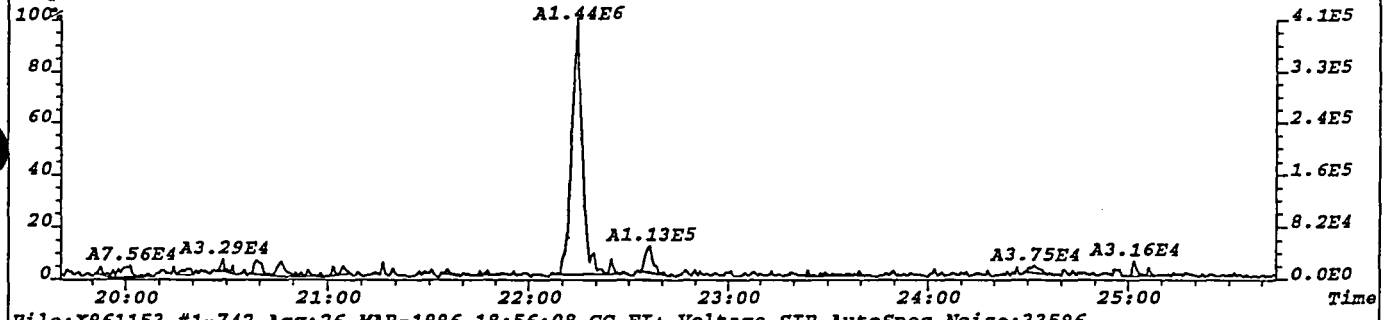
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:4144
319.8965 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,16576.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



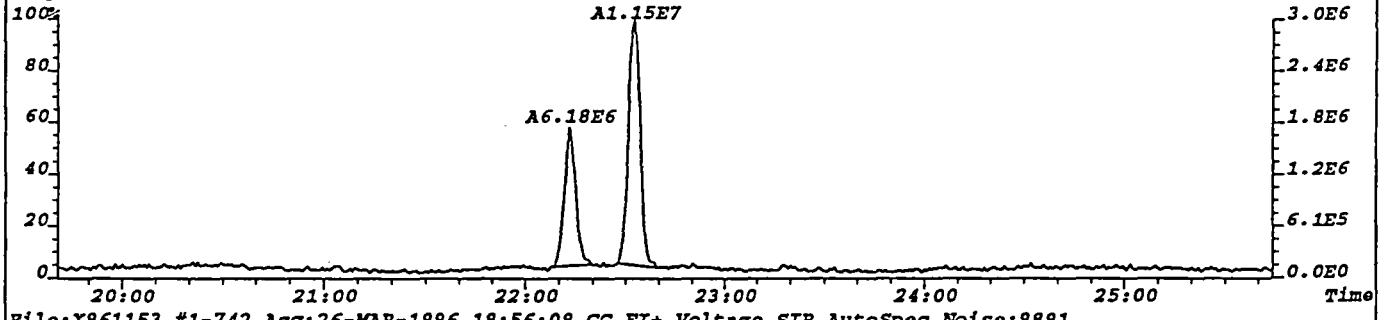
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:6139
321.8936 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,24556.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



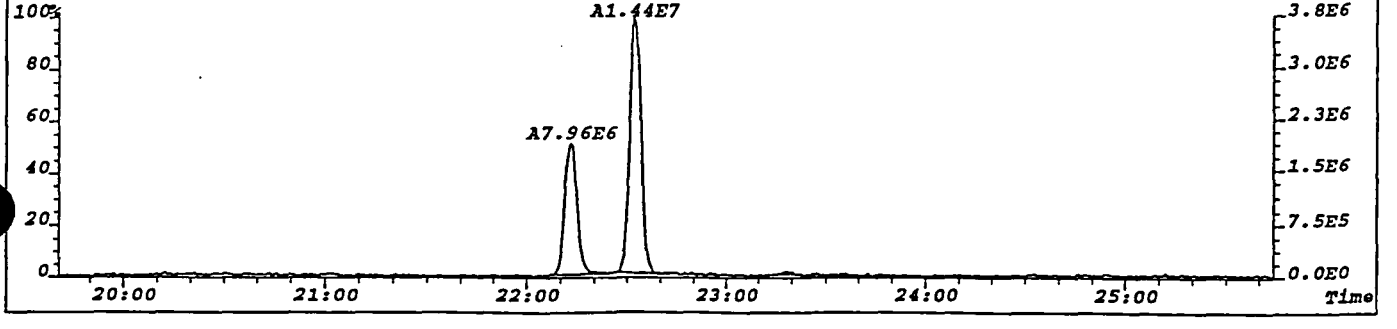
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:2292
327.8847 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,9168.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



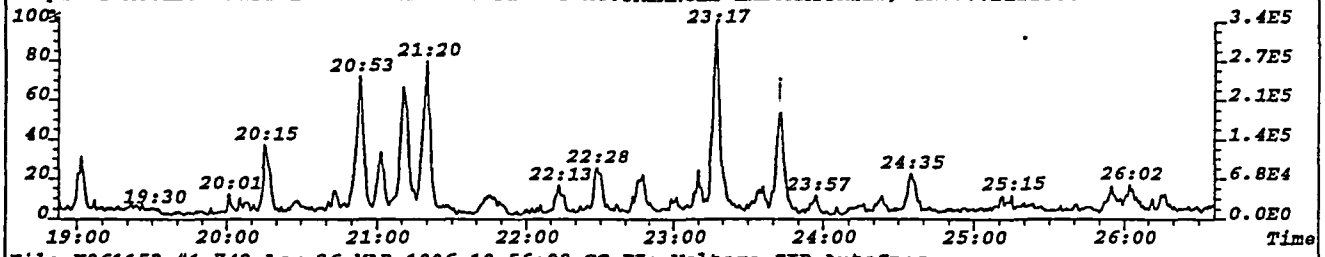
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:33596
331.9368 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,134384.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



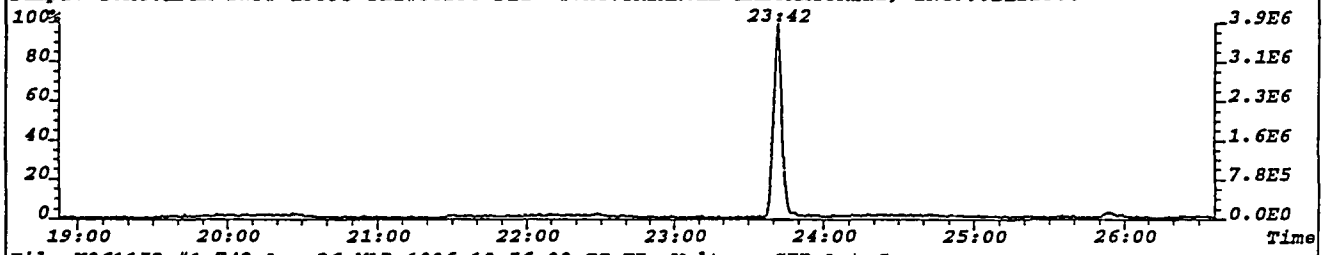
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec Noise:9891
333.9338 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,39564.0,0.00%,F,F) Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



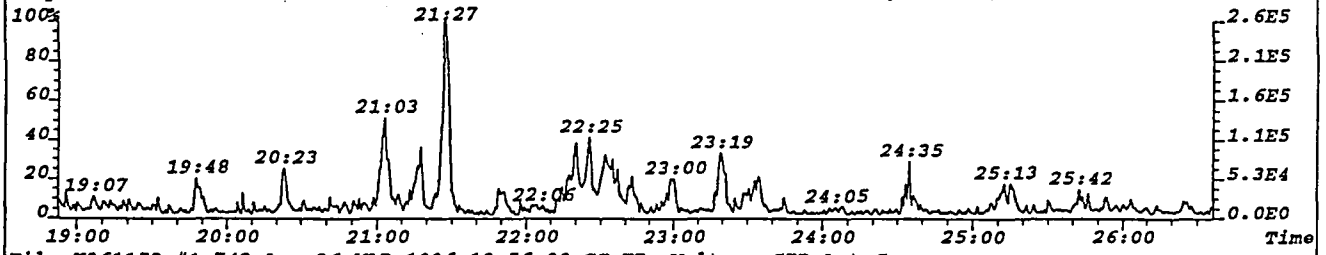
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
303.9016 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



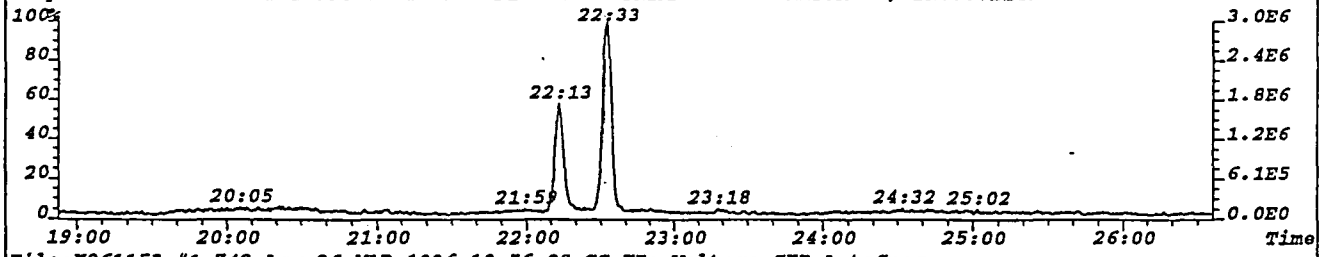
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
315.9419 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



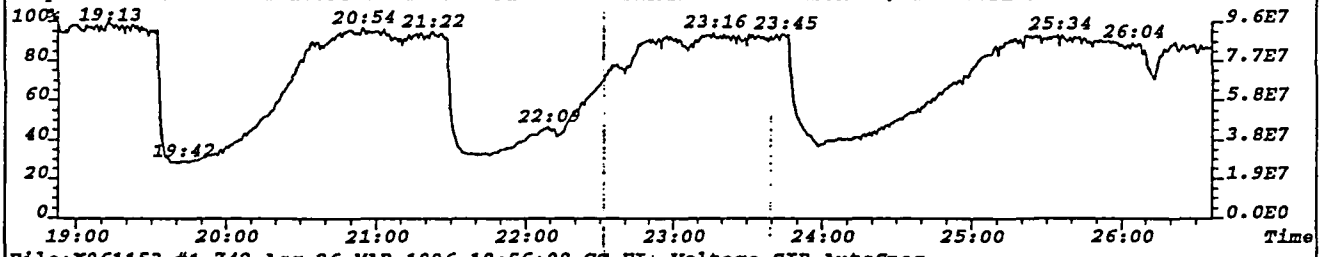
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
319.8965 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



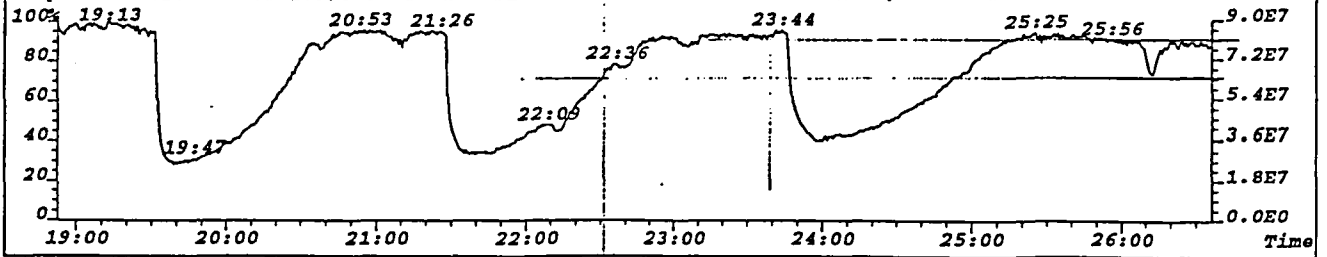
File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
331.9368 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
292.9825 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



File:X961153 #1-742 Acq:26-MAR-1996 18:56:08 GC EI+ Voltage SIR AutoSpec
330.9792 Exp:XCONF_TT
Sample Text:LF1A SWP# 13595 TLI#36250 File Text:TRIANGLE LABORATORIES, INC.::DB225::



TRIANGLE LABS

CALIBRATION DATA

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729

P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

TRIANGLE LABORATORIES, INC. Date: 12/07/95

Initial Calibration Summary for TF5D065

Analysis Date....: 12/06/95 Method.....: M237

Instrument.....: T

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
Total MCDF	0.794	0.000	0%	8:42	0:26	14:26	3.266		1
Total MCDD	0.953	0.000	0%	9:09	1:14	15:14	3.221		1
Total DCDF	0.416	0.000	0%	11:08	7:26	15:26	6.752		1
Total DCDD	0.957	0.000	0%	11:39	8:14	16:14	1.476		1
Total TriCDF	0.700	0.000	0%	14:34	11:26	18:26	1.003		1
Total TriCDD	0.469	0.000	0%	14:37	13:14	19:14	1.074		1
2378-TCDF	1.174	0.165	14%	20:27	16:26	24:26	0.781		5
TOTAL TCDF	1.174	0.165	14%				0.781		5
2378-TCDD	1.338	0.163	12%	21:16	17:14	25:14	0.749		5
TOTAL TCDD	1.338	0.163	12%				0.749		5
12378-PeCDF	1.093	0.026	2%	24:44	20:44	28:44	1.520		5
23478-PeCDF	1.145	0.031	3%	25:31			1.486		5
TOTAL PeCDF	1.119	0.028	3%				1.502		5
12378-PeCDD	1.197	0.037	3%	25:53	21:52	29:52	1.595		5
TOTAL PeCDD	1.197	0.037	3%				1.595		5
123478-HxCDF	1.059	0.074	7%	28:24	24:29	32:29	1.250		5
123678-HxCDF	1.421	0.081	6%	28:30			1.252		5
234678-HxCDF	1.098	0.071	6%	29:01			1.250		5
123789-HxCDF	1.002	0.031	3%	29:44			1.234		5
TOTAL HxCDF	1.145	0.062	5%				1.247		5
123478-HxCDD	1.066	0.049	5%	29:09	25:13	33:13	1.253		5
[illegible]78-HxCDD	1.084	0.036	3%	29:14			1.210		5
[illegible]89-HxCDD	1.169	0.041	4%	29:31			1.262		5
TOTAL HxCDD	1.107	0.039	4%				1.241		5
1234678-HpCDF	1.745	0.051	3%	31:13	27:12	35:12	1.005		5
1234789-HpCDF	1.178	0.064	5%	32:25			0.984		5
TOTAL HpCDF	1.462	0.046	3%				0.996		5
1234678-HpCDD	1.055	0.035	3%	32:04	28:04	36:04	1.019		5
TOTAL HpCDD	1.055	0.035	3%				1.019		5
OCDF	1.284	0.009	1%	34:40	30:33	38:33	0.900		5
OCDD	1.078	0.051	5%	34:33	30:33	38:33	0.844		5

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	1.025	0.009	1%	21:16	19:14	23:14			5
13C12-PeCDF 234	0.973	0.012	1%	25:30	22:44	26:44	1.479		5
13C12-HxCDF 478	0.900	0.012	1%	28:23			0.504		5
13C12-HxCDF 234	0.922	0.012	1%	29:00			0.498		5
13C12-HxCDF 789	0.746	0.021	3%	29:43			0.498		5
13C12-HxCDD 478	0.967	0.023	2%	29:08			1.204		5
13C12-HpCDF 789	0.817	0.019	2%	32:25	29:12	35:12	0.411		5

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.372	0.054	4%	20:26	19:26	21:26	0.728		5
13C12-2378-TCDD	1.039	0.031	3%	21:14	19:14	23:14	0.826		5
13C12-PeCDF 123	1.037	0.054	5%	24:44	20:44	28:44	1.494		5

TRIANGLE LABORATORIES, INC. Date: 12/07/95

Initial Calibration Summary for TF5D065

13C12-PeCDD 123	0.580	0.035	6%	25:52	21:52	29:52	1.460	5
13C12-HxCDF 678	1.324	0.030	2%	28:29	24:29	32:29	0.498	5
13C12-HxCDD 678	0.907	0.010	1%	29:13	28:13	30:13	1.207	5
13C12-HpCDF 678	0.847	0.018	2%	31:12	29:12	35:12	0.414	5
13C12-HpCDD 678	0.796	0.006	1%	32:04	31:04	33:04	1.030	5
13C12-OCDD	0.599	0.022	4%	34:33	32:33	36:33	0.866	5

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	21:02			0.833		5
13C12-HxCDD 789	1.000	0.000	0%	29:31			1.229		5

*** End of Report ***

TRIANGLE LABORATORIES, INC. Date: 01/25/96

Initial Calibration Summary for XF21266

Analysis Date....: 01/26/96 Method.....: C2NF

Instrument.....: X GC Column...: DB-225

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
2378-TCDF	1.123	0.028	2%	22:26	15:25	26:25	0.806		10
TOTAL TCDF	1.123	0.028	2%				0.806		10
2378-TCDD	0.947	0.023	2%	21:04	17:03	25:03	0.777		10
TOTAL TCDD	0.947	0.023	2%				0.777		10

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	1.003	0.019	2%	21:05	19:03	23:03			10

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.387	0.038	3%	22:25	21:25	23:25	0.795		10
13C12-2378-TCDD	1.057	0.014	1%	21:03	19:03	23:03	0.774		10

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	21:19			0.777		10

*** End of Report ***

Triangle Laboratories, Inc.® Analytical Services Division
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Printed: 18:30 01/25/96

Date: 03/26/96

TRIANGLE LABORATORIES, INC.

Continuing Calibration for X961149

Analysis Date....: 03/26/96
Operator.....: VC
Initial Calibration.: XF21266
Cal Date.....: 01/26/96
Analysis Time....: 15:53

Method.....: C2NF
Instrument..: X
Std.Conc....: 5.00
GC Column...: DB-225

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
2378-TCDF	1.136	0.80	18:53 26:16	23:44	1.0007	1.123	0.013	1.2%
TOTAL TCDF	1.136	0.80				1.123	0.013	1.2%
2378-TCDD	0.981	0.77	19:41 25:24	22:15	1.0015	0.947	0.034	3.6%
TOTAL TCDD	0.981	0.77				0.947	0.034	3.6%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	1.042		20:13 24:13	22:15	1.0015	1.003	0.039	3.9%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.261	0.79	22:43 24:43	23:43	1.0000	1.387	-0.126	-9.1%
13C12-2378-TCDD	0.997	0.78	20:13 24:13	22:13	1.0000	1.057	-0.060	-5.7%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.79		22:33	1.0150	1.000	0.000	0.0%

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TRIANGLE LABORATORIES, INC.
Continuing Calibration for T961210

Analysis Date....: 03/06/96
Operator.....: VA
Init Calibration.: TF5D065
ICal Date.....: 12/06/95

Method.....: M237
Instrument..: T
Std.Conc....: 50.00

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	2.079	2.90	0:34 14:34	8:40	0.4214	0.794	1.285	161.8%
Total MCDD	1.883	3.00	1:21 15:21	9:07	0.4270	0.953	0.930	97.5%
Total DCDF	0.624	5.96	7:34 15:34	11:07	0.5405	0.416	0.208	49.9%
Total DCDD	1.027	1.60	8:21 16:21	11:40	0.5464	0.957	0.070	7.3%
Total TriCDF	0.537	1.06	11:34 18:34	14:37	0.7107	0.700	-0.163	-23.3%
Total TriCDD	0.370	1.01	13:21 19:21	14:41	0.6877	0.469	-0.099	-21.0%
2378-TCDF	1.146	0.82	16:59 22:37	20:34	1.0000	1.174	-0.028	-2.4%
TOTAL TCDF	1.146	0.82				1.174	-0.028	-2.4%
2378-TCDD	1.177	0.77	18:22 22:37	21:23	1.0016	1.338	-0.161	-12.0%
TOTAL TCDD	1.177	0.77				1.338	-0.161	-12.0%
12378-PeCDF	1.065	1.51	22:34 26:43	24:51	1.0007	1.093	-0.028	-2.5%
23478-PeCDF	1.158	1.51		25:35	1.0302	1.145	0.013	1.1%
TOTAL PeCDF	1.112	1.51				1.119	-0.007	-0.7%
12378-PeCDD	1.229	1.55	23:55 26:36	25:58	1.0006	1.197	0.032	2.7%
TOTAL PeCDD	1.229	1.55				1.197	0.032	2.7%
123478-HxCDF	1.024	1.26	27:17 30:00	28:27	0.9965	1.059	-0.035	-3.3%
123678-HxCDF	1.324	1.26		28:33	1.0000	1.421	-0.097	-6.8%
234678-HxCDF	1.000	1.27		29:04	1.0181	1.098	-0.098	-8.9%
123789-HxCDF	0.917	1.25		29:46	1.0426	1.002	-0.085	-8.5%
TOTAL HxCDF	1.066	1.26				1.145	-0.079	-6.9%
123478-HxCDD	0.902	1.23	27:48 29:41	29:12	0.9977	1.066	-0.164	-15.4%
123678-HxCDD	1.027	1.20		29:16	1.0000	1.084	-0.057	-5.2%

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Date: 03/29/96 TRIANGLE LABORATORIES, INC.

Continuing Calibration for T961210

123789-HxCDD	1.017	1.20		29:34	1.0103	1.169	-0.152	-13.0%
TOTAL HxCDD	0.982	1.21				1.107	-0.125	-11.3%
[illegible]78-HpCDF	1.644	1.03	31:03 32:35	31:15	1.0005	1.745	-0.101	-5.8%
1234789-HpCDF	1.111	1.05		32:26	1.0384	1.178	-0.067	-5.7%
TOTAL HpCDF	1.377	1.04				1.462	-0.085	-5.8%
1234678-HpCDD	0.973	1.03	31:19 32:14	32:06	1.0005	1.055	-0.082	-7.7%
TOTAL HpCDD	0.973	1.03				1.055	-0.082	-7.7%
OCDF	1.307	0.88	30:32 38:32	34:39	1.0034	1.284	0.023	1.8%
OCDD	1.024	0.86	30:32 38:32	34:32	1.0000	1.078	-0.054	-5.0%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.953		19:21 23:21	21:23	1.0016	1.025	-0.072	-7.0%
13C12-PeCDF 234	1.054	1.48	20:50 28:50	25:35	1.0302	0.973	0.081	8.3%
13C12-HxCDF 478	0.878	0.50		28:27	0.9965	0.900	-0.022	-2.5%
13C12-HxCDF 234	0.863	0.50		29:04	1.0181	0.922	-0.059	-6.4%
13C12-HxCDF 789	0.701	0.52		29:46	1.0426	0.746	-0.045	-6.0%
1[illegible]2-HxCDD 478	0.875	1.21		29:11	0.9972	0.967	-0.092	-9.5%
13[illegible]-HpCDF 789	0.771	0.41	29:14 35:14	32:25	1.0379	0.817	-0.046	-5.6%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.457	0.72	19:34 21:34	20:34	1.0000	1.372	0.085	6.2%
13C12-2378-TCDD	1.209	0.81	19:21 23:21	21:21	1.0000	1.039	0.170	16.4%
13C12-PeCDF 123	1.268	1.45	20:50 28:50	24:50	1.0000	1.037	0.231	22.3%
13C12-PeCDD 123	0.697	1.52	21:57 29:57	25:57	1.0000	0.580	0.117	20.2%
13C12-HxCDF 678	1.430	0.51	24:33 32:33	28:33	1.0000	1.324	0.106	8.0%
13C12-HxCDD 678	0.964	1.20	28:16 30:16	29:16	1.0000	0.907	0.057	6.3%

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Date: 03/29/96

TRIANGLE LABORATORIES, INC.

Continuing Calibration for T961210

13C12-HpCDF 678	0.852	0.44	29:14 35:14	31:14	1.0000	0.847	0.005	0.6%
13C12-HpCDD 678	0.705	1.01	31:05 33:05	32:05	1.0000	0.796	-0.091	-11.5%
2-OCDD	0.532	0.89	34:21 34:41	34:32	1.0000	0.599	-0.067	-11.2%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.80		21:10	0.9914	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.21		29:33	1.0097	1.000	0.000	0.0%

QC Front End Check: 1.5044

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Date: 03/22/96

TRIANGLE LABORATORIES, INC.
Continuing Calibration for T961511

Analysis Date....: 03/22/96
Operator.....: BB
Init Calibration.: TF53086
Date.....: 03/08/96

Method.....: M237
Instrument..: T
Std.Conc....: 50.00

Final

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		1:11 15:11			2.613	-2.613	100.0%
Total MCDD	0.000		1:58 15:58			2.630	-2.630	100.0%
Total DCDF	0.000		8:11 16:11			1.053	-1.053	100.0%
Total DCDD	0.000		8:58 16:58			2.387	-2.387	100.0%
Total TriCDF	0.000		12:11 19:11			1.870	-1.870	100.0%
Total TriCDD	0.000		13:58 19:58			1.675	-1.675	100.0%
2378-TCDF	1.099	0.84	17:37 23:11	21:13	1.0016	1.042	0.057	5.5%
TOTAL TCDF	1.099	0.84				1.042	0.057	5.5%
2378-TCDD	1.192	0.74	19:04 23:11	21:59	1.0008	1.168	0.024	2.1%
TOTAL TCDD	1.192	0.74				1.168	0.024	2.1%
12378-PeCDF	1.097	1.52	23:06 27:12	25:20	1.0007	1.013	0.084	8.3%
23478-PeCDF	1.141	1.55		26:04	1.0296	1.058	0.083	7.8%
[illegible] PeCDF	1.119	1.54				1.036	0.083	8.0%
12378-PeCDD	1.146	1.50	24:25 27:04	26:26	1.0006	1.145	0.001	0.1%
TOTAL PeCDD	1.146	1.50				1.145	0.001	0.1%
123478-HxCDF	1.031	1.23	27:44 30:25	28:53	0.9971	0.919	0.112	12.2%
123678-HxCDF	1.353	1.23		28:59	1.0006	1.294	0.059	4.6%
234678-HxCDF	1.059	1.24		29:28	1.0173	0.946	0.113	11.9%
123789-HxCDF	0.992	1.24		30:11	1.0420	0.845	0.147	17.4%
TOTAL HxCDF	1.109	1.23				1.001	0.108	10.8%
123478-HxCDD	0.884	1.22	28:15 30:06	29:36	0.9978	0.738	0.146	19.8%
123678-HxCDD	1.036	1.25		29:41	1.0006	1.028	0.008	0.8%

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Date: 03/22/96 TRIANGLE LABORATORIES, INC.

Continuing Calibration for T961511

123789-HxCDD	1.012	1.22		29:58	1.0101	0.961	0.051	5.3%
TOTAL HxCDD	0.977	1.23				0.909	0.068	7.5%
1234678-HpCDF	1.730	1.04	31:28 32:59	31:38	1.0005	1.703	0.027	1.6%
1234789-HpCDF	1.190	1.04		32:49	1.0380	1.106	0.084	7.6%
TOTAL HpCDF	1.460	1.04				1.405	0.055	3.9%
1234678-HpCDD	1.006	1.03	31:43 32:38	32:28	1.0000	0.959	0.047	4.9%
TOTAL HpCDD	1.006	1.03				0.959	0.047	4.9%
OCDF	1.397	0.90	30:57 38:57	35:05	1.0038	1.203	0.194	16.1%
OCDD	1.103	0.87	30:57 38:57	34:58	1.0005	0.987	0.116	11.7%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.930		19:58 23:58	21:59	1.0008	0.912	0.018	2.0%
13C12-PeCDF 234	1.011	1.58	21:19 29:19	26:03	1.0290	0.993	0.018	1.8%
13C12-HxCDF 478	0.897	0.49		28:52	0.9965	0.811	0.086	10.6%
13C12-HxCDF 234	0.936	0.50		29:28	1.0173	0.872	0.064	7.3%
13C12-HxCDF 789	0.780	0.50		30:10	1.0414	0.686	0.094	13.7%
13C12-HxCDD 478	0.878	1.24		29:36	0.9978	0.703	0.175	24.9%
13C12-HpCDF 789	0.874	0.43	29:37 35:37	32:48	1.0374	0.786	0.088	11.2%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.407	0.73	20:11 22:11	21:11	1.0000	1.395	0.012	0.9%
13C12-2378-TCDD	1.080	0.78	19:58 23:58	21:58	1.0000	1.119	-0.039	-3.5%
13C12-PeCDF 123	1.190	1.51	21:19 29:19	25:19	1.0000	1.168	0.022	1.9%
13C12-PeCDD 123	0.730	1.47	22:25 30:25	26:25	1.0000	0.719	0.011	1.6%
13C12-HxCDF 678	1.315	0.49	24:58 32:58	28:58	1.0000	1.382	-0.067	-4.8%
13C12-HxCDD 678	0.992	1.24	28:40 30:40	29:40	1.0000	1.029	-0.037	-3.6%

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Date: 03/22/96

TRIANGLE LABORATORIES, INC.

Continuing Calibration for T961511

13C12-HpCDF 678	0.976	0.44	29:37 35:37	31:37	1.0000	0.804	0.172	21.3%
13C12-HpCDD 678	0.888	1.01	31:28 33:28	32:28	1.0000	0.734	0.154	21.0%
C12-OCDD	0.670	0.88	34:47 35:07	34:57	1.0000	0.555	0.115	20.7%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.78		21:47	0.9917	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.24		29:57	1.0096	1.000	0.000	0.0%

QC Front End Check: 0.8897

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4 SERVICES (Check only one box)

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11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter Rate not available. Minimum charge: One pound Economy rate

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Contained reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
*Declared Value Limit $500
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)

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2 [ ] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
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158

PROOF OF YOUR PACKAGE AND SAVE

Sediment Grain Size Sieve Analysis Report

UNIFORMITY Cf: (40 d/90d) 0.5261/ 0.1535= 3.43
RECOMMENDATION: (GRAVEL PACK)
50 PERCENTILE POINT =0.409 MM .0161 IN.
4 TIMES 50 PERCENTILE =2.044 MM , .0805 IN.
8-16 MESH (.047 - .132) IN., 40 GAUGE SCREEN

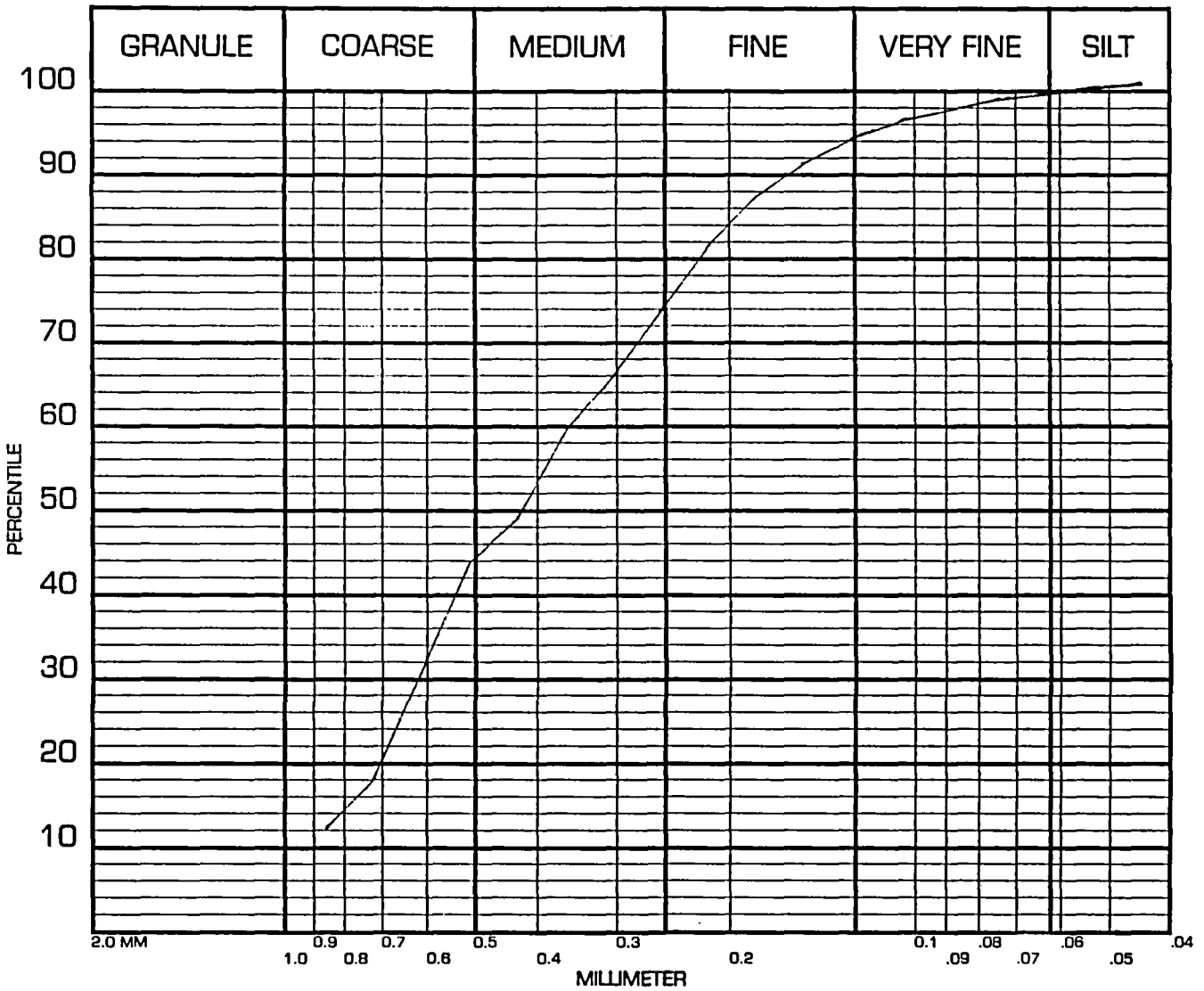
US SIEVE	IN	MM	WT RET	CUM WT	CUM %
*	.0000	0.000			10.0
20	.0331	0.840	9.0	9.0	11.9
25	.0280	0.710	4.4	13.5	17.7
*	.0271	0.687			20.0
*	.0236	0.600			30.0
30	.0234	0.589	10.4	23.9	31.4
*	.0207	0.526			40.0
35	.0197	0.500	9.1	33.0	43.3
40	.0165	0.420	4.0	37.0	48.5
*	.0161	0.409			50.0
45	.0139	0.351	8.0	45.0	59.1
*	.0135	0.343			60.0
50	.0117	0.297	4.8	49.7	65.3
*	.0105	0.267			70.0
60	.0098	0.250	5.9	55.7	73.1
*	.0085	0.215			80.0
70	.0083	0.210	5.9	61.6	80.9
80	.0070	0.177	4.4	66.0	86.7
*	.0060	0.153			90.0
100	.0059	0.149	3.0	69.0	90.6
120	.0049	0.124	2.3	71.3	93.7
140	.0041	0.104	1.5	72.9	95.7
200	.0029	0.074	1.9	74.8	98.2
230	.0024	0.062	0.4	75.2	98.8
270	.0021	0.053	0.5	75.8	99.5
325	.0017	0.044	0.4	76.1	100.0

* - COMPUTED VALUE

02-22-1996 JESSE ROSAS

HALLIBURTON ENERGY SERVICES
P. O. BOX 666 — HOUSTON, TEXAS 77001
713-869-5771 1--800-527-4772

COMPANY...VIROGROUP
WELL NO...
LOCATION..
CONTACT...GREG FORCE
TELEPHONE.1-800-786-0654
DEPTH.....



UNIFORMITY Cf: ([illegible]/90d) 0.5032/ 0.1244= 4.05
RECOMMENDATION: (GRAVEL PACK)
50 PERCENTILE POINT =0.377 MM .0148 IN.
4 TIMES 50 PERCENTILE =1.883 MM , .0742 IN.
8-16 MESH (.047 - .132) IN., 40 GAUGE SCREEN

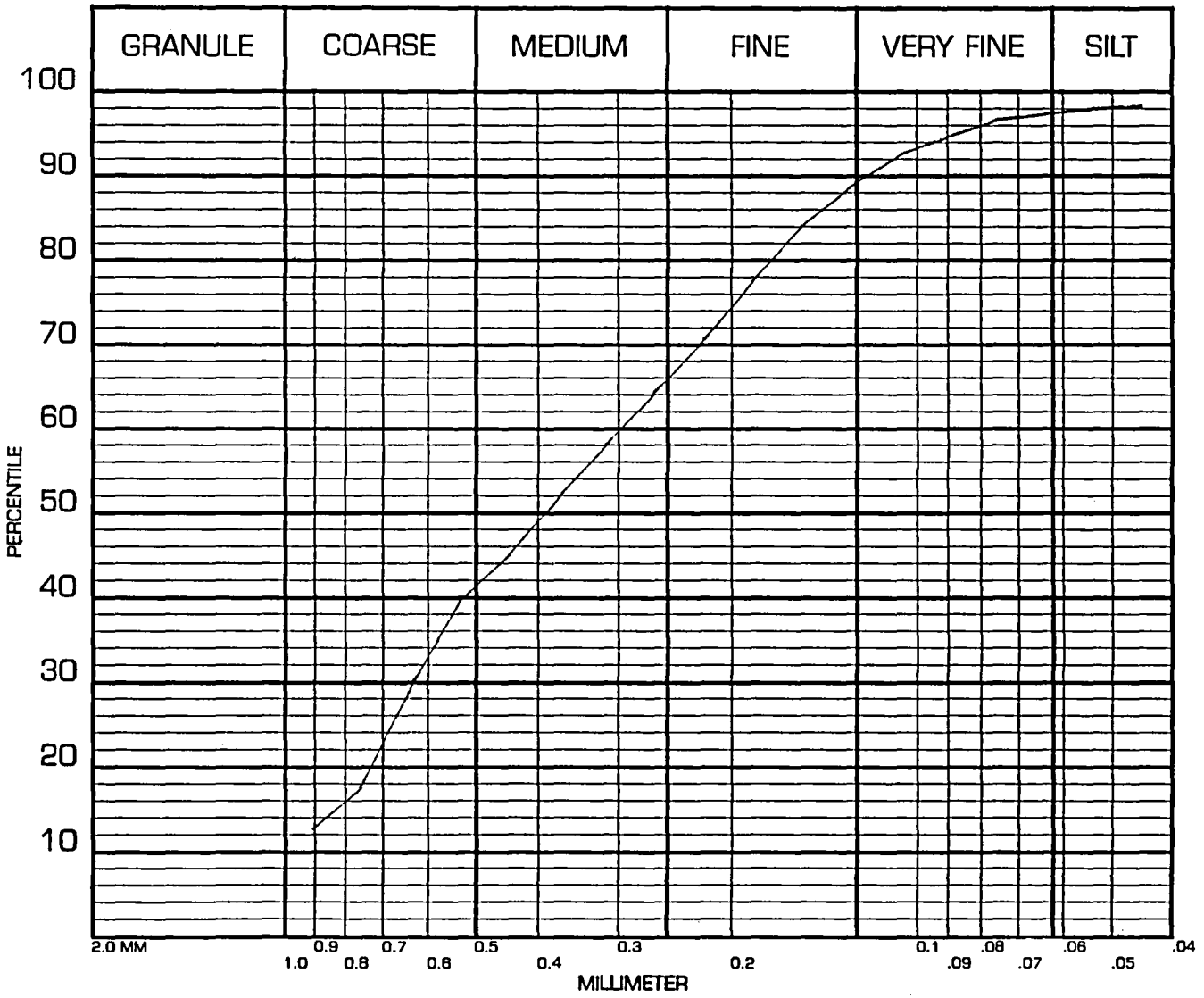
COMPANY...VIROGROUP
WELL NO...
LOCATION..
CONTACT...GREG FORCE
TELEPHONE.1-800-786-0654
DEPTH.....55 - 1

HALLIBURTON ENERGY SERVICES
P. O. BOX 666 — HOUSTON, TEXAS 77001
713-869-5771 1--800-527-4772

US SIEVE	IN	MM	WT RET	CUM WT	CUM %
*	.0161	0.409			10.0
20	.0331	0.840	3.3	3.3	13.2
25	.0280	0.710	1.2	4.5	18.2
*	.0273	0.692			20.0
*	.0235	0.596			30.0
30	.0234	0.589	3.1	7.6	30.7
*	.0198	0.503			40.0
35	.0197	0.500	2.4	9.9	40.3
40	.0165	0.420	1.4	11.3	45.8
*	.0148	0.377			50.0
45	.0139	0.351	1.7	13.0	52.7
50	.0117	0.297	1.5	14.5	59.1
*	.0114	0.290			60.0
60	.0098	0.250	1.5	16.1	65.4
*	.0086	0.219			70.0
70	.0083	0.210	1.5	17.6	71.7
80	.0070	0.177	1.7	19.3	78.6
*	.0067	0.171			80.0
100	.0059	0.149	1.6	20.9	85.1
*	.0049	0.124			90.0
120	.0049	0.124	1.2	22.1	90.1
140	.0041	0.104	0.9	23.1	93.9
200	.0029	0.074	1.0	24.1	98.1
230	.0024	0.062	0.2	24.3	98.9
270	.0021	0.053	0.2	24.5	99.6
325	.0017	0.044	0.1	24.6	100.0

* - COMPUTED VALUE

)2-22-1996 JESSE ROSAS



UNIFORMITY Cf: (40%/90d) 0.5176/ 0.2363= 2.19
RECOMMENDATION: (GRAVEL PACK)
50 PERCENTILE POINT =0.434 MM .0171 IN.
5 TIMES 50 PERCENTILE =2.168 MM , .0854 IN.
8-16 MESH (.047 - .132) IN., 40 GAUGE SCREEN

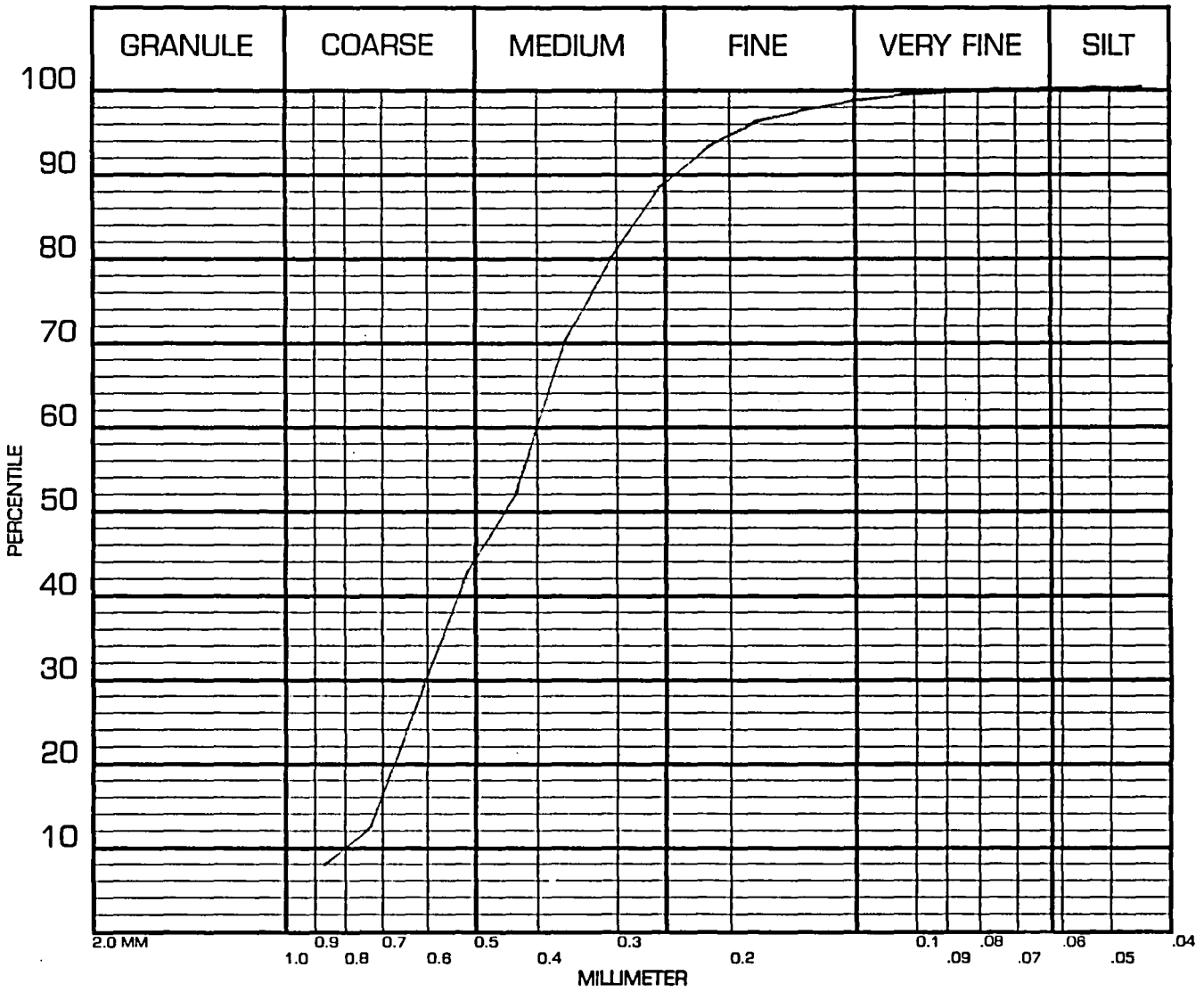
COMPANY...VIROGROUP
WELL NO...
LOCATION..
CONTACT...GREG FORCE
TELEPHONE.1-800-786-0654
DEPTH.....55 - 7

HALLIBURTON ENERGY SERVICES
P. O. BOX 666 — HOUSTON, TEXAS 77001
713-869-5771 1--800-527-4772

US SIEVE	IN	MM	WT RET	CUM WT	CUM %
20	.0331	0.840	11.7	11.7	7.8
*	.0299	0.759			10.0
25	.0280	0.710	6.9	18.6	12.4
*	.0256	0.650			20.0
30	.0234	0.589	24.8	43.4	28.8
*	.0229	0.581			30.0
*	.0204	0.518			40.0
35	.0197	0.500	20.9	64.2	42.6
*	.0171	0.434			50.0
40	.0165	0.420	13.9	78.2	51.9
*	.0153	0.387			60.0
*	.0138	0.351			70.0
45	.0139	0.351	27.3	105.5	70.0
50	.0117	0.297	14.9	120.4	80.0
*	.0117	0.297			80.0
60	.0098	0.250	12.3	132.8	88.1
*	.0093	0.236			90.0
70	.0083	0.210	7.2	139.9	92.9
80	.0070	0.177	4.5	144.4	95.9
100	.0059	0.149	2.2	146.6	97.3
120	.0049	0.124	1.7	148.3	98.5
140	.0041	0.104	1.0	149.4	99.2
200	.0029	0.074	0.9	150.3	99.8
230	.0024	0.062	0.2	150.5	99.9
270	.0021	0.053	0.1	150.6	100.0
325	.0017	0.044	0.1	150.6	100.0

* - COMPUTED VALUE

02-22-1996 JESSE ROSAS



UNIFORMITY Cf: ([illegible],90d) 0.6516/ 0.3463= 1.88
RECOMMENDATION: (GRAVEL PACK)
50 PERCENTILE POINT =0.609 MM .0240 IN.
5 TIMES 50 PERCENTILE =3.043 MM , .1199 IN.
4-10 MESH (.079 - .187) IN., 70 GAUGE SCREEN

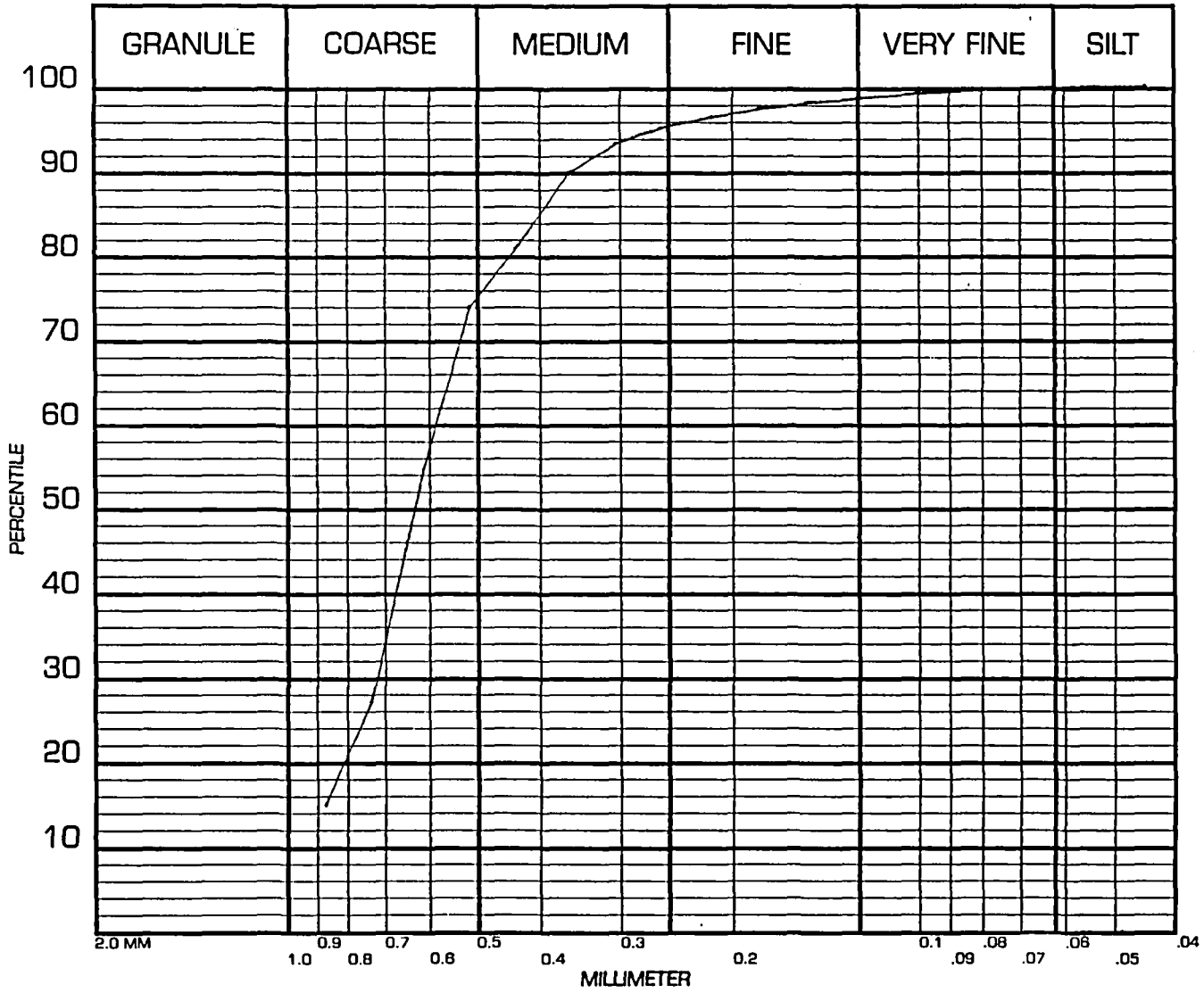
US SIEVE	IN	MM	WT RET	CUM WT	CUM %
*	.0171	0.434			10.0
20	.0331	0.840	10.0	10.0	14.5
*	.0303	0.768			20.0
25	.0280	0.710	8.4	18.4	26.8
*	.0274	0.695			30.0
*	.0257	0.652			40.0
*	.0240	0.609			50.0
30	.0234	0.589	19.0	37.5	54.4
*	.0222	0.564			60.0
*	.0204	0.518			70.0
35	.0197	0.500	13.2	50.7	73.6
*	.0169	0.430			80.0
40	.0165	0.420	5.0	55.7	80.9
45	.0139	0.351	6.0	61.6	89.6
*	.0136	0.346			90.0
50	.0117	0.297	2.4	64.0	93.1
60	.0098	0.250	1.4	65.4	95.0
70	.0083	0.210	0.8	66.2	96.2
80	.0070	0.177	0.7	66.9	97.2
100	.0059	0.149	0.5	67.4	97.9
120	.0049	0.124	0.4	67.8	98.5
140	.0041	0.104	0.4	68.1	99.0
200	.0029	0.074	0.4	68.6	99.7
230	.0024	0.062	0.1	68.7	99.8
270	.0021	0.053	0.1	68.8	99.9
325	.0017	0.044	0.1	68.8	100.0

* - COMPUTED VALUE

)2-22-1996 JESSE ROSAS

HALLIBURTON ENERGY SERVICES
P. O. BOX 666 — HOUSTON, TEXAS 77001
713-869-5771 1--800-527-4772

COMPANY...VIROGROUP
WELL NO...
LOCATION..
CONTACT...GREG FORCE
TELEPHONE.1-800-786-0654
DEPTH.....55 - 8



UNIFORMITY Cf: (40 d/90d) 0.5549/ 0.2677= 2.07
RECOMMENDATION: (GRAVEL PACK)
50 PERCENTILE POINT =0.502 MM .0198 IN.
5 TIMES 50 PERCENTILE =2.508 MM , .0988 IN.
8-16 MESH (.047 - .132) IN., 40 GAUGE SCREEN

US SIEVE	IN	MM	WT RET	CUM WT	CUM %
20	.0331	0.840	9.9	9.9	6.5
*	.0295	0.749			10.0
25	.0280	0.710	9.6	19.6	12.7
*	.0262	0.665			20.0
*	.0240	0.608			30.0
30	.0234	0.589	32.0	51.5	33.5
*	.0219	0.555			40.0
*	.0198	0.502			50.0
35	.0197	0.500	25.8	77.3	50.3
*	.0169	0.428			60.0
40	.0165	0.420	17.0	94.3	61.3
*	.0151	0.384			70.0
45	.0139	0.351	25.3	119.6	77.8
*	.0133	0.337			80.0
50	.0117	0.297	12.6	132.2	86.0
*	.0105	0.268			90.0
60	.0098	0.250	9.6	141.8	92.2
70	.0083	0.210	5.8	147.6	96.0
80	.0070	0.177	3.4	151.0	98.2
100	.0059	0.149	1.5	152.4	99.2
120	.0049	0.124	0.7	153.1	99.6
140	.0041	0.104	0.3	153.4	99.8
200	.0029	0.074	0.2	153.6	99.9
230	.0024	0.062	0.1	153.7	100.0
270	.0021	0.053	0.0	153.7	100.0

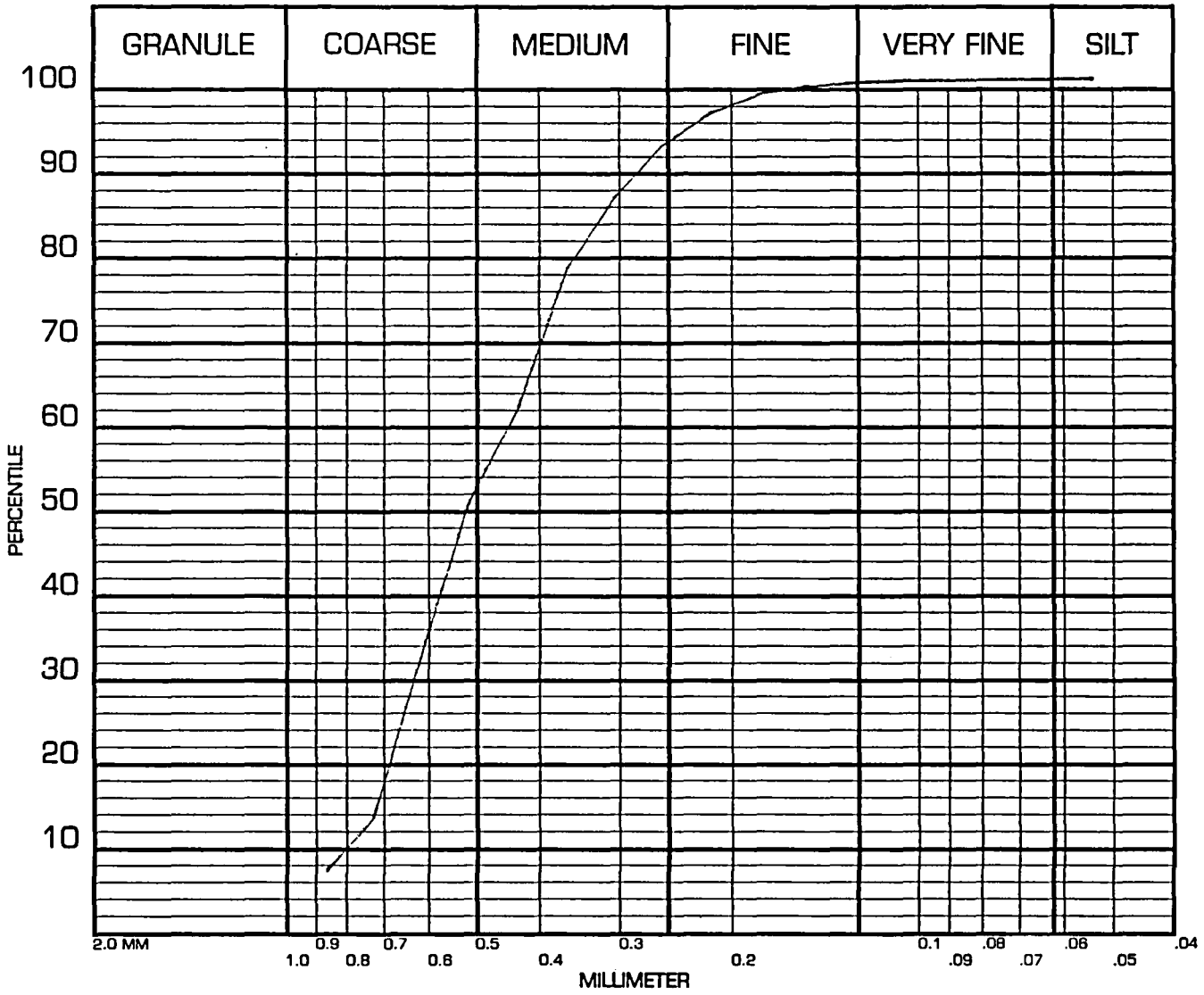
* - COMPUTED VALUE

02-22-1996 JESSE ROSAS

HALLIBURTON ENERGY SERVICES

P. O. BOX 666 — HOUSTON, TEXAS 77001
713-869-5771 1--800-527-4772

COMPANY...VIROGROUP
WELL NO...
LOCATION..
CONTACT...GREG FORCE
TELEPHONE.1-800-786-0654
DEPTH.....55 - 9



JNIFORMITY Cf: (4[illegible]90d) 0.4395/ 0.2410= 1.82
RECOMMENDATION: (GRAVEL PACK)
50 PERCENTILE POINT =0.396 MM .0156 IN.
5 TIMES 50 PERCENTILE =1.980 MM , .0780 IN.
8-16 MESH (.047 - .132) IN., 40 GAUGE SCREEN

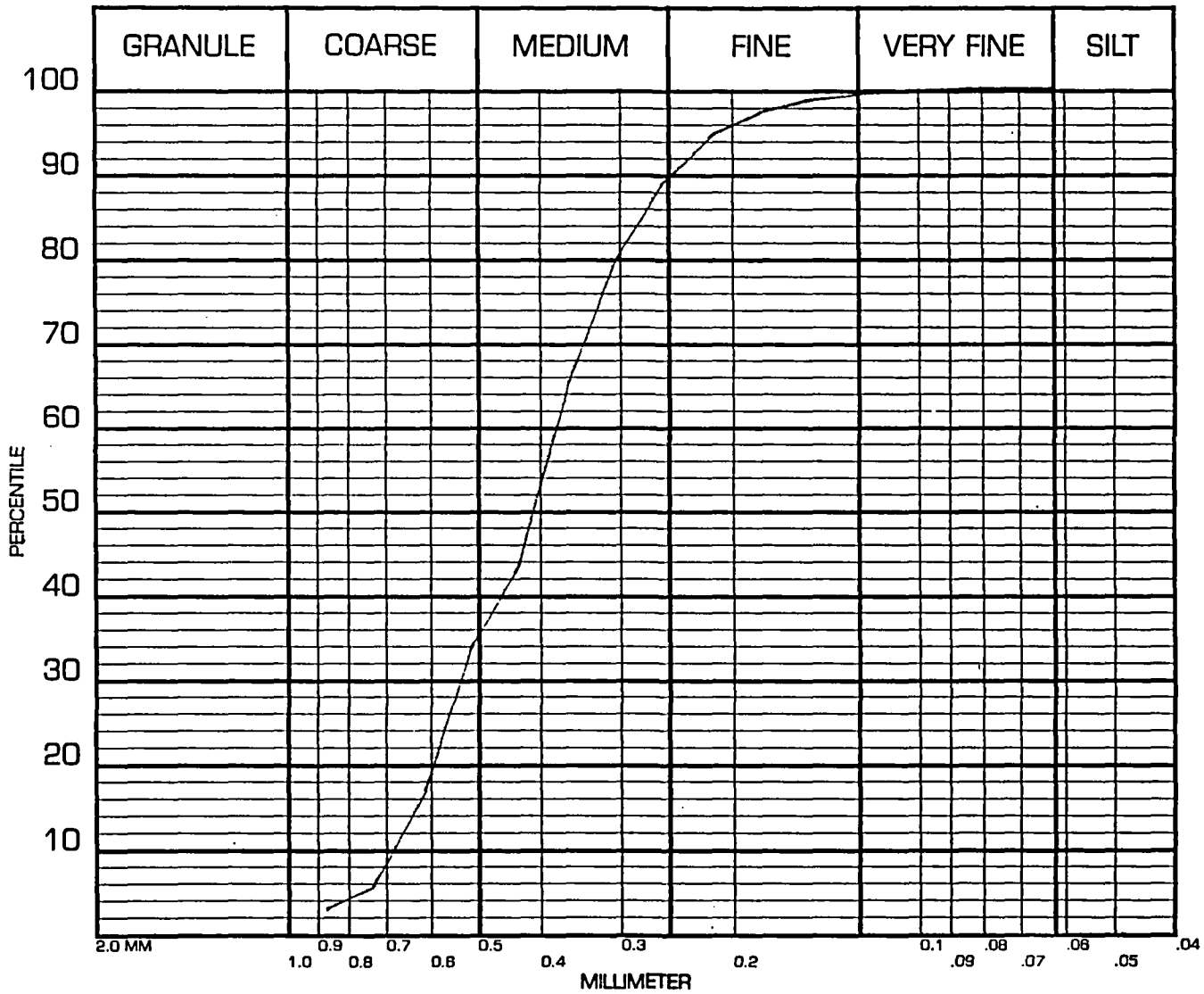
US SIEVE	IN	MM	WT RET	CUM WT	CUM %
20	.0331	0.840	4.3	4.3	2.4
25	.0280	0.710	4.8	9.2	5.1
*	.0254	0.645			10.0
30	.0234	0.589	20.4	29.6	16.5
*	.0225	0.570			20.0
*	.0205	0.520			30.0
35	.0197	0.500	30.0	59.6	33.2
*	.0173	0.439			40.0
40	.0165	0.420	17.6	77.2	43.0
*	.0156	0.396			50.0
*	.0144	0.367			60.0
45	.0139	0.351	39.0	116.2	64.8
*	.0131	0.332			70.0
50	.0117	0.297	26.1	142.3	79.3
*	.0116	0.294			80.0
60	.0098	0.250	16.5	158.8	88.5
*	.0095	0.241			90.0
70	.0083	0.210	10.2	169.0	94.2
80	.0070	0.177	4.8	173.8	96.8
100	.0059	0.149	2.7	176.4	98.3
120	.0049	0.124	1.3	177.7	99.0
140	.0041	0.104	0.7	178.5	99.5
200	.0029	0.074	0.7	179.1	99.8
230	.0024	0.062	0.2	179.3	99.9
270	.0021	0.053	0.1	179.4	100.0
325	.0017	0.044	0.1	179.4	100.0

* - COMPUTED VALUE

2-22-1996 JESSE ROSAS

COMPANY...VIROGROUP
WELL NO...
LOCATION..
CONTACT...GREG FORCE
TELEPHONE.1-800-786-0654
DEPTH.....55 -14

HALLIBURTON ENERGY SERVICES
P. O. BOX 666 — HOUSTON, TEXAS 77001
713-869-5771 1--800-527-4772



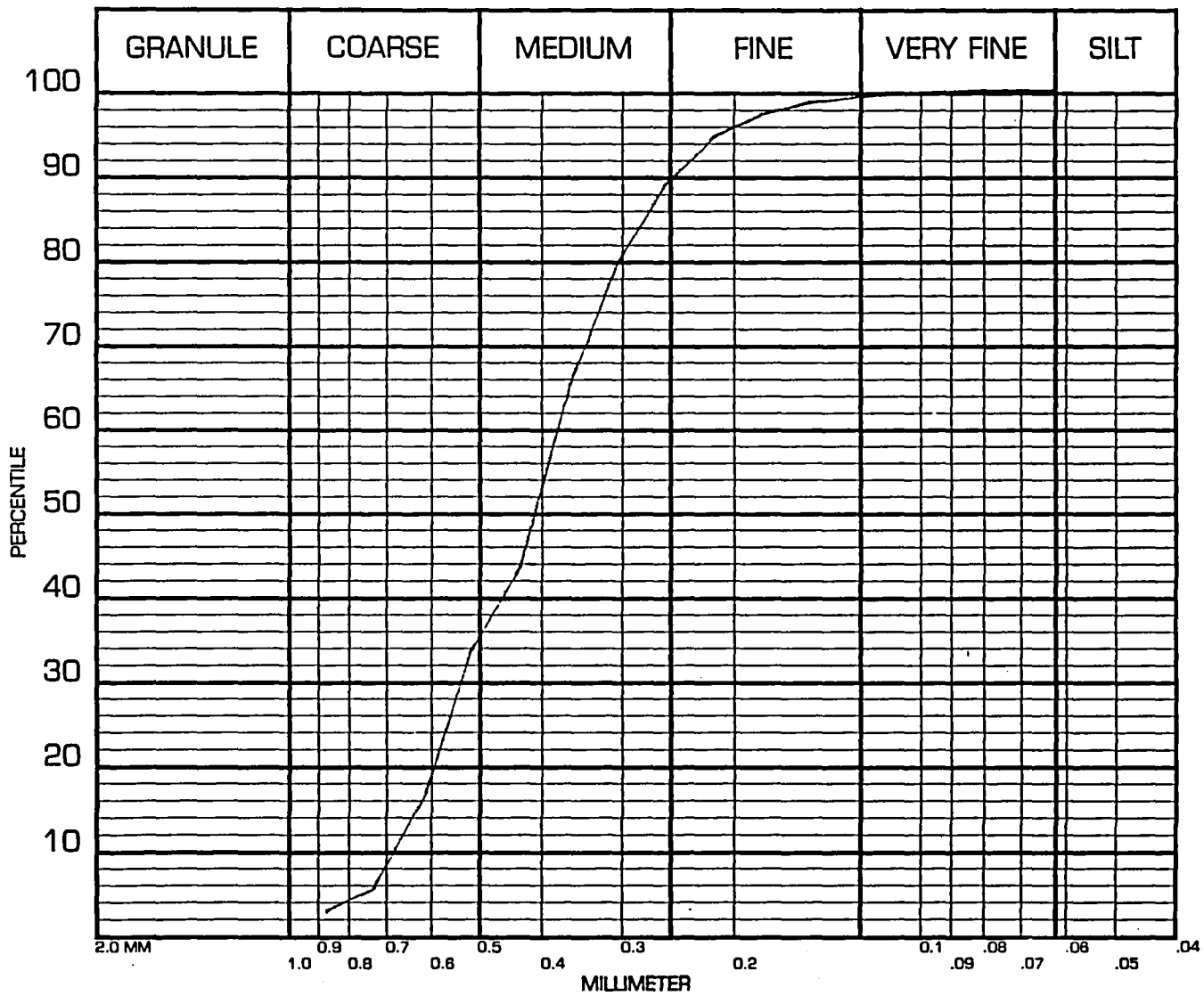
NIFORMITY Cf: (40 d/90d) 0.4395/ 0.2410= 1.82
ECOMMENDATION: (GRAVEL PACK)
50 PERCENTILE POINT =0.396 MM .0156 IN.
5 TIMES 50 PERCENTILE =1.980 MM , .0780 IN.
8-16 MESH (.047 - .132) IN., 40 GAUGE SCREEN

COMPANY...VIROGROUP
WELL NO...
LOCATION..
CONTACT...GREG FORCE
TELEPHONE.1-800-786-0654
DEPTH.....55 -14

HALLIBURTON ENERGY SERVICES

P. O. BOX 666 — HOUSTON, TEXAS 77001
713-869-5771 1--800-527-4772

US IEVE	IN	MM	WT RET	CUM WT	CUM %
20	.0331	0.840	4.3	4.3	2.4
25	.0280	0.710	4.8	9.2	5.1
*	.0254	0.645			10.0
30	.0234	0.589	20.4	29.6	16.5
*	.0225	0.570			20.0
*	.0205	0.520			30.0
35	.0197	0.500	30.0	59.6	33.2
*	.0173	0.439			40.0
40	.0165	0.420	17.6	77.2	43.0
*	.0156	0.396			50.0
*	.0144	0.367			60.0
45	.0139	0.351	39.0	116.2	64.8
*	.0131	0.332			70.0
50	.0117	0.297	26.1	142.3	79.3
*	.0116	0.294			80.0
60	.0098	0.250	16.5	158.8	88.5
*	.0095	0.241			90.0
70	.0083	0.210	10.2	169.0	94.2
80	.0070	0.177	4.8	173.8	96.8
100	.0059	0.149	2.7	176.4	98.3
120	.0049	0.124	1.3	177.7	99.0
140	.0041	0.104	0.7	178.5	99.5
200	.0029	0.074	0.7	179.1	99.8
230	.0024	0.062	0.2	179.3	99.9
270	.0021	0.053	0.1	179.4	100.0
325	.0017	0.044	0.1	179.4	100.0

* - COMPUTED VALUE

12-22-1996 JESSE ROSAS