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FINAL
SITE INSPECTION PRIORITIZATION
ADVANCED CHEMICAL TECHLOLOGY
CAMDEN, CAMDEN COUNTY, NEW JERSEY

PREPARED UNDER

WORK ASSIGNMENT NO. 038-2JZZ
CONTRACT NO. 68-W9-0051

JUNE 30, 1994

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VOLUME 2 OF 2

REFERENCE NO. 16
(CONT'D)

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PROPOSED

SAMPLING AND ANALYSIS PLAN

FOR

ADVANCED CHEMICAL TECHNOLOGY (PLANT INDUSTRIES)

CAMDEN, NEW JERSEY

Prepared by:

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November 1986

ATTACHMENT N1
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1.0 INTRODUCTION

J M Sorge, Inc. has been retained to conduct investigations related to the Environmental Clean-Up Responsibility Act (ECRA) regarding the site formerly operated by Plant Industries and Advanced Chemical Technology located at River Road and State Street in Camden, New Jersey. The following presents the Sampling and Analysis Plan developed for the Advanced Chemical Technology (ACT) Polydrum facility. The program detailed below addresses the additional Sampling Plan requested by the Bureau of Industrial Site Evaluation (BISE) letter dated 21 October, 1985. The purpose of the Plan is to determine the nature and the horizontal and vertical extent of the soil contamination present at the site; a groundwater investigation is also proposed to determine if groundwater contamination exists at the site.

2.0 ENVIRONMENTAL SETTING

2.1 GENERAL

ACT site is located in the north-northeastern part of the city of Camden (Figure 1). The major land uses in the study area are urban, industrial, commercial and residential. The closest residential area is located north-northeast of the property. No public or private water wells are located within 1/4 mile of the site.

2.2 FACILITY BACKGROUND

ACT started operation at the facility in 1974 and was sold to Russell-Stanley Corporation in February, 1984. Russell-Stanley continued the same operation at the site. The remaining portion of the facility building is occupied by Hill Bros. Lumber and Ceramic Merchandise Warehouse.

ACT was engaged in the manufacturing of plastic drums. The materials used during the manufacturing process are plastic resin beads; ethylene glycol is used as a coolant which allowed for the newly-formed plastic drums to harden quicker. Oil is used as a lubricant for three (3) molding machines utilized in the manufacturing process.

The plastic resin beads are stored in above-ground silos. All other materials are stored in the original 55-gallon steel drums as shipped from the manufacturer. The waste oil generated either through periodic maintenance of the molding machines or through accidental equipment failures are stored in 55-gallon drums and shipped off-site to Flowen Oil Delaware Valley, Inc. of Camden, New Jersey for reclamation/disposal.

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2.3 SOILS

Approximately one-half of the property area is covered with asphalt/concrete pavement and the building. The remaining open area in the north has been filled with construction debris, etc. As seen from remnants of the concrete structure and the asphalt pavements, it appears that a building was situated in this area and demolished in the historic past; no further information, however, is available.

The soils beneath the surface overburden are comprised of fine sands with intermittent clay to silty/sandy clay strata. This part of Camden County has not been included in the soil survey conducted by the Soil Conservation Service (SCS Series 1961, No. 42, Camden County, New Jersey). However, the site area was included in a similar survey conducted by Rutgers University. These unconsolidated, stratified alluvial deposits are mapped as AM-24 (Engineering Soil Survey of New Jersey, Report No. 17, Rutgers University, 1955). The soils exhibit usually good to excellent surface drainage because of the rolling to undulating plains topography.

2.4 GEOLOGY/HYDROGEOLOGY

2.4.1 Regional Geology/Hydrogeology

ACT site lies within a major physiographic division, the Atlantic Coastal Plain of New Jersey (Figure 2). The New Jersey Coastal Plain is characterized by a wedge of unconsolidated sediments that thicken and dip southeast toward the Atlantic Ocean. The oldest of these sediments are the Potomac Group and Raritan and Mogothy Formations of the Cretaceous Age which overlie crystalline bedrock.

The Potomac-Raritan-Mogothy aquifer system consists of aquifer units composed of sand and gravel and confining units of silt and clay. Rapid changes in the character of these formations are extremely common. In and near outcrop areas, the clay units are generally composed of dense, tough plastic clays. The clay beds are often lignitic and contain pyrite (Barksdale et al, 1958). The sand units are usually well sorted, and vary in texture from very fine-grained sands in Mogothy to medium- and/or coarse-grained sands to fine-grained gravels into the Raritan. Three (3) major aquifer units, identified as the lower, middle, and upper units, have been defined within the aquifer system in the area. A typical geohydrologic section is illustrated in Figure 3.

The aquifer system is confined from below by crystalline bedrock and from above by the thick clay of the Merchantville-Woodbury confining unit. The Potomac-Raritan-Mogothy aquifer is under artesian conditions, except in parts of the outcrop area where the upper and middle aquifers are under water-table conditions.

ATTACHMENT N3

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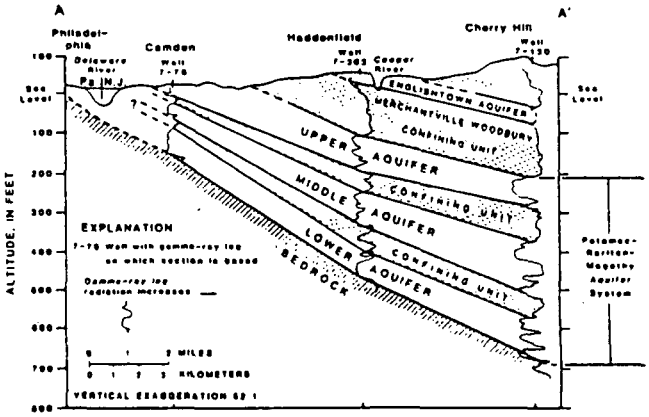

Figure 3. Geohydrologic section through the study area.
(after Fusillo, Hochreiter Jr.,Lord, 1985, figure 2)

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The lower aquifer is not thought to occur as a water-table aquifer in New Jersey but may in areas of Pennsylvania. The lower aquifer may also receive recharge vertically through the leaky confining unit between the middle and lower aquifer. Potentiometric heads in the middle and lower aquifers are similar in much of the coastal plain and generally are lower than potentiometric heads in the upper aquifer (Walker, 1983).

The hydrogeology is more complex within the outcrop area than the downdip of the outcrop. In the outcrop area, the confining units are thinner, making hydraulic connections between aquifer units more likely. There are also numerous lenses of sand and clay that are present which occur locally. In many parts of the outcrop area, the Cretaceous aquifer system is overlain by Pleistone or Recent deposits, most of which are hydraulically connected to the underlying aquifer system. The artificial removal of large quantities of water has considerably altered the flow pattern of groundwater. Originally, the flow in the areas along the river was probably entirely towards the river. However, the pumping of water from wells in the area along the river has intercepted all or part of this flow. It is probable that some recharge from the river has been induced wherever moderate or heavy pumping is occurring in areas very near to the Delaware River.

2.4.3 Site-Specific Geology/Hydrogeology

The soil boring information from the earlier investigations by Stablex-Reutter (S-R), Inc. at the site indicate that a layer of fine sands occur to a depth of about five (5) feet below grade. This deposit is underlain by an intermittent clay to silty/sandy clay strata, which in turn appears to grade into a fine sand again. This type of stratigraphy is common in this area owing to fluvial depositional processes. Groundwater appears to have been encountered between three (3) and five (5) feet below the land surface; however, no groundwater studies were undertaken at the site. The detailed site specific geologic and hydrogeologic characteristics will be determined during the implementation of the proposed sampling program and will be presented with the sampling plan results. A detailed site stratigraphy describing lithology and thickness of the soil horizons encountered during soil borings will be included. The hydrogeologic information will include depth to the water table, the direction of groundwater flow and other pertinent information.

A request for Hydrogeological Assessment is included in Appendix A. Also included is a map showing well locations in 1/2 mile and 1-mile radius of the site.

TABLE 1

Sampling Plan Summary

Location	Matrix	Sample Depth (Units)	Analytical Parameters
Railroad Siding Area			
Borings B-1 to B-6	Soil	1.0-1.5 feet	Petroleum Hydrocarbons, Heavy Metals
		3.0-3.5 feet	Petroleum Hydrocarbons, Heavy Metals
		5.0-5.5 feet	Petroleum Hydrocarbons, Heavy Metals
Borings B-7 to B-12	Soil	1.0-1.5 feet	Petroleum Hydrocarbons, Heavy Metals
		4.0-4.5 feet	Petroleum Hydrocarbons, Heavy Metals
Dumpster Area			
Borings B-13 to B-23	Soil	1.0-1.5 feet	Petroleum Hydrocarbons, Heavy Metals
		4.0-4.5 feet	Petroleum Hydrocarbons, Heavy Metals
		7.0-7.5 feet	Petroleum Hydrocarbons, Heavy Metals
Oil-Stained Area			
Borings B-24 to B-26	Soil	1.0-1.5 feet	Petroleum Hydrocarbons
		3.0-3.5 feet	Petroleum Hydrocarbons

ATTACHMENT No 140

Background Sample

Boring B-27	Soil	1.0-1.5 feet	Petroleum Hydrocarbons, Heavy Metals
		3.0-3.5 feet	Petroleum Hydrocarbons, Heavy Metals
		4.0-4.5 feet	Petroleum Hydrocarbons, Heavy Metals
		7.0-7.5 feet	Petroleum Hydrocarbons, Heavy Metals

Groundwater Monitoring

MW-1 to MW-5	Water	Water Table (-5 feet)	Petroleum Hydrocarbons, Heavy Metals, Total Dissolved Solids, Specific Conductance, pH

ATTACHMENT N-1

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TABLE 2

Number of Samples by Area

Matrix	Area	No. of Samples	Analytical Parameters
Soil (Total - 73)	Railroad Siding Area	30	Petroleum Hydrocarbons, Heavy Metals
	Dumpster Area	33	Petroleum Hydrocarbons, Heavy Metals
	Oil-Stained Area	6	Petroleum Hydrocarbons
	Background Samples	4	Petroleum Hydrocarbons, Heavy Metals
Water (Two Rounds)	Monitoring Wells	10	Petroleum Hydrocarbons, Heavy Metals, Total Dissolved Solids, Specific Conductance, pH

ATTACHMENT N8

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TABLE 3

Sampling Plan Schedule

Task	Weeks											
	1	2	3	4	5	6	7	8	9	10	11	12
Monitoring Well Installation	-	-	-									
Soil Sampling		-	-	-								
Groundwater Sampling												
1st Round			X									
2nd Round							X					
Laboratory Analysis (Soil samples and two rounds of water samples)			-	-	-	-	-	-	-	-		
Report Preparation									-	-	-	-

ATTACHMENT No

I. Introduction

Previous investigations conducted at the site identified an area of oil-contaminated soil approximately 150 ft. by 40 ft. adjacent to the dumpster storage area. In accordance with the initial Site Cleanup Plan, the surficial soil was removed from the contaminated area and some 382 tons of contaminated soil was transported from the site. Subsequent sampling of the site adjacent to the dumpster storage area revealed evidence of oil contamination at depths of 2 to 3 ft. below the surface. Additional soil samples were taken at the site on 8/12 and 8/13/85 at eleven locations in and around the contaminated area as shown on Figure 1. The soil samples were analyzed for petroleum hydrocarbon content (PHC) and EP Extractable metals, subsurface conditions were evaluated, the presence of a soil layer of low permeability was confirmed, and tests were conducted to evaluate the rate of permeability of this soil layer.

Test results and soil evaluations can be found in S-R Analytical, Inc. test report SR11868 and Site Engineer's, Inc. report dated 9/12/85, copies of which are attached.

II. Interpretation

A. Chemical Analyses

Twenty-six soil samples were taken at depths from 4 to 10 ft. below existing grade. The PHC of the soil samples ranged from a low of less than 20 ppm to a high of 1600 ppm. As can be seen on Figure 2, the depths at which the PHC values in the soil samples did not exceed the cleanup limit of 100 ppm ranged from 2 to 6 ft. below existing grade.

Based on these test results, the estimated amount of soil at this location containing more than 100 ppm of petroleum hydrocarbons is approximately 1000 cubic yards. Results of the PHC and EP Toxicity tests indicate that for disposal purposes the oil-contaminated soil would be classified as an ID 27 material and not a hazardous waste.

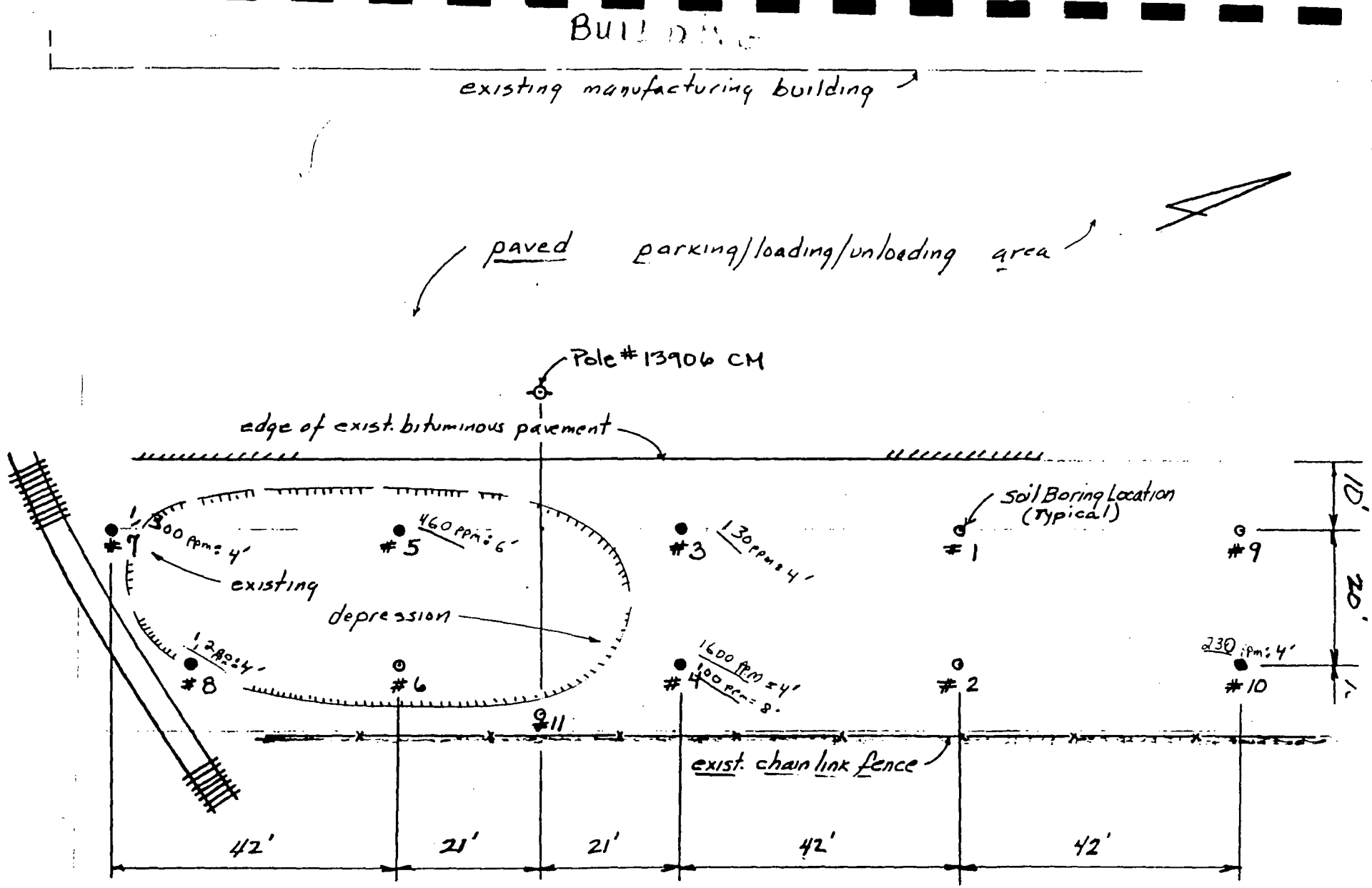

FIGURE 1

SOIL BORING LOCATIONS

0 10' 20' 30' 40'

ATTACHMENT N-11

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SOIL BORING NO.

	7	5	3	1	9
0					
1'	13,000	12,000	8,500	8,700	
2'	6,500	2,000	1,400	1,500	
3'	880	710	720	1,300	
4'	1,300	<20	130	<20	
5'					
6' D	<20	460	60	<20	
7' E					
8' P				74	
9' T					
10' H				<20	
11'					
12'					
13'					
14'					
15'					
16'					

	8	6	11	4	2	10
0						
1'	15,000	9,400		12,000	1,200	
2'	11,000	13,000		8,400	80	
3'	1,800	5,000		6,000	<10	
4'	1,200	78	16	1,600		230
5'						
6' D	26	<20		84		
7' E						
8' P	<20	<20		100		
9' T						
10' H	<20	54		80		
11						
12'						
13'						
14'						
15'						
16'						

FIGURE 2

PETROLEUM HYDROCARBON VALUES
(in ppm)

ATTACHMENT N12

B. Soils Analyses

The results of the field and laboratory tests indicate that the contaminated area is underlain by a low permeability clay (4×10^{-6} ft./min.). The clay stratum was encountered at depths of 6 to 9 ft. below existing grade and varied in thickness from 4.5 to 8 ft. as illustrated on Figure 3.

As can also be seen from Figure 3, the PHC of the soil was determined to be less than 100 ppm in samples taken above the clay stratum and samples taken in the clay stratum did not show PHC levels above 100 ppm. This indicates that the clay layer is effectively preventing further migration of the oil contamination into the underlying ground water.

III. Cleanup Plan

A. Method of Cleanup

No mention of soil being removed.

The method considered was to seal the surface of the contaminated area with a bituminous pavement to prevent contact between the contaminated soils and any infiltrating water. In combination with the underlying clay strata, this method would: (1) effectively contain the oil-contaminated soil; (2) prevent contact with the contaminated soil; (3) prevent any further migration of the contamination.

ATTACHMENT N13

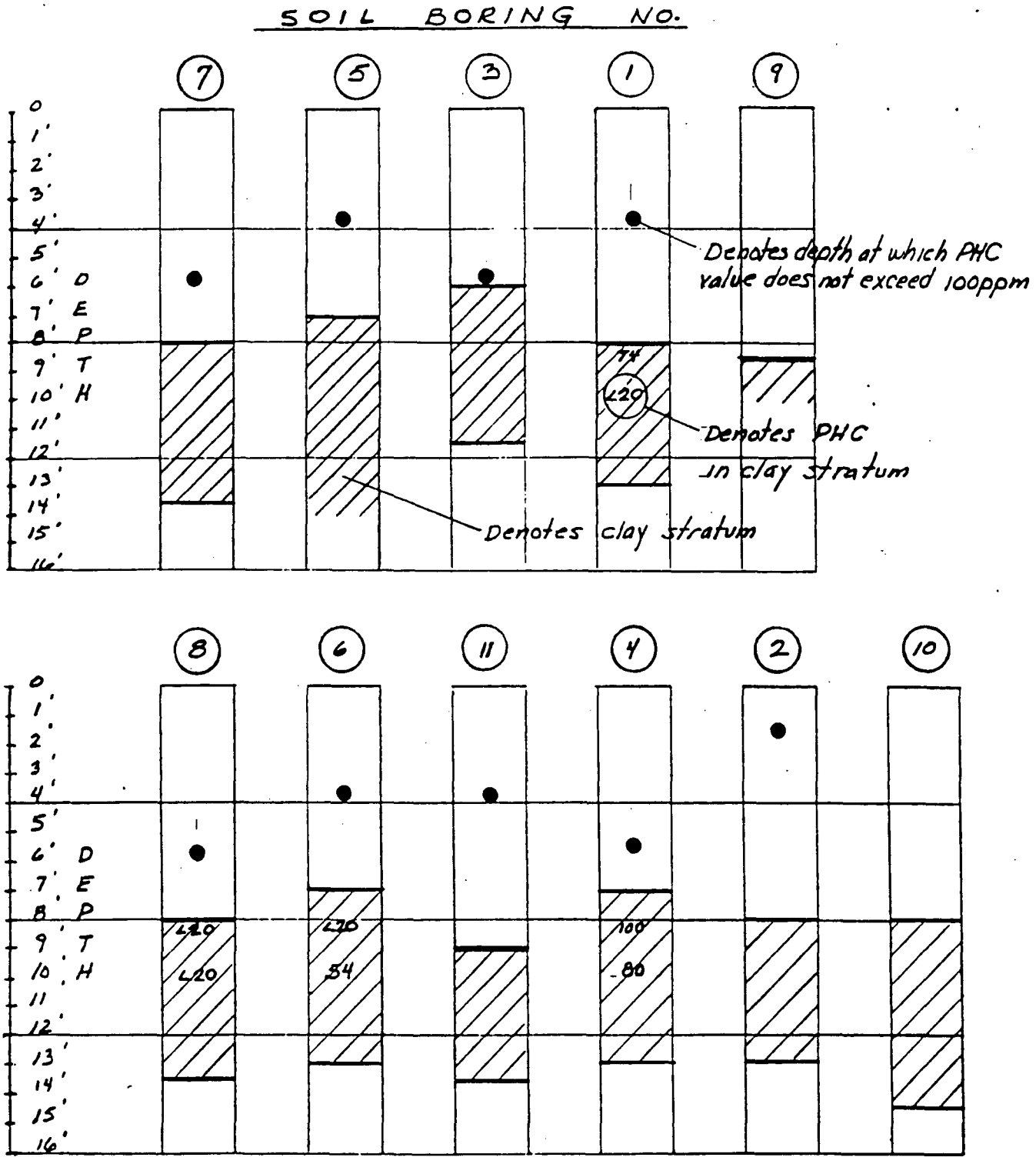

FIGURE 3

LOCATIONS OF CLAY STRATUM

ATTACHMENT N14

The surface sealing method is the most practicable and cost-effective method of cleanup for this site. Sealing the surface of the contaminated area will be accomplished as follows:

(1) As shown on Figure 4, a bituminous pavement will be constructed over the contaminated soil. The soil will be brought to subgrade evaluation by placing clean fill material topped with 6 inches of compacted read gravel. A 6-inch bituminous stabilized base course will then be placed followed by a final topping of 2-inches of FA-BC bituminous concrete.

(2) To prevent unauthorized use of the paved area and protect its integrity, a guardrail will be installed around the perimeter of the area.

B. The following are the estimated costs for the site cleanup:

Item	Estimated Costs
1. Fill-in depression and install 6" gravel base course	$4,300
2. Construct 6" bituminous subbase and 2" FA-BC pavement	15,700
3. Construct guardrail	3,200
4. Contractor's OH + P	1,900
5. Engineering and Contingencies	4,900
Total	$30,000

ATTACHMENT N15

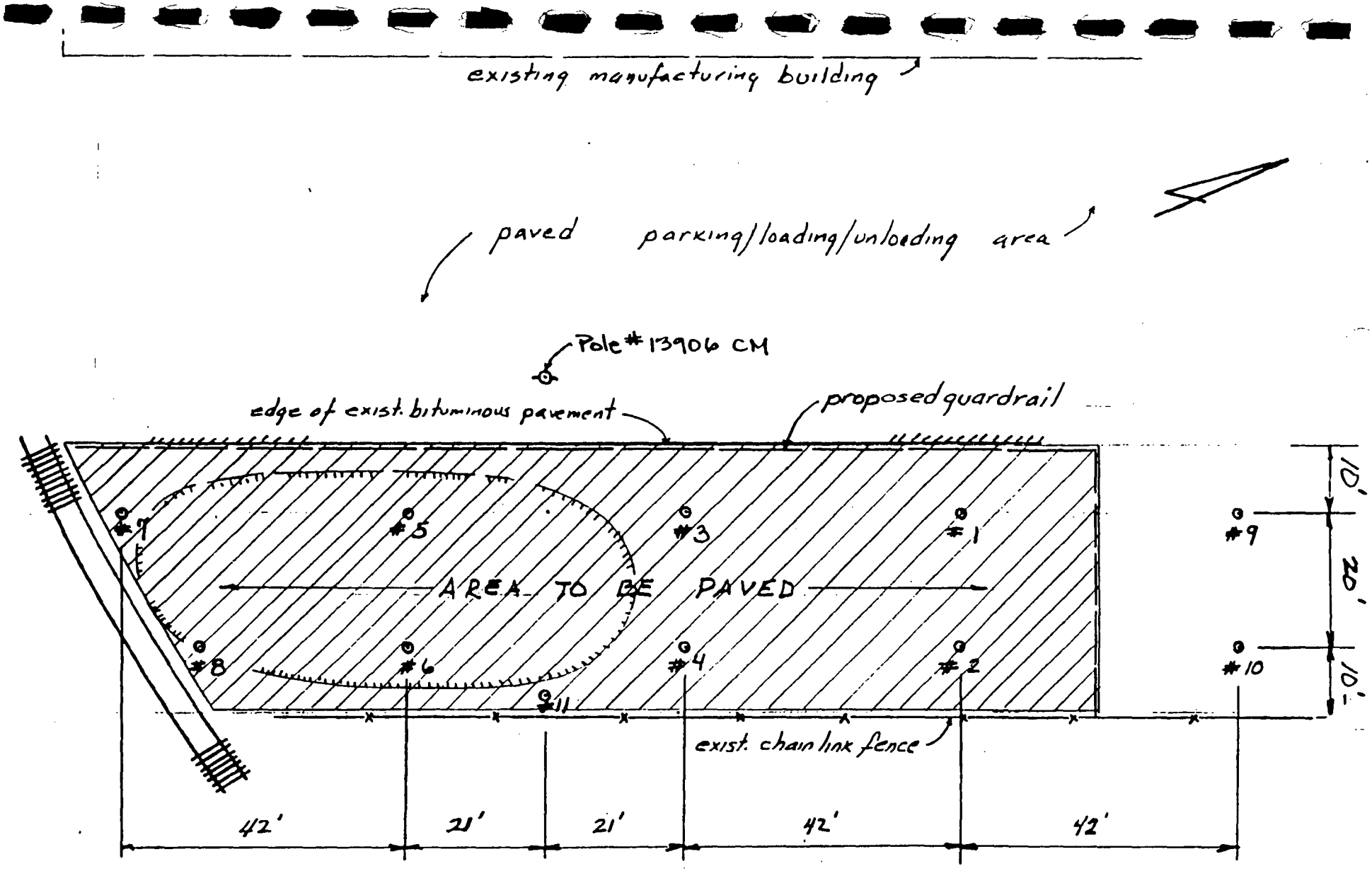

FIGURE 4

PROPOSED AREA TO BE PAVED

0 10' 20' 30' 40'

ATTACHMENT N16

C. Cleanup Schedule

Item	Time Required
1. Site design and local approvals	2-3 months
2. Contractor procurement	1-2 months
3. Construct pavement and guardrail	1-2 months

D. Maintenance of Sealed Area

Since a total thickness of 8-inches of bituminous concrete will be installed over the contaminated area and the area will not be subjected to wearing by traffic or other sources, it is not expected that significant pavement degradation over time would occur to materially impair the sealing characteristics of the pavement.

Long-term monitoring of the underlying groundwater is not thought to be necessary for the following reasons:

(1) The test results indicate that the underlying clay stratum is effectively preventing migration of the oil contamination.

(2) The contaminants are neither priority pollutants nor toxic chemicals.

(3) The nature and extent of the contamination is such that it does not pose a significant threat to the groundwater system in the area.

ATTACHMENT N17

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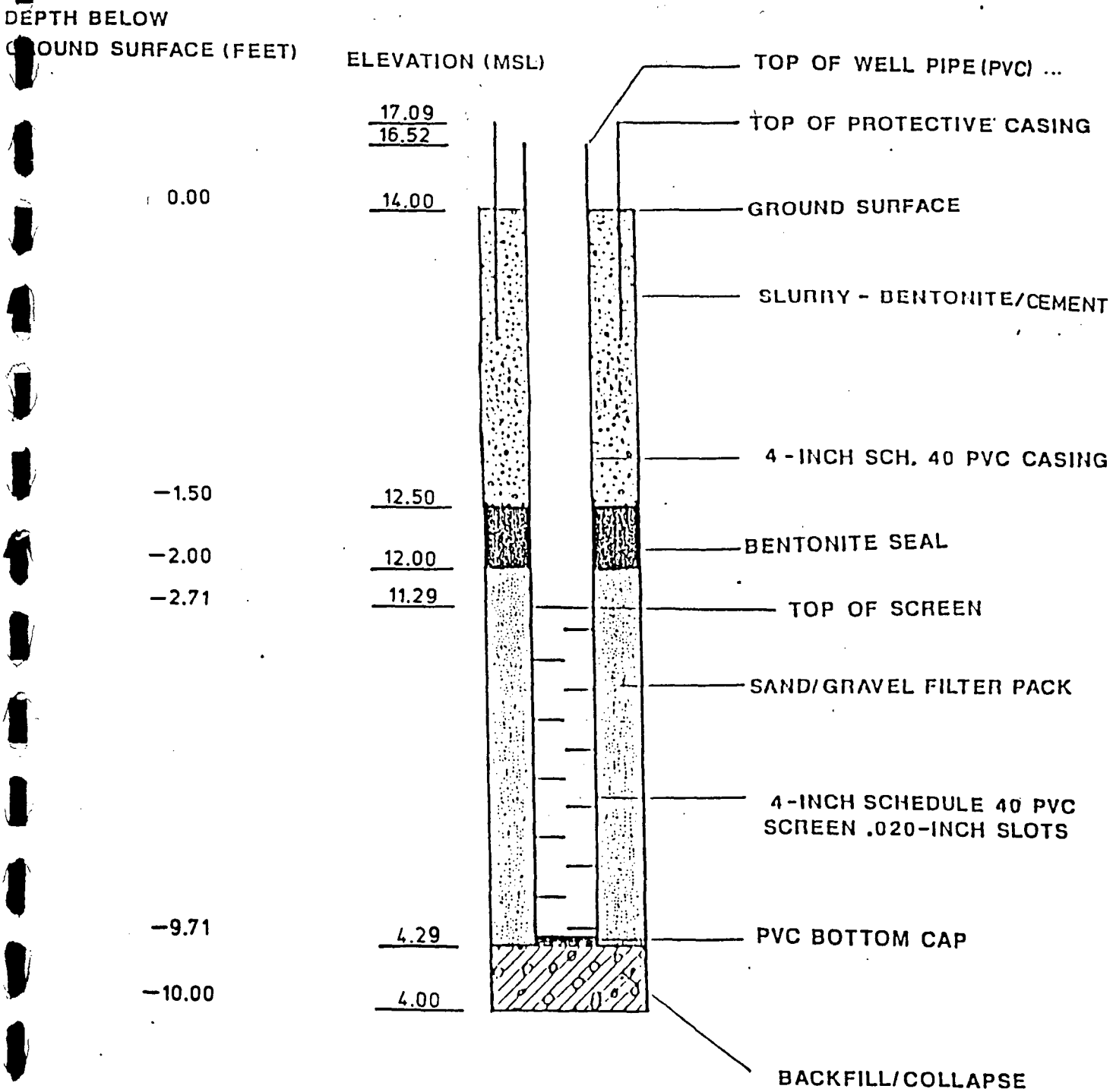
(39)

TITLE: MONITORING WELL DIAGRAM	PROJECT NO.: 86013 PROJECT NAME: ADVANCED CHEMICAL TECHNOLOGY	PAGE 1 OF 1

MONITORING WELL MW 1

CONSTRUCTION DETAIL



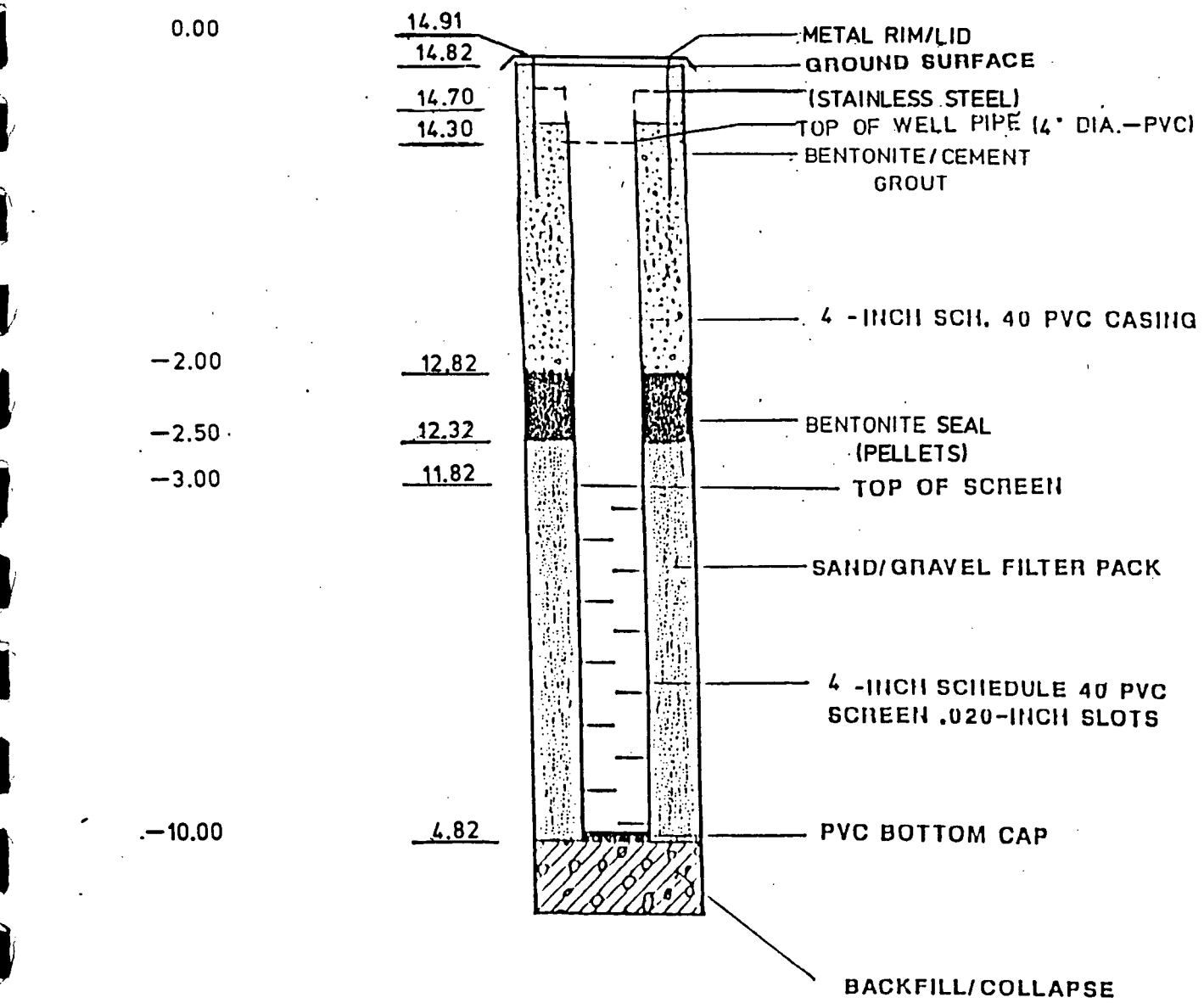
BY: [illegible] DATE: 6/14/88	CHECKED BY: [illegible] DATE: 6/14/88	J M SORGE, INC.

ATTACHMENT O1

TITLE: MONITORING WELL DIAGRAM	PROJECT NO.: 86013 PROJECT NAME ADVANCED CHEMICAL TECHNOLOGY	PAGE 1 OF 1

MONITORING WELL . MW 2

FLUSH MOUNT CONSTRUCTION DETAIL



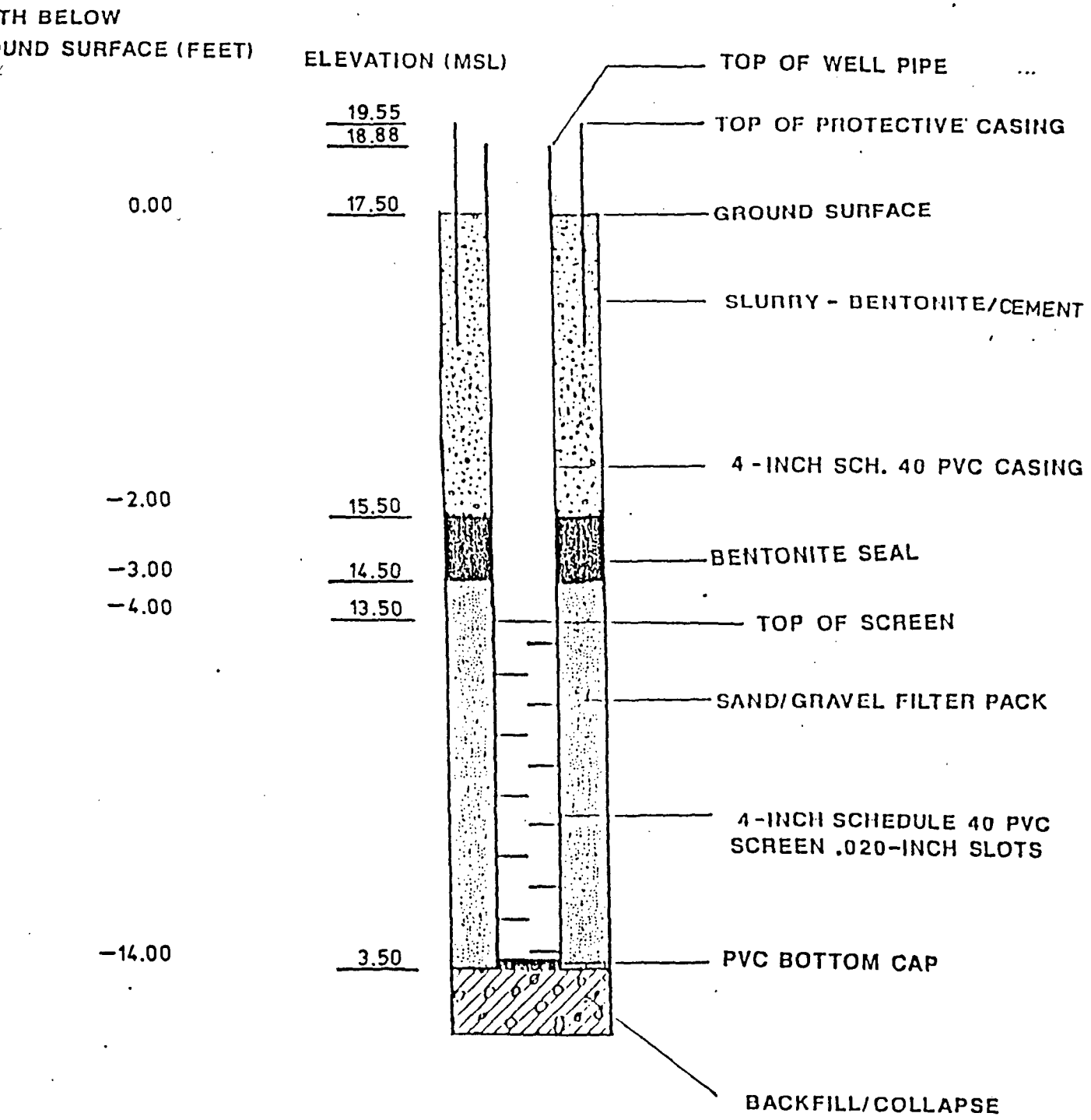
BY: DATE: 6/14/88	CHECKED BY: DATE: 6/14/88	J M SORGE, INC.

ATTACHMENT D2

TITLE: MONITORING WELL DIAGRAM	PROJECT NO.: 86013 PROJECT NAME: ADVANCED CHEMICAL TECHNOLOGY	PAGE 1 OF 1

MONITORING WELL MW 3

CONSTRUCTION DETAIL



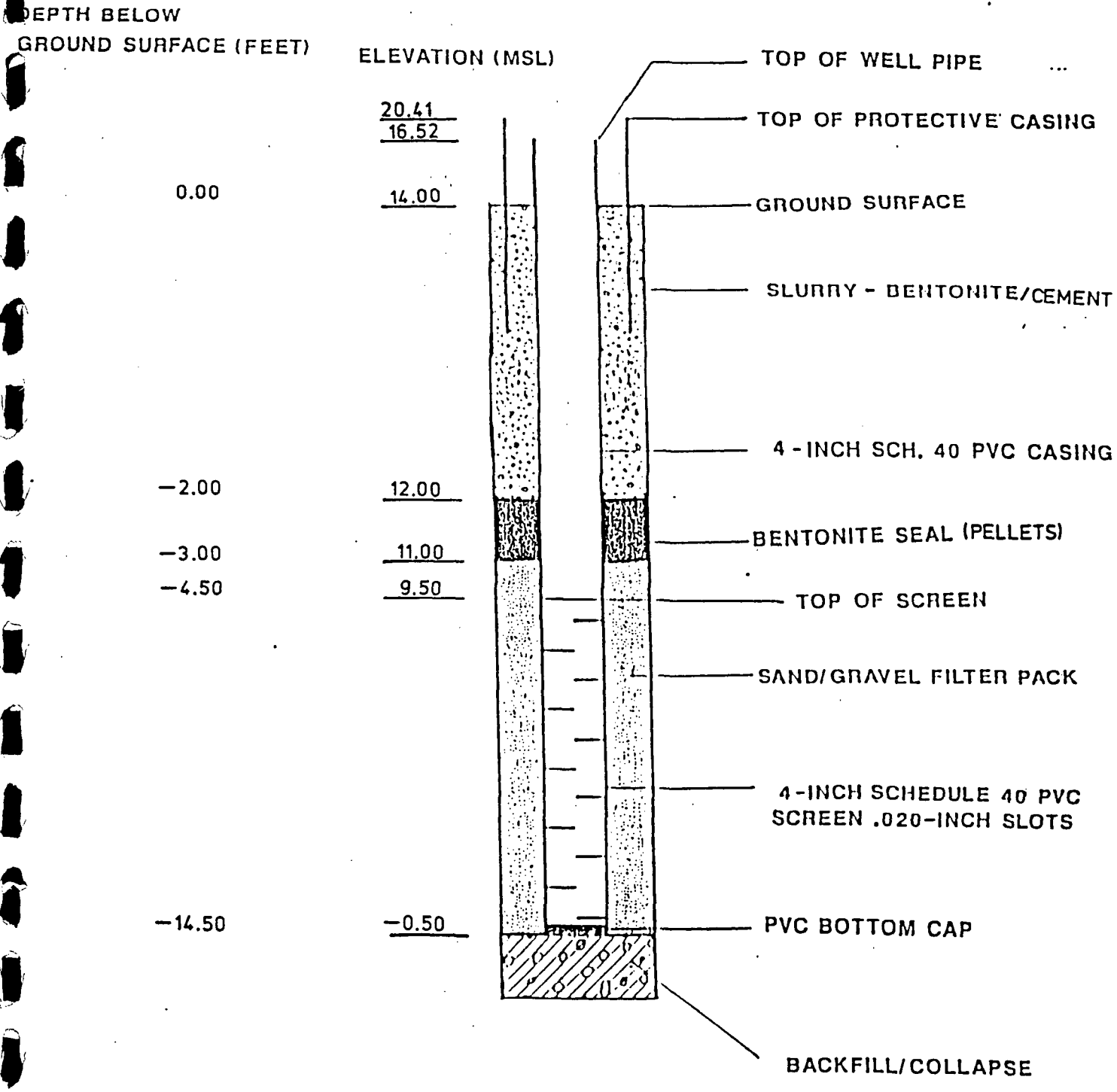
BY: PCG DATE: 6/14/88	CHECKED BY: WC DATE: 6/14/88	J M SORGE, INC.

ATTACHMENT O3

TITLE: MONITORING WELL DIAGRAM	PROJECT NO.: 86013 PROJECT NAME: ADVANCED CHEMICAL TECHNOLOGY	PAGE 1 OF 1

MONITORING WELL MW 4

CONSTRUCTION DETAIL



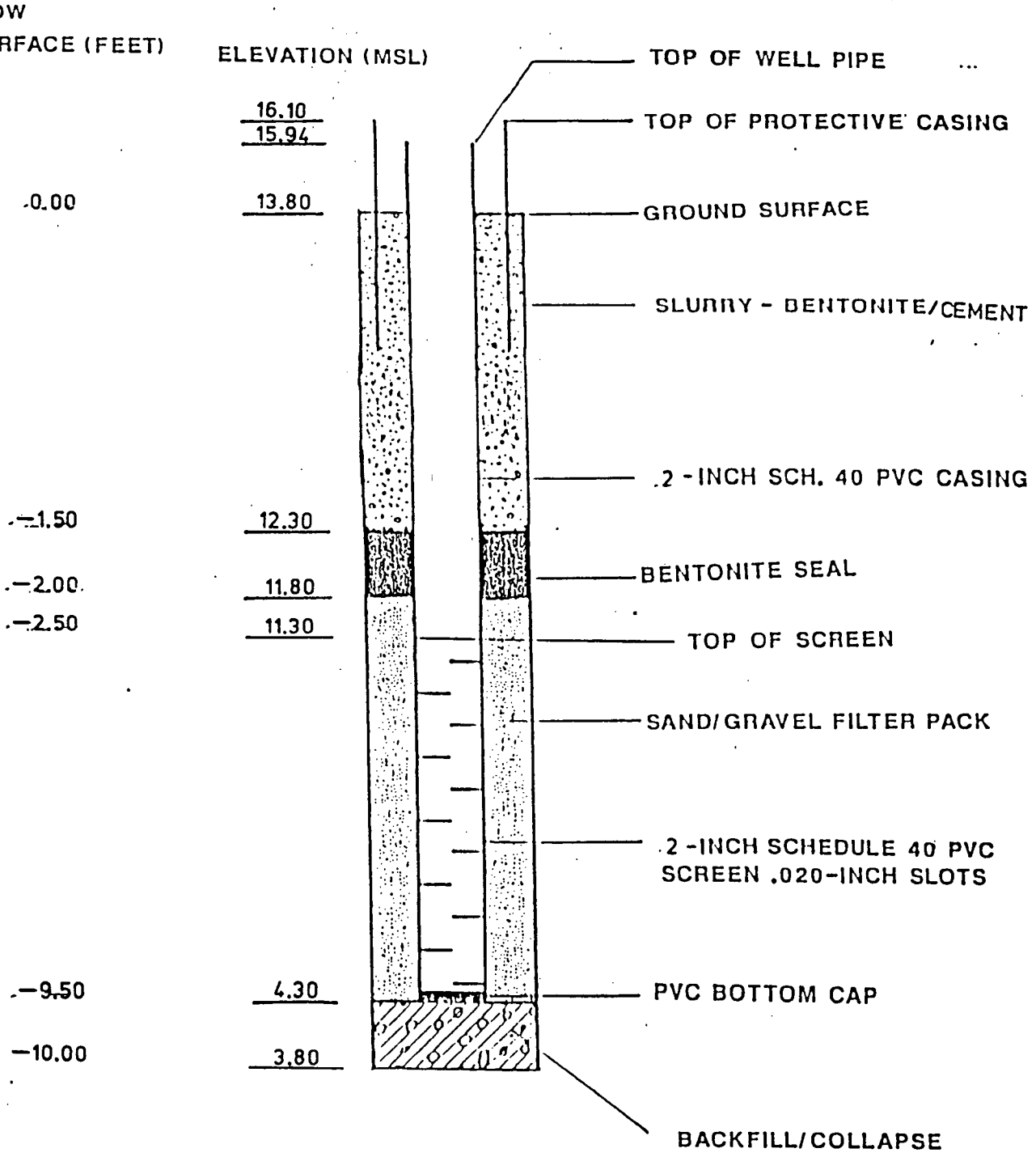
BY: RLG DATE: 6/14/88	CHECKED BY: WC DATE: 6/14/88	J M SORGE, INC.

ATTACHMENT 04

TITLE: MONITORING WELL DIAGRAM	PROJECT NO.: 86013 PROJECT NAME: ADVANCED CHEMICAL TECHNOLOGY	PAGE 1 OF 1

MONITORING WELL MW 5

CONSTRUCTION DETAIL



BY: RG DATE: 6/14/88	CHECKED BY: PJC DATE: 6/14/88	J M SORGE, INC. ATTACHMENT 05

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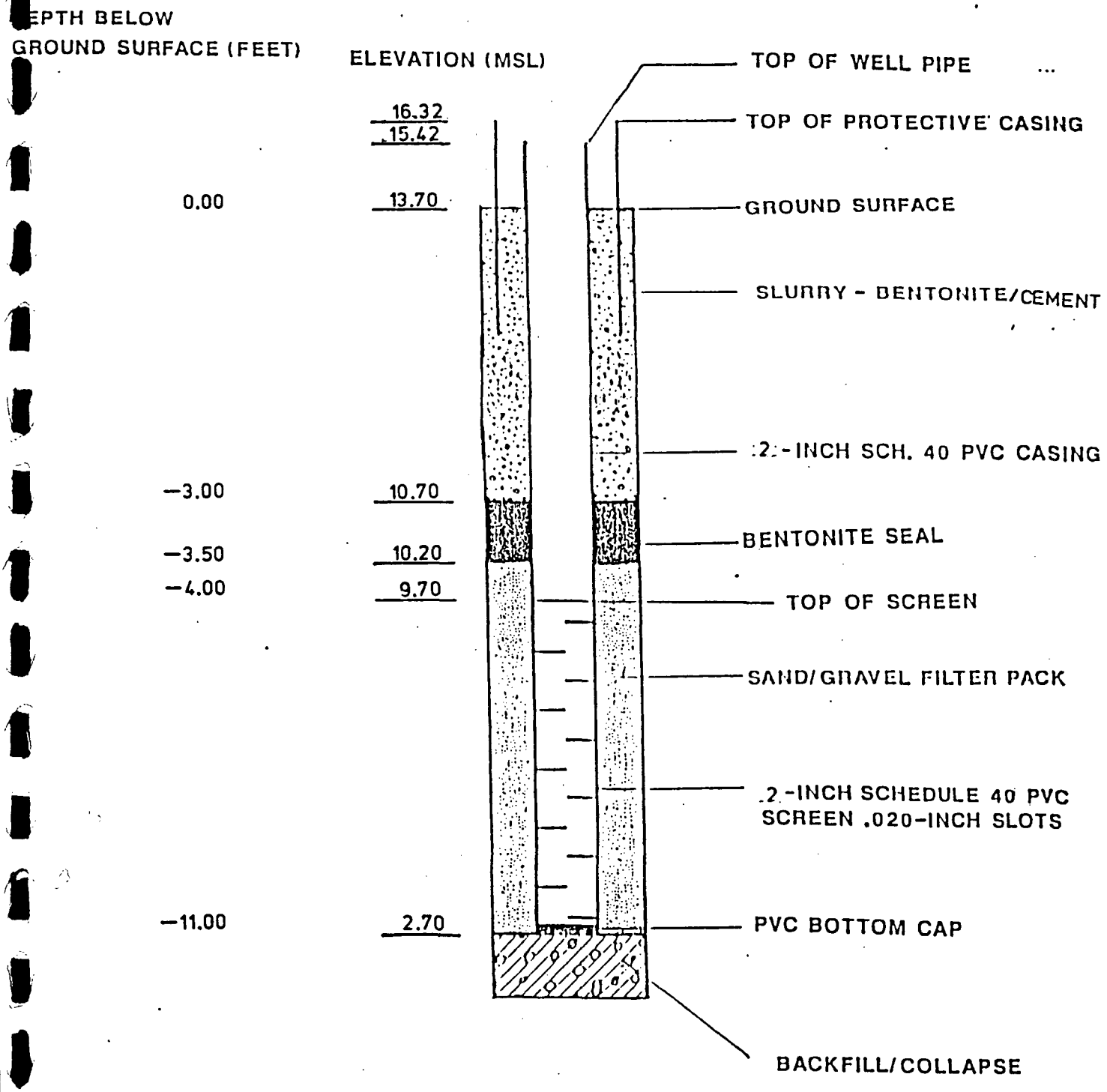
TITLE: MONITORING WELL DIAGRAM	PROJECT NO.: 86013 PROJECT NAME: ADVANCED CHEMICAL TECHNOLOGY	PAGE 1 OF 1

MONITORING WELL MW 6

CONSTRUCTION DETAIL



BY: RCC DATE: 6-14-88	CHECKED BY: RVC DATE: 6/14/88	J M SORGE, INC.

ATTACHMENT 0c

TABLE 11

Advanced Chemical Technology
ECRA Case # 84011

COMPARISON OF GROUNDWATER AND TOP OF WELL SCREEN ELEVATIONS

Well No.	Top of Well Casing (PVC)*	Top of Screen*	Depth to Groundwater** 2/18/88°	3/8/88	3/31/88		Groundwater Elevation 2/18/88°	3/8/88	3/31/88*
MW-1	16.52	11.29	2.94	3.33	3.68	3.31 ave.	11.06	10.67	10.32
MW-2	14.70#	11.82	3.36	3.67	4.04	3.69	11.46	11.15	10.78
MW-3	18.88	13.50	7.60	7.52	7.88	7.66	9.90	9.98	9.62
MW-4	16.52	9.50		- DRY -				- DRY -	
MW-5	15.94	11.30	2.29	2.65	4.28	3.07	11.51	11.15	9.52
MW-6	15.42	9.70	3.59	3.93	4.58	4.03	10.11	9.77	9.12

* - NJGSC datum

** - Feet below ground surface

o - Measurements taken prior to well deveelopment

\# - Readings obtained from top of below grade protective metal casing which is 0.4 feet above top of PVC casing

ATTACHMENT 07

TABLE 12

Advanced Chemical Technology
ECRA Case #84011

FIELD WATER SAMPLE ANALYSIS SUMMARY

Date	Well No.	Volatile Vapor Content (ppm)	PH (Units)	SP Cond (umhos)	TDS (mg/l)
3/8/88	MW-1	0.1	7.30	113	86
3/8/88	MW-2	7.0	7.05	340	259
3/8/88	MW-3	0.6	7.55	111	85
3/8/88	MW-4	--	Dry	Dry	Dry
3/8/88	MW-5	1.2	7.50	310	287
3/8/88	MW-6	0.2	7.60	520	393

ATTACHMENT 08

(39)

SAMPLING AND ANALYSIS PLAN RESULTS

AND

ADDITIONAL SAMPLING PLAN

FOR

ADVANCED CHEMICAL TECHNOLOGY
(PLANT INDUSTRIES)

CAMDEN, NEW JERSEY

ECRA CASE # 84011

Prepared By

J M Sorge, Inc.
3301 U.S. Highway 22
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June 1988

ATTACHMENT P1

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(39)

are obtained from MW-5 and MW-6, resulting in a slightly exaggerated groundwater flow to the southeast. Unfortunately, these capillary effects are impossible to measure quantitatively. However, these capillary effects are most likely insignificant, and would not materially effect the overall assessment of the groundwater regime at the site.

Pleistocene and recent fluvial deposits underlie the entire ACT site. Also, much of the northern side of the property is covered with fill materials. The well borings at the ACT site indicate the upper 8 - 10 feet of stratigraphy consists of fine to medium coarse sands grading into silty clays and finally to a dense clay. The exploratory Boring EPI-1 was extended below the lower confining clay strata into a coarse sand at about 13 feet in depth.

4.4 GROUNDWATER SAMPLING

On March 8, 1988, approximately 2 weeks following completion of the well development, a groundwater sample was obtained from each monitoring well except for MW-4 which is "dry". The sample locations and analytical parameters are summarized on Table 1. Refer to Table 10 for a summary of the analytical results for the groundwater samples.

Prior to collecting the sample, the static water level depth was determined in each well. Water level measurements were obtained using an electric water level indicator manufactured by Slope Indicator Company of Seattle, Washington. A minimum of three (3) well volumes of water were removed from each well with a stainless steel bailer prior to well sampling. The wells were allowed to recover with fresh formation water to near static levels before sampling. For each well, a dedicated stainless steel bailer was used for purging and sampling. The detailed sampling procedures were described in Section 4 of the approved Sampling Plan.

4.4.1 Groundwater Sample Analysis Protocol

Groundwater samples were analyzed for total petroleum hydrocarbons (PHC), priority pollutant metals (PM13), acid extractables plus a forward library search (AE+10), base neutrals plus a forward library search (BN+15) and ethylene glycol. The samples were also field analyzed for pH, specific conductance and total dissolved solids. The field blank and trip blank samples were both analyzed for the parameters listed above. The groundwater sampling results are summarized on Table 10. The field sampling data is included as Table 12.

ATTACHMENT P2

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4.4.2 Groundwater Sampling Results

The sample analyses of the first round of groundwater samples obtained from the ACT monitoring wells indicate only a slightly elevated level of PHC in MW-5 at 2 ppm. No other contaminants above the NJDEP action limit guidelines were identified. Trace levels of petroleum compound derivatives were identified in the base neutral forward search at total concentrations ranging from 5 - 82 ppb. Trace levels of lead and cadmium metals were detected in some water samples; however, the concentrations detected (Table 10) are well below NJDEP cleanup levels. No AE or ethylene glycol contamination levels were identified. It should be noted that these compounds were also identified during the laboratory analyses of the field and trip blank samples (Table 10).

4.4.3 Groundwater Analysis Summary/Additional Sampling

The groundwater investigation has adequately established the groundwater flow at the site to the east and southeast. The initial well data confirms that minor groundwater contamination is present only in the one (1) well located in the railroad siding area. Since no other contaminants were identified in the sample analyses, no additional hydrogeologic investigation is required at the site.

Groundwater has not been significantly affected by site operations at the ACT site. The results obtained from Wells MW-1, MW-2 and MW-6, located downgradient from the railroad siding area, did not indicate any significant contamination. Note also that the analysis of the background sample (MW-3) identified comparable trace levels and compounds. The extensive soil boring and sample analyses conducted during this phase has confirmed that the contamination existing at the site is relatively surficial and in most cases does not extend to the water table.

ATTACHMENT P3

eutral analyses will be extracted within 14 days of sampling as required; the base neutral analyses will be conducted within 40 days of sample extraction. If the results of the first round of analyses are insufficient to adequately delineate the contamination, the remaining samples will also be analyzed for the parameters listed above.

During the field sampling program, the soils encountered in each boring will be screened with an Hnu photoionization meter. If any of the optional samples contain detectable volatile organic vapor levels or staining/odor, the samples will be included for the laboratory analyses.

.3 ADDITIONAL GROUNDWATER SAMPLING

As discussed in Section 4.0, no groundwater contamination (except for slight PHC contamination identified in Well MW-5) was determined during the groundwater investigation conducted at the site. Therefore, no additional hydrogeologic investigation is required at the site.

A second round of groundwater sampling will be conducted in order to confirm the groundwater quality data obtained during this field investigation. The sampling procedures will be identical to those used previously and are detailed in the approved Sampling Plan. The samples obtained during the second round of groundwater sampling will be analyzed only for PHC, PM13 and BN+15. Since no acid extractable compounds or ethylene glycol was detected in the first round of analyses in any of the groundwater samples, no additional sampling is required for these parameters. A field and trip blank will also be analyzed for the parameters listed above. An addendum to this report will be forwarded to the Department with all appropriate groundwater sampling results (as well as the results of the soil sampling proposed in Section 4.0 and a Soil Cleanup Plan) and QA/QC documentation.

5.4 SUMMARY REPORT

At the completion of the additional soil and water sampling as discussed above, a Proposed Soil Cleanup Plan will be prepared and submitted to NJDEP for review. Also, the report will present a summary of all activity and the laboratory results related to the soil and groundwater sampling program outlined above. The report will include:

- An area-by-area discussion of the soil contamination;
- A description of the excavation process;
- The proposed lateral and vertical extent of the excavation;

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PROPOSED CLEANUP PLAN

Prepared for

Advanced Chemical Technology
(Plant Industries)
Camden, New Jersey

ECRA Case #84011

Prepared by

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March 1989

ATTACHMENT Q1

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1.0 INTRODUCTION

J M Sorge, Inc. (JMS) has completed a detailed Environmental Cleanup Responsibility Act (ECRA) related investigation at the Advanced Chemical Technology (ACT) facility located at River Road and State Street in Camden, New Jersey (ECRA Case #84011). The results of the two-phased soil and groundwater investigation were included in the Sampling and Analysis Plan Results (JMS submittal dated June 14, 1988) and the Sampling Plan Addendum Results (JMS submittal dated February 1989). Based upon the sampling results obtained from the site investigations, the delineation of the horizontal and vertical extent of all residual contamination on the site has been sufficiently completed. The following sections provide a brief summary of each of the four (4) areas of environmental concern on the site. The location of each area is shown in the site map (Figure 1). Areas of environmental concern include:

1. Railroad Siding Area
2. Dumpster Area
3. Oil Stained Area
4. Background Area

The information gathered in implementing the sampling plan has been used to prepare this cleanup plan. This cleanup plan has been formatted to follow the "Components of a Cleanup Plan" as outlined in Comment 14 of the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA) letter dated September 26, 1988.

The proposed Site Cleanup Plan includes programs for full soil contamination remediation within the railroad siding and dumpster areas and a partial remediation in the oil stained area. The remainder of contamination identified in the Oil Stained Area is unrelated to the ACT operation. As outlined in Section 2.1.4 of this report, cleanup is not required for the background area. Also, based on sampling results to date, no further groundwater investigation is required at the site.

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2.0 COMPLETED INVESTIGATION SUMMARY

Prior to JMS involvement at the ACT property, site investigations were conducted by Stablex-Reutter, Inc. of Camden, New Jersey. The previous site investigations included an extensive soil sampling and cleanup program involving soil removal and disposal from the railroad siding and dumpster areas (Areas 1 and 2) at the site. Details on the completed cleanup program were provided in a series of submittals prepared earlier in the ECRA compliance program (1984 and 1985), and very briefly summarized in the facility Sampling Plan (JMS submittal dated November 1986).

As discussed in the JMS submittal dated June 14, 1988 (Sampling and Analysis Plan Results Report), JMS conducted an extensive initial investigation to characterize soil contamination existing at the ACT site. The nature of contamination present in each area of concern was determined during the initial investigation phase. Also, the horizontal and vertical extent of contamination in the railroad siding (Area 1) and, to some extent, the dumpster storage area (Area 2), was determined during the initial investigation. The petroleum hydrocarbon (PHC) and metal contamination identified in these two (2) areas was primarily restricted to shallow surficial soils. No significant base neutral (BN) contamination was detected in these areas. This initial investigation also adequately delineated the extent of the PHC and metal contamination present in the railroad siding area. This area was, therefore, excluded from the subsequent investigation.

During the initial investigation, the oil stained area (Area 3) was discovered to exhibit moderate PHC, metals and BN concentrations. This area, however, was not adequately delineated. In addition, elevated concentrations of BN compounds were identified in the background area, designated Area 4. Note, however, as discussed later in this report, that the contaminants identified in these two (2) areas are unrelated to ACT operations.

During the initial phase, a hydrogeological investigation, involving the installation of six (6) shallow monitoring wells, was implemented. The sample results from the initial groundwater investigation identified only slightly elevated PHC contamination in one (1) well.

The second phase of investigation involved delineation of the PHC and metals contamination to the east of the dumpster storage area (Area 2), and further definition of the horizontal and vertical extent of the oil stained area (Area 3) contaminants, specifically, PHC, metals and BN. A two-stage sample analysis program was utilized for the Area 3 delineation. Also, the BEECRA-requested investigation of the phthalate levels previously identified in the background area (Area 4) was conducted during the additional phase. A two-stage sample analysis program, similar to that conducted in Area 3, was also utilized for this area. The second round of groundwater sampling identified traces of one or two metals in certain samples.

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Results of the second phase of the site investigation, including additional groundwater sampling results, are discussed in detail in the JMS submittal dated February 1989 (Sampling Plan Addendum Results).

The JMS site investigations have adequately determined the nature and extent of the contaminants in each of the four (4) areas of environmental concern. The following sections briefly describe each area of concern and summarize the contamination present in those areas. The proposed cleanup measures are presented in Section 3.0.

2.1 SOILS INVESTIGATION

2.1.1 Railroad Siding Area - Area 1

The petroleum hydrocarbon (PHC) contaminants, identified in the railroad siding area, were determined to extend to surficial depths only. This contamination is apparently derived primarily from oil staining associated with former railroad operations in the area. Low to moderate PHC contamination was identified in the area of below grade railroad siding (570 - 8,300 ppm), and extended to a maximum depth of 1.5 feet below grade. The metal contamination was detected only in the vicinity of Boring PI-1, and consisted of antimony (2.7 - 3.2 ppm), cadmium (4.1 - 20 ppm), copper (200 - 8,800 ppm), lead (330 - 530 ppm) and zinc (590 - 710 ppm). The metal contamination was restricted to surficial depth of 2.5 feet. In addition, a slightly elevated BN concentration of 16.3 ppm was identified in one (1) location, PI-11 (0 - 0.5 feet). This area is located immediately adjacent to the loading dock.

Also, minor PHC contamination was present, to a depth of 4.0 feet, in the vicinity of Borings PI-7 and PI-8 at low concentrations ranging from 160 - 210 ppm (Figure 2).

The delineation of contamination present in the railroad siding area was completed during the initial investigations. JMS proposes to excavate and remove the contaminated soils as outlined in the Cleanup Plan provided in this report (Section 3.1).

2.1.2 Dumpster Area - Area 2

The JMS investigation of the dumpster area has identified the presence of PHC and metals contamination. Significant levels of PHC contamination detected in this area was restricted to the surface (0 - 0.5 feet), except in Borings PI-15 (9,500 ppm) and PI-22 (31,000 ppm), where it extended to a maximum depth of 1.5 feet below grade. On the eastern side of the property line, on Conrail property, the surficial PHC concentrations decrease greatly with distance from the dumpster area. The concentrations at location PI-30 to PI-32 ranged from 130 ppm to 200 ppm and did not extend below 1.5 feet depth.

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The presence of minor metal contamination was also determined during the sampling program. These metals included antimony (2.7 - 5.6 ppm), cadmium (3.1 - 6.7 ppm), lead (320 - 1,900 ppm), silver (33 ppm) and zinc (480 ppm). The metal contamination identified was restricted to shallow depths (<1.5 feet) except in Sample PI-29C (2.0 - 2.5 feet depth). Note also that the only metals encountered during the second phase of investigation in the dumpster area were antimony (5.6 ppm) and cadmium (6.7 ppm) which extended only to 1.5 feet depth.

Vertical and horizontal delineation of the PHC and metals contamination in the dumpster area has been completed, except in the area of Borings PI-30 to PI-32. The concentrations identified at these three (3) locations are only slightly above the BEECRA cleanup level; the post-excavation sampling will confirm the complete removal of contamination. Refer to Section 3.2 of this report for a discussion of the cleanup and verification sampling program proposed for the dumpster area.

2.1.3 Oil Stained Area - Area 3

The initial and two-stage additional soils investigation conducted in the oil stained area have adequately delineated the low to moderate PHC, metals and BN contamination in the area. Refer to the Sampling Plan Addendum Results Report (JMS submittal dated February 1989), for a detailed discussion of the sampling program and results for the oil stained area. The PHC contamination was identified at concentrations of 110 - 1400 ppm and extended to a general depth of 3.5 feet, with maximum depth of 5.5 feet below grade at Boring PI-35 (Figure 3).

The elevated concentrations of priority pollutant metals detected in the area included antimony (2.8 - 3.0 ppm), cadmium (3.1 - 4500 ppm), chromium (140 ppm), beryllium (1.1 - 1.9 ppm), copper (400 ppm), lead (260 ppm), nickel (150 ppm), silver (5.6 - 73 ppm) and zinc (600 ppm). It should be noted that , except for cadmium and silver, the vertical extent of the metals contamination was determined during the initial phase of investigation (3.5 feet depth). During the subsequent two-stage investigation, the vertical delineation of all metal contamination was completed to the BEECRA levels. Also the extent of the beryllium and cadmium contamination has been delineated to background levels.

The moderate BN contamination present in the oil stained area appears to be related to an off-site source rather than oil-related derivative materials. The BN concentrations range from 10.26 ppm to 81 ppm. Note, however, the microscopic analyses and review of the ion chromatogram of the BN analyses indicate that the BN compounds detected were macadam materials, and the material is believed to have originated from the neighboring roof-tar manufacturer. This is discussed in detail in Section 3.2 of the February 1989 JMS submittal.

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As mentioned in the previous submittal, the BN and metal contamination present in the oil stained area is apparently derived from coal/macadam materials and historic filling operations, respectively. The airborne residues and fly-ash from the neighboring roofing tar manufacturer to the northeast were deposited in adjacent area of the ACT site. The metals levels identified are only slightly elevated above NJDEP action limits and are believed to be derived from previous filling of the area. These contaminants are near to background level concentrations and are unrelated to ACT operations. Therefore, no remediation is proposed for contaminants other than PHC in this area . However, the PHC soil cleanup proposed will also remediate the majority of these other contaminants. See Section 3.3 for proposed soil cleanup procedures.

2.1.4 Background Area - Area 4

During the initial site investigation and sampling program (Phase 1), analysis of the surface sample (PI-27A) obtained from the background boring identified significantly elevated concentrations of BN compounds (total of 34.6 ppm), including 32.0 ppm of bis-2-ethylhexyl phthalate. Only trace levels of BN compounds (0.41 - 1.34 ppm) were detected in the two (2) deeper samples, 2.0 -2.5 and 6.0 - 6.5 feet, respectively. No PHC or metals were detected at significant concentrations.

In order to further define the phthalate contamination identified in the background area, the BEECRA recommended sampling for phthalates at three (3) locations, approximately 50 feet from the previous background boring (PI-27). In addition to those borings, three (3) additional sampling locations were selected, at 5.0 feet from Boring PI-27. A two-stage sampling and analysis program was conducted in the background area similar to that utilized in the oil stained area (Area 3). The detailed sampling results are discussed in Section 3.3 of the previously submitted Sampling Plan Addendum Results Report (JMS submittal dated February 1989).

The additional analyses conducted on the background area samples identified no significant BN contamination. Also, BN concentration of 16.87 ppm, slightly above the ECRA guideline, was detected at surficial depth (0 - 0.5 feet) in one (1) sample (PI-44A). The remaining eight (8) samples from the area contained trace levels (0.3 - 6.73 ppm) of BN. Slightly elevated levels of three (3) metals, [arsenic (23 ppm), beryllium (1.2 ppm) and cadmium (3.6 - 13 ppm)] were also detected in certain samples (Figure 3).

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As discussed previously for Area 3, the BN contamination identified in the background area is apparently related to macadam and fly-ash originating from the adjoining facility, rather than from plasticizer materials utilized at the site. Microscopic analysis of the background sample indicates a high macadam content. Since the soil contamination identified in the background area is unrelated to the ACT operations, no further action or cleanup is proposed.

2.1.5 Soils Investigation Summary

The two-phased soil boring and sample analyses program conducted by JMS at the ACT facility has adequately delineated the nature and extent of contamination present at the site. The petroleum and metals contamination present at the railroad siding and dumpster staging area is primarily surficial in extent, and is derived from oil staining associated with the railroad operations and storage of industrial wastes in the dumpster. No significant BN contamination has been identified in these two areas; only one (1) sample contained elevated levels of BN.

Similarly, certain soil contamination, specifically the PHC identified in the oil stained area, appears to have resulted from the site operations. The BN contamination noted appears to be related to macadam particles in the sample. The source of the macadam present is probably associated with an adjacent roofing material production facility and is not associated with ACT operations.

The site Cleanup Plan detailed in the later section addresses the remediation of the ACT related soil contamination found in the above areas.

The BN and metal contamination identified in the oil stained area and the background area is unrelated to the ACT operations. The contamination identified in these two (2) areas appears to have resulted from an off-site source (BN contamination) or the previous filling of the area by construction debris (metals contamination). Since the contamination is unrelated to ACT operation, no further action is proposed.

2.2 GROUNDWATER INVESTIGATION

An extensive groundwater investigation, involving the installation of six (6) monitoring wells (MW-1 to MW-6), and two (2) rounds of groundwater sampling, has been conducted at the site. No significant groundwater contamination has been identified during the two (2) sampling events.

The first round of groundwater sample obtained from the five (5) wells were analyzed for base neutrals +15 (BN+15), acid extractables +10, priority pollutant metals (PM13), petroleum hydrocarbons (PHC) and ethylene glycol. The sample analyses identified only a slightly elevated level of PHC in Well MW-5 at 2 ppm.

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The sample results from the second round of groundwater sample analyses identified no detectable concentrations of PHC or BN compounds. Groundwater samples MW-2 and MW-6, however, contained 0.062 ppm and 0.086 ppm of chromium, respectively. Sample MW-6 also exhibited a slightly elevated cadmium concentration (0.013 ppm).

The wells were installed at the BEECRA approved location in accordance with the NJDEP specification for wells in unconsolidated formations. Due to site constraints, two (2) wells (MW-5 and MW-6) were installed with 2-inch diameter PVC screen and casing material. The presence of a lower confining strata of dense clay encountered at varying depths of 8.0 to 12.0 feet across the site required certain modifications during the well construction. The screened interval was decreased in certain wells so that the wells are completed within the first groundwater zone and the confining substratum is not penetrated. These modifications were approved by the NJDEP geologist present on the site during well installation.

Also, a thin saturated zone was encountered above the lower confining strata in Well MW-4; however, no stabilized water has been measured in the well during several monitoring visits. The base of the 10-foot screen is located at 12 feet depth. It should be noted that the well is located in an area which has been filled with concrete and wood construction debris. An extensive soil boring program has been completed in the area during the two (2) phases. However, no groundwater has been encountered in any of these fifteen (15) borings installed to a depth of up to 7.5 feet. The water level measured in remaining on-site wells is generally between 2.5 to 4.0 feet depth range, except for Well MW-3. Groundwater occurs at about 7.5 to 8.0 feet in MW-3. Therefore, we believe that Well MW-4 is dry due to the nature of fill material, rather than improper construction.

2.2.1 Groundwater Quality Summary

The completed groundwater investigation has adequately established groundwater flow at the site to the south. The two (2) rounds of sampling data confirm that only minor contamination is present at one (1) or two (2) wells. The extensive soil boring ad sample analysis program has determined that the soil contamination present on the site is primarily surficial and in most cases does not extend to the water table. Therefore, as discussed in the February 1989 submittal, no further groundwater investigation is proposed.

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3.0 PROPOSED CLEANUP PLAN

The following sections provide a description of the proposed cleanup activities for each area of concern identified in Section 2.1. Specific details regarding the proposed extent of soil cleanup is discussed below. The plan also provides a description of the the proposed verification sampling program for each area of concern. The soils cleanup program at the former ACT facility will be accomplished using the excavation and verification sampling procedures presented in this section. Please note that an extensive verification sampling program is not required following the removal program since,the approximate extent of contamination has been delineated during the previous program.

3.1 RAILROAD SIDING AREA - AREA 1

The total petroleum hydrocarbons (PHC) and metals contamination identified in the railroad siding area will be excavated from two (2) separate locations. The smaller of the two excavations, (Area-1A), located in the vicinity of soil Borings PI-7 and PI-8 (Figure 2), will address the slight PHC contamination present in the area to a depth of 4.0 feet. The larger excavation, (Area-1B), located adjacent to the loading dock, will remediate the PHC and metal contamination identified in the area of Borings PI-1, PI-2, PI-5, PI-10 and PI-11.

3.1.1 Area-1A

JMS proposes to excavate an area approximately 60 feet long by 40 feet wide in the area of soil Borings PI-7 and PI-8 (Figure 2). The depth of the excavation will vary based upon the maximum depth of known PHC contamination and occurrence of groundwater in the area. Approximately 300 cubic yards of soils will be removed from Area-1A.

As shown on Figure 2, the northeastern side of the excavation will be extended to groundwater occurrence or 5.0 feet depth, whereas the southeastern side will be extended to a depth of approximately 2.5 feet (1.0 foot deeper than the maximum vertical extent of known PHC contamination). Following removal of contaminated soils, a total of six (6) post-excavation, verification samples, VI-1 to VI-6, will be collected. The six (6) samples (0 - 0.5 feet depth) will be analyzed for PHC.

As shown on Figure 2, the northern portion of Area-1A will be excavated to the top of the groundwater table, which was encountered at a depth of 4.0 feet in Boring PI-7. In the event that groundwater is not encountered, the excavation will be extended to a depth of 5.0 feet and a post-excavation sample (5.0 - 5.5 feet depth) will be conducted to determine the vertical extent. (Sample VI-8, Figure 2).

The southern half of Area-1A will be excavated to a depth of 2.5 feet; no verification sample will be required at the base of the excavation since the PHC concentration detected in Sample <PI-8B was only slightly above ECRA levels and the deeper sample, PI-8C (3.5 - 4.0 feet) was below ECRA action levels. Sample VI-7 will be collected at depth interval of 3.5 to 4.0 feet as a confirmation sample. All verification samples will be analyzed for PHC from the excavation in the vicinity of PI-7 and PI-8 since PHC is the only contaminant identified in the area.

3.1.2 Area-1B

The proposed large excavation (Area-1B) is located in the vicinity of the loading dock, and will measure approximately 225 feet long by 25 to 60 feet wide (Figure 2). Approximately 500 cubic yards of soils will be removed from excavation Area-1B. The excavation, except for the area in the immediate vicinity of Boring PI-1, will be extended to a depth of 1.0 foot since contamination in this area (PHC, metals) has been vertically delineated at a maximum depth of 0.5 feet. Verification Samples VI-9 to VI-15 will be obtained from the excavation sidewalls at a depth of 0 - 0.5 feet to insure complete removal of contamination. The excavation area adjacent to the loading dock, however, will be extended to approximately 3.5 feet or the first groundwater occurrence depth (Figure 2).

Samples VI-9 to VI-15 (Figure 2), will be collected from the sidewalls at 0 - 0.5 foot depth interval to verify lateral extent of excavation. Also, an additional sample (VI-16) will be collected in the deeper area excavation, if groundwater is not encountered prior to the depth of 3.5 feet. Sample VI-16 will be collected at depth interval of 3.5 - 4.0 feet.

Verification Samples VI-9 to VI-16 will be analyzed for PHC and target priority pollutant metals, (cadmium, copper, and lead). The specific analytical parameters are summarized on Table 1. Additionally, since slightly elevated BN concentrations were detected in Sample PI-11A, verification Sample VI-15 will also be analyzed for base neutrals plus a forward library search (BN+15). The sample locations and analytical parameters are depicted on Figure 2.

3.2 DUMPSTER AREA - AREA 2

The dumpster area is located on the eastern side of the ACT building, adjacent to the fence bordering the property (Figure 1). A preliminary soil removal program was implemented by others in the dumpster area. Due to surficial run-off, the contamination appears to have migrated onto the Conrail property.

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Therefore, extensive surficial cleanup will be required for both on and off-site areas; the areas are designated as Area-2A and Area-2B, respectively. The soil excavation on the conrail property requires special work permits with severe restrictions imposed by Conrail.

3.2.1 Area-2A

In order to address the low to moderate PHC and metals contamination identified in the dumpster storage area, (Area-2A, Figure 2), JMS proposes to excavate an area approximately 200 feet long by 110 feet wide. The depth of the excavation will be 1.5 feet below grade since the contamination in the area extends to a maximum depth of 1.5 feet and the seasonally high occurrence of groundwater in the area. Approximately 1,200 cubic yards of soils will be removed from the on-site area.

JMS proposes to collect a total of five (5) verification samples (Samples VI-17 to VI-21) along the sidewalls of the excavation. As shown on Figure 2, all confirmatory samples will be collected from the first 0 - 0.5 feet of native soils encountered. In the paved portions of the dumpster area, (i.e.,Samples VI-17, VI-18 and VI-19), the samples will be collected in 6-inch intervals immediately below the pavement. All of the post-excavation, verification samples obtained from the dumpster area excavation will be analyzed for PHC and target metals (antimony, cadmium, and lead) as summarized on Table 1. The verification sample locations and proposed extent of excavation is shown on Figure 2.

Due to the fact that vertical delineation of the contamination in the area has already been adequately established at the depth of the groundwater table (1.5 feet), no samples will be obtained from the base of the excavation. However, in the event groundwater is not encountered at 1.5 feet, a sample (VI-22) will be collected in the area of Boring PI-15.

3.2.2 Area-2B

Area-2B, located on the Conrail property, measures about 125 feet long by 50 feet wide. The area will be excavated to the top of groundwater, or to a depth of about 2.5 feet. During the initial site investigation, groundwater was encountered at a depth of 1.5 feet, however, the water was encountered at a deeper level during a subsequent phase. Therefore, based on the previous sampling results and shallow depth to groundwater, the excavation will be completed to a depth of 2.5 feet. About 500 cubic yards of contaminated soils present on the Conrail property area will require removal.

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Upon completion of the soil removal program, four (4) sidewall samples (Samples VI-23 to VI-26) will be collected at 0 - 0.5 foot depth intervals to verify the lateral extent of excavation. If the groundwater is not encountered above 2.5 feet depth, two (2) optional samples (Samples VI-27 and VI-28) will be located in the vicinity of previous Borings PI-21 and PI-22, respectively. PHC levels were elevated in the previous samples collected from the two (2) borings. Thus, the optional samples V-27 and VI-28 will determine the vertical extent of the excavation. As summarized on Table 1, the verification sampling will be analyzed for PHC and target metals.

3.3 OIL STAINED AREA - AREA 3

As discussed previously in Section 2.1.3 of this report, the cleanup program proposed for the oil stained area will concentrate on the PHC contamination in the area rather than the macadam-related BN and fill-related metal contaminants. Although not specifically targeted, the majority of the BN and metal contamination will be remedied during the removal program. The proposed excavation will measure approximately 80 feet long by 60 feet wide, and extend to a depth of 4.5 feet in the southeastern half of the excavation and 6.5 feet in the northwestern half (Figure 3). About 975 cubic yards of soils and construction debris will be removed from the area.

JMS proposes to obtain a total of four (4) post-excavation samples (Samples VI-29 to VI-32) from the oil stained area excavation as located on Figure 3. No sidewall samples (except for Sample VI-32) will be collected since a complete horizontal delineation of the contamination has been obtained during previous sampling. Since there is still uncertainty regarding the vertical extent of contamination in the vicinity of Boring PI-35, three (3) samples, VI-29 to VI-32, will be collected from the base of the excavation at 2.0 - 2.5 feet, 4.0 - 4.5 feet, and 6.5 - 7.0 feet, respectively. A surface sample VI-32 (0 - 0.5 feet) will be collected to verify the northern limit of the excavation. All samples obtained from the oil stained area excavation will be analyzed for PHC, the only contaminant attributable to ACT operation.

4.0 PROPOSED CLEANUP LEVELS

The areas identified as requiring soil remediation in Section 3.0 will be cleaned to the ECRA action or background soil contamination levels, whichever is higher. The cleanup level for lead at the ACT site will be 250 ppm. The BN and metal contaminants present in the oil stained area and the background area will not be remedied, since the contamination identified is unrelated to ACT operations. A detailed description on the BN and metal levels found in these areas was provided in our February 1989 report.

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No groundwater cleanup is proposed since all results obtained to date indicate that only very slight levels of groundwater contaminants are present.

5.0 PROPOSED CLEANUP WORK PLAN

The proposed cleanup actions required at the ACT facility are quite simple, requiring only contaminated soils excavation, and verification sampling. The waste characterization sample analyses will be conducted for the stockpiled material, which will be disposed at an offsite facility . Based on the sampling results obtained to date, the material can be classified as non-hazardous industrial wastes (ID-27). Specific details regarding the proposed excavation in each area of concern have been defined in Section 3.0 of this report. The general excavation and sampling procedures are described below. A cleanup schedule is provided in Section 7.0.

All site excavations will be conducted utilizing a rubber-tired backhoe. All contaminated soils removed during the site cleanup program will be stockpiled in a paved portion of the facility property. Soils will be placed on 6-mil plastic sheeting and covered with plastic to minimize run-off. Following completion of the excavation of all contaminated soils, the stockpile will be sampled for waste classification analysis in order to obtain landfill approval for soils disposal. The waste classification sampling procedures are outlined in Appendix A. The samples will be analyzed for RCRA characteristics and other parameters as required by the disposal facility. Figures 2 and 3 provide the proposed extent of excavation in each of the three (3) areas of concern addressed in this cleanup plan and the location of all proposed verification sampling points. Table 1 summarizes the proposed verification sample locations and analytical parameters by area of concern. Verification sampling and decontamination procedures for hand auger and hand trowel sample collection are outlined in Appendix B.

Under the supervision of a JMS geologist, contaminated soils will be excavated and removed until clean soil is encountered, as determined by visual observations and Hnu scanning. At that point, an additional 1.0 foot of soil will be removed to insure complete contamination removal. As discussed in Section 2.1, horizontal and vertical delineation of the soil contamination has been obtained in most site areas. Therefore, an extensive post-excavation sampling program is not proposed. However, a limited sample analyses will be conducted to complete horizontal and vertical delineation, as appropriate.

Post-excavation, verification samples, and waste characterization sample analyses will be conducted by Accutest Laboratories of Dayton, New Jersey (NJDEP Laboratory Certification #12129). The need for any additional excavation in the areas will be based upon the results of the verification sample results. A prolonged site excavation program is not anticipated since the horizontal

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and vertical extent of soil contamination in each of the areas has already been adequately determined. Following verification of complete contamination removal, each excavation will be back-filled utilizing laboratory certified clean or virgin fill material which is of the same nature as native soils in the area. A final site cleanup verification report, including all appropriate sample results and soil disposal documentation, will be forwarded to NJDEP for review following completion of the site cleanup program.

6.0 POST-EXCAVATION MONITORING PLAN

No monitoring will be required in any of the soil excavation areas, since complete removal of all contaminated soil is anticipated. Also, as discussed in the February 1989 report, no groundwater investigations is required.

7.0 CLEANUP PROGRAM SCHEDULE

A brief description of the cleanup program tasks and milestones is provided for evaluation. Please note that the start-up date for implementation of the proposed cleanup plan is contingent upon obtaining work permits from Conrail. The proposed plan includes extensive cleanup in and around the railroad lines, both on and off ACT property. It is anticipated that cleanup will be accomplished in 3 months, with final data results and the cleanup verification report submitted within 4 months of NJDEP approval and work permits obtained from Conrail.

TASK 1: GENERAL EXCAVATION

The final soils excavation program has been split into two (2) phases. The first phase consists of excavation of the dumpster storage area (Area 2). This larger area will be addressed first in order to insure that sufficient time is available to evaluate verification sampling results and re-excavate, if necessary. Thus, Area 2 will be excavated first, followed by the cleanup of Area 1 and then Area 3. Verification samples will be collected on an area by area basis as soon as the excavation phase is completed. We anticipate that the initial excavation program will remove all contaminated soils within the three (3) areas of concern outlined in the cleanup program. The extensive soil sample analyses conducted to date has approximated the extent of contamination in each area. The excavation activities are estimated to take about 3 - 4 weeks.

ATTACHMENT Q16

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TASK 2: DATA ANALYSIS, SOIL DISPOSAL, SITE RESTORATION

The verification sample analysis data will be evaluated for quality assurance acceptability upon receipt from the contract laboratory. Following acceptance, the data will be analyzed to determine if further excavation is required for each of the cleanup areas. If further excavation is required, the field excavation schedule will be modified to incorporate re-excavation of the area of concern as soon as possible. If the verification sampling results confirm that cleanup is completed, the final report will be prepared.

Soil disposal will be handled in bulk. Based upon the available sampling results, one (1) soil waste type will be generated consisting of low to moderate PHC, metals and BN contamination. Waste soil sampling and classification will proceed simultaneously with the completion of the excavation phase to insure that landfill disposal approval will be received shortly after completion of the excavation program.

The restoration of the site will be accomplished by backfilling all excavations with certified clean or virgin fill materials which will be of a similar nature to native soils in the area. The backfilling will proceed as soon as laboratory analysis results have been evaluated and the quality assurance review is completed. We anticipate receipt of laboratory results within one month of completion of the excavation program. Soil disposal will require an additional month to coordinate landfill approval, trucking, etc. The backfilling operation will be completed during this one-month period.

TASK 3: REPORT PREPARATION

A final report will be prepared documenting all cleanup activities completed. The report will include all laboratory data results (verification) in summary as well as original form. The report will also include all waste soil manifest and backfill soils documentation. We estimate that the final cleanup verification report will be submitted for review approximately 1 month following completion of Task 2.

ATTACHMENT Q17
180

The following milestones have been included in the project schedule:

Milestone 1 - Site preparation, permits acquisition from Conrail will be completed in 2 - 3 weeks following NJDEP approval. NJDEP will be notified of the project start-up immediately following receipt of Conrail permits. A written notification will be provided at least 5 days prior to start-up.

Milestone 2 - Task 1 will be completed 1-month following project startup, (i.e. 2-months following NJDEP approval).
excation

Milestone 3 - Task 2 will be completed 3 months following project start-up. 3 month grade (60 days)

Milestone 4 - Task 3 and the entire soils program will be completed 4 months following project start-up.

8.0 PROGRESS REPORTS

A monthly progress report will be submitted to NJDEP during the soils cleanup program. The report will include any anticipated deviations from the proposed cleanup schedule.

ATTACHMENT Q18

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9.0 CLEANUP PROGRAM COST ESTIMATE

The following provides a summary of the estimated cost of the proposed cleanup program. The estimate includes all costs associated with excavation, spoils disposal, backfill, verification sample analysis and final report preparation. An estimate is provided for each cleanup area included in the plan.

Railroad Siding Area - Area 1

Soils Excavation/Backfilling	$ 6,000
Soil Disposal (900 cu.yds.@ $70)	63,000
Backfill (900 cu.yds.@ $15)	13,500
Verification Sampling, Laboratory Analysis, etc.	5,000
Subtotal	$ 87,500

Dumpster Storage Area - Area 2

Conrail Permits, etc.	$ 5,000
Soils Excavation/Backfilling	10,000
Soil Disposal (1700 cu.yds.@ $70)	119,000
Backfill (1700 cu.yds.@ $15)	25,500
Verification Sampling, and Laboratory Analysis	7,750
Subtotal	$167,250

Oil Stained Area - Area 3

Soils Excavation/Backfilling	$ 5,000
Soil Disposal (975 cu.yds.@ $70)	68,250
Backfill (975 cu.yds. @ $15)	14,625
Verification Sampling, and Laboratory Analysis	2,500
Subtotal	$ 90,375

Report Preparation

2-4 Weeks Preparation	$ 10,000
Subtotal	$355,125
Overhead (10%)	35,512
Contingency (20%)	71,025
TOTAL ESTIMATE	**$461,662**

ATTACHMENT Q14

182

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011
PROPOSED VERIFICATION SAMPLE ANALYSIS SUMMARY

LOCATION	SAMPLE NO.	SAMPLE DEPTH (ft. below ground)	ANALYTICAL PARAMETERS *
AREA 1: RAILROAD SIDING / LOADING DOCK AREA			
AREA-1A	VI-1	0-0.5'	PHC
	VI-2	0-0.5'	PHC
	VI-3	0-0.5'	PHC
	VI-4	0-0.5'	PHC
	VI-5	0-0.5'	PHC
	VI-6	0-0.5'	PHC
	VI-7	3.5-4.0'	PHC
	VI-8 (OPTIONAL)	5.0-5.5'	PHC
AREA-1B	VI-9	0-0.5'	PHC, Cd
	VI-10	0-0.5'	PHC, Cu, Pb
	VI-11	0-0.5'	PHC, Cu, Pb
	VI-12	0-0.5'	PHC
	VI-13	0-0.5'	PHC
	VI-14	0-0.5'	PHC, Cd, Cu
	VI-15	0-0.5'	PHC, BN+15
	VI-16 (OPTIONAL)	3.5-4.0'	Sb
AREA 2: DUMPSTER AREA			
AREA-2A	VI-17	0-0.5'	PHC
	VI-18	0-0.5'	Pb
	VI-19	0-0.5'	PHC, Cd
	VI-20	0-0.5'	PHC
	VI-21	0-0.5'	PHC, Cd, Pb
	VI-22 (OPTIONAL)	1.5-2.0'	PHC

ATTACHMENT Q20

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TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011
PROPOSED VERIFICATION SAMPLE ANALYSIS SUMMARY
(continued)

LOCATION	SAMPLE NO.	SAMPLE DEPTH (ft. below ground)	ANALYTICAL PARAMETERS *
AREA-2B	VI-23	0-0.5'	PHC, Pb
	VI-24	0-0.5'	PHC, Sb, Cd
	VI-25	0-0.5'	PHC
	VI-26	0-0.5'	PHC, Sb, Cd
	VI-27 (OPTIONAL)	2.5-3.0'	PHC, Sb, Cd
	VI-28 (OPTIONAL)	2.5-3.0'	PHC, Pb
AREA 3 - OIL STAINED AREA			
AREA-3	VI-29	2.0-2.5'	PHC
	VI-30	4.0-4.5'	PHC
	VI-31	6.5-7.0'	PHC
	VI-32	0-0.5'	PHC

* NOTES:
- Cd - CADMIUM
- Cu - COPPER
- Pb - LEAD
- SB - ANTIMONY
- PHC - TOTAL PETROLEUM HYDROCARBONS
- BN+15 - BASE NEUTRAL EXTRACTABLES WITH LIBRARY SEARCH

ATTACHMENT Q21

CN 028
Trenton, N.J. 08625-0028

(609)633-7141

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF HAZARDOUS WASTE MANAGEMENT

Michele M. Putnam
Deputy Director
Hazardous Waste Operations

John J. Trela, Ph.D., Director

Lance R. Miller
Deputy Director
Responsible Party Remedial Action

JAN 31 1989

Robert Marshall, DAG
Justice Complex
Dept. of Law and Public Safety
Trenton, N.J.

Dear Mr. Marshall:

RE: Status of Advanced Chemical Technology
Camden City, Camden County
ECRA #84011

This is in response to your letter dated January 5, 1989 regarding the status of the Advanced Chemical Technology (ACT) case. This case is currently in the investigatory stage of ECRA. Based on the review of data submitted as the result of the implementation of an approved Sampling Plan dated November 19, 1986 and the information gained during an October 1988 NJDEP site inspection, the Department determined that additional ground water investigation must be conducted.

The Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA) has drafted a letter detailing the required additional ground water investigation. The above mentioned letter should be received by ACT prior to January 27, 1989. The results of this investigation must be submitted to NJDEP ninety (90) days after receipt of the letter. For your information, following are the major points of investigation that ACT must address prior to the approval of a Cleanup Plan.

1. Install one additional monitoring well (MW-7) downgradient of Area 2 (dumpster area). Significant petroleum hydrocarbon contamination of soils has been identified in Area 2.

2. Flush out monitoring well MW-4 for proper acceptance of ground water; or, if that does not yield results, install another well adjacent to it. Previous attempts of sampling MW-4 has determined that the well is dry.

3. Two rounds of sampling at monitoring wells MW-4 and MW-7.

4. One additional round of sampling at monitoring wells MW-3, MW-5 and MW-6. To complete an ECRA investigation two rounds of analytical data from each monitoring well is required.

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ATTACHMENT R1

5. Use determination of a nearby private industrial well. This data is necessary to assess the potential human impact of ground water contamination migrating off site.

This letter was prepared by Case Manager, Stephen Maybury. If you have any questions please contact the Case Manager at (609) 633-7141.

Very truly yours,

Kenneth T. Hart, Chief
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

SEM/ng

ATTACHMENT R2

186

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Trenton, N.J. 08625-0028

(609)633-7141

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF HAZARDOUS WASTE MANAGEMENT

Michele M. Putnam
Deputy Director
Hazardous Waste Operations

John J. Trela, Ph.D., Director

Lance R. Miller
Deputy Director
Responsible Party Remedial Action

APR 05 1989

Robert Bregman, President
Plant Industries, Inc.
400-2 Totten Pond Road
P.O. Box 1596
Waldtham, Mass. 02254

Dear Mr. Bregman:

Re: Advanced Chemical Technology
Camden City, Camden County
ECRA Case #84011
Sampling Plan Addendum Results Dated: February 1989

The Department has completed its review of Advanced Chemical Technology (ACT) ground water proposal provided in the above mentioned document. Please be advised that ACT's proposal not to implement the ground water investigation required in the BEECRA letter dated January 11, 1989 is unacceptable. It is clearly the Departments position that ground water on site has not been adequately monitored. Specifically, there are no monitoring wells downgradient of two significant areas of concern (AEC 2 and 3).

Following is a point by point response to your comments with modifications to the original required investigation. Enclosed as attachment A and B are copies of your comments and the BEECRA letter dated January 11, 1989, respectively.

1. Monitoring Well (MW-7) must be installed in Area 2 as previously directed. However, well installation may proceed after remediation is complete in this area.

2. Sampling of Monitoring Well (MW-4) must be conducted as previously stated. However, if MW-4 cannot be developed and properly sampled than a new well may be installed after remediation is complete in this area. Be advised that it is the Departments position that the only way to positively determine if ground water has been impacted is through ground water sampling data.

3. Ground water sampling at Monitoring Wells MW-3, MW-5, MW-6 and proposed wells MW-4 and MW-7 must be conducted as previously requested except that ethylene glycol may be deleted as a parameter for MW-3, MW-5 and MW-6. Volatile organic (VOs), analysis is required because VOs may be

associated with oily waste. It is the Departments position that monitoring petroleum hydrocarbon sources other than number 4 and 6 fuel oil must include analysis for volatile compounds.

4. The information you provided regarding surrounding well use is sufficient.

Please reply within ten (10) days regarding your acceptance of the above mentioned ground water investigation requirements. The results of this investigation shall be due ninety (90) days after the completion of soils cleanup in Area 2 and 3. This investigation is a requirement for a fully approvable Cleanup Plan. If ACT does not reply within the specified timeframe or fails to implement the above requirements the Department shall view this as unresponsive and refer the case to the Compliance Bureau.

Please contact the Case Manager, Stephen Maybury at 609-633-7141 with any questions.

Sincerely,

John A. DeFina, Section Chief
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

SEM/dg
c: Bharat Patel, J.M. So
Jennifer Eck, BGWDC

ATTACHMENT R4

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14, 1988 report. The groundwater sampling results are summarized on Table 9. The field blank sampling results for the Phase 2 investigation are provided as Table 10. The groundwater elevation measured prior to the sampling is indicated for each well on the potentiometric map (Figure 4).

During the second round of groundwater sample analyses program, no detectable levels of BN and PHC concentrations were found in the samples (Table 9). Trace level (6 and 9 ppb, respectively) of only one (1) non-priority pollutant base neutral compound was found in Samples MW-5 and MW-6.

Trace concentration levels of several metals were found in all samples. However, only two (2) samples (Wells MW-2 and MW-6) contained levels of one (1) or two (2) metals in concentrations above the ECRA action level. Slightly elevated level of chromium was found in both samples. Samples MW-2 and MW-6 contained 0.062 ppm and 0.086 ppm, respectively; NJDEP guideline for chromium contamination is 0.05 ppm. Sample MW-6 also contained a slightly elevated level (0.013 ppm) of cadmium; the NJDEP guideline for cadmium contamination in the groundwater is 0.01 ppm.

4.3 PROPOSED GROUNDWATER INVESTIGATION

The completed groundwater investigation has adequately established groundwater flow at the site. The two (2) rounds of sampling data confirm that only minor contamination is present at one (1) or two (2) wells. The extensive soil boring and sample analysis program has determined that the soil contamination present on the site is primarily surficial and in most cases does not extend to the water table. Therefore, no additional hydrogeologic investigation is required at the site.

4.3.1 Response to BEECRA Letter Dated January 11, 1989

BEECRA correspondence dated January 11, 1989, has requested an additional groundwater investigation at the site. The following provides a brief discussion of BEECRA concerns.

Item 1 requires installation of a well (MW-7) in the dumpster area. As discussed in Section 3.2 above, a soil remediation program will be required for this area of concern. The BEECRA requested location is within the known area of contamination. Therefore, any wells installed may be damaged during the soil remedial program.

As discussed above in Section 4.1, Well MW-4, located in the oil stained area (Area 3) is dry. The well is located in a filled portion of the property. No groundwater has been encountered to a depth of 7.5 feet in the soil borings installed in the area. The soil contamination is restricted to a depth of less than 3.5 feet, except for location PI-35 (Figure 3). Only minor contamination extends to a depth of 5.0 - 5.5 feet at location

PI-35; however, no contamination was found in the deeper sample. Therefore, there is no potential for any groundwater contamination. Thus, the investigation required in Item 2 of the letter, specifically the flushing of the well in an effort to yield groundwater or a replacement well is not warranted. Also, a replacement well (if installed) may be damaged during the soil remediation program.

Item 5 of the BEECRA letter requires an additional round of groundwater sampling for MW-3, MW-5 and MW-6 for VO+15 and ethylene glycol analyses. However, the previous PP+40 analyses conducted by others during the early phases of ECRA compliance program has established that VO is not a concern at the ACT site. The materials utilized during the operations conducted at the site do not include VO compounds. Also, the two (2) rounds of completed groundwater sampling was conducted in accordance with the analytical parameters specified by the previously assigned geologist and approved by BEECRA. Therefore, the additional sampling for VO+15 analysis is not warranted based on available site data. The initial round of groundwater sampling included analyses for ethylene glycol. No concentration levels of the analyte above method detection limit have been identified. Thus, additional sampling for ethylene glycol is not warranted.

A Hydrogeological Assessment Request was included as Appendix A of the facility Sampling Plan (dated November 1986). The request included an inventory of wells located within a 1-mile radius of the site. No domestic water wells are located in the 1-mile area. Also, no public water supply wells are located downgradient to the site. The records available at the NJDEP Trenton offices indicate that the five (5) wells, owned by Conrail (numbered 7 to 11 on the request) are monitoring wells, and not used for human consumption. No further action is necessary to satisfy Item 7 of the BEECRA letter.

ATTACHMENT R6

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ATTACHMENT B

CN 028
Trenton, N.J. 08625-0028

(609) 633-7[illegible]

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT

Michele M. Putnam
Deputy Director
Hazardous Waste Operations

John J. Trela, Ph.D., Director

Lance R. Miller
Deputy Director
Responsible Party Remedial [illegible]

JAN [illegible] 1989

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
Robert Bregman, President
Plant Industries, Inc.
411 Hackensack Avenue
Hackensack, N.J. 97601

Dear Mr. Bregman:

RE: Advanced Chemical Technology
Camden City, Camden County
ECRA Case #84011
Data Results Dated: June, 1988

The Bureau of Environmental Evaluation and Cleanup Responsibility Assessment has completed its review of the ground water data received June 16, 1988. In addition, a site visit conducted by the Department on October 21, 1988 as part of this review has determined that additional ground water investigation is required.

Please be advised that Advanced Chemical Technology shall continue to investigate ground water as conditioned below:

I. Ground Water

1. A review of the ground water contour maps indicates that none of the wells located in the vicinity of Area 2 (dumpster area) are downgradient of this area of environmental concern. Advanced Chemical Technology shall install another well downgradient of Area 2. Please refer to the attached map designating an acceptable location for this well (MW-7).

2. Advanced Chemical Technology shall flush out monitoring well #4 in order for it to accept ground water and function properly. If flushing of the well does not yield results, then another monitoring well shall be installed.

   The location of this new well if necessary shall be immediately adjacent to MW-4. Advanced Chemical Technology will have to properly seal well #4 per NJDEP specifications for closure of an abandoned well.

3. Advanced Chemical Technology shall install all additional wells in accordance with the attached NJDEP unconsolidated monitoring well

specifications by a NJ licensed driller and supervised by a qualified hydrogeologist. Advanced Chemical Technology shall notify this office at least two weeks prior to the installation of any monitoring wells to allow a geologist to assist in determining well locations and screen elevations.

4. Advanced Chemical Technology shall conduct two rounds of ground water samples from MW-4 (or another well located immediately adjacent to it) and MW-7. Advanced Chemical Technology shall analyze these water samples for total petroleum hydrocarbons (TPHC), base neutrals +15 (BN+15), volatile organics +15 (VO+15), priority pollutant metals (PPM), ethylene glycol, total dissolved solids (TDS), specific conductance and pH. These rounds shall be sampled at a minimum of thirty days apart.

5. Advance Chemical Technology shall further conduct an additional round of ground water sampling from MW-3, MW-5 and MW-6 and analyze for VO+15 , ethylene gylcol, TDS, specific conductance and pH.

   NOTE: Additional investigation or sampling from ground water monitoring well MW-1 and MW-2 is not necessary.

6. Advanced Chemical Technology shall determine if ground water from the five (5) wells owned by Conrail (numbered 7 through 11 on the request for hydrogeologic assessment) is used for human consumption.

7. Advanced Chemical Technology shall submit the information/sampling results in triplicate within ninety (90) days of receipt of this letter.

II. <u>ECRA Standards for Data Requirements, Presentation and Proposals</u>

8. <u>Data Requirements</u>

   - The following monitoring well information shall be included with the results of sampling.

     a. Monitoring Well Certification Forms: Form A (As-Built Certification) and Form B (Location Certification) for each ground water monitoring well installed. Form A is due within thirty (30) days after completion of each monitoring well. Because additional wells are sometimes required to compete a hydrogeologic investigation, Form B may be submitted after completion of the installation of all required ground water monitoring wells, unless required prior to that time by the Department.

     b. Two ground water contour maps based on measurements taken at least three weeks apart. Any corrections made to the static water level due to the presence of free product must be reported.

   - Upon completion of sampling the following information shall be included with the sampling results:

ATTACHMENT Ro

a. Provide in a tabular format the results of sampling. Include the sample number, location, interval and depth of sample, sample matrix, and the analytical methods used.

b. A site map which lists the concentrations of all significant contamination found (above ECRA action levels) at all sampling locations. The labelling of data should be keyed to facilitate interpretation, especially at locations where more than one type of contaminant is found.

9. Data/Results Presentation

a. Presentation of sampling results shall be in accordance with the format specified in the "ECRA Draft Sampling Plan Guide". Failure to provide the information noted, in the format outlined within the guide shall constitute reason to return the submittal for correction and resubmission, thus causing further delay in case processing.

b. Results of laboratory analyses shall be accompanied by the appropriate quality control/quality assurance data (QA/QC) as specified in Attachment II of the guide. ECRA Tier II deliverables must be identified and separated from the submittals, discussion, conclusions and data summary sheets.

c. All submittals of text/data shall be forwarded in triplicate and shall be properly paginated, bear a table of contents and be bound (1 copy may be unbound for filing purposes).

d. Failure to organize submittal information as outlined above can constitute reason to return the submittal to the consultant for correction and resubmission, thus causing further delay in case processing.

e. Failure to address these conditions and provide documentation were required shall constitute non-compliance with ECRA, no final approvals or case closure will occur until these issues are resolved.

10. If it is determined from the ground water investigation through sampling results submitted to the Department that a ground water cleanup is required, Advanced Chemical Technology shall submit a Cleanup Plan that will effectively investigate and address any contamination identified on or from the subject industrial establishment. As a guide to this process, the following elements should be included in the formation of the plan both for ground water and soils cleanup:

a. Introduction
b. Table of Contents
c. Summary of Environmental Concerns. Include the results of previous sampling.

ATTACHMENT Rq

d. The proposed remedial actions. Include the evaluation of any alternative remedial actions if appropriate.
e. Cleanup levels to be achieved. Be specific with regard to media and parameters.
f. A Work Plan must detail the specific activities that will be used to complete the proposed cleanup objectives.
g. A post remediation sampling and monitoring plan.
h. A specific time table for implementation of the Cleanup Plan which includes milestones in the project.
i. Progress reports, dependant on the duration of the cleanup.
j. Estimate costs for cleanup:

   i. Capital Costs;
   ii. operation and maintenance costs;
   iii. monitoring system costs;
   iv. laboratory costs;
   v. engineering, legal, and administrative costs; and
   vi. contingency costs.

11. Please be advised that, according to N.J.A.C. 7:26B-4.3, sampling results shall be accompanied by:

    a. a proposed Negative Declaration; or
    b. a proposed Cleanup Plan; or
    c. a revised Sampling Plan to further delineate the extent and degree of contamination on or from the industrial establishment.

12. Advanced Chemical Technology shall submit all necessary fees with the results of sampling, as required by N.J.A.C. 7:26B-1.10.

This document was prepared by the Case Manager, Stephen Maybury. If you have any questions, please contact the Case Manager at (609) 633-7141.

Very truly yours,

John A. DeFina, Supervisor
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

MAN/ng
c: Ed Demarest, BEERA
Jennifer Eck, BGWDC
Bharat Patel, J.M. Sorge, Inc.

ATTACHMENT R10

36

DIVISION OF WATER RESOURCES

NEW JERSEY GEOLOGICAL SURVEY

Appendix # A

REQUEST FOR HYDROGEOLOGIC ASSESSMENT – ECRA PROGRAM

(To be completed whenever groundwater sampling is proposed or required as part of a Sampling Plan)

Preparer J M Sorge Inc. Date November 1986

Name of Industrial Establishment Advanced Chemical Technology

Address River Road and State Street

City/Township Camden County Camden

USGS Quadrangle Camden

Latitude 39° 5 6" , 55 " Longitude 75 06 , 5 "

1. Attach a site map or photo copy of the USGS "Quad" with the location of the site circled or outlined in RED and any relevant information (e.g., analyses, well logs, etc.)

2. A. Are wells nearby? ☒ Yes ☐ No Nearest supply well is 2240 feet from the site

   B. Are wells contaminated? ☐ Yes ☐ No Unknown

   C. Is there an imminent health hazard to your knowledge? ☐ Yes ☒ No

   D. Mark the location of any known wells near the facility, and complete the following if such information is available. (Use back of sheet for additional remarks.)

	WELL OWNER	DISTANCE FROM SITE (ft)	DEPTH	USE*	REMARKS
1.	Weston, Speitel & Watermation	6,600'	10'	M	
2.	U. S. Gasket Co.	3,300'	131'4"	I	
3.	H. Kohnstamm & Co., Inc.	6,600'	116'	I	
4.	Weston, Speitel & Watermation	3,960'	21'10"	M	
5.	NJ Water Supply	2,640'	170'4"	P	

CONTINUED - SEE ATTACHMENT A

* *P = Public Supply F = Irrigation I = Industrial M = Monitoring D = Domestic*

3. Briefly describe the nature of the operation active/inactive at this facility.

ACT is engaged in the manufacturing of plastic drums. The materials used in the manufacturing are plastic resin beads. See Section 2.2 for details.

ATTACHMENT S1

ATTACHMENT A

Well No.	Well Owner	Distance From Site	Depth	Use
6.	Paris Produce Co.	2,220'	166'	I
7.	Conrail	1,980'	30'	M
8.	Conrail	1,980'	35'	M
9.	Conrail	1,980'	35'	M
10.	Conrail	1,980'	34.5'	M
11.	Conrail	1,980'	35'	M
12.	N.J. Water Co.	5,280'	181'	P
13.	N.J. Water Co.	5,340'	195'	P
14.	N.J. Water Co.	5,340'	174' 10"	P
15.	N.J. Water Co.	5,340'	198' 2"	P
16.	N.J. Water Co.	5,340'	194'	P
17.	H. Kohnstamm Co.	6,300'	194'	I
18.	Camden Trust Co.	5,400'	127'	I
19.	Weston, Speitel, Watermation	5,500'	21' 10"	M
20.	Weston, Speitel, Watermation	7,110'	22'	M
21.	Liberty Theatre	7,920'	130'	I
22.	Lintonia Pure Food	6,600'	166'	I
23.	City of Camden	9,500'	140'	P
24.	City of Camden	9,500'	180'	P

ATTACHMENT 5a
796

Check ~~known or~~ suspected sources of ~~groundwater or~~ soil contamination:

- ☐ Drums
- ☐ Septic Tank(s)
- ☐ Below-ground Storage
- ☐ Landfill(s)
- ☐ Discharge(s) onto Ground
- ☒ Spill(s)
- ☐ Lagoon(s)
- ☐ Seepage Pit(s)
- ☐ Above-ground Storage
- ☐ Industrial Accident
- ☐ Other – *Explain Below*

Additional Comments

_____

_____

_____

_____

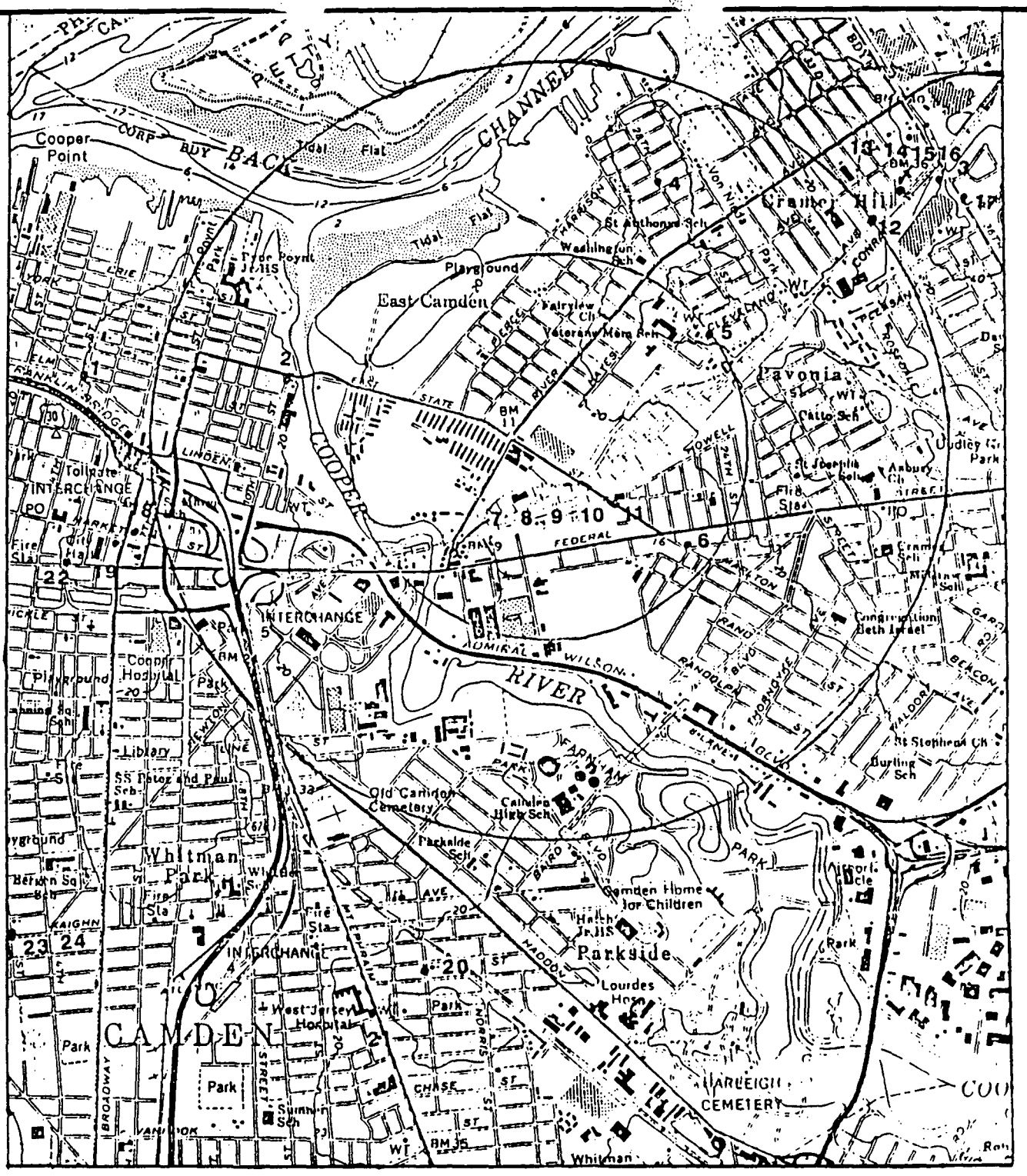
_____

_____

_____

_____

ATTACHMENT S3



1 MILE ½ 0

SCALE 1:24000

MN GN

11° 196 MILS

0°17' 5 MILS

UTM GRID AND 1970 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SOURCE:

U.S.G.S. CAMDEN, NEW JERSEY QUADRANGLE TOPOGRAPHIC MAP

J M SORGE, INC.

ADVANCE CHEMICAL TECHNOLOGY

WELL LOCATIONS IN 1/2 AND 1 MILE RADIUS

BREWER ASSOCIATES

ATTACHMENT 34

(11)

NJ Corporate Guarantee and Trust Company
1 Centennial Square
P.O. Box 180
Haddonfield, NJ 08033

RE: Camden Properties

Dear Sir:

On September 2, 1983, Governor Thomas Kean signed into law the Environmental Cleanup Responsibility Act (ECRA), N.J.S.A. 13:1K-6 et seq. which became effective December 31, 1983. The Act applies to Industrial Establishments with operations that fall within Standard Industrial Classification major group numbers 22-39, 46-49, 51 or 76 and are involved in the generation, manufacture, refining, transportation, treatment, storage, handling or disposal of hazardous substances or wastes. The owners or operators of these establishments must notify this Department of the sale and provide assurances that the Industrial Establishment is environmentally acceptable upon sale, transfer or closing of operations. If the property is contaminated, the owner or operator must provide and implement a cleanup plan.

On February 6, 1984, this office was notified that Advanced Chemical Technology, a subsidiary of Plant Industries, Inc. and a tenant on property owned by Camden Properties, entered into a contract to sell its business and assets located at their facility at the southeast corner of River Road and State Street, Camden, New Jersey, to Russell-Stanley Corp. It was determined from this notification that Advanced Chemical Technology was the operator of the industrial establishment and that the sale would be subject to the provisions of ECRA.

As part of the Environmental Responsibility Cleanup Act review process, Advanced Chemical Technology was inspected by a representative of this Bureau. During

ATTACHMENT T1

that inspection it was observed that soil contamination existed on-site. Personnel from Advanced Chemical Technology, with the assistance of a consulting firm, acknowledged that two areas outside the building were heavily contaminated with petroleum hydrocarbons.

A letter from this office was issued to Advanced Chemical Technology on April 2, 1984 approving a Cleanup Plan to remove all contaminated soil on-site. The cleanup that did occur on-site removed only a portion of the contaminated soil. Soil which is contaminated with petroleum hydrocarbons above a level found acceptable by the Department still remains on-site.

It has also brought to our attention that the current tenant (Russell Stanley) has contributed to the contamination problem when oil from machinery spilled onto the railroad siding. The machinery was repaired but the contaminated soil was never removed.

See insert

In accordance with N.J.S.A. 13:1K et seq. the owner or operator of the industrial establishment is responsible for complying with ECRA. See Insert This responsibility is shared equally by the owner and operator. To date, this office has dealt with Advanced Chemical Technology, the former operator, however, it is becoming apparent that final cleanup of the site may not be completed by them. On April 30, 1985, a Notice of Violation was sent to Advanced Chemical Technology for their failure to implement the cleanup plan. If Advanced Chemical Technology continues to fail to clean up the site, NJDEP may look to Camden Properties, as owners of the industrial establishment, to complete the cleanup.

You should also be aware that pursuant to that Camden Properties, as owners of the contaminated property, may hold responsibility for cleanup of the site.

ATTACHMENT T2

Insert

This is to notify you that, in accordance with N.J.S.A. 13:1K-6 et seq., the owner or operator of the subject industrial establishment is responsible for complying with the provisions of ECRA. Therefore, you are hereby advised that NJDEP may look to Camden Properties, as owners of the site at River Road and State Street in Camden, to submit a cleanup plan and implement a cleanup of its property. Thus, it would be in your interest to contact your past and present tenants to arrange for cleanup. Failure to respond to this notice within fourteen (14) days of receipt will result in this Department initiating enforcement action against you.

ATTACHMENT T3

S-R ANALYTICAL INC.
28 Springdale Rd., Cherry Hill, N.J. 08003
(609) 751-1122 (215) 923-2068

February 21, 1985

NJDEP
Division of Waste Management
Bureau of Industrial Site Evaluation
428 E. State Street
Trenton, NJ 08608

Attention: Ms. Deborah A. Boyea

Reference: Advanced Chemical Technology
River Road and State Street
Camden, Camden County
ECRA Case #84-11

Gentlemen:

We have been authorized by Plant Industries, Inc. to provide you with the attached documentation which reflects that during the period of 5/5/84 to 5/12/84 some 382 tons of contaminated soil was removed from the subject site and transported to Northwood, Ohio for disposal (see copies of attached NJDEP Hazardous Waste Manifests) and that, to date, over $97,000 has been expended in cleaning up the site (see copies of attached S-R Analytical invoices).

If we can be of further assistance in this matter, please contact me.

Very truly yours,

STABLEX-REUTTER, INC.

William M. Hartman (WMH)
William M. Hartman
Marketing Manager

WMH/md
cc: Mr. Robert Bregman, President
Plant Industries

received
22 FEB 1985

ATTACHMENT V

202

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

April 2, 1984

Mr. Douglas E. Goepfert, Secretary
Plant Industries, Inc.
777 Terrace Avenue
Hasbrouck Heights, N.J. 07604

Re: Advanced Chemical Technology
Camden City, Camden County

Dear Mr. Goepfert:

The cleanup plan dated March 27, 1984 prepared by Stablex Reutter, Inc. for the subject industrial establishment has been reviewed by this Department for technical merit and is herewith approved.

Further, it is our determination that, in view of the relatively small volumes and short time-frame involved, the requirement for financial assurance defined at N.J.A.C. 7:1-3.13 will be waived upon the condition that all aspects of the approved plan are completed within 21 calendar days of this letter.

Compliance with this condition will be considered established upon receipt in this office not later than April 23, 1984 of final sampling data as described on page 8 of the plan and will be confirmed through final inspection by our staff.

Should you have any questions or should problems develop, please let me know.

Sincerely,

Anthony J. McMahon, Chief
Bureau of Industrial Site
Evaluation

HS38/sje

New Jersey Is An Equal Opportunity Employer

ATTACHMENT V

Phone: 609-541-6700
Telex: 834477

Stablex-Reutter Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

OLUTIONS
START
ERE"

ENVIRONMENTAL CLEANUP RESPONSIBILITY ACT

SITE CLEANUP PLAN

Prepared For

ADVANCED CHEMICAL TECHNOLOGIES
State Street and River Road
Camden, NJ 08101

Prepared By:

STABLEX-REUTTER, INC.
Camden, NJ 08101
March 27, 1984

ATTACHMENT V2
204

I. INTRODUCTION

Stablex-Reutter, Inc. (S-R) has been requested by Douglas Goepfert (Secretary) of Advanced Chemical Technologies (ACT) in Hasbrouck Heights, NJ to prepare and administer a site cleanup plan for their facility located at State and River Roads in Camden, NJ. Initial data developed from site sampling was reviewed by the Bureau of Industrial Site Evaluation and revealed two (2) principal areas of concern that will be addressed in accordance with the Environmental Cleanup Responsibility Act (ECRA) .

The results of the sampling, cleanup areas, the cleanup methods and contractors, and the subsequent sampling, timing and costs are addressed in this cleanup plan. If you have any questions concerning this plan contact Ian C. Lambert or William M. Hartman of S-R. This plan is arranged in the following fashion for your ease of review.

- Introduction
- Summary of Sampling and Analysis
- Clean Up Areas
- Clean Up Methodology
- Compliance Monitoring
- Control, Timing and Cost

ATTACHMENT V3

II. SUMMARY OF SAMPLING AND ANALYSIS

To determine compliance with the ECRA regulations, sampling was conducted at the ACT site on River Road, with a summary of results displayed below:

Sampling Date	S-R Report No.	Area Sampled	Parameters Analyzed	Summary of Result
2/17/84	SR9211	Transformer Areas	PCBs	No evidence of PCBs
2/25/84	SR9250	Rail siding and Dumpster Area	Priority Pollutants and Petroleum Hydrocarbons	Lead levels in rail siding; petroleum hydrocarbons in dumpster area.
2/25/84	SR9251	Dumpster Area	PCBs	No evidence of PCBs
3/15 and 3/16/84	SR9327	Rail siding	Lead	Lead levels

The sampling and analysis determined two areas of concern according to the Bureau of Industrial Site Evaluation: The railway siding composite sample (Figure 1) showed a significant level of lead and visible petroleum hydrocarbon contamination. The dumpsite storage area (Figure 2) had a significant level of petroleum hydrocarbons.

Parameter	Rail Siding Area (Composite No. 1, SR9250
Lead, total	1600 ug/g

Dumpster Storage Area

		Petroleum Hydrocarbon, total by IR, ug/g ppm
SR9250-4	Area No. 1	3.3; 2.6*
SR9250-5	Area No. 2	1.7
SR9250-6	Area No. 3	54
SR9250-7	Area No. 4	10
SR9250-8	Area No. 5	76
SR9250-9	Area No. 6	31
SR9250-10	Area No. 7	120
SR9250-11	Area No. 8	170

* Duplicate Analysis

ATTACHMENT V4

II. SUMMARY OF SAMPLING AND ANALYSIS (Continued)

The initial sampling in the railway siding indicated a significant lead level. As a result twenty-two additional samples were taken. Sampling concentrated in the siding area, but including other areas to further define the potential problem. The results are displayed below:

Rail Siding Area

Sample Designation	Lead, total, ug/g ppm
Area No. 1	55
Area No. 2	110
Area No. 3	160
Area No. 4	160
Area No. 5	140
Area No. 6	200
Area No. 7	170
Area No. 8	140
Area No. 9	110
Area No. 10	150
Area No. 11	120
Area No. 12	97
Area No. 13	120
Area No. 14	120
Area No. 15	93
Area No. 16	110
Area No. 17	230
Area No. 18	230
Area No. 19	200
Area No. 20	140
Area No. 21	96
Area No. 22	60
Area No. 23 (Formerly Area 7, SR9250-10)	150
Area No. 24 (Formerly Area 8, SR9250-11)	200
Area No. 25	320
Area No. 26	410
Area No. 27	160
Area No. 28	120
Area No. 29	120
Area No. 30	160
Area No. 31	110
Area No. 32	150
Area No. 33	170
Area No. 34	170

ATTACHMENT V5

II. SUMMARY OF SAMPLING AND ANALYSIS (Continued)

The results of the analysis show lesser levels of lead with an average concentration of about 160 ug/g, but with several significant concentrations again in the siding area. The background sample (Area 22) was taken on site, but from a remote location, as far from industrial activity as possible.

The analysis for the full priority pollutant list in these areas showed no other problems. The analysis around the transformers, dumpster storage area and rail siding failed to show any evidence of PCB contamination. A visual examination of both the dumpster storage area and the rail siding supports the contention that the cleanup effort be focused there.

If more extensive information is sought on the sampling techniques and analysis in the above areas, please refer to the appropriate test reports in the attached Appendix.

Stablex-Reutter In

III. CLEAN UP AREAS

The cleanup areas will be mainly confined to the railway siding and dumpster area as discussed in the previous section and graphically displayed on Figires 1 and 2. The relationship of their areas to the site as a whole is shown by the shaded areas on Figure 3.

. Rail Siding Area

The railway siding is located at the back of plant, running approximately east/west. The cleanup area starts at the east end of the siding at the end of the loading platform and extends 240 feet west. The track is below grade and gradually rises to grade level, with the cleanup confined to the sides and bottom of the rail bed, approximately 15 feet wide. The transition between the cleanup area and the remainder of the grounds is not apparent and will be defined by marking the exact cleanup area. Figure 3 designates the area as Areas 13, 14 and 15.

. Dumpster Storage Area

The dumpster storage area is located at the east end of the building, adjacent to the fence bordering the property. The cleanup area extends from the railway siding entering onto ACT property north approximately 110 feet to within 20 feet of the front or north edge of the building. The width is 45 feet, from the permeter fence to the edge of the asphalt area that leads from the edge of the building to the dumpster storage area. Figure 3 designates these as Areas 23 and Area 24.

ATTACHMENT V7

IV. CLEAN UP METHODOLOGY

The cleanup of the contaminated soil will be conducted by Advanced Environmental Technologies Coporation (AETC) of Philadelphia, PA. The contaminated soil will be removed from the site by enclosed truck. The disposal will be handled by CECOS International in Niagara Falls, or Evergreen Landfill, operated by Chem Waste Management in Ohio. The estimated volume to be removed is approximately 380 cubic yards of fill. The cleanup will be conducted as follows:

- Rail Siding

  The contaminated soil on and around the railway tracks will be removed manually. The tracks, ties and railway bed will be left undisturbed. The surface soil will be removed down to about six(6) inches, or to where the apparent petroleum hydrocarbons contamination ends. The soil removal will be back filled with soil graded from the adjacent areas.

- Dumpster Storage Area

  This area consists of soil overlaying an asphalt base, which extends from the building to the parmeter fence. The removal will be conducted by scraping the soil off of the asphalt in the area of concern. The maximum depth is about six inches. Since the asphalt formed a barrier to the ground underneath, no other cleanup step is planned.

V. COOMPLIANCE MONITORING

- Rail Siding

After the soil removal operation, sampling and analysis for lead and petroleum hydrocarbons content will be conducted to determine if the removal operation is complete. The samples will be taken at various points along the railbed, with compositing to minimize the analysis costs and turnaround time. The results will be examined to determine if any further soil removal is necessary.

- Dumpster Storage Area

The asphalt layer underlying this area has functioned as a barrier preventing any of the surface contamination from penetrating the soil below. The soil will be removed down to the asphalt and the asphalt left undistrurbed. No additional sampling is planned.

VI. CONTROL, TIMING AND COSTS

- Control

All phases of the cleanup operation will be monitored by S-R. A project manager will be assigned to ensure that the cleanup plan is followed and that the documentation requirements of disposal are adhered to. Any deviations and/or difficulties encountered in complying with this plan will be reported to the Bureau of Industrial Site Evaluation.

- Timing

Site cleanup will commence within ten (10) calender days from the approval of this plan by the Bureau of Industrial Site Evaluation. The cleanup operation is expected to take no more than five (5) working days. Additional time will be necessary if the results of the sampling indicates the need for further cleanup.

- Costs

The exact cost cannot be determined until the volume of soil removed is measured. Estimated cost is $15,000. Exact cost will be determined by actual manhours and equipment costs.

ATTACHMENT V10

Reutter Inc.

Advanced Chemical Technology

Sampling Location

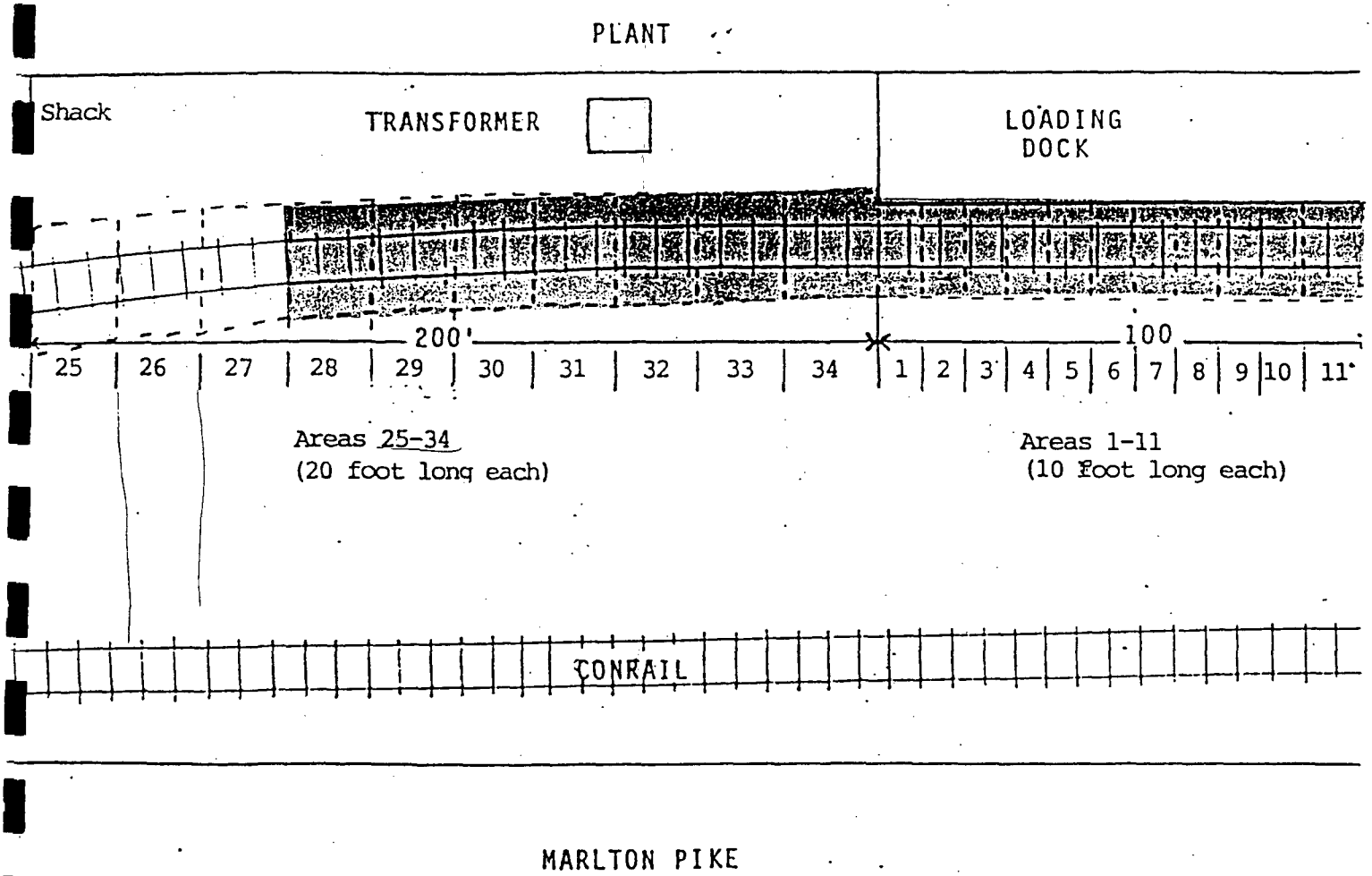


FIG. I

N

ATTACHMENT VII

NOT TO SCALE

213

Stablex-Reutter Inc.

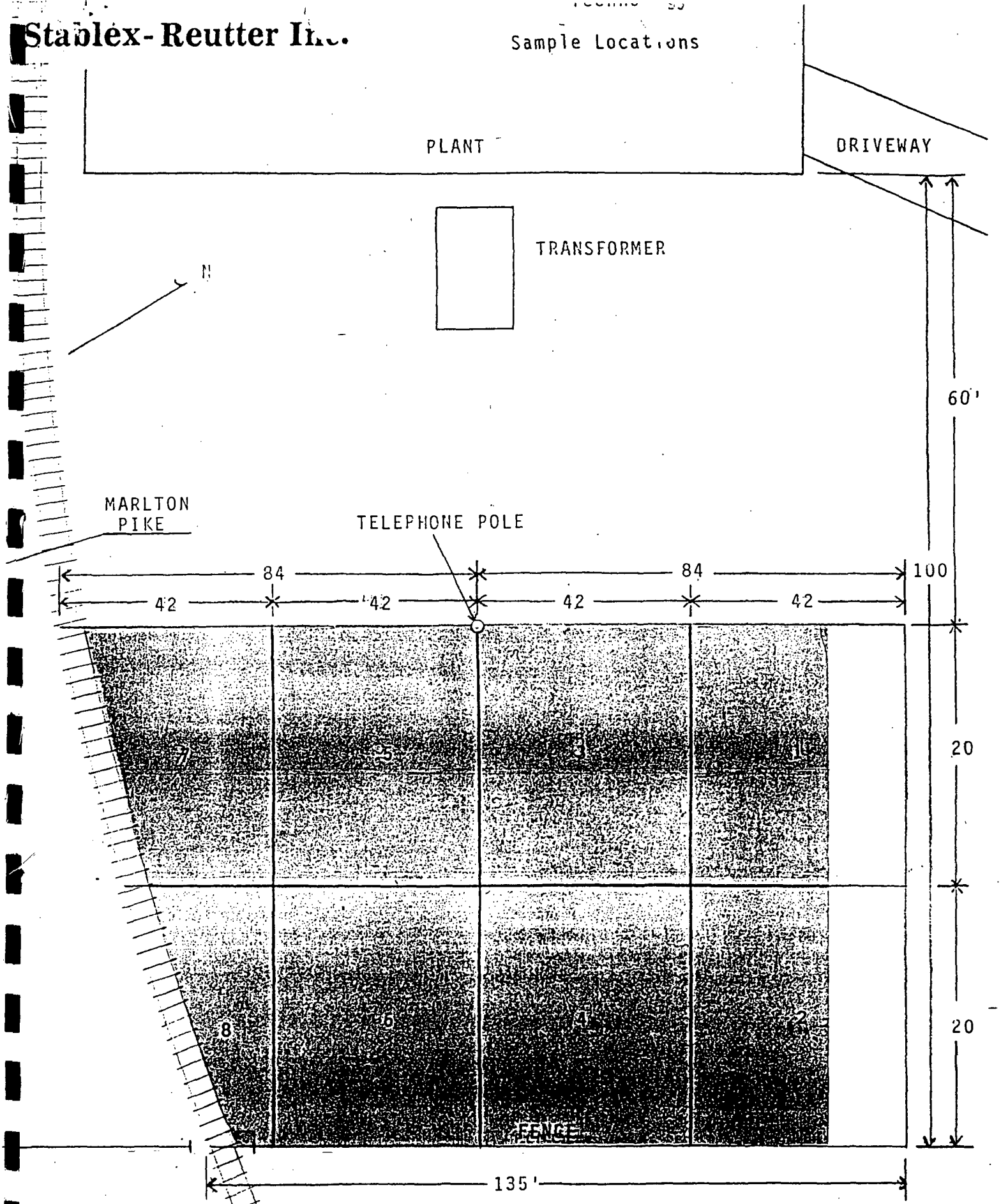


FIG. 2

ATTACHMENT V12
NOT TO SCALE

214

file copy

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT

HAZARDOUS SITE MITIGATION ADMINISTRATION

CN 028, Trenton, N.J. 08625

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

August 7, 1984

Mr. Robert L. Hall, President
Advanced Chemical Technology
c/o Plant Industries Inc.
777 Terrace Avenue
Hasbrouck Heights, NJ 07604

Re: Meeting Held July 20, 1984
Between the Bureau of Industrial
Site Evaluation and Advanced
Chemical Technology

Dear Mr. Hall:

This is following to the referenced meeting held to discuss the on-going PCB cleanup. It has been determined that the approved cleanup plan could not be fully implemented and more recent results show the contamination to be more extensive than originally believed. Based on this, you will be required to provide a new cleanup plan per N.J.A.C. 7:11-3.12. Also, the results of all sampling performed, but not yet submitted to the Department, must be included. The cleanup plan and sampling results must be submitted to the Department by September 1, 1984. Failure to meet this deadline may result in enforcement action. If there are any questions, please contact Ms. Deborah Boyer at 609/633-7141.

Very truly yours,

Anthony J. McMahon, Chief
Bureau of Industrial Site
Evaluation

ABC:95bmm

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ATTACHMENT W

215

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

2 1 OCT 1985

Mr. Robert Bregman, President
Plant Industries
P.O. Box 1596
Waltham, MA 02154

RE: Advanced Chemical Technology
River Road and State Street
Camden, Camden County
ECRA Case #84011

Dear Mr. Bregman:

Please be advised that the revised Cleanup Plan dated September 18, 1985 submitted for the referenced industrial establishment is hereby disapproved.

As discussed during our meeting on October 4, 1985 the cleanup plan did not address all areas of the site where soil contamination exists. In addition, it was determined during that meeting that ground water contamination may also exist therefore, capping is not appropriate. Prior to submitting a cleanup plan, the horizontal and vertical extent of all contamination on-site must be clearly identified. It is also unclear whether the railroad siding area was ever cleaned up. Until post sampling data is submitted for this area showing PHC levels acceptable by the Department, we cannot consider the railroad siding area as clean.

Advanced Chemical Technology must prepare and submit a Sampling Plan which includes but is not limited to:

1. Advanced Chemical Technology must propose to sample all areas of known or suspected petroleum hydrocarbon (PHC) contaminated soil. A full investigation must be made to delineate all contaminated areas.

2. Advanced Chemical Technology must propose a ground water investigation to determine if ground water contamination exists.

3. BISE requires that any laboratory used for ECRA related analyses must have at least one of the following qualifications:

a) New Jersey certification for case-pertinent analytical parameters.

b) Member of USEPA's Contract Laboratory Program.

c) Certification for case-pertinent parameters in another state having approved reciprocity agreement with New Jersey.

4. Reporting of all analytical data from the laboratory is to include:

°cover page

°chain of custody

°sample request form

°methodology summary

°laboratory chronicle

°use of blanks and/or duplicates

5. Additionally, a map which specifies soil sampling locations as well as ground water monitoring wells must be provided along with the analytical data.

The Sampling Plan must be submitted to BISE within forty-five (45) days of receipt of this letter.

Should you have any questions concerning the above, please contact Mr. Michael Nalbone, case manager, at (609) 633-7141.

Sincerely,

Anthony J. McMahon, Chief
Bureau of Industrial Site Evaluation

HS111:dr
cc: Phil Sandine, BEERA
A. Simonoff, DAG, Division of Criminal Justice

ATTACHMENT X2

217

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SAD[illegible], P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

October 2, 1984

Meeting on Oct 4 (29)
Jan 8 (12)

Mr. Robert L. Hall
Advances Chemical Technology
C/O Plant Industries
777 Terrace Heights
Hackbrouck Heights, NJ 07604

Re: Advanced Chemical Technology
River Road and State Street
Camden, Camden County
ECRA Case #84-11

Dear Mr. Hall:

The proposed field sampling plan dated September 13, 1984 from Stablex-Reutter Inc. to Plant Industries for the above referenced site is hereby approved.

At this time, the Department is requiring "background" samples to be taken away from the area of concern. This enables a cleanup plan to be more readily developed.

All sampling results must be submitted to this office within 30 days of receipt of this letter. If there are any questions concerning this matter, please contact Ms. Deborah A. Boyea at (609) 633-7141.

Sincerely,

Anthony J. McMahon, Chief
Bureau of Industrial Site
Evaluation

HS94/sje
CERTIFIED MAIL

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ATTACHMENT Y

JM Sorge, Inc.

3301 U S Highway 22, Somerville, N J 08876 • (201) 218-0066

February 1, 1988

Mr. Joseph R. Fallon, Chief
Bureau of Environmental Evaluation and Clean-up
Responsibility Assessment
Division of Hazardous Waste Management
NJ Department of Environmental Protection
401 E. State Street, 5th Floor
Trenton, NJ 08625

FEB 7 1988
INDUSTRIAL SITE
EVALUATION

Attn: Mr. Michael Nalbone

Re: Advanced Chemical Technology
River Road and State Street
Camden, Camden County, NJ
ECRA Case #84011

Dear Mr. Fallon:

The purpose of this letter is to notify NJDEP regarding the Sampling Program scheduled at the above referenced industrial establishment. The implementation of the soil sampling program is scheduled to begin on February 15, 1988 at 9:00 a.m. Also, the required well installation program is scheduled to begin at 8:00 a.m. on Tuesday, February 16, 1988. The field program involving the extensive soil sampling and well installation program will be carried out simultaneously and is expected to take 4 to 5 days each. The site activities will be conducted in accordance with the Sampling Plan dated November 18, 1986; the sampling program detailed in the above referenced submittal was approved as conditioned in NJDEP letter dated July 9, 1987.

ATTACHMENT 2L

As discussed with Mr. Michael Nalbone, ECRA Case Manager, the initiation of the Sampling Plan was delayed since certain financial arrangements had to be worked out between parties involved. Therefore, we request a 90-day extension (until May 1, 1988) for submittal of the Sampling Plan results.

Very truly yours,

Bharat Patel

Bharat Patel
Senior Hydrogeologist

BP/kk

cc: Ms. Karen Mujica, NJGS
Mr. Robert Bregman, Plant Industries
Mr. Peter Herzberg, Esquire
Mr. Allen A. Elish, Esquire
Mr. Joseph M. Sorge, TMS

ATTACHMENT 3a

JM Sorge, Inc.

3301 US Highway 22, Somerville, NJ 08876 • (201) 218-0066
FAX (201) 218-9185

June 14, 1988

Mr. Kenneth T. Hart, Chief
Bureau of Environmental Evaluation and
Cleanup Responsibility Assessment
Div. of Hazardous Waste Management
NJ Department of Environmental Protection
401 East State Street, 5th Floor
Trenton, NJ 08625

Attn: Mr. Michael Nalbone, Case Manager

Re: Advanced Chemical Technology
River Road and State Street
Camden, NJ
ECRA Case #84011

Dear Mr. Hart:

I have attached three (3) copies of the report describing the results of the site investigation conducted by J M Sorge, Inc. (JMS) at the above referenced industrial establishment. The Sampling and Analysis Program was conducted at the site in accordance with the facility Sampling Plan (dated November 18, 1986); the Plan was conditionally approved via NJDEP letter dated July 9, 1987. The site sampling program also involved a preliminary hydrogeologic investigation to determine groundwater quality. A 45-day extension (until June 15, 1988) was requested by JMS letter dated April 27, 1988, in order to comdplete a thorough review of the voluminous data obtained during the field and laboratory program conducted at the ACT site.

As discussed in the report, the soil sampling program implemented at the site has identified the nature and approximate extent of contamination. The vertical extent of contamination has been delineated in all three (3) areas of concern; however, an additional soil sampling program will be required in certain areas in order to obtain a complete horizontal definition of the soils contamination identified. Also vertical delineation of two (2) specific metal contamination is required for one (1) area. An additional soil sampling program is proposed in the report. No significant groundwater contamination was identified during the hydrogeologic investigation conducted at the site.

ATTACHMENT AA1

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It should be noted that one (1) complete copy of the analytical results (Appendix A), including QA/QC data, is provided as three (3) separate volumes.

Should you have any questions or require further information, please do not hesitate to contact Mr. Joseph Sorge or myself at (201) 218-0066.

Very truly yours,

Bharat Patel

Bharat Patel
Senior Hydrogeologist

BP/nk

Enclosure

cc: Mr. Robert Bregman, Plant Industries
Mr. Peter Herzberg, Esquire
Mr. Allen A. Etish, Esquire
Mr. Joseph Sorge, JMS

ATTACHMENT AA2

Form DWM-002 A
2/84

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
R.D. 1 ROUTE 70, VINCENTOWN, N.J. 08088
PHONE : (609) 859-2958

Dan Stuber
FYI
11/20/

NOTICE OF VIOLATION

ID NO. 84-11-30-033 DATE 12-21-84

NAME OF FACILITY RUSSELL-STANLEY - A.C.T. CAMDEN

LOCATION OF FACILITY STATE ST. & RIVER RD.; CAMDEN, N.J. 08105

NAME OF OPERATOR STANLEY BEY, THROUGH CHARLES MORRELLI

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder and/or the Spill Compensation and Control Act, (N.J.S.A. 58:10-23.11 et seq.) and Regulations (N.J.A.C. 7:1E-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION 58:10-23.11c ; DISCHARGE OF A HAZARDOUS SUBSTANCE (OIL OR HYDRAULIC FLUID)
58:10-23.11e ; FAILURE TO IMMEDIATELY NOTIFY DEP.
COMPANY MUST STOP SOURCE BY CONSTRUCTING CONTAINMENT DIKE. CONTAMINATED AREAS MUST BE EXCAVATED, ANALYZED, CLASSIFIED AND DISPOSED OF PROPERLY. ALSO PROVIDE AS-BUILTS OR BLUEPRINTS FOR BUILDING DRAIN SYSTEM AND FOR PROPERTY.

Remedial action to correct these violations must be initiated immediately and be completed by 1-10-85. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of $25,000 per violation.

James D. Manuel
Investigator, Division of Waste Management
Department of Environmental Protection

ATTACHMENT BB
223

(3)

GREENBAUM, ROWE, SMITH, RAVIN, DAVIS & BERGSTEIN

COUNSELLORS AT LAW

WM. L. GREENBAUM (1914-1983)
ROBERT S. GREENBAUM
ARTHUR M. GREENBAUM
ALLEN RAVIN
PAUL A. ROWE
WENDELL A. SMITH
ALAN E. DAVIS
MELVYN H. BERGSTEIN
NATHANIEL H. YOHALEM
DAVID L. BRUCK
DAVID S. GORDON
ROBERT C. SCHACHTER
MARTIN L. LEPELSTAT
DENNIS A. ESTIS
WILLIAM D. GRAND
CHARLES APPLEBAUM
VICTOR A. DEUTCH
DONALD KATZ
HARRIET FARBER KLEIN
BENJAMIN D. LAMBERT, JR.
MICHAEL B. HIMMEL
DOUGLAS K. WOLFSON
ALAN S. NAAR
ROBERT E. LINKIN

ENGELHARD BUILDING
P. O. BOX 5600
WOODBRIDGE, NEW JERSEY 07095
(201) 549-5600

PARKWAY TOWERS
P. O. BOX 5600
WOODBRIDGE, NEW JERSEY 07095
(201) 750-0100

GATEWAY ONE
NEWARK, NEW JERSEY 07102
(201) 623-5600

TELECOPIER 549-1881

CHARLES R. ORENYO
MARK H. SOBEL
HAL W. MANDEL
MARIANNE McKENZIE
PETER J. HERZBERG
KENNETH T. BILLS
THOMAS C. SENTER
GLENN C. GURITZKY
MICHAEL NORD
W. RAYMOND FELTON
AMY E. STEIN
ALAIN LEIBMAN
CHRISTINE F. LI
BRUCE D. GREENBERG
JOEL M. ROSEN
MERYL A. G. GONCHAR
PAUL F. CLAUSEN
JAMES P. SHANAHAN
WILLIAM R. GICKING
JEFFREY I. BURNETT
NANCY SIVILLI
NANCY E. BRODEY
SHARON L. LEVINE
JOSEPH M. ORIOLO
JOHN G. HROMY
JOAN FERRANTE RICH
JEFFREY R. SURENIAN

HAROLD N. GAST (1933-1984)
SAMUEL J. SPAGNOLA
OF COUNSEL

REPLY TO:

Engelhard Building

January 7, 1985

Mr. Anthony McMahon, Chief
Bureau of Industrial Site Evaluation
Division of Waste Management
CN-028
Trenton, New Jersey 08625

Re: Notice of Violation dated 12-21-84
Russell-Stanley/A.C.T. Camden
I.D. #84-11-30-033

Dear Mr. McMahon:

This is to confirm our several telephone conversations of January 2, 1985.

As you know, this property is subject to an ongoing investigation by your Bureau regarding the prior operator's (A.C.T.'s/ Plant's) failure to comply with ECRA upon closure of the site. The prior operator submitted to you an initial cleanup plan which, upon implementation, turned out to be inadequate to deal with all the environmental problems at the site. To date, the prior operator has not submitted to the Department a revised cleanup plan to correct all the environmental hazards at the site. In this regard, Russell-Stanley Corporation has filed a 30-day notice under the Environmental Rights Act so as to notify the Department of its concern and requirement that the prior operator clean up the site immediately.

On December 21, 1984, Russell-Stanley was hand-delivered a Notice of Violation regarding the hazardous conditions on this site. Since ECRA places the responsibility for cleanup of this hazardous condition on the prior operator, I subsequently called

received
10 JAN 1985

ATTACHMENT CC1

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to inform you that this Notice of Violation conflicted with ECRA and the investigation by your Bureau. On January 2, 1985, you informed me that you had discussed this matter with Charles Krauss, Supervisor of the Sourthern Field Office of the Division of Waste Management which had issued the Notice of Violation. You informed me that it had been agreed with Mr. Krauss that the Notice of Violation was "of no force of law"; moreover, you had agreed with Mr. Krauss that this matter would be, in its entirety, referred to the Bureau of Industrial Site Evaluation for it to continue its ECRA enforcement action against A.C.T.

Based upon this agreement between Mr. Krauss and you, I informed you that my client would not respond to the Notice of Violation dated December 21, 1984. You found this acceptable. Rather, my client intends to proceed, as before, to urge the Bureau of Industrial Site Evaluation to require A.C.T. to clean up its former site in Camden pursuant to ECRA. If such action is not soon forthcoming, my client will take appropriate legal action.

Thank you very much for your cooperation.

Very truly yours,

Peter J. Herzberg

Peter J. Herzberg

PJH/lk

cc: Charles Krauss, Supervisor
Southern Field Office
Division of Waste Management

William Lima,
Russell-Stanley Corp.

ATTACHMENT CC2

EC 00005

received
08 MAY 1985

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
120 Rt. 156, Yardville, N.J. 08620

MARWAN M. SADAT, P.E.
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

MAY 1 1985

Advanced Chemical Technology
c/o Plant Industries, Inc.
411 Hackensack Avenue
Hackensack, NJ 07601

Attention: Mr. Robert Bregman

Re: Notice of Violation and
Penalty Settlement Offer

Dear Mr. Bregman:

Pursuant to the Environmental Cleanup Responsibility Act, N.J.S.A. 13:1K-6, et seq. and regulations promulgated thereunder, specifically N.J.A.C. 7:1-3.13(c), 7:1-3.13(d) and 7:1-1.3(e), the following findings of fact are made:

FINDINGS

1) The State of New Jersey enacted the Environmental Cleanup Responsibility Act (hereinafter "ECRA" or "the Act"), N.J.S.A. 13:1K-6 et seq. (P.L. 1983, c. 330), which was signed into law by Governor Thomas H. Kean on September 2, 1983.

2) ECRA requires the New Jersey Department of Environmental Protection (hereinafter "the Department") to adopt rules and regulations to implement the act.

3) The Department promulgated Interim ECRA regulations, N.J.A.C. 7:1-3, on December 30, 1983 on an emergency basis pursuant to N.J.S.A. 52:14B-4(c) as implemented by N.J.A.C. 1:30-4.4. On March 6, 1984, the Department readopted the Interim ECRA Regulations, N.J.A.C. 7:1-3 (hereinafter "Regulations") in compliance with the Administrative Procedures Act, N.J.S.A. 52:14B-1 et seq., upon acceptance for filing by the Office of Administrative Law pursuant to N.J.A.C. 1:30-4.4(d).

4) ECRA and the Regulations establish certain requirements for owners or operators of industrial establishments planning to sell or transfer operations.

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ATTACHMENT DD1

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5) Pursuant to N.J.A.C. 7:1-3.7(c), the owner or operator of an industrial establishment planning to sell or transfer operations MUST (a) notify the Department in writing within five days of the execution of an agreement of sale pursuant to N.J.A.C. 7:1-3.10(a), (b) submit within 60 days prior to the transfer of title a negative declaration to the Department for approval, or within 60 days prior to transfer of title, attach a copy of any cleanup plan to the contract or agreement of sale which may be entered into with respect to the transfer of operations and pursuant to N.J.A.C. 7:1-3.10, (c) obtain, upon approval of the cleanup plan by the Department, a surety bond or other financial security approved by the Department guaranteeing performance of the cleanup plan in an amount equal to the cost estimate for the cleanup plan.

6) Advanced Chemical Technology (hereinafter "ACT"), a subsidiary of Plant Industries, Incorporated operated a manufacturing facility at Block 1241, Lot 2, River Road and State Street, Camden City, Camden County, New Jersey.

7) By letter dated February 8, 1984, ACT notified the Department that ACT had entered into a contract to sell all assets at the above referenced facility to Russell-Stanley Corporation.

8) By letter dated February 15, 1985, ACT submitted a GIS, SES and a negative declaration statement to the Department pursuant to N.J.A.C. 7:1-3.10.

9) By letter dated February 16, 1984, ACT submitted a copy of the Asset Purchase Agreement between ACT and Russell-Stanley Corporation regarding the sale of the above referenced facility.

10) On February 23, 1984, an inspection of the above referenced facility was conducted by a Departmental representative. During said inspection, the following was noted:

    a) Oil contaminated soil at the rear of the facility near a dumpster and along the railroad siding on the southern portion of the facility site.

    b) Absorbent material (speedy dry) contaminated with oil was discarded with the trash in a dumpster.

    c) A fill area located on the northern boundary of the facility site.

11) ACT was instructed by the Departmental inspector to conduct soil sampling and analysis in areas of oil contamination and to provide additional information concerning the fill area on the northern boundary of the facility.

12) By letter dated March 6, 1984, ACT submitted to the Department soil sampling and analysis results for eleven (11) samples collected at the ACT facility.

ATTACHMENT DD2

13) Based on Departmental review of the information described in Paragraph 12 above, the Department, by letter dated March 14, 1984, required ACT to:

a) Conduct further sampling to determine the extent of lead contamination in the dock and dumpster areas.

b) Conduct a cleanup of oil contaminated soil in the dumpster area and perform additional sampling to assure proper cleanup.

c) Submit documentation to substantiate that the fill area described in Paragraphs 10c and 11 above is not part of the property leased by ACT.

14) By letter dated March 19, 1984, ACT submitted documentation to the Department indicating that the fill area described in Paragraphs 10c and 11 above was not part of the property leased by ACT.

15) By letter dated March 21, 1984, ACT responded to the Department's letter of March 14, 1984, by submitting the additional requested soil sampling and analysis results.

16) Based on Departmental review of the information described in Paragraph 15 above, the Department, by letter dated March 22, 1984, disapproved ACT's Negative Declaration.

17) By letter dated March 27, 1984, ACT submitted a site cleanup plan to the Department.

18) By letter dated April 2, 1984, the Department approved ACT's site cleanup plan as referenced in Paragraph 17 above. In said letter, the Department waived the financial assurance requirements as defined at N.J.A.C. 7:1-3.12(c) provided that the final sampling data as described on Page 8 of the plan was completed by April 23, 1984.

19) By letter dated May 1, 1984, ACT informed the Department that cleanup of the Camden facility would not begin until the first week in May, 1984.

20) ACT conducted cleanup operations at the Camden facility during the period May 5 to May 12, 1984. After the soil removal operation, sampling and analysis for lead and petroleum hydrocarbons was not performed therefore, it was never determined if the soil removal operation was complete.

21) ACT, therefore, failed to implement the approved cleanup plan according to the time schedule for implementation of said plan. This is a violation of N.J.A.C. 7:1-3.12(d).

ATTACHMENT DD3

22) As ACT failed to complete all aspects of the approved cleanup plan by April 23, 1984, ACT failed to obtain a surety bond or other financial security approved by the Department guaranteeing performance of the cleanup plan in an amount equal to the cost estimate for the cleanup plan. This is a violation of N.J.A.C. 7:1-3.12(c).

23) On July 20, 1984, a meeting was held between ACT and the Department to discuss the status of cleanup activities at the Camden facility. As a result of said meeting, it was determined by the Department that site contamination at the facility was more extensive than originally believed and that a new sampling and cleanup plan was required.

24) By letter dated August 7, 1984, the Department required ACT to submit a new sampling and cleanup plan.

25) By letter dated September 13, 1984, ACT submitted to the Department a new sampling plan for the Camden facility.

26) By letter dated October 2, 1984, the Department approved ACT's sampling plan as referenced in Paragraph 25 above.

27) By letter dated November 30, 1984, ACT submitted to the Department the analytical results of samples collected pursuant to the approved sampling plan referenced in Paragraph 25 above.

28) On January 5, 1985, a meeting was held between ACT and the Department to discuss the status of cleanup activities at the Camden facility.

29) Based on Departmental review of the analytical results as referenced in Paragraph 27 above and as a result of the January 5, 1985 meeting, the Department, by letter dated January 23, 1985, required ACT to submit an amended cleanup plan within thirty (30) days of receipt of said letter.

30) On January 28, 1985, an inspection of the Camden facility was conducted by a Departmental representative. During said inspection, deficiencies were noted by the Department concerning the implementation of the requirements of the cleanup plan.

31) As of the date of this Notice of Violation and Penalty Settlement Offer, the Department has not received an amended cleanup plan from ACT. ACT, therefore, has failed to correct deficiencies noted by the Department concerning the implementation of the requirements of the facility cleanup plan. This is a violation of N.J.A.C. 7:1-3.12(e)1.

Within fifteen (15) calendar days of receipt of this Notice of Violation, you shall submit in writing, to the Bureau of Compliance and Enforcement, Attention: Barry Frasco, at the above address, an affidavit outlining the measures you have taken to attain compliance with the above referenced regulations.

N.J.S.A. 13:1K-13c provides for maximum civil penalties of $25,000 per day for violations of this nature. The Department, however, is amenable to compromise and will settle this statutory claim for penalties for the aforementioned violations for the sum of $23,300.

Should you decide to accept this Penalty Settlement Offer, payment must be made within fifteen (15) days of your receipt of this letter. Only checks or money orders drawn to the New Jersey Department of Environmental Protection will be accepted.

Should you decide not to accept this Penalty Settlement Offer or fail to forward payment within fifteen (15) days of receipt of this letter, this offer is rescinded and this matter will be referred to the Office of the Attorney General for the initiation of litigation seeking the full penalties allowed by law.

Should you wish to discuss the specifics of this Notice and Offer, contact Barry Frasco at (609) 292-5561.

Be advised that such discussion will not automatically delay or otherwise extend the deadline for acceptance of this Penalty Settlement Offer.

Very truly yours,

Joseph A. Rogalski
Assistant Director
Field Operations, Compliance
and Enforcement

F01:F021:lmc

ATTACHMENT DD5

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

MEMORANDUM

MAR 7 1985

TO: GERALD BURKE, DIRECTOR
OFFICE OF REGULATORY SERVICES

THROUGH: DR. MARWAN M. SADAT, DIRECTOR
DIVISION OF WASTE MANAGEMENT

THROUGH: DR. JORGE H. BERKOWITZ, ADMINISTRATOR
HAZARDOUS SITE MITIGATION ADMINISTRATION

FROM: ANTHONY J. MCMAHON, CHIEF
BUREAU OF INDUSTRIAL SITE EVALUATION

SUBJECT: ADVANCED CHEMICAL TECHNOLOGY
ECRA CASE #84011

On or around February 6, 1984, Advanced Chemical Technology located in Camden, NJ submitted documentation that a sale of property was to occur and an ECRA approval was required.

Since that time, several inspections were conducted by this office. In addition, the Bureau of Field Operations also conducted an investigation due to an oil spill during this time. During those inspections, oil contaminated soil at the rear of the facility and along the railroad siding was observed. Also observed was speedy dry contaminated with oil discarded in the dumpster.

Advanced Chemical Technology was instructed to conduct soil sampling to determine the extent of contamination, conduct a cleanup of oil contaminated soil and perform additional sampling to assure proper cleanup.

Advanced Chemical Technology received an approved Cleanup Plan but failed to complete all aspects of the approved Cleanup Plan and, therefore, was found to be in violation of ECRA.

On June 18, 1985, Judge Skillman issued a Court Order requiring the company to submit a revised Cleanup Plan by July 17, 1985.

Advanced Chemical Technology failed to comply with Court Order.

We sent a letter dated October 21, 1985 to Mr. Robert Bregman, President, requesting Advanced Chemical Technology to submit a revised Sampling Plan. The company has not responded to this letter and it appears that the company is not going to comply.

On-site contamination exists and has been verified through past analytical data received by this office. Because it is imperative for this office to identify the horizontal and vertical extent of all contamination on site in order to properly evaluate a thorough and environmentally acceptable Cleanup Plan, this office is recommending additional legal action be taken to enforce the Court Order.

Please forward this to the Attorney General's Office for appropriate action.

If we can provide any additional information or assistance in this matter, please contact Michael Nalbone, Case Manager, at 3-7141.

HS111:dr
cc: Scott Dubin
Ann Simonoff

ATTACHMENT EE2

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10006

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
JOHN FITCH PLAZA, P.O. BOX 1390, TRENTON, N.J. 08625
Division of Environmental Quality

ORDER

Advanced Chemical Technology
Corporation Trust Co., Registered Agent
15 Exchange Place
Jersey City, New Jersey 07302
and
Camden Properties Inc.
N.J. Corporation Guarantee & Trust Co., Registered Agent
1 Centennial Square
Haddonfield, New Jersey

Re: Air Pollution Control Code
See attached cross reference sheet

VIOLATION OCCURRED ON PREMISES KNOWN AS:
East State Street & River Road,
Ward 11, Block 1236, Lot 2,
Camden City, Camden County,
New Jersey

Dear Sir:

FU POLLAK

WHEREAS, the State Department of Environmental Protection has determined by investigation(s) or inspection(s) made pursuant to the Provisions of the New Jersey Air Pollution Control Act, that on August 19, 1974 you did violate Chapter 27, Section(s) 7:27-8.3(a), of the New Jersey ~~Air Pollution Control~~ Administrative Code. (see paragraph(s) A below).

NOW THEREFORE, YOU ARE HEREBY ORDERED to cease violation of said Chapter on premises owned, leased, operated or maintained by you on or before September 21, 1974.

A CHAPTER 9, SECTION 3.1: The investigation(s) disclosed that a polyethylene powder storage silo with a pneumatic filling system was constructed, installed or altered on the premises identified above without first having obtained a "Permit to Construct, Install or Alter Control Apparatus or Equipment" from the Department.

B CHAPTER 9, SECTION 3.2: The investigation(s) disclosed that _____ was used or caused to be used on the premises identified above without first having obtained a "Certificate to Operate Control Apparatus or Equipment" from the Department.

C CHAPTER 10, SECTION 2.1: The investigation(s) disclosed the storing, offering for sale, delivering for use or use of Grade # _____ commercial fuel oil on the premises identified above containing sulfur in excess of _____% by weight

D CHAPTER 10-A, SECTION 2.1: The investigation(s) disclosed the storing, offering for sale, sale, or delivering for use in New Jersey of bituminous and/or anthracite coal on the premises identified above containing sulfur in excess of 0.2% by weight (dry basis).

E CHAPTER 10-A, SECTION 2.2: The investigation(s) disclosed the use of bituminous and/or anthracite coal on the premises identified above containing sulfur in excess of 0.2% by weight (dry basis)

F CHAPTER 10-A, SECTION 2.6: The investigation(s) disclosed the offering for sale, sale, delivering for use, or use in New Jersey, coke on the premises identified above containing sulfur in excess of 0.65 percent by weight

Dated ~~September 6, 1974~~

cc: Board of Health: Camden City
State Health District: Southern
Copy For:
Certified Mail

~~Grant E. Walton, Director~~
Richard D. Goodenough, Director

ATTACHMENT FE

Air-L20
Dec. 72

(OVER)
ENFORCEMENT FILE

233

A-F

NEW JERSEY STATE D[illegible]MENT OF HEALTH

NEW JE[illegible] AIR POLLUTION CONTROL CODE
FIELD RECORD OF VIOLATION

DATE 8/19/74 TIME AT SITE 1:30 a.m. (p.m.) from 2:00 a.m. (p.m.) to

STATE HEALTH DISTRICT Southern COUNTY Camden

Sec. A — PERSON IN VIOLATION

FULL BUSINESS NAME Advanced Chemical Technology Cal. POLY-DRUM DIV.

MAILING ADDRESS 800 So. McGarry Ave. Los Angeles 90021
No. Street Post Office Zip Code
E. STATE ST & RIVER ROAD, CAMDEN 08105

TYPE OF OWNERSHIP:

Individual
Partnership
Corporation X
Municipal (type)

NAME OF OWNER, PARTNERS, OFFICERS, OFFICIALS	TITLE
Alvin Simon	Pres.
Ted Levine	V.P.

Person(s) interviewed Mr. John Rawlins, Plant Manager

Person authorized to receive processes
Name

MAILING ADDRESS
No. Street Post Office Zip Code

REMARKS:

Sec. B — LOCATION OF VIOLATION

LOCATION ADDRESS N.E. Corner of E. State and River Rd. Camden
No. Street Municipality

(Show details on reverse side) PLAN 11 WARD Lot 2 Block 1236

Premises occupied as: Owner Lessee X Tenant

Owner Camden Projects Inc. 95 Fairmont Ave. Phila. Pa.
Name No. Street City

Sec. C — DETAILS OF VIOLATION

CODE REFERENCE Chapter(s) 7:27-8.3(a) Section(s) Paragraph(s) 8.2(a) 5 (ii) & 6

DETAILS The person did install a polyethylene powder storage silo in excess of 2000 cubic feet capacity without obtaining a Permit to Construct. SILO WAS INSTALLED IN 1974; ALSO HAS A PNEUMATIC FILING SYSTEM; BAG HOUSE WILL BE INSTALLED ON SILO

REMARKS Controls are probably required

RECOMMENDED ACTION order

Mark Pollak / [illegible]
Signed
Sr. Envir. Spec. / Envirn. Spec.
Title

(OVER)

ATTACHMENT FF

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NATURE OF OPERATION (Check one that applies)

_____ a. Agriculture (Includes farming, fishing, forestry)

_____ b. Mining

_____ c. Construction

X d. Manufacturing (type) SIC # 3079

_____ e. Transportation

_____ f. Wholesale and Retail Trade (Includes restaurants)

_____ g. Utilities

_____ h. Business and Personal Services (Includes Banks, Real Estate Co., Insurance Co., Hotels, Recreational Services i.e., Movies)

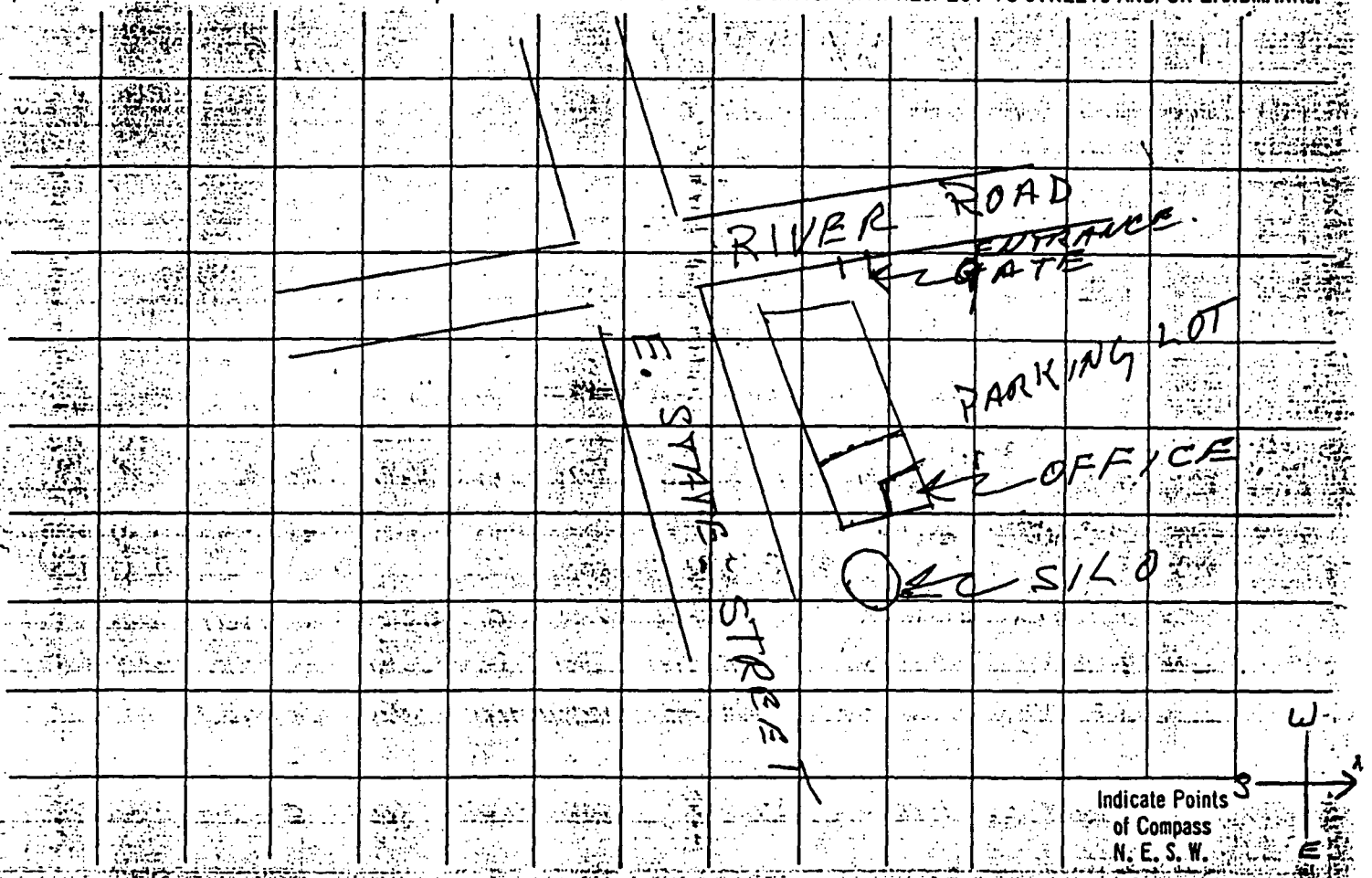
_____ i. Salvage

_____ j. Refuse and Garbage Disposal

_____ k. Government (Includes Federal, State and Local)

_____ l. Other

DRAW DIAGRAM BELOW SHOWING LOCATION, STREETS AND DISTANCES OF VIOLATION WITH RESPECT TO STREETS AND/OR LANDMARKS.



Comments on Location Plant may be reached on River Road

Statements about violation made by person interviewed Not aware that permits were required, but willing to comply with our regulations

ATTACHMENT E

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Stablex-Reutter Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

"SOLUTIONS START HERE"

Phone: 609-541-6700
Telex: 834477

MAR 1984

1st Sampling

March 6, 1984

Advanced Chemical Technologies
c/o Plant Industries, Inc.
777 Terrace Avenue
Hasbrouck Heights, NJ 07604

Attention: Douglas Goepfert, Secretary

Reference: Test Report No. SR9250, Revised

This report covers the priority sampling and analysis of eleven (11) soil samples taken by Stablex-Reutter, Inc. (S-R) personnel on February 25, 1984. This report is organized as follows:

- Sampling Data
- Analysis
- Analytical Results and Quality Assurance Data

I. Sampling Data

The sampling was conducted on February 25, 1984 at the Advanced Chemical Technologies (ACT) facility located at State Street and River Road in Camden, NJ. The samples were taken as follows:

A. Loading Dock Area (Area I and II, Figure I)

The soil samples taken in Area I were taken from a depth no deeper than 3-4 inches, between the railway ties. The area was segmented into 10 foot sections with a sample taken from each 10 foot section. A total of 20 samples were taken with subsequent compositing into one sample designated SR9250-1.

Toward the North West end of Area I, the ground was soft enough to allow sampling down to the one and one half foot level. Eight samples were taken and designated SR9250-2. No analysis was conducted on this sample, pending the results of the surface analysis.

ATTACHMENT 66,

A. Loading Dock Area (Area I and II, Figure 1) (Continued)

The Area II samples were taken from a depth no deeper than 2 inches, between the railway ties. The area was segmented into 5 foot sections, with a sample taken from each section. A total of 20 samples were taken with subsequent compositing into one sample designated SR9250-3. Note that about 50% of the area was under water. The water was allowed to drain from the ground samples before collection into the containers.

B. Dumpster Area (Figure 2)

The dumpster area was measured off into eight sections, approximately 42 feet by 20 feet each. Twenty samples were taken in each section at varying depths up to one foot. An underlying layer of asphalt prevented sampling to a greater depth. The samples within each section were composited for a total of eight samples, designated as follows:

Designation	Sample Description
SR9250-4	Area 1
SR9250-5	Area 2
SR9250-6	Area 3
SR9250-7	Area 4
SR9250-8	Area 5
SR9250-9	Area 6
SR9250-10	Area 7
SR9250-11	Area 8

II. Analysis

The samples were analyzed according to the following publications:

- EPA Test methods for Evaluating Solid Wastes - Physical/Chemical Methods - SW846, 1982.
- Method 624 Federal Register, Vol. 44, No. 233, December 3, 1979. (Columns and GC/MS conditions for purgeable organic compounds)
- Method 625 Federal Register, Vol. 44, No. 233, December 3, 1979. (Columns and GC/MS conditions for acid extractables and base/neutrals)
- EPA Method 608, Organochlorine Pesticides and PCB's Federal Register, Vol. 44, No. 233, December 3, 1979.

III. Analytical Results and Quality Assurance

A. Inorganic Analysis

Parameter	SR9250-1 Composite No. 1	SR9250-3 Composite No. 3
Antimony, total, ug/g	270	<1.0
Arsenic, total, ug/g	20	11
Beryllium, total, ug/g	<1.0	<1.0
Cadmium, total, ug/g	<1.0	<1.0
Chromium, total, ug/g	23	32
Copper, total, ug/g	58	66
Lead, total, ug/g	1,600	180
Mercury, total, ug/g	<0.2	<02
Nickel, total, ug/g	18	13
Selenium, total, ug/g	<1.0	<1.0
Silver, total, ug/g	<5.0	<5.0
Thallium, total, ug/g	<5.0	<5.0
Zinc, total, ug/g	150	300
Cyanide, total, ug/g	<1.0	3.0
Phenolics, as phenol, ug/g	<1.0	<1.0

B. Organic Analysis

Acid Extractable Organics (Method 625 by GC/MS)

Constituent	Sample Designation: SR9250-1 Composite No. 1	SR9050-3 Composite No. 3	SR9250-3 Duplicate
Phenol	<25	<25	<25
2-Nitrophenol	<25	<25	<25
4-Nitrophenol	<25	<25	<25
2,4-Dinitrophenol	<25	<25	<25
2,6-Dinitro-o-cresol	<25	<25	<25
Pentachlorophenol	<25	<25	<25
4-Chloro-3-Methyl-Phenol	<25	<25	<25
2-Chlorophenol	<25	<25	<25
2,4-Dichlorophenol	<25	<25	<25
2,4,6-Trichlorophenol	<25	<25	<25
2,4-Dimethylphenol	<25	<25	<25

Results are expressed in micrograms of constituent per gram of sample (ppm).

ATTACHMENT 663

Base/Neutral Extractable Organics

Constituent	Sample Designation SR9250-1 Composite No. 1	SR9250-3 Composite No. 3	SR9250-1 Duplicate
1,2-Dichlorobenzene	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10
Hexachloroethane	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10
Hexachlorobenzene	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10
bis (2-Chloroethoxy) methane	<10	<10	<10
Naphthalene	<10	<10	<10
2-Chloronapthalene	<10	<10	<10
Isophorone	<10	<10	<10
Nitrobenzene	<10	<10	<10
2,4-Dinitrotoluene	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10
4-Bromophenyl phenyl ether	<10	<10	<10
bis (2-Ethylhexyl) phthalate	<10	<10	<10
Di-n-octyl phthalate	<10	<10	<10
Dimethyl phthalate	<10	<10	<10
Diethyl phthalate	<10	<10	<10
Di-n-butyl phthalate	<10	<10	<10
Acenaphthylene	<10	<10	<10
Acenaphthene	<10	<10	<10
Butyl benzyl phthalate	<10	<10	<10
Fluorene	<10	<10	<10
Fluoranthene	<10	<10	<10
Chrysene	<10	<10	<10
Pyrene	<10	<10	<10
Phenanthracene	<10	<10	<10
Anthracene	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10
Indeno(1,2,3-c,d)pyrene	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10
4-Chlorophenyl-phenyl ether	<10	<10	<10
3,3'-Dichlorobenzidine	<10	<10	<10
Benzidine	<10	<10	<10
bis(2-Chloroethyl)ether	<10	<10	<10
1,2-Diphenylhydrazine	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10
N-Nitrosodiphenyl amine	<10	<10	<10
N-Nitrosodimethyl amine	<10	<10	<10
N-Nitrosodi-n-propylamine	<10	<10	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10

Results are expressed in micrograms of constituent per gram sample

ATTACHMENT G64
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Purgeable Organics

Constituent	SR9250-1 Composite No. 1	SR9250-3 Composite No. 3
	Sample Designation	
Bromomethane	<10	<10
Vinyl chloride	<10	<10
Chloroethane	<10	<10
Methylene chloride	<10	<10
1,1-Dichloroethylene	<10	<10
1,1-Dichloroethane	<10	<10
trans-1,2-Dichloroethylene	<10	<10
Chloroform	<10	<10
1,2-Dichloroethane	<10	<10
1,1,1-Trichloroethane	<10	<10
Carbon tetrachloride	<10	<10
Bromodichloromethane	<10	<10
1,2-Dichloropropane	<10	<10
trans-1,3-Dichloropropene	<10	<10
Trichloroethylene	<10	<10
Dibromochloromethane	<10	<10
Benzene	<10	<10
1,1,2-Trichloroethane	<10	<10
cis-1,3-Dichloropropene	<10	<10
2-Chloroethylvinyl ether	<10	<10
Bromoform	<10	<10
1,1,2,2-tetrachloroethane	<10	<10
Tetrachloroethylene	<10	<10
Toluene	<10	<10
Chlorobenzene	<10	<10
Ethyl Benzene	<10	<10

Results are expressed in micrograms of constituent per gram of sample (ppm).

LU

Pesticidal Compounds and Polychlorinated Biphenyls

Constituent	Sample and Designation: SR9250-3 Composite No. 1	SR9250-3 Composite No. 3
Aldrin	<1.0	<1.0
alpha BHC	<1.0	<1.0
beta BHC	<5.0	<5.0
delta BHC	<5.0	<5.0
gamma BHC	<5.0	<5.0
Chlordane	<10	<10
Dieldrin	<5.0	<5.0
p,p'-DDE	<5.0	<5.0
p,p'-DDD	<5.0	<5.0
p,p'-DDT	<5.0	<5.0
Endosulfan I	<10	<10
Endosulfan II	<10	<10
Endosulfan Sulfate	<10	<10
Endrin	<5.0	<5.0
Endrin Aldehyde	<10	<10
Heptachlor	<1.0	<1.0
Heptachlor Epoxide	<5.0	<5.0
Toxaphene	<10.0	<10.0
Polychlorinated Biphenyls, as Arochlor 1260	<5.0	<5.0

Results are expressed in micrograms of constituent per gram of sample (ppm).

Petroleum Hydrocarbons

Sample Designation			Petroleum Hydrocarbons, by IR, ug/g
SR9250-4	Surface Area	No. 1	3.3; 2.6*
SR9250-5	Surface Area	No. 2	1.7
SR9250-6	Surface Area	No. 3	54
SR9250-7	Surface Area	No. 4	10
SR9250-8	Surface Area	No. 5	76
SR9250-9	Surface Area	No. 6	31
SR9250-10	Surface Area	No. 7	120
SR9250-11	Surface Area	No. 8	170

* Duplicate Analysis

ATTACHMENT 66

Organic Analysis Quality Assurance Data

Purgeable Organics	SR9233-2* plus Spike Amount of Spike	% Recovery
Chloromethane	1.0 ug	90
Bromomethane	1.0 ppm	95
Vinyl chloride	1.0 ug	102
Chloroethane	1.0 ug	95
Methylene chloride	1.0 ug	106
1,1-Dichloroethylene	1.0 ug	97
1,1-Dichloroethane	1.0 ug	98
trans-1,2-Dichloroethylene	1.0 ug	113
Chloroform	1.0 ug	99
1,2-Dichloroethane	1.0 ug	117
1,1,1-Trichloroethane	1.0 ug	114
Carbon tetrachloride	1.0 ug	101
Bromodichloromethane	1.0 ug	115
1,2-Dichloropropane	1.0 ug	93
trans-1,3-Dichloropropene	1.0 ug	106
Trichloroethylene	1.0 ug	91
Dibromochloromethane	1.0 ug	89
Benzene	1.0 ug	110
1,1,2-Trichloroethane	1.0 ug	90
cis-1,3-Dichloropropene	1.0 ug	108
2-Chloroethylvinyl ether	1.0 ug	93
Bromoform	1.0 ug	99
1,1,2,2-tetrachloroethane	1.0 ug	110
Tetrachloroethylene	1.0 ug	92
Toluene	1.0 ug	109
Chlorobenzene	1.0 ug	93
Ethyl Benzene	1.0 ug	108

* This spiked sample was analyzed simultaneously with the samples in this Test Report.

Pesticides and Polychlorinated Biphenyls

Constituent	Amount of Spike, ppm	% Recovery
Endosulfan I	0.747	69
Endosulfan II	1.56	74
Endosulfan Sulfate	3.44	81
Endrin Aldehyde	2.28	71
Polychlorinated Biphenyls, as Arochlor 1260	5.36	73

Inorganic Quality Assurance Data

Parameter	Sample* plus Spike: Amount of Spike, ppm	Sample* plus Spike: % Recovery
Antimony	1.0	93
Arsenic	1.0	91
Beryllium	1.0	64
Cadmium	1.0	92
Chromium	1.0	97
Copper	1.0	92
Lead	1.0	106
Mercury	0.1	108
Nickel	1.0	82
Selenium	1.0	90
Silver	1.0	85
Thallium	1.0	96
Zinc	1.0	87
Cyanide	10	80
Phenolics	5.0	72

* The spiked samples were analyzed simultaneously with the samples in this report and may be found in Test Report Nos. SR9237, SR9217 and SR9249.

Should you have any questions concerning this report, please don't heaitate to contact me.

Respectfully submitted,

STABLEX-REUTTER, INC.

Ian Lambert

Ian C. Lambert
Laboratory Manager

ICL/dk

ATTACHMENT G69

Stablex-Reutter Inc.

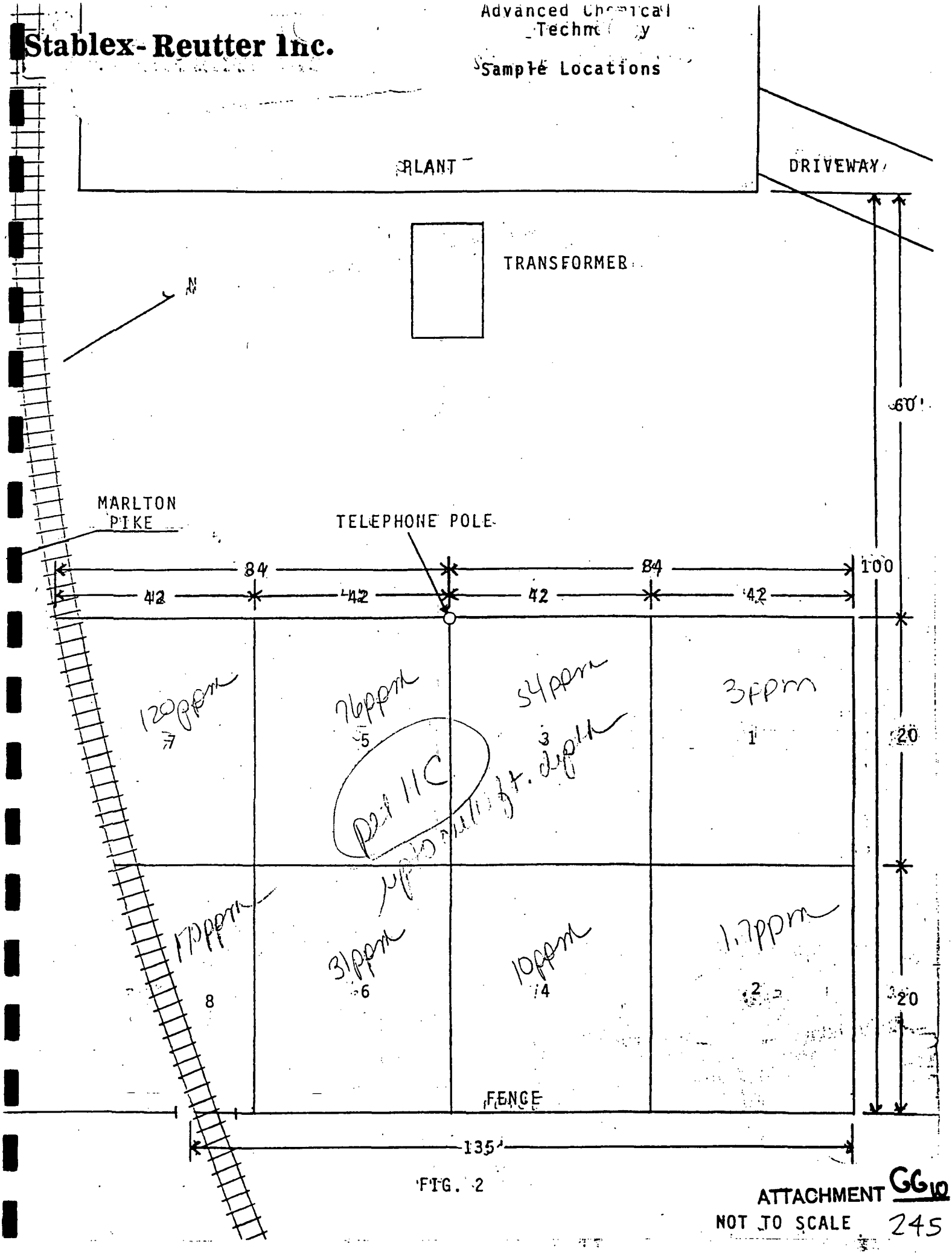

FIG. 2

ATTACHMENT GG10

NOT TO SCALE

245

Stablex-Reutter Inc.

Advan[illegible] Chemical Technologies

Sampling Location

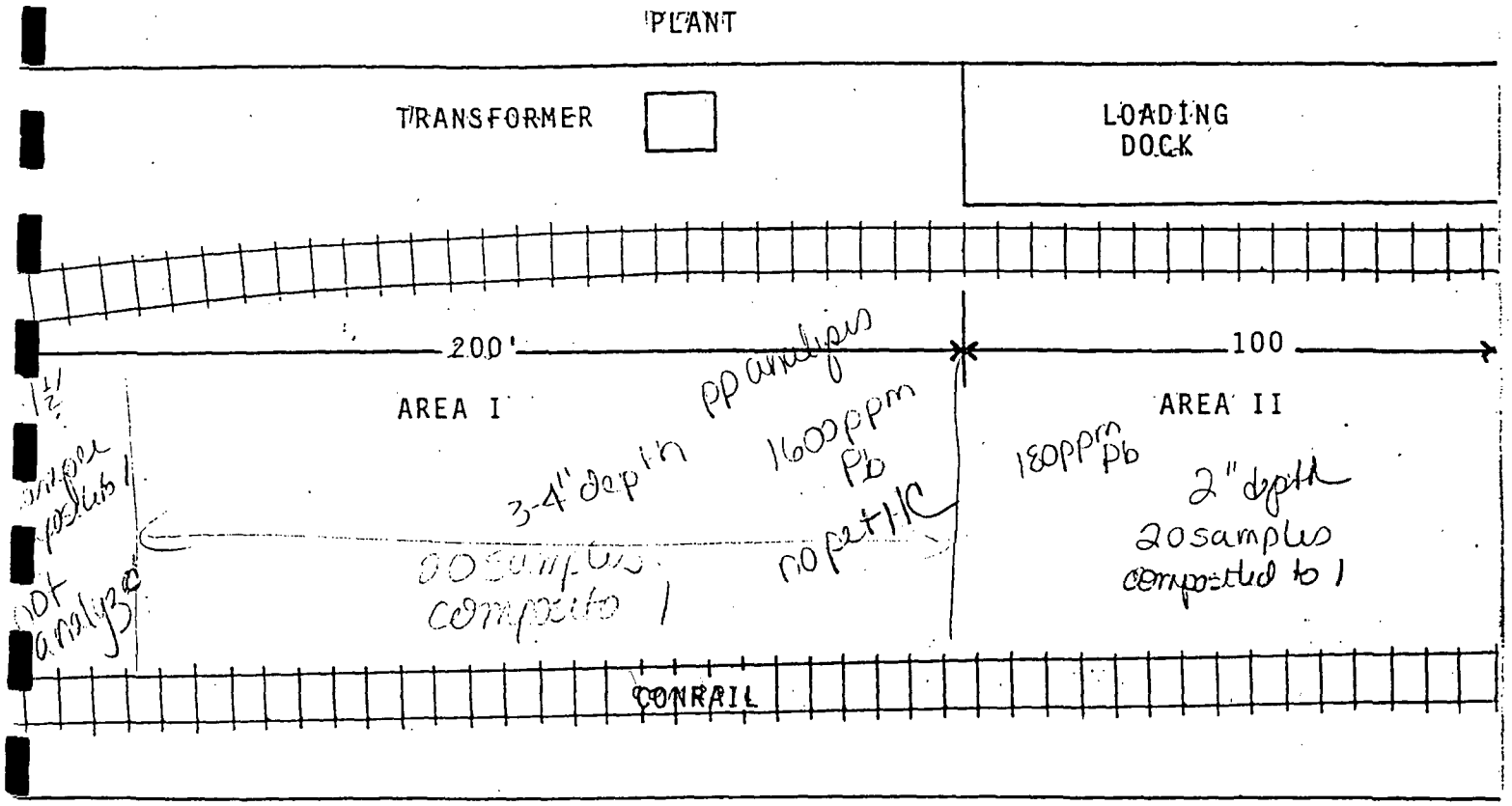

FIG. 1

NOT TO SCALE

ATTACHMENT GG11

Stablex-Re[illegible] [illegible] Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

"SOLUTIONS START HERE"

Client: Advanced Chemical Technologies

Address: c/o Plant Industries
777 Terrace Avenue
Hasbrouck Heights, NJ 07604

Contact: Douglas Goepfert, Secretary

Date: February 29, 1984

Project No.: SR9251

Date Submitted: 2/25/84

Sampled By: S-R

Number of Samples: 2

Sample Matrix: Soil

Analytical Results

Sample Designation

Parameter	Polychlorinated Biphenyls, ug/g as Arochlor 1260
Equal weight composite of Areas 1,2,3 & 4	<5
Equal weight composite of Areas 5,6,7 & 8	<5

The above composite samples were prepared from the soil samples taken as described in Test Report SR9250.

Ian C. Lambert
Laboratory Manager

ICL/neg

ATTACHMENT GG12

Stablex-Reutter Inc. 04012

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

2nd Sampling

March 21, 1984

Advanced Chemical Technologies
c/o Plant Industries, Inc.
777 Terrace Avenue
Hasbrouck Heights, NJ 07604

Attention: Douglas Goepfert, Secretary

Reference: Test Report No. SR9327

This report covers the priority sampling and analysis of thirty-two (32) soil samples taken by Stablex-Reutter, Inc. (S-R) personnel on March 15 and 19, 1984. In addition, this report contains data on samples orginally taken on February 25, 1984. Information pertaining to the sampling on February 25, 1984 samples can be found in Test Report SR9250, dated March 6, 1984. This report is organized as follows:

- Sampling Data
- Analysis
- Analytical Results and Quality Assurance Data

I. Sampling Data

The sampling was conducted on March 15 and 19, 1984 at the Advanced Chemical Technologies (ACT) facility located at State Street and River Road in Camden, NJ. The samples were taken as follows:

A. Loading Dock Area

Areas 1 through 11, Figure I

This area was divided into eleven sections measuring approximately 10' x 15' each. Five samples were taken at a depth of 1" to 6" in each 10' x 15' section and these five samples were composited for a total of eleven samples. Note that 75% of the area was under water. The water was allowed to drain from the soil samples before transfer to the sample containers.

Areas 25 through 34, Figure I

This area was divided into ten sections measuring approximately 10' x 20' each. Ten samples were taken at a depth of 1" to 6" in each 10' x 20' section and these ten samples were composited for a total of ten samples.

ATTACHMENT HH1

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I. Sampling Data (Continued)

B. ACT Total Plant Area

Areas 12 through 16, Figure II
17 " 21

The areas on the south and northeast side of the plant were divided into sections as designated on Figure II. The five south side sections measured approximately 90' x 50'. Ten samples were taken at a depth from 1" to 12" in each area and the samples were composited for a total of five samples. The northeast side of the plant was divided into five areas measuring approximately 55' x 90'. Ten samples were taken from a depth 1" to 12" in each area and these samples were composited for a total of five samples.

C. Background Area

Area 22, Figure II

This area is located on the northern end of the property and measures approximately 45' x 45'. Ten samples were taken from a depth of 1" to 11" and were composited into one sample.

II. Analysis

The samples were analyzed according to the following publication:

- EPA Test Methods for Evaluating Solid Wastes - Physical/Chemical Methods - SW846, 1982.

III. Analytical Results and Quality Assurance Data

A. Analytical Results

1. Lead Analysis

Sample Designation	Lead, total, ug/g
Area No. 1	55
Area No. 2	110
Area No. 3	160
Area No. 4	160
Area No. 5	140
Area No. 6	200
Area No. 7	170
Area No. 8	140
Area No. 9	110
Area No. 10	150
Area No. 11	120
Area No. 12	97
Area No. 13	120
Area No. 14	120
Area No. 15	93
Area No. 16	110
Area No. 17	230
Area No. 18	230
Area No. 19	200
Area No. 20	140
Area No. 21	96
Area No. 22	60
Area No. 23 (Formerly Area 7, SR9250-10)	150
Area No. 24 (Formerly Area 8, SR9250-11)	200
Area No. 25	320
Area No. 26	410
Area No. 27	160
Area No. 28	120
Area No. 29	120
Area No. 30	160
Area No. 31	110
Area No. 32	150
Area No. 33	170
Area No. 34	170

2. Petroleum Hydrocarbon Analysis*

	Petroleum Hydrocarbons, by IR, ug/g
Area 23 (Formerly SR9250-10 Area No. 7)	120
Area 24 (SR9250-11 Area No. 8)	170

* These results were previously reported in Test Report No. SR9250.

ATTACHMENT HH3

250

III. Analytical Results and Quality Assurance Data (Continued)

B. Quality Assurance Data

Parameter	Sample	QC Measure	Results
Lead	Reagent Blank	Blank Analysis	<0.05 ug/ml
	Area No. 10	Duplicate Analysis	130 ug/g
	Area No. 4	Duplicate Analysis	150 ug/g
	Area No. 4	1.0 ppm Spike	104% Recovery
	Area No. 13	1.0 ppm Spike	80% Recovery
	Area No. 24 (SR9250)	1.0 ppm Spike	123% Recovery
	Area No. 31	1.0 ppm Spike	75% Recovery

Should you have any questions concerning this analysis, please don't hesitate to contact me.

Respectfully submitted,

STABLEX-REUTTER, INC.

Ian C. Lambert
Laboratory Manager

ICL/pd

ATTACHMENT HH4

Reutter Inc.

Advanc . Chemical
Technology

Sampling Location

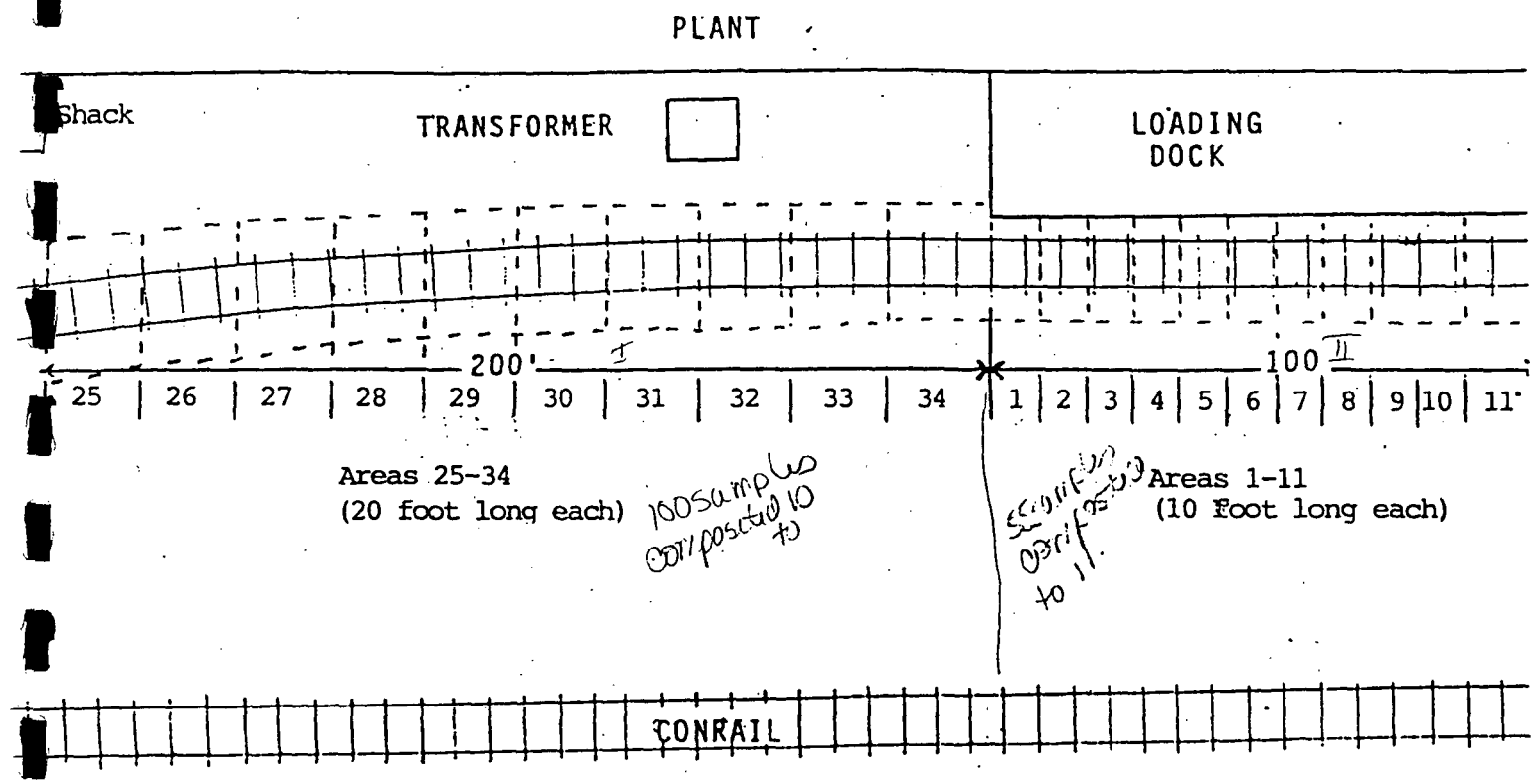

FIG. I

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ATTACHMENT HH5
NOT TO SCALE

Fig.II Advanced Chemical Technology
Sampling Locations

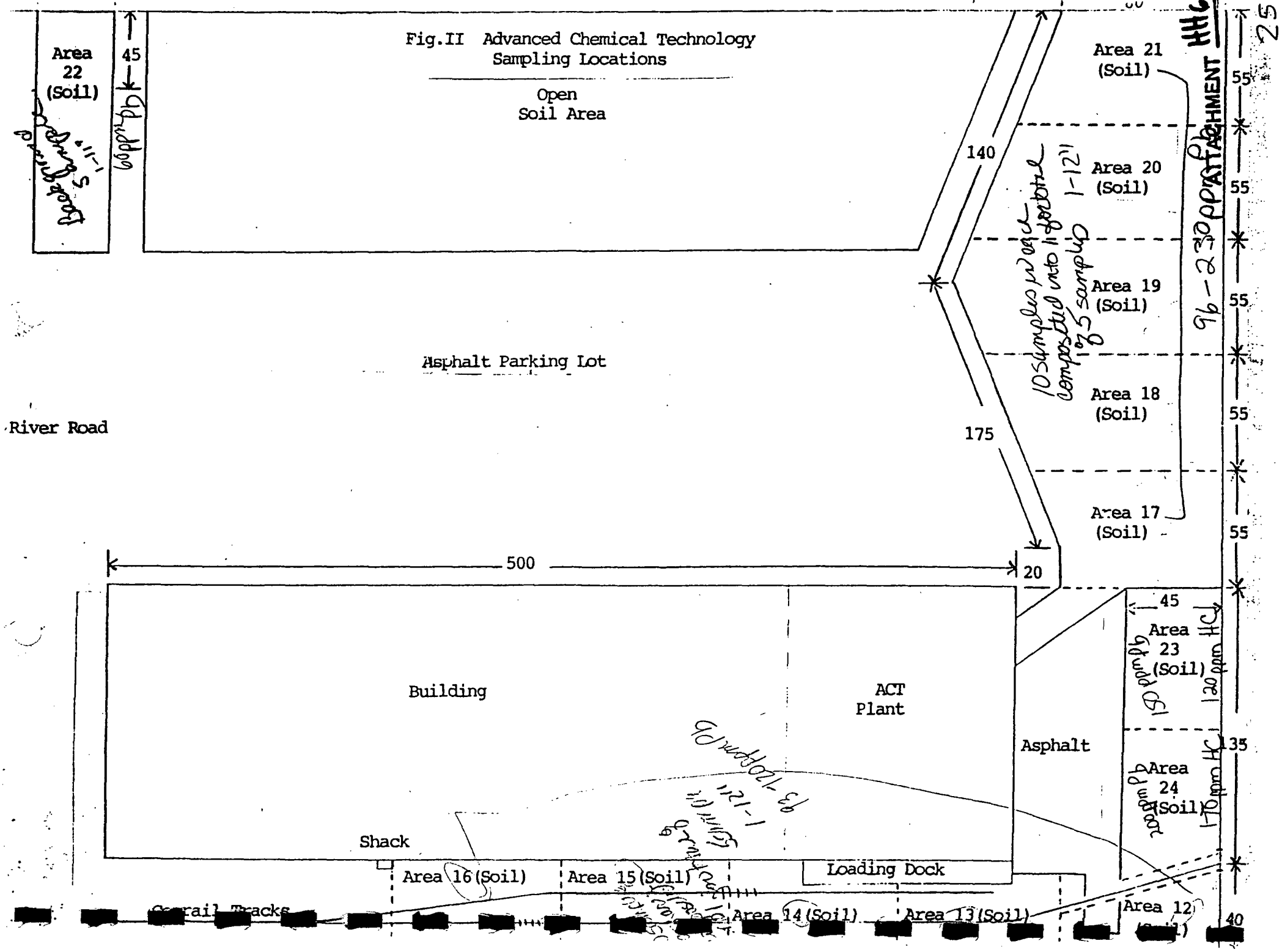
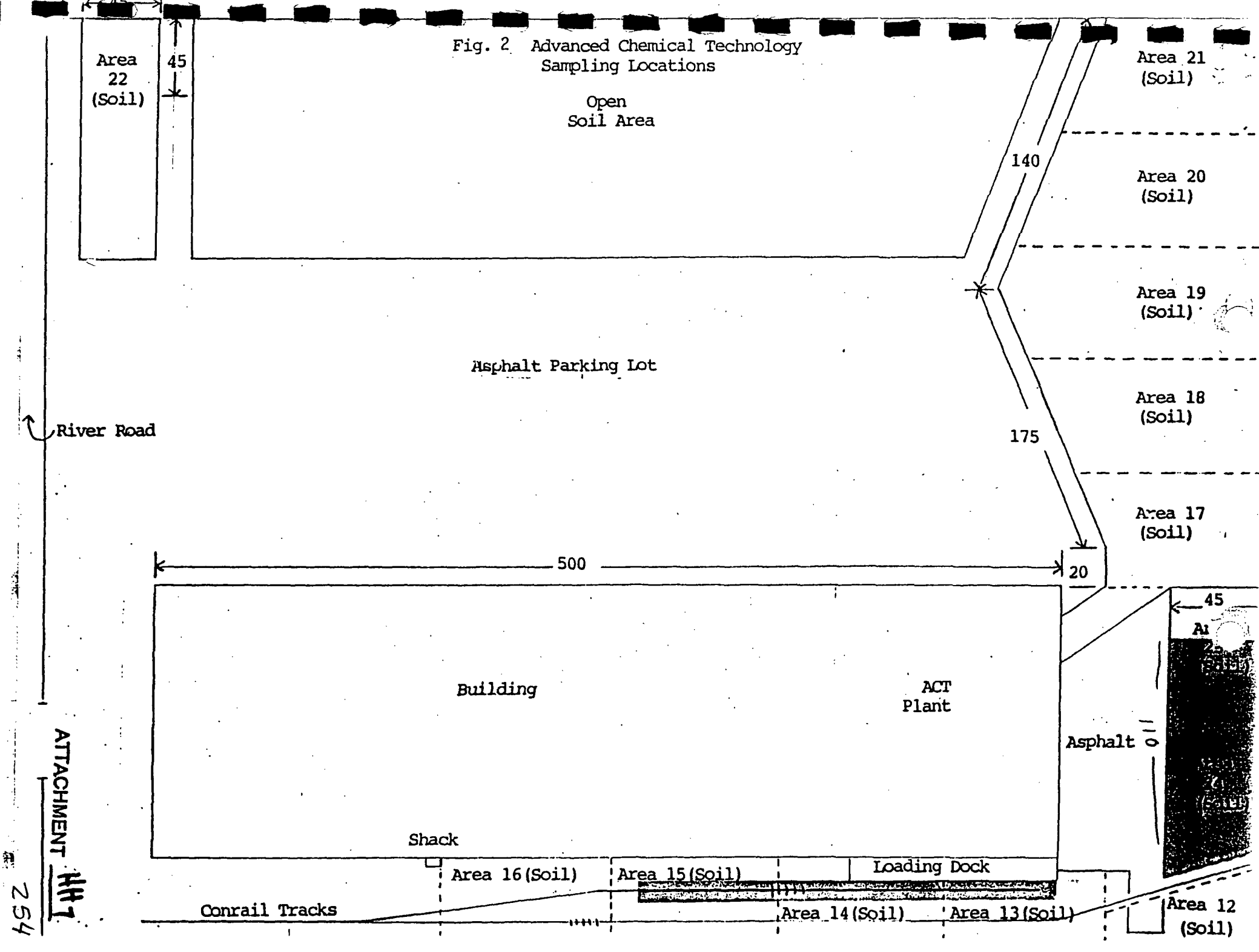


Fig. 2 Advanced Chemical Technology Sampling Locations



ATTACHMENT HH-1

Phone: 609-531-6700
Telex: 834477

Stablex-Reutter Inc.

"SOLUTIONS START HERE"

28 Springdale Road
P.O. Box 4201
Cherry Hill, NJ 08003

September 13, 1984

Plant Industries, Inc.
411 Hackensack Avenue
Hackensack, NJ 07601

received 9/21/84

Attention: James Kelly

Reference: Proposed Field Sampling Plan

Stablex-Reutter, Inc. (S-R) is pleased to submit this field sampling plan to Plant Industries in response to the New Jersey DEP/HSMA letter dated August 7th. By way of background, I have described below the original field sampling and analysis plan, and the subsequent additions to that plan, that were undertaken earlier this year.

In February, 1984, S-R was retained by Advanced Chemical Technology (ACT) to examine this site located at State Street and River Road to determine the extent of polychlorinated biphenyl (PCB) contamination resulting from the presence of three transformers. This assessment of possible contamination was required under the Environmental Cleanup Responsibility Act (ECRA), as per N.J.A.C. 7:11-3.12. and prior to the completion of transfer of ownership. A site survey was conducted by S-R in the presence of Doug Goepfert of ACT from which a sampling scheme was developed.

The initial sampling involved a designation of Areas I and II, which incorporated the transformer and the surrounding concrete pads, asphalt and top soil (refer to Figure 1). The PCB results of this sampling may be found in our test report No. SR9211, but did not indicate PCB contamination at detectable levels. A subsequent sampling of the top soil at depths not exceeding 4" was also performed in February as per Figures 1 and 2. The soils were combined at the laboratory and the resultant composites analyzed for priority pollutant compounds, including PCBs, and the results delineated in test report nos. SR9250 and SR9251. Based on the data, a concern was raised over lead and oil and grease presence in the soil so the site was again sampled in March, according to the more detailed scheme contained in Figures 3 and 4, at depths of 0"-6" in Area Nos. 1 through 11 and Nos. 25 through 34 and 1"-12" in Area Nos. 12 through 16 and 22. Composites were made and these analyzed for total lead content, in response to the concern raised in test report SR9250. The additional data was reported in SR9327. A fifth and sixth sampling effort in June obtained samples at depths of 0"-30" in the eight sections designated in Figure 5, and the soils were analyzed for oil and grease content (test reports SR9712 and SR9739). The presence of lead appeared to represent a "spot" problem, but it was determined that the oil and grease content of the soil is at such a level that it will impact on the clean-up effort.

DOI

why?

ATTACHMENT II.

Because there has been no additional data gathered by S-R in the interim period, we can not estimate or guarantee any changes to the site that may have occured and which could affect previous results. Therefore, we would recommend a sampling schedule at this time that closely resembles that which was followed in test reports SR9712 and SR9729 (Figure 5) with preliminary analysis being performed for petroleum hydrocarbon content. Based on that scheme, eight (8) top-soil composite samples would be analyzed. If S-R should discover that the site has remained essentially unchanged, future sampling will take the following course:

Location	Depth
Sections Nos. 1 through 8	0"-12"
Sections Nos. 1 through 8	13"-24"
Sections Nos. 1 through 8	25"-36"

At this time, without knowledge of any changes that may have taken place on-site, any further description of the clean-up plan would be presumptive. As the first group of analytical results become available, we will be able to better judge the clean-up effort required.

S-R is ready to begin the sampling and analysis at the ACT Polydrum Site at Plant Industries' authorization. Should you have any questions concerning this proposed schedule, please don't hesitate to contact me.

Sincerely,

STABLEX-REUTTER, INC.

Catherine M. Ward

Catherine M. Ward
Project Manager

CMW/dk

Attachments: Figure Nos. 1 through 5

ATTACHMENT II2

256

Stablex-Re[illegible] Inc.
Effective June 15, 1984
28 Springdale Rd. • P. O. Box 4201
Cherry Hill, N. J. 08034

30752
Kathy Gomez

Client: Advanced Chemical Technology
Address: 411 Hackensack Avenue
Hackensack, NJ 07601

Contact: Douglas E. Goepfert, Secretary

Date: July 13, 1984
Project No.: SR9712, Supplementary
Date Submitted: June 13, 1984
Sampled By: Client
Number of Samples: Ten
Sample Matrix: Soil

Analytical Results

Sample Designation	Oil & Grease Wt. %	parts per hundred
Section #2 24"-30"	0.035	350 ppm
Section #2 30"-36"	0.019	190 ppm
Section #3 24"-30"	0.093	[illegible] ppm
Section #3 30"-36"	0.22	[illegible]
Section #4 24"-30"	0.083	830
Section #4 30"-36"	0.052	520
Section #7 24"-30"	0.052	520
Section #7 30"-36"	0.091	910
Section #8 24"-30"	0.83	8300
Section #8 30"-36"	0.76	7600

received
13 SEP 1984

Michael Shmookler
Michael Shmookler
Supervisor, Organic Section

MS/md

ATTACHMENT II3

257

Phone: 609-541-6700
Telex: 834477

Stablex-Reutter Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

SOLUTIONS START HERE

w/ attach.

#5774
6/22/84

Client: Advanced Chemical Technology
Address: 411 Hakansac Avenue
Hakansac, NJ 07601

Contact: Douglas E. Goepfert, Secretary

Date: June 13, 1984
Project No.: SR9712
Date Submitted: June 15, 1984
Sampled By: S-R
Number of Samples: Twenty-four
Sample Matrix: Solid

Analytical Results

Sample Designation	Parameter: Oil & Grease Wt. %
Section #1, 0"-6" Depth	0.33 3300
Section #1, 6"-12" Depth	0.23 2300
Section #1, 12"-18" Depth	0.046 460
Section #1, 18"-24" Depth	0.003; 0.004* 30
Section #2, 0"-6" Depth	0.71 7100
Section #2, 6"-12" Depth	0.14 1400
Section #2, 12"-18" Depth	0.14 1400
Section #2, 18"-24" Depth	0.045 450
Section #3, 0"-6" Depth	0.32 3200
Section #3, 6"-12" Depth	0.51 5100
Section #3, 12"-18" Depth	0.17
Section #3, 18"-24" Depth	0.11
Section #4, 0"-6" Depth	0.31
Section #4, 6"-12" Depth	0.17
Section #4, 12"-18" Depth	0.24
Section #4, 18"-24" Depth	0.062
Section #7, 0"-6" Depth	2.25
Section #7, 6"-12" Depth	0.91; 0.92*
Section #7, 12"-18" Depth	0.53
Section #7, 18"-24" Depth	0.18
Section #8, 0"-6" Depth	1.98
Section #8, 6"-12" Depth	2.36
Section #8, 12"-18" Depth	2.68
Section #8, 18"-24" Depth	1.68

* Duplicate Analysis

For sample location, refer to attached drawing. No samples were taken in sections 5 & 6 as these areas were under water

Michael Shmookler
Supervisor, Organic Section

ATTACHMENT II4

258

MS/md

Stablex-Reutter Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

SOLUTIONS START HERE"

Telex: 834477

5774
6/22/84

Client: Advanced Chemical Technology
Address: 411 Hakansac Avenue
Hakansac, NJ 07601

Contact: Douglas E. Goepfert, Secretary

Date: June 14, 1984
Project No.: SR9739
Date Submitted: June 11, 1984
Sampled By: S-R
Number of Samples: Eight
Sample Matrix: Solid

Analytical Results

Sample Designation	Parameter: Oil & Grease Wt. %	
Site #5 0"-6"	8.9	79000
Site #5 6"-12"	3.5; 3.8*	3500
Site #5 12"-18"	1.3	13000
Site #5 18"-24"	0.50	5000
Site #6 0"-6"	6.0	60000
Site #6 6"-12"	0.85	8500
Site #6 12"-18"	1.4	14000
Site #6 18"-24"	0.22	2200

* Duplicate Analysis

Michael Shmookler
Supervisor, Organic Section

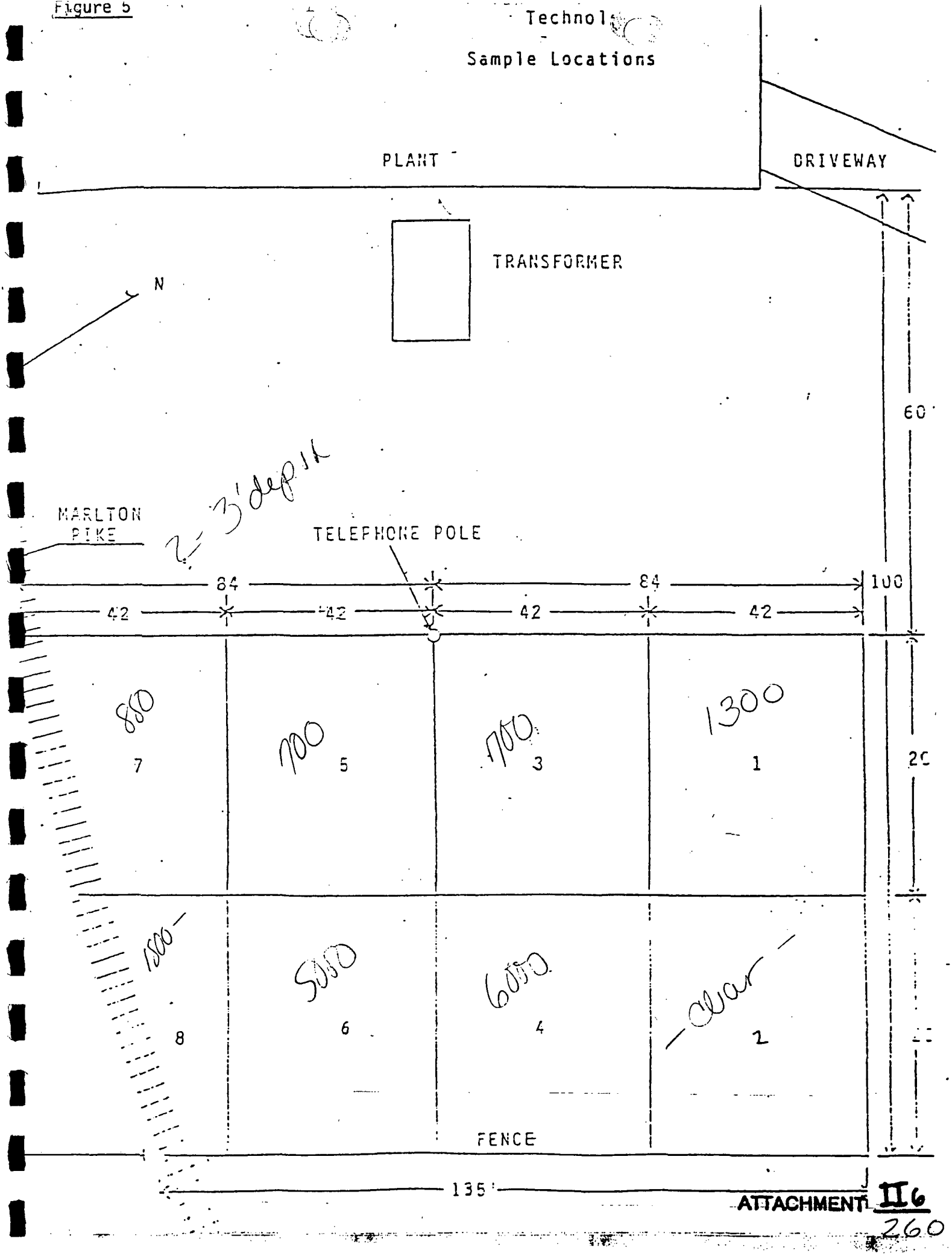
MS/md

ATTACHMENT II5

Figure 5

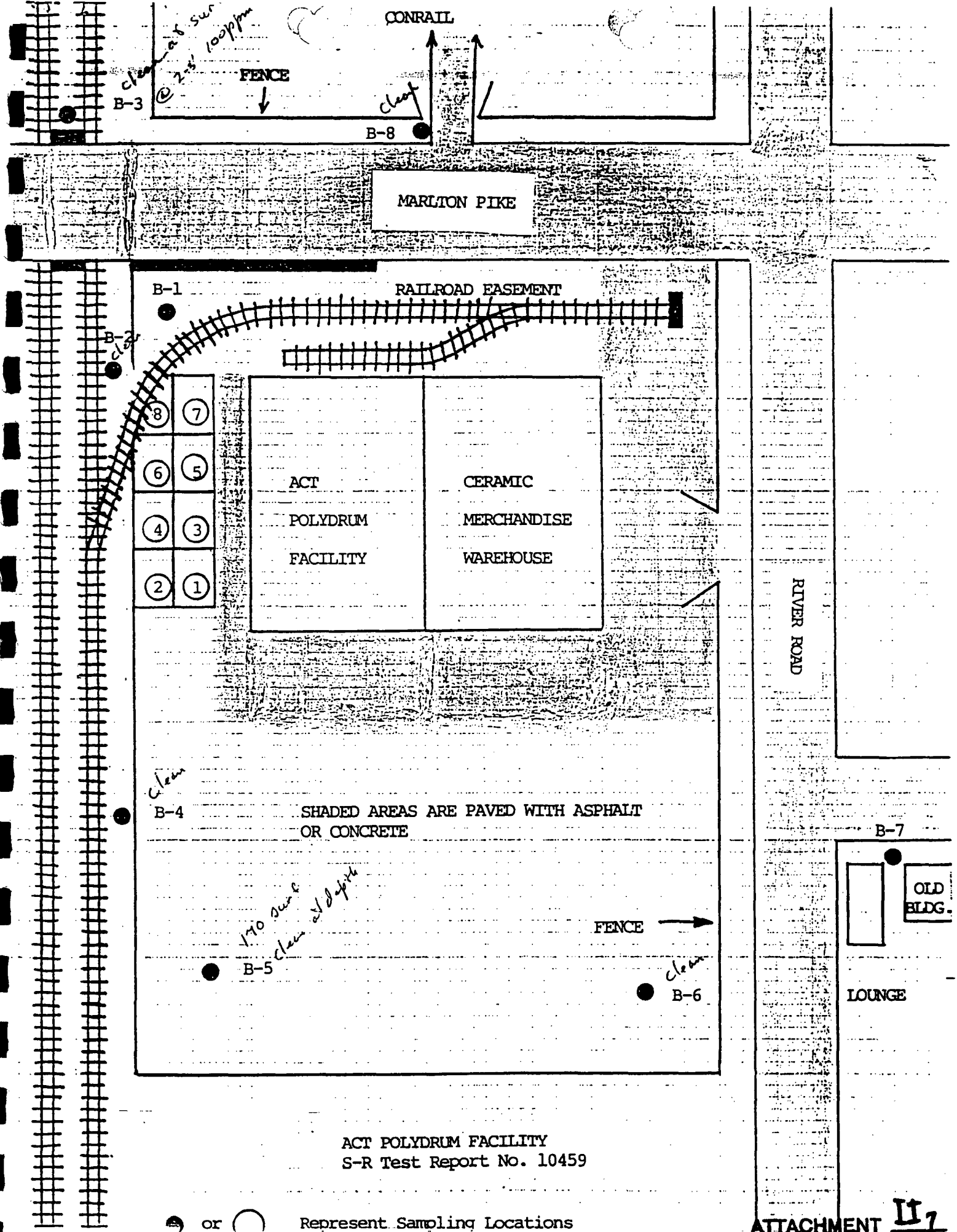
Technol

Sample Locations



ATTACHMENT II6

260



ACT POLYDRUM FACILITY
S-R Test Report No. 10459

or Represent Sampling Locations

ATTACHMENT II 1
261

Telex: 834477

Stablex-Reutter Inc.

"SOLUTIONS START HERE"

28 Springdale Road
P.O. Box 4201
Cherry Hill, NJ 08003

Sampling 4

November 30, 1984

ACT Polydrum
c/o Plant Industries
411 Hackensack Ave.
Hackensack, NJ 07601

Attention: James Kelly

Reference: Test Report No. SR10459

Dear Mr. Kelly:

This report covers the analysis of forty-eight (48) solid samples taken by Stablex-Reutter, Inc. (S-R) on November 15, 1984. The following analysis was requested on selected samples:

- Petroleum Hydrocarbons by IR

This report is organized in the following manner:

- Sample Designation
- Analytical Results
- Quality Assurance Data

Phone: 609-541-6700
Telex: 834477

Stablex-Reutter Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

"SOLUTIONS START HERE"

I. Sample Designation

SR No.	Area Samples	Soil Depth	Soil Description	No. of Bore Holes Composited
SR10459-1	Grid #1	0 -12"	black & gray tan sand, slight organic odor	5
SR10459-2	Grid #1	12"-24"	gray & tan sand, slight organic odor	5
SR10459-3	Grid #1	24"-36"	tan sand, no odor	5
SR10459-4	Grid #2	0 -12"	tan, black & gray sandy soil, slight organic odor	5
SR10459-5	Grid #2	12"-24"	tan sand, slight organic odor	5
SR10459-6	Grid #2	24"-36"	tan sand, no odor	5
SR10459-7	Grid #3	0 -12"	tan, sandy soil, organic odor.	5
SR10459-8	Grid #3	12"-24"	tan sand, organic odor	5
SR10459-9	Grid #3	24"-36"	tan sand, organic odor	5
SR10459-10	Grid #4	0 -12"	brown & tan sandy soil, organic odor	5
SR10459-11	Grid #4	12"-24"	tan sand, slight organic odor	5
SR10459-12	Grid #4	24"-36"	tan sand, slight organic odor	5
SR10459-13	Grid #5	0 -12"	black, gray, brown & tan sandy soil, organic odor (tar & plastic)	5
SR10459-14	Grid #5	12"-24"	tan & brown sand, slight organic odor	5
SR10459-15	Grid #5	24"-36"	tan sand, slight organic odor	5
SR10459-16	Grid #6	0 -12"	black, gray, brown & tan sand, slight organic odor	5
SR10459-17	Grid #6	12"-24"	tan & brown sand	5
SR10459-18	Grid #6	24"-36"	tan sand, no odor	5
SR10459-19	Grid #7	0 -12"	black, brown & gray sandy soil, organic odor	3
SR10459-20	Grid #7	12"-24"	tan sand, slight organic odor	3
SR10459-21	Grid #7	24"-36"	tan sand, slight organic odor	3

Phone: 609-541-6700
Telex: 834477

Stablex-Reutter Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

"SOLUTIONS START HERE"

SR No.	Area Samples	Soil Depth	Soil Description	No. of Bore Holes Composited
SR10459-22	Grid #8	0 -12"	black & brown sandy soil, gravel, organic odor	3
SR10459-23	Grid #8	12"-24"	black, brown & tan sandy soil with gravel, slight organic odor	3
SR10459-24	Grid #8	24"-36"	brown & tan sand, with gravel, slight organic odor	3
SR10459-25	B-1	0 -12"	tan sandy soil, no odor	3
SR10459-26	B-1	12"-24"	tan sandy soil, no odor	3
SR10459-27	B-1	24"-36"	tan sand, no odor	3
SR10459-28	B-2	0 -12"	tan sand, black soil, no odor	3
SR10459-29	B-2	12"-24"	tan sand, no odor	3
SR10459-30	B-2	24"-36"	tan sand, no odor	3
SR10459-31	B-3	0 -12"	black soil, tan sand no odor	3
SR10459-32	B-3	12"-24"	tan sand, no odor	3
SR10459-33	B-3	24"-36"	tan sand, some clay, no odor	3
SR10459-34	B-4	0 -12"	tan & black sand, no odor	2
SR10459-35	B-4	12"-24"	tan & brown sand, no odor	2
SR10459-36	B-4	24"-36"	tan & brown sand, no odor	2
SR10459-37	B-5	0 -12"	tan sand, no odor	3
SR10459-38	B-5	12"-24"	tan & brown sand, no odor	3
SR10459-39	B-5	24"-30"	brown sand, no odor	3
SR10459-40	B-6	0 -12"	tan & brown sand, no odor	2
SR10459-41	B-6	12"-24"	tan & brown sand, no odor	2

Phone: 609-541-6700
Telex: 834477

Stablex-Keutter Inc.

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

"SOLUTIONS START HERE"

SR No.	Area Samples	Soil Depth	Soil Description	No. of Bore Holes Composited
SR10459-42	B-6	24"-36"	tan & brown sand, no odor	2
SR10459-43	B-7	0 -12"	tan & brown sand, no odor	3
SR10459-44	B-7	12"-24"	tan & brown sand, no odor	3
SR10459-45	B-7	24"-36"	tan & brown sand, no odor	3
SR10459-46	B-8	0 -12"	tan & brown sand, no odor	3
SR10459-47	B-8	12"-24"	tan & brown sand, no odor	3
SR10459-48	B-8	24"-36"	tan & brown sand, no odor	3

Stablex-Reutter Inc.
Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101
"SOLUTIONS START HERE"
Telex: 834477

II. Analytical Results

Petroleum Hydrocarbons

Sample Designation			Parameter: Petroleum Hydrocarbons, by IR
SR10459-1	Sec 1	0-12"	8,700
SR10459-2	Sec 1	12"-24"	1,500
SR10459-3	Sec 1	24"-36"	1,300
SR10459-4	Sec 2	0-12"	1,200
SR10459-5	Sec 2	12"-24"	80
SR10459-6	Sec 2	24"-36"	<10
SR10459-7	Sec 3	0-12"	8,500
SR10459-8	Sec 3	12"-24"	1,400
SR10459-9	Sec 3	24"-36"	720
SR10459-10	Sec 4	0-12"	12,000
SR10459-10	Duplicate		10,000
SR10459-11	Sec 4	12"-24"	8,400
SR10459-12	Sec 4	24"-36"	6,000
SR10459-13	Sec 5	0-12"	12,000
SR10459-14	Sec 5	12"-24"	2,600
SR10459-15	Sec 5	24"-36"	710
SR10459-16	Sec 6	0-12"	9,400
SR10459-17	Sec 6	12"-24"	13,000
SR10459-18	Sec 6	24"-36"	5,000
SR10459-19	Sec 7	0-12"	13,000
SR10459-20	Sec 7	12"-24"	6,500
SR10459-20	Duplicate		6,300
SR10459-21	Sec 7	24"-36"	880
Units			(ppm)

ATTACHMENT JJ5

Stablex-Rutter Inc.

"SOLUTIONS START HERE"

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

Telex: 834477

Sample Designation			Parameter Petroleum Hydrocarbons, by IR
SR10459-22	Sec 8	0-12"	15,000
SR10459-23	Sec 8	12"-24"	11,000
SR10459-24	Sec 8	24"-36"	1,800
SR10459-25	B-1	0-12"	290
SR10459-26	B-1	12"-24"	120
SR10459-27	B-1	24"-36"	200
SR10459-28	B-2	0-12"	44
SR10459-29	B-2	12"-24"	<10
SR10459-30	B-2	24"-36"	14
SR10459-30	Duplicate		<10
SR10459-31	B-3	0-12"	11
SR10459-32	B-3	12"-24"	20
SR10459-33	B-3	24"-36"	100
SR10459-34	B-4	0-12"	40
SR10459-35	B-4	12"-24"	<10
SR10459-36	B-4	24"-36"	<10
SR10459-37	B-5	0-12"	170
SR10459-38	B-5	12"-24"	51
SR10459-39	B-5	24"-36"	95
SR10459-40	B-6	0-12"	36
SR10459-41	B-6	12"-24"	12
SR10459-41	Duplicate		28
SR10459-42	B-6	24"-36"	15
Units			(ppm)

ATTACHMENT JJ6

Stablex-Reutter Inc.

"SOLUTIONS START HERE"

Ninth and Cooper Streets
P.O. Box 499
Camden, New Jersey 08101

Telex: 834477

Sample Designation			Parameter Petroleum Hydrocarbons, by IR
SR10459-43	B-7	0-12"	25
SR10459-44	B-7	12"-24"	47
SR10459-45	B-7	24"-36"	48
SR10459-46	B-8	0-12"	61
SR10459-47	B-8	12-24"	66
SR10459-48	B-8	24"-36"	41
Units			(ppm)

III. Quality Assurance Data

Parameter	Spiked Sample	Amount of Spike, ug	% Recovery
Petroleum Hydrocarbons	SR10459-21	4,400	97
Petroleum Hydrocarbons	SR10459-46	4,400	73

Should you have any questions concerning this analysis, please don't hesitate to contact me.

Respectfully submitted,

STABLEX-REUTTER, INC.

Ian C. Lambert
Laboratory Manager

ICL/md

ATTACHMENT II 1

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Sampling # 3

S-R ANALYTICAL INC.

I. Methodology

Petroleum Hydrocarbons by IR

- EPA Method 418.1 Analysis of Water & Wastewater, Petroleum Hydrocarbons by IR
- SW846 Test Method for Evaluating Solid Waste, USEPA 1982, 2nd Edition, Method 3540

Miscellaneous Parameters

Aqueous, non-aqueous and solid samples are prepared and analyzed according to the following publications:

- EPA Test Methods for Evaluating Solid Wastes - Physical/Chemical Methods -SW846, 1982.
- Standard Methods for the Examination of Water and Wastewater, 15th edition.
- EPA Chemical Analysis of Water and Wastes, EPA-600, 1979.

ATTACHMENT KK1

S-R ANALYTICAL INC.

II. Analytical Results

Petroleum Hydrocarbons by IR

Sample Designation	Parameter: Petroleum Hydrocarbons, total, by IR
aqueous method blank	<1
solid method blank	<20
SR11868-1 Hole #1 4'-4'6"	<20
SR11868-2 Hole #1 6'-6'6"	<20
SR11868-3 Hole #1 8'-8'6"	74
SR11868-4 Hole #1 10'-10'6"	<20
SR11868-5 Hole #3 4'-4'6"	130
SR11868-6 Hole #3 6'-6'6"	60
SR11868-7 Hole #5 4'-4'6"	<20; <20*
SR11868-8 Hole #5 6'-6'6"	460
SR11868-11 Hole #10 4'-4'6"	230
SR11868-12 Trip Blank 8/12	<1
SR11868-13 Field Blank 8/12	9.4
SR11868-14 Hole #4 4'-4'6"	1,600
SR11868-15 Hole #4 6'-6'6"	84
SR11868-16 Hole #4 8'-8'6"	100; 120*
SR11868-17 Hole #4 10'-10'6"	80
SR11868-18 Hole #6 4'-4'6"	78
SR11868-19 Hole #6 6'-6'6"	<20
SR11868-20 Hole #6 8'-8'6"	<20
SR11868-21 Hole #6 10'-10'6"	54
SR11868-22 Hole #7 4'-4'6"	1,300
SR11868-23 Hole #7 6'-6'6"	<20
SR11868-26 Hole #8 4'-4'6"	1,200
SR11868-27 Hole #8 6'-6'6"	26
SR11868-28 Hole #8 8'-8'6"	<20; <20*
SR11868-29 Hole #8 10'-10'6"	<20
SR11868-34 Hole #11 4'-4'6"	16
SR11868-35 Field Blank 8/13	19
Units	(ppm)

* Duplicate Analysis

ATTACHMENT KK2

S-R ANALYTICAL INC.

II. Analytical Results, (CONT'D)

Metals (EP Extractable)

Sample Designation

Constituent	SR11868-2 Hole #1 6'-6'6"	SR11868-14 Hole #4 4'-4'6"	SR11868-18 Hole #6 4'-4'6"	EP Toxicity Limits
Arsenic	<0.5; <0.5*	<0.5	<0.5	5.0
Barium	0.24; 0.24*	0.53	0.22	100.0
Cadmium	<0.1; <0.1*	<0.1	<0.1	1.0
Chromium	<0.5; <0.5*	<0.5	<0.5	5.0
Lead	<0.5; <0.5*	<0.5	<0.5	5.0
Mercury	<0.02; <0.02*	<0.02	<0.02	0.2
Selenium	<0.1; <0.1*	<0.1	<0.1	1.0
Silver	<0.5; <0.5*	<0.5	<0.5	5.0
Units	(ppm)	(ppm)	(ppm)	(ppm)

ATTACHMENT KK3

S-R ANALYTICAL INC.

III. Analytical Results, (CONT'D)

Metals (EP Extractable)

Constituent	Sample Designation SR11868-23 Hole #7 6'-6'6"	SR11868-28 Hole #8 8'-8'"	EP Toxicity Limits
Arsenic	<0.5	<0.5	5.0
Barium	0.30	0.19	100.0
Cadmium	<0.1	<0.1	1.0
Chromium	<0.5	<0.5	5.0
Lead	<0.5	<0.5	5.0
Mercury	<0.02	<0.02	0.2
Selenium	<0.1	<0.1	1.0
Silver	<0.5	<0.5	5.0
Units	(ppm)	(ppm)	(ppm)

ATTACHMENT KK4

S-R ANALYTICAL INC.

III. Quality Assurance Data

Parameter	Sample No.	Amount of Spike, ug	% Recovery
Petroleum Hydrocarbons, by IR	SR11868-8	8,280	68
Petroleum Hydrocarbons, by IR	SR11868-29	8,280	68
Petroleum Hydrocarbons, by IR	DI Water	8,280	90
Arsenic	SR11868-23 EP	100	97
Barium	SR11868-23 EP	300	112
Cadmium	SR11868-23 EP	300	110
Chromium	SR11868-23 EP	300	119
Lead	SR11868-23 EP	300	115
Mercury	SR11868-14 EP	20	112
Selenium	SR11868-23 EP	100	52
Silver	SR11868-23 EP	300	84

Should you have any questions concerning this analysis, please don't hesitate to contact your account representative.

Respectfully submitted,

S-R ANALYTICAL, INC.

Ian C. Lambert
Laboratory Manager

ICL/vd

ATTACHMENT KK5
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#6

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011
SAMPLE ANALYSIS SUMMARY BY LOCATION

LOCATION (BORING/ WELL NO.)	SAMPLE NO.	PURPOSE OF SAMPLING	SAMPLE DEPTH (ft. below ground)	MATRIX	SAMPLING DATE	ANALYTICAL PARAMETERS
RAILROAD SIDING AREA						
PI-1	PI-1A	D	0-0.5'	SOIL	2-15-88	PHC, PM13, BN+15
	PI-1A	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-1A	D	2.0-2.5'	SOIL	2-15-88	PHC, PM13, BN+15
PI-2	PI-2A	D	0-0.5'	SOIL	2-15-88	PHC, PM13
	PI-2B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-2C	D	3.0-3.5'	SOIL	2-15-88	PHC, PM13, BN+15
PI-3	PI-3A	D	0-0.5'	SOIL	2-15-88	PHC, PM13
	PI-3B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-3C	D	3.0-3.5'	SOIL	2-15-88	PHC, PM13
PI-4	PI-4A	D	0-0.5'	SOIL	2-15-88	PHC, PM13
	PI-4B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-4C	D	3.0-3.5'	SOIL	2-15-88	PHC, PM13, BN+15
PI-5	PI-5A	D	0-0.5'	SOIL	2-15-88	PHC, PM13, BN+15
	PI-5B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-5C	D	3.0-3.5'	SOIL	2-15-88	PHC, PM13
PI-6	PI-6A	D	0-0.5'	SOIL	2-15-88	PHC, PM13
	PI-6B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-6C	D	3.5-4.0'	SOIL	2-15-88	PHC, PM13
PI-7	PI-7A	D	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-7B	D	1.0-1.5'	SOIL	2-18-88	PHC, PM13
	PI-7C	D	3.5-4.0'	SOIL	2-18-88	PHC, PM13, BN+15
PI-8	PI-8A	D	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-8B	D	1.0-1.5'	SOIL	2-18-88	PHC, PM13
	PI-8C	D	3.5-4.0'	SOIL	2-18-88	PHC, PM13
PI-9	PI-9A	D	0-0.5'	SOIL	2-15-88	PHC, PM13
	PI-9B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-9C	D	2.0-2.5'	SOIL	2-15-88	PHC, PM13, BN+15

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ATTACHMENT LL1

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011
SAMPLE ANALYSIS SUMMARY BY LOCATION
(CONTINUED)

PI-10	PI-10A	D	0-0.5'	SOIL	2-15-88	PHC, PM13
	PI-10B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-10C	D	2.0-2.5'	SOIL	2-15-88	PHC, PM13
PI-11	PI-11A	D	0-0.5'	SOIL	2-15-88	PHC, PM13, BN+15
	PI-11B	D	1.0-1.5'	SOIL	2-15-88	PHC, PM13
	PI-11C	D	2.0-2.5'	SOIL 33	2-15-88	PHC, PM13, BN+15
MW-5	MW-5	D	3.0-5.0'	SOIL	2-17-88	PHC, PM13
MW-5	PI-MW-5	I	- 2.69'	WATER	3-8-87	PHC, PM13, AE+10, BN+15, ETHYLENE GLYCOL
DUMPSTER AREA						
PI-12	PI-12A	D	0-0.5'	SOIL	2-16-88	PHC, PM13
	PI-12B	D	1.0-1.5'	SOIL	2-16-88	PHC, PM13
	PI-12C	D	3.0-3.5'	SOIL	2-16-88	PHC, PM13
PI-13	PI-13A	D	0-0.5'	SOIL	2-16-88	PHC, PM13
	PI-13B	D	1.0-1.5'	SOIL	2-16-88	PHC, PM13
	PI-13C	D	2.0-2.5'	SOIL	2-16-88	PHC, PM13, BN+15
PI-14	PI-14A	D	0-0.5'	SOIL	2-18-88	PHC, PM13, BN+15
	PI-14B	D	1.5-2.0'	SOIL	2-18-88	PHC, PM13
	PI-14C	D	3.0-3.5'	SOIL	2-18-88	PHC, PM13, BN+15
PI-15	PI-15A	D	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-15B	D	1.0-1.5'	SOIL	2-18-88	PHC, PM13, BN+15
PI-16	PI-16A	D	0-0.5'	SOIL	2-16-88	PHC, PM13
	PI-16B	D	1.0-1.5'	SOIL	2-16-88	PHC, PM13
	PI-16C	D	2.5-3.0'	SOIL	2-16-88	PHC, PM13
PI-17	PI-17A	D	0-0.5'	SOIL	2-16-88	PHC, PM13, BN+15
	PI-17B	D	1.0-1.5'	SOIL	2-16-88	PHC, PM13
PI-18	PI-18A	D	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-18B	D	1.0-1.5'	SOIL	2-18-88	PHC, PM13, BN+15
	PI-18C	D	2.0-2.5'	SOIL	2-18-88	PHC, PM13, BN+15

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011
SAMPLE ANALYSIS SUMMARY BY LOCATION
(CONTINUED)

PI-19	PI-19A	D	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-19B	D	1.0-1.5'	SOIL	2-18-88	PHC, PM13
	PI-19C	D	2.0-2.5'	SOIL	2-18-88	PHC, PM13
PI-20	PI-20A	D	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-20B	D	1.0-1.5'	SOIL	2-18-88	PHC, PM13
	PI-20C	D	2.0-2.5'	SOIL	2-18-88	PHC, PM13, BN+15
PI-21	PI-21A	I	0-0.5'	SOIL	2-16-88	PHC, PM13
	PI-21B	I	1.0-1.5'	SOIL	2-16-88	PHC, PM13
	PI-21C	I	3.0-3.5'	SOIL	2-16-88	PHC, PM13, BN+15
PI-22	PI-22A	I	0-0.5'	SOIL	2-16-88	PHC, PM13, BN+15
	PI-22B	I	1.0-1.5'	SOIL	2-16-88	PHC, PM13, BN+15
PI-23	PI-23A	I	0-0.5'	SOIL	2-16-88	PHC, PM13, BN+15
	PI-23B	I	1.0-1.5'	SOIL	2-16-88	PHC, PM13
	PI-23C	I	3.0-3.5'	SOIL	2-16-88	PHC, PM13
PI-28	PI-28A	D	0-0.5'	SOIL	2-16-88	PHC, PM13, BN+15
	PI-28B	D	1.0-1.5'	SOIL	2-16-88	PHC, PM13
	PI-28C	D	2.0-2.5'	SOIL	2-16-88	PHC, PM13
PI-29	PI-29A	D	0-0.5'	SOIL	2-16-88	PHC, PM13
	PI-29B	D	1.0-1.5'	SOIL	2-16-88	PHC, PM13
	PI-29C	D	2.0-2.5'	SOIL 39	2-16-88	PHC, PM13
MW-1	MW-1	D	4.5-5.0'	SOIL	2-16-88	PHC
MW-2	MW-2	D	4.0-5.0'	SOIL	2-16-88	PHC
MW-6	MW-6	D	3.0-5.0'	SOIL	2-17-88	PHC
MW-1	PI-MW-1	I	- 3.30'	WATER	3-8-87	PHC, PM13, AE+10, BN+15, ETHYLENE GLYCOL
MW-2	PI-MW-2	I	- 3.75'	WATER	3-8-87	PHC, PM13, AE+10, BN+15, ETHYLENE GLYCOL
MW-6	PI-MW-6	I	- 3.80'	WATER	3-8-87	PHC, PM13, AE+10, BN+15, ETHYLENE GLYCOL

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011
SAMPLE ANALYSIS SUMMARY BY LOCATION
(CONTINUED)

OIL-STAINED AREA

PI-24	PI-24A	I	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-24B	I	1.0-1.5'	SOIL	2-18-88	PHC, PM13
	PI-24C	I	3.0-3.5'	SOIL	2-18-88	PHC, PM13, BN+15
PI-25	PI-25A	I	0-0.5'	SOIL	2-18-88	PHC, PM13, BN+15
	PI-25B	I	1.0-1.5'	SOIL	2-18-88	PHC, PM13
	PI-25C	I	2.0-2.5'	SOIL	2-18-88	PHC, PM13, BN+15
PI-26	PI-26A	I	0-0.5'	SOIL	2-18-88	PHC, PM13
	PI-26B	I	1.0-1.5'	SOIL	2-18-88	PHC, PM13
	PI-26C	I	3.0-3.5'	SOIL	2-18-88	PHC, PM13
MW-4	MW-4	I	3.0-5.0'	SOIL	2-17-88	PHC
MW-4	PI-MW-4	I	DRY	-----	3-8-87	NOT ANALYZED

CKGROUND SAMPLING

PI-27	PI-27A	-----	0-0.5'	SOIL	2-17-88	PHC, PM13, BN+15
	PI-27B	-----	2.0-2.5'	SOIL	2-17-88	PHC, PM13, BN+15
	PI-27C	-----	6.0-6.5'	SOIL	2-17-88	PHC, PM13, BN+15
MW-3	PI-MW-3	-----	- 6.55'	WATER	3-8-87	PHC, PM13, AE+10, BN+15, ETHYLENE GLYCOL

QA/QC ANALYSIS

PI-TB-1	PI-TB-1	QA/QC	-------	WATER	2-15-88	PHC, PM13, BN+15
PI-FB-1	PI-FB-1	QA/QC	-------	WATER	2-15-88	PHC, PM13, BN+15
PI-FB-2	PI-FB-2	QA/QC	-------	WATER	2-16-88	PHC, PM13, BN+15
PI-FB-3	PI-FB-3	QA/QC	-------	WATER	2-17-88	PHC, PM13, BN+15
PI-MW-FB	PI-MW-FB	QA/QC	-------	WATER	3-8-87	PHC, PM13, AE+10, BN+15, ETHYLENE GLYCOL
PI-MW-TB	PI-MW-TB	QA/QC	-------	WATER	3-8-87	PHC, PM13, AE+10, BN+15, ETHYLENE GLYCOL

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ATTACHMENT LL4

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011
SAMPLE ANALYSIS SUMMARY BY LOCATION
(CONTINUED)

NOTES:

PURPOSE OF SAMPLING

D - DELINEATION
I - INITIAL SCREENING
QA/QC - QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

PHC - PETROLEUM HYDROCARBONS
BN+15 - BASE NEUTRAL EXTRACTABLES WITH LIBRARY SEARCH
PM13 - PRIORITY POLLUTANT METALS
AE+10 - ACID EXTRACTABLES WITH LIBRARY SEARCH

ATTACHMENT LL5

TABLE 3
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS SUMMARY - RAILROAD SIDING AREA

SAMPLE NUMBER DEPTH	PI-1A 0-0.5'	PI-1C 2.0-2.5'	PI-2C 3.0-3.5'	PI-4C 3.0-3.5'	PI-5A 0-0.5'	PI-7C 3.5-4.0'	PI-9C 2.0-2.5'	PI-11A 0-0.5'	PI-11C 2.0-2.5'
BASE NEUTRALS (ppb)									
BENZO (A) ANTHRACENE	ND	ND	ND	ND	700 J	ND	ND	ND	ND
BENZO (A) PYRENE	ND	ND	ND	ND	890 J	ND	ND	ND	ND
BENZO (B) FLUORANTHENE	ND	ND	ND	ND	990 J	ND	ND	ND	ND
BENZO (K) FLUORANTHENE	ND	ND	ND	ND	820 J	ND	ND	ND	ND
BENZO (GHI) PERYLENE	ND	ND	ND	ND	960 J	ND	ND	ND	ND
BIS(2-ETHYLHEXYL)PHTHALATE	ND	ND	ND	ND	ND	ND	ND	15000	ND
BUTYL BENZYL PHTHALATE	ND	ND	ND	ND	ND	ND	ND	1300 J	ND
CHRYSENE	ND	120 J	ND	ND	840 J	ND	ND	ND	ND
DI-N-BUTYL PHTHALATE	12000 B	220 J	ND	ND	5100 B	260 JB	ND	7000 JB	ND
FLUORANTHENE	ND	210 J	ND	ND	1500 J	ND	ND	ND	ND
PHENANTHRENE	ND	280 J	ND	ND	620 J	ND	ND	ND	ND
PYRENE	ND	360 J	ND	ND	1000 J	ND	ND	ND	ND
TOTAL BASE NEUTRALS (ppm)	ND	1.19	ND	ND	8.32	ND	ND	16.3 #	ND
TENTATIVELY IDENTIFIED COMPOUNDS (ppb) *	3470 (3)	7330 (12)	3680 (4)	3150 (4)	44400 (8)	2350 (4)	4030 (4)	5900 (3)	4390 (5)
TENTATIVELY UNIDENTIFIED COMPOUNDS (ppb) *	18300 (4)	1830 (2)	1290 (2)	2260 (2)	17390 (4)	2620 (3)	1610 (2)	14700 (2)	1300 (1)

NOTES:

B - PROBABLE/POSSIBLE LAB CONTAMINATION
J - BELOW METHOD DETECTION LIMIT
ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION
* - ESTIMATED CONCENTRATION (# OF COMPOUNDS IN PARENTHESIS)
# - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT LL6

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ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS [redacted] - DU[redacted]REA

SAMPLE NUMBER DEPTH	PI-12A 0-0.5'	PI-12B 1.0-1.5'	PI-12C 3.0-3.5'	PI-13A 0-0.5'	PI-13B 1.0-1.5'	PI-13C 2.0-2.5'	PI-14A 0-0.5'	PI-14B 1.0-1.5'	PI-14C 3.0-3.5'	PI-15A 0-0.5'	PI-15B 1.0-1.5'	PI-16A 0-0.5'	PI-16B 1.0-1.5'	PI-16C 2.5-3.0'	PI-17A 0-0.5'	PI-17B 1.0-1.5'	PI-18A 0-0.5'	PI-18B 1.0-1.5'	PI-18C 2.0-2.5'	PI-19A 0-0.5'	PI-19B 1.0-1.5'
METAL ANALYSIS (ppm)																					
ANTIMONY	.56	.22	.19	.51	.13	.14	.32	.16	.27	<0.10	<0.10	.96	.68	2	.44	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
ARSENIC	4.8	8	2	11	2.4	1.6	2.7	1.6	2.4	6.2	2.7	3.6	4.5	2	3.9	1.9	5	4.6	1.6	2.8	1.5
BERYLLIUM	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CADMIUM	3.3 *	6.4 *	<0.50	2	.63	<0.50	<0.50	<0.50	.7	3	<0.50	3.1 *	2.6	<0.50	3.5 *	<0.50	1.9	.76	<0.50	<0.50	<0.50
CHROMIUM	17	24	12	18	9.6	.9	15	12	18	23	16	17	15	10	31	12	19	13	12	11	16
COPPER	27	35	5.6	30	3	<2.0	15	7.3	3.2	61	5.9	43	46	4.7	36	<2.0	25	7.4	<2.0	4.6	<2.0
LEAD	180	1900 *	1.1	250	38	3.2	41	6.8	4.4	180	5.8	190	140	3.3	180	4.4	470 *	110	3.4	16	3.9
MERCURY	.13	1	<0.10	.21	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	.21	<0.10	.11	<0.10	.11	<0.10	<0.10	<0.10	<0.10
NICKEL	9.4	22	5.3	8.4	4.2	5.3	6.1	4.5	7	12	7.2	9.4	10	5.6	11	5.4	7.8	4.9	5.1	5.2	6.7
SELENIUM	.3	.3	.11	.45	.15	<0.10	.14	.11	.14	.43	.13	.33	.33	.15	.29	.11	.34	.35	.14	.24	<0.10
SILVER	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
THALLIUM	.21	.26	.16	.22	.18	<0.10	.22	.21	.24	.36	.25	<0.10	<0.10	<0.10	<0.10	<0.10	.41	.59	.32	.36	.35
ZINC	110	270	20	120	17	16	20	14	28	120	16	140	73	16	85	16	210	30	16	13	17
PETROLEUM HYDROCARBONS (ppm)	130 *	70	<50	120 *	<50	<50	75	150 *	62	1900 *	9500 *	310 *	<50	<50	520 *	53	350	52	<50	6500 *	<50

SAMPLE NUMBER DEPTH	PI-19C 2.0-2.5'	PI-20A 0-0.5'	PI-20B 1.0-1.5'	PI-20C 2.0-2.5'	PI-21A 0-0.5'	PI-21B 1.0-1.5'	PI-21C 3.0-3.5'	PI-22A 0-0.5'	PI-22B 1.0-1.5'	PI-23A 0-0.5'	PI-23B 1.0-1.5'	PI-23C 3.0-3.5'	PI-28A 0-0.5'	PI-28B 1.0-1.5'	PI-28C 2.0-2.5'	PI-29A 0-0.5'	PI-29B 1.0-1.5'	PI-29C 2.0-2.5'	MW-1 4.5-5.0'	MW-2 4.0-5.0'	MW-6 3.0-5.0'
METAL ANALYSIS (ppm)																			NA	NA	NA
ANTIMONY	.14	<0.10	<0.10	<0.10	2.7 *	.13	<0.10	4.9 *	.2	1.5	.1	.14	.15	<0.10	<0.10	.39	<0.10	<0.10			
ARSENIC	1.4	1.5	1.8	2.5	6.4	1.1	1.6	7.1	1.9	6.2	1.9	2.4	5.4	1.4	1.8	5.9	1.1	1			
BERYLLIUM	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	.75	<0.50	.51	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50			
CADMIUM	<0.50	<0.50	<0.50	<0.50	1.1	.7	.55	1.8	.52	1.2	<0.50	<0.50	.62	<0.50	<0.50	1.9	<0.50	<0.50			
CHROMIUM	13	12	13	18	17	10	13	31	8.5	20	11	12	16	9	8.4	22	6	11			
COPPER	2.1	5.4	4.1	<2.0	52	3.1	<2.0	85	4	37	<2.0	<2.0	19	2.9	<2.0	36	<2.0	<2.0			
LEAD	3.7	4.4	3.2	3.9	1900 *	3	7.1	560 *	43	320 *	8	3.7	110	5.5	5.4	160	1.7	1.9			
MERCURY	<0.10	<0.10	<0.10	<0.10	.32	<0.10	<0.10	.29	<0.10	.19	<0.10	<0.10	.53	<0.10	<0.10	.1	<0.10	<0.10			
NICKEL	7.2	5.6	5.7	6.5	6.2	4.4	5.2	14	<4.0	10	4.8	5.7	6.5	<4.0	<4.0	9.2	<4.0	<4.0			
SELENIUM	<0.10	.16	.11	.12	.49	.13	.1	1	.13	.66	.1	.1	.41	.12	.13	.37	<0.10	<0.10			
SILVER	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	33 *			
THALLIUM	.32	.37	.33	.38	.13	<0.10	<0.10	.18	.11	.17	<0.10	.12	.17	.14	.14	.22	.18	.19			
ZINC	20	14	15	17	110	12	14	480 *	22	59	17	26	47	13	9.7	74	11	14			
PETROLEUM HYDROCARBONS (ppm)	<50	<50	86	86	77	<50	<50	7900 *	31000 *	<50	83	<50	<50	<50	64	100	<50	<50	50	80	<50

NOTES:
NA - NOT ANALYZED
ppm - PARTS PER MILLION
* - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT LL1

280

ADVANCED CHEMICAL TECHNOLOGY - EPA CASE # 84011

SAMPLE RESULTS SUMMARY - RAILROAD SIDING AREA

SAMPLE NUMBER DEPTH	PI-1A 0-0.5'	PI-1B 1.0-1.5'	PI-1C 2.0-2.5'	PI-2B 0-0.5'	PI-2B 1.0-1.5'	PI-2C 3.0-3.5'	PI-3A 0-0.5'	PI-3B 1.0-1.5'	PI-3C 3.0-3.5'	PI-4A 0-0.5'	PI-4B 1.0-1.5'	PI-4C 3.0-3.5'	PI-5A 0-0.5'	PI-5B 1.0-1.5'	PI-5C 3.0-3.5'	PI-6A 1.0-1.5'	PI-6B 3.0-3.5'	PI-6C 3.5-4.0'
METAL ANALYSIS (ppm)																		
ANTIMONY	1.9	3 *	2.7 *	.43	.25	.19	.63	.51	.51	.68	.51	.42	1.9	.45	.45	1.7	.16	<0.10
ARSENIC	4.2	17	4	4.2	2.9	2.5	5.7	2.3	2.8	5.5	1.6	2.4	7.5	3.4	2.3	4.7	2.3	3.5
BERYLLIUM	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
CADMIUM	5.6 *	7.3 *	2.1	5.5 *	<0.50	<0.50	<0.50	.91	.9	1.1	.66	.75	2.9	<0.50	.59	2.4	<0.50	<0.50
CHROMIUM	48	49	19	18	13	16	16	22	17	9.3	16	21	57	12	21	43	16	12
COPPER	8800 *	570 *	30	33	5.6	2.5	12	<2.0	3	17	<2.0	<2.0	200 *	6.1	9	120	<2.0	<2.0
LEAD	250	530 *	180	110	25	15	49	4	3.5	56	3.7	3.5	330 *	9.3	4.5	180	4.6	4.8
MERCURY	<0.10	.5	.42	.168	<0.10	<0.10	.11	<0.10	<0.10	.18	<0.10	<0.10	.53	<0.10	<0.10	.24	<0.10	<0.10
NICKEL	18	27	7	9	<4.0	<4.0	4.[illegible]	5.5	5	<4.0	4.8	6.4	21	<4.0	7	15	<4.0	4.4
SELENIUM	.47	1.4	.32	.27	.23	.2	.27	.24	.2	.31	.23	.27	.57	.27	.27	.41	.26	.15
SILVER	1.7	1.1	<1.0	<1.0	<1.0	<1.0	<1.[illegible]	<1.0	<1.0	2	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<[illegible]
THALLIUM	.22	.54	.23	.17	.14	.13	.[illegible]	.11	.12	.14	.16	.11	.31	.16	.14	.2	.14	
ZINC	710 *	650 *	100	100	25	15	6[illegible]	15	15	36	15	17	270	280	210	130	13	12
PETROLEUM HYDROCARBONS (ppm)	8300 *	570 *	<50	56	<50	<50	<5[illegible]	<50	<50	<50	<50	<50	60	<50	<50	62	<50	<50

SAMPLE NUMBER DEPTH	PI-7A 0-0.5'	PI-7B 1.0-1.5'	PI-7C 3.5-4.0'	PI-8A 0-0.5'	PI-8B 1.0-1.5'	PI-8C 3.5-4.0'	PI-[illegible] 0-0.[illegible]	PI-9B 1.0-1.5'	PI-9C 2.0-2.5'	PI-10A 0-0.5'	PI-10B 1.0-1.5'	PI-10C 2.0-2.5'	PI-11A 0-0.5'	PI-11B 1.0-1.5'	PI-11C 2.0-2.5'	MW-5 3.0-3.5'
METAL ANALYSIS (ppm)																
ANTIMONY	.86	.27	.25	.44	.2	<0.10		<0.10	.12	.56	.14	<0.10	3.2 *	.18	.17	.19
ARSENIC	6.4	2	1.9	6.8	4.4	3.4	3	1.6	3.1	5.6	2.5	1.7	1.6	1.1	3	2.9
BERYLLIUM	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.[illegible]	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	.65	<0.50	<0.50
CADMIUM	<0.50	<0.50	<0.50	<0.50	1.3	.51	1	<0.50	.69	20 *	<0.50	<0.50	4.1 *	1.7	1.9	<0.50
CHROMIUM	15	14	19	10	16	19		12	23	12	12	13	49	17	14	15
COPPER	22	<2.0	<2.0	24	17	<2.0		4.3	<2.0	430 *	2.4	<2.0	130	19	<2.0	4.8
LEAD	140	4	4.7	68	59	4.7		4.8	5.5	250	6.9	2.5	190	140	10	11
MERCURY	<0.10	<0.10	<0.10	<0.10	.15	<0.10	.	<0.10	<0.10	<0.10	.12	.14	<0.10	<0.10	<0.10	<0.10
NICKEL	6.4	6.3	6.5	21	13	6.6	[illegible]	<4.0	4.6	17	4.3	<4.0	8.8	5.1	<4.0	5.3
SELENIUM	.23	<0.10	<0.10	.11	.19	.2	.	.15	.1	.31	<0.10	.11	1	.15	.12	.11
SILVER	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
THALLIUM	.23	.2	.2	.24	.27	.22	.	.1	.14	.25	.22	.15	.2	.14	.14	.18
ZINC	49	12	13	54	95	16		14	16	290	13	11	590 *	61	33	15
PETROLEUM HYDROCARBONS (ppm)	170 *	160 *	210 *	200 *	160 *	54	.	<50	<50	<50	<50	<50	1200 *	51	52	72

NOTES:

ppm - PARTS PER MILLION

* - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT U-9

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TABLE 5
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS SUMMARY - DUMPSTER AREA

SAMPLE NUMBER	PI-13C	PI-14A	PI-14C	PI-15B	PI-17A	PI-18B	PI-18C	PI-20C	PI-21C	PI-22A	PI-22B	PI-23A	PI-28A
DEPTH	2.0-2.5'	0-0.5'	3.0-3.5'	1.0-1.5'	0-0.5'	1.0-1.5'	2.0-2.5'	2.0-2.5'	3.0-3.5'	0-0.5'	1.0-1.5'	0-0.5'	0-0.5'
BASE NEUTRALS (ppb)													
ENAPHTHYLENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	170 J	ND	ND	ND
ITHRACENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	130 J	ND	ND	ND
BENZO (A) ANTHRACENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	820 J	ND
BENZO (A) PYRENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	130 J	ND	630 J	ND
BENZO (B) FLUORANTHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	670 J	ND
BENZO (K) FLUORANTHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	690 J	ND
BENZO (GHI) PERYLENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BIS(2-ETHYLHEXYL)PHTHALATE	100 J	ND	ND	ND	ND	120 JB	ND	ND	ND	1600	ND	ND	ND
BUTYL BENZYL PHTHALATE	ND	ND	ND	ND	ND	ND	ND	ND	ND	490 J	ND	1100	ND
CHRYSENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	170 J	ND	1100	ND
DI-N-BUTYL PHTHALATE	ND	250 JB	200 JB	360 JB	4900 JB	ND	180 JB	720 JB	ND	460 J	350 J	190 JB	120 JB
FLUORANTHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	180 J	ND	ND	130 J
PHENANTHRENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	200 J	ND	1200	ND
PYRENE	ND	ND	ND	ND	ND	100 J	ND	ND	ND	600 J	ND	2800	430 J
TOTAL BASE NEUTRALS (ppm)	0.1	ND	ND	ND	ND	0.1	ND	ND	ND	4.13	.35	9.1	.56
TENTATIVELY IDENTIFIED COMPOUNDS (ppb) *	4280 (4)	5200 (7)	2590 (6)	3384 (10)	ND	3055 (7)	1770 (4)	5960 (5)	3990 (4)	48300 (17)	37860 (20)	14430 (14)	2319 (5)
TENTATIVELY UNIDENTIFIED COMPOUNDS (ppb) *	1790 (2)	3750 (5)	2570 (3)	1700 (8)	23000 (1)	1694 (6)	2380 (2)	3700 (2)	1760 (2)	17940 (3)	ND	2450 (6)	9005 (12)

NOTES:
B - PROBABLE/POSSIBLE LAB CONTAMINATION
J - BELOW METHOD DETECTION LIMIT
ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION
* - ESTIMATED CONCENTRATION (# OF COMPOUNDS IN PARENTHESIS)
# - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT LL9

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TABLE 7
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS SUMMARY - OIL STAINED AREA

SAMPLE NUMBER	PI-24C	PI-25A	PI-25C
DEPTH	3.0-3.5'	0-0.5'	2.0-2.5'
BASE NEUTRALS (ppb)			
ACENAPHTHYLENE	ND	120 J	ND
ANTHRACENE	440 J	130 J	ND
BENZO (A) ANTHRACENE	1900 J	330 J	870 J
BENZO (A) PYRENE	1400 J	370 J	700 J
BENZO (B) FLUORANTHENE	2500 J	420 J	780 J
BENZO (K) FLUORANTHENE	1700 J	380 J	380 J
BENZO (GHI) PERYLENE	1400 J	210 J	ND
BIS(2-ETHYLHEXYL)PHTHALATE	1100 JB	ND	ND
BUTYL BENZYL PHTHALATE	ND	ND	2600 J
CHRYSENE	2300 J	360 J	930 J
DI-N-BUTYL PHTHALATE	2200 JB	750 JB	17000 B
DI-N-OCTYL PHTHALATE	ND	ND	410 J
FLUORANTHENE	5200	1000	900 J
INDENO (1,2,3-CD) PYRENE	1300 J	210 J	ND
PHENANTHRENE	2200 J	350 J	1600 J
PYRENE	2300 J	420 J	2000 J
TOTAL BASE NEUTRALS (ppm)	22.64 #	4.3	11.17 #
TENTATIVELY IDENTIFIED COMPOUNDS (ppb) *	119200 (16)	13000 (18)	33940 (10)
TENTATIVELY UNIDENTIFIED COMPOUNDS (ppb) *	37800 (4)	3800 (2)	47410 (9)

NOTES:

B - PROBABLE/POSSIBLE LAB CONTAMINATION
J - BELOW METHOD DETECTION LIMIT
ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION
* - ESTIMATED CONCENTRATION (# OF COMPOUNDS IN PARENTHESIS)
\# - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT LL10

TABLE 6
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS SUMMARY - OIL STAINED AREA

SAMPLE NUMBER DEPTH	PI-24A 0-0.5'	PI-24B 1.0-1.5'	PI-24C 3.0-3.5'	PI-25A 0-0.5'	PI-25B 1.0-1.5'	PI-25C 2.0-2.5'	PI-26A 0-0.5'	PI-26B 1.0-1.5'	PI-26C 3.0-3.5'	MW-4 3.0-5.0'
METAL ANALYSIS (ppm)										NA
ANTIMONY	.4	1.6	.37	.49	.3	<0.10	.29	.31	.42	
ARSENIC	2.4	10	3.3	2.3	5.2	2.9	8.5	3	4.9	
BERYLLIUM	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
CADMIUM	3.8 #	4500 #	55 #	3.9 #	9.3 #	2.9	3.3 #	3.1 #	4.7 #	
CHROMIUM	17	140 #	20	15	20	17	18	18	24	
COPPER	22	400 #	90	35	73	8.9	12	17	32	
LEAD	47	240	71	55	260 #	39	150	68	100	
MERCURY	<0.10	.54	.19	<0.10	<0.10	.12	<0.10	<0.10	<0.10	
NICKEL	8.5	150 #	37	7.1	8.1	7.1	6.4	7	10	
SELENIUM	.25	.59	.24	.16	.26	.22	.3	.1	.3	
SILVER	<1.0	73 #	41 #	<1.0	<1.0	<1.0	12 #	<1.0	5.6 #	
THALLIUM	.35	.62	.36	.35	.42	.45	.52	.33	.38	
ZINC	50	600 #	120	64	150	36	36	55	74	
PETROLEUM HYDROCARBONS (ppm)	64	370 #	190 #	730 #	160 #	310 #	<50	110 #	1400 #	97

NOTES:
NA - NOT ANALYZED
ppm - PARTS PER MILLION
- ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT LLII

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TABLE 8
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS SUMMARY - BACKGROUND SAMPLING

SAMPLE NUMBER	PI-27A	PI-27B	PI-27C
DEPTH	0-0.5'	2.0-2.5'	6.0-6.5'
BASE NEUTRALS (ppb)			
BIS(2-ETHYLHEXYL)PHTHALATE	32000	ND	440 J
BUTYL BENZYL PHTHALATE	1300	ND	900 J
CHRYSENE	360 J	ND	ND
DI-N-BUTYL PHTHALATE	480 J	280 J	700 JB
DI-N-OCTYL PHTHALATE	460 J	130 J	ND
TOTAL BASE NEUTRALS (ppm)	34.6 #	.41	1.34
TENTATIVELY IDENTIFIED COMPOUNDS (ppb) *	4790 (12)	420 (7)	3615 (6)
TENTATIVELY UNIDENTIFIED COMPOUNDS (ppb) *	6960 (8)	2732 (13)	8792 (8)
METAL ANALYSIS (ppm)			
ANTIMONY	.12	.47	.22
ARSENIC	2.1	1.5	1.2
BERYLLIUM	<0.50	.54	<0.50
CADMIUM	<0.50	.54	<0.50
CHROMIUM	11	13	13
COPPER	5.4	3.5	3.4
LEAD	14	2.4	2.7
MERCURY	<0.10	<0.10	<0.10
NICKEL	<4.0	5	6.6
SELENIUM	.11	<0.10	<0.10
SILVER	<1.0	<1.0	<1.0
THALLIUM	.17	.15	.16
ZINC	24	24	15
PETROLEUM HYDROCARBONS (ppm)	56	<50	76

NOTES:

B - PROBABLE/POSSIBLE LAB CONTAMINATION
J - BELOW METHOD DETECTION LIMIT
ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION
* - ESTIMATED CONCENTRATION (# OF COMPOUNDS IN PARENTHESIS)
# - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT LL12

1st Round GW sampling

TABLE 10
ADVANCED CHEMICAL TECHNOLOGY - ERCA CASE #84011
GROUNDWATER SAMPLING RESULTS SUMMARY

SAMPLE NUMBER	PI-MW-1	PI-MW-2	PI-MW-3	PI-MW-5	PI-MW-6	PI-MW-TP	PI-MW-FB
BASE NEUTRALS (ppb)							
BIS(2-ETHYLHEXYL)PHTHALATE	ND	ND	ND	ND	ND	ND	620 B
BUTYL BENZL PHTHALATE	ND	ND	ND	ND	ND	ND	18
DI-N-OCTYL PHTHALATE	ND	ND	ND	ND	ND	ND	27
TENTATIVELY IDENTIFIED COMPOUNDS (ppb) *	5 (1)	10 (6) 14 (2)B	5 (1)	40 (2) 6 (1)B	40 (5) 13 (1)B	5 (1)	159 (10) 10 (1)B
TENTATIVELY UNIDENTIFIED COMPOUNDS (ppb) *	82 (2) 19 (2)B	4 (3) 7 (1)B	6 (1) 18 (2)B	47 (1)B	14 (6) 7 (1)B	4 (1) 11 (2)B	86 (4) 8 (1)B
ACID EXTRACTABLE ANALYSIS (ppb)	ND	ND	ND	ND	ND	ND	ND
ETHYLENE GLYCOL	ND	ND	ND	ND	ND	ND	ND
METAL ANALYSIS (ppm)							
ANTIMONY	<.001	<.001	.001	.001	<.001	<.001	<.001
ARSENIC	<.001	<.001	<.001	<.001	.002	.001	.001
BERYLLIUM	<.005	<.005	<.005	<.005	<.005	<.005	<.005
CADMIUM	.007	.008	<.005	<.005	<.005	<.005	<.005
CHROMIUM	<.025	<.025	<.025	<.025	.005	<.025	<.025
COPPER	<.020	<.020	<.020	<.020	<.020	<.020	<.020
LEAD	.001	<.001	.003	.003	.003	.001	<.001
MERCURY	<.001	<.001	<.001	<.001	<.001	<.001	<.001
NICKEL	<.040	<.040	<.040	<.040	<.040	<.040	<.040
SELENIUM	<.001	<.001	<.001	<.001	<.001	<.001	<.001
SILVER	<.010	<.010	<.010	<.010	<.010	<.010	<.010
THALLIUM	<.001	<.001	<.001	<.001	<.001	<.001	<.001
ZINC	<.050	<.050	<.050	<.050	.06	<.050	<.050
PETROLEUM HYDROCARBONS (ppm)	<1.0	<1.0	<1.0	2 #	<1.0	<1.0	<1.0

NOTES:

B - PROBABLE/POSSIBLE LAB CONTAMINATION
NA - NOT ANALYZED
ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION
* - ESTIMATED CONCENTRATION (# OF COMPOUNDS IN PARENTHESIS)
\# - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT MM1

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ACCUTEST®
LABORATORIES
[illegible] BLDG. II • DAYTON, N.J. 08810 • (201) 329-0200

Advanced Chemical Technology
ECRA Case # 84011

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5. CHAIN OF CUSTODY(S) & LABORATORY CHRONICLE(S)

ATTACHMENT MM2

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J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN:

DATE: 04/06/88

JOB No: 880957

PROJECT No: 86013

SAMPLE RECEIVED: 03/09/88

SAMPLE SUMMARY

AMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
802611	03/08/88	13:35	DH	GROUND WATER - PI MW-1 PLANT INDUSTRIES
802612	03/08/88	13:00	DH	GROUND WATER - PI-MW-2 PLANT INDUSTRIES
802613	03/08/88	14:00	DH	GROUND WATER - PI-MW-3 PLANT INDUSTRIES
E802614	03/08/88	16:20	DH	GROUND WATER - PI-MW-5 PLANT INDUSTRIES
E802615	03/08/88	14:15	DH	GROUND WATER - PI-MW-6 PLANT INDUSTRIES
E802616	03/08/88	14:40	DH	WATER - PI-MW-FB PLANT INDUSTRIES
E802617	03/08/88		DH	WATER - PI-MW-TP, TRIP BLANK PLANT INDUSTRIES

? CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT MM3

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ACCUTEST
LABORATORIES
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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
SAMPLE ID.: WATER/#E802611
DATA FILE : >D2215

METHOD : EPA 625
ANALYSIS DATE: 03/22/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	ACENAPHTHENE	ND	10
2)	ACENAPHTHYLENE	ND	10
3)	ANTHRACENE	ND	10
4)	BENZIDENE	ND	10
5)	BENZO (A) ANTHRACENE	ND	10
6)	BENZO (A) PYRENE	ND	10
7)	BENZO (B) FLUORANTHENE	ND	10
8)	BENZO (K) FLUORANTHENE	ND	10
9)	BENZO (GHI) PERYLENE	ND	10
10)	BIS (2-CHLOROETHOXY) METHANE	ND	10
11)	BIS (2-CHLOROETHYL) ETHER	ND	10
12)	BIS (2-CHLOROISOPROPYL) ETHER	ND	10
13)	BIS (2-ETHYLHEXYL) PHTHALATE	ND	10
14)	4-BROMOPHENYL PHENYL ETHER	ND	10
15)	BUTYL BENZYL PHTHALATE	ND	10
16)	2-CHLORONAPHTHALENE	ND	10
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10
18)	CHRYSENE	ND	10
19)	DIBENZO (A,H) ANTHRACENE	ND	10
20)	1,2-DICHLOROBENZENE	ND	10
21)	1,3-DICHLOROBENZENE	ND	10
22)	1,4-DICHLOROBENZENE	ND	10
23)	3,3-DICHLOROBENZIDENE	ND	10
24)	DIETHYL PHTHALATE	ND	10
25)	DIMETHYL PHTHALATE	ND	10
26)	DI-N-BUTYL PHTHALATE	ND	10
27)	2,4-DINITROTOLUENE	ND	10
28)	2,6-DINITROTOLUENE	ND	10
29)	DI-N-OCTYL PHTHALATE	ND	10
30)	1,2-DIPHENYLHYDRAZINE	ND	10
31)	FLUORANTHENE	ND	10
32)	FLUORENE	ND	10
33)	HEXACHLOROBENZENE	ND	10
34)	HEXACHLOROBUTADIENE	ND	10
35)	HEXACHLOROCYCLOPENTADIENE	ND	10
36)	HEXCHLOROETHANE	ND	10
37)	INDENO (1,2,3-CD) PYRENE	ND	10
38)	ISOPHORONE	ND	10
39)	NAPHTHALENE	ND	10
40)	NITROBENZENE	ND	10
41)	N-NITROSODIMETHYLAMINE	ND	10
42)	N-NITROSODI-N-PROPYLAMINE	ND	10
43)	N-NITROSODIPHENYLAMINE	ND	10
44)	PHENANTHRENE	ND	10
45)	PYRENE	ND	10
46)	1,2,4-TRICHLOROBENZENE	ND	10

J = BELOW METHOD DETECTION LIMIT
MDL= METHOD DETCTION LIMIT
ND = NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

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ATTACHMENT MM4

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LABORATORIES
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ACID EXTRACTABLE ANALYSIS REPORT

CLIENT : J.M. SORGE
SAMPLE ID : WATER #E802611
DATA FILE : >D2215

METHOD : EPA/625
ANALYSIS DATE : 03/22/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	4-CHLORO-3-METHYL PHENOL	ND	10
2)	2-CHLOROPHENOL	ND	10
3)	2,4-DICHLOROPHENOL	ND	10
4)	2,4-DIMETHYLPHENOL	ND	10
5)	2,4-DINITROPHENOL	ND	50
6)	2-METHYL-4,6-DINITROPHENOL	ND	50
7)	2-NITROPHENOL	ND	10
8)	4-NITROPHENOL	ND	10
9)	PENTACHLOROPHENOL	ND	10
10)	PHENOL	ND	10
11)	2,4,6-TRICHLOROPHENOL	ND	10

J =BELOW METHOD DETECTION LIMIT
MDL=METHOD DETECTION LIMIT
ND =NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT MM5

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Lab Sample ID: E802611

Date Analyzed: 3/22/88 15:52

Lab File ID: >D2215

Matrix: WATER

Number TICs found: 5 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.74	9.	
2.	25	Benzene	3.85	5.	
3.		Unknown	8.08	4.	1
4.		Unknown	35.13	80.	
5.		Unknown	43.85	15.	2
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK. 4
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT MM6
1/87 Rev.

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E802611	03/08/88	13:35	DH	GROUND WATER - PI MW-1 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	03/25/88	GRM
ANTIMONY	<0.001	0.001	MG/L	03/16/88	JK
ARSENIC	<0.001	0.001	MG/L	03/17/88	JK
BERYLLIUM	<0.005	0.005	MG/L	03/16/88	PM
CADMIUM	0.007	0.005	MG/L	03/16/88	PM
CHROMIUM	<0.025	0.025	MG/L	03/16/88	PM
COPPER	<0.020	0.020	MG/L	03/16/88	PM
LEAD	0.001	0.001	MG/L	03/15/88	JK
MERCURY	<0.001	0.001	MG/L	03/10/88	SH
NICKEL	<0.040	0.040	MG/L	03/16/88	PM
SELENIUM	<0.001	0.001	MG/L	03/16/88	JK
SILVER	<0.010	0.010	MG/L	03/15/88	MS
THALLIUM	<0.001	0.001	MG/L	03/22/88	PM
ZINC	<0.050	0.050	MG/L	03/16/88	PM

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT MM7

ACCUTEST
LABORATORIES
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
SAMPLE ID.: WATER /#E802612
DATA FILE : >D2225

METHOD : EPA 625
ANALYSIS DATE: 03/23/88
ANALYST : PB

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	ACENAPHTHENE	ND	11
2)	ACENAPHTHYLENE	ND	11
3)	ANTHRACENE	ND	11
4)	BENZIDENE	ND	11
5)	BENZO (A) ANTHRACENE	ND	11
6)	BENZO (A) PYRENE	ND	11
7)	BENZO (B) FLUORANTHENE	ND	11
8)	BENZO (K) FLUORANTHENE	ND	11
9)	BENZO (GHI) PERYLENE	ND	11
10)	BIS (2-CHLOROETHOXY) METHANE	ND	11
11)	BIS (2-CHLOROETHYL) ETHER	ND	11
12)	BIS (2-CHLOROISOPROPYL) ETHER	ND	11
13)	BIS (2-ETHYLHEXYL) PHTHALATE	ND	11
14)	4-BROMOPHENYL PHENYL ETHER	ND	11
15)	BUTYL BENZYL PHTHALATE	ND	11
16)	2-CHLORONAPHTHALENE	ND	11
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11
18)	CHRYSENE	ND	11
19)	DIBENZO (A,H) ANTHRACENE	ND	11
20)	1,2-DICHLOROBENZENE	ND	11
21)	1,3-DICHLOROBENZENE	ND	11
22)	1,4-DICHLOROBENZENE	ND	11
23)	3,3-DICHLOROBENZIDENE	ND	11
24)	DIETHYL PHTHALATE	ND	11
25)	DIMETHYL PHTHALATE	ND	11
26)	DI-N-BUTYL PHTHALATE	ND	11
27)	2,4-DINITROTOLUENE	ND	11
28)	2,6-DINITROTOLUENE	ND	11
29)	DI-N-OCTYL PHTHALATE	ND	11
30)	1,2-DIPHENYLHYDRAZINE	ND	11
31)	FLUORANTHENE	ND	11
32)	FLUORENE	ND	11
33)	HEXACHLOROBENZENE	ND	11
34)	HEXACHLOROBUTADIENE	ND	11
35)	HEXACHLOROCYCLOPENTADIENE	ND	11
36)	HEXCHLOROETHANE	ND	11
37)	INDENO (1,2,3-CD) PYRENE	ND	11
38)	ISOPHORONE	ND	11
39)	NAPHTHALENE	ND	11
40)	NITROBENZENE	ND	11
41)	N-NITROSODIMETHYLAMINE	ND	11
42)	N-NITROSODI-N-PROPYLAMINE	ND	11
43)	N-NITROSODIPHENYLAMINE	ND	11
44)	PHENANTHRENE	ND	11
45)	PYRENE	ND	11
46)	1,2,4-TRICHLOROBENZENE	ND	11

J = BELOW METHOD DETECTION LIMIT
MDL= METHOD DETCTION LIMIT
ND = NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT 6 MMa

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ACID EXTRACTABLE ANALYSIS REPORT

CLIENT : J.M. SORGE
SAMPLE ID : WATER/#E802612
DATA FILE : >D2225

METHOD : EPA/625
ANALYSIS DATE : 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	4-CHLORO-3-METHYL PHENOL	ND	11
2)	2-CHLOROPHENOL	ND	11
3)	2,4-DICHLOROPHENOL	ND	11
4)	2,4-DIMETHYLPHENOL	ND	11
5)	2,4-DINITROPHENOL	ND	55
6)	2-METHYL-4,6-DINITROPHENOL	ND	55
7)	2-NITROPHENOL	ND	11
8)	4-NITROPHENOL	ND	11
9)	PENTACHLOROPHENOL	ND	11
10)	PHENOL	ND	11
11)	2,4,6-TRICHLOROPHENOL	ND	11

J =BELOW METHOD DETECTION LIMIT
MDL=METHOD DETECTION LIMIT
ND =NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ACCUTEST LABORATORIES
2235 ROUTE 130 BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Lab Sample ID: E802612

Date Analyzed: 3/23/88 12:42

Lab File ID: >D2225

Matrix: WATER

Number TICs found: 12 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	563804	2-Butanone, 3-methyl- (8CI9C	3.75	7.	1
2.	25	Benzene	3.86	5.	
3.		Unknown	7.73	1.	
4.		Unknown	8.12	7.	1
5.	17059482	1H-Indene, 2,3-dihydro-1,6-d	16.81	1.	
6.	54340873	1H-Indene, 2,3-dihydro-1,4,7	18.71	1.	
7.	2471832	1H-Indene, 1-ethylidene- (9C	19.21	1.	
8.	475387	1,4-Naphthalenedione, 5,8-di	19.96	1.	
9.	575417	Naphthalene, 1,3-dimethyl- (	21.18	1.	
10.		Unknown	25.02	1.	
11.		Unknown	26.10	2.	
12.	438	Perylene d-12	43.87	7.	2
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT MM10

ACCUTEST
LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
802612	03/08/88	13:00	DH	GROUND WATER - PI-MW-2 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	03/29/88	G/D
ANTIMONY	0.001	0.001	MG/L	03/16/88	JK
ARSENIC	<0.001	0.001	MG/L	03/17/88	JK
BERYLLIUM	<0.005	0.005	MG/L	03/16/88	FM
CADMIUM	0.008	0.005	MG/L	03/16/88	FM
CHROMIUM	<0.025	0.025	MG/L	03/16/88	FM
COPPER	<0.020	0.020	MG/L	03/16/88	FM
LEAD	<0.001	0.001	MG/L	03/15/88	JK
MERCURY	<0.001	0.001	MG/L	03/10/88	SH
NICKEL	<0.040	0.040	MG/L	03/16/88	FM
SELENIUM	<0.001	0.001	MG/L	03/16/88	JK
SILVER	<0.010	0.010	MG/L	03/15/88	MS
THALLIUM	<0.001	0.001	MG/L	03/22/88	FM
ZINC	<0.050	0.050	MG/L	03/16/88	FM

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ACCUTEST
LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
SAMPLE ID.: WATER/#E802613
DATA FILE : >D2226

METHOD : EPA 625
ANALYSIS DATE: 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	ACENAPHTHENE	ND	10
2)	ACENAPHTHYLENE	ND	10
3)	ANTHRACENE	ND	10
4)	BENZIDENE	ND	10
5)	BENZO (A) ANTHRACENE	ND	10
6)	BENZO (A) PYRENE	ND	10
7)	BENZO (B) FLUORANTHENE	ND	10
8)	BENZO (K) FLUORANTHENE	ND	10
9)	BENZO (GHI) PERYLENE	ND	10
10)	BIS (2-CHLOROETHOXY) METHANE	ND	10
11)	BIS (2-CHLOROETHYL) ETHER	ND	10
12)	BIS (2-CHLOROISOPROPYL) ETHER	ND	10
13)	BIS (2-ETHYLHEXYL) PHTHALATE	ND	10
14)	4-BROMOPHENYL PHENYL ETHER	ND	10
15)	BUTYL BENZYL PHTHALATE	ND	10
16)	2-CHLORONAPHTHALENE	ND	10
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10
18)	CHRYSENE	ND	10
19)	DIBENZO (A,H) ANTHRACENE	ND	10
20)	1,2-DICHLOROBENZENE	ND	10
21)	1,3-DICHLOROBENZENE	ND	10
22)	1,4-DICHLOROBENZENE	ND	10
23)	3,3-DICHLOROBENZIDENE	ND	10
24)	DIETHYL PHTHALATE	ND	10
25)	DIMETHYL PHTHALATE	ND	10
26)	DI-N-BUTYL PHTHALATE	ND	10
27)	2,4-DINITROTOLUENE	ND	10
28)	2,6-DINITROTOLUENE	ND	10
29)	DI-N-OCTYL PHTHALATE	ND	10
30)	1,2-DIPHENYLHYDRAZINE	ND	10
31)	FLUORANTHENE	ND	10
32)	FLUORENE	ND	10
33)	HEXACHLOROBENZENE	ND	10
34)	HEXACHLOROBUTADIENE	ND	10
35)	HEXACHLOROCYCLOPENTADIENE	ND	10
36)	HEXCHLOROETHANE	ND	10
37)	INDENO (1,2,3-CD) PYRENE	ND	10
38)	ISOPHORONE	ND	10
39)	NAPHTHALENE	ND	10
40)	NITROBENZENE	ND	10
41)	N-NITROSODIMETHYLAMINE	ND	10
42)	N-NITROSODI-N-PROPYLAMINE	ND	10
43)	N-NITROSODIPHENYLAMINE	ND	10
44)	PHENANTHRENE	ND	10
45)	PYRENE	ND	10
46)	1,2,4-TRICHLOROBENZENE	ND	10

J = BELOW METHOD DETECTION LIMIT
MDL= METHOD DETCTION LIMIT
ND = NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT MM12

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LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON N.J. 08810 • (201) 329-0200

ACID EXTRACTABLE ANALYSIS REPORT

CLIENT : J.M. SORGE
SAMPLE ID : WATER #E802613
DATA FILE : >D2226

METHOD : EPA/625
ANALYSIS DATE : 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	4-CHLORO-3-METHYL PHENOL	ND	10
2)	2-CHLOROPHENOL	ND	10
3)	2,4-DICHLOROPHENOL	ND	10
4)	2,4-DIMETHYLPHENOL	ND	10
5)	2,4-DINITROPHENOL	ND	50
6)	2-METHYL-4,6-DINITROPHENOL	ND	50
7)	2-NITROPHENOL	ND	10
8)	4-NITROPHENOL	ND	10
9)	PENTACHLOROPHENOL	ND	10
10)	PHENOL	ND	10
11)	2,4,6-TRICHLOROPHENOL	ND	10

J =BELOW METHOD DETECTION LIMIT
MDL=METHOD DETECTION LIMIT
ND =NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ACCUTEST LABORATORIES

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Lab Sample ID: E802613

Date Analyzed: 3/23/88 13:58

Lab File ID: >D2226

Matrix: WATER

Number TICs found: 4 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.77	6.	
2.	71432	Benzene (ACN)(DOT)(8CI9CI)	3.88	5.	
3.		Unknown	8.11	7.	1
4.		Unknown	43.85	11.	2
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT MMH

ACCUTEST
LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E802613	03/08/88	14:00	DH	GROUND WATER - PI-MW-3 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	03/29/88	G/D
ANTIMONY	<0.001	0.001	MG/L	03/16/88	JK
ARSENIC	<0.001	0.001	MG/L	03/17/88	JK
BERYLLIUM	<0.005	0.005	MG/L	03/16/88	PM
CADMIUM	<0.005	0.005	MG/L	03/16/88	PM
CHROMIUM	<0.025	0.025	MG/L	03/16/88	PM
COPPER	<0.020	0.020	MG/L	03/16/88	PM
LEAD	0.003	0.001	MG/L	03/15/88	JK
MERCURY	<0.001	0.001	MG/L	03/10/88	SH
NICKEL	<0.040	0.040	MG/L	03/16/88	PM
SELENIUM	<0.001	0.001	MG/L	03/16/88	JK
SILVER	<0.010	0.010	MG/L	03/15/88	MS
THALLIUM	<0.001	0.001	MG/L	03/22/88	PM
ZINC	<0.050	0.050	MG/L	03/16/88	PM

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT MM15

300

ACCUTEST
LABORATORIES
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
SAMPLE ID.: WATER /#E802614
DATA FILE : >D2227

METHOD : EPA 625
ANALYSIS DATE: 03/23/88
ANALYST : PB

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	ACENAPHTHENE	ND	11
2)	ACENAPHTHYLENE	ND	11
3)	ANTHRACENE	ND	11
4)	BENZIDENE	ND	11
5)	BENZO (A) ANTHRACENE	ND	11
6)	BENZO (A) PYRENE	ND	11
7)	BENZO (B) FLUORANTHENE	ND	11
8)	BENZO (K) FLUORANTHENE	ND	11
9)	BENZO (GHI) PERYLENE	ND	11
10)	BIS (2-CHLOROETHOXY) METHANE	ND	11
11)	BIS (2-CHLOROETHYL) ETHER	ND	11
12)	BIS (2-CHLOROISOPROPYL) ETHER	ND	11
13)	BIS (2-ETHYLHEXYL) PHTHALATE	ND	11
14)	4-BROMOPHENYL PHENYL ETHER	ND	11
15)	BUTYL BENZYL PHTHALATE	ND	11
16)	2-CHLORONAPHTHALENE	ND	11
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11
18)	CHRYSENE	ND	11
19)	DIBENZO (A,H) ANTHRACENE	ND	11
20)	1,2-DICHLOROBENZENE	ND	11
21)	1,3-DICHLOROBENZENE	ND	11
22)	1,4-DICHLOROBENZENE	ND	11
23)	3,3-DICHLOROBENZIDENE	ND	11
24)	DIETHYL PHTHALATE	ND	11
25)	DIMETHYL PHTHALATE	ND	11
26)	DI-N-BUTYL PHTHALATE	ND	11
27)	2,4-DINITROTOLUENE	ND	11
28)	2,6-DINITROTOLUENE	ND	11
29)	DI-N-OCTYL PHTHALATE	ND	11
30)	1,2-DIPHENYLHYDRAZINE	ND	11
31)	FLUORANTHENE	ND	11
32)	FLUORENE	ND	11
33)	HEXACHLOROBENZENE	ND	11
34)	HEXACHLOROBUTADIENE	ND	11
35)	HEXACHLOROCYCLOPENTADIENE	ND	11
36)	HEXCHLOROETHANE	ND	11
37)	INDENO (1,2,3-CD) PYRENE	ND	11
38)	ISOPHORONE	ND	11
39)	NAPHTHALENE	ND	11
40)	NITROBENZENE	ND	11
41)	N-NITROSODIMETHYLAMINE	ND	11
42)	N-NITROSODI-N-PROPYLAMINE	ND	11
43)	N-NITROSODIPHENYLAMINE	ND	11
44)	PHENANTHRENE	ND	11
45)	PYRENE	ND	11
46)	1,2,4-TRICHLOROBENZENE	ND	11

J = BELOW METHOD DETECTION LIMIT
MDL= METHOD DETCTION LIMIT
ND = NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT MM16

ACCUTEST
LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON N.J. 08810 • (201) 329-0200

ACID EXTRACTABLE ANALYSIS REPORT

CLIENT : J.M. SORGE
SAMPLE ID : WATER/#E802614
DATA FILE : >D2227

METHOD : EPA/625
ANALYSIS DATE : 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	4-CHLORO-3-METHYL PHENOL	ND	11
2)	2-CHLOROPHENOL	ND	11
3)	2,4-DICHLOROPHENOL	ND	11
4)	2,4-DIMETHYLPHENOL	ND	11
5)	2,4-DINITROPHENOL	ND	55
6)	2-METHYL-4,6-DINITROPHENOL	ND	55
7)	2-NITROPHENOL	ND	11
8)	4-NITROPHENOL	ND	11
9)	PENTACHLOROPHENOL	ND	11
10)	PHENOL	ND	11
11)	2,4,6-TRICHLOROPHENOL	ND	11

J =BELOW METHOD DETECTION LIMIT
MDL=METHOD DETECTION LIMIT
ND =NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT MM4

ACCUTEST LABORATORIES

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Lab Sample ID: E802614

Date Analyzed: 3/23/88 15:13

Lab File ID: >D2227

Matrix: WATER

Number TICs found: 4 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	563804	2-Butanone, 3-methyl- (8CI9C	3.80	6.	1
2.	542858	Ethane, isothiocyanato- (9CI	11.80	37.	
3.	1801725	Urea, N,N'-di-2-propenyl- (9	25.36	3.	
4.		Unknown	43.93	47.	2
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT MM16

ACCUTEST
LABORATORIES
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
102614	03/08/88	16:20	DH	GROUND WATER - PI-MW-5 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	2.0	1.0	MG/L	03/29/88	G/D
ANTIMONY	0.001	0.001	MG/L	03/16/88	JK
ARSENIC	<0.001	0.001	MG/L	03/17/88	JK
BERYLLIUM	<0.005	0.005	MG/L	03/16/88	FM
CADMIUM	<0.005	0.005	MG/L	03/16/88	FM
CHROMIUM	<0.025	0.025	MG/L	03/16/88	FM
COPPER	<0.020	0.020	MG/L	03/16/88	FM
LEAD	0.003	0.001	MG/L	03/15/88	JK
MERCURY	<0.001	0.001	MG/L	03/10/88	SH
NICKEL	<0.040	0.040	MG/L	03/16/88	FM
SELENIUM	<0.001	0.001	MG/L	03/16/88	JK
SILVER	<0.010	0.010	MG/L	03/15/88	MS
THALLIUM	<0.001	0.001	MG/L	03/22/88	FM
ZINC	<0.050	0.050	MG/L	03/16/88	FM

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT MM19

304

ACCUTEST
LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON N J 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
SAMPLE ID.: WATER/#E802615
DATA FILE : >D2228

METHOD : EPA 625
ANALYSIS DATE: 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	ACENAPHTHENE	ND	10
2)	ACENAPHTHYLENE	ND	10
3)	ANTHRACENE	ND	10
4)	BENZIDENE	ND	10
5)	BENZO (A) ANTHRACENE	ND	10
6)	BENZO (A) PYRENE	ND	10
7)	BENZO (B) FLUORANTHENE	ND	10
8)	BENZO (K) FLUORANTHENE	ND	10
9)	BENZO (GHI) PERYLENE	ND	10
10)	BIS (2-CHLOROETHOXY) METHANE	ND	10
11)	BIS (2-CHLOROETHYL) ETHER	ND	10
12)	BIS (2-CHLOROISOPROPYL) ETHER	ND	10
13)	BIS (2-ETHYLHEXYL) PHTHALATE	ND	10
14)	4-BROMOPHENYL PHENYL ETHER	ND	10
15)	BUTYL BENZYL PHTHALATE	ND	10
16)	2-CHLORONAPHTHALENE	ND	10
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10
18)	CHRYSENE	ND	10
19)	DIBENZO (A,H) ANTHRACENE	ND	10
20)	1,2-DICHLOROBENZENE	ND	10
21)	1,3-DICHLOROBENZENE	ND	10
22)	1,4-DICHLOROBENZENE	ND	10
23)	3,3-DICHLOROBENZIDENE	ND	10
24)	DIETHYL PHTHALATE	ND	10
25)	DIMETHYL PHTHALATE	ND	10
26)	DI-N-BUTYL PHTHALATE	ND	10
27)	2,4-DINITROTOLUENE	ND	10
28)	2,6-DINITROTOLUENE	ND	10
29)	DI-N-OCTYL PHTHALATE	ND	10
30)	1,2-DIPHENYLHYDRAZINE	ND	10
31)	FLUORANTHENE	ND	10
32)	FLUORENE	ND	10
33)	HEXACHLOROBENZENE	ND	10
34)	HEXACHLOROBUTADIENE	ND	10
35)	HEXACHLOROCYCLOPENTADIENE	ND	10
36)	HEXCHLOROETHANE	ND	10
37)	INDENO (1,2,3-CD) PYRENE	ND	10
38)	ISOPHORONE	ND	10
39)	NAPHTHALENE	ND	10
40)	NITROBENZENE	ND	10
41)	N-NITROSODIMETHYLAMINE	ND	10
42)	N-NITROSODI-N-PROPYLAMINE	ND	10
43)	N-NITROSODIPHENYLAMINE	ND	10
44)	PHENANTHRENE	ND	10
45)	PYRENE	ND	10
46)	1,2,4-TRICHLOROBENZENE	ND	10

J = BELOW METHOD DETECTION LIMIT
MDL= METHOD DETCTION LIMIT
ND = NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT MM10

ACCUTEST
LABORATORIES
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ACID EXTRACTABLE ANALYSIS REPORT

CLIENT : J.M. SORGE
SAMPLE ID : WATER #E802615
DATA FILE : >D2228

METHOD : EPA/625
ANALYSIS DATE : 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	4-CHLORO-3-METHYL PHENOL	ND	10
2)	2-CHLOROPHENOL	ND	10
3)	2,4-DICHLOROPHENOL	ND	10
4)	2,4-DIMETHYLPHENOL	ND	10
5)	2,4-DINITROPHENOL	ND	50
6)	2-METHYL-4,6-DINITROPHENOL	ND	50
7)	2-NITROPHENOL	ND	10
8)	4-NITROPHENOL	ND	10
9)	PENTACHLOROPHENOL	ND	10
10)	PHENOL	ND	10
11)	2,4,6-TRICHLOROPHENOL	ND	10

J =BELOW METHOD DETECTION LIMIT
MDL=METHOD DETECTION LIMIT
ND =NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT MM-1

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ACCUTEST LABORATORIES
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Lab Sample ID: E802615

Date Analyzed: 3/23/88 16:29

Lab File ID: >D2228

Matrix: WATER

Number TICs found: 13 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	563804	2-Butanone, 3-methyl- (8CI9C	3.74	9.	1
2.	25	Benzene	3.84	4.	
3.		Unknown	6.89	3.	
4.		Unknown	7.72	3.	
5.		Unknown	8.11	5.	1
6.	4076362	1H-Tetrazole, 5-methyl- (8CI	10.05	4.	
7.	18060770	2-Butenoic acid, 1-methyleth	11.77	34.	
8.		Unknown	14.57	1.	
9.		Unknown	23.15	1.	
10.	23043881	1H-Purine-2,6-dione, 7-ethyl	23.43	1.	
11.		Unknown	25.01	1.	
12.	122349	1,3,5-Triazine-2,4-diamine,	26.09	1.	
13.		Unknown	43.86	7.	2
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT MMa2

ACCUTEST
LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E802615	03/08/88	14:15	DH	GROUND WATER - PI-MW-6 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	03/29/88	G/D
ANTIMONY	<0.001	0.001	MG/L	03/16/88	JK
ARSENIC	0.002	0.001	MG/L	03/17/88	JK
BERYLLIUM	<0.005	0.005	MG/L	03/16/88	FM
CADMIUM	<0.005	0.005	MG/L	03/16/88	FM
CHROMIUM	0.050	0.025	MG/L	03/16/88	FM
COPPER	<0.020	0.020	MG/L	03/16/88	FM
LEAD	0.003	0.001	MG/L	03/15/88	JK
MERCURY	<0.001	0.001	MG/L	03/10/88	SH
NICKEL	<0.040	0.040	MG/L	03/16/88	FM
SELENIUM	<0.001	0.001	MG/L	03/16/88	JK
SILVER	<0.010	0.010	MG/L	03/15/88	MS
THALLIUM	<0.001	0.001	MG/L	03/22/88	FM
ZINC	0.060	0.050	MG/L	03/16/88	FM

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT MM23

308

ACCUTEST
LABORATORIES
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
SAMPLE ID.: WATER /#E802616
DATA FILE : >D2229

METHOD : EPA 625
ANALYSIS DATE: 03/23/88
ANALYST : PB

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	ACENAPHTHENE	ND	11
2)	ACENAPHTHYLENE	ND	11
3)	ANTHRACENE	ND	11
4)	BENZIDENE	ND	11
5)	BENZO (A) ANTHRACENE	ND	11
6)	BENZO (A) PYRENE	ND	11
7)	BENZO (B) FLUORANTHENE	ND	11
8)	BENZO (K) FLUORANTHENE	ND	11
9)	BENZO (GHI) PERYLENE	ND	11
10)	BIS (2-CHLOROETHOXY) METHANE	ND	11
11)	BIS (2-CHLOROETHYL) ETHER	ND	11
12)	BIS (2-CHLOROISOPROPYL) ETHER	ND	11
13)	BIS (2-ETHYLHEXYL) PHTHALATE	620 B	11
14)	4-BROMOPHENYL PHENYL ETHER	ND	11
15)	BUTYL BENZYL PHTHALATE	18	11
16)	2-CHLORONAPHTHALENE	ND	11
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11
18)	CHRYSENE	ND	11
19)	DIBENZO (A,H) ANTHRACENE	ND	11
20)	1,2-DICHLOROBENZENE	ND	11
21)	1,3-DICHLOROBENZENE	ND	11
22)	1,4-DICHLOROBENZENE	ND	11
23)	3,3-DICHLOROBENZIDENE	ND	11
24)	DIETHYL PHTHALATE	ND	11
25)	DIMETHYL PHTHALATE	ND	11
26)	DI-N-BUTYL PHTHALATE	ND	11
27)	2,4-DINITROTOLUENE	ND	11
28)	2,6-DINITROTOLUENE	ND	11
29)	DI-N-OCTYL PHTHALATE	27	11
30)	1,2-DIPHENYLHYDRAZINE	ND	11
31)	FLUORANTHENE	ND	11
32)	FLUORENE	ND	11
33)	HEXACHLOROBENZENE	ND	11
34)	HEXACHLOROBUTADIENE	ND	11
35)	HEXACHLOROCYCLOPENTADIENE	ND	11
36)	HEXCHLOROETHANE	ND	11
37)	INDENO (1,2,3-CD) PYRENE	ND	11
38)	ISOPHORONE	ND	11
39)	NAPHTHALENE	ND	11
40)	NITROBENZENE	ND	11
41)	N-NITROSODIMETHYLAMINE	ND	11
42)	N-NITROSODI-N-PROPYLAMINE	ND	11
43)	N-NITROSODIPHENYLAMINE	ND	11
44)	PHENANTHRENE	ND	11
45)	PYRENE	ND	11
46)	1,2,4-TRICHLOROBENZENE	ND	11

J = BELOW METHOD DETECTION LIMIT
MDL= METHOD DETCTION LIMIT
ND = NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ACCUTEST
LABORATORIES
2235 ROUTE 130 BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ACID EXTRACTABLE ANALYSIS REPORT

CLIENT : J.M. SORGE
SAMPLE ID : WATER/#E802616
DATA FILE : >D2229

METHOD : EPA/625
ANALYSIS DATE : 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	4-CHLORO-3-METHYL PHENOL	ND	11
2)	2-CHLOROPHENOL	ND	11
3)	2,4-DICHLOROPHENOL	ND	11
4)	2,4-DIMETHYLPHENOL	ND	11
5)	2,4-DINITROPHENOL	ND	55
6)	2-METHYL-4,6-DINITROPHENOL	ND	55
7)	2-NITROPHENOL	ND	11
8)	4-NITROPHENOL	ND	11
9)	PENTACHLOROPHENOL	ND	11
10)	PHENOL	ND	11
11)	2,4,6-TRICHLOROPHENOL	ND	11

J =BELOW METHOD DETECTION LIMIT
MDL=METHOD DETECTION LIMIT
ND =NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

ATTACHMENT MM25

ACCUTEST LABORATORIES
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Lab Sample ID: E802616

Date Analyzed: 3/23/88 17:44

Lab File ID: >D2229

Matrix: WATER

Number TICs found: 16 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	563804	2-Butanone, 3-methyl- (8CI9C)	3.74	8.	1
2.	56728100	1-Hexene, 3,4,5-trimethyl- (I	23.87	28.	
3.	6624799	1-Dotriacontanol (8CI9CI)	28.10	5.	
4.	117828	1,2-Benzenedicarboxylic acid	32.51	3.	
5.	146509	1,2-Benzenedicarboxylic acid	32.69	19.	
6.	146509	1,2-Benzenedicarboxylic acid	32.76	27.	
7.	146509	1,2-Benzenedicarboxylic acid	32.91	13.	
8.	146509	1,2-Benzenedicarboxylic acid	33.01	27.	
9.		Unknown	33.12	49.	
10.	146509	1,2-Benzenedicarboxylic acid	33.34	34.	
11.	146509	1,2-Benzenedicarboxylic acid	33.44	42.	
12.		Unknown	33.77	27.	
13.	146509	1,2-Benzenedicarboxylic acid	34.38	3.	
14.		Unknown	34.81	4.	
15.		Unknown	42.96	4.	
16.		Unknown	43.89	10.	2
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK. 24
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
802616	03/08/88	14:40	DH	WATER - PI-MW-FB PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	03/29/88	G/D
ANTIMONY	<0.001	0.001	MG/L	03/16/88	JK
ARSENIC	<0.001	0.001	MG/L	03/17/88	JK
BERYLLIUM	<0.005	0.005	MG/L	03/16/88	FM
CADMIUM	<0.005	0.005	MG/L	03/16/88	FM
CHROMIUM	<0.025	0.025	MG/L	03/16/88	FM
COPPER	<0.020	0.020	MG/L	03/16/88	FM
LEAD	0.001	0.001	MG/L	03/15/88	JK
MERCURY	<0.001	0.001	MG/L	03/10/88	SH
NICKEL	<0.040	0.040	MG/L	03/16/88	FM
SELENIUM	<0.001	0.001	MG/L	03/16/88	JK
SILVER	<0.010	0.010	MG/L	03/15/88	MS
THALLIUM	<0.001	0.001	MG/L	03/22/88	FM
ZINC	<0.050	0.050	MG/L	03/16/88	FM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
(DRY WEIGHT BASIS)

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
SAMPLE ID.: WATER/#E802617
DATA FILE : >D2230

METHOD : EPA 625
ANALYSIS DATE: 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	ACENAPHTHENE	ND	10
2)	ACENAPHTHYLENE	ND	10
3)	ANTHRACENE	ND	10
4)	BENZIDENE	ND	10
3)	BENZO (A) ANTHRACENE	ND	10
6)	BENZO (A) PYRENE	ND	10
7)	BENZO (B) FLUORANTHENE	ND	10
8)	BENZO (K) FLUORANTHENE	ND	10
9)	BENZO (GHI) PERYLENE	ND	10
10)	BIS (2-CHLOROETHOXY) METHANE	ND	10
11)	BIS (2-CHLOROETHYL) ETHER	ND	10
12)	BIS (2-CHLOROISOPROPYL) ETHER	ND	10
13)	BIS (2-ETHYLHEXYL) PHTHALATE	ND	10
14)	4-BROMOPHENYL PHENYL ETHER	ND	10
15)	BUTYL BENZYL PHTHALATE	ND	10
16)	2-CHLORONAPHTHALENE	ND	10
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10
18)	CHRYSENE	ND	10
19)	DIBENZO (A,H) ANTHRACENE	ND	10
20)	1,2-DICHLOROBENZENE	ND	10
21)	1,3-DICHLOROBENZENE	ND	10
22)	1,4-DICHLOROBENZENE	ND	10
23)	3,3-DICHLOROBENZIDENE	ND	10
24)	DIETHYL PHTHALATE	ND	10
25)	DIMETHYL PHTHALATE	ND	10
26)	DI-N-BUTYL PHTHALATE	ND	10
27)	2,4-DINITROTOLUENE	ND	10
28)	2,6-DINITROTOLUENE	ND	10
29)	DI-N-OCTYL PHTHALATE	ND	10
30)	1,2-DIPHENYLHYDRAZINE	ND	10
31)	FLUORANTHENE	ND	10
32)	FLUORENE	ND	10
33)	HEXACHLOROBENZENE	ND	10
34)	HEXACHLOROBUTADIENE	ND	10
35)	HEXACHLOROCYCLOPENTADIENE	ND	10
36)	HEXCHLOROETHANE	ND	10
37)	INDENO (1,2,3-CD) PYRENE	ND	10
38)	ISOPHORONE	ND	10
39)	NAPHTHALENE	ND	10
40)	NITROBENZENE	ND	10
41)	N-NITROSODIMETHYLAMINE	ND	10
42)	N-NITROSODI-N-PROPYLAMINE	ND	10
43)	N-NITROSODIPHENYLAMINE	ND	10
44)	PHENANTHRENE	ND	10
45)	PYRENE	ND	10
46)	1,2,4-TRICHLOROBENZENE	ND	10

J = BELOW METHOD DETECTION LIMIT
MDL= METHOD DETCTION LIMIT
ND = NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

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ACID EXTRACTABLE ANALYSIS REPORT

CLIENT : J.M. SORGE
SAMPLE ID : WATER #E802617
DATA FILE : >D2230

METHOD : EPA/625
ANALYSIS DATE : 03/23/88
ANALYST : WU

	COMPOUND	RESULT(UG/L)	MDL(UG/L)
1)	4-CHLORO-3-METHYL PHENOL	ND	10
2)	2-CHLOROPHENOL	ND	10
3)	2,4-DICHLOROPHENOL	ND	10
4)	2,4-DIMETHYLPHENOL	ND	10
5)	2,4-DINITROPHENOL	ND	50
6)	2-METHYL-4,6-DINITROPHENOL	ND	50
7)	2-NITROPHENOL	ND	10
8)	4-NITROPHENOL	ND	10
9)	PENTACHLOROPHENOL	ND	10
10)	PHENOL	ND	10
11)	2,4,6-TRICHLOROPHENOL	ND	10

J =BELOW METHOD DETECTION LIMIT
MDL=METHOD DETECTION LIMIT
ND =NON DETECTABLE

B=ANALYTE WAS ALSO FOUND IN METHOD BLANK INDICATING POSSIBLE/PROBABLE LAB BLANK CONTAMINATION.

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Lab Sample ID: EB02617

Date Analyzed: 3/23/88 18:59

Lab File ID: >D2230

Matrix: WATER

Number TICs found: 4 CONCENTRATION UNITS: ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	3.76	4.	
2. 71432	Benzene (ACN)(DOT)(8CI9CI)	3.86	5.	
3.	Unknown	8.13	4.	1
4.	Unknown	43.86	7.	2
5.				
6.				
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21.				
22.				
23.				
24.				
25.				

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E802617	03/08/88		DH	WATER - PI-MW-TP, TRIP BLANK PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	03/29/88	G/D
ANTIMONY	<0.001	0.001	MG/L	03/16/88	JK
ARSENIC	0.001	0.001	MG/L	03/17/88	JK
BERYLLIUM	<0.005	0.005	MG/L	03/16/88	PM
CADMIUM	<0.005	0.005	MG/L	03/16/88	PM
CHROMIUM	<0.025	0.025	MG/L	03/16/88	PM
COPPER	<0.020	0.020	MG/L	03/16/88	PM
LEAD	<0.001	0.001	MG/L	03/15/88	JK
MERCURY	<0.001	0.001	MG/L	03/10/88	SH
NICKEL	<0.040	0.040	MG/L	03/16/88	PM
SELENIUM	<0.001	0.001	MG/L	03/16/88	JK
SILVER	<0.010	0.010	MG/L	03/15/88	MS
THALLIUM	<0.001	0.001	MG/L	03/22/88	PM
ZINC	<0.050	0.050	MG/L	03/16/88	PM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
(DRY WEIGHT BASIS)

NJDEP CERTIFICATION 12129

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ATTACHMENT MM31

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SAMPLING PLAN ADDENDUM RESULTS

Prepared for

ADVANCED CHEMICAL TECHNOLOGY
(PLANT INDUSTRIES)

Camden, New Jersey

ECRA Case #84011

Prepared by

J M Sorge, Inc.
3301 US Highway 22
Somerville, NJ 08876

February 1989

ATTACHMENT NN

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A	Laboratory Analytical Results (Sample QA/QC data included with original only)
B	Chain-of-Custody Control Forms
C	Soil Boring Logs
D	Notice of Violations and Penalty Settlement Offer (NJDEP correspondence dated May 1, 1985)
E	Accutest laboratory Correspondence Regarding Contamination of Samples

ATTACHMENT NNN

1.0 INTRODUCTION

The following report describes the results of the additional site investigation conducted in accordance with requirements of the Environmental Cleanup Responsibility Act (ECRA), at the former Advanced Chemical Technology (ACT) site. The ACT site is located at River Road and State Street in Camden, New Jersey. Results of the previously completed soil and groundwater investigation were provided in the J M Sorge, Inc. (JMS) submittal dated June 14, 1988; the report also included a proposal for the additional site investigation. Additional support data, specifically the analytical results of the groundwater sampling and laboratory Quality Assurance/Quality Control (QA/QC) data for certain soil sampling analyses, were provided on July 21, 1988. The Sampling and Analysis Plan Results (JMS submittal dated June 14, 1988), and the additional support data (JMS submittal dated July 21, 1988), are collectively referred to as the Sampling Plan Addendum, unless a specific reference is required for either submittal.

The Sampling Plan Addendum was conditionally approved by the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA) via letter dated September 26, 1988.

The additional soil investigation, as specified in the Sampling Plan Addendum with modifications required by the BEECRA, was conducted in the following areas:

Dumpster Area - Area 2;

Oil Stained Area - Area 3; and,

Background Area - Area 4.

No additional soil investigation was required in the Railroad Siding Area - Area 1. These areas are shown on Figure 1.

Groundwater sampling of all existing wells was conducted during the additional site program. The BEECRA, via correspondence dated January 11, 1989, has requested an additional groundwater investigation at the facility, specifically installation of up to two (2) additional wells. However, the required well location(s) are within the limits of proposed soil excavation. The need for an additional groundwater investigation will be evaluated following completion of the required soil remediation program since any wells installed prior to that may be damaged during the soil program. See Section 4.3 for a detailed response to the BEECRA letter of January 11, 1989. A Soil Cleanup Plan for the facility will be prepared following the BEECRA review of this report.

ATTACHMENT NN5

1.1 COMPLETED INVESTIGATION SUMMARY

Prior to JMS involvement, site investigations were completed by Stablex-Reutter, Inc., of Camden, New Jersey. The previous site investigations included an extensive soil sampling and cleanup program involving soil removal and disposal from two (2) areas (Areas 1 and 2), at the site. Details on the completed cleanup program were provided in a series of submittals prepared earlier in the ECRA Compliance Program (1984 and 1985), and very briefly summarized in the Facility Sampling Plan (JMS submittal dated November 1986).

The initial investigation conducted by JMS involved characterization of residual soils quality in the two (2) remaining areas of concern. The analytical parameters (PHC, BN+15 and metals) utilized during the JMS program were based on the PP+40 analyses previously conducted by others. Also, an investigation was conducted in a stained soil area (Area 3), identified during the JMS reconnaissance. In addition, a hydrogeologic investigation involving installation of six (6) wells was completed during the site program. The results of the initial JMS investigation were provided in June , 1988 submittal.

The initial phase of the investigation determined the nature of contamination present at the site. However, an additional phase of investigation was required to obtain complete horizontal and vertical extent of contamination in certain areas. Results of the second phase of the site investigation are detailed in this report.

The contamination identified in the railroad siding and dumpster areas was primarily surficial in extent and appeared to have been derived from oil staining associated with railroad operations and storage of industrial wastes in the dumpster. The petroleum and metals contaminants present in the stained area indicated more extensive contamination than previously assumed.

The railroad siding area (Area 1) contamination, specifically petroleum hydrocarbons, metals and base neutral compounds, was restricted to the upper 1.0 to 2.0 feet of soils. Only one soil boring exhibited slight PHC contamination at depth (to 4.0 feet). Therefore, since the horizontal and vertical extent of contamination in this area had been delineated, no further sampling was required during the Second Phase.

The contaminants identified in the dumpster storage area, (Area 2) primarily petroleum hydrocarbons and specific metals, required further investigation for complete delineation. The metals contamination was restricted primarily to the upper 6 inches of soil in the area. Moderate to high levels of PHC were exhibited in two (2) borings at depth, one of these boring was located off the ACT site. Therefore, additional sampling was required east of the fence line to determine the horizontal extent of contaminants that have migrated off the ACT property.

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The contamination identified during the initial phase in the oil-stained area (Area 3) was not adequately delineated. Moderate levels of PHC, metals and base neutral compounds were indicated in all samples at depth. The metal contamination identified in this area is somewhat different than that identified in the other two (2) areas of the site, and appeared to be attributed to filling of the area rather than ACT operations. Additional sampling was conducted in the second phase to delineate the contaminated area, both horizontally and vertically.

Slightly elevated base neutral levels were detected at the background location during the initial phase of soil sampling program. The contamination identified is believed to be unrelated to the operations conducted by ACT. However, BEECRA has required additional soil sampling in the area (Background Area - Area 4, Figure 1) to delineate a phthalate level detected at the previous background sample location. The metals and base neutral contamination identified in the area is unrelated to the ACT operations.

The groundwater samples obtained from the wells during the initial phase indicated only a slightly elevated level of PHC in one (1) monitoring well. The additional round of sampling was conducted during the second phase of the site investigation. Only minor metal contamination was identified during the second phase.

1.2 REPORT ORGANIZATION

An extensive soil boring and sampling analysis program was conducted in two areas of concern on the site; the stained soil area and the background area. A two-stage laboratory analyses was conducted for the samples collected from the two areas. Based on the analytical results obtained for the stage one samples, a limited number of samples were analyzed during the Stage 2 program in order to complete horizontal and vertical delineation of the above ECRA levels detected. Also, a limited soil boring program was implemented in the dumpster area. No soil sampling was conducted in the railroad siding area during this phase. The description and findings of the soil sampling program conducted at the site are detailed in Section 3.0.

An item-by-item response to the BEECRA comments noted on the Sampling Plan Addendum approval letter (September 26, 1988), is included as Section 2.0. The results of the second round of groundwater sampling conducted for the existing wells are provided as Section 4.0. Also, a response to the BEECRA requested additional groundwater program (BEECRA letter dated January 11, 1989) is provided as Section 4.3.

Sample locations and analytical parameters for Stage 1 and 2 sample analyses are summarized on Tables 1 and 2, respectively by area of concern. The laboratory results obtained for the samples analyzed are included on Tables 3 through 10.

ATTACHMENT NN1
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The various areas of concern present at the ACT site, as well as monitoring well locations, are shown on Figure 1. Soil borings and sampling points are indicated on Figures 2 and 3. Areas which exhibited contamination in excess of the ECRA action level are depicted on Figures 2 and 3. Also, the above-ECRA levels of soil contamination detected during the initial phase of the investigation are shown on these maps.

The QA/QC procedures outlined in Section 4.0 of the previously approved Sampling Plan (JMS submittal dated November 1986), were followed during this phase of the site investigation. Therefore, the QA/QC procedures, including the detailed sampling procedures are not included again with this report. Appendices A and B provide copies of the laboratory analytical results and chain-of-custody control documentation respectively. Soil boring logs are included as Appendix C.

ATTACHMENT NN8

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2.0 RESPONSE TO SAMPLING PLAN ADDENDUM APPROVAL LETTER

The Sampling Plan Addendum was conditionally approved by NJDEP letter dated September 26, 1988. The following provides a brief point-by-point response, as required by Comment 13A of the BEECRA letter, to each of the conditions noted.

Response to the BEECRA letter dated January 11, 1989, addressing the groundwater investigation, is provided in Section 4.3.

Comment 1: Advanced Chemical Technology shall accomplish this investigation and any further analytical investigations by the methods outlined in this Sampling Plan. If any change in methods outlined in this sampling plan is necessary or if any delays are encountered, Advanced Chemical Technology shall inform BEECRA in writing prior to implementation.

Response: No action required.

Comment 2: Advanced Chemical Technology shall submit summarized analytical results in tabular form. Advanced Chemical Technology shall also submit with the analytical data all documents associated with the sampling and testing, including but not limited to lab sheets, chain-of-custody, results of blank analyses, lab chronicles, summary of analytical instrument tuning, and analytical methods used.

Response: One (1) complete copy of the requested QA/QC data for the laboratory analyses is included. As required, all Tier II deliverables are separated from the submittal. Only laboratory summary pages are included with the remaining two (2) copies of the report. All parameters detected during the laboratory analysis are summarized in tabular form in the submittal.

ATTACHMENT NNa
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Comment 5: If contamination is determined to exist above a level found acceptable by NJDEP, Advanced Chemical Technology shall prepare and submit a Cleanup Plan developed pursuant to N.J.A.C. 7:26B-5.3 to address said contamination. If the data from implementation of the approved Sampling Plan indicates the presence of contamination, but is not sufficient to define the full horizontal and vertical extent, then such areal definition shall be proposed as a Sampling Plan Addendum in a form which meets the criteria of N.J.A.C. 7:26B-3.2(c)11. The horizontal and vertical extent of contamination shall be determined before an approvable Cleanup Plan can be developed.

Response: As discussed in the approved Sampling Plan Addendum (specifically Section 5.3), the soil samples collected during this phase of investigation in the Oil-Stained Area (Area 3), were analyzed in two (2) phases. Two (2) sets of borings were installed in a circular pattern surrounding the area of concern to completely delineate the horizontal and vertical extent of contamination. First, the shallow depth samples collected from the first set of borings were analyzed for the parameters proposed in the approved plan. Based on the analytical results obtained, specifically the above-ECRA acceptable parameters detected in the samples, the deeper samples were selected from the borings to delineate the vertical extent. Also, the soil samples collected at comparable depth interval (and in some cases deeper), were selected from the counterpart borings for the target parameters analyses to determine the lateral extent.

The Stage 2 sample analyses results has approximated areal definition of the soil contamination present at the ACT site. It should be noted that the sample holding times, as required by ECRA Sampling Plan Guide, were not exceeded for the second stage sample analyses.

A similar two-stage sampling was also conducted for the background area (Area 4). The details of the sampling program are provided in Section 3.0.

A Cleanup Plan addressing the soil contamination present at the site will be developed following the BEECRA review of this report. The proposed Cleanup Plan will be developed in accordance with the elements specified in Comment 14 of the BEECRA letter.

ATTACHMENT NN10

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Comment 6: The additional delineation of the dumpster area and oil stained area is acceptable as proposed.

Response: No action required.

Comment 7: Advanced Chemical Technology shall continue to investigate the 0 - 6" background sample since phthalates (bis 2-ethylhexyl phthalate) was identified at 32 ppm in soil. It is not likely to be attributable to background conditions since the industrial establishment used plasticizers. Its recommended that Advanced Chemical Technology shall sample for phthalates at three (3) locations approximately fifty (50) feet from the background sample. The sampling depths shall remain consistent as proposed for other samples.

Response: Although the industrial establishment used plasticizers, the area of background location has not been utilized by ACT. The plasticizers are received at the site via railroad cars and stored in the silos located adjacent to the siding. The background area is located away from the area of this operation (Figure 1). Therefore, the elevated level (32 ppm) of bis-2-ethylhexyl phthalate, detected during the initial sampling program, could not have resulted from site operations.

As discussed in the Notice of Violations and Penalty Settlement Offer, Specifically Findings 13(c) and 14 (NJDEP Correspondence dated May 1, 1985), the area (referred to as "fill area"), is not part of the property leased by ACT. NJDEP Finding 13(a) and (b) also noted the nature of contamination (lead and oil), present at the two (2) areas of the site: loading dock/railroad siding, and dumpster areas. A copy of the correspondence is included as Appendix D.

In addition to the three (3) BEECRA recommended locations (i.e. 50 feet from the previous background sample location), three (3) additional borings were located at a distance of 5.0 feet from the previous background sample location. In addition to the six (6) surface samples, three (3) deeper samples were also selected for base neutral analyses. The data obtained indicates a background or an offsite source of the phthalate contamination identified at Background Area (Area 4) rather than ACT operation. Details on our findings are provided in Section 3.3 of this report.

ATTACHMENT NN11

Comment 8: The lab, QA/QC is acceptable as proposed.

Response: No action required.

Comment 9: The Health and Safety Plan is acceptable as proposed.

Response: No action required.

Comment 10: The second round of sampling for the groundwater monitoring wells is acceptable as proposed.

Response: No action required. Results of the additional groundwater sampling, including discussions on the additional groundwater investigation required by BEECRA letter dated January 11, 1989, are provided as Section 4.0.

Comment 11: Upon completion of sampling the following information must be included with the sampling results.

a. Provide in a tabular format the results of sampling. Include the sample number, location, interval and depth of sample, sample matrix, and the analytical methods used.

b. A site map which lists the concentrations of all significant contamination found (above ECRA action levels) at all sampling locations. The labeling of data should be keyed to facilitate interpretation, especially at locations where more than one type of contaminant is found.

Response: Table 1 summarizes the sample number, sample location, sample matrix and sampling depth interval, as well as the analytical parameters and methods utilized during the laboratory analyses of Stage 1 sample analyses. Table 2 provides identical data for the Stage 2 sample analyses program. The purpose of the sampling is also included on the tables. The sample location maps (Figures 2 and 3) list above-ECRA action levels detected (if any), during the sampling programs.

Comment 12: Please note that all sampling documentation and reporting must meet NJDEP Tier II standards.

Response: NJDEP Tier II Standards were followed during the sampling documentation and data reporting by JMS contract laboratory.

ATTACHMENT NN12

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Comment 13: Data/Results Presentation

A. The consultant must respond to this letter point-by-point in the order of conditions outlined above.

Response: This section (Section 2.0) provides a point-by-point response in the order of the conditions outlined in the Sampling Plan Addendum approval letter dated September 26, 1988.

B. Because of case management workloads and volumes of data to be reviewed and processed, the above noted formatting requirements are essential to insure complete and timely review of the submittal.

Response: The report is prepared following the NJDEP specified format.

C. Tier II deliverables must be identified and separated from the submittals, discussion, conclusions and data summary sheets.

Response: As required, Tier II deliverables are provided as separate volume(s) from the sampling results report.

D. Failure to organize submittal information as outlined above can constitute reason to return the submittal to the consultant for correction and resubmission, thus causing further delay in case processing.

Response: The submittal is prepared in accordance with the NJDEP outline specified. See Section 1.2 for Report Organization.

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Comment 14: The Cleanup Plan Proposal

During the course of the implementation of the sampling and the generation and evaluation of data, the consultant will be considering the development of a Cleanup Plan. As a guide to this process, the following elements shall be included in the formation of the plan:

a. Introduction.

b. Summary of Environmental Concerns. Include the results of previous sampling.

c. The proposed remedial actions. Include the evaluation of any alternative remedial action if appropriate.

d. Cleanup levels to be achieved. Be specific with regard to media and parameters.

e. A Work Plan must detail the specific activities that will be used to complete the proposed cleanup objectives.

f. A post remediation sampling and monitoring plan.

g. A specific time table for implementation of the Cleanup Plan which includes milestones in the project.

h. Progress reports, depending on the duration of the cleanup, must be on a monthly basis.

i. Estimate costs for cleanup, including additional soil and groundwater monitoring activities.

Response: The proposed Soil Cleanup Plan for the facility will be prepared following BEECRA review of this report. Also, certain groundwater investigation issues, discussed in Section 4.0, must be addressed prior to preparation of the Site Cleanup Plan. The proposed Cleanup Plan will be prepared in the format specified by BEECRA.

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3.0 SOIL SAMPLING RESULTS - PHASE 2 INVESTIGATION

As discussed in the JMS submittal dated June 14, 1988 (specifically Section 3.0), an extensive investigation was conducted during the initial phase to characterize the soil contamination existing at the ACT site. The nature of contamination present in each area of concern was determined during the completed Phase 1 investigation. Also, the extent of contamination in the railroad siding (Area 1) and, to some extent, the dumpster storage area (Area 2), was determined during the initial phase investigation. PHC and metals contamination detected in these two (2) areas was primarily restricted to shallow surficial soils. No significant BN contamination was detected in these areas. Since the railroad siding area contamination had been adequately delineated, no additional investigation was required.

The second phase investigation was conducted to delineate PHC and metal contaminantion to the east of the dumpster storage area, and further define the horizontal and vertical extent of the oil stained area (Area 3) contaminants, specifically PHC, metals and BN. The additional proposed sampling program for Areas 2 and 3 was provided in Section 5.1 and 5.2, respectively, of the June 14th report. A two-stage sample analysis program was provided for Area 3.

The BEECRA, via their letter of September 26, 1988, approved the proposed program for the site areas (Areas 1 through 3 as well as groundwater portion) without any modifications. However, BEECRA requested further investigation of the phthalates detected at the background sample location. The "background" area is designated as Area 4 (Figure 1). A two-stage sample analysis program, similar to that of Area 3, was also conducted for this area.

The additional sampling and analysis program was implemented following the techniques and QA/QC procedures approved for the initial investigation. The samples were analyzed for the target parameters based on the initial phase sampling results. The second phase soil sampling results obtained for Areas 2 through 4 are discussed in the following subsections.

3.1 DUMPSTER AREA - AREA 2

3.1.1 Phase 1 Sampling Results Summary

The Phase 1 sampling results identified the presence of PHC and PM13 contamination in the dumpster area. PHC contamination identified in this area was restricted to the surface (0 - 0.5 feet), except in Borings PI-15 and PI-22 where it extended to a depth of 0.5 feet. The PHC concentrations detected in Samples PI-15B and PI-22B was 9500 and 31000 ppm, respectively. PM13 analyses identified the presence of one (1) to three (3) metals concentrations above NJDEP cleanup levels in several borings. The metal contamination included antimony (Sb), cadmium (Cd) and lead (Pb);

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also, zinc (Zn) and silver (Ag) contamination was detected at one (1) sample location each. The metal contamination identified was restricted to shallow depths (<1.5 feet); except 33 ppm of Ag was detected in Sample PI-29C (2.0 - 2.5 feet). No base neutral concentrations above NJDEP cleanup level was detected in any dumpster area samples.

3.1.2 Phase 2 Sampling Results

Three (3) soil borings (PI-30 through PI-32) were installed during the Phase II program in the Conrail Railroad Area; located east of the dumpster area fencing (Figure 2). A total of three (3) samples were collected from each boring at depths of 0-0.5 feet, 1.0 - 1.5 feet and 6-inch interval directly above the water table. During the Phase I investigation, groundwater was encountered at shallow depths (1.5 - 3.5 feet) in the borings located on this portion of the site; however, groundwater was encountered at significantly deeper levels (6.5 feet in Boring PI 32 and 7.5 feet in Borings PI-30 and 31) during the second phase. All nine (9) samples were analyzed for PHC and PM13.

Only minor PHC contamination was detected at three (3) shallow samples collected from these borings (Table 3). Surface Samples PI-30A and PI-32A, taken 0 - 0.5 feet depth interval, exhibited slightly elevated PHC levels (180 ppm and 130 ppm). Shallow Sample PI-31B (1.0 - 1.5 feet depth) contained 200 ppm of PHC. Sample PI-31B also exhibited Cd level at 6.7 ppm. In addition, surface Sample PI-31A contained slightly elevated Sb concentration level (5.6 ppm). No other priority pollutant metals were found during the laboratory analyses.

The PHC, Cd and Sb contamination identified is only slightly above respective NJDEP guidelines (100 ppm, 3 ppm and 2 ppm, respectively). Also, the contamination identified is restricted in shallow depths; the concentration levels detected in the next depth interval samples are well within NJDEP guidelines. Therefore, no further vertical delineation is required. Horizontal delineation of the metal contamination has been completed except for the area of Boring PI-31. Petroleum hydrocarbon levels identified in the three (3) shallow samples slightly exceeded the ECRA level. The post-excavation sampling will confirm the complete removal of contamination in this case.

Areas which exhibited contamination above the ECRA action level during the two-phase program are depicted on Figure 2. The Cleanup Plan will address the soil contamination identified in the dumpster staging area.

3.2 OIL STAINED AREA

3.2.1 Phase 1 Sampling Results Summary

The initial soil sampling results identified moderate PHC, PM13 and BN contamination in the area referred to as Oil Stained Area. The PHC concentrations ranged between 110 and 1400 ppm, and extended to a depth of about 3.5 feet. The soil sample collected at a depth of 5.0 feet during the monitoring well (MW-4) installation contained a PHC concentration level (97 ppm) slightly below NJDEP guideline. Minor BN contamination was also identified in two (2) of the three (3) samples analyzed during the initial phase.

Contamination level above the ECRA action level for one (1) or more priority pollutant metals was detected in all samples (except Sample PI-25C). These metals included cadmium, chromium, copper, lead, nickel, silver and zinc at varying concentrations above the appropriate NJDEP cleanup level. The vertical delineation of metal contamination, except for Cd and Ag, was completed during the initial phase investigation. Cd and Ag concentration found in the deepest samples (3.0 - 3.5 feet depth interval) collected from the Borings PI-24 and PI-26 were above ECRA acceptable level.

3.2.2 Phase 2 Sampling Results

A total of eleven (11) soil borings (PI-33 to PI-43) were installed during the second phase in order to further define the horizontal and vertical extent of contaminants identified in the initial sampling program. As shown on Figure 3, the borings are situated in two ring patterns surrounding the Phase I borings. A total of four (4) samples were collected from each boring at depths of 0 - 0.5, 3.0 - 3.5, 5.0 - 5.5 and 7.0 - 7.5 feet. It should be noted that no groundwater was encountered to a depth of 7.5 feet during the soil boring program. A two-stage sample analyses program was conducted, as discussed in the approved Sampling Plan Addendum, to delineate horizontal and vertical extent of contamination. All shallow samples collected from the inner ring of Phase II borings (PI-33 to PI-38) were analyzed during the Stage 1 sample analyses program. The deeper samples from these inner borings as well as all the samples collected from the outer ring borings were retained for later analyses (Stage 2), if required. The sampling depth, as well as analytical parameters, were selected based on the soil sample locations which indicated elevated levels during the Stage 1 analyses. The samples collected for the area were analyzed for PHC, PM13 (or specific metals) with 25% of the samples analyzed for BN+15. The Stage 1 sample analyses summary is provided on Table 1.

Based on the results obtained, selected Stage 2 samples (Table 2) were submitted for laboratory analyses. It should be noted that the sample holding times, as required by ECRA Draft Sampling Plan Guide, were not exceeded during the Stage 2 sample analyses. Stage 1 sample analyses for PHC and mercury were expedited in order to meet the required holding time (28 days) during the later sample analyses for these parameters. The holding time for priority pollutant metals (except mercury) is 6 months. Also, the selected samples for base neutral analyses (Table 2A) were extracted within 14 days of sampling; later, certain samples (Table 2) were selected for BN analyses based on Stage 1 results. The BN analysis was completed within 40 days of sample extraction.

3.2.2.1 Stage 1 Sample Analyses Results

Three (3) shallow soil samples collected from the six (6) soil borings (PI-33 through PI-38) were initially submitted for laboratory analyses. The analytical parameters were based on the results of the Phase I investigation. Samples collected at depth intervals of 0 - 0.5 and 3.0 - 3.5 feet were analyzed for PHC and PM13. In addition to PHC analyses, the 5.0 - 5.5 feet depth samples were analyzed for two (2) specific metals (Ag and Cd). Deeper samples (7.0 - 7.5 feet depth) were retained for later analysis, if required. A summary of the petroleum hydrocarbon (PHC) and metals analysis results are provided as Table 4.

Surface samples (0 - 0.5 feet) collected from the four (4) borings (PI-33, 35, 37 and 38) located on each side of the area, were analyzed for BN+15 to determine horizontal extent of contamination. Also, the 5.0 - 5.5 depth samples collected from Borings PI-33 and PI-38 were included for BN+15 analyses to obtain vertical delineation. Base neutral+15 analytical results are summarized on Table 5.

The initial stage sample analyses identified above-ECRA levels of PHC at two (2) sample locations out of the eighteen (18) samples analyzed (Table 4). Samples PI-33B (3.0 - 3.5 feet) and PI-35C (5.0 - 5.5 feet) contained 620 ppm and 180 ppm, respectively. The remaining soil samples except PI-35B, PI-36A and PI-38A, did not contain any detectable level of PHC (<50 ppm); the other three (3) samples exhibited detectable concentration levels well below the ECRA action level.

Priority pollutant metals (PM13) analysis was conducted for twelve (12) shallow samples (0 - 0.5 and 3.0 - 3.5 feet). The six (6) intermediate level samples (5.0 - 5.5 feet depth) were analyzed for Ag and Cd. Five (5) of the twelve (12) shallow samples contained low levels of one (1) or two (2) metals above NJDEP guidelines. However, only one (1) of the six (6) intermediate samples exhibited elevated levels of cadmium and silver.

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As expected, cadmium and silver were the two (2) most common metal contaminants identified in the shallow samples (Table 4). The highest levels of the two metals detected during the Stage 1 analyses were 46 ppm (Sample PI-33B) and 45 ppm (PI-35C). Cadmium concentrations detected in the other four (4) samples were between 3.2 ppm (Sample PI-34A) and 22 ppm (Sample PI-35B). Two (2) other samples contained silver levels at 8.4 ppm (PI-35B and 19 ppm (PI-37A). In addition, antimony and beryllium contamination was detected in certain samples. Sample PI-38A contained 3.0 ppm of antimony (Sb). Two (2) samples (PI-34B at 1.9 ppm and PI-37A at 1.1 ppm) contained slightly elevated levels of Beryllium (Be).

During the BN+15 analyses, three (3) of the six (6) samples exceeded NJDEP guideline of 10 ppm. All three samples were collected at 0 - 0.5 feet interval; the samples were PI-35A, PI-37A and PI-38A. PI-35A and PI-38A contained only low levels of contamination; 10.64 and 15.01 ppm of priority pollutant base neutrals were detected in the samples. However, PI-37A exhibited a significantly elevated level of 80.82 ppm. The presence of certain compounds (e.g. 0.8 ppm of acenapthene) identified in Sample PI-37A, indicate that the sample may have been contaminated with macadam, rather than oil. This was confirmed by microscopic analysis of a Stage 2 sample exhibiting similar concentration levels (see Section 3.2.2 for details). The concentration level significantly decreased to 4 ppm at 5.0 to 5.5 depth (Sample PI-37C). The BN concentration detected in the two (2) samples collected from Boring PI-33 were also below NJDEP guidelines (Table 5).

Moderately high concentrations of several non-priority pollutants were detected in all six (6) samples during the forward library search. However, most of these compounds were also found in method blank indicating possible laboratory contamination (Table 5). As expected, the three (3) samples containing elevated levels of priority pollutant base neutrals also contained elevated levels of additional compounds. The remaining three (3) samples contained only one or two additional compounds.

3.2.2.2 Stage 2 Sample Analyses Results

In order to further define horizontal extent of contamination identified during the Stage 1 sample analyses, certain soil samples from the outer ring borings (PI-39 to PI-43) were selected for Stage 2 sample analyses. A total of seven (7) samples were selected for target parameter analyses (Table 2). In addition, a deeper level sample (7.0 - 7.5 depth) obtained from an inner boring (PI-35) was analyzed to complete vertical delineation. A summary of the Stage 2 sampling results is provided as Table 8.

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A total of three (3) soil samples were analyzed to delineate PHC contamination identified in samples PI-33B and PI-35C. The two (2) outer boring samples PI-40B and PI-42C, collected at the comparable depth interval, contained below ECRA levels of PHC. Sample PI-40B contained 60 ppm of PHC; no detectable level (<50 ppm) was found in the second sample. Also, the base sample (Sample PI-35D, 7.0 - 7.5 feet depth) did not contain any detectable level (<50 ppm) of PHC. Therefore, horizontal and vertical delineation of PHC contamination has been completed.

Stage 1 sample analyses identified above-ECRA levels of four (4) specific metals in certain samples; these metals include: Ag, Be, Cd and Sb. Seven (7) soil samples were selected for target metal analyses during the Stage 2 sample analyses program. All (except Sample PI-35D) were analyzed to complete horizontal delineation (Table 2). Sample PI-35D was analyzed to obtain vertical extent of certain metal contamination identified in Sample PI-35C.

Samples PI-35D (7.0 - 7.5 feet), PI-42B (3.0 - 3.5 feet), PI-42C (5.0 - 5.5 feet) and PI-43A (0 - 0.5 feet) were analyzed for Cd and Ag. In addition, Samples PI-40B and PI-41B (both taken at 3.0 - 3.5 foot interval) were analyzed for Cd. Sample PI-39A (0-0.5 feet) was analyzed for Sb. No additional sample analysis was conducted for Be, since only one Stage 1 sample (PI-37A, 1.1 ppm) slightly exceeded the NJDEP guideline of 1 ppm. Also, the concentration level detected is comparable to the level identified in the background area sampling (Section 3.3).

No concentration level of Ag was detected in the four (4) samples analyzed. However, Cd concentration exceeded NJDEP guidelines for two (2) samples analyzed for the metal. Sample PI-43A (0-0.5 feet) and PI-40B (3.0 - 3.5 feet) contained 3.1 and 17.0 ppm, respectively. These levels are comparable to the concentrations detected in the background area (Section 3.3). Only a trace level (0.6 to 1.6 ppm) of cadmium was detected in the remaining four samples (Table 8). Antimony concentration (2.8 ppm) detected in Sample PI-39A (0 - 0.5 feet) also exceeded NJDEP guideline.

Three (3) surface (0 - 0.5 feet) samples, (PI-39A, PI-42A and PI-43A) were analyzed for BN+15 during the Stage 2 sample analyses program, specifically to determine the horizontal extent of high BN levels detected at sample location PI-37A. Only moderate levels of base neutral compounds were detected in Samples PI-42A (7.45 ppm) and PI-43A (10.26 ppm), however a very high level (89.28 ppm) was detected in Sample PI-39A. The boring location is east of the fenceline outside the property limits. The type, and concentration level of base neutral compounds, identified at location PI-39, are similar to the Stage 1 Sample PI-37A. As discussed previously, the contamination appears to be related to the presence of macadam rather than oil in the sample.

The contract laboratory was requested to verify the reported base neutral concentration and also to evaluate the possiblity of sample contamination by coal residues. In response to JMS inquiry, additional sample analyses was conducted by Accutest Laboratories. The PHC analyses of the sample indicated no detectable concentration (<50 ppm). Also, the review of the total ion chromatogram of the base neutral analyses did not indicate the characteristics of petroleum hydrocarbons. The subsequent microsopic analyses of the sample indicated the presence of macadam particles. The base neutral contamination identified in the sample can be attributed to the macadam particles mixed in with the soils. Accutest correspondence detailing this additional analysis is provided as Appendix E. Since the material identified is stable in the environment, it does not represent a migratory problem.

In brief, the two (2) stage sample analyses program implemented during the Second Phase investigation has delineated the extent of contamination; the nature of the contamination had been previously identified by the Phase I program. Certain base neutral contamination identified in the area appears to be related to coal contamination. In addition, BN and the metal concentration levels are comparable to the Background Area. Cd and Be metal contamination has been delineated to the background area levels. Although the extent of the Ag contamination has been delineated to the NJDEP acceptable levels, the concentration levels reported are well below background area.

The Cleanup Plan will address the PHC and associated BN contamination. However, no remedial activities will be required to remove the BN and metal contamination attributable to the coal residues or the historic filling operations.

3.3 BACKGROUND AREA - AREA 4

3.3.1 Phase 1 Sampling Results Summary

The surface sample (PI-27A) obtained from the background boring indicated significantly elevated levels of base neutral compounds (total of 34.6 ppm), including 32.0 ppm of bis-2-ethylhexyl phthalate. The two (2) deeper samples obtained from the boring contained only trace levels. Sample PI-27B (2.0 - 2.5 feet) and PI-27C (6.0 - 6.5 feet) contained 0.41 ppm and 1.34 ppm of base neutral compounds. Bis-2-ethylhexyl phthalate was not found in the intermediate sample (2.0 - 2.5 feet depth), however 0.44 ppm was detected in the base sample PI-27C (6.0 - 6.5 feet). No significant concentration levels of metals and petroleum hydrocarbons were detected in the three (3) samples.

3.3.2 Phase 2 Sampling Results

In order to further define the phthalate contamination discussed above, additional investigation was required by the BEECRA. The BEECRA recommended sampling for phthalates at three (3) locations, approximately 50 feet from the previous background sample (Boring PI-27). The following additional soil sampling and analysis program was implemented at the site area to further define the background soils quality.

In addition to the BEECRA recommended locations, three (3) borings were installed at a distance of 5.0 feet from the previous sample location. Also, in addition to BN+15 analyses, the samples were analyzed for metals and petroleum hydrocarbons. Thus, a total of six (6) soil borings (PI-44 to PI-48, Figure 3) were installed in the Background Area (Area 4) during the Phase 2 investigation. A two-stage sample analysis program, similar to that of the stained area discussed above (Section 3.2), was employed during the investigation of this area. Two (2) samples were collected from each boring at 0 - 0.5 feet and 1.0-1.5 feet interval.

3.3.2.1 Stage 1 Sample Analyses Results

All six (6) surface samples (PI-44A to PI-49A) and three (3) shallow samples (PI-44B to PI-46B) obtained from the 5.0 foot distance borings (optional borings) were analyzed for BN+15 (Table 1) during the Stage 1 sample analysis program. Also, the surface samples obtained from the three (3) BEECRA required locations were analyzed for PM13 and PHC.

No significant BN contamination was identified during the sample analyses. Only one (1) sample (PI-44A) exceeded NJDEP guideline of 10 ppm. The sample contained approximately 16.7 ppm of priority pollutant base neutral compounds. The remaining eight (8) samples contained total base neutral concentrations between 0.3 ppm and 6.73 ppm. The specific compounds detected in Sample PI-44A are identical to the two (2) stained area samples (PI-37A and PI-39A) believed to have been contaminated with macadam. Also, the sample location is within 5.0 feet of the previous background boring location. However, only 0.06 ppm of bis-2-ethylhexyl phthalate was found in Sample PI-44A (Table 6), compared with 32 ppm detected in the previous sample. Only two other samples contained trace levels (<0.15 ppm) of bis-2-ethylhexyl phthalate.

Several non-priority pollutant base-neutral compounds were detected in all samples at low to moderate levels; however the compounds were also found in the method blank indicating lab contamination (Table 6).

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No PHC levels were detected in the three (3) samples analyzed for the background area. However, two of these samples contained elevated levels of one or two metals. Sample PI-47A contained above-ECRA level (23 ppm) of arsenic. Sample PI-48A contained elevated levels of beryllium (1.2 ppm) and cadmium (13 ppm). The sample also contained significant level (160 ppm) of lead metal (Table 7).

3.3.2.2 Stage 2 Sample Analyses Results

In order to further define the extent of metal contamination identified in the area during the Stage 1 sample analyses, certain additional samples were selected for specific metal analyses. A total of five (5) samples were selected for target metal analyses during the Stage 2 sample analyses program (Table 2).

The surface samples obtained from the three (3) optional borings (5.0 foot distance) were analyzed for all three (3) metals which were found at elevated levels in the BEECRA required borings (50 feet). The purpose of these samples was to define horizontal extent of metal contamination. The samples were analyzed for As, Be and Cd. However, only Cd level exceeded NJDEP guideline at one sample location. Sample PI-44A contained 3.6 ppm of cadmium.

In order to define the vertical extent of contamination identified in the two surface samples analyzed during the initial stage sample analyses program, Sample PI-47B was analyzed for As, and Sample PI-48B was analyzed for Be and Cd. These were the only metals above NJDEP guidelines. The Stage 2 sample analysis results of these two shallow samples (1.0 - 1.5 feet) were within ECRA acceptable levels.

In brief, the two (2) stage sample analyses program implemented in the Background Area during the second phase investigation confirm that the contamination identified in the area is unrelated to ACT operations. The results obtained are similar to our findings for the stained area investigation. The metal contamination appears to be associated with the previous filling of the area. The BN contamination appears to be related to macadam contamination of the soil samples rather than plasticizers utilized in the site operation. The neighboring facility is involved in the manufacture of roofing tar. The contamination identified can be attributed to this neighboring operation. The results of the microscopic analyses of the sample, specifically the nature of macadam particles identified, indicate that the airborne residues or fly-ash particles originated during the roof-tar manufacturing operation and later deposited on the site property, have contaminated the certain areas of the site.

Since the soil contamination identified in this area of concern is unrelated to the ACT operation, no further action is required.

3.4 SOILS INVESTIGATION SUMMARY

The two-phased soil boring and sample analyses program conducted by JMS at the ACT facility has adequately delineated the nature and extent of contamination present at the site. The petroleum and metals contamination present at the railroad siding and dumpster staging area is primarily surficial in extent, and is derived from oil staining associated with the railroad operations and storage of industrial wastes in the dumpster. No significant base neutral (BN) contamination has been identified in these two (2) areas; only one (1) sample contained elevated levels of BN. Similarly, certain soil contamination, specifically the petroleum hydrocarbons (PHC), identified in the oil stained area appears to have resulted from the site operations. The BN contamination noted appears to be related to macadam particles in the sample. The source of the macadam present is probably associated with an adjacent roofing material production facility and is not associated with ACT operations.

The site Cleanup Plan will address the remediation of the contaminated soils found in the site areas. A soil cleanup plan will be prepared following the BEECRA review of this report.

The BN and metal contamination identified in the oil stained area and the background area is unrelated to the ACT operations. The contamination identified in these two (2) areas appears to have resulted from an off-site source (BN contamination) or the previous filling of the area by construction debris (metals contamination). Since the contamination is unrelated to ACT operation, no further action is required.

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4.0 GROUNDWATER SAMPLING RESULTS

4.1 PHASE 1 INVESTIGATION SUMMARY

Six (6) groundwater monitoring wells (MW-1 to MW-6, Figure 1) were installed at the site during the initial phase of the JMS investigation. The wells were installed at the BEECRA approved location in accordance with the NJDEP specification for wells in unconsolidated formations. Due to site constraints, two (2) wells (MW-5 and MW-6) were installed with 2-inch diameter PVC screen and casing material. The presence of a lower confining strata of dense clay encountered at varying depths of 8.0 to 12.0 feet across the site required certain modifications during the well construction. The screened interval was decreased in certain wells so that the wells are completed within the first groundwater zone and the confining substratum is not penetrated. These modifications were approved by the NJDEP geologist present on the site during well installation.

Also, a thin saturated zone was encountered above the lower confining strata in Well MW-4; however, no stabilized water has been measured in the well during several monitoring visits. The base of the 10-foot screen is located at 12 feet depth. It should be noted that the well is located in an area which has been filled with concrete and wood construction debris. An extensive soil borings program has been completed in the area during the two (2) phases, however, no groundwater has been encountered in any of these fifteen (15) borings installed to a depth of up to 7.5 feet. The water level measured in remaining on-site wells is generally between 2.5 to 4.0 feet depth range, except for Well MW-3. Groundwater occurs at about 7.5 to 8.0 feet in MW-3. Therefore, we believe that Well MW-4 is dry due to the nature of fill material, rather than improper construction.

The first round of groundwater sample obtained from the five (5) wells were analyzed for base neutrals +15 (BN+15), acid extractables +10, priority pollutant metals (PM13), petroleum hydrocarbons (PHC) and ethylene glycol. The sample analyses identified only a slightly elevated level of PHC in Well MW-5 at 2 ppm.

4.2 PHASE 2 SAMPLING RESULTS

A second round of groundwater samples were collected from all five (5) wells during this phase. The samples were analyzed for BN+15, PM13 and PHC, in accordance with the approved Sampling Plan Addendum. Please note that due to low yield of 2-inch diameter Well MW-5, the required sampling was conducted over two (2) day period. The metal and PHC fractions were sampled with the remaining four (4) wells. Five days later, the BN fraction of the sample for Well MW-5 was obtained. A separate field blank was collected for each day of sampling. The well purging and groundwater sampling procedures approved in the initial Sampling Plan were utilized during the additional program; the detailed sampling procedures were submitted in our June

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14, 1988 report. The groundwater sampling results are summarized on Table 9. The field blank sampling results for the Phase 2 investigation are provided as Table 10. The groundwater elevation measured prior to the sampling is indicated for each well on the potentiometric map (Figure 4).

During the second round of groundwater sample analyses program, no detectable levels of BN and PHC concentrations were found in the samples (Table 9). Trace level (6 and 9 ppb, respectively) of only one (1) non-priority pollutant base neutral compound was found in Samples MW-5 and MW-6.

Trace concentration levels of several metals were found in all samples. However, only two (2) samples (Wells MW-2 and MW-6) contained levels of one (1) or two (2) metals in concentrations above the ECRA action level. Slightly elevated level of chromium was found in both samples. Samples MW-2 and MW-6 contained 0.062 ppm and 0.086 ppm, respectively; NJDEP guideline for chromium contamination is 0.05 ppm. Sample MW-6 also contained a slightly elevated level (0.013 ppm) of cadmium; the NJDEP guideline for cadmium contamination in the groundwater is 0.01 ppm.

4.3 PROPOSED GROUNDWATER INVESTIGATION

The completed groundwater investigation has adequately established groundwater flow at the site. The two (2) rounds of sampling data confirm that only minor contamination is present at one (1) or two (2) wells. The extensive soil boring and sample analysis program has determined that the soil contamination present on the site is primarily surficial and in most cases does not extend to the water table. Therefore, no additional hydrogeologic investigation is required at the site.

4.3.1 Response to BEECRA Letter Dated January 11, 1989

BEECRA correspondence dated January 11, 1989, has requested an additional groundwater investigation at the site. The following provides a brief discussion of BEECRA concerns.

Item 1 requires installation of a well (MW-7) in the dumpster area. As discussed in Section 3.2 above, a soil remediation program will be required for this area of concern. The BEECRA requested location is within the known area of contamination. Therefore, any wells installed may be damaged during the soil remedial program.

As discussed above in Section 4.1, Well MW-4, located in the oil stained area (Area 3) is dry. The well is located in a filled portion of the property. No groundwater has been encountered to a depth of 7.5 feet in the soil borings installed in the area. The soil contamination is restricted to a depth of less than 3.5 feet, except for location PI-35 (Figure 3). Only minor contamination extends to a depth of 5.0 - 5.5 feet at location

PI-35; however, no contamination was found in the deeper sample. Therefore, there is no potential for any groundwater contamination. Thus, the investigation required in Item 2 of the letter, specifically the flushing of the well in an effort to yield groundwater or a replacement well, is not warranted. Also, a replacement well (if installed) may be damaged during the soil remediation program.

Item 5 of the BEECRA letter requires an additional round of groundwater sampling for MW-3, MW-5 and MW-6 for VO+15 and ethylene glycol analyses. However, the previous PP+40 analyses conducted by others during the early phases of ECRA compliance program has established that VO is not a concern at the ACT site. The materials utilized during the operations conducted at the site do not include VO compounds. Also, the two (2) rounds of completed groundwater sampling was conducted in accordance with the analytical parameters specified by the previously assigned geologist and approved by BEECRA. Therefore, the additional sampling for VO+15 analysis is not warranted based on available site data. The initial round of groundwater sampling included analyses for ethylene glycol. No concentration levels of the analyte above method detection limit have been identified. Thus, additional sampling for ethylene glycol is not warranted.

A Hydrogeological Assessment Request was included as Appendix A of the facility Sampling Plan (dated November 1986). The request included an inventory of wells located within a 1-mile radius of the site. No domestic water wells are located in the 1-mile area. Also, no public water supply wells are located downgradient to the site. The records available at the NJDEP Trenton offices indicate that the five (5) wells, owned by Conrail (numbered 7 to 11 on the request) are monitoring wells, and not used for human consumption. No further action is necessary to satisfy Item 7 of the BEECRA letter.

ADVANC HEMICAL TECHNOLOGY - ECRA CASE #84011
STAGE MPLE ANALYSIS SUMMARY BY LOCATION

ATION	SAMPLE NO.	PURPOSE OF SAMPLING	SAMPLE DEPTH * (ft. below ground)	MATRIX	SAMPLING DATE	ANALYTICAL PARAMETERS
DUMPSTER AREA						
30	PI-30A	D	0-0.5'	SOIL	10-20-88	PHC, PM13
	PI-30B	D	1.0-1.5'	SOIL	10-20-88	PHC, PM13
	PI-30C	D	7.0-7.5'	SOIL	10-20-88	PHC, PM13
	PI-31A	D	0-0.5'	SOIL	10-20-88	PHC, PM13
	PI-31B	D	1.0-1.5'	SOIL	10-20-88	PHC, PM13
	PI-31C	D	7.0-7.5'	SOIL	10-20-88	PHC, PM13
32	PI-32A	D	0-0.5'	SOIL	10-20-88	PHC, PM13
	PI-32B	D	1.0-1.5'	SOIL	10-20-88	PHC, PM13
	PI-32C	D	6.0-6.5'	SOIL	10-20-88	PHC, PM13
OIL STAINED AREA						
	PI-33A	D	0-0.5'	SOIL	10-19-88	PHC, PM13, BN+15
	PI-33B	D	3.0-3.5'	SOIL	10-20-88	PHC, PM13
	PI-33C	D	5.0-5.5'	SOIL	10-20-88	PHC, BN+15, Cd, Ag
	PI-34A	D	0-0.5'	SOIL	10-19-88	PHC, PM13
	PI-34B	D	3.0-3.5'	SOIL	10-19-88	PHC, PM13
	PI-34C	D	5.0-5.5'	SOIL	10-20-88	PHC, Cd, Ag
	PI-35A	D	0-0.5'	SOIL	10-19-88	PHC, PM13, BN+15
	PI-35B	D	3.0-3.5'	SOIL	10-20-88	PHC, PM13
	PI-35C	D	5.0-5.5'	SOIL	10-20-88	PHC, Cd, Ag
	PI-36A	D	0-0.5'	SOIL	10-19-88	PHC, PM13
	PI-36B	D	3.0-3.5'	SOIL	10-19-88	PHC, PM13
	PI-36C	D	5.0-5.5'	SOIL	10-19-88	PHC, Cd, Ag
	PI-37A	D	0-0.5'	SOIL	10-19-88	PHC, PM13, BN+15
	PI-37B	D	3.0-3.5'	SOIL	10-19-88	PHC, PM13
	PI-37C	D	5.0-5.5'	SOIL	10-19-88	PHC, BN+15, Cd, Ag
	PI-38A	D	0-0.5'	SOIL	10-19-88	PHC, PM13, BN+15
	PI-38B	D	3.0-3.5'	SOIL	10-19-88	PHC, PM13
	PI-38C	D	5.0-5.5'	SOIL	10-19-88	PHC, Cd, Ag

ATTACHMENT NN28

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #840
STAGE 1 SAMPLE ANALYSIS SUMMARY BY LOCATION
(continued)

LOCATION	SAMPLE NO.	PURPOSE OF SAMPLING	SAMPLE DEPTH * (ft. below ground)	MATRIX	SAMPLING DATE	ANALYTICAL PARAMETERS
EA 4 - BACKGROUND AREA						
PI-44	PI-44A	I/D	0-0.5'	SOIL	10-20-88	PHC, BN+15
	PI-44B	I/D	1.0-1.5'	SOIL	10-20-88	PHC, BN+15
	PI-44C	I/D	8.0-8.5'	SOIL	10-20-88	PHC
PI-45	PI-45A	I/D	0-0.5'	SOIL	10-20-88	PHC, BN+15
	PI-45B	I/D	1.0-1.5'	SOIL	10-20-88	PHC, BN+15
	PI-45C	I/D	8.0-8.5'	SOIL	10-20-88	PHC
PI-46	PI-46A	I/D	0-0.5'	SOIL	10-20-88	PHC, BN+15
	PI-46B	I/D	1.0-1.5'	SOIL	10-20-88	PHC, BN+15
	PI-46C	I/D	7.75-8.25'	SOIL	10-20-88	PHC
PI-47	PI-47A	I/D	0-0.5'	SOIL	10-20-88	PHC, BN+15, PM13
	PI-47B	I/D	1.0-1.5'	SOIL	10-20-88	PHC
	PI-47C	I/D	7.75-8.25'	SOIL	10-20-88	PHC
PI-48	PI-48A	I/D	0-0.5'	SOIL	10-20-88	PHC, BN+15, PM13
	PI-48B	I/D	1.0-1.5'	SOIL	10-20-88	PHC
	PI-48C	I/D	7.75-8.25'	SOIL	10-20-88	PHC, BN+15
PI-49	PI-49A	I/D	0-0.5'	SOIL	10-20-88	PHC, BN+15, PM13
	PI-49B	I/D	1.0-1.5'	SOIL	10-20-88	PHC
	PI-49C	I/D	7.5-8.0'	SOIL	10-20-88	PHC
MONITORING WELLS						
	MW-1	M	- 5.43	WATER	10-21-88	PHC, BN+15, PM13
	MW-2	M	- 5.92	WATER	10-21-88	PHC, BN+15, PM13
	MW-3	M	- 8.11	WATER	10-21-88	PHC, BN+15, PM13
	MW-4	M	DRY	-------	--------	----------
	MW-5	M	- 4.61	WATER	10-21-88	PHC, PM13
	MW-5	M	- 4.60	WATER	10-26-88	BN+15
	MW-6	M	- 5.58	WATER	10-21-88	PHC, BN+15, PM13

ATTACHMENT NN29

TABLE 1
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #8401
STAGE 1 SAMPLE ANALYSIS SUMMARY BY LOCATION
(continued)

LOCATION	SAMPLE NO.	PURPOSE OF SAMPLING	SAMPLE DEPTH * (ft. below ground)	MATRIX	SAMPLING DATE	ANALYTICAL PARAMETERS
ITY ASSURANCE/QUALITY CONTROL						
IELD BLANK	PI-FB(4)	---	--------	WATER	10-19-88	PHC, PM13, BN+15
	PI-FB(5)	---	--------	WATER	10-20-88	PHC, PM13, BN+15
	FB-6	---	--------	WATER	10-21-88	PHC, PM13, BN+15
	FB-7	---	--------	WATER	10-26-88	BN+15

ES:

PURPOSE OF SAMPLING
- I - INITIAL SCREENING
- D - DELINEATION
- M - MONITORING

- Ag - SILVER
- Cd - CADMIUM
- PHC - PETROLEUM HYDROCARBONS (EPA METHOD 418.1)
- BN+15 - BASE NEUTRAL EXTRACTABLES WITH LIBRARY SEARCH (EPA METHOD 625)
- PM13 - PRIORITY POLLUTANTS (SW - 846 METHODS)

ATTACHMENT NN30

TABLE 2A

ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE #84011

STAGE 2 SAMPLE ANALYSIS SUMMARY - BASE NEUTRAL EXTRACTABLES

LOCATION	SAMPLE NO.	PURPOSE OF SAMPLING	SAMPLE DEPTH * (ft. below ground)	MATRIX	SAMPLING DATE	ANALYTICAL PARAMETERS
AREA 3 - OIL STAINED AREA						
PI-33	PI-33D	D	7.0-7.5'	SOIL	10-19-88	B625XH
PI-35	PI-35D	D	7.0-7.5'	SOIL	10-20-88	B625XH
PI-37	PI-37D	D	7.0-7.5'	SOIL	10-19-88	B625XH
PI-38	PI-38D	D	7.0-7.5'	SOIL	10-19-88	B625XH
PI-39	PI-39A	D	0-0.5'	SOIL	10-19-88	B625XH
PI-40	PI-40A	D	0-0.5'	SOIL	10-19-88	B625XH
PI-42	PI-42A	D	0-0.5'	SOIL	10-19-88	B625XH
PI-43	PI-43A	D	0-0.5'	SOIL	10-19-88	B625XH

NOTES:

PURPOSE OF SAMPLING

D - DELINEATION

BN625XH - EXTRACT AND HOLD SAMPLES FOR BASE NEUTRAL EXTRACTABLES WITH LIBRARY SEARCH (EPA METHOD 625) ANALYSES (IF REQUIRED)

ATTACHMENT NN31

TABLE 2
ADVANCED CHL ICAL TECHNOLOGY - ECRA C# # 84011
STAGE 2 SAMPLE ANALYSIS SUMMARY - AREAS 3 AND 4

LOCATION	SAMPLE NO.	SAMPLE DEPTH	ANALYTICAL PARAMETERS
AREA 3 - OIL STAINED AREA			
PI-35	PI-35D	7.0-7.5'	Cd, Ag, PHC
PI-39	PI-39A	0-0.5'	Sb, BN+15
PI-40	PI-40B	3.0-3.5'	Cd, PHC
PI-41	PI-41B	3.0-3.5'	Cd
PI-42	PI-42A	0-0.5'	BN+15
	PI-42B	3.0-3.5'	Cd, Ag
	PI-42C	5.0-5.5'	Cd, Ag, PHC
PI-43	PI-43A	0-0.5'	Cd, Ag, BN+15
AREA 4 - BACKGROUND AREA			
PI-44	PI-44A	0-0.5'	As, Be, Cd
PI-45	PI-45A	0-0.5'	As, Be, Cd
PI-46	PI-46A	0-0.5'	As, Be, Cd
PI-47	PI-47B	1.0-1.5'	As
PI-48	PI-48B	1.0-1.5'	Be, Cd

NOTES:

Ag - SILVER (EPA METHODS SW-846)
As - ARSENIC (EPA METHODS SW-846)
Be - BERYLIUM (EPA METHODS SW-846)
Cd - CADMIUM (EPA METHODS SW-846)
Sb - ANTIMONY (EPA METHODS SW-846)
PHC - PETROLEUM HYDROCARBONS (EPA METHOD 418.1)
BN+15 - BASE NEUTRAL EXTRACTABLES WITH LIBRARY SEARCH (EPA METHOD 625)

ATTACHMENT NN32

TABLE 4
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS SUMMARY - OIL STAINED AREA (AREA 3)
(METALS AND PHC)

SAMPLE NUMBER	PI-33A	PI-33B	PI-33C	PI-34A	PI-34B	PI-34C	PI-35A	PI-35B	PI-35C	PI-36A	PI-36B	PI-36C
DEPTH	0-0.5'	3.0-3.5'	5.0-5.5'	0-0.5'	3.0-3.5'	5.0-5.5'	0-0.5'	3.0-3.5'	5.0-5.5'	0-0.5'	3.0-3.5'	5.0-5.5'
METAL ANALYSIS (ppm)												
ANTIMONY	.46	<0.10	NA	<0.10	.25	NA	.6	.42	NA	.32	.24	NA
ARSENIC	2.8	8.7	NA	5.0	20	NA	4.4	6.7	NA	6.8	20	NA
BERYLLIUM	<0.50	<0.50	NA	.84	1.9 #	NA	<0.50	<0.50	NA	<0.50	.75	NA
CADMIUM	1.5	46 #	1.5	3.2 #	3.6 #	1.6	1.6	22 #	8.0 #	1.2	1.2	1.2
CHROMIUM	20	51	NA	24	44	NA	22	24	NA	21	29	NA
COPPER	14	40	NA	29	15	NA	94	49	NA	150	18	NA
LEAD	22	80	NA	28	19	NA	49	43	NA	63	14	NA
MERCURY	<0.10	<0.10	NA	<0.10	.34	NA	<0.10	<0.10	NA	.14	.1	NA
NICKEL	7.3	39	NA	8.0	18	NA	8.2	49	NA	13	13	NA
SELENIUM	.14	.20	NA	.13	.22	NA	.12	<0.10	NA	.21	.20	NA
SILVER	<1.0	7.8	<1.0	<1.0	1.6	<1.0	<1.0	8.4 #	45 #	1.1	<1.0	<1.0
THALLIUM	.11	.17	NA	<0.10	.28	NA	.12	.31	NA	<0.10	.28	NA
ZINC	37	160	NA	49	59	NA	54	85	NA	90	17	NA
TOTAL PERCENT SOLIDS	84	83	97	94	64	96	94	90	91	94	74	95
PETROLEUM HYDROCARBONS (ppm)	<50	620 #	<50	<50	<50	<50	<50	63	180 #	82	<50	<50

SAMPLE NUMBER	PI-37A	PI-37B	PI-37C	PI-38A	PI-38B	PI-38C
DEPTH	0-0.5'	3.0-3.5'	5.0-5.5'	0-0.5'	3.0-3.5'	5.0-5.5'
METAL ANALYSIS (ppm)						
ANTIMONY	.84	<0.10	NA	3.0 #	<0.10	NA
ARSENIC	17	3.5	NA	8.5	1.7	NA
BERYLLIUM	1.1 #	.93	NA	<0.50	<0.50	NA
CADMIUM	66	3.3	4.2	4.1	.89	1.9
CHROMIUM	33	33	NA	30	17	NA
COPPER	130	2.5	NA	39	<2.0	NA
LEAD	180	<10	NA	18	<10	NA
MERCURY	<0.10	<0.10	NA	.13	<0.10	NA
NICKEL	34	10	NA	11	5.2	NA
SELENIUM	.46	<0.10	NA	.57	.1	NA
SILVER	19 #	<1.0	2.6	1.8	<1.0	<1.0
THALLIUM	.17	.23	NA	<0.10	<0.10	NA
ZINC	98	32	NA	160	23	NA
TOTAL PERCENT SOLIDS	83	91	90	93	95	90
PETROLEUM HYDROCARBONS (ppm)	<50	<50	<50	84	<50	<50

NOTES:
ND - NOT DETECTED
ppm - PARTS PER MILLION
- ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT NW33
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TABLE 5
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SOIL SAMPLING RESULTS SUMMARY - OIL STAINED AREA (AREA 3)
(BASE NEUTRAL ORGANICS)

SAMPLE NUMBER	PI-33A	PI-33C	PI-35A	PI-37A	PI-37C	PI-38A
DEPTH	0-0.5'	5.0-5.5'	0-0.5'	0-0.5'	5.0-5.5'	0-0.5'
BASE NEUTRALS (ppb)						
ACENAPHTHENE	ND	ND	ND	780	ND	ND
ANTHRACENE	ND	ND	ND	2300	ND	100 J
BENZO (A) ANTHRACENE	69 J	ND	320 J	6400	ND	760
BENZO (A) PYRENE	70 J	ND	380 J	5000	ND	750
BENZO (B) FLUORANTHENE	71 J	ND	410 J	5600	ND	870
BENZO (K) FLUORANTHENE	64 J	ND	360 J	4100	ND	690
BENZO (GHI) PERYLENE	61 J	ND	290 J	3500	ND	600
BIS(2-ETHYLHEXYL)PHTHALATE	590	1900	2200	1300	ND	170 J
BUTYL BENZYL PHTHALATE	970	2000	2300	1700	510 J	490 J
CHRYSENE	83 J	ND	430 J	6900	ND	1200
DIBENZO (A,H) ANTHRACENE	ND	ND	ND	1400	ND	200 J
DI-N-BUTYL PHTHALATE	4800	1500	2300	4000	3500	4100
FLUORANTHENE	140 J	ND	500 J	14000	ND	1900
FLUORENE	ND	ND	ND	790	ND	ND
INDENO (1,2,3-CD) PYRENE	ND	ND	240 J	3000	ND	480 J
NAPHTHALENE	ND	ND	ND	150 J	ND	ND
PHENANTHRENE	90 J	ND	320 J	11000	ND	1200
PYRENE	110 J	ND	590	8900	ND	1500
TOTAL BASE NEUTALS (ppm)	7.118	5.4	10.64 #	80.82 #	4.01	15.01 #
LIBRARY SEARCH IDENITIFIED COMPOUNDS (ppb) *	2200 (2)	760 (1)	3050 (3)	11310 (12)	3140 (6)B	3960 (6)
	2570 (5)B	1920 (5)B	1600 (4)B	1020 (2)B		1260 (4)B
LIBRARY SEARCH UNIDENITIFIED COMPOUNDS (ppb) *	2500 (1)	7600 (1)	10350 (2)	6800 (1)	2200 (1)	2200 (1)
			490 (1)B			560 (1)B

NOTES:

J - BELOW METHOD DETECTION LIMIT
ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION
* - ESTIMATED CONCENTRATION (NUMBER OF COMPOUNDS IN PARENTHESIS)
\# - ABOVE NJDEP CLEANUP LEVEL

ATTACHMENT NN34

TABLE 10
ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 84011
SAMPLING RESULTS SUMMARY - FIELD BLANKS

SAMPLE NUMBER	PI-FB(4)	PI-FB(5)	FB-6	FB-7
SAMPLE DATE	10-19-88	10-20-88	10-21-88	10-26-88
BASE NEUTRALS (ppb)				
BIS(2-ETHYLHEXYL)PHTHALATE	3.5 J	ND	24 B	ND
DI-N-BUTYL PHTHALATE	ND	ND	1.6 J	ND
TOTAL BASE NEUTRALS (ppm)	.0035	ND	.0016	ND
LIBRARY SEARCH IDENTIFIED COMPOUNDS (ppb) *	17 (1) 12 (1)B	17 (1)B	6 (1)B	10 (2) 8 (1)B
LIBRARY SEARCH UNIDENTIFIED COMPOUNDS (ppb) *	ND	ND	ND	ND
METAL ANALYSIS (ppm)				NA
ANTIMONY	<.001	<.001	<.001	
ARSENIC	<.001	.001	.002	
BERYLLIUM	<.005	<.005	<.005	
CADMIUM	<.005	<.005	<.005	
CHROMIUM	<.025	<.025	<.025	
COPPER	<.020	<.020	<.020	
LEAD	<.001	<.001	<.001	
MERCURY	<.001	<.001	<.001	
NICKEL	<.040	<.040	<.040	
SELENIUM	<.001	<.001	<.001	
SILVER	<.010	<.010	<.010	
THALLIUM	<.001	<.001	<.001	
ZINC	<.050	<.050	<.050	
PETROLEUM HYDROCARBONS (ppm)	<1.0	<1.0	<1.0	NA

NOTES:

B - PROBABLE/POSSIBLE LAB CONTAMINATION
J - BELOW METHOD DETECTION LIMIT
NA - NOT ANALYZED
ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION
* - ESTIMATED CONCENTRATION (NUMBER OF COMPOUNDS IN PARENTHESIS)

ATTACHMENT NN35

APPENDIX A

LABORATORY ANALYTICAL RESULTS
(Sample QA/QC data included with original only)

ATTACHMENT NN36

352

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

): J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815397	10/19/88	13:05	AC	SOIL - PI-33A, AREA 3, 0-.5' PLANT INDUSTRIES
E815398	10/20/88	08:50	AC	SOIL - PI-33B, AREA 3, 3.0-3.5' PLANT INDUSTRIES
E815399	10/20/88	09:05	AC	SOIL - PI-33C, AREA 3, 5-5.5' PLANT INDUSTRIES
E815400	10/19/88	14:40	AC	SOIL - PI-36A, AREA 3, 0-5' PLANT INDUSTRIES
E815401	10/19/88	14:45	AC	SOIL - PI-36B, AREA 3, 3.0-3.5' PLANT INDUSTRIES
E815402	10/19/88	14:50	AC	SOIL - PI-36C, AREA 3, 5-5.5' PLANT INDUSTRIES

DEP CERTIFICATION 12129
EP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT 1 NN37

ACCUTEST®
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TO: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815403	10/19/88	15:05	AC	SOIL - PI-35A, AREA 3, 0-5' PLANT INDUSTRIES
E815404	10/20/88	10:35	AC	SOIL - PI-35B, AREA 3, 3-3.5' PLANT INDUSTRIES
E815405	10/20/88	10:50	AC	SOIL - PI-35C, AREA 3, 5-5.5' PLANT INDUSTRIES
E815406	10/19/88	16:00	AC	SOIL - PI-34A, AREA 3, 0-5' PLANT INDUSTRIES
E815407	10/19/88	16:10	AC	SOIL - PI-34B, AREA 3, 3-3.5' PLANT INDUSTRIES
E815408	10/20/88	08:20	AC	SOIL - PI-24C, AREA 3, 5-5.5' PLANT INDUSTRIES 34C

NJDEP CERTIFICATION 12129
EP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT 2 NW38

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. M. SORGE, INC.
3301 U. S. HIGHWAY 22
OMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

IPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
315409	10/19/88	11:15	AC	SOIL - PI-37A, AREA 3, 0-6" PLANT INDUSTRIES
15410	10/19/88	11:25	AC	SOIL - PI-37B, AREA 3, 3-3.5' PLANT INDUSTRIES
315411	10/19/88	11:35	AC	SOIL - PI-37C, AREA 3, 5-5.5 PLANT INDUSTRIES
15412	10/19/88	12:45	AC	SOIL - PI-38A, AREA 3, 0-6" PLANT INDUSTRIES
315413	10/19/88	12:55	AC	SOIL - PI-38B, AREA 3, 3.0-3.5' PLANT INDUSTRIES
15414	10/19/88	13:00	AC	SOIL - PI-38C, AREA 3, 5-5.5' PLANT INDUSTRIES

P CERTIFICATION 12129
P CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN39

355

ACCUTEST®
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TO: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815415	10/20/88	15:10	AC	SOIL - PI-30A, AREA 2, 0-5' PLANT INDUSTRIES
E815416	10/20/88	15:15	AC	SOIL - PI-30B, AREA 2, 1-1.5' PLANT INDUSTRIES
E815417	10/20/88	16:15	AC	SOIL - PI-30C, AREA 2, 7-7.5' PLANT INDUSTRIES
E815418	10/20/88	15:15	AC	SOIL - PI-31A, AREA 2, 0-.5' PLANT INDUSTRIES
E815419	10/20/88	15:25	AC	SOIL - PI-31B, AREA 2, 1.0-1.5' PLANT INDUSTRIES
E815420	10/20/88	16:25	AC	SOIL - PI-31C, AREA 2, 7.7.5' PLANT INDUSTRIES

NJDEP CERTIFICATION 12129
C' EP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN40

356

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O: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815421	10/20/88	15:35	AC	SOIL - PI-32A, 0-.5', AREA 2 PLANT INDUSTRIES
E815422	10/20/88	15:40	AC	SOIL - PI-32B, AREA 2, 1-1.5' PLANT INDUSTRIES
E815423	10/20/88	15:55	AC	SOIL - PI-32C, AREA 2, 6-6.5' PLANT INDUSTRIES
E815424	10/20/88	11:40	AC	SOIL - PI-44A, AREA 4, 0-.5' PLANT INDUSTRIES
E815425	10/20/88	11:45	AC	SOIL - PI-44B, AREA 4, 1.0-1.5' PLANT INDUSTRIES
E815426	10/20/88	12:05	AC	SOIL - PI-44C, AREA 4, 8-8.5' PLANT INDUSTRIES

NJDEP CERTIFICATION 12129
NYSDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT 5 NN41

357

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D: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815427	10/20/88	12:10	AC	SOIL - PI-45A, AREA 4, 0-.5' PLANT INDUSTRIES
E815428	10/20/88	12:15	AC	SOIL - PI-45B, AREA 4, 1-1.5' PLANT INDUSTRIES
E815429	10/20/88	12:30	AC	SOIL - PI-45C, AREA 4, 8-8.5' PLANT INDUSTRIES
E815430	10/20/88	12:40	AC	SOIL - PI-46A, AREA 4, 0-.5' PLANT INDUSTRIES
E815431	10/20/88	12:45	AC	SOIL - PI-46B, AREA 4, 1-1.5' PLANT INDUSTRIES
E815432	10/20/88	12:55	AC	SOIL - PI-46C, AREA 4, 7.75-8.25' PLANT INDUSTRIES

CERTIFICATION 12129

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ATTACHMENT NN42

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J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

MPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
15433	10/20/88	13:05	AC	SOIL - PI-47A, AREA 4, 0-.5' PLANT INDUSTRIES
15434	10/20/88	13:15	AC	SOIL - PI-47B, AREA 4, 1-1.5' PLANT INDUSTRIES
15435	10/20/88	13:30	AC	SOIL - PI-47C, AREA 4, 7.75-8.25' PLANT INDUSTRIES
15436	10/20/88	13:40	AC	SOIL - PI-48A, AREA 4, 0-.5' PLANT INDUSTRIES
15437	10/20/88	13:45	AC	SOIL - PI-48B, AREA 4, 1.0-1.5' PLANT INDUSTRIES
15438	10/20/88	13:55	AC	SOIL - PI-48C, AREA 4, 7.75-8.25' PLANT INDUSTRIES

EP CERTIFICATION 12129
EP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
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ATTACHMENT NNH3

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O: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 884963

PROJECT No: 86013

SAMPLE RECEIVED: 10/21/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815439	10/20/88	14:05	AC	SOIL - PI-49A, AREA 4, 0-.5' PLANT INDUSTRIES
E815440	10/20/88	14:10	AC	SOIL - PI-49B, AREA 4, 1-1.5' PLANT INDUSTRIES
E815441	10/20/88	14:15	AC	SOIL - PI-49C, AREA 4, 7.5-8.0' PLANT INDUSTRIES
E815442	10/20/88	17:00	AC	WATER - PI-FB(4), FIELD BLANK PLANT INDUSTRIES
E815443	10/20/88	17:00	AC	WATER - PI-FB(5), FIELD BLANK PLANT INDUSTRIES

NJDEP CERTIFICATION 12129
CT DEP CERTIFICATION PH-0585

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815397
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/07/88
DATA FILE : >D4103

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	590	
2)	ACENAPHTHYLENE	ND	590	
3)	ANTHRACENE	ND	590	
4)	BENZIDENE	ND	2900	
5)	BENZO(A)ANTHRACENE	69	590	J
6)	BENZO(A)PYRENE	70	590	J
7)	BENZO(B)FLUORANTHENE	71	590	J
8)	BENZO(K)FLUORANTHENE	64	590	J
9)	BENZO(G,H,I)PERYLENE	61	590	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	590	
11)	BIS(2-CHLOROETHYL)ETHER	ND	590	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	590	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	590	590	
14)	4-BROMOPHENYL PHENYL ETHER	ND	590	
15)	BUTYL BENZYL PHTHALATE	970	590	
16)	2-CHLORONAPHTHALENE	ND	590	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	590	
18)	CHRYSENE	83	590	J
19)	DIBENZO(A,H)ANTHRACENE	ND	590	
20)	1,2-DICHLOROBENZENE	ND	590	
21)	1,3-DICHLOROBENZENE	ND	590	
22)	1,4-DICHLOROBENZENE	ND	590	
23)	3,3'-DICHLOROBENZIDENE	ND	1200	
24)	DIETHYL PHTHALATE	ND	590	
25)	DIMETHYL PHTHALATE	ND	590	
26)	DI-N-BUTYL PHTHALATE	4800	590	
27)	2,4-DINITROTOLUENE	ND	590	
28)	2,6-DINITROTOLUENE	ND	590	
29)	DI-N-OCTYL PHTHALATE	ND	590	
30)	1,2-DIPHENYLHYDRAZINE	ND	590	
31)	FLUORANTHENE	140	590	J
32)	FLUORENE	ND	590	
33)	HEXACHLOROBENZENE	ND	590	
34)	HEXACHLOROBUTADIENE	ND	590	
35)	HEXACHLOROCYCLOPENTADIENE	ND	590	
36)	HEXACHLOROETHANE	ND	590	
37)	INDENO(1,2,3-CD)PYRENE	ND	590	
38)	ISOPHORONE	ND	590	
39)	NAPHTHALENE	ND	590	
40)	NITROBENZENE	ND	590	
41)	N-NITROSODIMETHYLAMINE	ND	590	
42)	N-NITROSODI-N-PROPYLAMINE	ND	590	
43)	N-NITROSODIPHENYLAMINE	ND	590	
44)	PHENANTHRENE	90	590	J
45)	PYRENE	110	590	J
46)	1,2,4-TRICHLOROBENZENE	ND	590	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN45
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-270

Lab Sample ID: E815397

Extraction Date: 11/2/88

Lab File ID: 04103

Date Analyzed: 11/07/88 10:37

Matrix: SOIL FOR BN

Number TICs found: 8

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123	Ethane, 1,1,2-trichloro-	7.90	500.	1
2.	80706	Guanidine, N,N,N',N'-tetrame	8.04	330.	1
3.	62238373	3-Penten-1-ol, 2-methyl- (9CI	8.44	1100.	
4.	930223	Oxirane, ethenyl- (9CI)	9.30	1100.	
5.	67641	2-Propanone (9CI)	9.73	420.	1
6.	79345	Ethane, 1,1,2,2-tetrachloro-	11.73	930.	1
7.	14979396	3-Heptanol, 4-methyl- (VAN8C	12.31	590.	1
8.		Unknown	12.88	2500.	
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815397	10/19/88	13:05	AC	SOIL - PI-33A, AREA 3, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	84	2.0	%	10/25/88	GRM
ANTIMONY	0.46	0.10	MG/KG	11/09/88	MS
ARSENIC	2.8	0.10	MG/KG	11/08/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	1.5	0.50	MG/KG	10/31/88	GG
CHROMIUM	20	2.5	MG/KG	10/31/88	GG
COPPER	14	2.0	MG/KG	10/31/88	GG
LEAD	22	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/04/88	SH
NICKEL	7.3	4.0	MG/KG	10/31/88	GG
SELENIUM	0.14	0.10	MG/KG	11/10/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.11	0.10	MG/KG	11/08/88	MS
ZINC	37	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ACCUTEST
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
C815398	10/20/88	08:50	AC	SOIL - PI-33B, AREA 3, 3.0-3.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	620	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	83	2.0	%	10/25/88	GRM
ANTIMONY	<0.10	0.10	MG/KG	11/15/88	MS
ARSENIC	8.7	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	46	0.50	MG/KG	10/31/88	GG
CHROMIUM	51	2.5	MG/KG	10/31/88	GG
COPPER	40	2.0	MG/KG	10/31/88	GG
LEAD	80	10	MG/KG	11/03/88	RH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	39	4.0	MG/KG	10/31/88	GG
SELENIUM	0.20	0.10	MG/KG	11/10/88	MS
SILVER	7.8	1.0	MG/KG	10/31/88	RH
THALLIUM	0.17	0.10	MG/KG	11/08/88	MS
ZINC	160	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815399
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/07/88
DATA FILE : >D4106

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	520	
2)	ACENAPHTHYLENE	ND	520	
3)	ANTHRACENE	ND	520	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	ND	520	
6)	BENZO(A)PYRENE	ND	520	
7)	BENZO(B)FLUORANTHENE	ND	520	
8)	BENZO(K)FLUORANTHENE	ND	520	
9)	BENZO(G,H,I)PERYLENE	ND	520	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	520	
11)	BIS(2-CHLOROETHYL)ETHER	ND	520	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	520	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	1900	520	
14)	4-BROMOPHENYL PHENYL ETHER	ND	520	
15)	BUTYL BENZYL PHTHALATE	2000	520	
16)	2-CHLORONAPHTHALENE	ND	520	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	520	
18)	CHRYSENE	ND	520	
19)	DIBENZO(A,H)ANTHRACENE	ND	520	
20)	1,2-DICHLOROBENZENE	ND	520	
21)	1,3-DICHLOROBENZENE	ND	520	
22)	1,4-DICHLOROBENZENE	ND	520	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	520	
25)	DIMETHYL PHTHALATE	ND	520	
26)	DI-N-BUTYL PHTHALATE	1500	520	
27)	2,4-DINITROTOLUENE	ND	520	
28)	2,6-DINITROTOLUENE	ND	520	
29)	DI-N-OCTYL PHTHALATE	ND	520	
30)	1,2-DIPHENYLHYDRAZINE	ND	520	
31)	FLUORANTHENE	ND	520	
32)	FLUORENE	ND	520	
33)	HEXACHLOROBENZENE	ND	520	
34)	HEXACHLOROBUTADIENE	ND	520	
35)	HEXACHLOROCYCLOPENTADIENE	ND	520	
36)	HEXACHLOROETHANE	ND	520	
37)	INDENO(1,2,3-CD)PYRENE	ND	520	
38)	ISOPHORONE	ND	520	
39)	NAPHTHALENE	ND	520	
40)	NITROBENZENE	ND	520	
41)	N-NITROSODIMETHYLAMINE	ND	520	
42)	N-NITROSODI-N-PROPYLAMINE	ND	520	
43)	N-NITROSODIPHENYLAMINE	ND	520	
44)	PHENANTHRENE	ND	520	
45)	PYRENE	ND	520	
46)	1,2,4-TRICHLOROBENZENE	ND	520	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN49

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-270

Lab Sample ID: E815399

Extraction Date: 11/2/88

Lab File ID: :D4106

Date Analyzed: 11/07/88 14:35

Matrix: SOIL FOR BN

Number TICs found: 7

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123	Ethane, 1,1,2-trichloro-	7.88	710.	/
2.	13091162	Butanamide, N-ethyl- (9CI)	8.03	300.	/
3.	115220	2-Butanone, 3-hydroxy-3-meth	9.71	400.	/
4.	199	Ethane, 1,1,2,2-tetrachloro-	11.72	560.	/
5.	113008	Guanidine (8CI9CI)	12.29	350.	/
6.		Unknown	12.97	7600.	
7.	1241947	Phosphoric acid, 2-ethylhexy	37.60	760.	
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM 1 SV-TIC

ATTACHMENT NN 50
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815399	10/20/88	09:05	AC	SOIL - PI-33C, AREA 3, 5-5.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	97	2.0	%	10/25/88	GRM
CADMIUM	1.5	0.50	MG/KG	10/31/88	GG
SILVER	<1.0	1.0	MG/KG	10/31/88	NH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN51
15

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815400	10/19/88	14:40	AC	SOIL - PI-36A, AREA 3, 0-5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	82	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	94	2.0	%	10/25/88	GRM
ANTIMONY	0.32	0.10	MG/KG	11/09/88	MS
ARSENIC	6.8	0.10	MG/KG	11/08/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	1.2	0.50	MG/KG	10/31/88	GG
CHROMIUM	21	2.5	MG/KG	10/31/88	GG
COPPER	150	2.0	MG/KG	10/31/88	GG
LEAD	63	10	MG/KG	11/03/88	NH
MERCURY	0.14	0.10	MG/KG	11/04/88	SH
NICKEL	13	4.0	MG/KG	10/31/88	GG
SELENIUM	0.21	0.10	MG/KG	11/10/88	MS
SILVER	1.1	1.0	MG/KG	10/31/88	NH
THALLIUM	<0.10	0.10	MG/KG	11/08/88	MS
ZINC	90	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN52

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815401	10/19/88	14:45	AC	SOIL - PI-36B, AREA 3, 3.0-3.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	74	2.0	%	10/26/88	GRM
ANTIMONY	0.24	0.10	MG/KG	11/09/88	MS
ARSENIC	20	0.10	MG/KG	11/08/88	AS
BERYLLIUM	0.75	0.50	MG/KG	10/31/88	GG
CADMIUM	1.2	0.50	MG/KG	10/31/88	GG
CHROMIUM	29	2.5	MG/KG	10/31/88	GG
COPPER	18	2.0	MG/KG	10/31/88	GG
LEAD	14	10	MG/KG	11/03/88	NH
MERCURY	0.10	0.10	MG/KG	11/04/88	SH
NICKEL	13	4.0	MG/KG	10/31/88	GG
SELENIUM	0.20	0.10	MG/KG	11/10/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.28	0.10	MG/KG	11/08/88	MS
ZINC	17	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN53

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815402	10/19/88	14:50	AC	SOIL - PI-36C, AREA 3, 5-5.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	95	2.0	%	10/26/88	GRM
CADMIUM	1.2	0.50	MG/KG	10/31/88	GG
SILVER	<1.0	1.0	MG/KG	10/31/88	MM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
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ATTACHMENT NN54

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815403
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/07/88
DATA FILE : >D4107

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	520	
2)	ACENAPHTHYLENE	ND	520	
3)	ANTHRACENE	ND	520	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	320	520	J
6)	BENZO(A)PYRENE	380	520	J
7)	BENZO(B)FLUORANTHENE	410	520	J
8)	BENZO(K)FLUORANTHENE	360	520	J
9)	BENZO(G,H,I)PERYLENE	290	520	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	520	
11)	BIS(2-CHLOROETHYL)ETHER	ND	520	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	520	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	2200	520	
14)	4-BROMOPHENYL PHENYL ETHER	ND	520	
15)	BUTYL BENZYL PHTHALATE	2300	520	
16)	2-CHLORONAPHTHALENE	ND	520	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	520	
18)	CHRYSENE	430	520	J
19)	DIBENZO(A,H)ANTHRACENE	ND	520	
20)	1,2-DICHLOROBENZENE	ND	520	
21)	1,3-DICHLOROBENZENE	ND	520	
22)	1,4-DICHLOROBENZENE	ND	520	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	520	
25)	DIMETHYL PHTHALATE	ND	520	
26)	DI-N-BUTYL PHTHALATE	2300	520	
27)	2,4-DINITROTOLUENE	ND	520	
28)	2,6-DINITROTOLUENE	ND	520	
29)	DI-N-OCTYL PHTHALATE	ND	520	
30)	1,2-DIPHENYLHYDRAZINE	ND	520	
31)	FLUORANTHENE	500	520	J
32)	FLUORENE	ND	520	
33)	HEXACHLOROBENZENE	ND	520	
34)	HEXACHLOROBUTADIENE	ND	520	
35)	HEXACHLOROCYCLOPENTADIENE	ND	520	
36)	HEXACHLOROETHANE	ND	520	
37)	INDENO(1,2,3-CD)PYRENE	240	520	J
38)	ISOPHORONE	ND	520	
39)	NAPHTHALENE	ND	520	
40)	NITROBENZENE	ND	520	
41)	N-NITROSODIMETHYLAMINE	ND	520	
42)	N-NITROSODI-N-PROPYLAMINE	ND	520	
43)	N-NITROSODIPHENYLAMINE	ND	520	
44)	PHENANTHRENE	320	520	J
45)	PYRENE	590	520	
46)	1,2,4-TRICHLOROBENZENE	ND	520	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN55
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SURGE

Batch Number: MS-S-270

Lab Sample ID: ES15403

Extraction Date: 11/2/88

Lab File ID: 304102

Date Analyzed: 11/07/88 19:55

Matrix: SOIL FOR BN

Number TICs Found: 10

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123	Ethane, 1,1,2-trichloro-	7.88	340.	1
2.	80706	Guanidine, N,N,N',N'-tetrame	8.03	270.	1
3.	18641822	Pentane, 1-propoxy- (9CI)	8.42	1400.	
4.	930223	Oxirane, ethenyl- (9CI)	9.28	1400.	
5.		Unknown	9.71	490.	1
6.	198	Ethane, 1,1,2,2-tetrachloro-	11.72	660.	1
7.	5076200	Oxirane, tetramethyl- (9CI)	12.29	330.	1
8.		Unknown	13.01	10000.	
9.	18794848	1,6,10-Dodecatriene, 7,11-di	23.29	250.	
10.		Unknown	37.57	350.	
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN56

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815403	10/19/88	15:05	AC	SOIL - PI-35A, AREA 3, 0-5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	94	2.0	%	10/26/88	GRM
ANTIMONY	0.60	0.10	MG/KG	11/09/88	MS
ARSENIC	4.4	0.10	MG/KG	11/08/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	1.6	0.50	MG/KG	10/31/88	GG
CHROMIUM	22	2.5	MG/KG	10/31/88	GG
COPPER	94	2.0	MG/KG	10/31/88	GG
LEAD	49	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/04/88	SH
NICKEL	8.2	4.0	MG/KG	10/31/88	GG
SELENIUM	0.12	0.10	MG/KG	11/10/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.12	0.10	MG/KG	11/08/88	MS
ZINC	54	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815404	10/20/88	10:35	AC	SOIL - PI-35B, AREA 3, 3-3.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	63	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	90	2.0	%	10/26/88	GRM
ANTIMONY	0.42	0.10	MG/KG	11/15/88	MS
ARSENIC	6.7	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	22	0.50	MG/KG	10/31/88	GG
CHROMIUM	24	2.5	MG/KG	10/31/88	GG
COPPER	49	2.0	MG/KG	10/31/88	GG
LEAD	43	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	49	4.0	MG/KG	10/31/88	GG
SELENIUM	<0.10	0.10	MG/KG	11/15/88	MS
SILVER	8.4	1.0	MG/KG	10/31/88	NH
THALLIUM	0.31	0.10	MG/KG	11/16/88	MS
ZINC	85	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815405	10/20/88	10:50	AC	SOIL - PI-35C, AREA 3, 5-5.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	180	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	91	2.0	%	10/26/88	GRM
CADMIUM	8.0	0.50	MG/KG	10/31/88	GG
SILVER	45	1.0	MG/KG	10/31/88	NH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815406	10/19/88	16:00	AC	SOIL - PI-34A, AREA 3, 0-5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	94	2.0	%	10/26/88	GRM
ANTIMONY	<0.10	0.10	MG/KG	11/09/88	MS
ARSENIC	5.0	0.10	MG/KG	11/15/88	MS
BERYLLIUM	0.84	0.50	MG/KG	11/03/88	GAG
CADMIUM	3.2	0.50	MG/KG	11/03/88	GG
CHROMIUM	24	2.5	MG/KG	11/03/88	GG
COPPER	29	2.0	MG/KG	11/03/88	GG
LEAD	28	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/04/88	SH
NICKEL	8.0	4.0	MG/KG	11/03/88	GG
SELENIUM	0.13	0.10	MG/KG	11/10/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	<0.10	0.10	MG/KG	11/08/88	MS
ZINC	49	5.0	MG/KG	11/03/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815407	10/19/88	16:10	AC	SOIL - PI-34B, AREA 3, 3-3.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	64	2.0	%	10/26/88	GRM
ANTIMONY	0.25	0.10	MG/KG	11/09/88	MS
ARSENIC	20	0.10	MG/KG	11/15/88	MS
BERYLLIUM	1.9	0.50	MG/KG	10/31/88	GG
CADMIUM	3.6	0.50	MG/KG	10/31/88	GG
CHROMIUM	44	2.5	MG/KG	10/31/88	GG
COPPER	15	2.0	MG/KG	10/31/88	GG
LEAD	19	10	MG/KG	11/03/88	NH
MERCURY	0.34	0.10	MG/KG	11/04/88	SH
NICKEL	18	4.0	MG/KG	10/31/88	GG
SELENIUM	0.22	0.10	MG/KG	11/10/88	MS
SILVER	1.6	1.0	MG/KG	10/31/88	NH
THALLIUM	0.28	0.10	MG/KG	11/08/88	MS
ZINC	59	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815408	10/20/88	08:20	AC	SOIL - PI-24C, AREA 3, 5-5.5' PLANT INDUSTRIES

34C

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	96	2.0	%	10/26/88	GRM
CADMIUM	1.6	0.50	MG/KG	10/31/88	GG
SILVER	<1.0	1.0	MG/KG	10/31/88	RH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN67
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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815409
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/07/88
DATA FILE : >D4108

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	780	600	
2)	ACENAPHTHYLENE	ND	600	
3)	ANTHRACENE	2300	600	
4)	BENZIDENE	ND	3000	
5)	BENZO(A)ANTHRACENE	6400	600	
6)	BENZO(A)PYRENE	5000	600	
7)	BENZO(B)FLUORANTHENE	5600	600	
8)	BENZO(K)FLUORANTHENE	4100	600	
9)	BENZO(G,H,I)PERYLENE	3500	600	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	600	
11)	BIS(2-CHLOROETHYL)ETHER	ND	600	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	600	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	1300	600	
14)	4-BROMOPHENYL PHENYL ETHER	ND	600	
15)	BUTYL BENZYL PHTHALATE	1700	600	
16)	2-CHLORONAPHTHALENE	ND	600	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	600	
18)	CHRYSENE	6900	600	
19)	DIBENZO(A,H)ANTHRACENE	1400	600	
20)	1,2-DICHLOROBENZENE	ND	600	
21)	1,3-DICHLOROBENZENE	ND	600	
22)	1,4-DICHLOROBENZENE	ND	600	
23)	3,3'-DICHLOROBENZIDENE	ND	1200	
24)	DIETHYL PHTHALATE	ND	600	
25)	DIMETHYL PHTHALATE	ND	600	
26)	DI-N-BUTYL PHTHALATE	4000	600	
27)	2,4-DINITROTOLUENE	ND	600	
28)	2,6-DINITROTOLUENE	ND	600	
29)	DI-N-OCTYL PHTHALATE	ND	600	
30)	1,2-DIPHENYLHYDRAZINE	ND	600	
31)	FLUORANTHENE	14000	600	
32)	FLUORENE	790	600	
33)	HEXACHLOROBENZENE	ND	600	
34)	HEXACHLOROBUTADIENE	ND	600	
35)	HEXACHLOROCYCLOPENTADIENE	ND	600	
36)	HEXACHLOROETHANE	ND	600	
37)	INDENO(1,2,3-CD)PYRENE	3000	600	
38)	ISOPHORONE	ND	600	
39)	NAPHTHALENE	150	600	J
40)	NITROBENZENE	ND	600	
41)	N-NITROSODIMETHYLAMINE	ND	600	
42)	N-NITROSODI-N-PROPYLAMINE	ND	600	
43)	N-NITROSODIPHENYLAMINE	ND	600	
44)	PHENANTHRENE	11000	600	
45)	PYRENE	8900	600	
46)	1,2,4-TRICHLOROBENZENE	ND	600	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN63

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-270

Lab Sample ID: E815409

Extraction Date: 11/2/88

Lab File ID: >D4108

Date Analyzed: 11/07/88 17:16

Matrix: SOIL FOR BN

Number TICs found: 15

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	62238373	3-Penten-1-ol, 2-methyl- (9CI	8.42	1700.	
2.	930223	Oxirane, ethenyl- (9CI)	9.25	1400.	
3.	115220	2-Butanone, 3-hydroxy-3-meth	9.71	520.	/
4.	196	Ethane, 1,1,2,2-tetrachloro-	11.72	500.	/
5.		Unknown	12.90	6800.	
6.	569415	Naphthalene, 1,8-dimethyl- (	23.22	450.	
7.	132649	Dibenzofuran (8CI9CI)	25.05	530.	
8.	610480	Anthracene, 1-methyl- (8CI9C	31.58	470.	
9.	243174	11H-Benzo[b]fluorene (8CI9CI	35.11	310.	
10.	243174	11H-Benzo[b]fluorene (8CI9CI	35.50	410.	
11.	238846	11H-Benzo[a]fluorene (8CI9CI	35.94	290.	
12.	82053	7H-Benz[de]anthracen-7-one (	37.70	350.	
13.	239350	Benzo[b]naphtho[2,1-d]thioph	38.24	340.	
14.	82053	7H-Benz[de]anthracen-7-one (	38.67	360.	
15.	192972	Benzo[e]pyrene (8CI9CI)	49.89	4700.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NNcd
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815409	10/19/88	11:15	AC	SOIL - PI-37A, AREA 3, 0-6" PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	83	2.0	%	10/26/88	GRM
ANTIMONY	0.84	0.10	MG/KG	11/15/88	MS
ARSENIC	17	0.10	MG/KG	11/15/88	MS
BERYLLIUM	1.1	0.50	MG/KG	10/31/88	GG
CADMIUM	66	0.50	MG/KG	10/31/88	GG
CHROMIUM	33	2.5	MG/KG	10/31/88	GG
COPPER	130	2.0	MG/KG	10/31/88	GG
LEAD	180	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/04/88	SH
NICKEL	34	4.0	MG/KG	10/31/88	GG
SELENIUM	0.46	0.10	MG/KG	11/10/88	MS
SILVER	19	1.0	MG/KG	10/31/88	NH
THALLIUM	0.17	0.10	MG/KG	11/08/88	MS
ZINC	98	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN65
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815410	10/19/88	11:25	AC	SOIL - PI-37B, AREA 3, 3-3.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	91	2.0	%	10/26/88	GRM
ANTIMONY	<0.10	0.10	MG/KG	11/15/88	MS
ARSENIC	3.5	0.10	MG/KG	11/15/88	MS
BERYLLIUM	0.93	0.50	MG/KG	10/31/88	GG
CADMIUM	3.3	0.50	MG/KG	10/31/88	GG
CHROMIUM	33	2.5	MG/KG	10/31/88	GG
COPPER	2.5	2.0	MG/KG	10/31/88	GG
LEAD	<10	10	MG/KG	11/03/88	MH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	10	4.0	MG/KG	10/31/88	GG
SELENIUM	<0.10	0.10	MG/KG	11/10/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	MH
THALLIUM	0.23	0.10	MG/KG	11/16/88	MS
ZINC	32	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815411
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/07/88
DATA FILE : >D4109

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	550	
2)	ACENAPHTHYLENE	ND	550	
3)	ANTHRACENE	ND	550	
4)	BENZIDENE	ND	2700	
5)	BENZO(A)ANTHRACENE	ND	550	
6)	BENZO(A)PYRENE	ND	550	
7)	BENZO(B)FLUORANTHENE	ND	550	
8)	BENZO(K)FLUORANTHENE	ND	550	
9)	BENZO(G,H,I)PERYLENE	ND	550	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	550	
11)	BIS(2-CHLOROETHYL)ETHER	ND	550	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	550	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	550	
14)	4-BROMOPHENYL PHENYL ETHER	ND	550	
15)	BUTYL BENZYL PHTHALATE	510	550	J
16)	2-CHLORONAPHTHALENE	ND	550	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	550	
18)	CHRYSENE	ND	550	
19)	DIBENZO(A,H)ANTHRACENE	ND	550	
20)	1,2-DICHLOROBENZENE	ND	550	
21)	1,3-DICHLOROBENZENE	ND	550	
22)	1,4-DICHLOROBENZENE	ND	550	
23)	3,3'-DICHLOROBENZIDENE	ND	1100	
24)	DIETHYL PHTHALATE	ND	550	
25)	DIMETHYL PHTHALATE	ND	550	
26)	DI-N-BUTYL PHTHALATE	3500	550	
27)	2,4-DINITROTOLUENE	ND	550	
28)	2,6-DINITROTOLUENE	ND	550	
29)	DI-N-OCTYL PHTHALATE	ND	550	
30)	1,2-DIPHENYLHYDRAZINE	ND	550	
31)	FLUORANTHENE	ND	550	
32)	FLUORENE	ND	550	
33)	HEXACHLOROBENZENE	ND	550	
34)	HEXACHLOROBUTADIENE	ND	550	
35)	HEXACHLOROCYCLOPENTADIENE	ND	550	
36)	HEXACHLOROETHANE	ND	550	
37)	INDENO(1,2,3-CD)PYRENE	ND	550	
38)	ISOPHORONE	ND	550	
39)	NAPHTHALENE	ND	550	
40)	NITROBENZENE	ND	550	
41)	N-NITROSODIMETHYLAMINE	ND	550	
42)	N-NITROSODI-N-PROPYLAMINE	ND	550	
43)	N-NITROSODIPHENYLAMINE	ND	550	
44)	PHENANTHRENE	ND	550	
45)	PYRENE	ND	550	
46)	1,2,4-TRICHLOROBENZENE	ND	550	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN67
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-270

Lab Sample ID: E815411

Extraction Date: 11/2/88

Lab File ID: 04109

Date Analyzed: 11/07/88 18:36

Matrix: SOIL FOR BN

Number TICs Found: 7

CONCENTRATION UNITS: ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124	Ethane, 1,1,2-trichloro-	7.88	530.	/
2.	13091162	Butanamide, N-ethyl- (9CI)	8.02	340.	/
3.	1528309	Cyclopentane, methylene- (8C	8.60	220.	/
4.	115220	2-Butanone, 3-hydroxy-3-meth	9.71	750.	/
5.	196	Ethane, 1,1,2,2-tetrachloro-	11.71	920.	/
6.	14979396	3-Heptanol, 4-methyl- (VAN8C	12.25	380.	/
7.		Unknown	12.82	2200.	
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT NN68
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815411	10/19/88	11:35	AC	SOIL - PI-37C, AREA 3, 5-5.5 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	90	2.0	%	10/26/88	GRM
CADMIUM	4.2	0.50	MG/KG	10/31/88	GG
SILVER	2.6	1.0	MG/KG	10/31/88	MH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815412
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/07/88
DATA FILE : >D4110

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	540	
2)	ACENAPHTHYLENE	ND	540	
3)	ANTHRACENE	100	540	J
4)	BENZIDENE	ND	2700	
5)	BENZO(A)ANTHRACENE	760	540	
6)	BENZO(A)PYRENE	750	540	
7)	BENZO(B)FLUORANTHENE	870	540	
8)	BENZO(K)FLUORANTHENE	690	540	
9)	BENZO(G,H,I)PERYLENE	600	540	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	540	
11)	BIS(2-CHLOROETHYL)ETHER	ND	540	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	540	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	170	540	J
14)	4-BROMOPHENYL PHENYL ETHER	ND	540	
15)	BUTYL BENZYL PHTHALATE	490	540	J
16)	2-CHLORONAPHTHALENE	ND	540	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	540	
18)	CHRYSENE	1200	540	
19)	DIBENZO(A,H)ANTHRACENE	200	540	J
20)	1,2-DICHLOROBENZENE	ND	540	
21)	1,3-DICHLOROBENZENE	ND	540	
22)	1,4-DICHLOROBENZENE	ND	540	
23)	3,3'-DICHLOROBENZIDENE	ND	1100	
24)	DIETHYL PHTHALATE	ND	540	
25)	DIMETHYL PHTHALATE	ND	540	
26)	DI-N-BUTYL PHTHALATE	4100	540	
27)	2,4-DINITROTOLUENE	ND	540	
28)	2,6-DINITROTOLUENE	ND	540	
29)	DI-N-OCTYL PHTHALATE	ND	540	
30)	1,2-DIPHENYLHYDRAZINE	ND	540	
31)	FLUORANTHENE	1900	540	
32)	FLUORENE	ND	540	
33)	HEXACHLOROBENZENE	ND	540	
34)	HEXACHLOROBUTADIENE	ND	540	
35)	HEXACHLOROCYCLOPENTADIENE	ND	540	
36)	HEXACHLOROETHANE	ND	540	
37)	INDENO(1,2,3-CD)PYRENE	480	540	J
38)	ISOPHORONE	ND	540	
39)	NAPHTHALENE	ND	540	
40)	NITROBENZENE	ND	540	
41)	N-NITROSODIMETHYLAMINE	ND	540	
42)	N-NITROSODI-N-PROPYLAMINE	ND	540	
43)	N-NITROSODIPHENYLAMINE	ND	540	
44)	PHENANTHRENE	1200	540	
45)	PYRENE	1500	540	
46)	1,2,4-TRICHLOROBENZENE	ND	540	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-270

Lab Samole ID: E815412

Extraction Date: 11/2/88

Lab File ID: >D4110

Date Analyzed: 11/07/88 19:57

Matrix: SOIL FOR BN

Number TICs found: 12

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124	Ethane, 1,1,2-trichloro-	7.88	220.	/
2.	13091162	Butanamide, N-ethyl- (9CI)	8.02	260.	/
3.	115195	3-Butyn-2-ol, 2-methyl- (8CI	8.38	1100.	
4.	930223	Oxirane, ethenyl- (9CI)	9.24	1000.	
5.		Unknown	9.71	560.	/
6.	199	Ethane, 1,1,2,2-tetrachloro-	11.71	440.	/
7.	5076200	Oxirane, tetramethyl- (9CI)	12.25	340.	/
8.		Unknown	12.82	2200.	
9.	610480	Anthracene, 1-methyl- (8CI9C	31.57	290.	
10.	238846	11H-Benzo[a]fluorene (8CI9CI	35.13	320.	
11.	238846	11H-Benzo[a]fluorene (8CI9CI	35.49	250.	
12.	192972	Benzo[e]pyrene (8CI9CI)	49.83	1000.	
13.					
14.					
15.					

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ANALYSIS REPORT

PLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
5412	10/19/88	12:45	AC	SOIL - PI-38A, AREA 3, 0-6" PLANT INDUSTRIES

ST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
ROLEUM HYDROCARBONS	84	50	MG/KG	11/01/88	JK
LIDS, TOTAL PERCENT	93	2.0	%	10/26/88	GRM
IMONY	3.0	0.10	MG/KG	11/15/88	MS
SENIC	8.5	0.10	MG/KG	11/15/88	MS
YLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
MIUM	4.1	0.50	MG/KG	10/31/88	GG
ROMIUM	30	2.5	MG/KG	10/31/88	GG
PER	39	2.0	MG/KG	10/31/88	GG
AD	18	10	MG/KG	11/03/88	NH
CURY	0.13	0.10	MG/KG	11/08/88	SH
CKEL	11	4.0	MG/KG	10/31/88	GG
ENIUM	0.57	0.10	MG/KG	11/10/88	MS
LVER	1.8	1.0	MG/KG	10/31/88	NH
ALLIUM	<0.10	0.10	MG/KG	11/08/88	MS
NC	160	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815413	10/19/88	12:55	AC	SOIL - PI-38B, AREA 3, 3.0-3.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	95	2.0	%	10/26/88	GRM
ANTIMONY	<0.10	0.10	MG/KG	11/15/88	MS
ARSENIC	1.7	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	0.89	0.50	MG/KG	10/31/88	GG
CHROMIUM	17	2.5	MG/KG	10/31/88	GG
COPPER	<2.0	2.0	MG/KG	10/31/88	GG
LEAD	<10	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	5.2	4.0	MG/KG	10/31/88	GG
SELENIUM	0.10	0.10	MG/KG	11/10/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	<0.10	0.10	MG/KG	11/08/88	MS
ZINC	23	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815414	10/19/88	13:00	AC	SOIL - PI-38C, AREA 3, 5-5.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	90	2.0	%	10/26/88	GRM
CADMIUM	1.9	0.50	MG/KG	10/31/88	GG
SILVER	<1.0	1.0	MG/KG	10/31/88	NH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815415	10/20/88	15:10	AC	SOIL - PI-30A, AREA 2, 0-5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	180	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	95	2.0	%	10/26/88	GRM
ANTIMONY	0.58	0.10	MG/KG	11/15/88	MS
ARSENIC	4.2	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	1.6	0.50	MG/KG	10/31/88	GG
CHROMIUM	23	2.5	MG/KG	10/31/88	GG
COPPER	14	2.0	MG/KG	10/31/88	GG
LEAD	70	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	6.9	4.0	MG/KG	10/31/88	GG
SELENIUM	0.29	0.10	MG/KG	11/15/88	MS
SILVER	1.1	1.0	MG/KG	10/31/88	NH
THALLIUM	<0.10	0.10	MG/KG	11/08/88	MS
ZINC	51	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815416	10/20/88	15:15	AC	SOIL - PI-30B, AREA 2, 1-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	96	2.0	%	10/26/88	GRM
ANTIMONY	0.13	0.10	MG/KG	11/15/88	MS
ARSENIC	2.7	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	0.68	0.50	MG/KG	10/31/88	GG
CHROMIUM	13	2.5	MG/KG	10/31/88	GG
COPPER	10	2.0	MG/KG	10/31/88	GG
LEAD	130	10	MG/KG	11/03/88	NH
MERCURY	0.14	0.10	MG/KG	11/08/88	SH
NICKEL	4.2	4.0	MG/KG	10/31/88	GG
SELENIUM	0.14	0.10	MG/KG	11/15/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.21	0.10	MG/KG	11/15/88	MS
ZINC	20	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815417	10/20/88	16:15	AC	SOIL - PI-30C, AREA 2, 7-7.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/01/88	JK
SOLIDS, TOTAL PERCENT	85	2.0	%	10/26/88	GRM
ANTIMONY	<0.10	0.10	MG/KG	11/15/88	MS
ARSENIC	1.3	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	0.57	0.50	MG/KG	10/31/88	GG
CHROMIUM	12	2.5	MG/KG	10/31/88	GG
COPPER	3.4	2.0	MG/KG	10/31/88	GG
LEAD	120	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	5.8	4.0	MG/KG	10/31/88	GG
SELENIUM	<0.10	0.10	MG/KG	11/15/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	<0.10	0.10	MG/KG	11/16/88	MS
ZINC	24	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815418	10/20/88	15:15	AC	SOIL - PI-31A, AREA 2, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	94	2.0	%	10/26/88	GRM
ANTIMONY	5.6	0.10	MG/KG	11/15/88	MS
ARSENIC	5.0	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	1.7	0.50	MG/KG	10/31/88	GG
CHROMIUM	24	2.5	MG/KG	10/31/88	GG
COPPER	45	2.0	MG/KG	10/31/88	GG
LEAD	160	10	MG/KG	11/03/88	NH
MERCURY	0.25	0.10	MG/KG	11/08/88	SH
NICKEL	13	4.0	MG/KG	10/31/88	GG
SELENIUM	0.19	0.10	MG/KG	11/15/88	MS
SILVER	1.3	1.0	MG/KG	10/31/88	NH
THALLIUM	0.30	0.10	MG/KG	11/16/88	MS
ZINC	93	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815419	10/20/88	15:25	AC	SOIL - PI-31B, AREA 2, 1.0-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	200	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	94	2.0	%	10/26/88	GRM
ANTIMONY	0.78	0.10	MG/KG	11/15/88	MS
ARSENIC	3.5	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	0.67	0.50	MG/KG	10/31/88	GG
CHROMIUM	18	2.5	MG/KG	10/31/88	GG
COPPER	14	2.0	MG/KG	10/31/88	GG
LEAD	67	10	MG/KG	11/03/88	NH
MERCURY	0.25	0.10	MG/KG	11/08/88	SH
NICKEL	7.5	4.0	MG/KG	10/31/88	GG
SELENIUM	0.17	0.10	MG/KG	11/15/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.20	0.10	MG/KG	11/16/88	MS
ZINC	50	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815420	10/20/88	16:25	AC	SOIL - PI-31C, AREA 2, 7.7.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	PM
SOLIDS, TOTAL PERCENT	81	2.0	%	10/26/88	GRM
ANTIMONY	<0.10	0.10	MG/KG	11/15/88	MS
ARSENIC	2.6	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	1.2	0.50	MG/KG	10/31/88	GG
CHROMIUM	47	2.5	MG/KG	10/31/88	GG
COPPER	<2.0	2.0	MG/KG	10/31/88	GG
LEAD	22	10	MG/KG	11/03/88	MH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	8.7	4.0	MG/KG	10/31/88	GG
SELENIUM	0.20	0.10	MG/KG	11/15/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	MH
THALLIUM	0.22	0.10	MG/KG	11/16/88	MS
ZINC	33	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NW80
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815421	10/20/88	15:35	AC	SOIL - PI-32A, 0-.5', AREA 2 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	130	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	93	2.0	%	10/26/88	GRM
ANTIMONY	1.2	0.10	MG/KG	11/15/88	MS
ARSENIC	5.4	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	0.99	0.50	MG/KG	10/31/88	GG
CHROMIUM	27	2.5	MG/KG	10/31/88	GG
COPPER	50	2.0	MG/KG	10/31/88	GG
LEAD	210	10	MG/KG	11/03/88	NH
MERCURY	0.66	0.10	MG/KG	11/08/88	SH
NICKEL	8.5	4.0	MG/KG	10/31/88	GG
SELENIUM	0.38	0.10	MG/KG	11/15/88	MS
SILVER	1.2	1.0	MG/KG	10/31/88	NH
THALLIUM	0.23	0.10	MG/KG	11/16/88	MS
ZINC	45	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815422	10/20/88	15:40	AC	SOIL - PI-32B, AREA 2, 1-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	97	2.0	%	10/26/88	GRM
ANTIMONY	0.47	0.10	MG/KG	11/15/88	MS
ARSENIC	4.3	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	<0.50	0.50	MG/KG	10/31/88	GG
CHROMIUM	12	2.5	MG/KG	10/31/88	GG
COPPER	7.7	2.0	MG/KG	10/31/88	GG
LEAD	29	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	<4.0	4.0	MG/KG	10/31/88	GG
SELENIUM	0.22	0.10	MG/KG	11/15/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.23	0.10	MG/KG	11/16/88	MS
ZINC	26	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815423	10/20/88	15:55	AC	SOIL - PI-32C, AREA 2, 6-6.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	82	2.0	%	10/26/88	GRM
ANTIMONY[1]	0.34	0.10	MG/KG	11/09/88	MS
ARSENIC	3.9	0.10	MG/KG	11/08/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	0.61	0.50	MG/KG	10/31/88	GG
CHROMIUM	30	2.5	MG/KG	10/31/88	GG
COPPER	<2.0	2.0	MG/KG	10/31/88	GG
LEAD	18	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	7.8	4.0	MG/KG	10/31/88	GG
SELENIUM	<0.10	0.10	MG/KG	11/15/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.23	0.10	MG/KG	11/16/88	MS
ZINC	36	5.0	MG/KG	10/31/88	GG

[1] RESULTS DETERMINED BY METHOD OF STANDARD ADDITION (MSA).

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815424
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/09/88
DATA FILE : >C6768

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	110	520	J
2)	ACENAPHTHYLENE	ND	520	
3)	ANTHRACENE	160	520	J
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	1500	520	
6)	BENZO(A)PYRENE	1400	520	
7)	BENZO(B)FLUORANTHENE	2200	520	
8)	BENZO(K)FLUORANTHENE	680	520	
9)	BENZO(G,H,I)PERYLENE	1200	520	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	520	
11)	BIS(2-CHLOROETHYL)ETHER	ND	520	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	520	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	59	520	J
14)	4-BROMOPHENYL PHENYL ETHER	ND	520	
15)	BUTYL BENZYL PHTHALATE	ND	520	
16)	2-CHLORONAPHTHALENE	ND	520	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	520	
18)	CHRYSENE	1900	520	
19)	DIBENZO(A,H)ANTHRACENE	74	520	J
20)	1,2-DICHLOROBENZENE	ND	520	
21)	1,3-DICHLOROBENZENE	ND	520	
22)	1,4-DICHLOROBENZENE	ND	520	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	520	
25)	DIMETHYL PHTHALATE	ND	520	
26)	DI-N-BUTYL PHTHALATE	730	520	
27)	2,4-DINITROTOLUENE	ND	520	
28)	2,6-DINITROTOLUENE	ND	520	
29)	DI-N-OCTYL PHTHALATE	ND	520	
30)	1,2-DIPHENYLHYDRAZINE	ND	520	
31)	FLUORANTHENE	2800	520	
32)	FLUORENE	56	520	J
33)	HEXACHLOROBENZENE	ND	520	
34)	HEXACHLOROBUTADIENE	ND	520	
35)	HEXACHLOROCYCLOPENTADIENE	ND	520	
36)	HEXACHLOROETHANE	ND	520	
37)	INDENO(1,2,3-CD)PYRENE	1300	520	
38)	ISOPHORONE	ND	520	
39)	NAPHTHALENE	ND	520	
40)	NITROBENZENE	ND	520	
41)	N-NITROSODIMETHYLAMINE	ND	520	
42)	N-NITROSODI-N-PROPYLAMINE	ND	520	
43)	N-NITROSODIPHENYLAMINE	ND	520	
44)	PHENANTHRENE	1000	520	
45)	PYRENE	1700	520	
46)	1,2,4-TRICHLOROBENZENE	ND	520	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN84

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-~~250~~ 212

Lab Sample ID: E815424

Extraction Date: 11/~~10~~/88

Lab File ID: >C6768

Date Analyzed: 11/09/88 17:56

Matrix: SOIL FOR BN

Number TICs found: 15

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	2.17	7500.	4
2.	594365	Butane, 2-chloro-2-methyl- (I	2.35	630.	
3.	994058	Butane, 2-methoxy-2-methyl-	2.42	6200.	1
4.		Unknown	2.63	560.	
5.	115195	3-Butyn-2-ol, 2-methyl- (8CI	4.00	4200.	
6.	930223	Oxirane, ethenyl- (9CI)	4.64	3200.	
7.	75912	Hydroperoxide, 1,1-dimethyle	4.82	970.	1
8.	127	Ethane, 1,1,2,2-tetrachloro-	6.40	480.	1
9.	16106595	1-Hexene, 4,5-dimethyl- (8CI	6.83	330.	1
10.	4291796	Cyclohexane, 1-methyl-2-prop	7.30	240.	1
11.	290	Benzo[a]pyrene	34.42	490.	
12.	192972	Benzo[e]pyrene (8CI9CI)	34.89	1500.	
13.	302	Benzo[ghi]perylene	38.37	540.	
14.	215587	Benzo[b]triphenylene (8CI9CI	39.20	370.	
15.	4090624	9H-Xanthen-9-one, 1-hydroxy-	45.27	520.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN85

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815424	10/20/88	11:40	AC	SOIL - PI-44A, AREA 4, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	96	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815425
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/07/88
DATA FILE : >C6727

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	520	
2)	ACENAPHTHYLENE	ND	520	
3)	ANTHRACENE	ND	520	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	ND	520	
6)	BENZO(A)PYRENE	ND	520	
7)	BENZO(B)FLUORANTHENE	ND	520	
8)	BENZO(K)FLUORANTHENE	ND	520	
9)	BENZO(G,H,I)PERYLENE	ND	520	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	520	
11)	BIS(2-CHLOROETHYL)ETHER	ND	520	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	520	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	520	
14)	4-BROMOPHENYL PHENYL ETHER	ND	520	
15)	BUTYL BENZYL PHTHALATE	ND	520	
16)	2-CHLORONAPHTHALENE	ND	520	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	520	
18)	CHRYSENE	ND	520	
19)	DIBENZO(A,H)ANTHRACENE	ND	520	
20)	1,2-DICHLOROBENZENE	ND	520	
21)	1,3-DICHLOROBENZENE	ND	520	
22)	1,4-DICHLOROBENZENE	ND	520	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	520	
25)	DIMETHYL PHTHALATE	ND	520	
26)	DI-N-BUTYL PHTHALATE	310	520	J
27)	2,4-DINITROTOLUENE	ND	520	
28)	2,6-DINITROTOLUENE	ND	520	
29)	DI-N-OCTYL PHTHALATE	ND	520	
30)	1,2-DIPHENYLHYDRAZINE	ND	520	
31)	FLUORANTHENE	ND	520	
32)	FLUORENE	ND	520	
33)	HEXACHLOROBENZENE	ND	520	
34)	HEXACHLOROBUTADIENE	ND	520	
35)	HEXACHLOROCYCLOPENTADIENE	ND	520	
36)	HEXACHLOROETHANE	ND	520	
37)	INDENO(1,2,3-CD)PYRENE	ND	520	
38)	ISOPHORONE	ND	520	
39)	NAPHTHALENE	ND	520	
40)	NITROBENZENE	ND	520	
41)	N-NITROSODIMETHYLAMINE	ND	520	
42)	N-NITROSODI-N-PROPYLAMINE	ND	520	
43)	N-NITROSODIPHENYLAMINE	ND	520	
44)	PHENANTHRENE	ND	520	
45)	PYRENE	ND	520	
46)	1,2,4-TRICHLOROBENZENE	ND	520	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN87

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-272

Lab Sample ID: E815425

Extraction Date: 11/03/88

Lab File ID: C6727

Date Analyzed: 11/07/88 23:41

Matrix: SOIL FOR BN

Number TICs found: 11

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	67663	Methane, trichloro- (9CI)	2.17	8900.	4
2.		Unknown	2.27	5900.	1
3.	594365	Butane, 2-chloro-2-methyl- (	2.45	460.	
4.		Unknown	2.52	4600.	1
5.	108	Ethene, trichloro-	2.74	520.	
6.	122	Ethane, 1,1,2-trichloro-	3.64	340.	
7.	764012	2-Butyn-1-ol (8CI9CI)	4.10	360.	
8.	115220	2-Butanone, 3-hydroxy-3-meth	4.96	380.	1
9.	197	Ethane, 1,1,2,2-tetrachloro-	6.51	630.	1
10.	123751	Pyrrolidine (DOT)(8CI9CI)	6.97	230.	1
11.		Unknown	33.40	300.	
12.					
13.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815425	10/20/88	11:45	AC	SOIL - PI-44B, AREA 4, 1.0-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	97	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815426	10/20/88	12:05	AC	SOIL - PI-44C, AREA 4, 8-8.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	79	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815427
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/10/88
DATA FILE : >C6783

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	520	
2)	ACENAPHTHYLENE	ND	520	
3)	ANTHRACENE	ND	520	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	390	520	J
6)	BENZO(A)PYRENE	ND	520	
7)	BENZO(B)FLUORANTHENE	780	520	
8)	BENZO(K)FLUORANTHENE	ND	520	
9)	BENZO(G,H,I)PERYLENE	320	520	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	520	
11)	BIS(2-CHLOROETHYL)ETHER	ND	520	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	520	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	520	
14)	4-BROMOPHENYL PHENYL ETHER	ND	520	
15)	BUTYL BENZYL PHTHALATE	ND	520	
16)	2-CHLORONAPHTHALENE	ND	520	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	520	
18)	CHRYSENE	440	520	J
19)	DIBENZO(A,H)ANTHRACENE	ND	520	
20)	1,2-DICHLOROBENZENE	ND	520	
21)	1,3-DICHLOROBENZENE	ND	520	
22)	1,4-DICHLOROBENZENE	ND	520	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	520	
25)	DIMETHYL PHTHALATE	ND	520	
26)	DI-N-BUTYL PHTHALATE	1200	520	
27)	2,4-DINITROTOLUENE	ND	520	
28)	2,6-DINITROTOLUENE	ND	520	
29)	DI-N-OCTYL PHTHALATE	ND	520	
30)	1,2-DIPHENYLHYDRAZINE	ND	520	
31)	FLUORANTHENE	570	520	
32)	FLUORENE	ND	520	
33)	HEXACHLOROBENZENE	ND	520	
34)	HEXACHLOROBUTADIENE	ND	520	
35)	HEXACHLOROCYCLOPENTADIENE	ND	520	
36)	HEXACHLOROETHANE	ND	520	
37)	INDENO(1,2,3-CD)PYRENE	330	520	J
38)	ISOPHORONE	ND	520	
39)	NAPHTHALENE	ND	520	
40)	NITROBENZENE	ND	520	
41)	N-NITROSODIMETHYLAMINE	ND	520	
42)	N-NITROSODI-N-PROPYLAMINE	ND	520	
43)	N-NITROSODIPHENYLAMINE	ND	520	
44)	PHENANTHRENE	290	520	J
45)	PYRENE	590	520	
46)	1,2,4-TRICHLOROBENZENE	ND	520	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN9L
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-270

Lab Sample ID: E815427

Extraction Date: 11/10/88

Lab File ID: >C6783

Date Analyzed: 11/10/88 18:10

Matrix: SOIL FOR BN

Number TICs found: 9

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	2.32	620.	
2.		Unknown	2.43	5900.	
3.	79016	Ethene, trichloro- (9CI)	2.61	710.	
4.	122	Ethane, 1,1,2-trichloro-	3.51	250.	
5.	115195	3-Butyn-2-ol, 2-methyl- (8CI	3.97	1300.	
6.	115195	3-Butyn-2-ol, 2-methyl- (8CI	4.62	1200.	
7.		Unknown	4.80	430.	
8.	199	Ethane, 1,1,2,2-tetrachloro-	6.41	590.	
9.	123751	Pyrrolidine (DOT)(8CI9CI)	6.88	280.	
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN92

ACCUTEST®
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815427	10/20/88	12:10	AC	SOIL - PI-45A, AREA 4, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	96	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN93

ACCUTEST®
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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815428
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/08/88
DATA FILE : >C6731

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	500	
2)	ACENAPHTHYLENE	ND	500	
3)	ANTHRACENE	ND	500	
4)	BENZIDENE	ND	2500	
5)	BENZO(A)ANTHRACENE	ND	500	
6)	BENZO(A)PYRENE	ND	500	
7)	BENZO(B)FLUORANTHENE	ND	500	
8)	BENZO(K)FLUORANTHENE	ND	500	
9)	BENZO(G,H,I)PERYLENE	ND	500	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	500	
11)	BIS(2-CHLOROETHYL)ETHER	ND	500	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	500	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	500	
14)	4-BROMOPHENYL PHENYL ETHER	ND	500	
15)	BUTYL BENZYL PHTHALATE	ND	500	
16)	2-CHLORONAPHTHALENE	ND	500	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	500	
18)	CHRYSENE	ND	500	
19)	DIBENZO(A,H)ANTHRACENE	ND	500	
20)	1,2-DICHLOROBENZENE	ND	500	
21)	1,3-DICHLOROBENZENE	ND	500	
22)	1,4-DICHLOROBENZENE	ND	500	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	500	
25)	DIMETHYL PHTHALATE	ND	500	
26)	DI-N-BUTYL PHTHALATE	340	500	J
27)	2,4-DINITROTOLUENE	ND	500	
28)	2,6-DINITROTOLUENE	ND	500	
29)	DI-N-OCTYL PHTHALATE	ND	500	
30)	1,2-DIPHENYLHYDRAZINE	ND	500	
31)	FLUORANTHENE	ND	500	
32)	FLUORENE	ND	500	
33)	HEXACHLOROBENZENE	ND	500	
34)	HEXACHLOROBUTADIENE	ND	500	
35)	HEXACHLOROCYCLOPENTADIENE	ND	500	
36)	HEXACHLOROETHANE	ND	500	
37)	INDENO(1,2,3-CD)PYRENE	ND	500	
38)	ISOPHORONE	ND	500	
39)	NAPHTHALENE	ND	500	
40)	NITROBENZENE	ND	500	
41)	N-NITROSODIMETHYLAMINE	ND	500	
42)	N-NITROSODI-N-PROPYLAMINE	ND	500	
43)	N-NITROSODIPHENYLAMINE	ND	500	
44)	PHENANTHRENE	ND	500	
45)	PYRENE	ND	500	
46)	1,2,4-TRICHLOROBENZENE	ND	500	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NW94
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2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-272

Lab Sample ID: E815428

Extraction Date: 11/03/88

Lab File ID: C6731

Date Analyzed: 11/08/88 3:43

Matrix: SOIL FOP BN

Number TICs found: 9

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	624782	Ethanamine, N-methyl- (9CI)	2.26	3100.	
2.		Unknown	2.40	1100.	
3.	646060	1,3-Dioxolane (8CI9CI)	2.55	11000.	
4.	107	Ethene, trichloro-	2.73	680.	
5.	60355	Acetamide (8CI9CI)	4.95	950.	
6.	196	Ethane, 1,1,2,2-tetrachloro-	6.49	500.	
7.	16106595	1-Hexene, 4,5-dimethyl- (8CI	6.96	300.	
8.		Unknown	33.38	250.	
9.		Unknown	34.68	250.	
10.					
11.					
12.					
13.					

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN95

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815428	10/20/88	12:15	AC	SOIL - PI-45B, AREA 4, 1-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	97	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN96
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815429	10/20/88	12:30	AC	SOIL - PI-45C, AREA 4, 8-8.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	90	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN97
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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815430
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/08/88
DATA FILE : >C6734

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	520	
2)	ACENAPHTHYLENE	ND	520	
3)	ANTHRACENE	ND	520	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	ND	520	
6)	BENZO(A)PYRENE	190	520	J
7)	BENZO(B)FLUORANTHENE	160	520	J
8)	BENZO(K)FLUORANTHENE	150	520	J
9)	BENZO(G,H,I)PERYLENE	100	520	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	520	
11)	BIS(2-CHLOROETHYL)ETHER	ND	520	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	520	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	520	
14)	4-BROMOPHENYL PHENYL ETHER	ND	520	
15)	BUTYL BENZYL PHTHALATE	ND	520	
16)	2-CHLORONAPHTHALENE	ND	520	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	520	
18)	CHRYSENE	180	520	J
19)	DIBENZO(A,H)ANTHRACENE	ND	520	
20)	1,2-DICHLOROBENZENE	ND	520	
21)	1,3-DICHLOROBENZENE	ND	520	
22)	1,4-DICHLOROBENZENE	ND	520	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	520	
25)	DIMETHYL PHTHALATE	ND	520	
26)	DI-N-BUTYL PHTHALATE	540	520	
27)	2,4-DINITROTOLUENE	ND	520	
28)	2,6-DINITROTOLUENE	ND	520	
29)	DI-N-OCTYL PHTHALATE	ND	520	
30)	1,2-DIPHENYLHYDRAZINE	ND	520	
31)	FLUORANTHENE	210	520	J
32)	FLUORENE	ND	520	
33)	HEXACHLOROBENZENE	ND	520	
34)	HEXACHLOROBUTADIENE	ND	520	
35)	HEXACHLOROCYCLOPENTADIENE	ND	520	
36)	HEXACHLOROETHANE	ND	520	
37)	INDENO(1,2,3-CD)PYRENE	ND	520	
38)	ISOPHORONE	ND	520	
39)	NAPHTHALENE	ND	520	
40)	NITROBENZENE	ND	520	
41)	N-NITROSODIMETHYLAMINE	ND	520	
42)	N-NITROSODI-N-PROPYLAMINE	ND	520	
43)	N-NITROSODIPHENYLAMINE	ND	520	
44)	PHENANTHRENE	120	520	J
45)	PYRENE	230	520	J
46)	1,2,4-TRICHLOROBENZENE	ND	520	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN18

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-272

Lab Sample ID: E815430

Extraction Date: 11/03/88

Lab File ID: C6734

Date Analyzed: 11/08/88 6:44

Matrix: SOIL FOR BN

Number TICs found: 12

CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.26	7900.	1
2. 994058	Butane, 2-methoxy-2-methyl-	2.51	5700.	1
3. 1759531	Cyclopropanecarboxylic acid	2.58	480.	
4. 107211	1,2-Ethanediol (9CI)	2.69	380.	
5. 123	Ethane, 1,1,2-trichloro-	3.62	510.	
6. 115195	3-Butyn-2-ol, 2-methyl- (8CI)	4.09	1100.	
7. 115195	3-Butyn-2-ol, 2-methyl- (8CI)	4.70	340.	
8. 75912	Hydroperoxide, 1,1-dimethyle	4.95	370.	1
9. 196	Ethane, 1,1,2,2-tetrachloro-	5.49	600.	1
10. 2051787	Butanoic acid, 2-propenyl es	6.96	340.	1
11.	Unknown	33.37	740.	1
12. 56771483	Cyclopropanamine, N-methyl-1	34.67	3100.	

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN99
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815430	10/20/88	12:40	AC	SOIL - PI-46A, AREA 4, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	94	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN.00
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2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815431
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/08/88
DATA FILE : >C6732

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	510	
2)	ACENAPHTHYLENE	ND	510	
3)	ANTHRACENE	ND	510	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	ND	510	
6)	BENZO(A)PYRENE	ND	510	
7)	BENZO(B)FLUORANTHENE	ND	510	
8)	BENZO(K)FLUORANTHENE	ND	510	
9)	BENZO(G,H,I)PERYLENE	ND	510	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	510	
11)	BIS(2-CHLOROETHYL)ETHER	ND	510	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	510	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	510	
14)	4-BROMOPHENYL PHENYL ETHER	ND	510	
15)	BUTYL BENZYL PHTHALATE	ND	510	
16)	2-CHLORONAPHTHALENE	ND	510	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	510	
18)	CHRYSENE	ND	510	
19)	DIBENZO(A,H)ANTHRACENE	ND	510	
20)	1,2-DICHLOROBENZENE	ND	510	
21)	1,3-DICHLOROBENZENE	ND	510	
22)	1,4-DICHLOROBENZENE	ND	510	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	510	
25)	DIMETHYL PHTHALATE	ND	510	
26)	DI-N-BUTYL PHTHALATE	360	510	J
27)	2,4-DINITROTOLUENE	ND	510	
28)	2,6-DINITROTOLUENE	ND	510	
29)	DI-N-OCTYL PHTHALATE	ND	510	
30)	1,2-DIPHENYLHYDRAZINE	ND	510	
31)	FLUORANTHENE	ND	510	
32)	FLUORENE	ND	510	
33)	HEXACHLOROBENZENE	ND	510	
34)	HEXACHLOROBUTADIENE	ND	510	
35)	HEXACHLOROCYCLOPENTADIENE	ND	510	
36)	HEXACHLOROETHANE	ND	510	
37)	INDENO(1,2,3-CD)PYRENE	ND	510	
38)	ISOPHORONE	ND	510	
39)	NAPHTHALENE	ND	510	
40)	NITROBENZENE	ND	510	
41)	N-NITROSODIMETHYLAMINE	ND	510	
42)	N-NITROSODI-N-PROPYLAMINE	ND	510	
43)	N-NITROSODIPHENYLAMINE	ND	510	
44)	PHENANTHRENE	ND	510	
45)	PYRENE	ND	510	
46)	1,2,4-TRICHLOROBENZENE	ND	510	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN101

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-272

Lab Sample ID: E815431

Extraction Date: 11/03/88

Lab File ID: C6732

Date Analyzed: 11/08/88 4:43

Matrix: SOIL FOR BN

Number TICs found: 12

CONCENTRATION UNITS: ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	81	Chloroform	2.15	4200.	4
2.	113008	Guanidine (8CI,9CI)	2.30	5600.	1
3.	563804	2-Butanone, 3-methyl- (8CI,9CI)	2.40	1600.	1
4.	646060	1,3-Dioxolane (8CI,9CI)	2.55	11000.	1
5.	107211	1,2-Ethanediol (9CI)	2.69	730.	
6.	123	Ethane, 1,1,2-trichloro-	3.66	370.	
7.	2402064	Cyclopropane, 1,2-dimethyl-,	4.16	810.	1
8.	930223	Oxirane, ethenyl- (9CI)	4.73	870.	
9.	67641	2-Propanone (9CI)	4.95	960.	1
10.	196	Ethane, 1,1,2,2-tetrachloro-	5.49	510.	
11.	16106595	1-Hexene, 4,5-dimethyl- (8CI)	5.96	340.	1
12.		Unknown	33.39	430.	1
13.					

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN102
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
815431	10/20/88	12:45	AC	SOIL - PI-46B, AREA 4, 1-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	97	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN003
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815432	10/20/88	12:55	AC	SOIL - PI-46C, AREA 4, 7.75-8.25' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	80	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NNiod
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ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815433
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/08/88
DATA FILE : >C6735

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	540	
2)	ACENAPHTHYLENE	ND	540	
3)	ANTHRACENE	ND	540	
4)	BENZIDENE	ND	2700	
5)	BENZO(A)ANTHRACENE	180	540	J
6)	BENZO(A)PYRENE	210	540	J
7)	BENZO(B)FLUORANTHENE	240	540	J
8)	BENZO(K)FLUORANTHENE	170	540	J
9)	BENZO(G,H,I)PERYLENE	ND	540	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	540	
11)	BIS(2-CHLOROETHYL)ETHER	ND	540	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	540	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	95	540	J
14)	4-BROMOPHENYL PHENYL ETHER	ND	540	
15)	BUTYL BENZYL PHTHALATE	ND	540	
16)	2-CHLORONAPHTHALENE	ND	540	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	540	
18)	CHRYSENE	310	540	J
19)	DIBENZO(A,H)ANTHRACENE	ND	540	
20)	1,2-DICHLOROBENZENE	ND	540	
21)	1,3-DICHLOROBENZENE	ND	540	
22)	1,4-DICHLOROBENZENE	ND	540	
23)	3,3'-DICHLOROBENZIDENE	ND	1100	
24)	DIETHYL PHTHALATE	ND	540	
25)	DIMETHYL PHTHALATE	ND	540	
26)	DI-N-BUTYL PHTHALATE	680	540	
27)	2,4-DINITROTOLUENE	ND	540	
28)	2,6-DINITROTOLUENE	ND	540	
29)	DI-N-OCTYL PHTHALATE	76	540	J
30)	1,2-DIPHENYLHYDRAZINE	ND	540	
31)	FLUORANTHENE	280	540	J
32)	FLUORENE	ND	540	
33)	HEXACHLOROBENZENE	ND	540	
34)	HEXACHLOROBUTADIENE	ND	540	
35)	HEXACHLOROCYCLOPENTADIENE	ND	540	
36)	HEXACHLOROETHANE	ND	540	
37)	INDENO(1,2,3-CD)PYRENE	140	540	J
38)	ISOPHORONE	ND	540	
39)	NAPHTHALENE	ND	540	
40)	NITROBENZENE	ND	540	
41)	N-NITROSODIMETHYLAMINE	ND	540	
42)	N-NITROSODI-N-PROPYLAMINE	ND	540	
43)	N-NITROSODIPHENYLAMINE	ND	540	
44)	PHENANTHRENE	170	540	J
45)	PYRENE	320	540	J
46)	1,2,4-TRICHLOROBENZENE	ND	540	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN105

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-272

Lab Sample ID: E815433

Extraction Date: 11/03/88

Lab File ID: >C6735

Date Analyzed: 11/08/88 7:44

Matrix: SOIL FOR BN

Number TICs found: 14

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	2.26	4700.	
2.	75092	Methane, dichloro- (8CI9CI)	2.33	230.	
3.	594365	Butane, 2-chloro-2-methyl- (	2.44	350.	
4.		Unknown	2.55	6800.	
5.	79016	Ethene, trichloro- (9CI)	2.73	430.	
6.	79005	Ethane, 1,1,2-trichloro- (8C	3.63	330.	
7.	115195	3-Butyn-2-ol, 2-methyl- (8CI	4.09	1300.	
8.	930223	Oxirane, ethenyl- (9CI)	4.74	1500.	
9.	67641	2-Propanone (9CI)	4.95	1100.	
10.	79345	Ethane, 1,1,2,2-tetrachloro-	6.50	710.	
11.	4316658	1-Hexene, 3,5,5-trimethyl- (	6.96	290.	
12.		Unknown	32.01	280.	
13.		Unknown	34.60	900.	
14.	27551117	4-Thiazoleethanol, 2-(p-chlo	34.67	1100.	

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN 106

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422

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2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815433	10/20/88	13:05	AC	SOIL - PI-47A, AREA 4, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/04/88	TM
SOLIDS, TOTAL PERCENT	92	2.0	%	10/26/88	GRM
ANTIMONY	0.96	0.10	MG/KG	11/15/88	MS
ARSENIC	23	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	2.0	0.50	MG/KG	10/31/88	GG
CHROMIUM	20	2.5	MG/KG	10/31/88	GG
COPPER	44	2.0	MG/KG	10/31/88	GG
LEAD	85	10	MG/KG	11/03/88	NH
MERCURY	0.11	0.10	MG/KG	11/08/88	SH
NICKEL	12	4.0	MG/KG	10/31/88	GG
SELENIUM	0.65	0.10	MG/KG	11/15/88	MS
SILVER	1.1	1.0	MG/KG	10/31/88	NH
THALLIUM	0.52	0.10	MG/KG	11/16/88	MS
ZINC	170	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT VN 107

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815434	10/20/88	13:15	AC	SOIL - PI-47B, AREA 4, 1-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	TM
SOLIDS, TOTAL PERCENT	95	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN108
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815435	10/20/88	13:30	AC	SOIL - PI-47C, AREA 4, 7.75-8.25' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	79	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
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ATTACHMENT NN109
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425

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815436
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/09/88
DATA FILE : >C6769

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	520	
2)	ACENAPHTHYLENE	ND	520	
3)	ANTHRACENE	ND	520	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	400	520	J
6)	BENZO(A)PYRENE	460	520	J
7)	BENZO(B)FLUORANTHENE	830	520	
8)	BENZO(K)FLUORANTHENE	ND	520	
9)	BENZO(G,H,I)PERYLENE	360	520	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	520	
11)	BIS(2-CHLOROETHYL)ETHER	ND	520	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	520	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	150	520	J
14)	4-BROMOPHENYL PHENYL ETHER	ND	520	
15)	BUTYL BENZYL PHTHALATE	ND	520	
16)	2-CHLORONAPHTHALENE	ND	520	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	520	
18)	CHRYSENE	520	520	
19)	DIBENZO(A,H)ANTHRACENE	74	520	J
20)	1,2-DICHLOROBENZENE	ND	520	
21)	1,3-DICHLOROBENZENE	ND	520	
22)	1,4-DICHLOROBENZENE	ND	520	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	520	
25)	DIMETHYL PHTHALATE	ND	520	
26)	DI-N-BUTYL PHTHALATE	1900	520	
27)	2,4-DINITROTOLUENE	ND	520	
28)	2,6-DINITROTOLUENE	ND	520	
29)	DI-N-OCTYL PHTHALATE	110	520	J
30)	1,2-DIPHENYLHYDRAZINE	ND	520	
31)	FLUORANTHENE	720	520	
32)	FLUORENE	ND	520	
33)	HEXACHLOROBENZENE	ND	520	
34)	HEXACHLOROBUTADIENE	ND	520	
35)	HEXACHLOROCYCLOPENTADIENE	ND	520	
36)	HEXACHLOROETHANE	ND	520	
37)	INDENO(1,2,3-CD)PYRENE	370	520	J
38)	ISOPHORONE	ND	520	
39)	NAPHTHALENE	ND	520	
40)	NITROBENZENE	ND	520	
41)	N-NITROSODIMETHYLAMINE	ND	520	
42)	N-NITROSODI-N-PROPYLAMINE	ND	520	
43)	N-NITROSODIPHENYLAMINE	ND	520	
44)	PHENANTHRENE	310	520	J
45)	PYRENE	530	520	
46)	1,2,4-TRICHLOROBENZENE	ND	520	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN110

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-280

Lab Sample ID: E815436

Extraction Date: 11/10/88

Lab File ID: C6769

Date Analyzed: 11/09/88 13:57

Matrix: SOIL FOR BN

Number TICs found: 11

CONCENTRATION UNITS: ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	113008	Guanidine (8CI9CI)	2.17	6900.	1
2.	107879	2-Pentanone (8CI9CI)	2.28	2000.	1
3.	646060	1,3-Dioxolane (8CI9CI)	2.42	11000.	1
4.	109	Ethene, trichloro-	2.60	520.	
5.	122	Ethane, 1,1,2-trichloro-	3.50	250.	
6.	115195	3-Butyn-2-ol, 2-methyl- (8CI	4.00	4900.	
7.	115195	3-Butyn-2-ol, 2-methyl- (8CI	4.61	2200.	
8.	113008	Guanidine (8CI9CI)	4.83	1200.	1
9.	107255	Ethene, methoxy- (9CI)	6.12	24.	
10.	196	Ethane, 1,1,2,2-tetrachloro-	6.37	420.	1
11.	2051787	Butanoic acid, 2-propenyl es	6.84	260.	
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN III

ACCUTEST®
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815436	10/20/88	13:40	AC	SOIL - PI-48A, AREA 4, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	95	2.0	%	10/26/88	GRM
ANTIMONY	0.47	0.10	MG/KG	11/15/88	MS
ARSENIC	3.6	0.10	MG/KG	11/15/88	MS
BERYLLIUM	1.2	0.50	MG/KG	11/10/88	GG
CADMIUM	13	0.50	MG/KG	11/10/88	GG
CHROMIUM	26	2.5	MG/KG	11/10/88	GG
COPPER	32	2.0	MG/KG	11/10/88	GG
LEAD	160	10	MG/KG	11/07/88	RH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	7.0	4.0	MG/KG	11/10/88	GG
SELENIUM	0.18	0.10	MG/KG	11/15/88	MS
SILVER	1.2	1.0	MG/KG	11/08/88	RH
THALLIUM	0.20	0.10	MG/KG	11/16/88	MS
ZINC	74	5.0	MG/KG	11/10/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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VICE-PRESIDENT

ATTACHMENT NW112

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2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815437	10/20/88	13:45	AC	SOIL - PI-48B, AREA 4, 1.0-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	94	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NW 113

429

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815438
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/08/88
DATA FILE : >C6730

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	550	
2)	ACENAPHTHYLENE	ND	550	
3)	ANTHRACENE	ND	550	
4)	BENZIDENE	ND	2700	
5)	BENZO(A)ANTHRACENE	ND	550	
6)	BENZO(A)PYRENE	ND	550	
7)	BENZO(B)FLUORANTHENE	ND	550	
8)	BENZO(K)FLUORANTHENE	ND	550	
9)	BENZO(G,H,I)PERYLENE	ND	550	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	550	
11)	BIS(2-CHLOROETHYL)ETHER	ND	550	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	550	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	550	
14)	4-BROMOPHENYL PHENYL ETHER	ND	550	
15)	BUTYL BENZYL PHTHALATE	ND	550	
16)	2-CHLORONAPHTHALENE	ND	550	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	550	
18)	CHRYSENE	ND	550	
19)	DIBENZO(A,H)ANTHRACENE	ND	550	
20)	1,2-DICHLOROBENZENE	ND	550	
21)	1,3-DICHLOROBENZENE	ND	550	
22)	1,4-DICHLOROBENZENE	ND	550	
23)	3,3'-DICHLOROBENZIDENE	ND	1100	
24)	DIETHYL PHTHALATE	ND	550	
25)	DIMETHYL PHTHALATE	ND	550	
26)	DI-N-BUTYL PHTHALATE	730	550	
27)	2,4-DINITROTOLUENE	ND	550	
28)	2,6-DINITROTOLUENE	ND	550	
29)	DI-N-OCTYL PHTHALATE	ND	550	
30)	1,2-DIPHENYLHYDRAZINE	ND	550	
31)	FLUORANTHENE	ND	550	
32)	FLUORENE	ND	550	
33)	HEXACHLOROBENZENE	ND	550	
34)	HEXACHLOROBUTADIENE	ND	550	
35)	HEXACHLOROCYCLOPENTADIENE	ND	550	
36)	HEXACHLOROETHANE	ND	550	
37)	INDENO(1,2,3-CD)PYRENE	ND	550	
38)	ISOPHORONE	ND	550	
39)	NAPHTHALENE	ND	550	
40)	NITROBENZENE	ND	550	
41)	N-NITROSODIMETHYLAMINE	ND	550	
42)	N-NITROSODI-N-PROPYLAMINE	ND	550	
43)	N-NITROSODIPHENYLAMINE	ND	550	
44)	PHENANTHRENE	ND	550	
45)	PYRENE	ND	550	
46)	1,2,4-TRICHLOROBENZENE	ND	550	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NNW 78

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-272

Lab Sample ID: E815438

Extraction Date: 11/03/88

Lab File ID: >C6730

Date Analyzed: 11/08/88 2:42

Matrix: SOIL FOR BN

Number TICs found: 10

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	67663	Methane, trichloro- (9CI)	2.19	13000.	4
2.		Unknown	2.30	9000.	1
3.	29	Methane, dichloro-	2.37	300.	
4.	109900	Ethane, isocyanato- (9CI)	2.48	240.	
5.	994058	Butane, 2-methoxy-2-methyl-	2.55	6100.	1
6.	75183	Methane, thiobis- (9CI)	2.76	900.	
7.	124	Ethane, 1,1,2-trichloro-	3.66	930.	
8.	2402064	Cyclopropane, 1,2-dimethyl-,	4.16	440.	1
9.	113008	Guanidine (8CI9CI)	4.99	1100.	1
10.	197	Ethane, 1,1,2,2-tetrachloro-	6.53	760.	1
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN115
431

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815438	10/20/88	13:55	AC	SOIL - PI-48C, AREA 4, 7.75-8.25' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	90	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

80

ATTACHMENT NN16
432

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E815439
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 11/09/88
DATA FILE : >C6767

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	510	
2)	ACENAPHTHYLENE	ND	510	
3)	ANTHRACENE	ND	510	
4)	BENZIDENE	ND	2600	
5)	BENZO(A)ANTHRACENE	ND	510	
6)	BENZO(A)PYRENE	ND	510	
7)	BENZO(B)FLUORANTHENE	ND	510	
8)	BENZO(K)FLUORANTHENE	ND	510	
9)	BENZO(G,H,I)PERYLENE	ND	510	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	510	
11)	BIS(2-CHLOROETHYL)ETHER	ND	510	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	510	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	510	
14)	4-BROMOPHENYL PHENYL ETHER	ND	510	
15)	BUTYL BENZYL PHTHALATE	ND	510	
16)	2-CHLORONAPHTHALENE	ND	510	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	510	
18)	CHRYSENE	ND	510	
19)	DIBENZO(A,H)ANTHRACENE	ND	510	
20)	1,2-DICHLOROBENZENE	ND	510	
21)	1,3-DICHLOROBENZENE	ND	510	
22)	1,4-DICHLOROBENZENE	ND	510	
23)	3,3'-DICHLOROBENZIDENE	ND	1000	
24)	DIETHYL PHTHALATE	ND	510	
25)	DIMETHYL PHTHALATE	ND	510	
26)	DI-N-BUTYL PHTHALATE	220	510	J
27)	2,4-DINITROTOLUENE	ND	510	
28)	2,6-DINITROTOLUENE	ND	510	
29)	DI-N-OCTYL PHTHALATE	ND	510	
30)	1,2-DIPHENYLHYDRAZINE	ND	510	
31)	FLUORANTHENE	ND	510	
32)	FLUORENE	ND	510	
33)	HEXACHLOROBENZENE	ND	510	
34)	HEXACHLOROBUTADIENE	ND	510	
35)	HEXACHLOROCYCLOPENTADIENE	ND	510	
36)	HEXACHLOROETHANE	ND	510	
37)	INDENO(1,2,3-CD)PYRENE	ND	510	
38)	ISOPHORONE	ND	510	
39)	NAPHTHALENE	ND	510	
40)	NITROBENZENE	ND	510	
41)	N-NITROSODIMETHYLAMINE	ND	510	
42)	N-NITROSODI-N-PROPYLAMINE	ND	510	
43)	N-NITROSODIPHENYLAMINE	ND	510	
44)	PHENANTHRENE	ND	510	
45)	PYRENE	ND	510	
46)	1,2,4-TRICHLOROBENZENE	ND	510	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN17

Lab Sample ID: E8[illegible]39 E[illegible]action Date: 11/10/88

Lab File ID: >C6767 Date Analyzed: 11/09/88 16:55

Matrix: SOIL FOR BN

Number TICs found: 7 CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	2.30	470.	
2.	Unknown	2.41	1700.	
3.	Unknown	2.59	450.	
4. 124	Ethane, 1,1,2-trichloro-	3.52	320.	
5. 592461	2,4-Hexadiene (8CI9CI)	4.02	480.	
6. 115220	2-Butanone, 3-hydroxy-3-meth	4.85	690.	
7. 198	Ethane, 1,1,2,2-tetrachloro-	6.43	470.	
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815439	10/20/88	14:05	AC	SOIL - PI-49A, AREA 4, 0-.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	97	2.0	%	10/26/88	GRM
ANTIMONY	0.53	0.10	MG/KG	11/15/88	MS
ARSENIC	2.3	0.10	MG/KG	11/15/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	10/31/88	GG
CADMIUM	0.59	0.50	MG/KG	10/31/88	GG
CHROMIUM	28	2.5	MG/KG	10/31/88	GG
COPPER	17	2.0	MG/KG	10/31/88	GG
LEAD	29	10	MG/KG	11/03/88	NH
MERCURY	<0.10	0.10	MG/KG	11/08/88	SH
NICKEL	5.1	4.0	MG/KG	10/31/88	GG
SELENIUM	<0.10	0.10	MG/KG	11/15/88	MS
SILVER	<1.0	1.0	MG/KG	10/31/88	NH
THALLIUM	0.21	0.10	MG/KG	11/16/88	MS
ZINC	46	5.0	MG/KG	10/31/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN19

SAMPLE No	COLLECTED DATE	TIME	BY	NT OF COLLECTION
E815440	10/20/88	14:10	AC	SOIL - PI-49B, AREA 4, 1-1.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	96	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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436
ATTACHMENT NN120

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815441	10/20/88	14:15	AC	SOIL - PI-49C, AREA 4, 7.5-8.0' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/03/88	JK
SOLIDS, TOTAL PERCENT	87	2.0	%	10/26/88	GRM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NNtal

ACCUTEST
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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815442
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 10/27/88
DATA FILE : >E2046

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	3.5	10	J
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	ND	10	
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	ND	10	
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	ND	10	
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPL

438 86
ATTACHMENT NW22

atrix: (soil/water) BN .TER BATCH NO: ·260

ab File ID: >E2046

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108883	Benzene, methyl- (9CI)	6.30	17.	
2. 54063148	1,3-Dioxan-5ol, 4,4,5-trim	8.09	12.	\
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
20.				
21.				
22.				

QUALIFIERS

(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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SAMPLE No	C(CTED. DATE	TIME	BY	INT OF COLLECTION
E815442	10/20/88	17:00	AC	WATER - PI-FB(4), FIELD BLANK PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/26/88	KY
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	<0.001	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	10/27/88	GG
CADMIUM	<0.005	0.005	MG/L	10/27/88	GAG
CHROMIUM	<0.025	0.025	MG/L	10/27/88	GG
COPPER	<0.020	0.020	MG/L	10/27/88	GG
LEAD	<0.001	0.001	MG/L	10/28/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	<0.040	0.040	MG/L	10/27/88	GG
SELENIUM	<0.001	0.001	MG/L	10/28/88	MS
SILVER	<0.010	0.010	MG/L	10/26/88	NH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	<0.050	0.050	MG/L	10/27/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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VICE-PRESIDENT

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ATTACHMENT NN124

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	14	
2)	ACENAPHTHYLENE	ND	14	
3)	ANTHRACENE	ND	14	
4)	BENZIDENE	ND	70	
5)	BENZO(A)ANTHRACENE	ND	14	
6)	BENZO(A)PYRENE	ND	14	
7)	BENZO(B)FLUORANTHENE	ND	14	
8)	BENZO(K)FLUORANTHENE	ND	14	
9)	BENZO(G,H,I)PERYLENE	ND	14	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	14	
11)	BIS(2-CHLOROETHYL)ETHER	ND	14	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	14	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	14	
14)	4-BROMOPHENYL PHENYL ETHER	ND	14	
15)	BUTYL BENZYL PHTHALATE	ND	14	
16)	2-CHLORONAPHTHALENE	ND	14	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	14	
18)	CHRYSENE	ND	14	
19)	DIBENZO(A,H)ANTHRACENE	ND	14	
20)	1,2-DICHLOROBENZENE	ND	14	
21)	1,3-DICHLOROBENZENE	ND	14	
22)	1,4-DICHLOROBENZENE	ND	14	
23)	3,3'-DICHLOROBENZIDENE	ND	28	
24)	DIETHYL PHTHALATE	ND	14	
25)	DIMETHYL PHTHALATE	ND	14	
26)	DI-N-BUTYL PHTHALATE	ND	14	
27)	2,4-DINITROTOLUENE	ND	14	
28)	2,6-DINITROTOLUENE	ND	14	
29)	DI-N-OCTYL PHTHALATE	ND	14	
30)	1,2-DIPHENYLHYDRAZINE	ND	14	
31)	FLUORANTHENE	ND	14	
32)	FLUORENE	ND	14	
33)	HEXACHLOROBENZENE	ND	14	
34)	HEXACHLOROBUTADIENE	ND	14	
35)	HEXACHLOROCYCLOPENTADIENE	ND	14	
36)	HEXACHLOROETHANE	ND	14	
37)	INDENO(1,2,3-CD)PYRENE	ND	14	
38)	ISOPHORONE	ND	14	
39)	NAPHTHALENE	ND	14	
40)	NITROBENZENE	ND	14	
41)	N-NITROSODIMETHYLAMINE	ND	14	
42)	N-NITROSODI-N-PROPYLAMINE	ND	14	
43)	N-NITROSODIPHENYLAMINE	ND	14	
44)	PHENANTHRENE	ND	14	
45)	PYRENE	ND	14	
46)	1,2,4-TRICHLOROBENZENE	ND	14	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

Matrix: (soil/water) [illegible] ATER BATCH NO [illegible]-260

Lab File ID: >E2047

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 13757910	2-Heptanone, 3-hydroxy-3-me	8.10	17.	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
20.				
21.				
22.				

QUALIFIERS

(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT NN 126

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815443	10/20/88	17:00	AC	WATER - PI-FB(5), FIELD BLANK PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/26/88	KT
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	0.001	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	10/27/88	GG
CADMIUM	<0.005	0.005	MG/L	10/27/88	GAG
CHROMIUM	<0.025	0.025	MG/L	10/27/88	GG
COPPER	<0.020	0.020	MG/L	10/27/88	GG
LEAD	<0.001	0.001	MG/L	10/28/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	<0.040	0.040	MG/L	10/27/88	GG
SELENIUM	<0.001	0.001	MG/L	10/28/88	MS
SILVER	<0.010	0.010	MG/L	10/26/88	NH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	<0.050	0.050	MG/L	10/27/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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VICE-PRESIDENT

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ATTACHMENT NN108

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

TO: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 12/20/88

JOB No: 8851778

PROJECT No: 86013

SAMPLE RECEIVED: 12/01/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816086S	10/20/88	11:00	AC	SOIL - PI-350, 7-7.5'/PLANT INDUSTRIES 37-65
E816090R	10/19/88	14:15	AC	SOIL - PI-39A, 0-6", S/S HAND AUGER PLANT INDUSTRIES
E816099R	10/19/88	15:25	AC	SOIL - PI-42A, 0-6"/PLANT INDUSTRIES
E816103R	10/19/88	12:05	AC	SOIL - PI-43A, 0-6"/PLANT INDUSTRIES

NJDEP CERTIFICATION 12129
PDEP CERTIFICATION PH-0585

VINCENT J. FUGLIESE
VICE-PRESIDENT

445 1
ATTACHMENT NN029

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 379-0200

ANALYSIS REPORT

MPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
16086S	10/20/88	11:00	AC	SOIL - PI-35D, 7-7.5'/PLANT INDUSTRIES 35-D

EST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
OLIDS, TOTAL PERCENT	95	2.0	%	12/06/88	[illegible]
ADMIUM	0.60	0.50	MG/KG	12/15/88	[illegible]
ILVER	<1.0	1.0	MG/KG	12/13/88	NN

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN 130

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E816090R
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 12/01/88
DATA FILE : >C6998

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	220	540	J
2)	ACENAPHTHYLENE	220	540	J
3)	ANTHRACENE	6100	540	
4)	BENZIDENE	ND	2700	
5)	BENZO(A)ANTHRACENE	7300	540	
6)	BENZO(A)PYRENE	5500	540	
7)	BENZO(B)FLUORANTHENE	4800	540	
8)	BENZO(K)FLUORANTHENE	5500	540	
9)	BENZO(G,H,I)PERYLENE	3000	540	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	540	
11)	BIS(2-CHLOROETHYL)ETHER	ND	540	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	540	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	540	
14)	4-BROMOPHENYL PHENYL ETHER	ND	540	
15)	BUTYL BENZYL PHTHALATE	1000	540	
16)	2-CHLORONAPHTHALENE	ND	540	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	540	
18)	CHRYSENE	7400	540	
19)	DIBENZO(A,H)ANTHRACENE	1100	540	
20)	1,2-DICHLOROBENZENE	ND	540	
21)	1,3-DICHLOROBENZENE	ND	540	
22)	1,4-DICHLOROBENZENE	ND	540	
23)	3,3'-DICHLOROBENZIDENE	ND	1100	
24)	DIETHYL PHTHALATE	ND	540	
25)	DIMETHYL PHTHALATE	ND	540	
26)	DI-N-BUTYL PHTHALATE	4700	540	
27)	2,4-DINITROTOLUENE	ND	540	
28)	2,6-DINITROTOLUENE	ND	540	
29)	DI-N-OCTYL PHTHALATE	ND	540	
30)	1,2-DIPHENYLHYDRAZINE	ND	540	
31)	FLUORANTHENE	18000	540	
32)	FLUORENE	760	540	
33)	HEXACHLOROBENZENE	ND	540	
34)	HEXACHLOROBUTADIENE	ND	540	
35)	HEXACHLOROCYCLOPENTADIENE	ND	540	
36)	HEXACHLOROETHANE	ND	540	
37)	INDENO(1,2,3-CD)PYRENE	2900	540	
38)	ISOPHORONE	ND	540	
39)	NAPHTHALENE	480	540	J
40)	NITROBENZENE	ND	540	
41)	N-NITROSODIMETHYLAMINE	ND	540	
42)	N-NITROSODI-N-PROPYLAMINE	ND	540	
43)	N-NITROSODIPHENYLAMINE	ND	540	
44)	PHENANTHRENE	11000	540	
45)	PYRENE	9300	540	
46)	1,2,4-TRICHLOROBENZENE	ND	540	

89290

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ATTACHMENT NN(3)

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SORGE

Batch Number: MS-S-270

Lab Sample ID: E816090R 12/13/88

Extraction Date: 11/02/88

Lab File ID: >C6998

Date Analyzed: 12/01/88 5:

Matrix: SOIL FOR BN

Number TICs found: 15

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	107879	2-Pentanone (8CI,9CI)	4.26	1700.	1
2.	6868979	2-Butanone, 4-hydroxy-3-(hyd	4.55	780.	
3.		Unknown	4.69	570.	1
4.	60766009	Butenol, methyl- (9CI)	4.80	1100.	1
5.	124	Ethane, 1,1,2-trichloro-	6.99	470.	
6.	13091162	Butanamide, N-ethyl- (9CI)	7.17	350.	1
7.	62238373	3-Penten-1-ol, 2-methyl- (9C	7.60	6500.	
8.	115195	3-Butyn-2-ol, 2-methyl- (8CI	8.43	5700.	
9.	67641	2-Propanone (9CI)	8.79	590.	1
10.	195	Ethane, 1,1,2,2-tetrachloro-	10.73	900.	1
11.	14979396	3-Heptanol, 4-methyl- (VANSC	11.30	470.	1
12.	625558	Formic acid, 1-methylethyl e	11.80	470.	
13.	90608	Benzaldehyde, 3,5-dichloro-2	30.30	450.	
14.	243174	11H-Benzo[b]fluorene (8CI,9CI	34.19	690.	
15.	205823	Benzo[j]fluoranthene (8CI,9CI	45.96	4000.	

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN132

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ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816090R	10/19/88	14:15	AC	SOIL - PI-39A, 0-6", S/S HAND AUGER PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	93	2.0	%	12/06/88	[illegible]
ANTIMONY	2.8	0.10	MG/KG	12/15/88	[illegible]

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. FUGLIESE
VICE-PRESIDENT

449 5
ATTACHMENT NN133

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E816099R
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 12/01/88
DATA FILE : >C6997

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	540	
2)	ACENAPHTHYLENE	ND	540	
3)	ANTHRACENE	ND	540	
4)	BENZIDENE	ND	2700	
5)	BENZO(A)ANTHRACENE	ND	540	
6)	BENZO(A)PYRENE	66	540	J
7)	BENZO(B)FLUORANTHENE	91	540	J
8)	BENZO(K)FLUORANTHENE	ND	540	
9)	BENZO(G,H,I)PERYLENE	ND	540	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	540	
11)	BIS(2-CHLOROETHYL)ETHER	ND	540	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	540	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	1100	540	
14)	4-BROMOPHENYL PHENYL ETHER	ND	540	
15)	BUTYL BENZYL PHTHALATE	1200	540	
16)	2-CHLORONAPHTHALENE	ND	540	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	540	
18)	CHRYSENE	ND	540	
19)	DIBENZO(A,H)ANTHRACENE	ND	540	
20)	1,2-DICHLOROBENZENE	ND	540	
21)	1,3-DICHLOROBENZENE	ND	540	
22)	1,4-DICHLOROBENZENE	ND	540	
23)	3,3'-DICHLOROBENZIDENE	ND	1100	
24)	DIETHYL PHTHALATE	ND	540	
25)	DIMETHYL PHTHALATE	ND	540	
26)	DI-N-BUTYL PHTHALATE	4700	540	
27)	2,4-DINITROTOLUENE	ND	540	
28)	2,6-DINITROTOLUENE	ND	540	
29)	DI-N-OCTYL PHTHALATE	ND	540	
30)	1,2-DIPHENYLHYDRAZINE	ND	540	
31)	FLUORANTHENE	120	540	J
32)	FLUORENE	ND	540	
33)	HEXACHLOROBENZENE	ND	540	
34)	HEXACHLOROBUTADIENE	ND	540	
35)	HEXACHLOROCYCLOPENTADIENE	ND	540	
36)	HEXACHLOROETHANE	ND	540	
37)	INDENO(1,2,3-CD)PYRENE	ND	540	
38)	ISOPHORONE	ND	540	
39)	NAPHTHALENE	ND	540	
40)	NITROBENZENE	ND	540	
41)	N-NITROSODIMETHYLAMINE	ND	540	
42)	N-NITROSODI-N-PROPYLAMINE	ND	540	
43)	N-NITROSODIPHENYLAMINE	ND	540	
44)	PHENANTHRENE	61	540	J
45)	PYRENE	120	540	J
46)	1,2,4-TRICHLOROBENZENE	ND	540	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

450 & NN134
ATTACHMENT

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SOMSE

Batch Number: MS-S-270

Lab Sample ID: E816099R 12/13/88

Extraction Date: 11/02/88

Lab File ID: >CA997

Date Analyzed: 12/01/88 4:1[illegible]

Matrix: SOIL FOR BN

Number TICs found: 14

CONCENTRATION UNITS: ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	563804	2-Butanone, 3-methyl- (8[illegible]9CI)	4.31	1800.	
2.	594365	Butane, 2-chloro-2-methyl- ([illegible]	4.49	280.	
3.	814788	3-Buten-2-one, 3-methyl- (8[illegible])	4.60	320.	
4.	994058	Butane, 2-methoxy-2-methyl-	4.74	640.	
5.	115184	3-Buten-2-ol, 2-methyl- (8[illegible])	4.81	470.	
6.	2916316	1,3-Dioxolane, 2,2-dimethyl-	5.03	670.	
7.	124	Ethane, 1,1,2-trichloro-	7.00	390.	
8.	13091162	Butanamide, N-ethyl- (9CI)	7.18	370.	
9.	18641822	Pentane, 1-propoxy- (9CI)	7.58	1600.	
10.	930223	Oxirane, ethenyl- (9CI)	8.40	1700.	
11.	67641	2-Propanone (9CI)	8.76	640.	
12.	79345	Ethane, 1,1,2,2-tetrachloro-	10.70	610.	
13.	14979396	3-Heptanol, 4-methyl- (VANDC)	11.31	470.	
14.		Unknown	11.92	2700.	

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

451
ATTACHMENT NN035

ACCUTEST
2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816099R	10/19/88	15:25	AC	SOIL - FI-42A, 0-6"/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	94	2.0	%	12/05/88	[illegible]

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

452 83
ATTACHMENT NN136

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : J.M. SORGE
LAB SAMPLE #: E816103R
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 12/01/88
DATA FILE : >C6999

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
1)	ACENAPHTHENE	ND	540	
2)	ACENAPHTHYLENE	ND	540	
3)	ANTHRACENE	63	540	J
4)	BENZIDENE	ND	2700	
5)	BENZO(A)ANTHRACENE	460	540	J
6)	BENZO(A)PYRENE	510	540	J
7)	BENZO(B)FLUORANTHENE	520	540	J
8)	BENZO(K)FLUORANTHENE	460	540	J
9)	BENZO(G,H,I)PERYLENE	310	540	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	540	
11)	BIS(2-CHLOROETHYL)ETHER	ND	540	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	540	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	540	
14)	4-BROMOPHENYL PHENYL ETHER	ND	540	
15)	BUTYL BENZYL PHTHALATE	280	540	J
16)	2-CHLORONAPHTHALENE	ND	540	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	540	
18)	CHRYSENE	550	540	
19)	DIBENZO(A,H)ANTHRACENE	ND	540	
20)	1,2-DICHLOROBENZENE	ND	540	
21)	1,3-DICHLOROBENZENE	ND	540	
22)	1,4-DICHLOROBENZENE	ND	540	
23)	3,3'-DICHLOROBENZIDENE	ND	1100	
24)	DIETHYL PHTHALATE	ND	540	
25)	DIMETHYL PHTHALATE	ND	540	
26)	DI-N-BUTYL PHTHALATE	4900	540	
27)	2,4-DINITROTOLUENE	ND	540	
28)	2,6-DINITROTOLUENE	ND	540	
29)	DI-N-OCTYL PHTHALATE	ND	540	
30)	1,2-DIPHENYLHYDRAZINE	ND	540	
31)	FLUORANTHENE	660	540	
32)	FLUORENE	ND	540	
33)	HEXACHLOROBENZENE	ND	540	
34)	HEXACHLOROBUTADIENE	ND	540	
35)	HEXACHLOROCYCLOPENTADIENE	ND	540	
36)	HEXACHLOROETHANE	ND	540	
37)	INDENO(1,2,3-CD)PYRENE	280	540	J
38)	ISOPHORONE	ND	540	
39)	NAPHTHALENE	ND	540	
40)	NITROBENZENE	ND	540	
41)	N-NITROSODIMETHYLAMINE	ND	540	
42)	N-NITROSODI-N-PROPYLAMINE	ND	540	
43)	N-NITROSODIPHENYLAMINE	ND	540	
44)	PHENANTHRENE	400	540	J
45)	PYRENE	870	540	
46)	1,2,4-TRICHLOROBENZENE	ND	540	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

453 9
ATTACHMENT NN137

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: J.M. SPARE

Batch Number: MS-S-270

Lab Sample ID: E816103R 12/13/88

Extraction Date: 11/02/88

Lab File ID: >C6999

Date Analyzed: 12/01/88 6:56

Matrix: SOIL FOR BN

Number TICs found: 15

CONCENTRATION UNITS: ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	431038	2,3-Butanedione (8CI,9CI)	4.29	1400.	
2.	814788	3-Buten-2-one, 3-methyl- (8CI	4.58	850.	
3.		Unknown	4.72	530.	
4.	60766009	Butenol, methyl- (9CI)	4.83	850.	
5.	107211	1,2-Ethanediol (9CI)	5.08	580.	
6.		Unknown	6.51	580.	
7.	123	Ethane, 1,1,2-trichloro-	6.98	340.	
8.	13091162	Butanamide, N-ethyl- (9CI)	7.16	270.	
9.	115195	3-Butyn-2-ol, 2-methyl- (8CI	7.56	2500.	
10.	1589475	1-Propanol, 2-methoxy- (8CI,9	8.09	240.	
11.	930223	Oxirane, ethenyl- (9CI)	8.42	2900.	
12.	67641	2-Propanone (9CI)	8.78	670.	
13.	79345	Ethane, 1,1,2,2-tetrachloro-	10.72	580.	
14.	5076200	Oxirane, tetramethyl- (9CI)	11.33	390.	
15.	109864	Ethanol, 2-methoxy- (8CI,9CI)	11.87	790.	

QUALIFIERS(Q):
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

454 .0
ATTACHMENT NN 138

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816103R	10/19/88	12:05	AC	SOIL - PI-43A, 0-6"/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	86	2.0	%	12/05/88	GPM
CADMIUM	3.1	0.50	MG/KG	12/13/88	[illegible]
SILVER	<1.0	1.0	MG/KG	12/13/88	[illegible]

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. FUGLIESE
VICE-PRESIDENT

455 11
ATTACHMENT NN139

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

TO: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 885177R

PROJECT No: 86013

SAMPLE RECEIVED: 11/07/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816086R	10/20/88	11:00	JK	SOIL - PI-35D, 7'-7.5' PLANT INDUSTRIES

NJDEP CERTIFICATION 12129
C[illegible]EP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

456 ATTACHMENT NW 140

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816086R	10/20/88	11:00	JK	SOIL - PI-35D, 7'-7.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/16/88	TM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

457 2
ATTACHMENT NN141

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

TO: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/21/88

JOB No: 885178R

PROJECT No: 86013

SAMPLE RECEIVED: 11/07/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816092R	10/20/88	09:25	JK	SOIL - PI-40B, 3-3.5'/PLANT INDUSTRIES
E816101R	10/19/88	15:45	JK	SOIL - PI-42C, 5'-5.5' PLANT INDUSTRIES

NJDEP CERTIFICATION 12129
C EP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

458 1
ATTACHMENT

ACCUTEST®
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816092R	10/20/88	09:25	JK	SOIL - PI-40B, 3-3.5'/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	60	50	MG/KG	11/16/88	TM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
816101R	10/19/88	15:45	JK	SOIL - PI-42C, 5'-5.5' PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<50	50	MG/KG	11/15/88	KY

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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VICE-PRESIDENT

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ATTACHMENT 3 NN144

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 12/23/88

JOB No: 884963R

PROJECT No: 86013

SAMPLE RECEIVED: 12/01/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
815424R	10/20/88	11:40	AC	SOIL - PI-44A, 0-.5', AREA 4 PLANT INDUSTRIES
815427R	10/20/88	12:10	AC	SOIL - PI=45A, 0-.5', AREA 4 PLANT INDUSTRIES
815430R	10/20/88	12:40	AC	SOIL - PI-46A, 0-.5', AREA 4 PLANT INDUSTRIES
815434R	10/20/88	13:15	AC	SOIL - PI-47B, 1.0-1.5', AREA 4 PLANT INDUSTRIES
815437R	10/20/88	13:45	AC	SOIL - PI-48B, 1.0-1.5', AREA 4 PLANT INDUSTRIES

EP CERTIFICATION 12129
EP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN145
1

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815424R	10/20/88	11:40	AC	SOIL - PI-44A, 0-.5', AREA 4 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	95	2.0	%	12/06/88	GPM
ARSENIC	4.3	0.10	MG/KG	12/21/88	MS
BERYLLIUM	0.84	0.50	MG/KG	12/15/88	GG
CADMIUM	1.8	0.50	MG/KG	12/15/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
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ATTACHMENT NN146
2

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815427R	10/20/88	12:10	AC	SOIL - PI=45A, 0-.5', AREA 4 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	96	2.0	%	12/06/88	GPM
ARSENIC	2.9	0.10	MG/KG	12/21/88	MS
BERYLLIUM	0.94	0.50	MG/KG	12/15/88	GG
CADMIUM	3.6	0.50	MG/KG	12/15/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

463
ATTACHMENT NN147
3

ACCUTEST
2235 ROUTE 130, BLDG D • DAYTON, N J 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815430R	10/20/88	12:40	AC	SOIL - PI-46A, 0-.5', AREA 4 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	95	2.0	%	12/06/88	GRM
ARSENIC	2.9	0.10	MG/KG	12/21/88	MS
BERYLLIUM	0.93	0.50	MG/KG	12/15/88	GG
CADMIUM	1.6	0.50	MG/KG	12/15/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN140

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815434R	10/20/88	13:15	AC	SOIL - PI-47B, 1.0-1.5', AREA 4 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	96	2.0	%	12/06/88	GPM
ARSENIC	16	0.10	MG/KG	12/21/88	MS

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN49

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815437R	10/20/88	13:45	AC	SOIL - PI-48B, 1.0-1.5', AREA 4 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	95	2.0	%	12/06/88	GPM
BERYLLIUM	0.67	0.50	MG/KG	12/15/88	GG
CADMIUM	0.94	0.50	MG/KG	12/15/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN150

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

M. SORGE, INC.
01 U. S. HIGHWAY 22
MERVILLE, NJ 08876

TN: MIKE McGOWAN

DATE: 12/20/88

JOB No: 885178S

PROJECT No: 86013

SAMPLE RECEIVED: 12/01/88

SAMPLE SUMMARY

LE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
6092S	10/20/88	09:25	AC	SOIL - PI-40B, 3-3.5'/PLANT INDUSTRIES
6096R	10/19/88	16:25	AC	SOIL - PI-41B, 3-3.5'/PLANT INDUSTRIES
16100R	10/19/88	15:35	AC	SOIL - PI-42B, 3-3.5'/PLANT INDUSTRIES
16101S	10/19/88	15:45	AC	SOIL - PI-42C, 5-5.5'/PLANT INDUSTRIES

EP CERTIFICATION 12129
EP CERTIFICATION PH-0585

VINCENT J. FUGLIESE
VICE-PRESIDENT

467
ATTACHMENT NN 151

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816092S	10/20/88	09:25	AC	SOIL - PI-40B, 3-3.5'/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	91	2.0	%	12/06/88	GPM
CADMIUM	17	0.50	MG/KG	12/15/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. FUGLIESE
VICE-PRESIDENT

ATTACHMENT NN152/2

468

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

AMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
816096R	10/19/88	16:25	AC	SOIL - PI-41B, 3-3.5'/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	96	2.0	%	12/06/88	SPM
CADMIUM	1.6	0.50	MG/KG	12/15/88	[illegible]

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN 163
3

469

ACCUTEST
2235 ROUTE 130, BLDG U • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816100R	10/19/88	15:35	AC	SOIL - PI-42B, 3-3.5'/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	95	2.0	%	12/05/88	SPM
CADMIUM	1.5	0.50	MG/KG	12/15/88	GG
SILVER	<1.0	1.0	MG/KG	12/13/88	NH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN154

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470

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E816101S	10/19/88	15:45	AC	SOIL - PI-42C, 5-5.5'/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	92	2.0	%	12/06/88	GEM
CADMIUM	1.6	0.50	MG/KG	12/15/88	GG
SILVER	<1.0	1.0	MG/KG	12/13/88	KH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN 155

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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/10/88

JOB No: 885037

PROJECT No: 86013

SAMPLE RECEIVED: 10/25/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815661	10/21/88	15:00	JK	GROUND WATER - MW-1/PLANT INDUSTRIES
815662	10/21/88	14:30	JK	GROUND WATER - MW-2/PLANT INDUSTRIES
E815663	10/21/88	14:45	JK	GROUND WATER - MW-3/PLANT INDUSTRIES
E815664	10/21/88	15:30	JK	GROUND WATER - MW-5/PLANT INDUSTRIES
E815665	10/21/88	14:15	JK	GROUND WATER - MW-6/PLANT INDUSTRIES
E815666	10/21/88	16:30	JK	WATER - FB-6/PLANT INDUSTRIES

EP CERTIFICATION 12129
EP CERTIFICATION PH-0585

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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815661
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 10/31/88
DATA FILE : >E2080

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	11	
2)	ACENAPHTHYLENE	ND	11	
3)	ANTHRACENE	ND	11	
4)	BENZIDENE	ND	53	
5)	BENZO(A)ANTHRACENE	ND	11	
6)	BENZO(A)PYRENE	ND	11	
7)	BENZO(B)FLUORANTHENE	ND	11	
8)	BENZO(K)FLUORANTHENE	ND	11	
9)	BENZO(G,H,I)PERYLENE	ND	11	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	11	
11)	BIS(2-CHLOROETHYL)ETHER	ND	11	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	11	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	11	
14)	4-BROMOPHENYL PHENYL ETHER	ND	11	
15)	BUTYL BENZYL PHTHALATE	ND	11	
16)	2-CHLORONAPHTHALENE	ND	11	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11	
18)	CHRYSENE	ND	11	
19)	DIBENZO(A,H)ANTHRACENE	ND	11	
20)	1,2-DICHLOROBENZENE	ND	11	
21)	1,3-DICHLOROBENZENE	ND	11	
22)	1,4-DICHLOROBENZENE	ND	11	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	11	
25)	DIMETHYL PHTHALATE	ND	11	
26)	DI-N-BUTYL PHTHALATE	ND	11	
27)	2,4-DINITROTOLUENE	ND	11	
28)	2,6-DINITROTOLUENE	ND	11	
29)	DI-N-OCTYL PHTHALATE	ND	11	
30)	1,2-DIPHENYLHYDRAZINE	ND	11	
31)	FLUORANTHENE	ND	11	
32)	FLUORENE	ND	11	
33)	HEXACHLOROBENZENE	ND	11	
34)	HEXACHLOROBUTADIENE	ND	11	
35)	HEXACHLOROCYCLOPENTADIENE	ND	11	
36)	HEXACHLOROETHANE	ND	11	
37)	INDENO(1,2,3-CD)PYRENE	ND	11	
38)	ISOPHORONE	ND	11	
39)	NAPHTHALENE	ND	11	
40)	NITROBENZENE	ND	11	
41)	N-NITROSODIMETHYLAMINE	ND	11	
42)	N-NITROSODI-N-PROPYLAMINE	ND	11	
43)	N-NITROSODIPHENYLAMINE	ND	11	
44)	PHENANTHRENE	ND	11	
45)	PYRENE	ND	11	
46)	1,2,4-TRICHLOROBENZENE	ND	11	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NW157
2

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-263

Lab Sample ID: E815661

Extraction Date: 10/28/88

Lab File ID: >E2080

Date Analyzed: 10/31/88 15:41

Matrix: WATER FOR BN

Number TICs found: 1

CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	53778737	2-Butanol, 1-methoxy- (9CI)	8.02	8.	1
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN158
3
474

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ANALYSIS REPORT

AMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
815661	10/21/88	15:00	JK	GROUND WATER - MW-1/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/25/88	KY
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	0.002	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	11/01/88	GG
CADMIUM	<0.005	0.005	MG/L	11/01/88	GG
CHROMIUM	<0.025	0.025	MG/L	11/01/88	GG
COPPER	<0.020	0.020	MG/L	11/01/88	GG
LEAD	0.003	0.001	MG/L	11/01/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	<0.040	0.040	MG/L	11/01/88	GG
SELENIUM	<0.001	0.001	MG/L	11/02/88	MS
SILVER	<0.010	0.010	MG/L	10/31/88	MH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	0.062	0.050	MG/L	11/01/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. FUGLIESE
VICE-PRESIDENT

ATTACHMENT NN159

475

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815662
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 10/31/88
DATA FILE : >E2081

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	11	
2)	ACENAPHTHYLENE	ND	11	
3)	ANTHRACENE	ND	11	
4)	BENZIDENE	ND	53	
5)	BENZO(A)ANTHRACENE	ND	11	
6)	BENZO(A)PYRENE	ND	11	
7)	BENZO(B)FLUORANTHENE	ND	11	
8)	BENZO(K)FLUORANTHENE	ND	11	
9)	BENZO(G,H,I)PERYLENE	ND	11	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	11	
11)	BIS(2-CHLOROETHYL)ETHER	ND	11	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	11	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	11	
14)	4-BROMOPHENYL PHENYL ETHER	ND	11	
15)	BUTYL BENZYL PHTHALATE	ND	11	
16)	2-CHLORONAPHTHALENE	ND	11	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11	
18)	CHRYSENE	ND	11	
19)	DIBENZO(A,H)ANTHRACENE	ND	11	
20)	1,2-DICHLOROBENZENE	ND	11	
21)	1,3-DICHLOROBENZENE	ND	11	
22)	1,4-DICHLOROBENZENE	ND	11	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	11	
25)	DIMETHYL PHTHALATE	ND	11	
26)	DI-N-BUTYL PHTHALATE	1.1	11	J
27)	2,4-DINITROTOLUENE	ND	11	
28)	2,6-DINITROTOLUENE	ND	11	
29)	DI-N-OCTYL PHTHALATE	ND	11	
30)	1,2-DIPHENYLHYDRAZINE	ND	11	
31)	FLUORANTHENE	ND	11	
32)	FLUORENE	ND	11	
33)	HEXACHLOROBENZENE	ND	11	
34)	HEXACHLOROBUTADIENE	ND	11	
35)	HEXACHLOROCYCLOPENTADIENE	ND	11	
36)	HEXACHLOROETHANE	ND	11	
37)	INDENO(1,2,3-CD)PYRENE	ND	11	
38)	ISOPHORONE	ND	11	
39)	NAPHTHALENE	ND	11	
40)	NITROBENZENE	ND	11	
41)	N-NITROSODIMETHYLAMINE	ND	11	
42)	N-NITROSODI-N-PROPYLAMINE	ND	11	
43)	N-NITROSODIPHENYLAMINE	ND	11	
44)	PHENANTHRENE	ND	11	
45)	PYRENE	ND	11	
46)	1,2,4-TRICHLOROBENZENE	ND	11	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT 5 NN 160

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1E

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

EXTRACTION DATE: 102888

Lab Sample ID: E815662

ANALYSIS DATE: 103188 16:48

Matrix: (soil/water) BN WATER

BATCH NO: MS-263

Lab File ID: >E2081

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1191873	2,5,8,11,14,17-Hexaoxaoctad	7.92	12.	1
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
20.					
21.					
22.					

QUALIFIERS

(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT NN 161

477

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815662	10/21/88	14:30	JK	GROUND WATER - MW-2/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/26/88	KT
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	0.009	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	11/01/88	GG
CADMIUM	0.006	0.005	MG/L	11/01/88	GG
CHROMIUM	0.062	0.025	MG/L	11/01/88	GG
COPPER	0.039	0.020	MG/L	11/01/88	GG
LEAD	0.006	0.001	MG/L	11/01/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	<0.040	0.040	MG/L	11/01/88	GG
SELENIUM	<0.001	0.001	MG/L	11/02/88	MS
SILVER	<0.010	0.010	MG/L	10/31/88	NH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	0.24	0.050	MG/L	11/01/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

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ATTACHMENT NN162

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815663
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 10/31/88
DATA FILE : >E2082

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	12	
2)	ACENAPHTHYLENE	ND	12	
3)	ANTHRACENE	ND	12	
4)	BENZIDENE	ND	60	
5)	BENZO(A)ANTHRACENE	ND	12	
6)	BENZO(A)PYRENE	ND	12	
7)	BENZO(B)FLUORANTHENE	ND	12	
8)	BENZO(K)FLUORANTHENE	ND	12	
9)	BENZO(G,H,I)PERYLENE	ND	12	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	12	
11)	BIS(2-CHLOROETHYL)ETHER	ND	12	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	12	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	12	
14)	4-BROMOPHENYL PHENYL ETHER	ND	12	
15)	BUTYL BENZYL PHTHALATE	ND	12	
16)	2-CHLORONAPHTHALENE	ND	12	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	12	
18)	CHRYSENE	ND	12	
19)	DIBENZO(A,H)ANTHRACENE	ND	12	
20)	1,2-DICHLOROBENZENE	ND	12	
21)	1,3-DICHLOROBENZENE	ND	12	
22)	1,4-DICHLOROBENZENE	ND	12	
23)	3,3'-DICHLOROBENZIDENE	ND	24	
24)	DIETHYL PHTHALATE	ND	12	
25)	DIMETHYL PHTHALATE	ND	12	
26)	DI-N-BUTYL PHTHALATE	ND	12	
27)	2,4-DINITROTOLUENE	ND	12	
28)	2,6-DINITROTOLUENE	ND	12	
29)	DI-N-OCTYL PHTHALATE	ND	12	
30)	1,2-DIPHENYLHYDRAZINE	ND	12	
31)	FLUORANTHENE	ND	12	
32)	FLUORENE	ND	12	
33)	HEXACHLOROBENZENE	ND	12	
34)	HEXACHLOROBUTADIENE	ND	12	
35)	HEXACHLOROCYCLOPENTADIENE	ND	12	
36)	HEXACHLOROETHANE	ND	12	
37)	INDENO(1,2,3-CD)PYRENE	ND	12	
38)	ISOPHORONE	ND	12	
39)	NAPHTHALENE	ND	12	
40)	NITROBENZENE	ND	12	
41)	N-NITROSODIMETHYLAMINE	ND	12	
42)	N-NITROSODI-N-PROPYLAMINE	ND	12	
43)	N-NITROSODIPHENYLAMINE	ND	12	
44)	PHENANTHRENE	ND	12	
45)	PYRENE	ND	12	
46)	1,2,4-TRICHLOROBENZENE	ND	12	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT 8 NN163

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1E

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

EXTRACTION DATE: 102888

Lab Sample ID: E815663

ANALYSIS DATE: 103188 17:55

Matrix: (soil/water) BN WATER

BATCH NO: MS-263

Lab File ID: >E2082

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	No non-target compounds			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
20.				
21.				
22.				

QUALIFIERS

(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

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ATTACHMENT NN 164

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815663	10/21/88	14:45	JK	GROUND WATER - MW-3/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/26/88	EY
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	0.001	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	11/01/88	GG
CADMIUM	<0.005	0.005	MG/L	11/01/88	GG
CHROMIUM	<0.025	0.025	MG/L	11/01/88	GG
COPPER	0.020	0.020	MG/L	11/01/88	GG
LEAD	<0.001	0.001	MG/L	11/08/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	<0.040	0.040	MG/L	11/01/88	GG
SELENIUM	0.005	0.001	MG/L	11/02/88	MS
SILVER	<0.010	0.010	MG/L	10/31/88	NH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	0.054	0.050	MG/L	11/01/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ATTACHMENT NN165
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815664	10/21/88	15:30	JK	GROUND WATER - MW-5/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/26/88	KY
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	0.002	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	11/01/88	GG
CADMIUM	<0.005	0.005	MG/L	11/01/88	GG
CHROMIUM	<0.025	0.025	MG/L	11/01/88	GG
COPPER	<0.020	0.020	MG/L	11/01/88	GG
LEAD	0.001	0.001	MG/L	11/08/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	<0.040	0.040	MG/L	11/01/88	GG
SELENIUM	<0.001	0.001	MG/L	11/02/88	MS
SILVER	<0.010	0.010	MG/L	10/31/88	MH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	0.064	0.050	MG/L	11/01/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT 11 NN166

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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815665
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 10/31/88
DATA FILE : >E2083

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	12	
2)	ACENAPHTHYLENE	ND	12	
3)	ANTHRACENE	ND	12	
4)	BENZIDENE	ND	62	
5)	BENZO(A)ANTHRACENE	ND	12	
6)	BENZO(A)PYRENE	ND	12	
7)	BENZO(B)FLUORANTHENE	ND	12	
8)	BENZO(K)FLUORANTHENE	ND	12	
9)	BENZO(G,H,I)PERYLENE	ND	12	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	12	
11)	BIS(2-CHLOROETHYL)ETHER	ND	12	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	12	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	12	
14)	4-BROMOPHENYL PHENYL ETHER	ND	12	
15)	BUTYL BENZYL PHTHALATE	ND	12	
16)	2-CHLORONAPHTHALENE	ND	12	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	12	
18)	CHRYSENE	ND	12	
19)	DIBENZO(A,H)ANTHRACENE	ND	12	
20)	1,2-DICHLOROBENZENE	ND	12	
21)	1,3-DICHLOROBENZENE	ND	12	
22)	1,4-DICHLOROBENZENE	ND	12	
23)	3,3'-DICHLOROBENZIDENE	ND	25	
24)	DIETHYL PHTHALATE	ND	12	
25)	DIMETHYL PHTHALATE	ND	12	
26)	DI-N-BUTYL PHTHALATE	ND	12	
27)	2,4-DINITROTOLUENE	ND	12	
28)	2,6-DINITROTOLUENE	ND	12	
29)	DI-N-OCTYL PHTHALATE	ND	12	
30)	1,2-DIPHENYLHYDRAZINE	ND	12	
31)	FLUORANTHENE	ND	12	
32)	FLUORENE	ND	12	
33)	HEXACHLOROBENZENE	ND	12	
34)	HEXACHLOROBUTADIENE	ND	12	
35)	HEXACHLOROCYCLOPENTADIENE	ND	12	
36)	HEXACHLOROETHANE	ND	12	
37)	INDENO(1,2,3-CD)PYRENE	ND	12	
38)	ISOPHORONE	ND	12	
39)	NAPHTHALENE	ND	12	
40)	NITROBENZENE	ND	12	
41)	N-NITROSODIMETHYLAMINE	ND	12	
42)	N-NITROSODI-N-PROPYLAMINE	ND	12	
43)	N-NITROSODIPHENYLAMINE	ND	12	
44)	PHENANTHRENE	ND	12	
45)	PYRENE	ND	12	
46)	1,2,4-TRICHLOROBENZENE	ND	12	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT 12 NN167

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815665	10/21/88	14:15	JK	GROUND WATER - MW-6/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/26/88	KY
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	0.049	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	11/01/88	GG
CADMIUM	0.013	0.005	MG/L	11/01/88	GG
CHROMIUM	0.086	0.025	MG/L	11/01/88	GG
COPPER	<0.020	0.020	MG/L	11/01/88	GG
LEAD	0.001	0.001	MG/L	11/08/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	0.058	0.040	MG/L	11/01/88	GG
SELENIUM	<0.001	0.001	MG/L	11/02/88	MS
SILVER	<0.010	0.010	MG/L	10/31/88	NH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	0.12	0.050	MG/L	11/01/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT WN169
14

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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815666
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 10/31/88
DATA FILE : >E2084

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	11	
2)	ACENAPHTHYLENE	ND	11	
3)	ANTHRACENE	ND	11	
4)	BENZIDENE	ND	54	
5)	BENZO(A)ANTHRACENE	ND	11	
6)	BENZO(A)PYRENE	ND	11	
7)	BENZO(B)FLUORANTHENE	ND	11	
8)	BENZO(K)FLUORANTHENE	ND	11	
9)	BENZO(G,H,I)PERYLENE	ND	11	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	11	
11)	BIS(2-CHLOROETHYL)ETHER	ND	11	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	11	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	24	11	B
14)	4-BROMOPHENYL PHENYL ETHER	ND	11	
15)	BUTYL BENZYL PHTHALATE	ND	11	
16)	2-CHLORONAPHTHALENE	ND	11	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11	
18)	CHRYSENE	ND	11	
19)	DIBENZO(A,H)ANTHRACENE	ND	11	
20)	1,2-DICHLOROBENZENE	ND	11	
21)	1,3-DICHLOROBENZENE	ND	11	
22)	1,4-DICHLOROBENZENE	ND	11	
23)	3,3'-DICHLOROBENZIDENE	ND	22	
24)	DIETHYL PHTHALATE	ND	11	
25)	DIMETHYL PHTHALATE	ND	11	
26)	DI-N-BUTYL PHTHALATE	1.6	11	J
27)	2,4-DINITROTOLUENE	ND	11	
28)	2,6-DINITROTOLUENE	ND	11	
29)	DI-N-OCTYL PHTHALATE	ND	11	
30)	1,2-DIPHENYLHYDRAZINE	ND	11	
31)	FLUORANTHENE	ND	11	
32)	FLUORENE	ND	11	
33)	HEXACHLOROBENZENE	ND	11	
34)	HEXACHLOROBUTADIENE	ND	11	
35)	HEXACHLOROCYCLOPENTADIENE	ND	11	
36)	HEXACHLOROETHANE	ND	11	
37)	INDENO(1,2,3-CD)PYRENE	ND	11	
38)	ISOPHORONE	ND	11	
39)	NAPHTHALENE	ND	11	
40)	NITROBENZENE	ND	11	
41)	N-NITROSODIMETHYLAMINE	ND	11	
42)	N-NITROSODI-N-PROPYLAMINE	ND	11	
43)	N-NITROSODIPHENYLAMINE	ND	11	
44)	PHENANTHRENE	ND	11	
45)	PYRENE	ND	11	
46)	1,2,4-TRICHLOROBENZENE	ND	11	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT N170

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815666	10/21/88	16:30	JK	WATER - FB-6/PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PETROLEUM HYDROCARBONS	<1.0	1.0	MG/L	10/26/88	KY
ANTIMONY	<0.001	0.001	MG/L	11/02/88	MS
ARSENIC	0.002	0.001	MG/L	11/01/88	MS
BERYLLIUM	<0.005	0.005	MG/L	11/01/88	GG
CADMIUM	<0.005	0.005	MG/L	11/01/88	GG
CHROMIUM	<0.025	0.025	MG/L	11/01/88	GG
COPPER	<0.020	0.020	MG/L	11/01/88	GG
LEAD	<0.001	0.001	MG/L	11/08/88	MS
MERCURY	<0.001	0.001	MG/L	11/01/88	SH
NICKEL	<0.040	0.040	MG/L	11/01/88	GG
SELENIUM	<0.001	0.001	MG/L	11/02/88	MS
SILVER	<0.010	0.010	MG/L	11/01/88	MH
THALLIUM	<0.001	0.001	MG/L	11/01/88	MS
ZINC	<0.050	0.050	MG/L	11/01/88	GG

UG/L = PPB MG/L= PPM
MDL = METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129
CTDEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN17
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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

TO: J. M. SORGE, INC.
3301 U. S. HIGHWAY 22
SOMERVILLE, NJ 08876

ATTN: MIKE McGOWAN

DATE: 11/16/88

JOB No: 885055

PROJECT No: 86013

SAMPLE RECEIVED: 10/26/88

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E815792	10/26/88	11:50	JK	GROUND WATER - MW-5/PLANT INDUSTRIES
E815793	10/26/88	11:55	JK	WATER - FB-7, FIELD BLANK PLANT INDUSTRIES

NJDEP CERTIFICATION 12129
CT DEP CERTIFICATION PH-0585

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT NN172

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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-264

Lab Sample ID: E815792

Extraction Date: 10/28/88

Lab File ID: >E2155

Date Analyzed: 11/04/88 21:33

Matrix: WATER FOR BN

Number TICs found: 2

CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	53778737	2-Butanol, 1-methoxy- (9CI)	7.59	12.	1
2.	556672	Cyclotetrasiloxane, octameth	11.35	6.	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN113
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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815793
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 11/04/88
DATA FILE : >E2154

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	11	
2)	ACENAPHTHYLENE	ND	11	
3)	ANTHRACENE	ND	11	
4)	BENZIDENE	ND	55	
5)	BENZO(A)ANTHRACENE	ND	11	
6)	BENZO(A)PYRENE	ND	11	
7)	BENZO(B)FLUORANTHENE	ND	11	
8)	BENZO(K)FLUORANTHENE	ND	11	
9)	BENZO(G,H,I)PERYLENE	ND	11	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	11	
11)	BIS(2-CHLOROETHYL)ETHER	ND	11	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	11	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	11	
14)	4-BROMOPHENYL PHENYL ETHER	ND	11	
15)	BUTYL BENZYL PHTHALATE	ND	11	
16)	2-CHLORONAPHTHALENE	ND	11	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11	
18)	CHRYSENE	ND	11	
19)	DIBENZO(A,H)ANTHRACENE	ND	11	
20)	1,2-DICHLOROBENZENE	ND	11	
21)	1,3-DICHLOROBENZENE	ND	11	
22)	1,4-DICHLOROBENZENE	ND	11	
23)	3,3'-DICHLOROBENZIDENE	ND	22	
24)	DIETHYL PHTHALATE	ND	11	
25)	DIMETHYL PHTHALATE	ND	11	
26)	DI-N-BUTYL PHTHALATE	ND	11	
27)	2,4-DINITROTOLUENE	ND	11	
28)	2,6-DINITROTOLUENE	ND	11	
29)	DI-N-OCTYL PHTHALATE	ND	11	
30)	1,2-DIPHENYLHYDRAZINE	ND	11	
31)	FLUORANTHENE	ND	11	
32)	FLUORENE	ND	11	
33)	HEXACHLOROBENZENE	ND	11	
34)	HEXACHLOROBUTADIENE	ND	11	
35)	HEXACHLOROCYCLOPENTADIENE	ND	11	
36)	HEXACHLOROETHANE	ND	11	
37)	INDENO(1,2,3-CD)PYRENE	ND	11	
38)	ISOPHORONE	ND	11	
39)	NAPHTHALENE	ND	11	
40)	NITROBENZENE	ND	11	
41)	N-NITROSODIMETHYLAMINE	ND	11	
42)	N-NITROSODI-N-PROPYLAMINE	ND	11	
43)	N-NITROSODIPHENYLAMINE	ND	11	
44)	PHENANTHRENE	ND	11	
45)	PYRENE	ND	11	
46)	1,2,4-TRICHLOROBENZENE	ND	11	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NW 174

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: SORGE

Batch Number: MS-S-264

Lab Sample ID: E815793

Extraction Date: 10/28/88

Lab File ID: >E2154

Date Analyzed: 11/04/88 20:28

Matrix: WATER FOR BN

Number TICs found: 3

CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	52097855	Cyclobutene, 2-propenylidene	5.78	5.	
2.	1072146	Silane, hexyl- (8CI9CI)	7.61	8.	
3.	556672	Cyclotetrasiloxane, octameth	11.35	5.	
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.

FORM I SV-TIC

ATTACHMENT NN175
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ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E815792
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 11/04/88
DATA FILE : >E2155

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	11	
2)	ACENAPHTHYLENE	ND	11	
3)	ANTHRACENE	ND	11	
4)	BENZIDENE	ND	55	
5)	BENZO(A)ANTHRACENE	ND	11	
6)	BENZO(A)PYRENE	ND	11	
7)	BENZO(B)FLUORANTHENE	ND	11	
8)	BENZO(K)FLUORANTHENE	ND	11	
9)	BENZO(G,H,I)PERYLENE	ND	11	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	11	
11)	BIS(2-CHLOROETHYL)ETHER	ND	11	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	11	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	11	
14)	4-BROMOPHENYL PHENYL ETHER	ND	11	
15)	BUTYL BENZYL PHTHALATE	ND	11	
16)	2-CHLORONAPHTHALENE	ND	11	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11	
18)	CHRYSENE	ND	11	
19)	DIBENZO(A,H)ANTHRACENE	ND	11	
20)	1,2-DICHLOROBENZENE	ND	11	
21)	1,3-DICHLOROBENZENE	ND	11	
22)	1,4-DICHLOROBENZENE	ND	11	
23)	3,3'-DICHLOROBENZIDENE	ND	22	
24)	DIETHYL PHTHALATE	ND	11	
25)	DIMETHYL PHTHALATE	ND	11	
26)	DI-N-BUTYL PHTHALATE	ND	11	
27)	2,4-DINITROTOLUENE	ND	11	
28)	2,6-DINITROTOLUENE	ND	11	
29)	DI-N-OCTYL PHTHALATE	ND	11	
30)	1,2-DIPHENYLHYDRAZINE	ND	11	
31)	FLUORANTHENE	ND	11	
32)	FLUORENE	ND	11	
33)	HEXACHLOROBENZENE	ND	11	
34)	HEXACHLOROBUTADIENE	ND	11	
35)	HEXACHLOROCYCLOPENTADIENE	ND	11	
36)	HEXACHLOROETHANE	ND	11	
37)	INDENO(1,2,3-CD)PYRENE	ND	11	
38)	ISOPHORONE	ND	11	
39)	NAPHTHALENE	ND	11	
40)	NITROBENZENE	ND	11	
41)	N-NITROSODIMETHYLAMINE	ND	11	
42)	N-NITROSODI-N-PROPYLAMINE	ND	11	
43)	N-NITROSODIPHENYLAMINE	ND	11	
44)	PHENANTHRENE	ND	11	
45)	PYRENE	ND	11	
46)	1,2,4-TRICHLOROBENZENE	ND	11	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT NN176

492 —

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

QUALITY CONTROL REPORT FOR JOB : 884963R

SAMPLE(S) : E815424R ,E815427R ,E815430R ,E815434R

TEST : ARSENIC

DUPLICATE				MATRIX SPIKE					METHOD BLANK		
ORIGINAL	DUPLICATE	UNITS	RPD	ORIGINAL	AMT.SPK	SPK.RES	UNITS	%REC	DET.LIM	UNITS	METH.BLANK
13.200	13.200	MG/KG	0	3.000	10.500	13.200	MG/KG	97	1.0	MG/KG	<0.10

COMMENTS :

SAMPLE(S) : E815424R ,E815427R ,E815430R ,E815437R

TEST : BERYLLIUM

DUPLICATE				MATRIX SPIKE					METHOD BLANK		
ORIGINAL	DUPLICATE	UNITS	RPD	ORIGINAL	AMT.SPK	SPK.RES	UNITS	%REC	DET.LIM	UNITS	METH.BLANK
5.330	5.340	MG/KG	0	0.540	5.210	5.330	MG/KG	92	0.50	MG/KG	<0.50

COMMENTS :

SAMPLE(S) : E815424R ,E815427R ,E815430R ,E815437R

TEST : CADMIUM

DUPLICATE				MATRIX SPIKE					METHOD BLANK		
ORIGINAL	DUPLICATE	UNITS	RPD	ORIGINAL	AMT.SPK	SPK.RES	UNITS	%REC	DET.LIM	UNITS	METH.BLANK
7.130	6.060	MG/KG	16	2.400	5.210	7.130	MG/KG	91	0.50	MG/KG	<0.50

COMMENTS :

ATTACHMENT NN 177
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ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

INORGANIC CONFORMANCE SUMMARY

1) BLANK CONTAMINATION BELOW MDLS [IF NOT LIST INDIVIDUAL METALS AND PREPARTION DATA.] [✓]

COMMENTS: _____

2) MATRIX SPIKE DATA WITHIN ACCEPTABLE LIMITS [IF NOT, LIST METAL(S) THAT DO NOT MEET CRITERIA.] [✓]

COMMENTS: _____

3) MATRIX DUPLICATE DATA WITHIN ACCEPTABLE LIMITS [IF NOT, LIST METAL(S) THAT DID NOT MEET CRITERIA.] [✓]

COMMENTS: _____

4) SAMPLES HOLDING TIMES MET FOR PREPARATION AND ANALYSIS [IF NOT, LIST SAMPLE # AND ANALYSIS TYPE THAT DID NOT MEET CRIERIA.] [✓]

COMMENTS _____

MANAGER R. F. Smith 12/23/88

ATTACHMENT 10 NN178

494

SU

PROJECT NAME PLANTS INDUSTRIES PROJECT NO. 86013

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COLLECTED BY A.C., J.K., EJ SIGNATURE Andrew Conforf

JM Sorge, Inc.

SITE TYPE | SITE ID

CHAIN OF CUSTODY RECORD

884963-R

SPL NO.	DATE SPLD	TIME SPLD	SAMPLING POINT & SAMPLING METHOD DESCRIPTION	SAMPLE MATERIAL	ANALYSIS	REMARKS
E815421 PI-32A	10.20.88	1535 HRS	0-.5' AREA 2	SOIL	PHC, PM13 2m	ECRA DELIVERABLES
E815422 PI-32B	10.20.88	1540 HRS	1.0-1.5' AREA 2		PHC, PM13	
E815423 PI-32C	10.20.88	1558 HRS	6.0-6.5' AREA 2		PHC, PM13	
± E815424R PI-44A	10.20.88	1140 HRS	0-.5' AREA 4		E815424R relogged for AS, Be, Cd BN+, PHC 12-1-88 RUB	
E815425 PI-44B	10.20.88	1145 HRS	1.0-1.5' AREA 4		BN+, PHC	
E815426 PI-44C	10.20.88	1205 HRS	8.0-8.5' AREA 4		PHC GF	

RELINQUISHED BY	ORGANIZATION	DATE/TIME	RECEIVED BY (signature)	ORGANIZATION	DATE/TIME	REMARKS
Andrew Conforf	J.M. SORGE, INC	10/21/88 12:10	[signature]	JMS	10/21/88 12:10	
[signature]	JMS	10/21/88 3:15	[signature]	ACCUTEST	10/21/88 3:15	

ATTACHMENT NN 11

495

PROJECT NAME PLANT INDUSTRIES PROJECT NO. 86013

COLLECTED BY A. C., J. K., EJ SIGNATURE Andrew Conforf

SITE TYPE , SITE ID

JM Sorge, Inc.

6

CHAIN OF CUSTODY RECORD

SPL NO.	DATE SPLD	TIME SPLD	SAMPLING POINT & SAMPLING METHOD DESCRIPTION	SAMPLE MATERIAL	ANALYSIS	REMARKS
E815427 PI-45A	10.20.88	1210 HRS	0-.5' AREA 4	SOIL	E815427R relinquished for AS, Be, Cd 12-1-88 RUB BN+, PHC 2m	ECRA DELIVERABLES
E815428 PI-45B	10.20.88	1215 HRS	1.0-1.5' AREA 4	↓	BN+, PHC ↓	
E815429 PI-45C	10.20.88	1230 HRS	8.0-8.5' AREA 4	↓	PHC 6F	
E815430R PI-46A	10.20.88	1240 HRS	0-.5' AREA 4	↓	E815430R relinquished for AS, Be, Cd 12-1-88 RUB BN+, PHC 2m	
E815431 PI-46B	10.20.88	1245 HRS	1.0-1.5' AREA 4	↓	BN+, PHC ↓	
E815432 PI-46C	10.20.88	1255 HRS	7.75-8.25' AREA 4	↓	PHC 6F	

RELINQUISHED BY	ORGANIZATION	DATE/TIME	RECEIVED BY (signature)	ORGANIZATION	DATE/TIME	REMARKS
Andrew Conforf	J.M. SORGE INC	10/21/88 12:00	[illegible]	JMS	10/21/88 12:00	
[illegible]	JMS	10/21/88 3:15	[illegible]	ACCUTEST	10/21/88 3:15	

ATTACHMENT NW180.12

496

PROJECT NAME PLANT INDUSTRIES PROJECT NO. 86013

7

COLLECTED BY A.C., J.K., ET SIGNATURE Andrew Conforf

JM Sorge. Inc.

SITE TYPE | SITE ID

CHAIN OF CUSTODY RECORD

SPL NO.	DATE SPLD	TIME SPLD	SAMPLING POINT & SAMPLING METHOD DESCRIPTION	SAMPLE MATERIAL	ANALYSIS	REMARKS
E815433 PI-47A	10.20.88	1305 HRS	0-.5' AREA 4	SOIL	PHC, PM13 2m	ECRA DELIVERABLES
E815434 PI-47B	10.20.88	1315 HRS	1.0-1.5' AREA 4		*relogged for AS. PHC 12-1-88 RUB 6F	
E815435 PI-47C	10.20.88	1330 HRS	7.75-8.25' AREA 4		PHC 6F	
E815436 PI-48A	10.20.88	1340 HRS	0-.5' AREA 4		PHC, BN+, PM13 2m	
E815437 PI-48B	10.20.88	1345 HRS	1.0-1.5' AREA 4		*relogged for Be, Cd PHC, 12-1-88 RUB 6F	
E815438 PI-48C	10.20.88	1355 HRS	7.75-8.25' AREA 4		PHC, BN+ 2m	

RELINQUISHED BY	ORGANIZATION	DATE/TIME	RECEIVED BY (signature)	ORGANIZATION	DATE/TIME	REMARKS
Andrew Conforf	J.M. SORGE INC	10/21/88 12:10	[signature]	JMS	10/21/88 12:10	
[signature]	JMS	10/21/88 3:15	[signature]	ACCUTEST	10/21/88 15:15	

ATTACHMENT NV 497

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

LABORATORY CHRONICLE

ACCUTEST JOB #.....884963R

DATE SAMPLES RECEIVED.....12/01/88

ACCUTEST SAMPLE #	SAMPLE DATE	PARAMETER	PREP. DATE	ANALYSIS DATE
E815424R	10/20/88	SOLIDS, TOTAL PERCENT		12/06/88
E815424R	10/20/88	ARSENIC	12/12/88	12/21/88
E815424R	10/20/88	BERYLLIUM	12/12/88	12/15/88
E815424R	10/20/88	CADMIUM	12/12/88	12/15/88
E815427R	10/20/88	SOLIDS, TOTAL PERCENT		12/06/88
E815427R	10/20/88	ARSENIC	12/12/88	12/21/88
E815427R	10/20/88	BERYLLIUM	12/12/88	12/15/88
E815427R	10/20/88	CADMIUM	12/12/88	12/15/88
E815430R	10/20/88	SOLIDS, TOTAL PERCENT		12/06/88
E815430R	10/20/88	ARSENIC	12/12/88	12/21/88
E815430R	10/20/88	BERYLLIUM	12/12/88	12/15/88
E815430R	10/20/88	CADMIUM	12/12/88	12/15/88
E815434R	10/20/88	SOLIDS, TOTAL PERCENT		12/06/88
E815434R	10/20/88	ARSENIC	12/13/88	12/21/88
E815437R	10/20/88	SOLIDS, TOTAL PERCENT		12/06/88

MANAGER R. F. Smith DATE 12/23/88

498
ATTACHMENT NN1825-1

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

LABORATORY CHRONICLE

ACCUTEST JOB #.....884963R

DATE SAMPLES RECEIVED.....12/01/88

ACCUTEST SAMPLE #	SAMPLE DATE	PARAMETER	PREP. DATE	ANALYSIS DATE
E815437R	10/20/88	BERYLLIUM	12/13/88	12/15/88
E815437R	10/20/88	CADMIUM	12/13/88	12/15/88

MANAGER R. F. Smith DATE 12, 23, 88

ATTACHMENT NN183-5
499

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

QUALITY CONTROL REPORT FOR JOB : 885178S

SAMPLE(S) : E816092S ,E816096R ,E816100R ,E816101S

TEST : CADMIUM

DUPLICATE				MATRIX SPIKE					METHOD BLANK		
ORIGINAL	DUPLICATE	UNITS	RPD	ORIGINAL	AMT.SPK	SPK.RES	UNITS	%REC	DET.LIM	UNITS	METH.BLANK
7.130	6.060	MG/KG	16	2.400	5.210	7.130	MG/KG	91	0.50	MG/KG	<0.50

COMMENTS :

SAMPLE(S) : E816100R ,E816101S

TEST : SILVER

DUPLICATE				MATRIX SPIKE					METHOD BLANK		
ORIGINAL	DUPLICATE	UNITS	RPD	ORIGINAL	AMT.SPK	SPK.RES	UNITS	%REC	DET.LIM	UNITS	METH.BLANK
10.000	10.200	MG/KG	2	<1.000	11.200	10.000	MG/KG	89	1.0	MG/KG	<1.0

COMMENTS :

ATTACHMENT NN184

500

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

INORGANIC CONFORMANCE SUMMARY

1) BLANK CONTAMINATION BELOW MDLS [IF NOT LIST INDIVIDUAL METALS AND PREPARTION DATA.] [✓]

COMMENTS: _____

2) MATRIX SPIKE DATA WITHIN ACCEPTABLE LIMITS [IF NOT, LIST METAL(S) THAT DO NOT MEET CRITERIA.] [✓]

COMMENTS: _____

3) MATRIX DUPLICATE DATA WITHIN ACCEPTABLE LIMITS [IF NOT, LIST METAL(S) THAT DID NOT MEET CRITERIA.] [✓]

COMMENTS: _____

4) SAMPLES HOLDING TIMES MET FOR PREPARATION AND ANALYSIS [IF NOT, LIST SAMPLE # AND ANALYSIS TYPE THAT DID NOT MEET CRIERIA.] [✓]

COMMENTS _____

MANAGER R.F. Smith 12/20/88

ATTACHMENT NN185 EF
501

50

PROJECT NAME PLANT INDUSTRIES PROJECT NO. 86013

COLLECTED BY AC, JIL SIGNATURE Joe Kane

JM Sorge, Inc.

SITE TYPE | SITE ID

CHAIN OF CUSTODY RECORD

885178 S

SPL NO.	DATE SPLD	TIME SPLD	SAMPLING POINT & SAMPLING METHOD DESCRIPTION	SAMPLE MATERIAL	ANALYSIS	REMARKS
E816090 PI-39A	10/19/88	2:15	0-6" S/S HAND AUGER	Soil	B625XH	ECRA DELIVERABLES 2B
E816091 PI-40A	10/19/88	1:30	0-6" " " "	"	B625XH	↓
X + E816092 S PI-40B	10/20/88	9:25	3'-3.5' " " "	"	+ E816092 relogged hold forced RVR 12-1-88	2W
E816093 PI-40C	10/20/88	9:35	5'-5.5' " " "	"	↓	↓
E816094 PI-40D	10/20/88	10:05	7'-7.5' " " "	"	↓	↓
E816095 PI-41A	10/19/88	4:15	0-6" " " "	"	↓	↓

RELINQUISHED BY	ORGANIZATION	DATE/TIME	RECEIVED BY (signature)	ORGANIZATION	DATE/TIME	REMARKS
Joe Kane	J.M. Sorge	11/1/88 9:15	William Call	JMS	11/1/88 9:15 AM	
William Call	JMS	11/1/88 10:00 AM	[signature]	Accutest	11/1/88 10:00	
[signature]	Accutest	11-1-88 11:00	R. Van Slaun	ACCUTEST	11-1-88 11:00	

ATTACHMENT 10

502

SO

PROJECT NAME PLANT INDUSTRIES PROJECT NO. 86019

COLLECTED BY AC, JK SIGNATURE Joe Kane

SITE TYPE SITE ID

JM Sorge. Inc.

CHAIN OF CUSTODY RECORD

885179 S

SPL NO.	DATE SPLD	TIME SPLD	SAMPLING POINT & SAMPLING METHOD DESCRIPTION	SAMPLE MATERIAL	ANALYSIS	REMARKS
E816096R PI-41B	10/19/88	4:25	3'-3.5' S/S HAND AUGER	SOIL	*relogged for Cd. hold 12-1-88 RUB 2N	ECRA DELIVERABLES
E816097 PI-41C	10/19/88	4:30	5'-5.5' " " "	"	↓	
E816098 PI-41D	10/19/88	4:35	7'-7.5' " " "	"	↓	
E816099 PI-42A	10/19/88	3:25	0-6" " " "	"	B625XH 2B	
E816100R PI-42B	10/19/88	3:35	3'-3.5' " " "	"	*relogged for Cd, AG. hold 12-1-88 RUB 2N	
E816101R S PI-42C	10/19/88	3:45	5'-5.5' " " "	"	↓ *relogged for Cd, AG, RUB 12-1-88 ↓	

RELINQUISHED BY	ORGANIZATION	DATE/TIME	RECEIVED BY (signature)	ORGANIZATION	DATE/TIME	REMARKS
Joe Kane	J.M. Sorge	11/1/88 9:15	William Coll	JMS	11/1/88 9:15 AM	
William Coll	JMS	11/1/88 10:00 AM	[illegible]	ACCUTEST	11-1-88 10:00	
[illegible]	Accutest	11-1-88 11:00	R. Van Blom	ACCUTEST	11-1-88 11:00	

ATTACHMENT NN 19

S03

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

LABORATORY CHRONICLE

ACCUTEST JOB #.....885178S

DATE SAMPLES RECEIVED.....12/01/88

ACCUTEST SAMPLE #	SAMPLE DATE	PARAMETER	PREP. DATE	ANALYSIS DATE
E816092S	10/20/88	SOLIDS, TOTAL PERCENT		12/06/88
E816092S	10/20/88	CADMIUM	12/12/88	12/15/88
E816096R	10/19/88	SOLIDS, TOTAL PERCENT		12/06/88
E816096R	10/19/88	CADMIUM	12/12/88	12/15/88
E816100R	10/19/88	SOLIDS, TOTAL PERCENT		12/06/88
E816100R	10/19/88	SILVER	12/12/88	12/13/88
E816100R	10/19/88	CADMIUM	12/12/88	12/15/88
E816101S	10/19/88	SOLIDS, TOTAL PERCENT		12/06/88
E816101S	10/19/88	SILVER	12/12/88	12/13/88
E816101S	10/19/88	CADMIUM	12/12/88	12/15/88

MANAGER R. F. Smith DATE 12, 20, 88

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408

MEMORANDUM

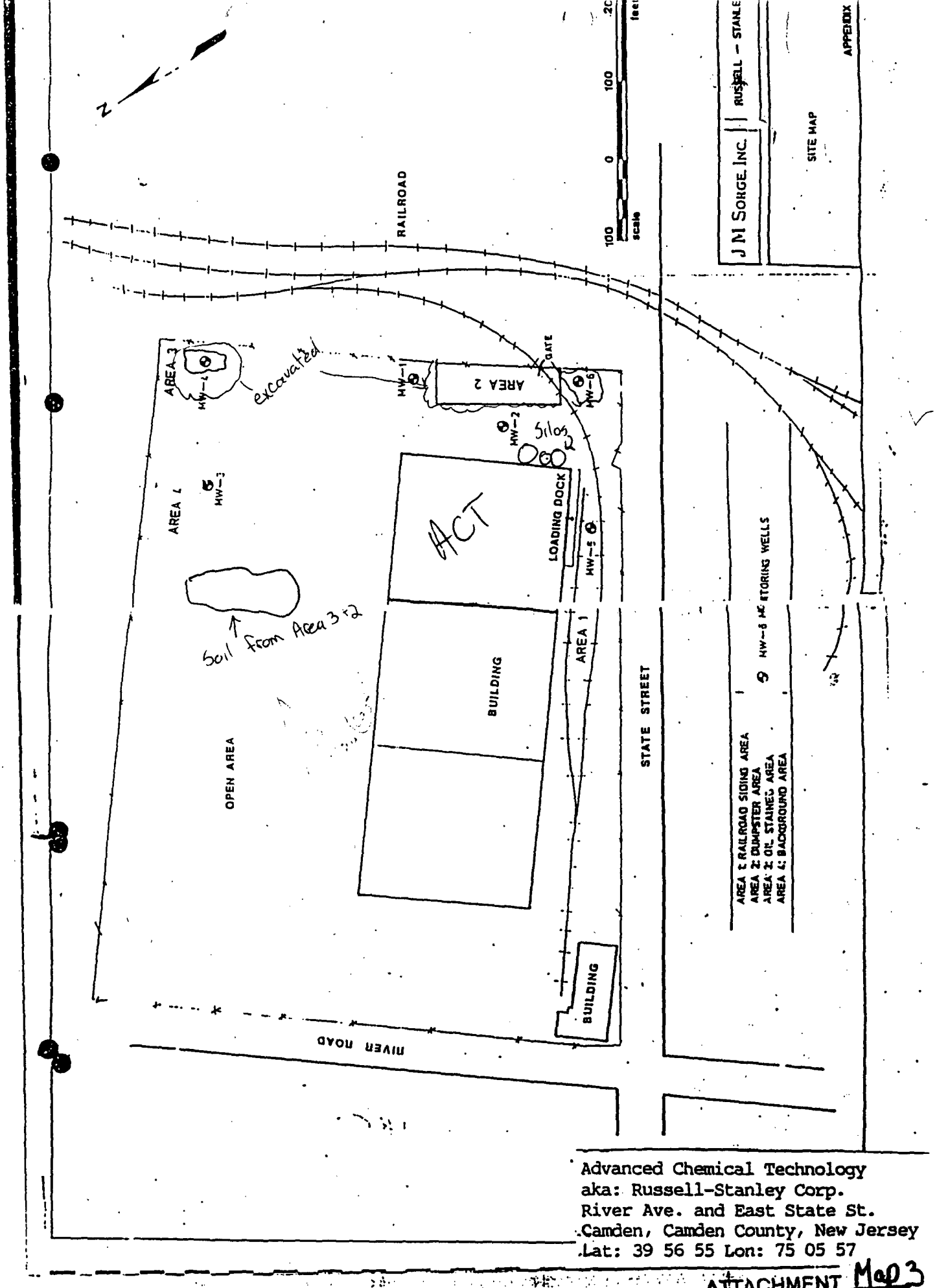
TO: Files - Bureau of Planning and Assessment

FROM: Dan Maltese, HSMS IV, Bureau of Planning and Assessment

DATE: March 28,1990

SUBJECT: Visual Site Inspection of Advanced Chemical Technology located at River Ave. and East State St., Camden, New Jersey

On March 28, 1990, Dan Maltese and Donna Restivo, NJDEP/DHWM/BPA, conducted a visual site inspection of Advanced Chemical Technology (ACT). We were met at the facility by Bharat Patel, senior hydrogeologist for J.M. Sorge, Inc. ACT manufactures plastic containers and plastic 55-gallon drums. The building that ACT occupies is divided in half with the eastern half being leased to Ceramic Tile Warehouse. The entire facility is owned by Camden Properties, Inc. The northeast corner of the site had been excavated to a depth of approximately 4 feet and the soil from the pit was staged about 100 yards west of the excavation. The former "dry" monitoring well (MW-4), which had been located within the excavation, had been sealed and a new monitoring well is proposed after the area is backfilled with clean soil. Area 2, located at the east side of the building where the dumpster had once been located, had also been excavated and that soil was stored with the soil from the other excavation. Both areas had been recently sampled and ACT was awaiting the post-excavation results. The excavated soil was partially covered with plastic. No solvents or oils were observed outside the facility and no soil gas readings were detected with an HNu or OVA. ACT is currently regulated under the ECRA program.



Advanced Chemical Technology
aka: Russell-Stanley Corp.
River Ave. and East State St.
Camden, Camden County, New Jersey
Lat: 39 56 55 Lon: 75 05 57

ATTACHMENT Map 3 OO_2

506

REFERENCE NO. 17

MALCOLM PIRNIE, INC.	PROJECT NOTES

To: File	**Date:**June 20, 1994
From: Andrew Clibanoff	**Project #:**8003-291
Subject: Current Site Status	**Site Name:**Advanced Chemical Technology

Several attempts to review the NJDEPE files for the Advanced Chemical Technology (ACT) Site have been made with little success. No files dated later than the February 23, 1990, Site Inspection (SI) Report have been made available for review by NJDEPE. It has been confirmed through telephoned conversations that removals have occurred at the site since the SI was completed and that post-removal soil and groundwater samples have been collected. The former Bureau of Environmental Evaluation and Clean-up Responsibility (BEECRA) case manager for the ACT Site has stated that both soil and groundwater quality at the site have been accepted by NJDEPE. The site was listed on NJDEPE's computer system under the "No Further Action" category on March 7, 1991

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003291

Date: April 13, 1994 Time: 2:30 AM [] PM [X]

Outgoing Call

To: Steve Mayberry (609) 633-7141 Telephone No.

Affiliation: BEECRA, NJDEPE

Malcolm Pirnie Staff: Len Warner (914) 641-2972 Telephone No.

Summary of Conversation:

I called Mr. Mayberry, former NJDEPE case manager for the Advanced Chemical Technology (ACT) site, to gain further information on the final disposition of the site. Mr. Mayberry indicated that it had been several years since he worked on the site, but he remembered that another soil removal had taken place after the SI date and both soil and groundwater had been cleared by the NJDEPE. He indicated that the site had been remediated, expressed familiarity with the scoring work we are conducting for EPA, and indicated that he believed that ACT should not score. Mr. Mayberry suggested that I review the site records if I required further information.

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003291

Date: April 13, 1994 Time: 10:30 AM [X] PM []

Incoming Call

From: Eric Kinsel (609) 633-7141 Telephone No.

Affiliation: BEECRA, NJDEPE

Malcolm Pirnie Staff: Len Warner (914) 641-2972 Telephone No.

Summary of Conversation:

Mr. Kinsel called in response to a message I had left with the NJDEPE requesting further information on the final disposition of the Advanced Chemical Technology (ACT) site. Mr. Kinsel indicated that the site had been registered under the "No Further Action" category in the NJDEPE's computer on March 7, 1991. He also indicated that the former case manager was Steve Mayberry, who could also be reached at (609) 633-7141. Mr. Kinsel indicated that I should contact Mr. Len Carnett, ISRA File Custodian, regarding any requests for ACT files (fax 609-777-4285).

REFERENCE NO. 18

MALCOLM PIRNIE, INC.	PROJECT NOTE

To: File	**Date:** August 16, 1994
From: Andrew Clibanoff	**Project #:** 8003-291
Subject: Surface Water Intake - Summary	**Site Name:** Advanced Chemical Technology

The Philadelphia Water Department (PWD) operates three surface water intakes (1 on the Delaware River, 2 on the Schuylkill River) to supply its 500,000 connections with drinking water. The Delaware River intake is located approximately 10 miles upstream of the river's confluence with the Cooper River.

The PWD serves all of Philadelphia including the portion of the city that lies within four miles of the Advanced Chemical Technology Site.

HALLIBURTON NUS Environmental Corporation and Subsidiaries

TELECON NOTE

CONTROL NO:	DATE:	TIME:
J709SP	02/18/93	11:38

DISTRIBUTION:

— Paul's Tank Cleaning file (CoR)

BETWEEN:	OF:	PHONE:
Walt McCulla	Philadelphia Water Dept.	(215) 592-6277

AND:

Thomas Caines

DISCUSSION:

Mr. McCulla told me the following:

— The Torresdale Intake is located approximately 100 ft. upstream of Pennypack Creek at the filtration plant

— Water from this intake is blended with water from two other intakes along the Schuylkill River.

— He thinks this intake provides more water than the other two combined.

— No other intakes or wells are used in this system

ACTION ITEMS:

— I should call billing dept. at (215) 686-6959 to find out about service connections

— I should call load control dept. at (215) ~~685~~ TV 02/18/93 685-9636 to find out about pumpage

TAV 02/18/93

HALLIBURTON NUS 067 REVISED 0392

HALLIBURTON NUS Environmental Corporation and Subsidiaries

TELECON NOTE

CONTROL NO:	DATE:	TIME:
JT09SP	02/18/93	14:51

DISTRIBUTION:

- Paul's Tank Cleaning file

BETWEEN:	OF:	PHONE:
George Kuntal	Chief, Load Control, Phil. Water Dept.	(215) 685-9636

AND: Thomas Varney

DISCUSSION:

Mr. Kuntal told me the following:

- The system comprised of ~~Foresdale~~ Torresdale TV 02/18/93 intake and the two Schuylkill intakes serves the entire city of Philadelphia and part of Bucks County.
- Total system pumpage is 350 million gallons per day (mgd); 16 mgd goes to Bucks County Water & Sewer
- 50% of total pumpage provided by Torresdale intake.
- There are approximately 500,000 connections, plus a number 25,000.

TAV 02/18/93

ACTION ITEMS:

HALLIBURTON NUS 067 REVISED 0392

REFERENCE NO. 19

MALCOLM PIRNIE, INC.	PROJECT NOTES

To: File	**Date:** August 16, 1994
From: Andrew Clibanoff	**Project #:** 8003-291
Subject: ECRA Compliance	**Site Name:** Advanced Chemical Technology

In September, 1990, the New Jersey Department of Environmental Protection's (NJDEP) Industrial Site Evaluation Element (ISEE) certified that the Advanced Chemical Treatment (ACT) facility was in compliance with the Environmental Cleanup Responsibility Act (ECRA) of New Jersey. ACT was given permission to seal all of the monitoring wells that were installed for ECRA compliance. Further soil remediation was necessary at the site at that time.

In March, 1991, NJDEP's ISEE certified that the ACT facility was in full compliance with ECRA. The certification was based upon the satisfactory completion of the Cleanup Plan and a final NJDEP inspection of the facility on February 25, 1991.

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton N.J. 08625-0028
(609) 633-7141
Fax # (609) 633-1454

SEP 20 1990

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Roger Greenbaum
Greenbaum Rowe Smith
99 Wood Ave S.
Woodbridge, N.J. 07095

George Hopkins
Montgomery, McCracken, Walker and Rhoads
3 Parkway Ave.
Philadelphia, PA 19102

Dear Gentleman:

Re: Industrial Establishment: Advanced Chemical Technology (Russell-Stanley)
Location: River Rd. & State St., Camden, Camden County
Block: 847 Lot: 2 (Leasehold Portion Only)
Transaction: Bankruptcy, Sale of Business
Cleanup Plan Dated: March 1989 and Sampling Results dated February 1989, July 9, 19, and August 8, 1990.
ECRA Case # 84011

Re: Industrial Establishment: Russell-Stanley East, Inc. (Russell-Stanley)
Location: River Rd. & State St., Camden, Camden County
Block: 847 Lot: 2 (Leasehold Portion Only)
Transaction: Transfer of Stock
Cleanup Plan Dated: March 1989 and Sampling Results dated February 1989, July 9, 19, and August 8, 1990.
ECRA Case # 89376

Pursuant to the Authority vested in the Commissioner of the New Jersey Department of Environmental Protection ("NJDEP") by the Environmental Cleanup Responsibility Act, N.J.S.A. 13:1K-6 et seq. (ECRA), and duly delegated to the Assistant Director of the Industrial Site Evaluation Element pursuant to N.J.S.A. 13:1B-4, the above referenced Cleanup Plan submitted on behalf of Russell-Stanley is hereby approved by NJDEP as conditioned below:

Ground Water

1. No further action is required regarding ground water at this time. Therefore, Russell-Stanley shall seal all monitoring wells installed for compliance with ECRA and submit the well abandonment forms to the Division of Water Resources' Bureau of Water Allocation. This office shall also be copied with the completed well abandonment forms to document proper abandonment. This matter is also being referred to the Bureau of water allocation for their review.

Soils

2. Russell-Stanley shall continue the soil remediation as previously approved in the partial Cleanup Plan approval letter for soils dated October 27, 1989 and shall submit the results of the cleanup on or before October 8, 1990. That approval remains in full force and effect and therefore this document constitutes a full Cleanup Plan approval.

3. Russell-Stanley shall comply with all federal, state, and local laws, regulations, and ordinances in implementing the approved Cleanup Plan.

4. Russell-Stanley shall obtain all federal, state, and local permits prior to implementation of the approved Cleanup Plan. Should any condition or limitation of said permits be more stringent than those in the approved Cleanup Plan, then said permit requirements shall supersede the terms of this approval.

5. Upon the written request of NJDEP, Russell-Stanley shall submit for NJDEP review and approval any additional sampling plans deemed necessary by NJDEP during the implementation of a Cleanup Plan to fully delineate the nature and extent of environmental contamination on or from Russell-Stanley. Russell-Stanley shall implement and complete any such additional Sampling Plans, and submit the results thereof, in accordance with the timeframes set forth in the approved additional Sampling Plan. Furthermore, Russell-Stanley shall prepare and submit to NJDEP for approval any revisions to the Cleanup Plan necessary to remediate any additional environmental contamination on or from Russell-Stanley as identified during the cleanup plan implementation, by any additional sampling, or from any other source. Russell-Stanley shall revise and submit the required information within a reasonable time not to exceed 30 calendar days from receipt of written notification from NJDEP.

6. The ECRA requirement for remediation of all environmental contamination on or from Russell-Stanley and the terms and conditions of the approved Cleanup Plan shall be binding upon Russell-Stanley, and its officers, management officials, successors in interest, assigns, tenants, and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity.

7. Russell-Stanley within 14 days of receipt of this Cleanup Plan approval, shall amend the amount of posted financial assurance specified in paragraph 10 of the Administrative Consent Order to equal the amount of $ 461,662 the estimated cost of implementation of the Cleanup Plan or shall provide alternative financial assurance in accordance with the regulatory requirements of N.J.A.C. 7:26B-6 in the amount specified above. Furthermore, Russell-Stanley shall maintain the required financial assurance until NJDEP issues Russell-Stanley a written notification that the Cleanup Plan had been fully implemented to NJDEP's satisfaction.

8. Russell-Stanley shall prepare and submit to NJDEP Monthly written progress reports detailing the implementation of the Cleanup Plan.

9. Russell-Stanley shall prepare and submit a final written report detailing the actual cleanup actions performed and final cleanup costs including overhead, compared to the cleanup actions, schedule and costs approved in the Cleanup Plan. The report should also include the dates of cleanup activities, additional sampling results, and other pertinent information.

10. Russell-Stanley shall provide, within 14 calendar days of receipt of this

cleanup plan approval, oversight fees in the amount of $ 7000, based on the cost of the cleanup, in accordance with the regulatory requirements of N.J.A.C. 7:26B-1.10.

11. Russell-Stanley shall continue initiation of the Cleanup Plan as conditioned in this letter, and in accordance with N.J.A.C. 7:26B-5.5(c), begin implementation of this Cleanup Plan according to the proposed time schedule and submit the results by October 8, 1990. If any delay or anticipated delay had been or will be caused by events beyond the control of Russell-Stanley, then Russell-Stanley shall notify NJDEP in writing within ten days of the delay, describing the delay in precise cause or excuses and requesting an extension. Increases in the costs or expenses incurred in fulfilling the requirements contained in this letter shall not be a basis for an extension and such extension requests will not be granted. If Russell-Stanley fails to implement the Cleanup Plan in accordance with the proposed schedule, the NJDEP reserves the right to implement full enforcement measures and assess penalties pursuant to N.J.A.C. 7:26B-9.

12. Russell-Stanley shall contact the Cleanup oversight manager a minimum of 5 days prior to the initiation of any remaining field activities.

NJDEP's approval, as conditioned above, is limited to the above referenced Cleanup Plan only. This Cleanup Plan approval shall not limit, restrict, or prohibit NJDEP from directing on-site or off-site cleanup, if deemed necessary by NJDEP, under any other statute, rule, or regulation. Russell-Stanley is hereby required to fully implement the referenced Cleanup Plan, as conditioned above, in accordance with the time schedule as set forth therein. By issuing this Cleanup Plan approval, NJDEP continues to reserve all rights to pursue any penalties allowable under the law for violations of the ECRA statute or regulations associated with this transaction.

This document was prepared by the Case Manager, Stephen E. Maybury. If you have any question concerning the document, please contact the Case Manager at (609) 633-7141.

Sincerely,

Kenneth T. Hart, Acting Assistant
Director, Industrial Site
Evaluation Element

cc: Tina Layre, BEAC
Karen Fell, BGWDC
Ed Demerest, BEERA
Mary F. Platt, Montgomery, McCracken, Walker and Rhoads
Jung Cho, Camden County Dept. of Health

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-7141
Fax # (609) 633-1454

George Hopkins
Montgomery McCraker Walker Rhoads
3 Parkway Avenue
Philadelphia, Pa 19102

MAR 8 1991

Dear Mr. Hopkins:

Re: Industrial Establishment: Advanced Chemical Technology
Location: River Rd & State St, Camden City, Camden County
Block: 847 Lot: 2
Transaction: Bankruptcy, Sale of Business.
Cleanup Plan: March 1989 & Sampling Results Dated February 1989, July 9, 19 and August 8, 1990
Financial Assurance: Letter of Credit

ECRA Case Number: 84011

Pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection ("NJDEP") by the Environmental Cleanup Responsibility Act (ECRA, N.J.S.A. 13:1K-6 et seq.) and duly delegated to the Assistant Director of the Industrial Site Evaluation Element pursuant to N.J.S.A. 13:1B-4, the referenced Industrial Establishment is considered to be in full compliance with the Act. NJDEP hereby certifies that the referenced Cleanup Plan has been implemented and completed in accordance with the terms of the September 20, 1990 and November 30, 1990 approvals.

This certification is based upon the satisfactory completion of the Cleanup Plan as supported by the Final Report dated November, 1990 and the NJDEP's final inspection on February 25, 1991. By issuing this Full Compliance Letter, NJDEP continues to reserve all rights to pursue any penalties allowable under the law for violations of the ECRA statute or regulations associated with this transaction.

This Notice will serve to release and return the referenced Financial Assurance and any other funds held pending compliance with ECRA.

Sincerely,

Kenneth L. Hart, Acting Assistant Director
Industrial Site Evaluation Element

c: Tina Layre, BEAC
Edward Demarest, BEERA
Jennifer Eck, BGWDC
Jung Cho, Camden County Health Department
2101 Ferry Ave
Camden NJ 08104

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Recycled Paper

REFERENCE NO. 20

JM Sorge, Inc.

50 County Line Road, Somerville, NJ 08876 • (201) 218-0066
FAX (201) 218-9185

August 16, 1990

Mr. Steven Maybury, Case Manager
Bureau of Environmental Evaluation and
Cleanup Responsibility Assessment
NJ Department of Environmental Protection
401 E. State Street - 5th Floor
Trenton, NJ 08625

Re: Advanced Chemical Technology/Russell Stanley East
Camden, NJ
ECRA Case #84011 and #89376

Dear Mr. Maybury:

I have attached the soil disposal documentation as per your request. A total of 1,719.42 tons of waste soil was removed from the referenced site over the period from July 30 through August 2, 1990. The material was transported by a licensed waste hauler (Jack Grey Transport, Inc.) to Soil Safe Inc. in Baltimore, Maryland. Soil Safe is a facility licensed by the State of Maryland to recycle waste soils.

As indicated in our previous correspondence (August 8, 1990), approximately one-half truckload of soil remains on the site at this time. The residual soil will be removed following completion of the additional cleanup at the site.

Should you have any questions regarding the attached documentation, please give me a call.

Yours truly,

Joseph M. Sorge
President

JMS/nk

Enclosure

cc: Mr. Charlie Morelli
Mr. Roger Greenbaum
Mr. William Lima

REFERENCE NO. 21

Recd. 7/10/90
10/5 LIS

GROUNDWATER SAMPLING REPORT

Prepared for:

Russell-Stanley East, Inc.

Prepared by:

J M Sorge, Inc.
50 County Line Road
Somerville, New Jersey 08876

July 9, 1990

ADVANCED CHEMICAL TECHNOLOGY

GROUNDWATER SAMPLING REPORT

1.0 INTRODUCTION

J M Sorge, Inc. (JMS) was retained by Russell Stanley East Inc. to implement the approved cleanup plan at the ACT site. The cleanup plan was approved by the Department via correspondence dated October 27, 1989. The cleanup plan approval required the implementation of additional groundwater sampling as per the Department's request of April 5, 1989 as conditioned (Part 2 conditions 16, 17, and 18) in the approval letter of October 27, 1989. The following report provides a summary of well installation activities and two (2) rounds of groundwater sampling results as required by the Department.

1.1 RESPONSE TO NJDEP CORRESPONDENCE OF APRIL 5, 1989

Condition 1: Monitoring Well (MW-7) must be installed in Area 2 as previously directed. However, well installation may proceed after remediation is complete in this area.

Response 1: MW-7 has been installed as requested (Section 2).

Condition 2: Sampling Monitoring Well (MW-4) must be conducted as previously stated. However, if MW-4 cannot be developed and properly sampled, then a new well may be installed after remediation is complete in this area. Be advised that it is the Department's position that the only way to positively determine if groundwater has been impacted is through groundwater sampling data.

Response 2: A new well MW-4R was installed in the area following site remediation (Section 2).

Condition 3: Groundwater sampling at Monitoring Wells MW-3, 5, 6, and proposed wells MW-4 and MW-7 must be conducted as previously requested, except that ethylene glycol may be deleted as a parameter for MW-3, 5, and 6. Volatile organic (VOs) analysis is required because VOs may be associated with oily waste. It is the Department's position that monitoring petroleum hydrocarbon sources other than number 4 and 6 fuel oil must include analysis for volatile compounds.

Response 3: Sample analysis results are provided in Section 3.

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1.2 RESPONSE TO NJDEP CORRESPONDENCE OF OCTOBER 27, 1989

Comment 16: Advanced Chemical Technology/Russell Stanley East, Inc. shall install the wells required in the NJDEP letter dated April 5, 1989 within five (5) days of backfilling excavations.

Response 16: As indicated in our previous progress report (Report #4), the backfilling was completed during the first week of May, 1990, and the wells were installed on May 10 and 11, 1990.

Comment 17: Advanced Chemical Technology/Russell Stanley East, Inc. shall submit the results of groundwater sampling pursuant to the requirements in the NJDEP letter dated April 5, 1989 within 60 days of well installation with an appropriate follow-up proposal pursuant to NJAC 7:26B-4.3.

Response 17: The following report was prepared to comply with this condition.

Comment 18: Advance Chemical Technology/Russell Stanley East, Inc. shall notify this office in writing at least two (2) weeks prior to installation of any wells to allow the geologist to assist in determining well locations and screen elevations.

Response 18: The Department was notified of the drilling date via Progress Report #4 (April 12, 1990).

2.0 GROUNDWATER INVESTIGATION

The following provides a description of the well installation program and additional sampling results obtained. Two (2) additional wells (MW-4R and MW-7) were installed and the original well (MW-4) was abandoned.

2.1 WELL INSTALLATION PROCEDURES

The monitoring wells were drilled and installed by Wilson Drilling, Inc., a NJ-licensed well driller, under the direct supervision of a JMS hydrogeologist. The drilling company obtained State well permits for each well prior to installation. The wells were constructed according to NJDEP's specifications for monitoring wells in consolidated formations. Well completion specifications, soil boring logs, and well permits are provided

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in Appendix A. The Department was notified via correspondence dated April 12, 1990 of the planned well installation. The wells were installed on May 10 and 11, 1990. Please note that the required well certifications A and B are not included, since they have not been received from the driller or the surveyor at this time. The required documentation will be submitted to the Department under separate cover as soon as possible.

The wells were installed using a truck-mounted, hollow-stem auger rig. The wells were constructed of 4-inch diameter, Schedule 40 PVC well casing and screen (0.020-inch slot size) set in an 8-inch diameter boring. The total depth of each well was field determined based on the depth at which groundwater was encountered. A 10-foot long well screen was installed in each well based on the depth to groundwater; at a minimum, 7 to 9 feet of the saturated thickness was "screened". The well screen extends above the top of the water table in each well in order to monitor any product "floating" on top of the water. The well screen and riser pipe were connected by threaded couplings; the base of the screen was fitted with a bottom cap and the top riser was fitted with a removable PVC cap. The riser cap was extended approximately 2 feet above the ground surface. A summary of the well specification data is provided in Table 1, and included as Appendix A.

At completion of the well installations, each well was developed by pumping to remove any residual fine materials from the sand pack and the formation, in order to insure adequate water flow. Development continued until the water flowing from the well was relatively clean and free of fines.

Following development, the top of well casing elevation and ground surface elevation was surveyed to within 0.01 feet by a NJ-licensed land surveyor. A map showing the well locations is provided in Figure 1. The well survey results are not available at this time, but will be submitted under separate cover.

Water level depths were measured prior to well sampling on both sampling dates. The results will be used to generate the potentiometric contour maps following receipt of the well survey results. Groundwater flows southward beneath the site based on the results obtained for the previously installed wells MW-3, 5, and 6. Well MW-4R appears to be an anomaly due to the presence of fill in this area (as indicated in the February 1989 report). The water level in the well was over 20 feet deeper than in any other site well.

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2.2 GROUNDWATER SAMPLING

The wells were allowed to stabilize prior to sampling. The wells were sampled on May 24 and again on June 27, 1990, in accordance with the sampling procedures specified in the approved sampling plan. The initial static groundwater elevations were recorded prior to removing three (3) volumes of well water. Following bailing, the wells were allowed to recharge to near stable levels.

All wells were "dry" following bailing except well MW-4R which contained some water at a depth of 32.05 feet on May 24, 1990. Both new wells were bailed "dry" on June 27, 1990 prior to sampling.

Wells MW-3, 4R, 5, 6, and 7 were sampled on May 24, 1990. The samples were analyzed as requested in the Department's letter of April 5, 1989 (Table 2). The results are summarized on Table 3. Wells MW-4R and MW-7 were resampled on June 27, 1990. Each sample was analyzed for base neutrals plus a forward library search and PHC as requested. The results are provided in Table 2.

The analysis for priority metals indicated that there were no metals detected in the sampled wells (MW-4R and MW-7) above the NJDEP action level. A trace level of .001 pm of arsenic was detected in MW-7, both wells contained trace levels of copper, and MW-4R contained trace levels of selenium and zinc. All metals detected were well below the action levels.

There were no priority volatiles detected in any of the wells sampled on May 24 or June 27, 1990. Similarly, there were no priority base neutrals detected in the sampled wells (MW-4R and MW-7) on either sampling date. Total petroleum hydrocarbons were analyzed for wells MW-4R and MW-7 on May 24 and June 27, 1990. There were no PHCs detected above the method detection limit in either well.

The analysis results were summarized on Table 3, and a copy of the laboratory results are provided in Appendix B. All samples and blanks were collected in accordance with procedures specified in the approval sampling plan. Chain-of-custody documentation is provided in Appendix B.

3.0 GROUNDWATER SUMMARY

The additional groundwater investigation confirms the preliminary results provided in the previous investigation report (February 1989). The additional analysis of wells 3, 5, and 6, as well as the initial and final results for MW-4R and MW-7, confirm that there is no significant groundwater contamination present. The water level measurements will be used to prepare potentiometric maps for each sampling event. This information is not provided at this time since the water level survey results are not yet available for wells MW-7 and MW-4R. However, if the water level data for well MW-7 confirms the previously established groundwater flow pattern beneath the site, no further action will be proposed.

TABLE 1

WELL SPECIFICATION

	DIAMETER (INCHES)	TOTAL DEPTH	TOP OF CASING	WATER LEVEL 5/24/90	WATER LEVEL 6/27/90
MW-3	4	16.0	18.88	3.68	3.45
MW-4R	4	32.75		29.94	29.35
MW-5	2	11.51	15.94	4.38	5.50
MW-6	2	12.50	15.42	6.32	5.60
MW-7	4	11.32		3.59	5.20
MW-4	ABANDONED AND SEALED				

Note: Surveyed elevations for wells MW-4R and MW-7 are not presently available.

TABLE 2

WELL SAMPLING ANALYSIS

PARAMETERS

WELL NO.	DATE	ANALYSIS
MW-3	5/24/90	VO+15, PH, TDS, SPC
MW-4R	5/24/90	VO+15, BN+15, PM13, PHC, PH, TDS, SPC
MW-5	5/24/90	VO+15, PH, TDS, SPC
MW-6	5/24/90	VO+15, PH, TDS, SPC
MW-7	5/24/90	VO+15, BN+15, PM13, PHC, PH, TDS, SPC
MW-4R	6/27/90	VO+15, BN+15, PHC, PH, TDS, SPC
MW-7	6/27/90	VO+15, BN+15, PHC, PH, TDS, SPC

TABLE 3

ADVANCED CHEMICAL TECHNOLOGY

WELL SAMPLING RESULTS

Sample No.	MW-3	MW-4R	MW-5	MW-6	MW-7	MW-FB	MW-T
Date Sampled	5/24/90	5/24/90	5/24/90	5/24/90	5/24/90	5/24/90	5/24/90
MISC. PARAMETERS (ppm):							
PH (MEASURE OF ACIDITY)	7.20	6.60	7.00	6.00	6.50	NA	NA
TOTAL DISSOLVED SOLIDS	91	160	260	80	100	NA	NA
SPECIFIC CONDUCTANCE	150	250	370	110	160	NA	NA
VOLATILE ORGANICS (ppb):							
IDENTIFIED PEAKS*	6 (1)	3 (1)	28 (1)	ND	ND	ND	ND
UNKNOWN PEAKS*	ND	ND	ND	360 (1)	26 (1)	ND	ND
TOTAL VOLATILES (ppb)	ND	ND	ND	ND	ND	ND	ND
BASE NEUTRALS (ppb)							
IDENTIFIED PEAKS*	NA	ND	NA	NA	293 (4)	ND	NA
UNKNOWN PEAKS*	NA	ND	NA	NA	9 (1)	5 (1)	NA
TOTAL BASE NEUTRALS (ppb)	NA	ND	NA	NA	ND	ND	NA
PRIORITY METALS (ppm):							
ARSENIC	NA	ND	NA	NA	.001	ND	NA
COPPER	NA	.04	NA	NA	.029	ND	NA
SELENIUM	NA	.003	NA	NA	ND	ND	NA
ZINC	NA	.065	NA	NA	ND	ND	NA
PETROLEUM HYDROCARBONS (ppm)	NA	ND	NA	NA	ND	ND	NA

NOTES: B - Probable/Possible Lab Contamination
. - Below Method Detection Limit
NA - Not Analyzed
ND - Not Detected
ppm - Parts per Million
ppb - Parts per Billion
* - Estimated Conc (# of compounds in Parenthesis)

APPENDIX A

WELL INSTALLATION DATA

DWR-133M (9/89)

Mail to

Water Allocation
CN 029
Trenton, N.J. 08625

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PRO[illegible]ION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

Permit No. [illegible]

89165

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: [illegible]

Owner [illegible] Chemical [illegible]
Address [illegible] St. and [illegible] St.
[illegible], NJ [illegible]

Driller [illegible] Drilling Co.
Address [illegible] Vulcanite Ave.
[illegible], NJ 08865

Name of Facility [illegible]
Address [illegible]

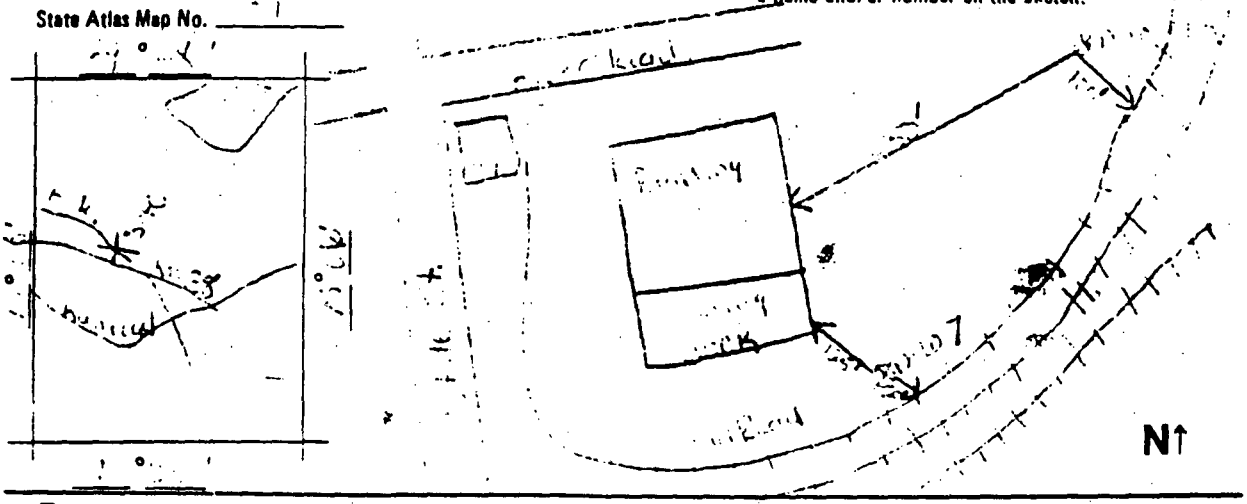
Diameter of Well(s) Inches	Proposed Depth of Well(s) [illegible] Feet
# of Wells Applied for (max. 10) [illegible]	Will pumping equipment be installed? YES ☐ NO ☐
Type of Well (see reverse) Monitoring	If yes, give pump capacity N/A GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
	[illegible]	[illegible]	[illegible]

State Atlas Map No. [illegible]

Draw sketch of well(s) to nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



☐ Issuance of this permit is subject to the conditions attached. (see next page)
☐ For monitoring purposes only
☐ Only pure bentonite drilling muds are to be used for installation

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED

☐ Spill Fund Case
☐ ECRA Case
☐ CERCLA (Superfund) Site
☐ RCRA Site
☐ Underground Storage Tank
☐ NJPDES Municipal Discharge Permit
☐ NJPDES Industrial Discharge Permit
☐ Div. Hazardous Waste Mgmt. Enforcement Case
☐ Div. Water Resources Enforcement Case
☐ Aquifer Test Observation Well
☐ Other (explain) _____

Case I.D. Number: _____

This Space for Approval Stamp

[illegible]

MAY 03 1990

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date [illegible]

Signature of Driller [illegible]

Signature of Owner _____

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BORING LOG

JM SORGE, INC.

BORING LOG MW-4R
SHEET 1 OF 1

JOB No.	CLIENT	PROJECT
89165	ACT	PLANT

LOCATION	ELEVATION AND DATUM
RIVER ROAD AND STATE STREET	

DRILLING CONTRACTOR	DRILLER	SAMPLER	INSPECTOR
WILSON DRILLING CO.	A. WILSON	B. CALL	B. CALL

DRILLING RIG TYPE	SIZE & TYPE OF BIT	DATE STARTED	DATE COMPLETED
DIEDRICH D-50	8" OD DRAG BIT	05-10-90	05-11-90

SAMPLER TYPE	HAMMER	DROP	TOTAL DEPTH	WATER LEVEL ENCOUNTERED	WATER LEVEL STABILIZED
STAINLESS STEEL SPLIT SPOON	140 lbs	30"	35.0'	29.3	28.0

BORING/CONSTRUCTION	SAMPLES No.	SAMPLES RECOVERY feet	SAMPLES BLOW/6"	DEPTH feet	WATER	DESCRIPTION OF SOILS	REMARKS
						LIGHT BROWN SANDY LOAM, FINE TO MEDIUM, DRY.	
				2			
				4			
				6			
						DARK GRAY BROWN SILTY SANDY LOAM, FINE TO MEDIUM, DRY.	
				8		LIGHT GRAY BROWN SILTY SANDY LOAM, FINE, DRY TO MOIST.	
				10		LIGHT BROWN SILTY SANDY LOAM, VERY FINE TO FINE, MOIST TO WET.	
				12			
				14			
	MW-4RA	1.5	10 16 18 24	16		LIGHT GREEN BROWN SILTY SANDY LOAM, VERY FINE TO FINE, DAMP.	
				18			
				20			
	MW-4RB	1.583	11 16 15 10	22		LIGHT BROWN GRAVELLY SANDY LOAM, FINE TO MEDIUM, GRAVELS TO .75", DAMP TO WET.	
				24		LIGHT GREEN BROWN SANDY LOAM, FINE, WET.	
	MW-4RC	1.583	14 20 27 28	26		WHITE SANDY LOAM VERY FINE TO FINE, DRY TO DAMP	
				28	▼		
					7		
				30			
				32			
				34			
						COMPLETION OF BORING.	
				36			

BORING LOG

JM SORGE, INC.

BORING LOG MW-7
SHEET 1 OF 1

JOB NO.	CLIENT	PROJECT
89165	ALI	PLANT

LOCATION	ELEVATION AND DATUM
RIVER ROAD AND STATE STREET	

DRILLING CONTRACTOR	DRILLER	SAMPLER	INSPECTOR
WILSON DRILLING CO.	A. WILSON	B. CALL	B. CALL

DRILLING RIG TYPE	SIZE & TYPE OF BIT	DATE STARTED	DATE COMPLETED
DIEDRICH D-50	8" OD DRAG BIT	05.11.90	05.11.90

SAMPLER TYPE	HAMMER	DROP	TOTAL DEPTH	WATER LEVEL ENCOUNTERED	WATER LEVEL STABILIZED
STAINLESS STEEL SPLIT SPOON	140 lbs	30"	14		

BORING/CONSTRUCTION	SAMPLES No.	RECOVERY feet	BLOW/6"	DEPTH feet	WATER	DESCRIPTION OF SOILS	REMARKS
				1		LIGHT BROWN SANDY LOAM, FINE TO MEDIUM, DRY TO MOIST.	
	MW-7A	1.583	3 4 4 7	2			
				3		BROWN SANDY LOAM, VERY FINE TO MEDIUM, MOIST.	
	MW-7B	2.0	4 3 7 7	4			
				5			
				6			
				7			
				8		LIGHT GRAY BROWN SANDY LOAM, FINE TO MEDIUM, MOIST.	
				9			
				10		LIGHT BROWN SILTY CLAY, FINE, MOIST TO WET.	
				11			
				12		DARK GRAY BROWN SILTY SANDY LOAM, FINE TO MEDIUM, WET.	
				13			
				14		COMPLETION OF BORING.	

DWR-020
2/89

86013

New Jersey Department of Environmental Protection
Division of Water Resources — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO:

Bureau of Water Allocation
CN 029
Trenton, NJ 08625

WELL PERMIT # [illegible]
of well sealed

DATE WELL SEALED [illegible]

PROPERTY OWNER Advanced Chemical Technology

ADDRESS River Rd + State Street Camden N.J.

WELL LOCATION Same Camden
Street & No., Township, County

31-28 50-5 West 75°05'7" North [illegible]
Well No., Lot & Block No., Longitude & Latitude LOT #2 BLOCK [illegible]

TYPE OF WELL ABANDONED: ☐ IRRIGATION ☐ INDUSTRIAL ☒ MONITORING ☐ DOMESTIC
☐ PUBLIC ☐ OBSERVATION ☐ OTHER

REASON FOR ABANDONMENT: Well produced NO WATER

TOTAL DEPTH OF WELL 14.5'
DIAMETER [illegible]
CASING LENGTH 4.2'
SCREEN LENGTH 10'

SKETCH

[illegible]
11'

MATERIAL USED TO SEAL WELL:

_____ Gallons of Water
_____ Bags of Cement
_____ Lbs. of Bentonite
_____ Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ____ Consolidated
X Unconsolidated

To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☐ Yes ☐ No

WERE OTHER OBSTRUCTIONS REMOVED? ☐ Yes ☒ No

[illegible] [illegible]
Name of Person Doing Sealing Work/Employer License #

MAILING DATE: [illegible]

[illegible]
Signature of Person Doing Sealing Work Address

COPIES White & Yellow - Water Allocation Pink - Health Dept. Goldenrod - Driller

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APPENDIX B

LABORATORY ANALYSIS RESULTS

ACCUTEST

CHECKED IN 6.21.90

DATA ENTERED

J. M. SORGE, INC.
50 COUNTY LINE ROAD
SOMERVILLE, NJ 08876

ATTN: DATA RECEIPT

DATE: 06/20/90
JOB No: 903081
PROJECT No: 89165
SAMPLE RECEIVED: 05/25/90

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E013194	05/24/90	14:45	BC	GROUND WATER - MW-3 ADVANCED CHEMICAL TECHNOLOGY
E013195	05/24/90	14:55	BC	GROUND WATER - MW-4R ADVANCED CHEMICAL TECHNOLOGY
E013196	05/24/90	14:30	BC	GROUND WATER - MW-5 ADVANCED CHEMICAL TECHNOLOGY
E013197	05/24/90	14:10	BC	GROUND WATER - MW-6 ADVANCED CHEMICAL TECHNOLOGY
E013198	05/24/90	13:50	BC	GROUND WATER - MW-7 ADVANCED CHEMICAL TECHNOLOGY
E013199	05/24/90	14:40	BC	WATER - MW-FB ADVANCED CHEMICAL TECHNOLOGY

VINCENT J. PUGLIESE
VICE PRESIDENT

1 16

ACCUTEST

J. M. SORGE, INC.
50 COUNTY LINE ROAD
SOMERVILLE, NJ 08876

ATTN: DATA RECEIPT

DATE: 06/20/90
JOB No: 903081
PROJECT No: 89165
SAMPLE RECEIVED: 05/25/90

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E013200	05/24/90		BC	WATER - MW-TB ADVANCED CHEMICAL TECHNOLOGY

VINCENT J. PUGLIESE
VICE PRESIDENT

ACCUTEST

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013194
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/30/90
DATA FILE : >E0397

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013195
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/30/90
DATA FILE : >E0418

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013195
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 05/31/90
DATA FILE : >D0136

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	ND	10	
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	ND	10	
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	ND	10	
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E013195	05/24/90	14:55	BC	GROUND WATER - MW-4R ADVANCED CHEMICAL TECHNOLOGY

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
ANTIMONY	<0.001	0.001	MG/L	06/11/90	MCB
ARSENIC	<0.001	0.001	MG/L	06/02/90	BJB
BERYLLIUM	<0.005	0.005	MG/L	06/12/90	JMC
CADMIUM	<0.010	0.010	MG/L	06/12/90	JMC
CHROMIUM	<0.025	0.025	MG/L	06/05/90	TTM
COPPER	0.040	0.020	MG/L	06/12/90	JMC
LEAD	<0.005	0.005	MG/L	06/12/90	JMC
MERCURY	<0.001	0.001	MG/L	06/30/90	DMH
NICKEL	<0.040	0.040	MG/L	06/12/90	JMC
SELENIUM	0.003	0.001	MG/L	06/08/90	JEB
SILVER	<0.030	0.030	MG/L	06/06/90	TTM
THALLIUM	<0.001	0.001	MG/L	06/12/90	JMC
ZINC	0.055	0.050	MG/L	06/12/90	JMC

[illegible]
[illegible]

VINCENT J. ENGLISH
VICE-PRESIDENT

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013196
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/30/90
DATA FILE : >E0419

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013197
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/31/90
DATA FILE : >G5839

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013198
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/31/90
DATA FILE : >G5840

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013198
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 05/31/90
DATA FILE : >D0137

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	ND	10	
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	ND	10	
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	ND	10	
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E013198	05/24/90	13:50	BC	GROUND WATER - MW-7 ADVANCED CHEMICAL TECHNOLOGY

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
ANTIMONY	<0.001	0.001	MG/L	06/12/90	MTE
ARSENIC	0.001	0.001	MG/L	06/02/90	DEB
BERYLLIUM	<0.005	0.005	MG/L	06/12/90	JMC
CADMIUM	<0.010	0.010	MG/L	06/12/90	JMC
CHROMIUM	<0.005	0.005	MG/L	06/05/90	JTM
COPPER	0.009	0.009	MG/L	06/12/90	JMC
LEAD	<0.005	0.005	MG/L	06/12/90	JET
MERCURY	<0.001	0.001	MG/L	05/30/90	SWM
NICKEL	<0.040	0.040	MG/L	06/12/90	JMC
SELENIUM	<0.001	0.001	MG/L	06/08/90	DEB
SILVER	<0.005	0.005	MG/L	06/05/90	JTM
THALLIUM	<0.001	0.001	MG/L	06/13/90	JET
ZINC	<0.005	0.005	MG/L	06/12/90	JMC

[illegible]

VINCENT J. BUGLIESE
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ACCUTEST

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013199
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/31/90
DATA FILE : >G5831

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013199
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 05/31/90
DATA FILE : >D0138

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	ND	10	
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	ND	10	
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	ND	10	
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E013199	05/24/90	14:40	BC	WATER - MW-FB ADVANCED CHEMICAL TECHNOLOGY

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
ANTIMONY	<0.001	0.001	MG/L	05/11/90	[illegible]
ARSENIC	<0.001	0.001	MG/L	05/05/90	[illegible]
BERYLLIUM	<0.005	0.005	MG/L	05/12/90	[illegible]
CADMIUM	<0.010	0.010	MG/L	05/12/90	[illegible]
CHROMIUM	<0.005	0.005	MG/L	05/05/90	[illegible]
COPPER	<0.020	0.020	MG/L	05/12/90	[illegible]
LEAD	<0.005	0.005	MG/L	05/12/90	[illegible]
MERCURY	<0.001	0.001	MG/L	05/30/90	[illegible]
NICKEL	<0.040	0.040	MG/L	05/12/90	[illegible]
SELENIUM	<0.001	0.001	MG/L	05/11/90	[illegible]
SILVER	<0.030	0.030	MG/L	05/06/90	[illegible]
THALLIUM	<0.001	0.001	MG/L	05/13/90	[illegible]
ZINC	<0.050	0.050	MG/L	05/12/90	[illegible]

[illegible]
[illegible]

[illegible]
[illegible]-PRESIDENT

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ACCUTEST

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E013200
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/31/90
DATA FILE : >E0432

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

REFERENCE NO. 22

SUPPLEMENTAL GROUNDWATER REPORT

ADVANCED CHEMICAL TECHNOLOGY
RUSSELL STANLEY EAST
ECRA CASE NO. 89001 AND NO. 89376

Prepared By:

J M Sorge, Inc.
50 County Line Road
Somerville, NJ 08876

July 19, 1990

1

ADVANCED CHEMICAL TECHNOLOGY

SUPPLEMENTAL DATA SUBMITTAL TO JULY 9, 1990 REPORT

INTRODUCTION

The following provides a very brief summary of the information provided in the July 9, 1990 report. This information is provided for completeness only, more detailed information is provided in the previous report.

JMS installed two (2) monitoring wells (MW-4R and MW-7) on the site in accordance with the NJDEP request of April, 1989. The wells were installed by a licensed well driller under direct supervision by JMS. The wells were installed in accordance with specifications for wells in unconsolidated formations. Following installation, the wells were surveyed by a licensed surveyor to determine precise well locations and elevations to the nearest hundredth of a foot. The completed certifications (Form A and B) are provided in Appendix A. The certifications were not included in the previous report since they were not available at that time. The wells were installed on May 10 and 11, 1990. A summary of the water levels and well elevations are provided in Table 1.

The wells were sampled by JMS on May 24, 1990 and again on June 27, 1990. Water elevation data was also obtained for each sampling date. The wells were sampled in accordance with procedures previously approved by the Department. The sampling event of June 27, 1990 included only wells MW-4R and MW-7, since all other wells had been sampled on two (2) previous occasions. The well samples were analyzed for the parameters indicated on Table 2. Sample analysis was conducted by Accutest Laboratories (Certification No. 12129). A complete copy of the laboratory results for the June 27, 1990 sampling event is provided in Appendix B along with chain-of-custody control records. A summary of the laboratory results for both sampling events is provided on Table 3 and 4.

This information was inadvertently left out of Appendix B of the July 9, 1990 submittal.

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SUMMARY OF ANALYSIS REPORT

The new wells were allowed to stabilize prior to sampling. The wells were sampled on May 24 and again on June 27, 1990, in accordance with the sampling procedures specified in the approved sampling plan. The initial static groundwater elevations were recorded prior to removing three (3) volumes of well water. Following bailing, the wells were allowed to recharge to near stable levels.

All wells were "dry" following bailing except well MW-4R which contained some water at a depth of 32.05 feet on May 24, 1990. Both new wells were bailed "dry" on June 27, 1990 prior to sampling.

Wells MW-3, 4R, 5, 6, and 7 were sampled on May 24, 1990. The samples were analyzed as requested in the Department's letter of April 5, 1989 (Table 2). The results are summarized on Table 3. Wells MW-4R and MW-7 were resampled on June 27, 1990. Each sample was analyzed for base neutrals plus a forward library search and PHC as requested. The results obtained for the June sampling event are provided in Table 4.

The analysis for priority metals indicated that there were no metals detected in the sampled wells (MW-4R and MW-7) above the NJDEP action level. A trace level of .001 pm of arsenic was detected in MW-7 on both sampling dates. Both wells contained trace levels of copper during the May sampling event, however, no copper was detected in June. In addition, MW-4R contained trace levels of selenium and zinc for both sampling events. All metals detected were well below the action levels.

There were no priority volatiles detected in any of the wells sampled on May 24, however, a trace level of 7 parts per billion (ppb) of toluene was detected in well MW-4R during the June sampling event. Similarly, there were no priority base neutrals detected in the sampled wells (MW-4R and MW-7) on either sampling date. Total petroleum hydrocarbons were analyzed for wells MW-4R and MW-7 on May 24 and June 27, 1990. There were no PHCs detected above the method detection limit in either well.

The analysis results for the June sampling event are summarized on Table 4, and a copy of the laboratory results are provided in Appendix B. All samples and blanks were collected in accordance with procedures specified in the approval sampling plan. Chain-of-custody documentation is provided in Appendix B.

3

GROUNDWATER FLOW

Groundwater elevations were recorded for all site wells on May 24, 1990 prior to well sampling. Water levels were also recorded prior to sampling on June 27, 1990. The water level contour maps could not be provided in the initial report, since the well survey results were not available. However, the survey results have been included (Appendix A) with this report.

Using the surveyed well elevations, a groundwater contour map was prepared for each sampling event. The contour maps are provided as Figure 1 (May 24, 1990) and Figure 2 (June 27, 1990). Please note that the results obtained for well MW-4R have not been incorporated. The water level in this well is consistently measured at depths greater than 20 feet below that measured in any of the other site wells. The previous well, MW-4, was consistently "dry". Therefore, we believe the levels in this well do not reflect conditions present across the site. The water levels for all wells are provided in Table 1.

GROUNDWATER SUMMARY

The additional groundwater investigation confirms the preliminary results provided in the previous investigation report (February 1989). The additional analysis of wells MW-3, 5, and 6, as well as the initial and final results for MW-4R and MW-7, confirm that there is not significant groundwater contamination present. The water level measurements were used to prepare potentiometric maps for each sampling event. This information is provided on Figure 1 and 2. The water level data confirms the previously established groundwater flow pattern beneath the site, therefore, no further action is proposed.

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TABLE 1
WELL SPECIFICATION

	DIAMETER (INCHES)	TOTAL DEPTH	TOP OF CASING	WATER LEVEL 5/24/90	WATER LEVEL 6/27/90
MW-3	4	16.0	18.88	8.68	8.45
MW-4R	4	32.75	14.00	-15.94	-15.85
MW-5	2	11.51	15.94	4.38	5.60
MW-6	2	12.50	15.42	6.32	6.50
MW-7	4	11.82	13.37	9.78	7.17
MW-4	ABANDONED AND SEALED				

NOTE: SURVEYED ELEVATION FOR WELLS MW-4R AND MW-7 ARE NOT PRESENTLY AVAILABLE

TABLE 2

WELL SAMPLING ANALYSIS

PARAMETERS

WELL NO.	DATE	ANALYSIS
MW-3	5/24/90	VO+15, PH, TDS, SPC
MW-4R	5/24/90	VO+15, BN+15, PM13, PHC, PH, TDS, SPC
MW-5	5/24/90	VO+15, PH, TDS, SPC
MW-6	5/24/90	VO+15, PH, TDS, SPC
MW-7	5/24/90	VO+15, BN+15, PM13, PHC, PH, TDS, SPC
MW-4R	6/27/90	VO+15, BN+15, PHC, PH, TDS, SPC
MW-7	6/27/90	VO+15, BN+15, PHC, PH, TDS, SPC

TABLE 3
ADVANCED CHEMICAL TECHNOLOGY
WELL SAMPLING RESULTS

Sample No.	MW-3	MW-4R	MW-5	MW-6	MW-7	MW-F8	MW-T8
Date Sampled	5/24/90	5/24/90	5/24/90	5/24/90	5/24/90	5/24/90	5/24/90
MISC. PARAMETERS (ppm):							
PH (MEASURE OF ACIDITY)	7.20	6.60	7.00	6.00	6.50	NA	NA
TOTAL DISSOLVED SOLIDS	91	160	260	80	100	NA	NA
SPECIFIC CONDUCTANCE	150	250	370	110	160	NA	NA
VOLATILE ORGANICS (ppb):							
IDENTIFIED PEAKS*	6 (1)	8 (1)	28 (1)	ND	ND	ND	ND
UNKNOWN PEAKS*	ND	ND	ND	360 (1)	26 (1)	ND	ND
TOTAL VOLATILES (ppb)	ND	ND	ND	ND	ND	ND	ND
BASE NEUTRALS (ppb)							
IDENTIFIED PEAKS*	NA	ND	NA	NA	293 (4)	ND	NA
UNKNOWN PEAKS*	NA	ND	NA	NA	9 (1)	5 (1)	NA
TOTAL BASE NEUTRALS (ppb)	NA	ND	NA	NA	ND	ND	NA
PRIORITY METALS (ppm):							
ARSENIC	NA	ND	NA	NA	.001	ND	NA
COPPER	NA	.04	NA	NA	.029	ND	NA
SELENIUM	NA	.003	NA	NA	ND	ND	NA
ZINC	NA	.065	NA	NA	ND	ND	NA
PETROLEUM HYDROCARBONS (ppm)	NA	ND	NA	NA	ND	ND	NA

NOTES:
B - Probable/Possible Lab Contamination
J - below Method Detection Limit
NA - Not Analyzed
ND - Not Detected
ppm - Parts per Million
ppb - Parts per billion
* - Estimated Conc (# of compounds in Parenthesis)

TABLE 4
PLANT INDUSTRIES
SAMPLING RESULTS SUMMARY

SAMPLE NUMBER	MW-4R	MW-7
DATE	6/27/90	6/27/90
BASE NEUTRALS (ppb)	ND	ND
TENTATIVELY IDENTIFIED COMPOUNDS (ppb) *	ND	7 (1)
VOLATILE ORGANIC (ppb)		ND
TOLUENE	7.0	
TENTATIVELY IDENTIFIED COMPOUNDS (ppb) *	31 (1)	8 (1)
METAL ANALYSIS (ppm)		
ANTIMONY	<0.001	0.001
ARSENIC	<0.001	<0.001
BERYLLIUM	<0.005	<0.005
CADMIUM	<0.010	<0.010
CHROMIUM	<0.025	<0.025
COPPER	<0.020	<0.020
LEAD	<0.005	<0.005
MERCURY	<0.001	<0.001
NICKEL	<0.040	<0.040
SELENIUM	0.005	0.002
SILVER	<0.030	<0.030
THALLIUM	<0.001	<0.001
ZINC	0.090	<0.050
PETROLEUM HYDROCARBONS (ppm)	<0.50	<0.50

NOTES:

ND - NOT DETECTED
ppb - PARTS PER BILLION
ppm - PARTS PER MILLION

APPENDIX A

WELL SPECIFICATION DATA

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER
MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Advanced Chemical Technology
Name of Facility: Same
Location: River Road and State Street
Camden, NJ
NJPDES Permit No: NJ N/A

ENGINEER'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section (609-984-6831): This number must be permanently affixed to the well casing.	3 1 - 3 3 9 0 0 - 0
Owner's Well Number (As shown on the application or plans):	MW-4R
Well Completion Date:	5/10/90
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	2.75'
Total Depth of Well (one-tenth of a foot):	30.30
Depth to Top of Screen From Top of Casing (one-tenth of a foot):	10.47
Screen Length (feet):	19.83
Screen or Slot Size:	010
Screen Material:	PVC
Casing Material: (PVC, Steel or Other-Specify):	PVC
Casing Diameter(Inches):	4.0
Static Water Level From Top of Casing at The Time of Certification(one-hundredth of a foot):	28.00
Yield (Gallons per Minute):	1-3
Length of time Well Pumped or Bailed:	0 Hours 10 Minutes
Lithologic Log:	ATTACH ON BACK

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment.

Allen J. Wilson
Professional Engineer's Signature

Allen J. Wilson
Professional Engineer's Name
(Please type or print)

SEAL

1278
Professional Engineer's License #

10

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Advanced Chemical Technology
Name of Facility: Same
Location: River Road and State Street
Camden, NJ

NJPDES Number: NJ N/A

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section, 609-984-6831): 3 1 - 3 3 9 0 0 - 0
This number must be permanently affixed to the well casing.

Longitude (one-tenth of a second): West 75° 05' 50.4"
Latitude (one-tenth of a second): North 39° 56' 56.1"
Elevation of Top of Casing (cap off) (one-hundredth of a foot): 14.00
Owners Well Number (As shown on the application or plans): MW-4R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

James E. Thorpe, PLS
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

33180
PROFESSIONAL LAND SURVEYOR'S LICENSE #

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER
MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Advanced Chemical Technology
Name of Facility: Same
Location: River Road and State Street
Camden, NJ
NJPDES Permit No: NJ N/A

ENGINEER'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section (609-984-6831): This number must be permanently affixed to the well casing.	3 1 - 3 3 9 0 1 - 8
Owner's Well Number (As shown on the application or plans):	MW-7
Well Completion Date:	5/11/90
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	-.33
Total Depth of Well (one-tenth of a foot):	12.26
Depth to Top of Screen From Top of Casing (one-tenth of a foot):	2.55
Screen Length (feet):	9.71
Screen or Slot Size:	010
Screen Material:	PVC
Casing Material: (PVC, Steel or Other-Specify):	PVC
Casing Diameter(Inches):	4.0
Static Water Level From Top of Casing at The Time of Certification(one-hundredth of a foot):	3.72
Yield (Gallons per Minute):	3-6
Length of time Well Pumped or Bailed:	0 Hours 12 Minutes
Lithologic Log:	ATTACH ON BACK

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitted false information including the possibility of fine and imprisonment.

Allen J. Wilson
Professional Engineer's Signature

Allen J. Wilson
Professional Engineer's Name
(Please type or print)

SEAL

1278
Professional Engineer's License #

12

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Advanced Chemical Technology
Name of Facility: Same
Location: River Road and State Street
Camden, NJ

NJPDES Number: NJ N/A

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section, 609-984-6831): 3 1 - 3 3 9 0 1 - 8
This number must be permanently affixed to the well casing.

Longitude (one-tenth of a second): West 75° 05' 53.5"
Latitude (one-tenth of a second): North 39° 56' 52.5"
Elevation of Top of Casing (cap off) (one-hundredth of a foot): 13.37
Owners Well Number (As shown on the application or plans): MW-7

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

James E. Thorpe, PLS
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

33180
PROFESSIONAL LAND SURVEYOR'S LICENSE #

13

APPENDIX B

LABORATORY ANALYSIS RESULTS

ACCUTEST
2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E016604
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 07/04/90
DATA FILE : >E1126

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	7.0	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST
2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E016604
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 06/29/90
DATA FILE : >H4486

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	ND	10	
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	ND	10	
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	ND	10	
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST
2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E016604	06/27/90	15:30	KR	GROUND WATER - MW-4R PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
ANTIMONY	<0.001	0.001	MG/L	07/05/90	JRT
ARSENIC	<0.001	0.001	MG/L	07/02/90	JRT
BERYLLIUM	<0.005	0.005	MG/L	07/02/90	JMC
CADMIUM	<0.010	0.010	MG/L	07/02/90	JMC
CHROMIUM	<0.025	0.025	MG/L	07/03/90	TPM
COPPER	<0.020	0.020	MG/L	07/02/90	JMC
LEAD	<0.005	0.005	MG/L	07/05/90	RTK
MERCURY	<0.001	0.001	MG/L	07/09/90	SMH
NICKEL	<0.040	0.040	MG/L	07/02/90	JMC
SELENIUM	0.005	0.001	MG/L	07/03/90	SRB
SILVER	<0.030	0.030	MG/L	07/02/90	TPM
THALLIUM	<0.001	0.001	MG/L	07/02/90	JRT
ZINC	0.090	0.050	MG/L	07/02/90	JMC

UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E016605
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 07/05/90
DATA FILE : >G6590

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : SORGE
LAB SAMPLE #: E016605
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 06/30/90
DATA FILE : >H4487

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	ND	10	
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	ND	10	
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	ND	10	
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E016605	06/27/90	14:45	KR	GROUND WATER - MW-7 PLANT INDUSTRIES

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
ANTIMONY	0.001	0.001	MG/L	07/05/90	JRT
ARSENIC	<0.001	0.001	MG/L	07/05/90	NTH
BERYLLIUM	<0.005	0.005	MG/L	07/05/90	JMC
CADMIUM	<0.010	0.010	MG/L	07/03/90	JMC
CHROMIUM	<0.025	0.025	MG/L	07/03/90	TPN
COPPER	<0.020	0.020	MG/L	07/05/90	JMC
LEAD	<0.005	0.005	MG/L	07/05/90	RTK
MERCURY	<0.001	0.001	MG/L	07/09/90	SMH
NICKEL	<0.040	0.040	MG/L	07/05/90	JMC
SELENIUM	0.002	0.001	MG/L	07/03/90	SRB
SILVER	<0.030	0.030	MG/L	07/03/90	TPN
THALLIUM	<0.001	0.001	MG/L	07/02/90	JRT
ZINC	<0.050	0.050	MG/L	07/03/90	JMC

UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

VINCENT J. FUGLIESE
VICE-PRESIDENT

REFERENCE NO. 23

SOIL CLEANUP RESULTS REPORT

Advanced Chemical Technology
Russell Stanley East, Inc.
Camden, NJ

ECRA Case 84011 and 89376

Prepared by

J M Sorge, Inc.
50 County Line Road
Somerville, NJ 08876

October 1990

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CLEANUP RESULTS REPORT

1.0 INTRODUCTION

J M Sorge, Inc. (JMS) was retained by Russell Stanley East, Inc. to implement the approved cleanup plan at their facility in Camden, New Jersey. The Soils Cleanup Plan was submitted on March 30, 1989, and conditionally approved by the Department on October 27, 1989. The results of the initial portion of the soils cleanup (Area 2A and 3) and the additional groundwater sampling required was completed in March and April 1990. The final groundwater report was provided to the Department on July 9, 1990. The Department approved the groundwater investigation results and confirmed that there are no groundwater concerns at the site via correspondence dated September 20, 1990.

The remaining soil cleanup program was delayed in order to secure access to the Conrail right-of-way to accomplish cleanup of Area 2. Additional correspondence from the Department dated June 20 and July 10, 1990, required the facility to submit documentation regarding waste soil disposal and the completion of the asbestos cleanup project at the site. This information was submitted by JMS on August 8 and 16, 1990.

The following provides a brief summary of the historical cleanup actions completed at the site, as well as documentation regarding the final soils cleanup of Areas 1A, 1B, 2A, 2B and 3. In addition, Section 2.0 provides a review of all conditions listed in the Department's approval correspondence along with appropriate references or responses.

The soils cleanup program has been completed at the Camden site. The only remaining tasks are the off-site disposal of the waste soils generated during the Area 1 and 2 cleanup action, and minor additional soil removal in Area 1B.

2.0 SOILS CLEANUP PLAN APPROVAL COMMENTS

The following provides a summary of each specific comment provided by the Department in the Cleanup Plan approval correspondence of October 27, 1989. Our response provides the appropriate reference in which this comment was addressed, as well as a brief summary of the current status of any action required.

Comment 1: Soil cleanup concentrations.

Response: None required.

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Comment 2: Area 1 excavation as proposed is acceptable.

Response: The cleanup of Area 1 has been completed as proposed; the results are provided in Section 3.1 and 3.2 of this report.

Comment 3: Area 2 excavation as proposed is acceptable provided that, if groundwater is not encountered during excavation of Area 2B, the proposed post-excavation sampling shall be performed.

Response: The cleanup of Area 2 has been completed. Documentation regarding the excavation completed is provided in Section 3.3 and 3.4. Groundwater was not encountered, therefore post-excavation sampling was completed as proposed. The results for the post-excavation samples are provided in Section 3.0 of this report.

Comment 4: Area 3 excavation as proposed is generally acceptable, however it should be extended to the PI-37A area and an additional post-excavation sample will be required at the boring PI-24 location.

Response: The cleanup of Area 3 was completed and the additional sampling conducted. The results confirm the removal of all contaminated soils exhibiting contaminant concentrations in excess of the established cleanup levels. A description of the cleanup project completed and all post-excavation sampling results is provided in Section 3.5.

Comment 5: No further action is required in Area 4.

Response: None required.

Comment 6: Cleanup shall first be conducted in those areas requiring the installation of monitoring wells.

Response: The cleanup of Area 3 was completed first to allow the installation of monitoring wells 4R and 7. The results of the area 3 cleanup were reported in the JMS March 1990 report. The results of subsequent groundwater testing in wells 4R and 7 was provided in the JMS report dated July 9, 1990.

Comment 7: The facility shall excavate the two (2) small stained areas (1x2 feet) located adjacent and to the east of the storage silos. The cleanup must be confirmed with one (1) post-excavation sample analyzed for PHC and BN+15.

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Response: The required cleanup was completed and the verification sample collected. The cleanup and sample results are discussed in Section 3.6.

Comment 8: Complete an asbestos survey and remediation program.

Response: An asbestos survey and remediation program has been completed at the site. The results were provided to the Department by JMS correspondence dated August 8, 1990.

Comment 9: The facility shall submit documentation regarding the compressor discharge and obtain any required local/county or State permits required.

Response: The nature of the non-contact discharge was discussed in the JMS Progress Report #1 dated December 8, 1989. This report also includes documentation from the municipality indicating that no permits are required. A summary of the compressor discharge information is provided in Section 3.7.

The remaining comments 10 - 15 refer to general scheduling and cleanup reporting conditions and are not renumerated. All specific conditions have been addressed during completion of the soil cleanup at the site. The only remaining task is the removal of the waste soils generated during the cleanup of Areas 1 and 2. Applications for approval of this material for recycling have been submitted. Final disposal should be accomplished within one month.

3.0 SOILS CLEANUP PROGRAM CONFIRMATION

The following provides a summary of the soils excavation and sampling program completed in Areas 1A, 1B, 2A, 2B and 3 as described in the Approved Cleanup Plan. The cleanup of these areas was completed in accordance with the approved plan.

The required cleanup was completed in September 1990. The cleanup program was halted briefly on September 20, 1990, due to a potential legal conflict between Russell Stanley and the current landowner. The cleanup was restarted and completed on September 28, 1990. Soils cleanup is considered complete at this time; however, a stockpile of approximately 1500 yards of affected soil is presently located on the site (Figure 1). We have applied for approval of this material for recycling at the Soil Safe facility in Baltimore. Removal of the waste soil will be completed as soon as final approval is obtained.

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3.1 AREA 1A CLEANUP

The area designated as Area 1A is indicated on Figure 2. The excavation was conducted in accordance with the approved plan to remove soils contaminated with low levels of PHC. The area encompassed a 40 by 60 foot area located at the intersection of the Conrail rail siding and the plant rail siding.

The excavation was halted at a distance of approximately 5 feet from the rail lines to insure that the rail bed and rail stability were not jeopardized. The rail bed is constructed on a compacted bed of cinders throughout the plant and the adjacent Conrail siding. The cinder rail bed was not removed during the excavation.

The depth of the excavation required to remove the affected fill varied from 5 feet between the two (2) sidings to 4.5 feet on the northeastern side and 1.5 feet on the southern side of the excavation. The depth of the excavation necessary to remove all affected soil was determined based on field observations and Hnu scanning. Approximately 150 yards of affected soil was removed from this area.

Following the excavation, a series of eight (8) verification samples were collected to verify cleanup. The location of the eight (8) samples (VI-1 through 8) are shown on Figure 2. All samples were analyzed for PHC as required by the approved plan. A summary of the results is provided in Table 1 with a complete set of laboratory results included as Appendix A. The results confirm that cleanup of this area has been completed in accordance with the approved plan. The area will be backfilled and regraded with virgin soil. Appropriate documentation regarding the source of the fill soil will be provided to the Department for approval as soon as backfilling has been completed.

The excavated soils were placed on, and covered with, 6-mil plastic in accordance with the approved plan. The soils were stockpiled in the area shown on Figure 1. Composite samples of the waste soil were collected and are currently being analyzed. The soils will be removed to the Soil Safe facility in Baltimore for recycling following receipt of final laboratory results.

3.2 AREA 1B CLEANUP

The plant rail siding located adjacent to the Russell Stanley rail loading dock is designated as Area 1B (Figure 1). JMS conducted the required soil excavation, including track removal and post-excavation sampling program, in accordance with the approved plan on September 17 through 20, 1990. The outline of the excavated area is shown on Figure 2. Track removal was required in this area since the track bed was located below grade and the bedding material was contaminated with oil. Excavation was con-

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ducted to remediate PHC and some target priority pollutant metals contamination in the soil. These include lead (Pb), cadmium (Cd), and copper (Cu). The excavation is approximately 225 feet long by 25 to 50 feet wide.

The rail siding tracks and ties were removed and stockpiled on the site prior to excavation. The planned excavation depth was 3.5 feet below grade. However, a layer of contaminated track bed (cinders and slag) was encountered below the siding. An additional 1 to 1.5 feet had to be removed along the track adjacent to the loading dock. This layer of oil-tainted soil, which affected the track bed, was pursued upgrade to 3.5 foot depth at the north end of the excavation where the track bed material appeared clean. The excavation of the tracks was also 1-foot wider than originally intended to remove the lateral extent of the cinder bed. Approximately 450 yards of affected soil were removed during the area 1B excavation.

The excavation was interrupted on September 20, 1990, due to a potential legal conflict between the facility operator and the site owner. The excavation was completed on September 28, 1990 and post-excavation sampling was conducted. A series of seven (7) post-excavation samples (VI-9 through VI-15) were collected at the locations noted in the approved plan (Figure 2). The samples were analyzed for PHC and selected metals in accordance with the approved plan. A summary of the results is provided in Table 3 with a complete copy of the laboratory results provided in Appendix A.

The laboratory results for PHC samples indicated that three (3) of the seven (7) samples exhibited concentration levels slightly above the target cleanup level of 100 ppm. Sample VI-9 and VI-12 indicated PHC levels of 247 and 123 ppm, respectively. Sample VI-9 was collected at the edge of the cinder bed for the former rail siding. Neither sample VI-9 or VI-12 exhibited any odor or Hnu response. Therefore, the PHC levels detected are probably associated with the incompletely burned cinders used as the rail bed material in this area. Further, since groundwater results have confirmed the quality of groundwater beneath the site, no further excavation in this area is warranted.

However, Sample VI-15 indicated a residual PHC level of 533 ppm which significantly exceeds the cleanup level. Sample VI-15 was collected in a small area between the south end of the loading dock and a concrete pad. The area was excavated to the extent possible with a mechanical excavator; however, due to access problems the excavation could not be extended beyond a 2-foot depth. Additional hand excavation of this area is required to remove the residual contamination present. The additional excavation will be completed during the removal of the waste

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soils and two (2) additional verification samples will be collected. The two additional samples, VI-35 and VI-36, will be collected from the northeastern sidewall of the excavation as indicated on Figure 2. Sample VI-15 was also analyzed for base neutrals plus a forward search.

In addition to PHC, Samples VI-9, 10, 11 and 14 were also analyzed or priority metals. All results were below the appropriate action level except for sample VI-14 (Figure 2). The results for samples VI-14 indicated an elevated level of cadmium (20.5) in this area. The excavation will be expanded in this area as shown in Figure 2 to remove this residual hotspot. Two (2) additional samples (VI-37 and VI-38) will be collected along the eastern face of the expanded excavation. The samples will be analyzed for cadmium only, since PHCs were not detected in sample V-14. The area will be backfilled with virgin soil in accordance with the Plan. Appropriate fill soil documentation will be provided to the Department following backfilling.

The excavated soils were stockpiled with the soils removed during the Area 1 cleanup, since these soils exhibit similar waste characteristics. The soils have been sampled for disposal classification and will be removed for recycling following receipt of soil classification sampling results.

3.3 AREA 2A CLEANUP

The area designated as Area 2A is shown on Figure 3. This area was excavated in accordance with the approved cleanup plan over the period from February 16 to 20, 1990. The final dimensions of the excavation measured 150 feet long by 30 to 40 feet wide (Figure 3). The area was excavated to an average depth of 1.5 feet. Approximately 300 yards of affected soil was removed from this area.

As indicated on Figure 3, the southern corner of Area 2A is bisected by the active Conrail rail siding. The siding was not disturbed during cleanup, rather a narrow buffer strip (approximately 4 to 5 feet adjacent to the siding) was not removed to insure the stability of the siding. Since the Conrail siding is constructed on an elevated bed of cinders, further excavation beneath the railbed is not warranted.

During the excavation, no groundwater was encountered, therefore optional samples VI-22 (NJDEP Comment 3) was collected from the location indicated on Figure 3. The five (5) other post-excavation samples were collected as shown in Figure 3, in accordance with the approved cleanup plan. The samples were analyzed for petroleum hydrocarbons, cadmium and lead in accordance with the approved plan. There were no contaminants detected at levels in excess of the approved cleanup standards for this site. The results are summarized on Table 3. Complete laboratory

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results are provided in Appendix A. Waste soil disposal documentation is provided in Appendix C. The cleanup of this area has been completed in accordance with the approved plan and no further action is required. The area was backfilled with virgin soil and compacted in March 1990. Documentation regarding the source of the backfill material is provided in Appendix B. All excavated soils from Areas 2A and 3 have been removed from the site for recycling. Documentation regarding the removal of this material was provided to the Department on August 16, 1990.

3.4 AREA 2B CLEANUP

The Conrail siding located adjacent to the Russell Stanley facility is designated as Area 2B (Figure 3). The approved soil excavation program was conducted in this area to address PHC and target metals contamination. Excavations were conducted on both sides of the tracks in Area 2B. The north side of the excavation was triangular in outline, measuring 110 feet along the track, by 87 feet long and the fence by 64 feet. On the south side of the track the excavation was 105 feet long and had an average width of 28 feet. The excavation depth was 2.5 feet, except in the central area both north and south of the track which was excavated to a depth of 3.5 feet to remove visible contamination. A total of approximately 900 cubic yards were removed from Area 2B. Groundwater was not encountered. A distance of 5 feet on either side of the Conrail track was maintained to insure the stability of the rail siding was not jeopardized. The excavation was completed by Compliance Services under a Conrail work permit.

Six (6) verification samples (VI-23 through VI-28) were collected on September 4, 1990. The locations of these samples are shown on Figure 2. Samples VI-23 through VI-26 were collected at the 0 - 6 inch surficial interval around the perimeter of the excavation. Samples VI-27 and VI-28 were collected from the 2.5 to 3.0 foot level (0 - 0.5 feet below the base of the excavation). All six (6) verification samples were analyzed for PHC. In addition, each sample was analyzed for specific target metals as indicated in the approved plan.

A summary of the sample analysis results is provided on Table 4. A complete copy of the laboratory results is provided in Appendix A. Since Conrail required the immediate filling of the excavation, the cleanup area was backfilled on September 7 and 10, 1990. Clean, virgin soil was used to backfill the area. Documentation regarding the fill soil is provided in Appendix B.

The waste soils excavated from Area 2B have been stockpiled as shown on Figure 1. The waste soils were stockpiled on and covered with 6-mil plastic sheeting. The waste soils have been sampled for waste classification. Following receipt of waste classification results, the soils will be removed for recycling. Soil disposal documentation will be provided to the Department as soon as possible.

3.5 AREA 3 CLEANUP

The area designated as Area 3 is shown on Figure 4. The cleanup of this area was completed over the period from February 16 - 20, 1990 in accordance with the Approved Cleanup Plan. The approved plan was modified to address the Department's comments No. 3 and 4. The excavation was expanded to the former sample location PI-37A, and an additional post-excavation sample (VI-33) was collected at the former sample PI-24 location.

The final excavation area extended approximately 120 feet along the eastern fence and varied in width from 60 to 80 feet (Figure 4). The excavation extended to a depth of 4.5 feet across the southeastern half of the excavation, but was extended to a depth of 6.5 feet in the northwestern portion of the excavation. The average depth along the fenceline (eastern sidewall) was approximately 2.5 feet. Approximately 890 yards of affected soils were removed from Area 3. The excavation was halted a distance of 2-feet from the fenceline on the eastern edge of the area due to the presence of a 10-inch city water main in this area. The main was discovered during the excavation, and had not been previously identified by the water company.

Post-excavation samples were collected immediately following the excavation. One (1) additional sample VI-33 was collected from the approximate location of previous sample PI-24. Sample VI-33 was collected as a base sample from the uppermost 0 - 6 inch soil increment on the floor of the excavation.

The samples were analyzed for PHC with sample V-33 also analyzed for cadmium, in accordance with the approved plan. A summary of the analysis results is provided on Table 5. Complete laboratory results are provided in Appendix A. There were no contaminants detected at levels above the laboratory detection level in this area. The excavated soils have been removed for off-site disposal. Waste soil disposal documentation was provided to the Department previously (JMS correspondence of August 16, 1990). The cleanup of this area has been completed in accordance with the approved plan and no further action is required in this area.

The area was backfilled with virgin soil, regraded and compacted in March 1990. Documentation regarding the backfill soil is provided in Appendix B.

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3.6 SMALL STAIN CLEANUP -- SILO AREA

The Department identified two (2) small stained areas (1 ft. x 2 ft.) adjacent to the eastern side of the silos (NJDEP Comment 7 10-27-89). The surficial stains were excavated on September 28, 1990. Soil was removed to a depth of approximately 1-foot, since the staining appeared to affect only the uppermost 0 - 6 inches of soil. The excavation of the two areas resulted in one single excavation due to the proximity of the surface staining. One verification was collected from the base of the excavation to verify cleanup, as per Comment #7 provided by the Department. Unfortunately, this sample was inadvertently given the sample number VI-33 which was used previously for the extra sample in Area 3. The sample can be distinguished by the sample and laboratory analysis date. However, to avoid additional confusion, this sample is listed as VI-33b in the text and summary tables. The Sample (VI-33b) was analyzed for PHC and BN+15. There was no PHC detected above the method detection limit. The laboratory results are provided in Appendix A. A summary of the sample results is included on Table 5.

The excavated soil (approximately 1 yd.) was stockpiled with the other waste soils to await approval at a licensed facility. The area will be backfilled at the same time as Area 1 and Area 2. Cleanup of the area has been completed.

3.7 COMPRESSOR DISCHARGE DOCUMENTATION

The facility filed a discharge permit application (Appendix C) with the Camden County Municipal Utilities Authority. The Authority responded to the application via correspondence dated July 2, 1990. The Authority determined that a permit is not required for this discharge. A copy of the Authority's correspondence is provided in Appendix C.

4.0 CLEANUP PROGRAM COST SUMMARY

4.1 ACTUAL COMPLETED CLEANUP COSTS

Area 1A and 2B - Railroad Siding (on-site)

Soils Excavation	$ 9,875.00

Area 2A and 2B - Dumpster Area

Soil Excavation & Backfill	25,227.00
Soil Disposal (Area 2A completed only) 785 yds. @$85/yd.	66,725.00
	$ 91,952.00

Area 3 - Oil Stained Area

Soils Excavation & Backfill - 1750 yds.	18,770.20
Soil Disposal - 890 yds. @$85/yd.	85,850.00
	$104,620.20
TOTAL ACTUAL COSTS COMPLETED	$206,447.20

4.2 ESTIMATED COSTS TO COMPLETE

Area 1A and 1B

Railroad Siding	
Soil Disposal - 600 yds.@$85/yd.	$ 51,000.00
Soil Excavation & Backfill 600 yds. @$15/yd.	9,000.00
Additional Excavation - 5 yds.	1,500.00
	$ 61,500.00

Area 2B

Soil Disposal Only - 900 yds. @$85/yd.	$ 76,500.00
TOTAL ESTIMATED ADDITIONAL COST	$136,500.00
TOTAL ESTIMATED CLEANUP COSTS	**$344,447.20**

4.3 CLEANUP COMPLETION SCHEDULE

The following provides the anticipated schedule for final cleanup of the Camden site.

	Completion Date
Task 1 - Excavation (Area 1b)	
Soils excavation	October 24, 1990
Post-Excavation Sampling Results	November 5, 1990
Task 2 - Waste Soil Disposal	November 5-16, 1990
Task 3 - Site Restoration Backfilling/ Regrading	October 24 - November 9, 1990
Task 4 - Submittal of Final Cleanup Report	November 26, 1990

5.0 CONCLUSION

The soil cleanup of this facility has been essentially completed in accordance with the Approved Cleanup Plan as conditioned by the Department. The cleanup program has accomplished the removal of all significant metal and PHC-contaminated soils. Two (2) small areas require further remediation. The area in the vicinity of sample VI-15 exhibited significant oil contamination, therefore further excavation will be required in this area. The results for sample V-14, located on the eastern edge of Area 1b, exhibited an elevated level of cadmium. The excavation will be expanded eastward to complete site remediation in this area. Both additional excavations are limited in extent, and will be completed simultaneously with the removal of the waste soils from the site.

As confirmed by the Department's correspondence of September 20, 1990, there is no further groundwater concerns at this site. Therefore, with the exception of the two (2) areas identified above, the facility cleanup is considered complete.

At present, approximately 1500 yards of contaminated waste soils are stockpiled on the site awaiting final disposal approval. The material will be removed to an acceptable facility, probably Soil Safe, Inc. in Baltimore, Maryland as soon as final approval is obtained. Documentation regarding the final disposal of the waste soil, the source of the clean fill soils, and the final cleanup cost summary will be provided to the Department immediately following soil removal.

TABLE 1

ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 89376

VERFICATION SAMPLE RESULTS - AREA 1A

SAMPLE NUMBER	VI-1	VI-2	VI-3	VI-4	VI-5	VI-6	VI-7	VI-8
SAMPLE DEPTH	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	3.5-4.0'	5.0-5.5'
TOTAL PERCENT SOLID	93.4	92.7	92.3	89.9	91.2	92.9	86.5	80.5
PETROLEUM HYDROCARBON (ppm)	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

ND - NOT DETECTED

ppm - PARTS PER MILLION

TABLE 2

ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 89376

VERFICATION SAMPLE RESULTS - AREA 1B

SAMPLE NUMBER	VI-9	VI-9A	VI-10	VI-11	VI-12	VI-13	VI-14	VI-15
SAMPLE DEPTH	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'
BASE NEUTRAL ANALYSIS	NA	NA	NA	NA	NA	NA	NA	
ACENAPHTHENE								22 J
ACENAPHTHYLENE								31 J
ANTHRACENE								71 J
BENZO(A)ANTHRACENE								200 J
BENZO(A)PYRENE								200 J
BENZO(B)FLUORANTHENE								540
BENZO(GHI)PERYLENE								92 J
BIS(2-ETHYLHEXYL)PHTHALATE								200 J
CHRYSENE								300 J
DIBUTYL PHTHALATE								180 JB
FLUORANTHENE								490
FLUORENE								29 J
INDENO(1,2,3-c,d)PYRENE								110 J
NAPHTHALENE								42 J
PHENANTHRENE								370
PYRENE								540
TENTATIVELY IDENTIFIED COMPOUNDS *								12870 (10)
TOTAL BASE NEUTRALS (ppb)								3417
METAL ANALYSIS (ppm)					NA	NA		NA
CADMIUM	ND	ND	NA	NA			20.5	
COPPER	ND	NA	12	82.5			105	
LEAD	ND	NA	28	156			NA	
TOTAL PERCENT SOLID	95.2	93	95.5	91.9	91.9	90	92.2	80.9
PETROLEUM HYDROCARBON (ppm)	247	ND	26	57	123	ND	ND	533

NOTES:

NA - NOT ANALYZED

ND - NOT DETECTED

ppm - PARTS PER MILLION

* - ESTIMATED CONCENTRATION (# OF COMPOUNDS IN PARENTHESIS)

TABLE 3

ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 89376

VERIFICATION SAMPLE RESULTS - AREA 2A

SAMPLE NUMBER	VI-17	VI-18	VI-19	VI-20	VI-21	VI-22
SAMPLE DEPTH	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	1.5-2.0'
METAL ANALYSIS (ppm)	NA			NA		NA
CADMIUM		NA	1.4		2.8	
LEAD		ND	NA		140	
TOTAL PERCENT SOLIDS	93	93	91	94	92	85
PETROLEUM HYDROCARBONS (ppm)	ND	NA	ND	ND	ND	ND

NOTES:

NA - NOT ANALYZED

ND - NOT DETECTED

ppm - PARTS PER MILLION

TABLE 4

ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 89376

VERIFICATION SAMPLE RESULTS - AREA 28

SAMPLE NUMBER	VI-23	VI-24	VI-25	VI-26	VI-27	VI-28
SAMPLE DEPTH	0.0-0.5'	0.0-0.5'	0.0-0.5'	0.0-0.5'	2.5-3.0'	2.5-3.0'
METAL ANALYSIS (ppm)			NA			
ANTIMONY	NA	2.6		2.4	.03	NA
CADMIUM	NA	ND		1.8	ND	NA
LEAD	220	NA		NA	NA	ND
TOTAL PERCENT SOLIDS	96	95	89	91	91	82
PETROLEUM HYDROCARBONS (ppm)	ND	ND	59	38	ND	ND

NOTES:

NA - NOT ANALYZED

ND - NOT DETECTED

ppm - PARTS PER MILLION

TABLE 5

ADVANCED CHEMICAL TECHNOLOGY - ECRA CASE # 89376

VERIFICATION SAMPLE RESULTS - AREA 3 AND STAINED AREA

							STAINED AREA
SAMPLE NUMBER	VI-29	VI-30	VI-31	VI-32	VI-33	VI-FB	VI-33B
SAMPLE DEPTH	2.0-2.5'	4.0-4.5'	6.5-7.0'	2.5-3.0'	4.5-5.0'	-----	0.0-0.5'
BASE NEUTRAL ANALYSIS							
ACENAPHTHENE							23 J
ACENAPHTHYLENE							17 J
ANTHRACENE							86 J
BENZO(A)ANTHRACENE							210 J
BENZO(A)PYRENE							180 J
BENZO(B)FLUORANTHENE							380
BENZO(GHI)PERYLENE							56 J
CHRYSENE							240 J
DIBUTYL PHTHALATE							110 JB
FLUORANTHENE							470
FLUORENE							31 J
INDENO(1,2,3-c,d)PYRENE							74 J
NAPHTHALENE							11 J
PHENANTHRENE							360
PYRENE							410
TENTATIVELY IDENTIFIED COMPOUNDS *							11380
TOTAL BASE NEUTRALS (ppb)							2658
METAL ANALYSIS (ppm)	NA	NA	NA	NA			NA
CADMIUM					<1.0	<.010	
LEAD					NA	<.005	
TOTAL PERCENT SOLIDS	92	90	90	92	92.6	NA	NA
PETROLEUM HYDROCARBONS (ppm)	ND	ND	ND	ND	NA	<1.0	ND

NOTES:

NA - NOT ANALYZED

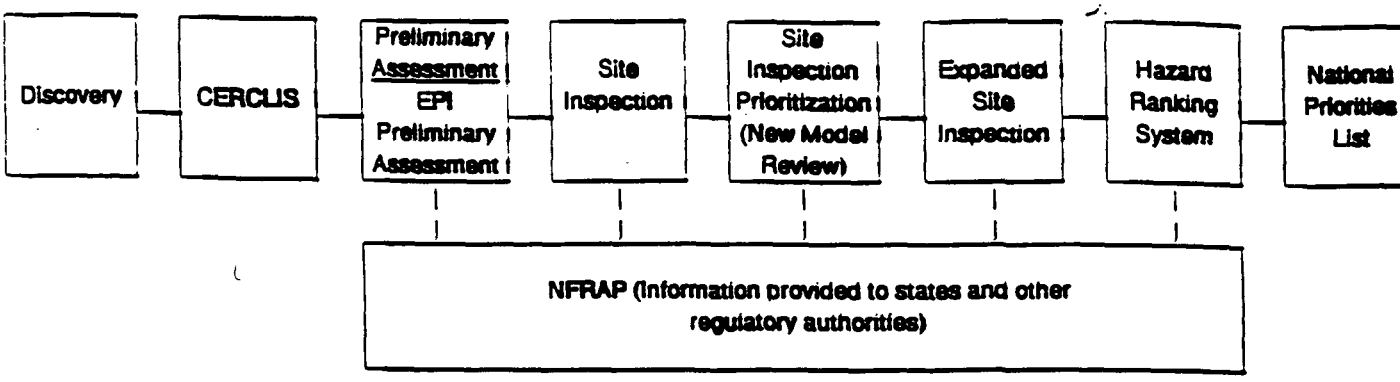
ND - NOT DETECTED

ppm - PARTS PER MILLION

* - ESTIMATED CONCENTRATION (# OF COMPOUNDS IN PARENTHESIS)

ATTACHMENT 2

SUPERFUND SITE ASSESSMENT PROGRAM



SITE ASSESSMENT REPORTS

1. PRELIMINARY ASSESSMENT
   - Quick Review of Readily Accessible Records and Reports
   - Undertaken to Determine the Existence of a Problem and the Need for Further Action at a Site by Characterizing:
     - Magnitude of the Hazard
     - Source and Nature of the Release or Potential Release
     - Identification of Targets
   - Does Not Include Sample Collection
2. SITE INSPECTION
   - The Purpose of the Site Inspection is to:
     - Further Define and Characterize the Problem
     - Provide Data for the Hazard Ranking System (HRS) Scoring and Compute Initial Score
     - Identification of Targets
     - Determine the Necessity of Further Action
   - The Site Inspection Involves an On-Site Visit and Sampling (10+/- Samples)
   - A Site Inspection is not an Extent of Contamination Study
3. SITE INSPECTION PRIORITIZATION
   - Quick Review of Readily Accessible Records and Reports
   - Undertaken to Determine the Validity and Update Background Conditions Under the New HRS Model, and the Need for Further Action at a Site by Characterizing:
     - Magnitude of the Hazard
     - Source and Nature of the Release or Potential Release
   - Included On-Site Visits or Sample Collection as needed
     - Analyze Samples/Limited Analytical Resources
     - Account for Significant Safety Hazards On-Site
4. EXPANDED SITE INSPECTION

   A Follow-Up Inspection May Be Recommended After the SI To:
   - Gather Additional Data Necessary to Strengthen or Substantiate the Initial HRS Score
     - Geophysical Surveys
     - Installation of Groundwater Monitoring Wells
     - Additional Sampling

Review of Analytical Data

If previous analytical data are available, they should be reviewed for information which supports the design of the sampling and analysis program, tests site hypotheses, and documents the site score. The Site Investigation (SI) investigator should review all previous analytical data. While analytical data collected for other purposes may not meet SI objectives, site-specific analytical data are generally helpful in better understanding the nature of the problem at the site, regardless of data sources or data quality. The depth of the review depends on the overall quality and quantity of data, the intended use of the data, and whether they are representative of current site conditions and comparable to SI data. Determining whether available data can be applied as SI-generated data requires the professional judgement of an experienced reviewer. Both validated and non-validated analytical data may be available. Previous SI data will be validated and of CLP-quality. Non-validated data may contain false positive and false negatives, as well as quantitation, transcription, and calculation errors. If data of unknown or questionable quality are used for decision-making, the investigator should review all available information to assess the level of certainty associated with the data. If these data are used for HRS documentation, data validation will be necessary. The investigator should be able to determine the general quality of the data set by reviewing QC data for evaluation under the Superfund Program.