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HYDROGEOLOGIC REPORT
ON THE
SAND PARK LANDFILL
LOVES PARK, ILLINOIS

TDD: R05-8303-01G

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1. INTRODUCTION

Sand Park Landfill is a closed 22-acre landfill located in Loves Park, Illinois. Halogenated and nonhalogenated degreasing solvents and plating wastes containing cyanides and heavy metals may be present at the site. Previous investigations suggest that this landfill may be a source of chemical contamination of local groundwater.

Based on the potential for contaminant migration from the site via groundwater, the site received a preliminary score of 31.6 under the Hazard Ranking System (HRS) model. This score qualifies the site for possible inclusion on the National Priorities List (NPL) under criteria developed by the U.S. Environmental Protection Agency (U.S. EPA). In order to obtain this score, the source of contamination must be identified. Subsequently a hydrogeologic field investigation was undertaken at the Sand Park site.

The objectives of this study were:

- To determine the lateral and vertical extent of contamination,
- To determine whether Sand Park is a source of contamination,
- To observe groundwater flow characteristics, and
- To determine the potential impact of contamination on the Loves Park municipal water supply.

The scope of work for this investigation included:

- o Conducting soil borings and installing two upgradient monitoring wells,
- o Measuring groundwater elevations,
- o Determining in situ hydraulic conductivities of aquifer materials,
- o Analyzing groundwater samples for priority pollutants, and
- o Preparing a hydrogeologic report based on geologic and groundwater sample data.

This investigation was completed under Technical Directive Document (TDD) R05-8303-01G, issued November 2, 1984.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

Sand Park Landfill occupies 22 acres in T.44N., R.2E., SW 1/4, Sec. 6 in Loves Park, Winnebago County, Illinois. The site location is illustrated in Figure 2-1. The landfill is bordered on the north by Riverside Boulevard, on the east by Chicago and Northwestern Railroad tracks, on the west by Walker Road, and on the south by Marshall Middle School. The Rock River is approximately 1.5 miles west of the site.

2.2 GEOGRAPHY

Winnebago County is characterized by broad, rolling uplands, rising 100 to 200 feet above numerous alluviated valleys. Relatively level undissected divides occupy the uplands between these valleys. Local relief usually does not exceed 40 feet.

The Rock River forms the major drainage way for the Loves Park area and is the center of a well-integrated regional drainage system. Sand Park lies immediately west of the eastern bluff line of the Rock River Valley.

2.2.1 Physiography

The Sand Park terrain slopes gently west-southwest toward the Rock River. Total natural relief across the site does not exceed 25 feet. The average slope is approximately 1 percent. The most

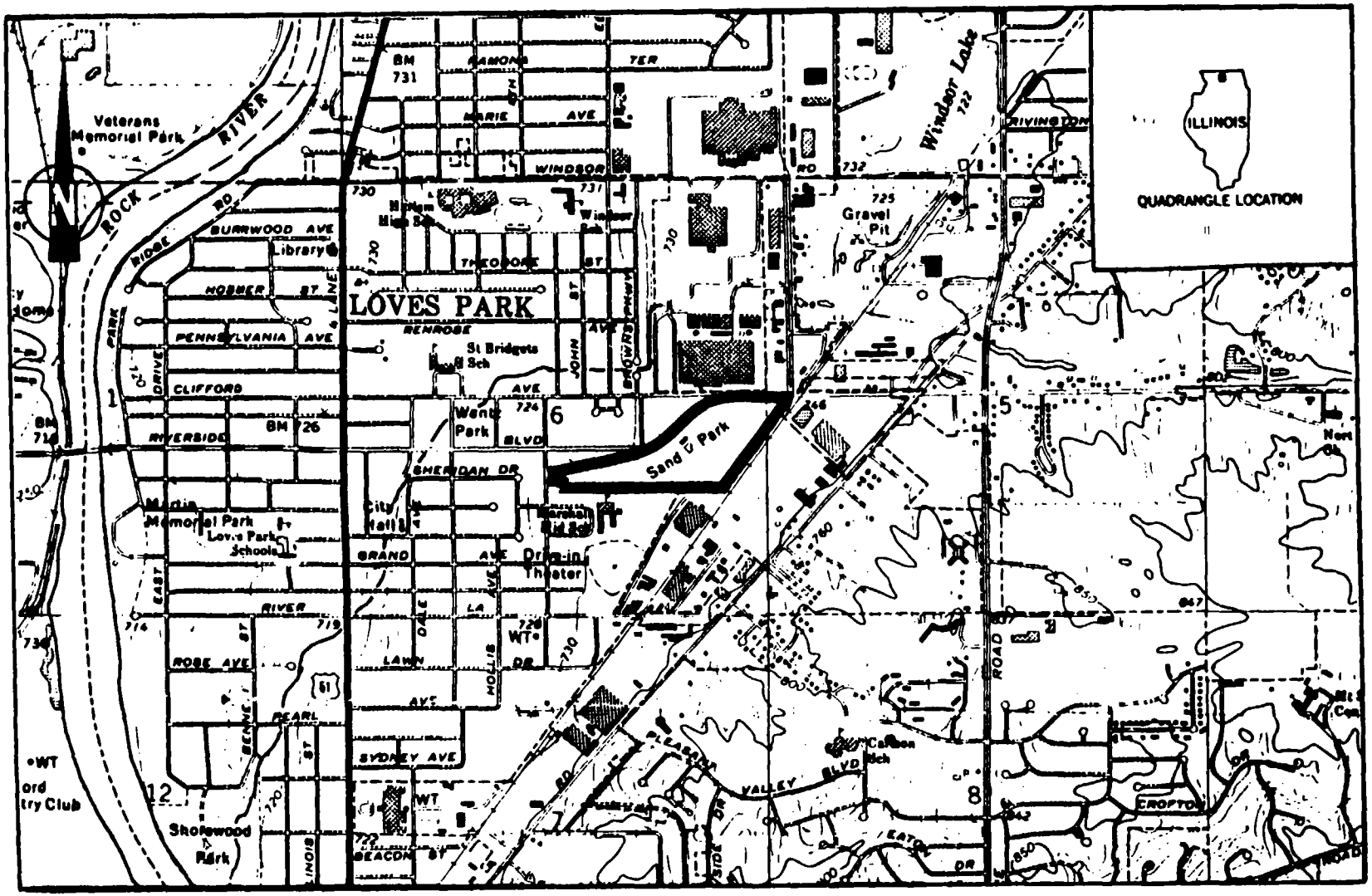


FIGURE 2-1 SITE LOCATION MAP

prominent topographic feature of the immediate area is the landfill, which is a large circular mound standing approximately 60 feet above grade in the center of the site.

2.2.2 Land Use

The site is presently used as a public park. A community swimming pool with attendant bath house and parking lot is located on the property. The refuse mound is used as a tobaggan slide during winter months. The surrounding area is comprised of a mixture of residential, commercial, and light-industrial buildings. The principal features of the site are illustrated on Figure 2-2.

2.2.3 Climate

Winnebago County has a continental climate with warm summers and cold winters. The average winter temperature is 23° F and the average summer temperature is 71° F (Grantham 1980). The mean annual precipitation is approximately 35 inches; the mean annual pan and lake evaporation, 30 inches; and the resulting net annual precipitation, 5 inches. Sixty-six percent of the total annual precipitation usually falls in April through September. The prevailing wind originates from the west-northwest.

2.2.4 Infrastructure

Approximately 18 municipal wells are located within a 3-mile radius of the site. These wells are owned by Loves Park, North Park, and the City of Rockford. The wells draw water from the glacial drift aquifer and from numerous bedrock aquifers found in the region. Together these wells serve a population in excess of 30,000 people. Two Loves Park wells are located within 1/2 mile of the landfill site.

2.3 REGIONAL GEOLOGY

Sand Park lies within the glaciated region of northern Illinois and was completely covered by continental glaciers which advanced from central and eastern Canada during the Pleistocene Epoch. Unconsolidated materials left by the glaciers are generally thin or absent on the uplands where glacial till and loess were deposited, but are more than 200 feet thick in the three major bedrock valleys in the

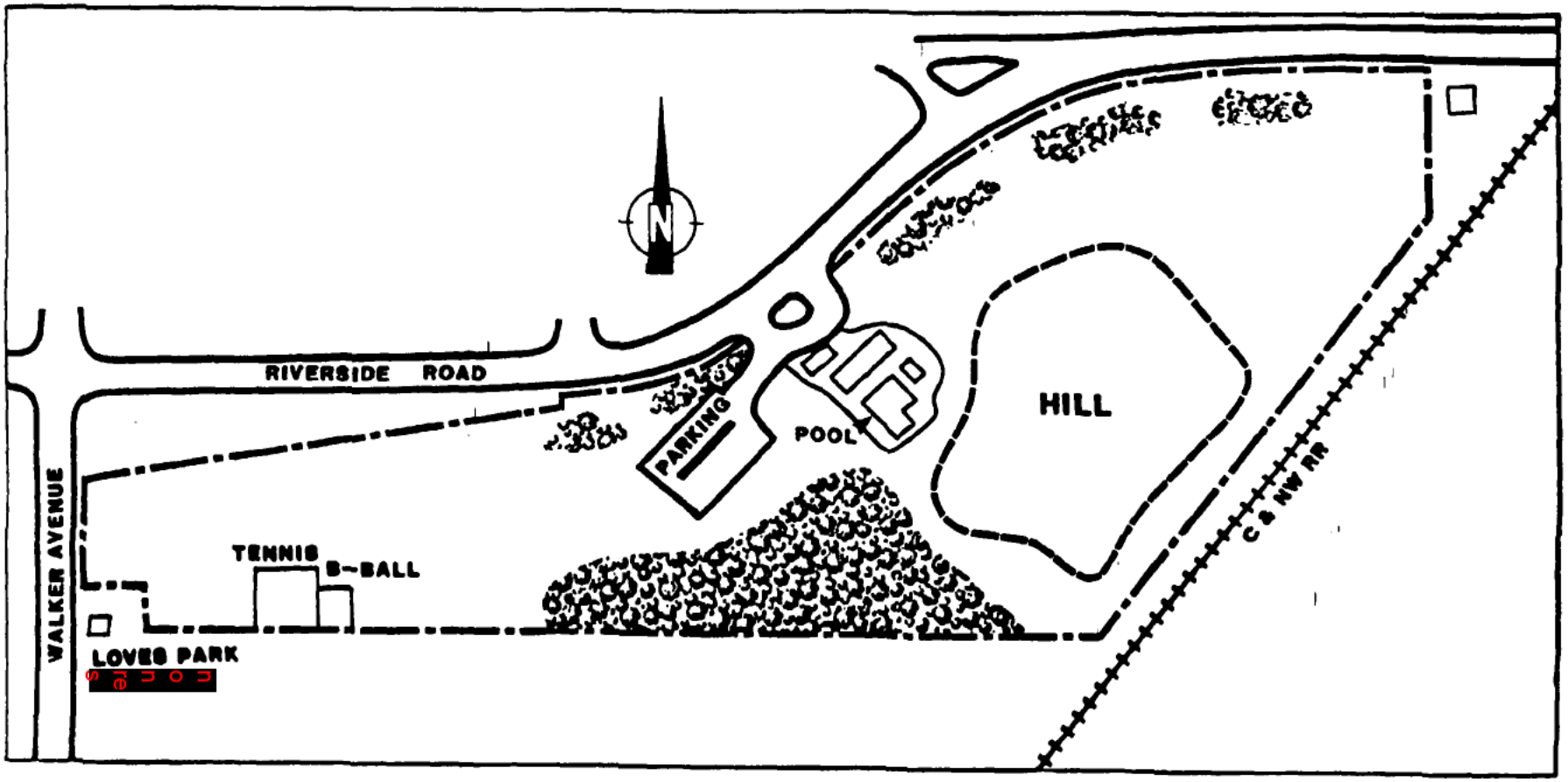


FIGURE 2-2 SITE FEATURES MAP

county. These valleys, which formed prior to glaciation of the region, were filled with sand and gravel outwash deposits from the melt waters of several Wisconsinan age glacial advances. These outwash deposits typically lie directly above Paleozoic bedrock formations of Ordovician age. The upper bedrock formations are dolomites of the Galena, Decorah, and Platteville formations. They are composed of light-gray or brown, finely crystalline dolomite. These bedrock formations form one of the principal aquifers in the region, yielding groundwater through well-developed joint and fracture systems, bedding planes, and solution cavities. Below this is the Glenwood Formation, which consists of interbedded dolomite, sandstone, and shale. Thickness of the Glenwood Formation ranges from 10 to 60 feet. It has little value as an aquifer and, where shales are present, may act as a local aquitard. The St. Peter Sandstone underlies the Glenwood Formation and all of Winnebago County. This formation directly underlies the glacial drift in the deep bedrock valleys (i.e., Rock, Pecatonica, and Troy). The St. Peter is fine- to coarse-grained, friable, and contains a high percentage of well-rounded, frosted quartz grains.

Bedrock formations below the St. Peter Sandstone are limestones, dolomites, and sandstones of Cambrian age. Both Ordovician and Cambrian age formations are widely utilized as aquifers throughout northern Illinois. The stratigraphy and hydrogeologic usage of bedrock and glacial units in Winnebago County is presented in Figure 2-3.

2.4 SITE HISTORY

Little is known about the early operating history of this site. A topographic map, obtained from the Rockford Park District, indicates that the site was used as a sand and gravel pit prior to 1943. At that time the pit was approximately 20 feet deep. From 1943 to the present, the site has been owned by the Loves Park/Rockford Park District.

The first record from Illinois Environmental Protection Agency (IEPA) files indicating that waste was deposited at the site is a Winnebago Department of Public Health (WDPH) landfill registration form dated September 29, 1969. Aerial photographs taken in 1964 show that a large amount of waste was already present at the site. This

Figure 2-3

STRATIGRAPHY AND HYDROGEOLOGIC USAGE OF BEDROCK AND GLACIAL UNITS IN WINNEBAGO COUNTY

SYSTEM	MEGA-GROUP	GROUP	SUB-GROUP	FORMATION	USAGE OF HYDROGEOLOGIC UNIT		
QUATERNARY					GLACIAL DRIFT AQUIFER		Probabilities of groundwater development are poor to excellent depending upon thickness of glacial deposits and grain size.
ORDOVICIAN	OTTAWA	GALENA		DUBUQUE	BEDROCK AQUIFERS	ORDOVICIAN AQUIFERS	DOLOMITE AQUIFERS Principle source of water supply for various types of wells. Most wells finished 20 to 100 feet into dolomite. Average yields of 20 gallons per minute. Aquifers susceptible to pollution particularly in areas where glacial drift is less than 50 feet.
			KIMMSWICK	WISE LAKE			
				DUNLEITH			
		PLATTEVILLE	DECORAH	GUTTENBERG			
				SPECHTS FERRY			
			PLATIN	QUIMBYS MILL		ORDOVICIAN AQUIFERS	SANDSTONE AQUIFERS Sandstone beds from basal unit of Glenwood formation downward yield water supplies up to 300 gpm. This widely used aquifer's yield depends upon sandstone bed thickness.
				NACHUSA			
				GRAND DETOUR			
				MIFFLIN			
		ANCELL		PECATONICA			
				GLENWOOD			
				ST. PETER			

Figure 2-3 (Cont.)

SYSTEM	MEGA-	GROUP	GROUP	SUB-	GROUP	FORMATION	USAGE OF HYDROGEOLOGIC UNIT	
CAMBRIAN		KNOXDOL				JORDAN Ss	CAMBRIAN AQUIFERS	Permeability is low in this zone due to a large proportion of shale. Groundwater development potential is poor.
						EMINENCE		
						POSTOSI DOL.		
		POTSDAMSANDSTONE				FRANCONIA		SANDSTONE AQUIFER These principal sandstone aquifers are used for large capacity (up to 2000 gpm) industrial wells.
						IRONTON		
						GALESVILLE		
						EAU CLAIRE		
						MT. SIMON		

Compiled from Hackett (1960).

evidence indicates that waste was first accepted in the late 1950's or early 1960's.

Landfilling operations at the site were carried out by the Loves Park/Rockford Park District and Browning-Ferris Industries, Schaumburg, Illinois. Browning-Ferris operated in the eastern half of the site, while the Loves Park/Rockford Park District operated in the western half. The operating years for both operations are unknown. Landfilling continued until site capacity was reached. The landfill was closed in May 1972.

In March 1973, Novak, Dempsey & Associates conducted eight test borings on the area of the refuse hill used by Browning-Ferris. These borings indicated 6 inches of clay cover material followed by over 40 feet of refuse. Two feet of final clay cover was applied by Browning-Ferris in June 1975, covering only the sections of the site in which they operated. Final cover was not applied to areas in which the Loves Park/Rockford Park District operated.

In 1973 Novak, Dempsey & Associates also installed three methane gas vents around the refuse hill and along Riverside Boulevard. At least one of these vents is located near the Sand Park swimming pool.

In January 1982 IEPA detected volatile chlorinated solvents in a water sample obtained from Loves Park municipal well 2, located in the southwest corner of the Sand Park site (see Figure 2-2). Additional sampling by IEPA in 1982 and 1983 revealed further contamination of well 2 and the contamination of Loves Park municipal well 1, located 1/2 mile south of the site. Sand Park was subsequently implicated as a cause of this contamination, thus prompting IEPA to conduct further studies at the site. These studies are discussed in Section 2.6 of this report.

In February 1984 Sand Park was identified as a potential site for FIT investigation in the form of a Preliminary Assessment (PA) submitted by IEPA to U.S. EPA. FIT was then tasked to conduct a site inspection at Sand Park and perform any on-site activities necessary to complete an HRS score. As part of those activities, FIT conducted the hydrogeologic investigation detailed in this report.

2.5 WASTE CHARACTERIZATION

Records from IEPA and Illinois Department of Public Health

(IDPH) indicate that hazardous wastes are present at the site, although waste types and amounts are not specified. An IEPA inter-office memorandum dated February 24, 1984 states that halogenated and nonhalogenated degreasing solvents and plating wastes containing cyanides and heavy metals may be present at the site. The date(s) of disposal of these wastes is also unknown.

2.6 PREVIOUS INVESTIGATIONS

Two previous studies have been conducted by IEPA at Sand Park. These investigations included a resistivity study and groundwater quality analysis. Previous FIT investigations included a site inspection and groundwater sampling from on-site monitoring wells.

2.6.1 IEPA Resistivity Study

In September 1982 an electrical earth resistivity study was conducted at Sand Park by IEPA. The study concluded that:

- A contamination plume was extending west from the Sand Park;
- Loves Park municipal well 2 could be threatened by this plume; and
- The fill area included portions of the site north of the refuse hill.

IEPA also recommended continued monitoring of Loves Park well 2 and installation of additional monitoring wells.

2.6.2 IEPA Groundwater Quality Monitoring

In 1974, as part of a final closure plan, downgradient monitoring well G-101 was installed in the glacial drift aquifer. Samples were taken quarterly and analyzed for chloride, iron, and residue upon evaporation (ROE). According to IEPA, iron and ROE were consistently above IEPA public consumption and food processing standards. G-101 has since been abandoned.

In April 1983 IEPA installed downgradient monitoring wells G-102, G-103, G-104, and G-105 as two nests of two wells each. Shallow wells G-103 and G-105 are approximately 20 feet deep. Deep wells G-102 and G-104 are approximately 50 feet deep. Boring logs for these wells are presented in Appendix A. These wells were monitored for inorganic constituents and a limited number of volatile organic compounds. None of the volatiles tested for were detected. Well G-105 showed slightly elevated levels of barium, iron, and ROE.

2.6.3 Previous E & E, FIT Investigations

Monitoring wells G-102, G-103, G-104, and G-105 were sampled by FIT during their site inspection on August 14, 1984. Results are discussed in Section 4.2 of this report.

3. PROCEDURES

3.1 INTRODUCTION

The following sections detail procedures utilized during the hydrogeologic investigation at the Sand Park Landfill.

3.2 HYDROGEOLOGIC INVESTIGATION

3.2.1 Borings

Soil borings were completed by Canonie Construction Company, Itasca, Illinois, using a truck-mounted, Mobile B-40 drill rig. Work was conducted from January 3 to January 9, 1985 and was supervised by E & E, FIT personnel. Boring locations are shown in Figure 3-1. Upgradient borings G-106 and G-107 were the only borings completed during this project. A combination of 3 3/4-inch inside diameter (ID) hollow stem auger and rotary wash drilling techniques was used to advance both borings. Sand formation caving into the hollow stem augers necessitated the use of drilling mud in both borings. A guar-gum-based drilling fluid (Vari-Flow® from American Colloid Company) hydrated with City of Rockford municipal water was used as a drilling mud to hold fine- grained sand formations open below the water table. In both borings, drilling mud was flushed from the bore hole with clean water before well installation was completed.

Soil samples were collected with a 2-inch outside diameter (OD) split-spoon sampler for visual classification of soil samples. Standard penetration tests in advance of the auger tip or rotary bit

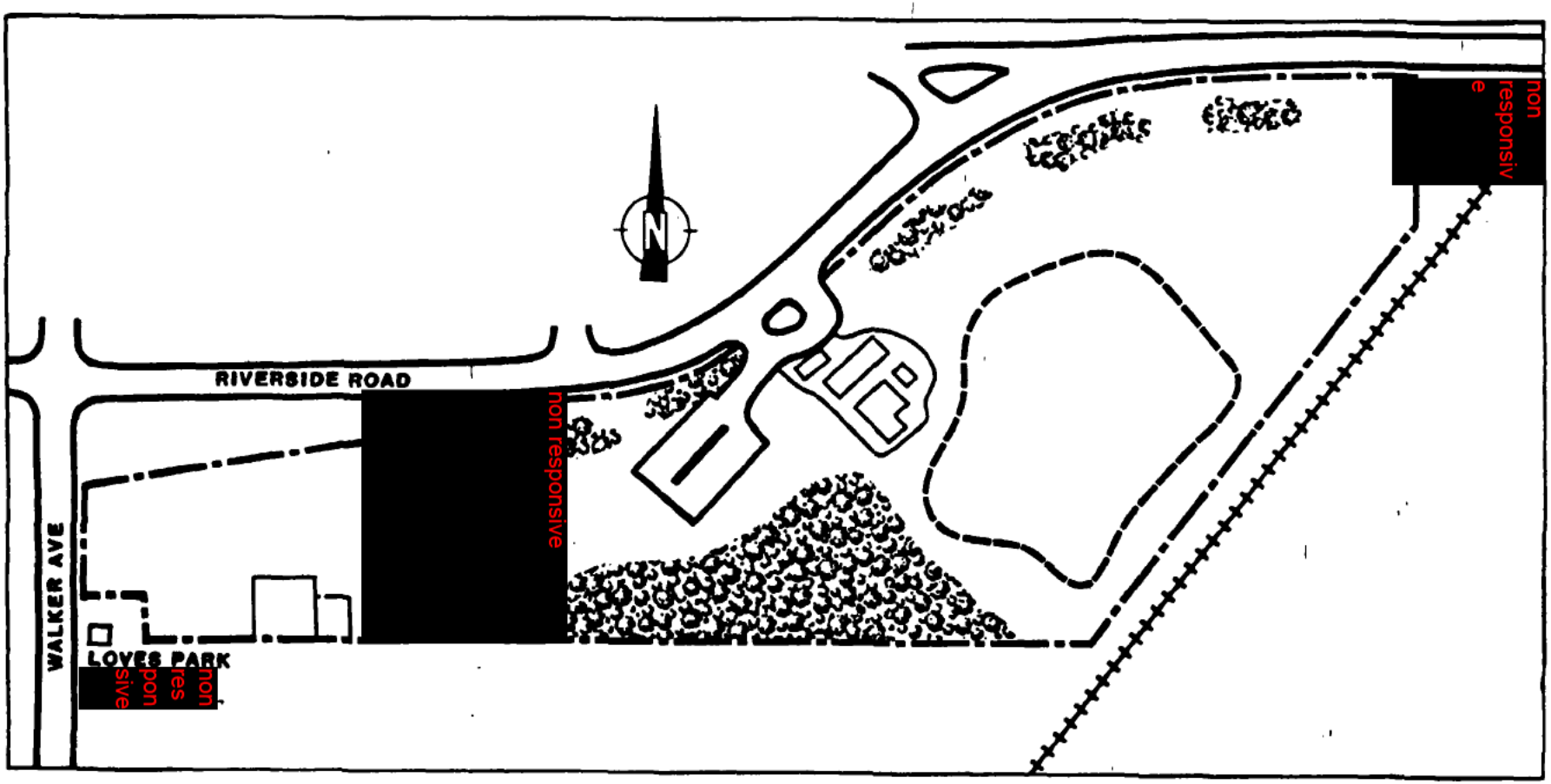


FIGURE 3–1 MONITORING WELL LOCATION MAP

were performed in accordance with American Society for Testing Materials (ASTM) standards. In deep boring G-106, split-spoon samples were collected at 2 1/2-foot intervals from 0 to 10 feet and then at 5-foot intervals from 10 to 60 feet. In shallow boring G-107, split-spoon samples were taken from 35 to 43 feet only, to insure that the well screen would be placed in a water-bearing formation.

No soil samples were collected for chemical analysis. Drill cuttings and soil samples were monitored for organic contaminants with an HNU monitor. (No readings above background were detected.) Boring logs with detailed stratigraphic and lithologic descriptions are presented in Appendix A.

3.2.2 Monitoring Well Construction

The FIT monitoring wells were installed in borings G-106 and G-107 to provide upgradient sampling points at this site. The wells were emplaced as a well nest consisting of one deep and one shallow well. Wells G-106 and G-107 are 61.5 and 43 feet deep, respectively. FIT monitoring wells terminate in the same saturated zone as the IEPA wells (G-102, G-103, G-104, G-105) located downgradient of the fill area.

FIT wells were constructed with 2-inch (ID) threaded, flush-jointed PVC casing conforming to Schedule 40 ASTM standards. Screens were also constructed from PVC and were factory slotted with 0.010-inch slots. A 5-foot screen length was used at each well. Each well screen was surrounded by a natural sand and gravel filter pack. This filter pack formed as sand and gravel collapsed around the screen when hollow stem augers were pulled or drilling mud was flushed from the bore hole. In each well, collapse of the bore hole was allowed to occur up to a few feet above the water table. A 2-foot-thick bentonite pellet seal was then placed around the well casing. The remainder of the annulus was grouted to the surface using a thick cement and bentonite slurry. To complete the installation, a locking, 4-inch (ID), steel outer protective casing was placed over the well casing and embedded in the grout. A concrete plug was placed around the protective casing at ground surface to prevent storm run-off or surface water from entering the bore hole. General well construction is illustrated in Figure 3-2.

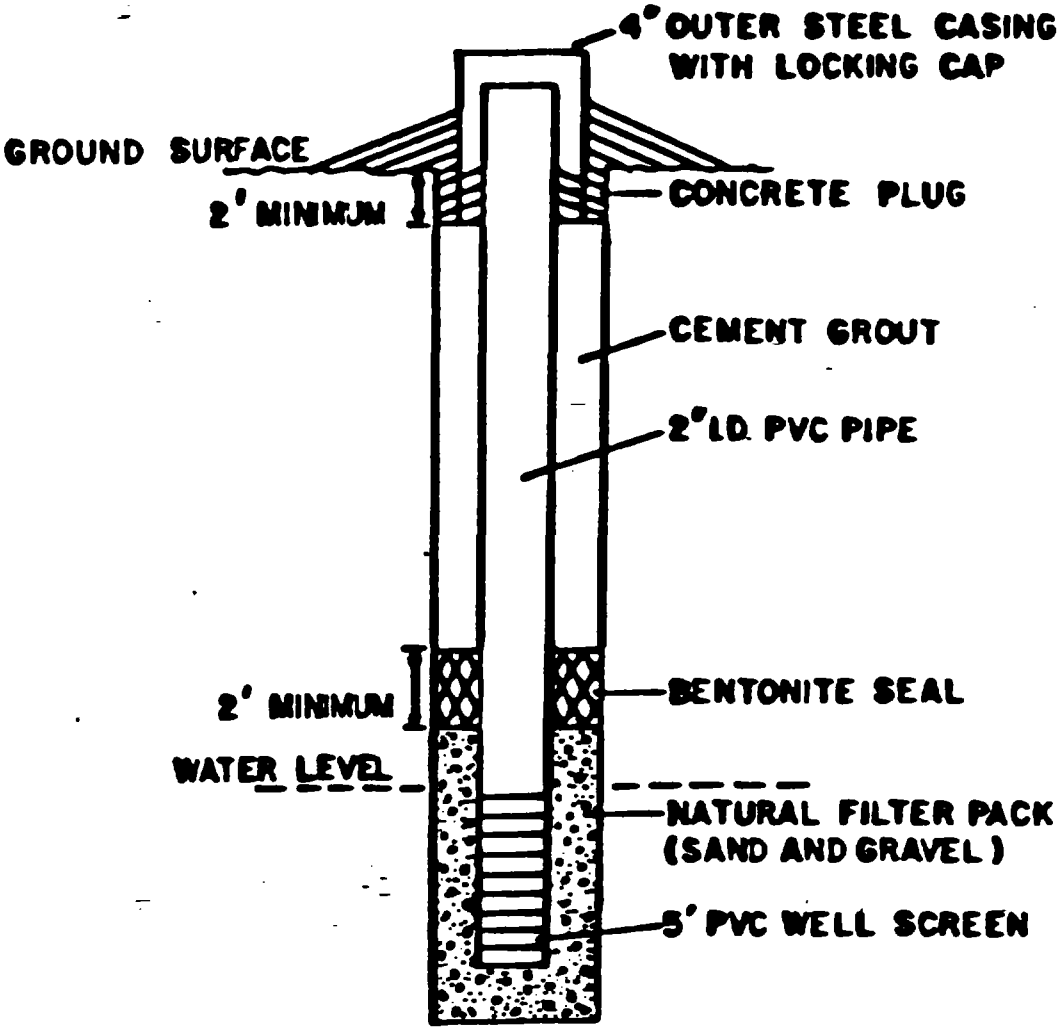


Figure 3–2 Typical groundwater monitoring well.

Upon completion, all IEPA and FIT wells were surveyed to determine elevation above Mean Sea Level (MSL). Elevations were measured from the top of the PVC casing.

In accordance with contract specifications, the drill rig and all drilling and sampling tools were decontaminated with a hot water pressure wash system prior to mobilization on-site. In addition, the split-spoon sampler was scrubbed in clean water between each boring. All equipment was again steam cleaned at the completion of drilling activities.

Both FIT wells were developed by the surge and bail method using a 3-foot stainless steel bailer. Ten well volumes were removed from each well.

3.2.3 Aquifer Measurements

3.2.3.1 Water Level Measurements

Water levels were measured in all on-site monitoring wells on January 9 and April 1, 1985. On June 6, 1985 water levels were measured in wells G-104, G105, G-106, and G-107 only. Wells G-102 and G-103 were not measured on that date because they had been destroyed by vandals at some time between April 1 and June 6, 1985. A chalked graduated stainless steel tape was used for each measurement. All water levels were measured from the top of the inner PVC well casing. Water level measurements were used to determine both horizontal and vertical groundwater flow directions and horizontal and vertical flow gradients within the aquifer.

3.2.3.2 Hydraulic Conductivity Testing

On June 6, 1985 the in situ hydraulic conductivities of aquifer materials were determined by performing rising-head slug tests in wells G-104, G-105, G-106, and G-107. Wells G-102 and G-103 were not tested because of damage due to vandalism. Results from tests were used to evaluate the potential for contaminant migration through the aquifer and calculate groundwater velocities.

In this test, a water tight cylinder attached to a stainless steel cable was inserted into the well and positioned below the water table. By inserting the cylinder, a known volume of water was displaced, thereby raising the water level in the well. After the water

level had stablized back to its static level, the cylinder was then instantaneously removed from the well. By removing this cylinder, the water level was depressed by a known volume below the static level, and the test was allowed to begin. Water levels were then measured at predetermined time intervals as they rose to the static level.

Water level data was collected with a SE1000A hydraulic pressure transducer, manufactured by In-Situ, Inc., Laramie, Wyoming. A 1 1/4-inch (OD) sand-filled PVC slug was used to depress the static water level in all wells.

3.2.3.3 Groundwater Sampling

All IEPA and FIT wells were sampled on April 1, 1985. Prior to sampling, five well volumes were removed from each well with an air-lift pump system. All samples were collected with a bottom-loading stainless steel bailer. Samples for organic analysis were iced to 4°C immediately upon collection. All samples for inorganic analysis were field-filtered with a 45-micron filter and preserved with nitric acid. An additional 1-liter volume was collected from each well for cyanide analysis. This sample was preserved with sodium hydroxide. A full priority pollutant scan was run on each sample.

Samples were shipped via an overnight delivery service to the U.S. EPA Contract Laboratory Program (CLP) laboratories, using standard U.S. EPA Chain-of-Custody procedures. Organic and inorganic analyses were conducted by California Analytical Laboratories, Inc., Sacramento, California, and Rocky Mountain Analytical, Arvada, Colorado, respectively.

4. RESULTS AND DISCUSSION

4.1 PHYSICAL RESULTS AND DISCUSSION

This section discusses the results of E & E, FIT soil boring, aquifer testing, and groundwater sampling efforts undertaken at the Sand Park site.

4.1.1 Geology and Soils

The geology and soil characteristics of the Sand Park site were determined by a review of available geologic literature and the results of soil borings conducted by FIT and IEPA.

Results

The boring logs for FIT wells G-106 and G-107 and IEPA wells G-102, G-103, G-104, and G-105 are presented in Appendix A.

The stratigraphic soil sequence in boring G-106 was as follows:

0-14.0 ft.	Sandy silty clay. Fill material.
14.0-20.5 ft.	Brown silty clay.
20.5-21.5 ft.	Sand and gravel seam. Saturated.
21.5-34.0 ft.	Gray clay and brown silt.
34.0-60.0 ft.	Brown fine sand. Saturated.
60.0-61.5 ft.	Gray silty clay.

Boring G-107 was drilled approximately 8 feet west of G-106. No samples were taken, but observation of auger cuttings indicated a similar soil sequence. Borings G-106 and G-107 were completed at 61.5 feet and 43.0 feet, respectively.

IEPA borings G-102 and G-104 were both completed at 51.5 feet below ground surface. G-103 and G-105 were both completed at 17.5 feet. In G-102 and G-104, fine- to coarse-grained sand and/or sand and gravel was encountered from the surface to approximately 50 feet. A very tight, gray silty clay was encountered below this depth to termination of the boring at 51.5 feet. G-103 and G-105 penetrated similar sand and gravel soils. No clay was encountered in either of these shallow borings.

Discussion

In general, a review of the literature indicates that Sand Park is located on the eastern slope of a deep pre-glacial bedrock valley that has been filled with thick deposits of sand, pebbly sand, and gravel. These sands and gravels are representative of the valley train deposits that resulted from numerous Wisconsinan age glacial advances that moved across Winnebago County approximately 75,000 years ago. They are identified as the Makinaw member of the Henry Formation and consist of well-sorted, regularly bedded, tan to light brown fine sands and small to medium gravels.

The boring log for Loves Park municipal well 2, located in the southwest corner of the site, indicates that these sand and gravel deposits extend to a depth of at least 203 feet. Other logs for wells in the vicinity show that this formation continues uninterrupted to a depth of 250-300 feet, where St. Peter Sandstone is encountered directly below the sand and gravel.

A geologic cross-section was prepared (Figures 4-1, 4-2) using boring logs from Loves Park municipal well 2, IEPA well G-104, a private production well, and FIT well G-106. This cross-section reveals a continuous clay layer below the site. Borings from wells G-102, G-104, and G-106 did not penetrate this clay layer. The well log for Loves Park well 2 indicates that this layer is approximately 20 feet thick. All monitoring wells were screened in the sand and gravel layer above this clay.

Boring logs for private and municipal wells located within a 3-mile radius of the site were reviewed to determine the horizontal extent of this clay layer. Although the clay is extensive in the immediate area of the site, the review produced boring logs that did not encounter this layer. This suggests that the clay is discontinuous within the 3-mile radius. It was also noted that thin seams of clay and silt are commonly interbedded with the sand and gravel

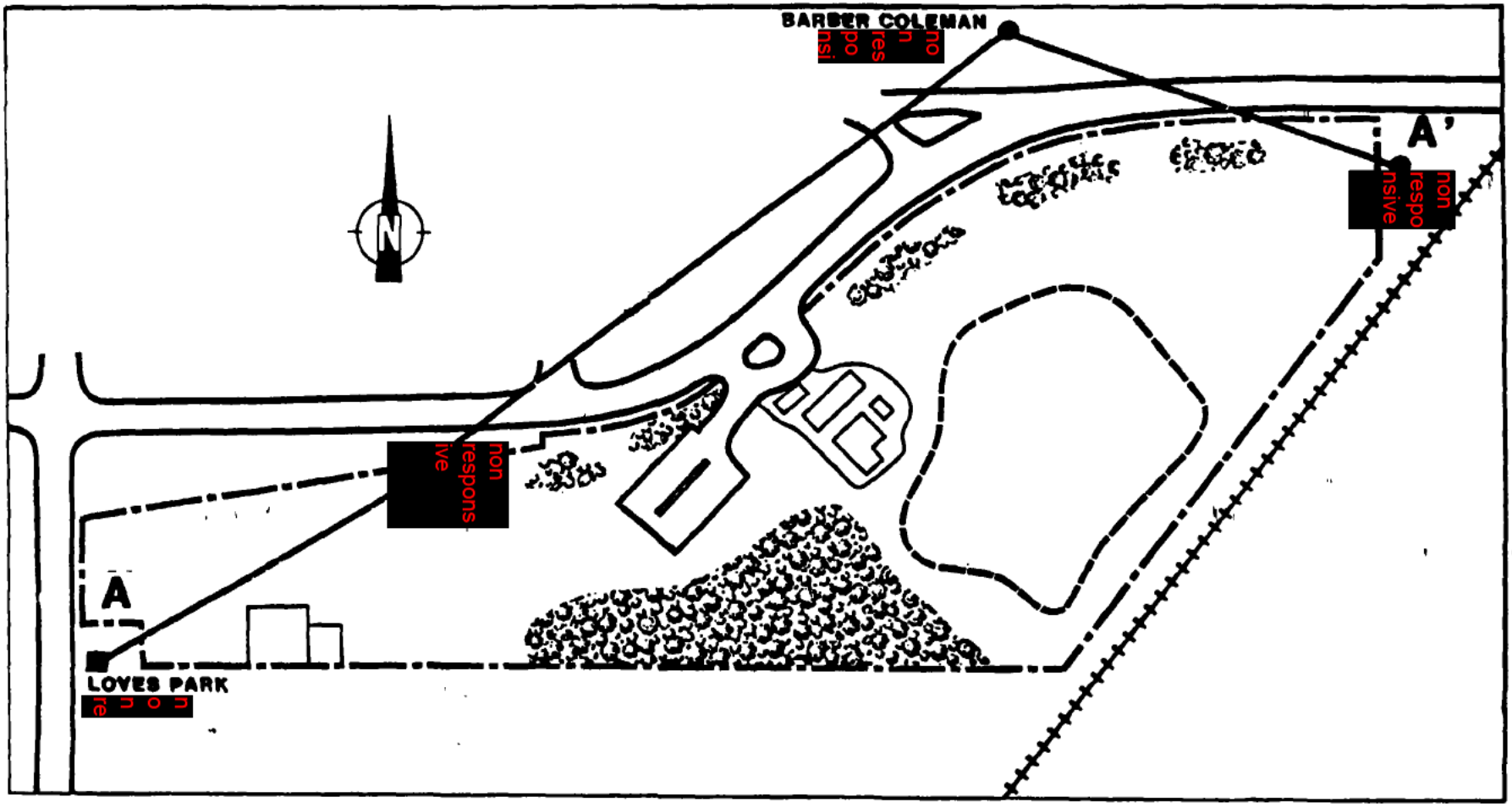


FIGURE 4-1 GEOLOGIC CROSS-SECTION LOCATION MAP

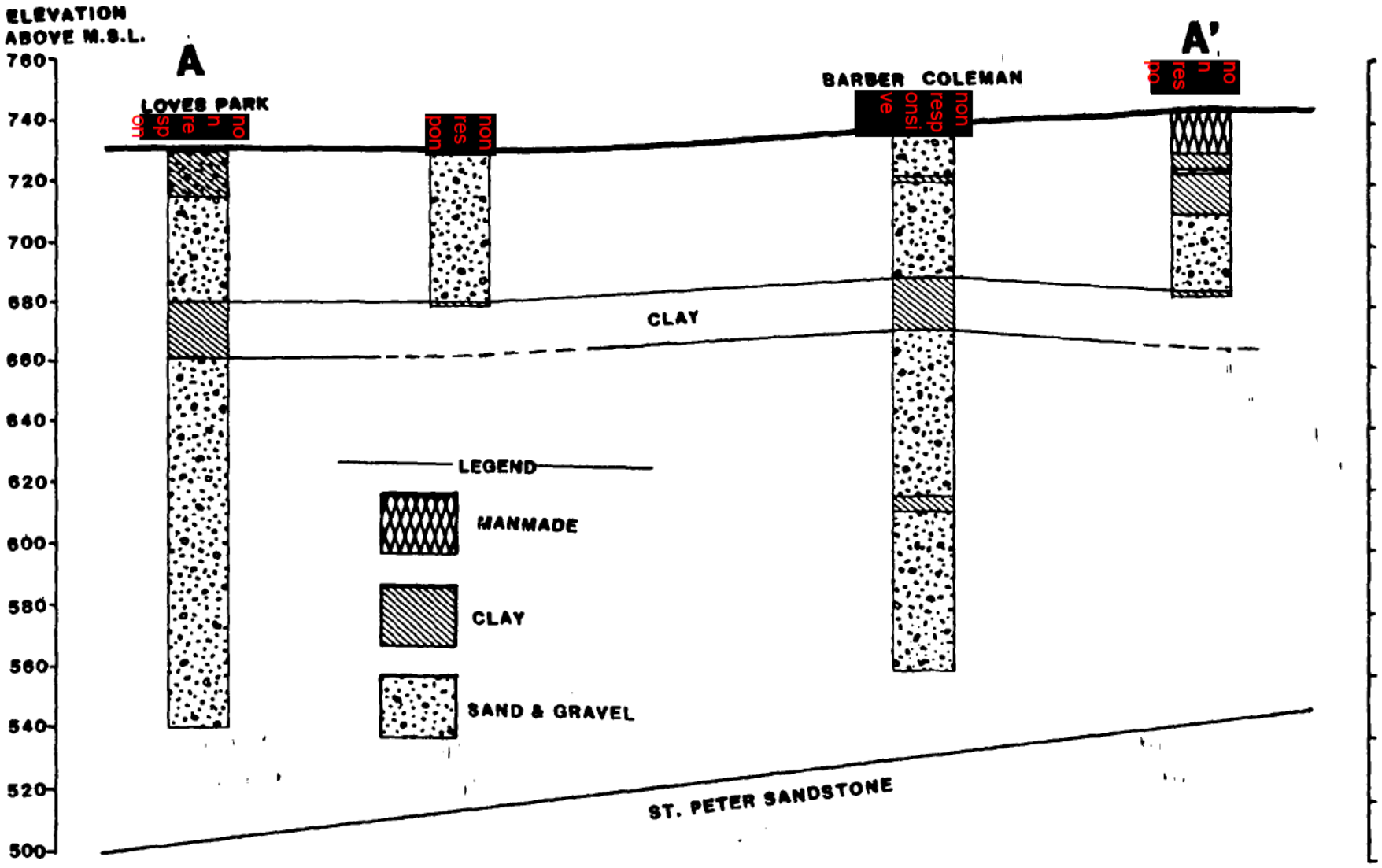


FIGURE 4-2 GEOLOGIC CROSS-SECTION A-A'

deposits throughout the radius, although none seem to be continuous.

4.1.2 Hydrogeology

Groundwater was encountered in the sand and gravel formation below the site. Water level elevations and hydraulic conductivities were measured in the field in order to determine groundwater flow direction, horizontal and vertical hydraulic gradients, and groundwater velocity.

4.1.2.1 Groundwater Flow

Results

Water level elevations were measured with a chalked stainless tape and were then used to determine the direction of groundwater flow at the site. Groundwater elevations and dates of measurement are shown in Table 4-1.

The direction of groundwater flow was determined using a triangulation method as outlined by Heath (1983). The direction of flow was calculated using the groundwater elevations measured on January 9 and April 1, 1985. Direction of flow could not be calculated for June 6 because wells G-102 and G-103 had been vandalized. Groundwater elevations measured in the deep wells were used to calculate flow direction through the lower portion of the aquifer, and elevations measured in the shallow wells were similary used to calculate flow in the upper portions of the aquifer. Groundwater flow direction is illustrated in Figure 4-3.

Discussion

In each case, groundwater was determined to be moving in a northwest direction, toward the Rock River. The Rock River serves as a major discharge point for groundwater in the glacial drift aquifer.

4.1.2.2 Hydraulic Gradients

Results

Horizontal hydraulic gradients were also calculated using the triangulation method outlined by Heath (1983). The lateral hydraulic gradients calculated from the shallow well series range from 0.010 (January 9, 1985) to 0.007 (April 1, 1985). The gradient on June 6 could not be calculated because wells G-102 and G-103 had been vandalized.

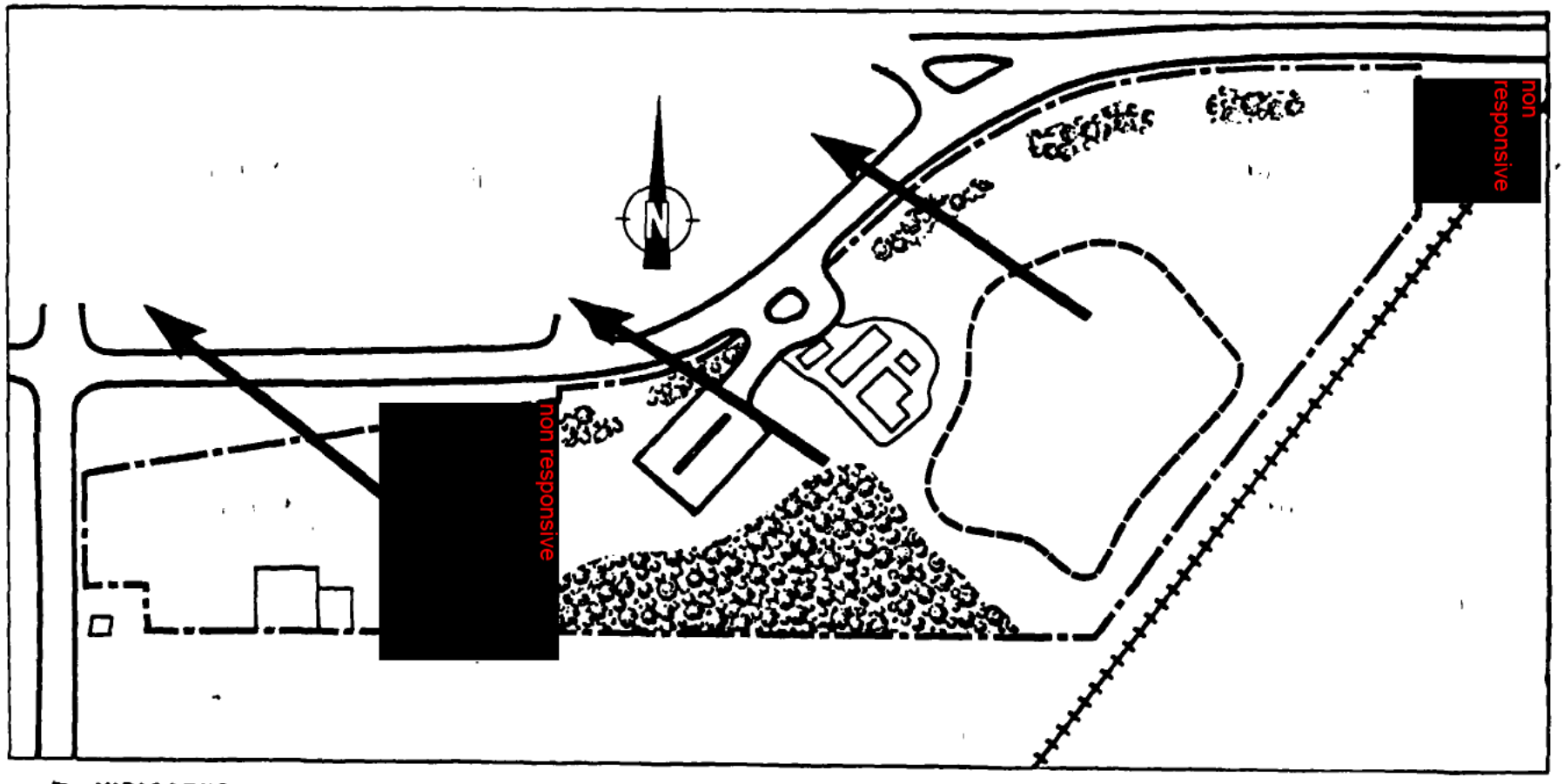
Table 4-1

GROUNDWATER ELEVATIONS
(Feet Above Mean Sea Level)

Monitoring Well	January 9, 1985	April 1, 1985	June 6, 1985
G-102 (Deep)	717.62	718.64	*
G-103 (Shallow)	717.60	718.62	*
G-104 (Deep)	715.24	716.41	715.79
G-105 (Shallow)	715.17	716.23	715.63
G-106 (Deep)	724.32	725.33	724.85
G-107 (Shallow)	724.23	725.27	724.79

* Vandalized wells.

Note: The reference point (740.594 feet above MSL) was the nearest USGS bench mark, a chiseled square in the southwest corner of the east walkway of the Material Road Bridge.



INDICATES FLOW DIRECTION

FIGURE 4-3 GROUNDWATER FLOW DIRECTION

Water levels taken from the three nests of two wells each were used to determine the vertical gradients (dh/dl) within the aquifer. Using the vertical distance between well screens of the respective shallow and deep wells for dl and the head difference for dh, the vertical gradient was determined. The vertical gradients for all monitoring well nests within the study area are shown in Table 4-2. Vertical gradients are upward and range from -0.0006 at well nest G-102/G-103 to -0.0054 at well nest G-104/G-105.

Discussion

In general, the calculated gradients indicate that a weak mechanism exists which could prevent less dense contaminants from migrating deeper into the aquifer. In order for contaminants to penetrate the aquifer they would have to be sufficiently dense to overcome this upward vertical gradient. These gradients also indicate that portions of the aquifer are under discharge conditions, the discharge point being the nearby Rock River. Fluctuations should be expected as a result of precipitation or seasonal events.

4.1.2.3 Hydraulic Conductivities

Results

Field test data was analyzed using the Hvorslev (1951) technique for all wells. The Hvorslev technique assumes the following conditions: (1) the aquifer is unconfined; (2) the piezometer or well is of small diameter; and (3) the length of the screen is small compared with the length of the piezometer (Freeze and Cherry 1979). For the Hvorslev method, a regression technique was used to determine the equation for the best fit line which approximates the field test data. From this, the basic time lag was determined which in turn was used to calculate the horizontal hydraulic conductivity of aquifer materials adjacent to the well screen. Table 4-3 lists the calculated hydraulic conductivities at each monitoring well. Values ranged from 1.1 x 10^{-2} cm/sec to 5.5 x 10^{-3} cm/sec and had a calculated mean of 8.3 x 10^{-3} cm/sec.

Discussion

These values correspond to values given in the literature by Freeze and Cherry (1979) for a clean sand and gravel and were further substantiated by split-spoon samples of the same material taken in the

Table 4-2

VERTICAL HYDRAULIC GRADIENTS

Monitoring Well Nest	January 9, 1985	April 1, 1985	June 6, 1985
G-102/G-103	-0.0006	-0.0006	*
G-104/G-105	-0.0021	-0.0054	-0.0048
G-106/G-107	-0.0053	-0.0035	-0.0035

* Vandalized Wells.

Note: (-) indicates an upward vertical gradient.

Table 4-3

HYDRAULIC CONDUCTIVITY RATES

Monitoring Well	Hydraulic Conductivity (cm/sec)
G-102	*
G-103	*
G-104	4.6×10^{-3}
G-105	5.5×10^{-3}
G-106	1.1×10^{-2}
G-107	1.2×10^{-2}
Mean	8.3×10^{-3}

* Vandalized wells.

Note: Hydraulic conductivity rates can be converted to ft/sec by dividing cm/sec values by 30.48.

screened zone of each well. The value given for each well represents the conductivity of aquifer materials in the vicinity of the respective well screens. Hydraulic conductivities in this range indicate that the aquifer may be susceptible to contamination and conducive to the transport of contaminants away from the source area.

4.1.2.4 Groundwater Velocities

Results

Groundwater velocity in the aquifer is a function of the hydraulic conductivity of the aquifer, the lateral hydraulic gradient, and the effective porosity of aquifer materials.

An approximation of the velocity, V, at which the groundwater moves through the aquifer can be calculated using Darcy's equation. For laminar flow in saturated conditions:

$$V = K \times \frac{dh}{dl} \times \frac{1}{NE},$$

where: K = Hydraulic conductivity,

$\frac{dh}{dl}$ = Horizontal hydraulic gradient,

NE = Effective porosity.

In this case, K = 2.8×10^{-4} ft/sec (average for all wells) and dh/dl = 0.0085 (average horizontal gradient). The effective porosity (NE) cannot be determined directly although it can be approximated for a given material by the specific yield (SY). For a fine to medium sand, SY = 0.25 (Johnson 1957). Using these values, an average groundwater velocity of 294 ft/yr was calculated for the Sand Park site.

Discussion

This value represents the average groundwater velocity as it flows in a northwest direction across the site. Seasonal variations can be expected and would be due to precipitation events and their effect on hydraulic gradients within the aquifer. Groundwater velocities in this range are consistent with those found in other sand and gravel aquifers. Given that contaminants move in the direction of groundwater flow and at velocities not exceeding the groundwater flow velocity, it can assumed that any contamination in the aquifer could be transported substantial distances from the site.

4.2 CHEMICAL RESULTS AND DISCUSSION

This section discusses the chemical quality of groundwater at Sand Park as determined by FIT sampling efforts conducted at the site on April 1, 1985. Also included in this discussion are chemical results from a previous round of FIT sampling completed during the initial site inspection in August 1984. All samples were analyzed for priority pollutants and cyanide at U.S. EPA Contract Laboratory Program (CLP) laboratories. Complete results are presented in Appendix B.

4.2.1 Organic Analysis

Results

In sampling round 1 (August 14, 1984), groundwater samples were collected from IEPA wells G-102, G-103, G-104, and G-105 (FIT wells G-106 and G-107 had not yet been installed). A duplicate from G-104 and a field blank were also collected. Organic contaminants were identified and quantified in the following concentrations in down-gradient wells G-102 and G-105:

G-102 - Bis(2-ethylhexyl)phthalate 13.4 ppb
G-105 - Benzene 10.9 ppb
Chlorobenzene 8.5 ppb

Organic compounds were not detected in any of the other samples.

In sampling round 2 (April 1, 1985), groundwater samples were collected from all monitoring wells, including G-106 and G-107. A duplicate from G-105 and a field blank were also collected. Organic contaminants were detected in the following concentrations:

G-105 - Benzene 3 ppb (J)
Chlorobenzene 4 ppb (J)
1,4-Dichlorobenzene 3 ppb (J)
G-107 - Pentachlorophenol 14 ppb (J)

The "J" footnote denotes that these compounds were identified in the sample, but at quantities below the Contract Required Detection Limits (CRDLs). The CRDLs are 5 ppb for benzene and chlorobenzene, 10 ppb for 1,4-dichlorobenzene, and 50 ppb for pentachlorophenol. Values for these compounds are therefore considered to be "semi-quantitative" by U.S. EPA.

Discussion

Benzene and chlorobenzene were detected in downgradient well G-105 during both rounds of sampling. This suggests that the upper portion of the aquifer, monitored by G-105, has been contaminated with these two compounds. The decrease in contaminant concentrations seen in the second round of sampling may be due to a number of factors These include, but are not limited to, the following:

- Contaminant concentrations may have decreased due to the lateral passage of concentration gradients within a contaminant plume;
- The contaminants may have been diluted by an increased volume of groundwater in an aquifer that is responsive to seasonal precipitation events;
- Chlorobenzene, which has a density greater than water, may be sinking through the aquifer, carrying benzene along with it;
- Both benzene and chlorobenzene are highly susceptible to biodegradation.

Further sampling would be required to define the present concentrations of benzene, chlorobenzene, and 1,4-dichlorobenzene in local groundwater.

In sampling round 2 (April 1, 1985), organic contaminants were also detected in wells G-102 and G-107. The bis(2-ethylhexyl)phthalate level in G-102 is suspect because the chemical is a known laboratory contaminant. Concentrations of pentachlorophenol, found in G-107, need to be further substantiated by additional sampling because of the "semi-quantitative" nature of the initial results.

4.2.2 Inorganic Analysis

Results

The inorganic results from sampling rounds 1 and 2 are presented in Table 4-4.

Discussion

A review of Table 4-4 indicates that inorganic contaminants are found in downgradient well G-105 at significantly higher concentrations than in upgradient wells G-106 and G-107 or downgradient wells

Table 4-4

CONCENTRATIONS OF INORGANIC GROUNDWATER CONTAMINANTS (ppb)

	Round 1, August 14, 1984						Round 2, April 1, 1985							
	G-102	G-103	G-104	Dup G-104	G-105	BLK	G-102	G-103	G-104	G-105	Dup G-105	G-106	G-107	BLK
Aluminum	-	-	-	-	-	-	33J	-	-	-	-	-	-	-
Antimony	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	-	-	-	-	13	-	-	-	-	14	15	-	-	-
Barium	-	-	-	-	1,660	-	24J	37J	39J	482	510	59J	63J	-
Beryllium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	NA	NA	NA	NA	NA	NA	76,400	81,900	80,700	107,000	109,000	68,000	105,000	-
Chromium	-	-	-	-	-	-	-	-	-	-	-	-	24	-
Cobalt	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	-	-	-	-	-	-	-	-	-	6.4J	4.3J	4.5J	4.6J	45
Iron	366	281	1,080	781	13,600	106	332	496	1,200	15,700	16,900	361	34J	18J
Lead	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	NA	NA	NA	NA	NA	NA	34,700	36,800	35,200	31,800	32,400	28,900	43,400	-
Manganese	206	196	247	253	177	-	177	108	280	354	332	50	4.6J	-
Mercury	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-
Nickel	-	-	-	-	-	-	-	-	-	-	5.6J	-	-	12J
Potassium	NA	NA	NA	NA	NA	NA	1,270J	3,040J	2,600J	21,000	19,700	1,150J	1,520J	-
Selenium	-	5.8	2.0	7.6	-	5.8	-	-	-	-	-	-	-	-
Silver	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	NA	NA	NA	NA	NA	NA	5,500	23,300	12,400	24,000	24,100	7,350	14,200	-
Thallium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	104	19	33	18	39	39	7.4J	6.3J	7.5J	24	8.6J	9.2J	11J	5.8J
Cyanide	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: NA - Not analyzed
- - Not detected
J - Value below the Contract Required Detection Limit (Semi-Quantitative)

G-102, G-103, and G-104. Well G-105 is contaminated with the following inorganic compounds: arsenic (15 ppb), barium (510 ppb), iron (16,900 ppb), and potassium (21,000 ppb). Elevated levels of arsenic, barium, and iron were detected in both rounds of sampling, indicating a persistent problem with these contaminants at this location. The field blank indicates that these contaminants were not introduced by the sampling team. The duplicate of G-105 taken in round 2 also contained concentrations comparable to the sample.

With the exception of chromium (24 ppb) in G-107, the remainder of the on-site wells contain inorganic constituents that are typically found in groundwaters of the Midwest. These include calcium, magnesium, manganese, and sodium. Although iron and potassium are also typical constituents of groundwater, concentrations of these metals were detected at levels at least 10 times greater in downgradient well G-105 than in upgradient well G-106, indicating a contamination problem with these metals.

Contaminant values for selenium and zinc in sampling round 1 should be used with caution because of blank contamination. Mercury was detected in sampling round 1 (1.8 ppb), but not in round 2.

In round 2 the field blank contained copper, iron, nickel, and zinc. With the exception of iron, values for these compounds are suspect. Iron values detected in the wells are useful because they are significantly higher than values found in the blank. The chromium contamination (24 ppb) in G-107 can not be attributed to this site because G-107 is an upgradient well.

5. CONCLUSIONS

5.1 INTRODUCTION

The findings and conclusions presented in the report are based on information gathered during a site background review, pertinent geologic literature review, and the hydrogeologic study conducted at the site.

5.2 FINDINGS

5.2.1 Site Background

- Sand Park is an old sand and gravel pit that has been filled with municipal refuse, construction debris, and unknown quantities and types of hazardous wastes.

- During landfilling operations, the site was owned and operated by the Loves Park/Rockford Park District. Browning-Ferris Industries also deposited waste in portions of the site.

- Sand Park was used as a landfill until closure in May 1972. Final cover was applied to only certain portions of the site. Presently this site is used as a city park by the Loves Park/Rockford Park District.

- Loves Park municipal well 2, located in the southwest corner of the site, is contaminated with volatile chlorinated solvents.

5.2.2 Geology and Soils

- Sand Park is located on the eastern slope of a deep pre-glacial bedrock valley that has been filled with glacial outwash sand and gravel deposits. These deposits are over 200 feet thick.

- This bedrock valley roughly coincides with the present day valley formed by the Rock River.

- These sand and gravel deposits are commonly interbedded with clay and silt seams. Although some of these seams are extensive locally, none seem to represent a continuous layer throughout the 3-mile radius.

- Boring logs from wells on-site indicate that sand and gravel deposits are broken by a clay layer at 50 to 70 feet below the surface. Boring logs from the area suggest that this clay layer is continuous within approximately 1/2 mile of the site.

- Sand and gravel outwash deposits continue uninterrupted from the the clay layer down to the St. Peter Sandstone Formation.

5.2.3 Hydrogeology and Groundwater Quality

- For the purposes of this report, two aquifers exist in the sand and gravel deposits below the site: an upper aquifer above the clay layer and a lower aquifer below the clay layer.

- All monitoring wells on-site are nested, with wells at the top and bottom of the upper aquifer. Water level measurements indicate that groundwater is moving in a northwesterly direction towards the Rock River. Water levels in well nests also indicate that an upward vertical gradient exists in this aquifer.

- Sample results from downgradient monitoring well G-105 show that groundwater is contaminated with arsenic (15 ppb), barium (510 ppb), iron (16,100 ppb), and potassium (21,000 ppb). Benzene, chlorobenzene, and 1,4-dichlorobenzene were also detected in this well. However, concentrations of benzene and chlorobenzene decreased from highs of 10.9 ppb and 8.5 ppb in round 1, to below CRDLs in round 2.

- The remaining wells showed either no contamination or contamination in only 1 of the 2 sampling rounds.

5.3 GENERAL CONCLUSIONS

Based on the results of monitoring well sampling at the Sand Park site, groundwater in the upper aquifer has been contaminated with the following inorganic and organic compounds: arsenic, barium, iron, potassium, benzene, and chlorobenzene. This contamination was detected in downgradient well G-105 at significantly higher concentrations than upgradient wells G-106 and G-107, indicating that Sand Park is the source of the contamination.

This contaminant plume is moving in conjunction with groundwater in a northwesterly direction, away from landfilled areas in the southern and central portions of the site.

Given the high hydraulic conductivities of aquifer materials, the high groundwater flow velocities, and the lateral movement of contamination to well G-105 on the northern property line, it is assumed that contamination has migrated off-site. The full extent of this migration is unknown. On-site contamination has not spread vertically throughout the upper aquifer as evidenced in well nest G-104 and G-105. Deep well G-104 is screened at the bottom of the upper aquifer and remains unaffected. This may be in part due to the upward vertical gradient found in the upper aquifer.

One of the objectives of this study was to determine the effect of Sand Park Landfill on Loves Park's municipal wells, particularly well 2. This well is contaminated with volatile organic compounds, and Sand Park was thought to be one of the sources. The results of this study suggest that Sand Park may not be contributing to the municipal well problem. The reasons for this are as follows:

- Loves Park well 2 is screened in the lower sand and gravel aquifer and thus it is separated from the upper aquifer which is contaminated by Sand Park by a 19-foot clay layer.

- This clay layer and the upward vertical gradient found in the upper aquifer could combine to prevent the downward migration of contaminants into the lower aquifer.

- Based on groundwater flow directions calculated for the upper aquifer, well 2 is not downgradient of any known Sand Park fill areas.

- Organic contaminants detected in well 2 have not been detected in any of the Sand Park monitoring wells.

Without further field investigation, however, these facts should not be used to eliminate Sand Park as a potential source of contamination. Although beyond the scope of work for this study, further studies could investigate the following:

- Poor well construction or abandonment practices in the area may be providing a pathway for Sand Park contaminant migration.
- Pumpage of the lower aquifer may induce pressure gradients across the clay layer, allowing contaminants to leak into the lower aquifer.
- The extent of the clay layer and its competency as a confining unit.
- Other possible contaminant sources in the area.

The installation of additional monitoring wells, further groundwater sampling, and a pump test of the lower aquifer with observation wells in both the upper and lower aquifers would further define the effect of Sand Park, if any, on Loves Park well 2.

5.4 CONCLUSIONS AS THEY RELATE TO HAZARD RANKING SYSTEM (HRS) MODEL

- This site should be scored on potential. Although contamination was detected in the upper sand and gravel aquifer, there is no proof that this aquifer is hydraulically connected to the lower sand and gravel aquifer.
- The lower sand and gravel unit is the aquifer of concern. The St. Peter Sandstone is also included because it is hydraulically connected to the lower sand and gravel.
- Depth to aquifer of concern, i.e., the distance between the bottom of the contaminated upper aquifer and the top of the lower aquifer, is 19 feet.
- Net precipitation is approximately 5 inches.
- The intervening geological formation between the upper and lower aquifers is a silty clay.
- Hazardous waste quantity is unknown.

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- Pumpage of the lower aquifer may induce pressure gradients across the clay layer, allowing contaminants to leak into the lower aquifer.
- The extent of the clay layer and its competency as a confining unit.
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- Depth to aquifer of concern, i.e., the distance between the bottom of the contaminated upper aquifer and the top of the lower aquifer, is 19 feet.
- Net precipitation is approximately 5 inches.
- The intervening geological formation between the upper and lower aquifers is a silty clay.
- Hazardous waste quantity is unknown.

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APPENDIX A

BORING LOGS

DRILLING LOG

State Illinois

Site Sand Park, Loves Park

Boring No. G-106

Drilling Firm Canonie

Type of Drill Mobile B-40

Driller J. Koditek

Geologist K. Phillips

Start Date 1/3/85

Completion Date 1/7/85

Ground El. 744.43 MSL

Groundwater El.
at completion

after 5 days 724.32

Total Depth of Boring 61.5'

No HNU Readings Above Background.

Lock #2429

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
		Ground Surface			3 3/4" I.D. Hollow Stem Auger 2" O.D. Split Spoon Sampler 140 lb. Hammer 30" Drop	
	1 2	Fill Loose clayey fine - med. sand and gravel. Dry.	7 4 4	1		
	3 4 5	Fill Stiff black very sandy silty clay. Trace small gravel. Moist.	7 7 8	2	Slight septic odor	
	6 7 8 9 10	Fill Stiff black sandy clay. Some fine sand. Moist.	5 4 6 2 4 3	3 4		

State IL

Boring No. G-106

Site Sand Park

Page 2 of 4

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
	11	Fill Con't. from 5.5'				
	12					
	13					
	14					
	15	Clay Stiff brown silty clay. Trace fine sand. Trace small gravel. Moist.	1 3 4	5		
	16					
	17					
	18					
	19					
	20					
	21	Sand and Gravel Wet	3 3 3	6		
	22					
	23	Clay Stiff gray silty clay. Trace fine sand. Moist.				
	24					
	25					
	26		5 7 9	7		
	27					
	28					
	29					
	30					

State IL

Boring No. G-106

Site Sand Park

Page 3 of 4

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
	31		7 23 39	8		
	32	Silt Dense brown very sandy silt. Some fine sand. Moist.				
	33				Silt is not water bearing	
	34					
	35	Sand			Water at 34' while drilling	
	36	Dense brown fine - medium sand. Trace small gravel. Wet.	12 12 14	9		
	37					
	38					
	39					
	40					
	41		15 38 65	10		
	42					
	43					
	44					
	45					
	46	Sand Very dense light brown fine sand. Wet.	30 40 45	11		
	47					
	48					
	49					
	50					

State IL

Boring No. G-106

Site Sand Park

Page 4 of 4

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
	51	Sand Dense light brown fine sand.	21 35 45	12		
	52	Wet.				
	53					
	54					
	55					
	56		14 17 40	13		
	57					
	58					
	59					
	60	Gray silty clay 60-61.5'	30 25 22	14		
	61					
		E.O.B.			Well Construction 2" I.D. PVC 0.010" Screen 55'60' -Natural sand screen pack 31'-60' -Bentonite seal 29'-31' -Grout 29' to surface -2" I.D. PVC casing.	

DRILLING LOG

State Illinois

Site Sand Park

Boring No. G-107

Drilling Firm Canonie

Type of Drill Mobile B-40

Driller J. Koditek

Geologist K. Phillips

Start Date 1-3-85

Completion Date 1-7-85

Ground El. 744.38

Groundwater El.
at completion

after 5 days 724.23

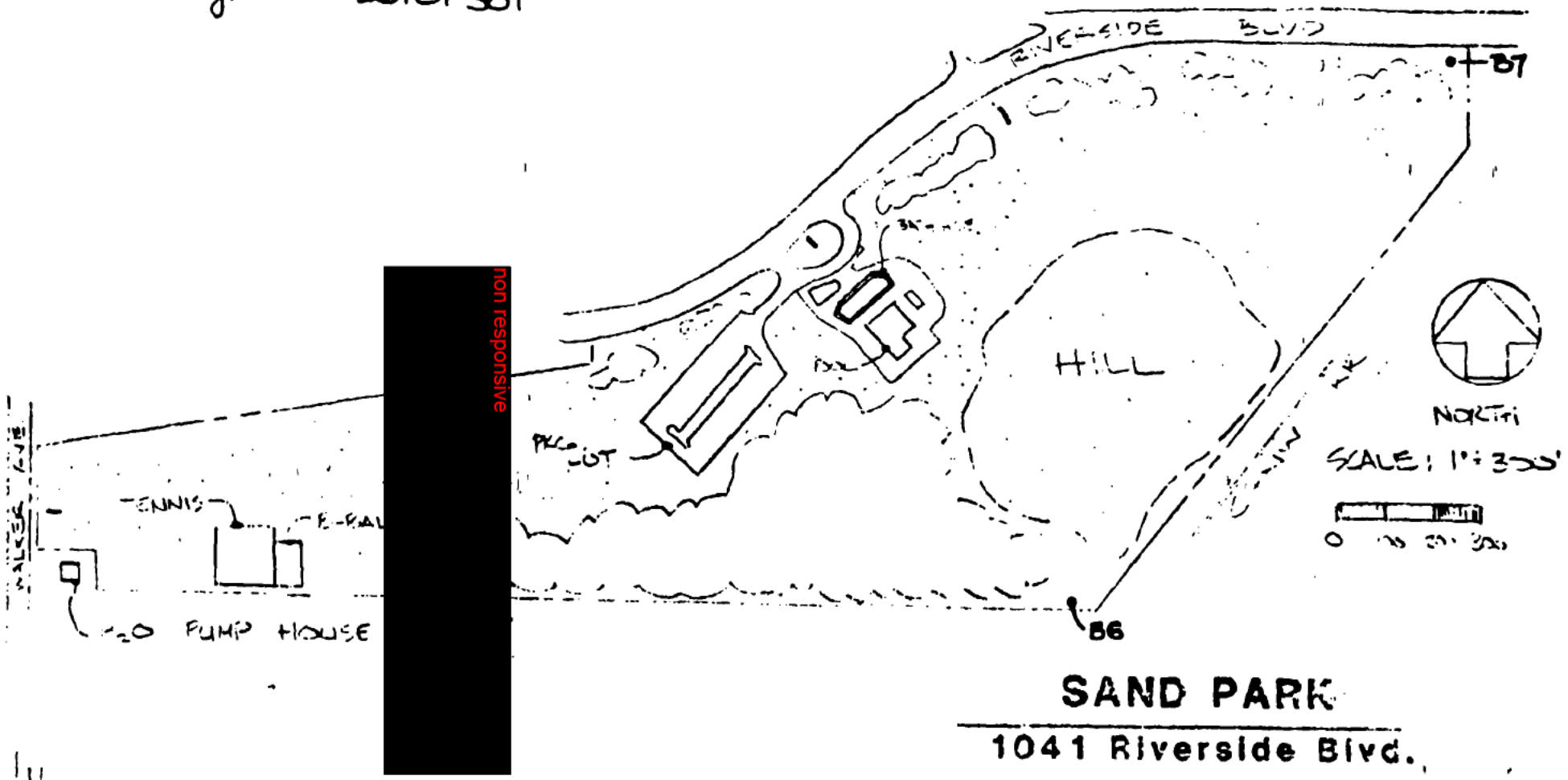
Total Depth of Boring 43'

No HNU Readings Above Background

Lock #2429

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
		Ground Surface			Boring was blind drilled. See log of G-106 for detailed stratigraphic description.	
		0-15' Fill Black sandy clay. Some small gravel and medium sand. Moist. 15'-30' Gray-silty clay. Trace fine sand. Very moist. 30'-43' Sand and gravel wet. E.O.B. 43'			3 3/4" I.D. Hollow Stem Auger used. No samples. Log from observation of Auger cuttings. Well Construction 2" I.D. PVC 0.010" Screen 38'-43' -Natural sand screen pack -Bentonite seal 26'-28' and 16.5-18' -Grout to surface	

Loves Park / Rockford Park District
Winnebago Co. 20101501



IEPA Boring and Monitor
Well Locations.
April 1988

non responsive

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF LAND/NOISE POLLUTION CONTROL

BORING LOG SH. 1 of 1 SH.

COUNTY Winnebago SITE NO 20101501 PREPARED BY Tim Greetis

SITE Loves Park / Rockford Park District BORED BY Doug Tolan

DATE 04/12/83 BORING NO B1 HELPER Ken Bosie

BORING COMPLETED AS MONITOR OR LEACHATE WELL YES ____ NO X WHICH ____

TYPE AND LENGTH OF CASING ____ FT CASING ____ FT ABOVE GROUND LEVEL

SCREENED INTERVAL ELEVATIONS ____

ANNULUS FILL MATERIAL
ABOVE PACKING ____
PACKING ____
SCREEN ____

GROUND WATER EL.
AT COMPLETION ____
AFTER ____ DAYS ____
AFTER ____ DAYS ____

Elevation	#	•	N	Well Design
+3				
0				
	1		7/16	
			6/6	
	2		5/4	
-5	3		9/11	
			13/9	
	4		8/9	
-10			8/7	
			5/9	
-15				

GROUND SURFACE 728.53

Sand and Gravel - red to brown, fine to coarse grained sand, moist.

Gravelly at 5.5' ▼

Wet at 9.0'

714.53

Elevation	#	•	N	Well Design
	5		8/10	
	6		8/9	
-20				
			14/11	
-25	7		12/17	
		NR	5/9	
-30				

Sand and Gravel - gray to black, darker with depth, wet.

708.03

Sand and Gravel - red to brown, fine to coarse grained sand, wet.

701.03

End of Boring

Boring Backfilled with natural materials and cuttings.

All Samples Taken with 2 Inch O.D. Split Spoon Sampler Unless Otherwise Indicated

▼ Encountered water.

Miscellaneous Data PR - Partial Recovery

N - Blow Count NR - No Recovery

N½ SE¼ Section 06 T44N R2E

LPC-34 3/79

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF LAND/NOISE POLLUTION CONTROL

BORING LOG SH. 1 of 2 SH.

COUNTY Winnebago SITE NO. 20101501 PREPARED BY Tim Greeris

SITE Loves Park / Rockford Park District BORED BY Doug Tolan

DATE 4/18/83 BORING NO B2 (G102) HELPER Ken Boone

BORING COMPLETED AS MONITOR OR LEACHATE WELL YES X NO ____ WHICH Monitor

TYPE AND LENGTH OF CASING PVC 52.0 FT CASING 2.3 FT ABOVE GROUND LEVEL

SCREENED INTERVAL ELEVATIONS 678.92 to 680.92 (2.0' SLOTTED .010 PVC)

ANNULUS FILL MATERIAL	ELEVATION	#	•	N	WELL DESIGN	GROUND WATER EL.	ELEVATION	#	•	N	WELL DESIGN
ABOVE PACKING Cement Slurry						AT COMPLETION ____					
PACKING Granular Bentonite						AFTER 01 DAYS 717.02					
SCREEN Natural Materials						AFTER ____ DAYS ____					
	+3										
GROUND SURFACE 728.62	0						-20				
	-5					Augered down to 30.0' No samples collected.	-25				
Augered down to 30.0' No samples collected. See B1 for lithologic descriptions.	-10						-30				
						Sand and Gravel - red to brown, wet.			NR	B/B	
	-15					695.62					

All Samples Taken with 2 Inch O.D. Split Spoon Sampler Unless Otherwise Indicated

Miscellaneous Data
__ - Blow Count

PR - Partial Recovery
NR - No Recovery

N½ SE¼ Section 06 T44N R2E

LPC-34 3/79

B2 (G102)
Winnebago Co.
Lovers Park / Rockford Pk. Dist.
20101501

ELEVATION	#	•	N	WELL DESIGN
-35				
			13/19	
-40				
	1		13/26	
-45				
			9/14	
-50				
			11/13	
-55				
-60				
-65				
-70				
-75				
-80				
-85				
-90				

Sand - brown, fine to medium grained, wet.

coarse sand at base.

678.12

Silty Clay - gray, very tight, damp.

677.12

End of Boring

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF LAND/NOISE POLLUTION CONTROL

BORING LOG SH. 1 of 1 SH.

COUNTY Winnebago SITE NO. 20101501 PREPARED BY Jim Geretis

SITE Loves Park / Rockford Park District BORED BY Doug Toland

DATE 4/19/83 BORING NO B3 (G103) HELPER Ken Bosie

BORING COMPLETED AS MONITOR OR LEACHATE WELL YES X NO ____ WHICH Monitor

TYPE AND LENGTH OF CASING PVC 20.0 FT CASING 2.8 FT ABOVE GROUND LEVEL

SCREENED INTERVAL ELEVATIONS 711.51 to 721.51 (100' screen)

NNULUS FILL MATERIAL	ELEVATION	#	•	N	WELL DESIGN	GROUND WATER EL.	ELEVATION	#	•	N	WELL DESIGN
BOVE PACKING Cement Slurry						AT COMPLETION 719.71					
PACKING Granular Bentonite						AFTER ____ DAYS ____					
CREEN Natural Materials.						AFTER ____ DAYS ____					
	+3										
							711.21				
						End of Boring.					
GROUND SURFACE 728.71	0										
							-20				
	-5						-25				
Augered to 17.5' No samples collected											
	-10						-30				
	-15										

All Samples Taken with 2 Inch O.D. Split Spoon Sampler Unless Otherwise Indicated

' Miscellaneous Data PR - Partial Recovery

N - Blow Count NR - No Recovery

N½ SE¼ Section 06 T44N R2E

LPC-34 3/79

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF LAND/NOISE POLLUTION CONTROL

BORING LOG SH. ___ of ___ SH.

COUNTY Winnebago SITE NO. 20101501 PREPARED BY Tim Greeth

SITE Loves Park / Rockford Park District BORED BY Doug Tolan

DATE 4/19/83 BORING NO. B4 (G104) HELPER Ken Bobie

BORING COMPLETED AS MONITOR OR LEACHATE WELL YES X NO ___ WHICH Monitor

TYPE AND LENGTH OF CASING PVC 52.0 FT CASING 1.1 FT ABOVE GROUND LEVEL

SCREENED INTERVAL ELEVATIONS 676.64 to 678.64 (2.0' SLOTTED .010 PVC)

ANNULUS FILL MATERIAL

ABOVE PACKING Cement Slurry

PACKING Granular Bentonite

SCREEN Natural Materials

GROUND WATER EL.

AT COMPLETION ___

AFTER 01 DAYS 717.74

AFTER ___ DAYS ___

ELEVATION	#	•	N	WELL DESIGN	ELEVATION	#	•	N	WELL DESIGN
+3									
GROUND SURFACE 727.64 0									
					-20				
-5									
					-25				
▼ -10									
					-30				
-15									

Augered down to 40.0'
No samples collected.

Augered down to 40.0'
No samples collected.

All Samples Taken with 2 Inch O.D. Split Spoon Sampler Unless Otherwise Indicated

▼ Encountered water.

• Miscellaneous Data PR - Partial Recovery

N - Blow Count NR - No Recovery

N½ SE¼ Section 06 T44N R2E

LPC-34 3/79

B4 (B104)
Winnebago Co.
Lake Park / Rockford Pk. Dist.
20101501

ELEVATION	#	•	N	WELL DESIGN
-35				
-40		NR	9/14	
-45		NR	6/15	
-50	1		12/17	
-55				
-60				

Sand - gray to brown, fine to medium grained, wet.
fine sand at base.
676.44

Silty Clay - gray, moderately tight, damp.
676.14

END OF BORING

ELEVATION	#	•	N	WELL DESIGN
-65				
-70				
-75				
-80				
-85				
-90				

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF LAND/NOISE POLLUTION CONTROL

BORING LOG

SH. 1 of 1 SH.

COUNTY Winnebago SITE NO. 20101501 PREPARED BY Jim Greenis

SITE Loves Park / Rockford Park District BORED BY Doug Torrey

DATE 4/20/83 BORING NO B5 (G105) HELPER Ken Bosie

BORING COMPLETED AS MONITOR OR LEACHATE WELL YES X NO ____ WHICH Monitor

TYPE AND LENGTH OF CASING PVC 20.0 FT CASING 2.3 FT ABOVE GROUND LEVE

SCREENED INTERVAL ELEVATIONS 710.27 to 720.27 (10.0' screen)

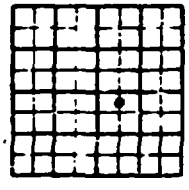
ANNULUS FILL MATERIAL	ELEVATION	#	•	N	WELL DESIGN	GROUND WATER EL.	ELEVATION	#	•	N
ABOVE PACKING Cement Slurry						AT COMPLETION 717.67				
PACKING Granular Bentonite						AFTER ____ DAYS ____				
SCREEN Natural Materials						AFTER ____ DAYS ____				
	+3									
						710.27				
						End of Boring				
GROUND SURFACE 727.77	0									
							-20			
	-5						-25			
Augered down to 17.5' No samples collected.										
	▼-10						-30			
	-15									

All Samples Taken with 2 Inch O.D. Split Spoon Sampler Unless Otherwise Indicated

▼ Encountered water.

• Miscellaneous Data PR - Partial Recovery

N - Blow Count NR - No Recovery



N½ SE¼ Section 06 T44N R2E

LPC-34 3/79

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF LAND/NOISE POLLUTION CONTROL

BORING LOG SH 1 of 1 SH.

COUNTY Winnebago SITE NO 20101501 PREPARED BY Jim Greene

SITE Lovers Park / Rockford Park District BORED BY Doug Tann

DATE 4/21/83 BORING NO B7 HELPER Ken Bosie

BORING COMPLETED AS MONITOR OR LEACHATE WELL YES ____ NO X WHICH ____

TYPE AND LENGTH OF CASING ____ ____ FT CASING ____ FT ABOVE GROUND LEVE

SCREENED INTERVAL ELEVATIONS ____

ANNULUS FILL MATERIAL	ELEVATION	#	•	N	WELL DESIGN	GROUND WATER EL.	ELEVATION	#	•	N	WELL DESIGN
ABOVE PACKING ____						AT COMPLETION ____					
PACKING ____						AFTER ____ DAYS ____					
SCREEN ____						AFTER ____ DAYS ____					
	+3										
GROUND SURFACE	0						-20				
Augered down 5.0' Refuse encountered. Borehole Backfilled.	-5						-25				
	-10						-30				
	-15										

All Samples Taken with 2 Inch O.D. Split Spoon Sampler Unless Otherwise Indicated

• Miscellaneous Data PR - Partial Recovery

N - Blow Count NR - No Recovery

N½ SE¼ Section 06 T44N R2E

LPC-34 3/79

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF LAND/NOISE POLLUTION CONTROL

BORING LOG SH 1 of 1 SH.

COUNTY Winnebago SITE NO. 20101501 PREPARED BY Jim Geeetis

SITE Loves Park / Rockford Park District BORED BY Doug Town

DATE 4/21/83 BORING NO B6 HELPER Ken Bosie

BORING COMPLETED AS MONITOR OR LEACHATE WELL YES ____ NO X WHICH ____

TYPE AND LENGTH OF CASING ____ FT CASING ____ FT ABOVE GROUND LEVEL

SCREENED INTERVAL ELEVATIONS ____

ANNULUS FILL MATERIAL ABOVE PACKING ____ PACKING ____ SCREEN ____	ELEVATION	#	•	N	WELL DESIGN	GROUND WATER EL. AT COMPLETION ____ AFTER ____ DAYS ____ AFTER ____ DAYS ____	ELEVATION	#	•	N	WELL DESIGN
	+3										
GROUND SURFACE	0										
							-20				
Augered down 5.0' Refuse encountered. Borehole Backfilled.	-5										
							-25				
	-10										
							-30				
	-15										

All Samples Taken with 2 Inch O.D. Split Spoon Sampler Unless Otherwise Indicated

• Miscellaneous Data PR - Partial Recovery

N - Blow Count NR - No Recovery

N½ SE¼ Section 06 T44N R2E

LPC-34 3/79

APPENDIX B

SAMPLE DATA

Site Name / TDD#: Sand Pask / RS-8303-16
Case Number : 4129
Sampling Date: 4/1/85
Sampling Time: 1730
Sample/Station Location: G 102

Organic Traffic Number EB 939
Inorganic Traffic Number MED 059
High Hazard Traffic Number E

Tags- 5-013795 - 5-013800

Physical Description
At time of collection: Clear.

Physical Changes (if any)
From time of collection until shipment: None Known.

Instrument Readings (i.e. - pH, conductivity...): PH-3, temp-10°C
Conductivity - 650 µmho

Sampling Date: 4/1/85
Sampling Time: 1715
Sample/Station Location: G 103

Organic Traffic Number EB 940
Inorganic Traffic Number MED 060
High Hazard Traffic Number E

Tags 5-76551 - 5-76556

Physical Description
At time of collection: Clear.

Physical Changes (if any)
From time of collection until shipment: None Known

Instrument Readings (i.e. - ph, conductivity...): PH-6, temp-10°C
Conductivity - 700 µmho

Site Name / TDD#: Sand Park / RS-8303-16
Case Number: 4129
Sampling Date: 4-1-85
Sampling Time: 1620
Sample/Station Location: 6104, Matrix Spike Duplicate

Organic Traffic Number EB 941
Inorganic Traffic Number MED 061
High Hazard Traffic Number E

Tags - 5-76557 - 5-76562
5-76593 - 5-76596

Physical Description
At time of collection: Clear.

Physical Changes (if any)
From time of collection until shipment: None Known.

Instrument Readings (i.e. - pH, conductivity...):
PH-6, temp-10°C, Conductivity - 480 µmho

Sampling Date: 4/1/85
Sampling Time: 1645
Sample/Station Location: 6105

Organic Traffic Number EB 942
Inorganic Traffic Number MED 062
High Hazard Traffic Number E

Tags - 5-76563 - 5-76568

Physical Description
At time of collection: turbid, light brown.

Physical Changes (if any)
From time of collection until shipment: None Known.

Instrument Readings (i.e. - ph, conductivity...):
PH-6.5, temp-9°C, conductivity - 800 µmho

Site Name / TDD#: Sand Park / R5-8303-16
Case Number : 4129
Sampling Date: 4/1/85
Sampling Time: 1342
Sample/Station Location: G106

Organic Traffic Number EO 101
Inorganic Traffic Number MEO 093
High Hazard Traffic Number E

Tags: 5-76564 - 5-76574

Physical Description
At time of collection: Slightly Cloudy.

Physical Changes (if any)
From time of collection until shipment: None Known

Instrument Readings (i.e. - pH, conductivity...): pH-6, conductivity-340 µm
temperature - 12°C

Sampling Date: 4/1/85
Sampling Time: 1317
Sample/Station Location: G107

Organic Traffic Number EO 102
Inorganic Traffic Number MEO 094
High Hazard Traffic Number E

Tags 5-76575 - 5-76580

Physical Description
At time of collection: Clear

Physical Changes (if any)
From time of collection until shipment: None Known

Instrument Readings (i.e. - ph, conductivity...): Ph-5
Conductivity - 480 µmho, temperature - 12°C

Site Name / TDD#: Sand Pack / RS-8303-16
Case Number : 4129
Sampling Date: 4/1/85
Sampling Time: 1645
Sample/Station Location: G108 Duplicate to G105

Organic Traffic Number ED 103
Inorganic Traffic Number MED 095
High Hazard Traffic Number E

Tags - 5-76581-5-76586

Physical Description
At time of collection: Turbid, light brown.

Physical Changes (if any)
From time of collection until shipment: None known

Instrument Readings (i.e. - pH, conductivity...): Ph-6.5
Conductivity - 800 µmho, temperature - 9°C

Sampling Date: 4/1/85
Sampling Time: 1120
Sample/Station Location: Blank

Organic Traffic Number ED 104
Inorganic Traffic Number MED 096
High Hazard Traffic Number E

Tags - 5-76587-5-76592.

Physical Description
At time of collection: Clear

Physical Changes (if any)
From time of collection until shipment: None known

Instrument Readings (i.e. - ph, conductivity...): ph-5
Conductivity 2µmho, temperature - 7°C

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223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL. 312-663 9415
International Specialists in the Environmental Sciences

Date Received for Review: 5/22/85 Date Review Completed: 5/23/85

To: Kevin Phillips

From: Cynthia Bachunas / ARLENE PRATT

Subject: SAND PARK R05-8303-016

Sample Description: CASE # 4129 low water organics

Project Data Status: Complete

FIT Data Review Findings:

see attached CRL review

for additional QA/QC info see original data packet on file

- extra copy of data packet included

Additional Comments:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 5/16/85

SUBJECT: Review of Region V CLP Data
Received for Review on 5-3-85

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: FIT

RECEIVED MAY 22 1985

We have reviewed the data for the following case(s).

SITE NAME: Sand Park SMO Case No. 4129

EPA Data Set No. SF2238 No. of Samples: 8 D.U./Activity Numbers 1905 / C48500

CRL No. 85FP03582 to 85FP03R12

SMO Traffic No. EB939 to ED104

CLP Laboratory: Cal Hrs. Required for Review: 15

Following are our findings.

1. VOA SAMPLE HOLDING TIMES EXCEEDED BY 2-3 DAYS, POSITIVE VALUES CONSIDERED APPROXIMATE.
2. PEST./PCB STANDARD SUMMARY INDICATED UNSTABLE GC CONDITIONS MAY BE PRESENT. SAMPLE ED104 SHOULD BE RE-ANALIZED.
3. INITIAL AND CONTINUING CALIBRATION OUT OF SPEC. RELATED DATA FLAGGED AS ESTIMATED VALUES ONLY.
   CHLORO METHANE $\overline{RF}$ = .09 AND BROMOFORM $\overline{RF}$ = .155 THESE VOA SPCC COMPOUNDS DO NOT MEET MINIMUM $\overline{RF}$ CRITERIA OF 0.300. VINYL CHLORIDE %D IN CONTINUING CALIBRATION IS GREATER THAT THE CCC LIMIT OF 25%
   ABN CCC COMPOUNDS, PHENOL AND DI-N-OCTYL PHTHALATE, HAVE %RSD GREATER THAN 30% IN THE INITIAL CALIBRATIONS.

Patrick J. Chmielko
5-15-85

( ) Data are acceptable for use.
( ) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

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DATA QUALIFIERS

Contractor: CAL

Case CASE 4129

Below is a summary of the out of control audits and the possible effect on the data for this case:

SAMPLE HOLDING TIMES FOR VOA ANALYSIS WERE EXCEEDED BY 2-3 DAYS. ANY POSITIVE HITS WILL BE CONSIDERED APPROXIMATE VALUES.

THE VOA BLANKS CONTAINED RELATIVELY HIGH AMOUNTS OF ACETONE BUT ALL BLANKS WERE OTHERWISE ACCEPTABLE.

CONCERNING THE PEST/PCB STANDARD SUMMARY ON 4-23-85, TIME 8:51, THE LARGE % DIFFERENCE IN RESPONSE FACTORS INDICATES THAT SAMPLE ED104 SHOULD HAVE BEEN REANALIZED. REANALYSIS IN NOT PRESENT.

INITIAL AND CONTINUING CALIBRATION HAS BEEN ~~AN~~ A PROBLEM FOR CAL FOR SOME TIME. A NUMBER OF SPCC AND CCC COMPOUNDS WERE OUT OF SPEC. ALONG WITH NUMEROUS HSL COMPOUNDS (SEE ATTACHED LIST) ALL RELATED DATA WILL BE FLAGGED AS ESTIMATED.

Reviewed by: Patrick J. Chuille

Phone: 352-2720

Date: 5-14-85

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CASE 4182

INITIAL CALIBRATION OUTLIERS

COMPOUND NAME	VOA 2-5-85	ABN 4-8-85	ABN 4-30-85
CHLOROMETHANE	$\overline{RF}$ = .09		
BROMOFORM	$\overline{RF}$ = .155		
VINYL CHLORIDE	%D: 53.7		
ACETONE	%D: 45.8		
2-BUTANONE	%D = 38.8 $\overline{RF}$ = .029		
BROMODICHLOROMETHANE	$\overline{RF}$ = .027		
2-CHLOROETHYL VINYL ETHER			
BENZIDINE		$\overline{RF}$ = 0.0	$\overline{RF}$ = 0.0
PHENOL		%RSD = 39.3	~~%RSD = 37.3~~
DI-N-OCTYL PHTHALATE			%RSD = 49.2
BENZO(A)PYRENE			%RSD = 31.8
N-NITROSODIMETHYL AMINE		$\overline{RF}$ = 0.0	$\overline{RF}$ = 0.0
BIS(2-CHLOROETHYL)ETHER		%RSD = 52.7	
4-CHLOROANILINE		%RSD = 54.5	%RSD = 85.9
3-NITROANILINE		%RSD = 82.4	%RSD = 43.7
4-NITROANILINE		%RSD = 51.3	
BIS(2-ETHYLHEXYL)PHTHALATE		%RSD = 36.3	
3,3-DICHLOROBENZIDINE			$\overline{RF}$ = 0.0
ANILINE			%RSD = 61.8
1,3-DICHLOROBENZENE			%RSD = 30.5
NAPHTHALENE			%RSD = 30.7
4-DINITROTOLUENE			%RSD = 31.1
BENZO(A)ANTHRACENE			%RSD = 35.7

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INITIAL CALIBRATION OUTLIERS CONTINUED

COMPOUND NAME	ABN 4-8-85	ABN 4-30-85
BENZO (b OR k) FLUORANTHENE		%RSD = 37.0
DIBENZO(A, H)ANTHRACENE		%RSD = 32.4
BENZO (GHI) PERYLENE		%RSD = 33.3

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VOA CONTINUING CALIBRATION OUTLIERS

COMPOUND NAME	2-5-85 TIME 18:46	4-10-85 TIME 9:24	4-10-85 TIME 18:51
CHLOROMETHANE	RF = .154 %D = 70.2	%D = 342.4	RF = .07
BROMOFORM	RF = .138	RF = .134	RF = .144
VINYL CHLORIDE	%D = 48.3 RF = .05	%D = 141.6 RF = .032	%D = 41.0 RF = .036
VINYL ACETATE		%D = -43.1	%D = -35.0 RF = .037
2-BUTANONE	%D = 39.0 RF = .034	RF = .028	%D = -50.6 RF = .029
BROMODICHLOROMETHANE	RF = .023	RF = .009	RF = .01
2-CHLOROETHYL VINYL ETHER		%D = -69.8	%D = -64.3
ACETONE			%D = -25.6
CARBON DISULFIDE		%D = -53.6	%D = -29.9
1,1,2,2-TETRACHLOROETHANE	%D = 31.9	%D = -32.7	
2-HEXANONE		%D = -44.3	%D = -26.2
STYRENE		%D = -35.8 RF = .026	%D = -35.3
1,1,1-TRICHLOROETHANE		%D = -66.0	
1,1-DICHLOROETHANE		%D = -27.5	
4-METHYL-2-PENTANONE		%D = -32.9	

RECEIVED MAY 2 2 1985

ABN CONTINUING CALIBRATION OUTLIERS

COMPOUND NAME	4-26-85 TIME 19:27	4-29-85 TIME 7:38	4-29-85 TIME 18:24	4-30-85 TIME 11:39
BENZIDINE	RF = 0.0	RF = 0.0	RF = 0.0	RF = 0.0
HEXACHLOROCYCLOPENTADIENE	%D = -84.1	%D = -46.9	%D = -50.4	
4-NITROPHENOL	%D = 66.4			
FLUORANTHENE	%D = 27.3		%D = 31.5	
DI-N-OCTYL PHTHALATE	%D = 41.9	%D = 105.4	%D = 101.7	
BENZO(A)PYRENE	%D = 38.3		%D = 28.2	%D = 25.3
N-NITROSODIMETHYLAMINE	RF = 0.0	RF = 0.0		RF = 0.0
3,3-DICHLOROBENZIDINE	RF = 0.0	RF = 0.0	RF = 0.0	RF = 0.0
HEXACHLOROETHANE	%D = -34.5			
BENZYL ALCOHOL	%D = 29.9			
NITROBENZENE	%D = 61.6	%D = 63.1	%D = 56.4	
ISOPHORONE	%D = 58.4	%D = 50.2	%D = 74.0	
2,4-DIMETHYLPHENOL	%D = 25.4			
BIS(2-CHLOROETHOXY)METHANE	%D = 31.0		%D = 27.6	
BENZOIC ACID	%D = -58.5			
2,4-DINITROTOLUENE	%D = 57.1		%D = 39.5	
3-NITROANILINE	%D = 39.4	%D = -31.4	%D = -43.2	
DI-N-BUTYL PHTHALATE	%D = 28.6	%D = 77.9	%D = 43.4	
BENZO(b OR K)FLUORANTHENE	%D = 29.2	%D = 31.6	%D = 27.7	%D = 28.9
ANILINE		%D = -53.1	%D = -31.5	
4-CHLOROANILINE		%D = -40.8	%D = -30.9	
2,4-DINITROPHENOL		%D = -33.8		
4-NITROANILINE		%D = -45.5		
PYRENE		%D = 37.5		
BUTYL BENZYL PHTHALATE		%D = 50.6	%D = 35.7	
~~BIS(2-ETHYLHEXYL)PHTHALATE~~		~~%D = 69.2~~		

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CASE 7187

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ABN CONTINUING CALIBRATION OUTLIERS

COMPOUND NAME	4-26-85 Time 19:21	4-29-85 Time 7:38	4-29-85 Time 18:24	4-30-85 Time 11:39
BIS(2-ETHYLHEXYL)PHTHALATE		%D = 69.2	%D = 38.5	
BENZO(GHI)PERYLENE				%D = 30.5

California Analytical Laboratories, Inc.
2544 Industrial Boulevard • West Sacramento, CA 95691 • (916) 372-1393

May 1, 1985

RECEIVED MAY 22 1985

Dr. Fred Haeberer
U.S. EPA
Hazardous Waste Investigation
401 M Street, SW
Washington, DC 20460

SF2238

Dear Dr. Fred Haeberer:

Enclosed are data summary sheets and documentation for samples and QA/QC comprising Case 4129 of Contract 68-01-6958. These samples were received 4/ 2/85 and logged in under the following CAL Lab numbers:

RECEIVED
MAY 03 1985
U.S. EPA CENTRAL REGIONAL LAB.
536 S CLARK STREET
CHICAGO, ILLINOIS 60605

CAL Lab Number	Sample I.D
L728	EB939
L729	EB940
L730	EB941
L731	EB942
L732	ED101
L733	ED102
L734	ED103
L735	ED104

The samples were analyzed as low concentration water samples. The QA/QC data is satisfactory.

The following comments pertain to the initial and on-going calibration curves for volatiles and acid/base neutrals. The initial 5--point curve for volatile organics was reduced to a 4--point curve because the high-level standard saturated our systems. This is allowed by the contract. Two of the SPCC compounds are also outside the contract windows on both the initial curve and the on-going calibration curve; bromoform and methyl chloride. The bromoform has been a continual problem for us since the contract switched to the aromatic internal standards for quantitation. We have checked purge rates, temperatures, and replaced the traps, yet the Rf continually runs about 0.20. We have informed the program of this problem, and it is our understanding that the SPCC value is going to be lowered. The difficulties with methyl chloride and vinyl chloride result from highly variable standards which we obtain from Supelco (our sole source for the gas standards). Over 50% of the standards have had incorrect levels of both methyl chloride and vinyl chloride while bromomethane and chloroethane stay quite constant. We are working on this problem with Supelco but until it is resolved the Rf's for these two compounds will be erratic. We have documented that the correct Rf is about 1.2—1.5 for both compounds, and when we have samples that show positive responses for either compound, they are re-run with an accurate standard.

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In the case of the acid/base neutrals, we have been unable to see benzidine in any of our standards except for the first day they are prepared. This is caused by two problems. First, the method itself is inappropriate for benzidine, as documented in EPA Method 605. Also, it degrades in the standards when combined with the other compounds. These two facts make it impossible to use on either the initial or continuing calibration curve. We also have difficulty with the di-n-octyl phthalate response factor being quite variable. We suspect the difficulty is with the injection port, and that the problem could be solved with an on-column injector. When this is the only CCC value out, we do not re-run the curve since many times the Rf has dropped out of the 25% window in less than 24 hours, then it often falls back in the next day.

These problems have all been discussed in detail with EMSL-LV and at the EPA caucus in Atlanta, and we know that several labs share these difficulties. We firmly believe that the quality of our data is not in question even though we are technically out of contractual compliance concerning the above discussed items. If you have any questions, please give us a call.

Sincerely,

Paul A. Taylor for

Michael J. Miille, PhD
Director of GC/MS Services

Karin S. Yee

Karin S. Yee
Data Specialist

U.S. ENVIRONMENTAL PROTECTION AGENCY - CLP Sample Management Office
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form 1 page 1

DATA PREP/RELEASE BY: DB, TAJ

SAMPLE NO: VOA BLANK

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: VBK30410B
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/10/85
DATE ANALYZED: 4/10/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

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PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 U	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 U	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 J	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	13	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 U	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 U
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 U
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 U
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 J	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 U	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 U	CL18	100-42-5	styrene	5 U
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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form 1 page 1

DATA PREP/RELEASE BY: DB / fAB

SAMPLE NO: VOA BLANK

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: VBK30411
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/11/85
DATE ANALYZED: 4/11/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

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PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 U	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 U	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 J	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	15	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 U	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 U
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 U
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 U
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	11	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 U	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 U	CL18	100-42-5	styrene	5 U
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

VALUE- If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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form 1 page 2

DATA PREP/RELEASE BY: Lym / PAS

SAMPLE NO: METHOD BLANK

RECEIVED MAY 22 1985

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L728MB
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/26/85
CONC/DIL FACTOR: 1L/2ML

PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 U	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 U	59A	51-28-5	2,4-dinitrophenol	50 U
CL5	62-53-3	aniline	10 U	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 U	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 U
26B	541-73-1	1,3-dichlorobenzene	10 U	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 U
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	10 U
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 U	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 U	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	10 U
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 U
43B	111-91-1	bis(2-chloroethoxy) methane	10 U	5B	92-87-5	benzidine	100 U
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 U
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 U
55B	91-20-3	naphthalene	10 U	28B	91-94-1	3,3'-dichlorobenzidine	20 U
CL7	106-47-8	4-chloroaniline	10 U	72B	56-55-3	benzo(a)anthracene	10 U
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	10 J
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 U
53B	77-47-4	hexachlorocyclopentadiene	10 U	74B	205-99-2	benzo(b)fluoranthene(2)	10 U
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 U
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 U
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 U
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 U
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 U				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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form 1 page 3

DATA PREP/RELEASE BY: DB, PAS

SAMPLE NO: METHOD BLANK

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L728MB

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

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PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

ORGANICS ANALYSIS DATA SHEET

AB NAME: CAL CASE NO. 4129 SAMPLE NO. METHOD

QC REPORT NO. 63 LAB SAMPLE NO. L728MBAB

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
	NO A/BN				

no volatile compound found.

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form 1 page 1

85FP03582

DATA PREP/RELEASE BY: DB / P01

SAMPLE NO: EB 939

6102

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L728
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/10/85
DATE ANALYZED: 4/10/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

RECEIVED MAY 2 2 1985

PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 UJ	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 UJ	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 U	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	10 UJ	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 UJ	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 UJ
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 UJ
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 UJ
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 UJ	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 UJ	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 UJ	CL18	100-42-5	styrene	5 UJ
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

RECEIVED MAY 2 2 1985

VALUE- If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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form 1 page 2

DATA PREP/RELEASE BY: DB, PGJ

SAMPLE NO: EB 939 6102

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L728
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

RECEIVED MAY 22 1985

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/26/85
CONC/DIL FACTOR: 1L/2ML

PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 UJ	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 UJ	59A	51-28-5	2,4-dinitrophenol	50 U
CL5	62-53-3	aniline	10 U	58A	100-02-7	4-nitrophenol	50 UJ
18B	111-44-4	bis(2-chloroethyl)ether	10 UJ	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 UJ
26B	541-73-1	1,3-dichlorobenzene	10 U	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 UJ	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 UJ
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	10 U
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 UJ	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 UJ	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 UJ	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 UJ	68B	84-74-2	di-n-butyl phthalate	10 UJ
CL1	65-85-0	benzoic acid	50 UJ	39B	206-44-0	fluoranthene	10 UJ
43B	111-91-1	bis(2-chloroethoxy) methane	10 UJ	5B	92-87-5	benzidine	100 UJ
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 U
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 U
55B	91-20-3	naphthalene	10 U	28B	91-94-1	3,3'-dichlorobenzidine	20 UJ
CL7	106-47-8	4-chloroaniline	10 UJ	72B	56-55-3	benzo(a)anthracene	10 U PSC 8-13-85
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	~~10 JB~~ 8 J
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 U# J
53B	77-47-4	hexachlorocyclopentadiene	10 UJ	74B	205-99-2	benzo(b)fluoranthene(2)	10 UJ
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 UJ
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 UJ
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 U
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 U
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 UJ				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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form 1 page 3

DATA PREP/RELEASE BY: TB / PJS

SAMPLE NO: EB 939 G102

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L728

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

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PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

ORGANICS ANALYSIS DATA SHEET

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. EB99,

QC REPORT NO. 63 LAB SAMPLE NO. L72801AB

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	143-07-7	DODECANDICACID	A/BN	972	790	6.1 UG/L
2.	55622-59-8	1,3-DIOXOLANE,4-HEPTADECYL-2,2	A/BN	1612	500	21.5 UG/L
3.	131-18-0	1,2-BENZENEDICARBOXYLICACID,DI	A/BN	1626	715	8.8 UG/L
4.	142-18-7	DODECANDICACID,2,3-DIHYDROXYPR	A/BN	1643	447	6.6 UG/L
5.	131-18-0	1,2-BENZENEDICARBOXYLICACID,DI	A/BN	1727	657	7.0 UG/L
6.	54986-42-4	THIOPHENE,2-(DECYLTHIO)-	A/BN	1902	228	1.8 UG/L

	COMPOUND NAME		PROBABILITY		COMMENTS
1.	DODECANDICACID	1.	A	1.	
2.	1,3-DIOXOLANE,4-HEPTADECYL-2,2	2.	C	2.	
3.	1,2-BENZENEDICARBOXYLICACID,DI	3.	B	3.	see Scan ~~1626~~ 1727
4.	DODECANDICACID,2,3-DIHYDROXYPR	4.	C	4.	
5.	1,2-BENZENEDICARBOXYLICACID,DI	5.	B	5.	see Scan 1626
6.	THIOPHENE,2-(DECYLTHIO)-	6.	C	6.	

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No volatile compounds found.

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85FP03583 6103

DATA PREP/RELEASE BY: DB/ PA

SAMPLE NO: EB 940

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs
LAB SAMPLE NO: L729
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/11/85
DATE ANALYZED: 4/11/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

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PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 UJ	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 UJ	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 U	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	130 BJ	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 UJ	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 UJ
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 UJ
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 UJ
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 UJ	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 UJ	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 UJ	CL18	100-42-5	styrene	5 UJ
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

VALUE- If the result is a value greater than or equal to the detection limit, report the value.

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U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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form 1 page 2

DATA PREP/RELEASE BY: DB, PGA

SAMPLE NO: EB 940 6103

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L729
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/30/85
CONC/DIL FACTOR: 1L/2ML

PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 UJ	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 U	59A	51-28-5	2,4-dinitrophenol	50 UJ
CL5	62-53-3	aniline	10 UJ	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 U	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 UJ
26B	541-73-1	1,3-dichlorobenzene	10 UJ	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 UJ
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	10 U
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 UJ	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 UJ	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	10 UJ
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 U
43B	111-91-1	bis(2-chloroethoxy) methane	10 U	5B	92-87-5	benzidine	100 UJ
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 UJ
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 UJ
55B	91-20-3	naphthalene	10 UJ	28B	91-94-1	3,3'-dichlorobenzidine	20 UJ
CL7	106-47-8	4-chloroaniline	10 UJ	72B	56-55-3	benzo(a)anthracene	10 UJ
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	4 ~~38~~ JB
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	4 ~~10~~ J
53B	77-47-4	hexachlorocyclopentadiene	10 UJ	74B	205-99-2	benzo(b)fluoranthene(2)	10 UJ
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 UJ
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 UJ
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 UJ
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 UJ
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 UJ				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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DATA PREP/RELEASE BY: DB, PJS

SAMPLE NO: EB 940 G103

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L729

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

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PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. EB940

QC REPORT NO. 63 LAB SAMPLE NO. L72901ABR2

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	143-07-7	DODECANOICACID	A/BN	1034	824	9.1 UG/L
2.	55622-59-8	1,3-DIOXOLANE,4-HEPTADECYL-2,2	A/BN	1691	451	12.3 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. DODECANOICACID	1. B	1.
2. 1,3-DIOXOLANE,4-HEPTADECYL-2,2	2. C	2.

no volatile compounds found

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form 1 page 1

85FP03584

DATA PREP/RELEASE BY: DB / PW

SAMPLE NO: EB 941 G104

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L730
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/10/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/10/85
DATE ANALYZED: 4/10/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

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PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 UJ	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 UJ	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 UJ	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	32 UJ	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 UJ	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 UJ
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 UJ
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 UJ
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	~~10 UB~~ 6UJ	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 UJ	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 UJ	CL18	100-42-5	styrene	5 UJ
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

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VALUE- If the result is a value greater than or equal to the detection limit report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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DATA PREP/RELEASE BY: DB-PW

SAMPLE NO: EB 941 G104

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L730
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/29/85
CONC/DIL FACTOR: 1L/2ML

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PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 UJ	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 UJ	59A	51-28-5	2,4-dinitrophenol	50 U
CL5	62-53-3	aniline	10 UJ	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 UJ	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 U
26B	541-73-1	1,3-dichlorobenzene	10 U	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 UJ
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	~~10 J~~ 5 J
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 UJ	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 UJ	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	~~10 J~~ 2 J
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 U
43B	111-91-1	bis(2-chloroethoxy) methane	10 U	5B	92-87-5	benzidine	100 UJ
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 UJ
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 UJ
55B	91-20-3	naphthalene	10 U	28B	91-94-1	3,3'-dichlorobenzidine	20 UJ
CL7	106-47-8	4-chloroaniline	10 UJ	72B	56-55-3	benzo(a)anthracene	10 U
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	48 BJ
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 UJ
53B	77-47-4	hexachlorocyclopentadiene	10 UJ	74B	205-99-2	benzo(b)fluoranthene(2)	10 UJ
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 UJ
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 U
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 U
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 U
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 UJ				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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form 1 page 3

DATA PREP/RELEASE BY: DB / PGS

SAMPLE NO: EB 941 6104

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L730

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

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VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

ORGANICS ANALYSIS DATA SHEET

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. EB941.

JC REPORT NO. 63 LAB SAMPLE NO. L73001AB

'ROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	105-60-2	2H-AZEPIN-2-ONE, HEXAHYDRO-	A/BN	730	918	39.2 UG/L
2.	629-59-4	TETRADECANE	A/BN	836	886	13.7 UG/L
3.	5353-25-3	ETHANOL, 2-(9-OCTADECENYLOXY)-,	A/BN	1561	631	8.9 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. 2H-AZEPIN-2-ONE, HEXAHYDRO-	1. A	1.
2. TETRADECANE	2. A	2.
3. ETHANOL, 2-(9-OCTADECENYLOXY)-,	3. ~~C~~ B	3.

no volatile compounds found

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85FP03585

DATA PREP/RELEASE BY: DB, PAJ

SAMPLE NO: EB 942 G105

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L731
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/10/85
DATE ANALYZED: 4/10/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 U J	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 U J	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 U	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	10 U J	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 U J	4V	71-43-2	benzene	~~5 U~~ 3 J
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 U J
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 U J
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 U J
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 U J	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	~~5 U~~ 4 J
CL19	108-05-4	vinyl acetate	10 U J	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 U J	CL18	100-42-5	styrene	5 U J
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

VALUE- If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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DATA PREP/RELEASE BY: DB / PAS

SAMPLE NO: EB 942 G105

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L731
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

RECEIVED MAY 22 1985

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/29/85
CONC/DIL FACTOR: 1L/2ML

PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 UJ	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 UJ	59A	51-28-5	2,4-dinitrophenol	50 UJ
CL5	62-53-3	aniline	10 UJ	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 UJ	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 U
26B	541-73-1	1,3-dichlorobenzene	10 U	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	3J ~~40 J~~	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 UJ
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	~~10 J~~ 2J
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 UJ	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 UJ	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	10 UJ
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 U
43B	111-91-1	bis(2-chloroethoxy) methane	10 U	5B	92-87-5	benzidine	100 UJ
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 UJ
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 UJ
55B	91-20-3	naphthalene	10 U	28B	91-94-1	3,3'-dichlorobenzidine	20 UJ
CL7	106-47-8	4-chloroaniline	10 UJ	72B	56-55-3	benzo(a)anthracene	10 U
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	10 ~~40~~ UJ
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 UJ
53B	77-47-4	hexachlorocyclopentadiene	10 UJ	74B	205-99-2	benzo(b)fluoranthene(2)	10 UJ
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 UJ
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 U
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 U
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 U
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 UJ				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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DATA PREP/RELEASE BY: DB / PAS

SAMPLE NO: EB-942 G105

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L731

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

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PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

ORGANICS ANALYSIS DATA SHEET

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. EB942.

C REPORT NO. 63 LAB SAMPLE NO. L73101AB

RDBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	496-11-7	1H-INDENE, 2, 3-DIHYDRO-	A/BN	488	862	12.1 UG/L
2.	629-59-4	TETRADECANE	A/BN	836	887	13.5 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. 1H-INDENE, 2, 3-DIHYDRO-	1. B	1. Or related compound
2. TETRADECANE	2. A	2.

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no volatile compounds found

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85FP03586

DATA PREP/RELEASE BY: bjm / PA3

SAMPLE NO: ED 101 G106

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L732
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/10/85
DATE ANALYZED: 4/10/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

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PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 UJ	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 UJ	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 U	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	10 UJ	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 UJ	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 UJ
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 UJ
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 UJ
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 UJ	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 UJ	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 UJ	CL18	100-42-5	styrene	5 UJ
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

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VALUE- If the result is a value greater than or equal to the detection report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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form 1 page 2

DATA PREP/RELEASE BY: DB PDJ

SAMPLE NO: ED 101 6106

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L732
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

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CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/29/85
CONC/DIL FACTOR: 1L/2ML

PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 UJ	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 UJ	59A	51-28-5	2,4-dinitrophenol	50 UJ
CL5	62-53-3	aniline	10 UJ	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 UJ	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 U
26B	541-73-1	1,3-dichlorobenzene	10 U	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 UJ
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	~~10 J~~ 3J
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 UJ	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 UJ	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	~~10 J~~ 2J
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 U
43B	111-91-1	bis(2-chloroethoxy) methane	10 U	5B	92-87-5	benzidine	100 UJ
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 UJ
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 UJ
55B	91-20-3	naphthalene	10 U	28B	91-94-1	3,3'-dichlorobenzidine	20 UJ
CL7	106-47-8	4-chloroaniline	10 UJ	72B	56-55-3	benzo(a)anthracene	10 U
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	74 BJ
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 UJ
53B	77-47-4	hexachlorocyclopentadiene	10 UJ	74B	205-99-2	benzo(b)fluoranthene(2)	10 UJ
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 UJ
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 U
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 U
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 U
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 UJ				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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DATA PREP/RELEASE BY: DB / PA

SAMPLE NO: ED 101 G106

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L732

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

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PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

ORGANICS ANALYSIS DATA SHEET

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. ED10

GC REPORT NO. 63 LAB SAMPLE NO. L73201AB

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	108-94-1	CYCLOHEXANONE	A/BN	302	918	13.4 UG/L
2.	105-60-2	2H-AZEPIN-2-ONE, HEXAHYDRO- Dielectric artifact	A/BN	726	950	62.0 UG/L
3.	629-59-4	TETRADECANE	A/BN	831	884	12.0 UG/L
4.	544-76-3	HEXADECANE	A/BN	983	694	8.4 UG/L
5.	112-52-7	DODECANE, 1-CHLORO-	A/BN	1171	776	7.6 UG/L
6.	629-73-2	1-HEXADECENE	A/BN	1278	696	72.1 UG/L
7.	2425-54-9	TETRADECANE, 1-CHLORO-	A/BN	1292	683	8.6 UG/L
8.	5353-25-3	ETHANOL, 2-(9-OCTADECENYLOXY)-,	A/BN	1422	808	20.0 UG/L
9.	5353-25-3	ETHANOL, 2-(9-OCTADECENYLOXY)-,	A/BN	1555	703	35.4 UG/L
10.	5353-25-3	ETHANOL, 2-(9-OCTADECENYLOXY)-,	A/BN	1684	579	36.3 UG/L
11.	630-07-9	PENTATRIACONTANE	A/BN	1772	541	10.6 UG/L
12.	2136-71-2	ETHANOL, 2-(HEXADECYLOXY)-	A/BN	1874	419	19.6 UG/L

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	COMPOUND NAME	PROBABILITY	
1.	CYCLOHEXANONE	1. A	1.
2.	2H-AZEPIN-2-ONE, HEXAHYDRO- Field artifact	2. A	2.
3.	TETRADECANE	3. A	3.
4.	HEXADECANE	4. B	4. Alkane
5.	DODECANE, 1-CHLORO-	5. B	5. Chlorinated Alkane
6.	1-HEXADECENE	6. B	6.
7.	TETRADECANE, 1-CHLORO-	7. B	7.
8.	ETHANOL, 2-(9-OCTADECENYLOXY)-,	8. B	8. Or related compound
9.	ETHANOL, 2-(9-OCTADECENYLOXY)-,	9. B	9. " " "
10.	ETHANOL, 2-(9-OCTADECENYLOXY)-,	10. C	10.
11.	PENTATRIACONTANE	11 B	11. Alkane
12.	ETHANOL, 2-(HEXADECYLOXY)-	12. C	12.

no volatile compounds found.

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85FP03587

DATA PREP/RELEASE BY: DB / PAS

SAMPLE NO: ED 102 6107

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L733
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

RECEIVED MAY 2 2 1985

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/11/85
DATE ANALYZED: 4/11/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 U J	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 U J	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 U	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	10 UJ	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 UJ	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 U J
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 U J
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 UJ
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 UJ	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 UJ	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 UJ	CL18	100-42-5	styrene	5 UJ
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

VALUE- If the result is a value greater than or equal to the detection limit, report the value.

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U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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DATA PREP/RELEASE BY: DB, PAJ

SAMPLE NO: ED 102 G107

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L733
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/30/85
CONC/DIL FACTOR: 1L/2ML

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PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 UJ	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 U	59A	51-28-5	2,4-dinitrophenol	50 U
CL5	62-53-3	aniline	10 UJ	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 U	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 UJ
26B	541-73-1	1,3-dichlorobenzene	10 UJ	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 U
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	10 U
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 U	64A	87-86-5	pentachlorophenol	~~50 J~~ 14 J
54B	78-59-1	isophorone	10 U	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	10 U
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 U
43B	111-91-1	bis(2-chloroethoxy) methane	10 U	5B	92-87-5	benzidine	100 UJ
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 U
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 U
55B	91-20-3	naphthalene	10 UJ	28B	91-94-1	3,3'-dichlorobenzidine	20 UJ
CL7	106-47-8	4-chloroaniline	10 UJ	72B	56-55-3	benzo(a)anthracene	10 UJ
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	46 BJ
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 UJ
53B	77-47-4	hexachlorocyclopentadiene	10 U	74B	205-99-2	benzo(b)fluoranthene(2)	10 UJ
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 UJ
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 UJ
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 UJ
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 UJ
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 UJ				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

U.S. ENVIRONMENTAL PROTECTION AGENCY - CLP Sample Management Office
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form 1 page 3

DATA PREP/RELEASE BY: DB, PAJ

SAMPLE NO: ED 102 6107

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L733

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

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PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. ED102,

QC REPORT NO. 63 LAB SAMPLE NO. L73301ABR

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	105-60-2	2H-AZEPIN-2-ONE, HEXAHYDRO-	A/BN	787	947	57.4 UG/L
2.	87-86-5	PHENOL, PENTACHLORO-	A/BN	1177	816	11.2 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. 2H-AZEPIN-2-ONE, HEXAHYDRO-	1. A	1.
2. PHENOL, PENTACHLORO-	2. A	2. See, OC

no volatile compounds found

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85FP03D85

DATA PREP/RELEASE BY: DB, PAJ

SAMPLE NO: ED 103 Dup 6105

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L734
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/11/85
DATE ANALYZED: 4/11/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

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PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 UJ	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 UJ	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 U	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	10 UJ	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 UJ	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 UJ
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 UJ
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 UJ
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 UJ	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 UJ	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 UJ	CL18	100-42-5	styrene	5 UJ
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

VALUE- If the result is a value greater than or equal to the detection limit, report the value.

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U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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DATA PREP/RELEASE BY: DB — PM1

SAMPLE NO: ED 103 6105 Dup

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L734
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

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CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/29/85
CONC/DIL FACTOR: 1L/2ML

PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 U J	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 U J	59A	51-28-5	2,4-dinitrophenol	50 U
CL5	62-53-3	aniline	10 U J	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 U J	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 U J
26B	541-73-1	1,3-dichlorobenzene	10 U	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 U J
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	10 U
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 U J	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 U J	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	10 U J
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 U J
43B	111-91-1	bis(2-chloroethoxy) methane	10 U J	5B	92-87-5	benzidine	100 U J
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 U
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 U J
55B	91-20-3	naphthalene	10 U	28B	91-94-1	3,3'-dichlorobenzidine	20 U J
CL7	106-47-8	4-chloroaniline	10 U J	72B	56-55-3	benzo(a)anthracene	10 U
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	20 BJ
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 U J
53B	77-47-4	hexachlorocyclopentadiene	10 U J	74B	205-99-2	benzo(b)fluoranthene(2)	10 U J
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 U J
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 U J
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 U
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 U
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 U J				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

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DATA PREP/RELEASE BY: DB, PDS

SAMPLE NO: ED 103 C105 DUP

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L734

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

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PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

ORGANICS ANALYSIS DATA SHEET

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. ED103,

QC REPORT NO. 63 LAB SAMPLE NO. L73401AB

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	143-07-7	DODECANOICACID	A/BN	968	796	8.5 UG/
2.	55622-59-8	1,3-DIOXOLANE,4-HEPTADECYL-2,2	A/BN	1608	526	26.7 UG/

COMPOUND NAME	PROBABILITY	COMMENTS
1. DODECANOICACID	1. B	1.
2. 1,3-DIOXOLANE,4-HEPTADECYL-2,2	2. C	2.

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no volatile compounds found

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85FP03R12

DATA PREP/RELEASE BY: DB, PAT

SAMPLE NO: ED 104 BLK

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L735
CONTRACT NO: 68-01-6958

CASE: 40129
QC REPORT: 63
PERCENT MOISTURE: NR

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water
pH: NR

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/11/85
DATE ANALYZED: 4/11/85
CONC/DIL FACTOR: 1
PERCENT MOISTURE(DECANTED): NR

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PP#	CAS#		ug/L	PP#	CAS#		ug/L
45V	74-87-3	chloromethane	10 UJ	15V	79-34-5	1,1,2,2-tetrachloroethane	5 U
46V	74-83-9	bromomethane	10 U	32V	78-87-5	1,2-dichloropropane	5 U
88V	75-01-4	vinyl chloride	10 UJ	33V	10061-02-6	trans-1,3-dichloropropene	5 U
16V	75-00-3	chloroethane	10 U	87V	79-01-6	trichloroethene	5 U
44V	75-09-2	methylene chloride	5 U	51V	124-48-1	dibromochloromethane	5 U
CL13	67-64-1	acetone	1200 BJ	14V	79-00-5	1,1,2-trichloroethane	5 U
CL15	75-15-0	carbon disulfide	5 UJ	4V	71-43-2	benzene	5 U
29V	75-35-4	1,1-dichloroethene	5 U	33V	10061-01-5	cis-1,3-dichloropropene	5 U
13V	75-34-3	1,1-dichloroethane	5 U	19V	110-75-8	2-chloroethylvinyl ether	10 UJ
30V	156-60-5	trans-1,2-dichloroethene	5 U	47V	75-25-2	bromoform	5 UJ
23V	67-66-3	chloroform	5 U	CL16	591-78-6	2-hexanone	10 UJ
10V	107-06-2	1,2-dichloroethane	5 U	CL17	108-10-1	4-methyl-2-pentanone	10 U
CL14	78-93-3	2-butanone	10 UJ	85V	127-18-4	tetrachloroethene	5 U
11V	71-55-6	1,1,1-trichloroethane	5 U	86V	108-88-3	toluene	5 U
6V	56-23-5	carbon tetrachloride	5 U	7V	108-90-7	chlorobenzene	5 U
CL19	108-05-4	vinyl acetate	10 UJ	38V	100-41-4	ethylbenzene	5 U
48V	75-27-4	bromodichloromethane	5 UJ	CL18	100-42-5	styrene	5 UJ
				CL20		total xylenes	5 U

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following contract specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

VALUE- If the result is a value greater than or equal to the detection limit, report the value.

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U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J- Indicates an estimated value. This flag is used either when estimating a concentration for tentively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C- This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B- This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other- Other specific flags and footnotes may be required to properly define the results. If used, they must be fully descibed in a page attached to the data summary report.

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DATA PREP/RELEASE BY: DB, PRJ

SAMPLE NO: ED 104

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L735
CONTRACT NO: 68-01-6958

CASE: 4129
QC REPORT: 63

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

BLK

->-> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <-<-

SEMIVOLATILE COMPOUNDS

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/29/85
CONC/DIL FACTOR: 1L/2ML

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PP#	CAS#		ug/l	PP#	CAS#		ug/l
61B	62-75-9	N-nitrosodimethylamine	10 UJ	1B	83-32-9	acenaphthene	10 U
65A	108-95-2	phenol	10 UJ	59A	51-28-5	2,4-dinitrophenol	50 U
CL5	62-53-3	aniline	10 UJ	58A	100-02-7	4-nitrophenol	50 U
18B	111-44-4	bis(2-chloroethyl)ether	10 UJ	CL8	132-64-9	dibenzofuran	10 U
24A	95-57-8	2-chlorophenol	10 U	35B	121-14-2	2,4-dinitrotoluene	10 UJ
26B	541-73-1	1,3-dichlorobenzene	10 U	36B	606-20-2	2,6-dinitrotoluene	10 U
27B	106-46-7	1,4-dichlorobenzene	10 U	70B	84-66-2	diethyl phthalate	10 U
CL6	100-51-6	benzyl alcohol	10 U	40B	7005-72-3	4-chlorophenyl phenyl ether	10 U
25B	95-50-1	1,2-dichlorobenzene	10 U	80B	86-73-7	fluorene	10 U
CL2	95-48-7	2-methylphenol	10 U	CL12	100-01-6	4-nitroaniline	50 UJ
42B	39638-32-9	bis(2-chloroisopropyl) ether	10 U	60A	534-52-1	4,6-dinitro-2-methylphenol	50 U
CL3	106-44-5	4-methylphenol	10 U	62B	86-30-6	N-nitrosodiphenylamine(1)	10 U
63B	621-64-7	N-nitrosodipropylamine	10 U	41B	101-55-3	4-bromophenyl-phenylether	10 U
12B	67-72-1	hexachloroethane	10 U	9B	118-74-1	hexachlorobenzene	10 U
56B	98-95-3	nitrobenzene	10 UJ	64A	87-86-5	pentachlorophenol	50 U
54B	78-59-1	isophorone	10 UJ	81B	85-01-8	phenanthrene	10 U
57A	88-75-5	2-nitrophenol	10 U	78B	120-12-7	anthracene	10 U
34A	105-67-9	2,4-dimethylphenol	10 U	68B	84-74-2	di-n-butyl phthalate	10 UJ
CL1	65-85-0	benzoic acid	50 U	39B	206-44-0	fluoranthene	10 UJ
43B	111-91-1	bis(2-chloroethoxy) methane	10 UJ	5B	92-87-5	benzidine	100 UJ
31A	120-83-2	2,4-dichlorophenol	10 U	84B	129-00-0	pyrene	10 U
8B	120-82-1	1,2,4-trichlorobenzene	10 U	67B	85-68-7	butylbenzylphthalate	10 UJ
55B	91-20-3	naphthalene	10 U	28B	91-94-1	3,3'-dichlorobenzidine	20 UJ
CL7	106-47-8	4-chloroaniline	10 UJ	72B	56-55-3	benzo(a)anthracene	10 U
52B	87-68-3	hexachlorobutadiene	10 U	66B	117-81-7	bis(2-ethylhexyl)phthalate	~~40 JB~~ 34 UJ
22A	59-50-7	4-chloro-3-methylphenol	10 U	76B	218-01-9	chrysene	10 U
CL9	91-57-6	2-methylnaphthalene	10 U	69B	117-84-0	di-n-octyl phthalate	10 UJ
53B	77-47-4	hexachlorocyclopentadiene	10 UJ	74B	205-99-2	benzo(b)fluoranthene(2)	10 UJ
21A	88-06-2	2,4,6-trichlorophenol	10 U	75B	207-08-9	benzo(k)fluoranthene(2)	10 UJ
CL4	95-95-4	2,4,5-trichlorophenol	50 U	73B	50-32-8	benzo(a)pyrene	10 UJ
20B	91-58-7	2-chloronaphthalene	10 U	83B	193-39-5	indeno(1,2,3-cd)pyrene	10 U
CL10	88-74-4	2-nitroaniline	50 U	82B	53-70-3	dibenzo(a,h)anthracene	10 U
71B	131-11-3	dimethyl phthalate	10 U	79B	191-24-2	benzo(g,h,i)perylene	10 U
77B	208-96-8	acenaphthylene	10 U				
CL11	99-09-2	3-nitroaniline	50 UJ				

(1) - CANNOT BE SEPARATED FROM DIPHENYLAMINE
(2) - COMPOUNDS CO-ELUTE - ANALYSED AS A SINGLE COMPOUND
DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

U.S. ENVIRONMENTAL PROTECTION AGENCY · CLP Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313 · 703/557-2490
form 1 page 3

DATA PREP/RELEASE BY: DB PA

SAMPLE NO: ED 104 BLK

ORGANICS ANALYSIS DATA SHEET

LABORATORY: California Analytical Labs, Inc.
LAB SAMPLE NO: L735

CASE: 4129
QC REPORT: 63
CONTRACT NO: 68-01-6958

DATE SAMPLE REC'D: 4/2/85
SAMPLE MATRIX: water

->>->> COVER LETTER IS AN INTEGRAL PART OF THIS REPORT - PLEASE READ <<-<<-

PESTICIDES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 4/4/85
DATE ANALYZED: 4/23/85
CONC/DIL FACTOR: 1L/25ML

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PP#	CAS#		ug/L
102P	319-84-6	a-BHC	0.05 U
103P	319-85-7	b-BHC	0.05 U
104P	319-86-8	d-BHC	0.05 U
105P	58-89-9	g-BHC (lindane)	0.05 U
100P	76-44-8	heptachlor	0.05 U
89P	309-00-2	aldrin	0.05 U
101P	1024-57-3	heptachlor epoxide	0.05 U
95P	959-98-8	endosulfan I (A)	0.05 U
90P	60-57-1	dieldrin	0.10 U
93P	72-55-9	4,4'-DDE	0.10 U
98P	72-20-8	endrin	0.10 U
96P	33213-65-9	endosulfan II (B)	0.10 U
94P	72-54-8	4,4'-DDD	0.10 U
99P	7421-93-4	endrin aldehyde	0.10 U
97P	1031-07-8	endosulfan sulfate	0.10 U
92P	50-29-3	4,4'-DDT	0.10 U
CL21	72-43-5	methoxychlor	0.50 U
CL22	53494-70-5	endrin ketone	0.10 U
91P	57-74-9	chlordane	0.50 U
113P	8001-35-2	toxaphene	1.0 U
112P	12674-11-2	aroclor-1016	0.50 U
108P	11104-28-2	aroclor-1221	0.50 U
109P	11141-16-5	aroclor-1232	0.50 U
106P	53469-21-9	aroclor-1242	0.50 U
110P	12672-29-6	aroclor-1248	0.50 U
107P	11097-69-1	aroclor-1254	1.0 U
111P	11096-82-5	aroclor-1260	1.0 U

VI = VOLUME OF EXTRACT INJECTED (UL) = 5
VS = VOLUME OF WATER EXTRACTED (ML) = 1000 ML
WS = WEIGHT OF SAMPLE EXTRACTED (G) = NR
VT = VOLUME OF TOTAL EXTRACT (UL) = 25000 UL

DATA IS HELD FOR A MINIMUM OF 180 DAYS THEN SENT TO NEIC FOR EVIDENCE AUDITING

Ecology and Environment, Inc.
223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL. 312-663 9415
International Specialists in the Environmental Sciences

Date Received for Review: 4/29/85 Date Review Completed: 5/1/85

To: Kevin Phillips

From: Cynthia Bachunas / ARIENE PRATL

Subject: SAND PARK R05-8303-016 (ALL)

Sample Description: CASE # 4129 low water metals & cyanide

Project Data Status: still awaiting low water organics

FIT Data Review Findings: see attached QC review
Duplicate data for Cu & Zn outside QC limits
Blank sample contaminated with Cu, Fe, Ni & Zn Data for these compounds is questionable

Additional Comments:

recycled paper

ORGANICS ANALYSIS DATA SHEET

LAB NAME: CAL CASE NO. 4129 SAMPLE NO. ED104,

QC REPORT NO. 63 LAB SAMPLE NO. L73501AB

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SOLVENT IMPURITY, SEE VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	538-24-9	DODECANOICACID,1,2,3-PROPANETR	A/BN	1763	402	8.5 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. DODECANOICACID,1,2,3-PROPANETR	1. B	1.

no volatile compounds found

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 4-24-85

SUBJECT: Review of Region V CLP Data
Received for Review on 4/23/85

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory Jay Thatton

TO: Data User: Eit

We have reviewed the data for the following case(s).

SITE NAME: Sand Park SMO Case No. 4129

EPA Data Set No. SF 2238 No. of Samples: 8 D.U./Activity Numbers 49051C48500

CRL No. 85FP03582 - 85FP03587

SMO Traffic No. MED059-062; MED093-096

CLP Laboratory: RMAL Hrs. Required for Review: 1 hr.

Following are our findings.

This review covers 8 low concentration water samples.
The spike recoveries for K (137%) was biased high.
The spike recoveries for Se (58%) and Tl (50%) are biased low.
The data for Se and Tl is unusable.

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Jan F. Pels
4/24/85

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

REGION V, U.S. ENVIRONMENTAL PROTECTION AGENCY
ESD/Central Regional Laboratory

DATA TRACKING - FORM I

CRL Data Set No. SF 2258 ERRIS No. _____

SMO Case No. 4129 Site Name: Sand Park

Name of Laboratory: RMAL Data User: FT

No. of Samples: 8 Date Samples Received: 4/19/85

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic reports been received? YES ✓ NO ___
3. If no, are Traffic report numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report numbers are missing?

5. Are basic data forms in? YES ✓ NO ___
6. Number of samples claimed: 8 Number of samples received: 8
7. Checked by: [illegible] Date: 4/25/85
8. Received by Contract Project Management Section: [illegible] Date: 4/25/85
9. Review Started: 4/24/85 Reviewer Signature: Jan F. Pels
10. Total time spent on review: 1 hr. Date review completed: 4/24/85
11. Copied (xeroxed) by: _____ Date: _____
12. Mailed to Data User by: _____ Date: _____

TO DATA USERS:

Please fill in the blanks and return this form to:

Charles Elly, DPO, Region V, SSCRL

RECEIVED APR 2

13. Data received by: Arlene Grace Date: 5/1/85
14. Q.A. review received by: Arlene Grace Date: 5/1/85
15. Received by CRL - CPM Section for file by: _____

Date: _____

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US EPA CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

Date 4-15-85

COVER PAGE
INORGANIC ANALYSIS DATA PACKAGE

Lab Name ROCKY MOUNTAIN ANALYTICAL Case No. 4129
SOW No. 784 QC Report No. 5725

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MED059			
MED060			
MED061			
MED062			
MED093			
MED094			
MED095			
MED096			

Comments: TASKS 1 2 AND CN 8 LOW WATERS
THE ICAP 10X SERIAL DILUTION FOR SAMPLE MED095 IS IDENTIFIED AS MED999.

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ICP Interelement and background corrections applied? Yes X No ___.
If yes, corrections applied before X or after ___ generation of raw data.

Footnotes:
NR - not required by contract at this time
Form I:
Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the method used with P (for ICP/Flame AA) or F (for furnace).
U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).
E - Indicates a value estimated or not reported due to the presence of Interference. Explanatory note included on cover page.
S - Indicates value determined by Method of Standard Addition.
R - Indicates spike sample recovery is not within control limits.
* - Indicates duplicate analysis is not within control limits.
+ - Indicates the correlation coefficient for method of standard addition is Less than 0.995
CV - Indicates Cold Vapor
MS - Indicates Manual Spectrophotometric

6102

85F003582

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Sample Management Office
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EPA Sample No.
MED059

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SDW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	[33]	P	13.	MAGNESIUM	34700	P
2.	ANTIMONY	46U	P	14.	MANGANESE	177	P
3.	ARSENIC	4u	F	15.	MERCURY	0.1u	CV
4.	BARIUM	[24]	P	16.	NICKEL	5U	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	[1270]	P R
6.	CADMIUM	5U	P	18.	SELENIUM	5u	F R
7.	CALCIUM	76400	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	5500	P
9.	COBALT	7U	P	21.	THALLIUM	10u	F R
10.	COPPER	4U	P	22.	TIN	36U	P
11.	IRON	332	P	23.	VANADIUM	4U	P
12.	LEAD	2u	F	24.	ZINC	[7.4]	P

Cyanide 10u MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

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Lab Manager

6103

85FP03583

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EPA Sample No. MED060

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	23U	P	13.	MAGNESIUM	36800	P
2.	ANTIMONY	46U	P	14.	MANGANESE	108	P
3.	ARSENIC	4u	F	15.	MERCURY	0.1u	CV
4.	BARIUM	[37]	P	16.	NICKEL	5U	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	[3040]	P R
6.	CADMIUM	5U	P	18.	SELENIUM	5u	F R
7.	CALCIUM	81900	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	23300	P
9.	COBALT	7U	P	21.	THALLIUM	10u	F R
10.	COPPER	4U	P	22.	TIN	36U	P
11.	IRON	496	P	23.	VANADIUM	4U	P
12.	LEAD	2u	F	24.	ZINC	[6.3]	P

Cyanide 10u MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

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Lab Manager [illegible]

G104

85FP03584

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EPA Sample No.
MED061

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	23U	P	13.	MAGNESIUM	35200	P
2.	ANTIMONY	46U	P	14.	MANGANESE	280	P
3.	ARSENIC	10U	F	15.	MERCURY	0.1U	CV
4.	BARIUM	[39]	P	16.	NICKEL	5U	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	[2600]	P R
6.	CADMIUM	5U	P	18.	SELENIUM	5U	F R
7.	CALCIUM	80700	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	12400	P
9.	COBALT	7U	P	21.	THALLIUM	10U	F R
10.	COPPER	4U	P	22.	TIN	36U	P
11.	IRON	1200	P	23.	VANADIUM	4U	P
12.	LEAD	5U	F	24.	ZINC	[7.5]	P

Cyanide 10U MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: RECEIVED APR 29 1985

Lab Manager [signature]

C 105

85ED03585

U.S. EPA Contract Laboratory Program
Sample Management Office
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703/557-2490 FTS: 8-557-2490

EPA Sample No.
MED062

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	23U	P	13.	MAGNESIUM	31800	P
2.	ANTIMONY	46U	P	14.	MANGANESE	354	P
3.	ARSENIC	14	F	15.	MERCURY	0.1u	CV
4.	BARIUM	482	P	16.	NICKEL	5U	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	21000	P R
6.	CADMIUM	5U	P	18.	SELENIUM	5u	F R
7.	CALCIUM	107000	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	24000	P
9.	COBALT	7U	P	21.	THALLIUM	10u	F R
10.	COPPER	[6.4]	P	22.	TIN	36U	P
11.	IRON	15700	P	23.	VANADIUM	4U	P
12.	LEAD	5u	F	24.	ZINC	24	P

Cyanide 10u MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

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Lab Manager ____

G106

85FP03586

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703/557-2490 FTS: 8-557-2490

EPA Sample No.
MED093

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	23U	P	13.	MAGNESIUM	28900	P
2.	ANTIMONY	46U	P	14.	MANGANESE	50	P
3.	ARSENIC	4u	F	15.	MERCURY	0.1u	CV
4.	BARIUM	[59]	P	16.	NICKEL	5U	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	[1150]	P R
6.	CADMIUM	5U	P	18.	SELENIUM	5u	F R
7.	CALCIUM	68000	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	7350	P
9.	COBALT	7U	P	21.	THALLIUM	10u	F R
10.	COPPER	[4.5]	P	22.	TIN	36U	P
11.	IRON	361	P	23.	VANADIUM	4U	P
12.	LEAD	5u	F	24.	ZINC	[9.2]	P

Cyanide 10u MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

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Lab Manager JM

G107

85EP03587

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EPA Sample No. MED094

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	23U	P	13.	MAGNESIUM	43400	P
2.	ANTIMONY	46U	P	14.	MANGANESE	[4.6]	P
3.	ARSENIC	4w	F	15.	MERCURY	0.1w	CV
4.	BARIUM	[63]	P	16.	NICKEL	5U	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	[1320]	P R
6.	CADMIUM	5U	P	18.	SELENIUM	5w	F R
7.	CALCIUM	105000	P	19.	SILVER	4U	P
8.	CHROMIUM	24	P	20.	SODIUM	14200	P
9.	COBALT	7U	P	21.	THALLIUM	E	F R
10.	COPPER	[4.6]	P	22.	TIN	36U	P
11.	IRON	[34]	P	23.	VANADIUM	4U	P
12.	LEAD	2w	F	24.	ZINC	[11]	P

Cyanide 10w MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

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Lab Manager [signature]

Dup G105
85F03D85

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EPA Sample No.
MED095

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	23U	P	13.	MAGNESIUM	32400	P
2.	ANTIMONY	46U	P	14.	MANGANESE	332	P
3.	ARSENIC	15	F	15.	MERCURY	0.1u	CV
4.	BARIUM	510	P	16.	NICKEL	[5.6]	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	19700	P R
6.	CADMIUM	5U	P	18.	SELENIUM	5u	F R
7.	CALCIUM	109000	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	24100	P
9.	COBALT	7U	P	21.	THALLIUM	10u	F R
10.	COPPER	[4.3]	P	22.	TIN	36U	P
11.	IRON	16900	P	23.	VANADIUM	4U	P
12.	LEAD	5u	F	24.	ZINC	[8.6]	P

Cyanide 10u MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: RECEIVED MAY 29 1985

Lab Manager ____

USEPA-SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA, VA 22313

RECEIVED SEP 21 1984

SAMPLE NO.
E8331

G-104 Dup

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO DR960
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED A9

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

SEMIVOLATILE COMPOUNDS

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/11/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----500

PP#	CAS#		UG/L
(21A)	88-06-2	2,4,6-TRICHLOROPHENOL	10U
(2A)	59-50-7	P-CHLORO-M-CRESOL	10U
(24A)	95-57-8	2-CHLOROPHENOL	10U
(31A)	120-83-2	2,4-DICHLOROPHENOL	10U
(1A)	105-67-9	2,4-DIMETHYLPHENOL	10U
( )A)	88-75-5	2-NITROPHENOL	20U
(58A)	100-02-7	4-NITROPHENOL	50U
( )A)	51-28-5	2,4-DINITROPHENOL	50U
( )A)	534-52-1	4,6-DINITRO-O-CRESOL	20U
(64A)	87-86-5	PENTACHLOROPHENOL	10U
(5A)	108-95-2	PHENOL	10U
	65-85-0	BENZOIC ACID	100U
	95-48-7	2-METHYLPHENOL	5U
	108-39-4	4-METHYLPHENOL	5U
	95-95-4	2,4,5-TRICHLOROPHENOL	100U
(1B)	83-32-9	ACENAPTHENE	10U
(5B)	92-87-5	BENZIDINE	40U
(3B)	120-82-1	1,2,4-TRICHLOROBENZENE	10U
( )B)	118-74-1	HEXACHLOROBENZENE	10U
(12B)	67-72-1	HEXACHLOROETHANE	10U
(3B)	111-44-4	BIS(2-CHLOROETHYL)ETHER	10U
( )B)	91-58-7	2-CHLORONAPTHALENE	10U
(25B)	95-50-1	1,2-DICHLOROBENZENE	10U
(5B)	541-73-1	1,3-DICHLOROBENZENE	10U
(7B)	106-46-7	1,4-DICHLOROBENZENE	10U
(28B)	91-94-1	3,3'-DICHLOROBENZIDINE	20U
(35B)	121-14-2	2,4-DINITROTOLUENE	20U
(5B)	606-20-2	2,6-DINITROTOLUENE	20U
(7B)	122-66-7	1,2-DIPHENYLHYDRAZINE	20U
(39B)	206-44-0	FLUORANTHENE	10U
( )B)	7005-72-3	4-CHLOROPHENYLPHENYLETHER	10U
( )B)	101-55-3	4-BROMPHENYLPHENYLETHER	10U
(42B)	39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	20U
(3B)	111-91-1	BIS(2-CHLORETHOXY)METHANE	20U

PP#	CAS#		UG/L
(52B)	87-69-3	HEXACHLOROBUTADIENE	10U
(53B)	77-47-4	HEXACHLOROCYCLOPENTADIENE	10U
(54B)	78-59-1	ISOPHORONE	10U
(55B)	91-20-3	NAPTHALENE	10U
(56B)	98-95-3	NITROBENZENE	10U
(62B)	86-30-6	N-NITROSODIPHENYLAMINE	10U
(63B)	621-64-7	N-NITROSODIPROPYLAMINE	10U
(66B)	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	10U
(67B)	85-68-7	BENZYLBUTYL PHTHALATE	10U
(68B)	84-74-2	DI-N-BUTYL PHTHALATE	10U
(69B)	117-84-0	DI-N-OCTYL PHTHALATE	10U
(70B)	84-66-2	DIETHYL PHTHALATE	10U
(71B)	131-11-3	DIMETHYL PHTHALATE	10U
(72B)	56-55-3	BENZO(A)ANTHRACENE	10U
(73B)	50-32-8	BENZO(A)PYRENE	20U
(74B)	205-99-2	BENZO(B)FLUORANTHENE AND/	20U
(75B)	207-08-9	BENZO(K)FLUORANTHENE OR	20U
(76B)	218-01-9	CHRYSENE	20U
(77B)	208-96-8	ACENAPTHYLENE	10U
(78B)	120-12-7	ANTHRACENE	10U
(79B)	191-24-2	BENZO(GHI)PERYLENE	20U
(80B)	86-73-7	FLUORENE	10U
(81B)	85-01-8	PHENANTHRENE	10U
(82B)	53-70-3	DIBENZO(AH)ANTHRACENE	20U
(83B)	193-39-5	INDENO(123-CD)PYRENE	20U
(84B)	129-00-0	PYRENE	10U
	62-53-3	ANILINE	5U
	100-51-6	BENZYL ALCOHOL	20U
	106-47-8	4-CHLOROANILINE	50U
	132-64-9	DIBENZOFURAN	10U
	91-57-6	2-METHYLNAPTHALENE	20U
	88-74-4	2-NITROANILINE	100U
	99-09-2	3-NITROANILINE	100U
	100-01-6	4-NITROANILINE	100U

ORGANICS ANALYSIS DATA SHEET - Page 3

Sample Number: E8331

Laboratory Name: PEDCO ENVIRONMENTAL

Case No: 3140 G-109 DUP

QC Report No:

B. Tentatively Identified Compounds

00139

	CAS #	Compound Name	Fraction	Scan No. or Retention Time	% Maximum Score Attained Mass Matching Routine: (Specify: Purity)	Estimated Concentration (ug/L or ug/kg)
1.			VIA			
2.						
3.		Acid	BNA	930		100
4.		"		1197		30
5.		"		1856		50
6.		UNKNOWN		1305		100
7.		"		1596		10
8.		"		1818		20
9.						
10.						
11.						
12.						
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162

USEPA-SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA,VA 22313

RECEIVED SEP 2 1 1984

SAMPLE NO.
E8331

G-104
DUP

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO. DR960
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED K9

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

VOLATILES

CONCENTRATION LOW
DATE PREPARED 8/17/84
DATE ANALYZED 8/17/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----5ML

PESTICIDES

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/5/84
PERCENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----10

00137

PP#	CAS#	UG/L
(2V)	107-02-8ACROLEIN	100U
(3V)	107-13-1ACRYLONITRILE	100U
1V)	71-43-2BENZENE	5U
(6V)	56-23-2CARBON TETRACHLORIDE	5U
(7V)	108-90-7CLOROBENZENE	5U
10V)	107-06-21,2-DICHLOROETHANE	5U
(11V)	71-55-61,1,1-TRICHLOROETHANE	5U
(13V)	75-34-31,1-DICHLOROETHANE	5U
14V)	79-00-51,1,2-TRICHLOROETHANE	5U
15V)	79-34-51,1,2,2-TETRACHLOROETHANE	10U
(16V)	75-00-3CHLOROETHANE	10U
19V)	110-75-82-CHLOROETHYLVINYLETHER	10U
23V)	67-66-3CHLOROFORM	5U
(29V)	75-35-41,1-DICHLOROETHENE	5U
(30V)	156-60-5TRANS-1,2-DICHLOROETHENE	5U
32V)	78-87-51,2-DICHLOROPROPANE	10U
(33V)	10061-02-6TRANS-1,3-DICHLOROPROPENE	5U
	10061-01-05CIS-1,3-DICHLOROPROPENE	5U
38V)	100-41-4ETHYLBENZENE	5U
(44V)	75-09-2METHYLENE CHLORIDE	5UC
(45V)	74-87-3CHLOROMETHANE	10U
46V)	74-83-9BROMOMETHANE	10U
47V)	75-25-2BROMOFORM	10U
(48V)	75-27-4BROMODICHLOROMETHANE	5U
(49V)	75-69-4FLUOROTRICHLOROMETHANE	5U
50V)	75-71-8DICHLORODIFLUOROMETHANE	NA
(51V)	124-48-1CHLORODIBROMOMETHANE	5U
(85V)	127-18-4TETRACHLOROETHENE	5U
6V)	108-88-3TOLUENE	5U
(87V)	79-01-6TRICHLOROETHENE	5U
(88V)	75-01-4VINYL CHLORIDE	10U
	67-64-1ACETONE	16.1C
	78-93-32-BUTANONE	5U
	75-15-0CARBON DISULFIDE	1U
	519-78-62-HEXANONE	5U
	108-10-14-METHYL-2-PENTANONE	5U
	100-42-5STYRENE	5U
	108-05-4VINYL ACETATE	5U
	1330-20-7TOTAL XYLENES	5U

PP#	CAS#	UG/L
(89P)	309-00-2 ALDRIN	.005U
(90P)	60-57-1 DIELDRIN	.005U
(91P)	57-74-9 CHLORDANE	.05U
(92P)	50-29-3 4,4'DDT	.01U
(93P)	72-55-9 4,4'DDE	.005U
(94P)	72-54-8 4,4'DDD	.1U
(95P)	115-29-7 ALPHA-ENDOSULFAN	.005U
(96P)	115-29-7 BETA-ENDOSULFAN	.005U
(97P)	1031-07-8 ENDOSULFAN SULFATE	.01U
(98P)	72-20-8 ENDRIN	.005U
(99P)	7421-93-4 ENDRIN ALDEHYDE	.01U
(100P)	76-44-8 HEPTACHLOR	.005U
(101P)	1024-57-3HEPTACHLOR EPOXIDE	.005U
(102P)	319-84-6 ALPHA-BHC	.005U
(103P)	319-85-7 BETA-BHC	.005U
(104P)	319-86-8 DELTA-BHC	.005U
(105P)	58-89-9 GAMMA-BHC (LINDANE)	.005U
106P	53469-21-9PCB-1242	.05U
107P	11097-69-1PCB-1254	.1U
108P	11104-28-2PCB-1221	.1U
109P	11141-16-5PCB-1232	.05U
110P	12672-29-6PCB-1248	.1U
111P	11096-82-5PCB-1260	.1U
112P	12674-11-2PCB-1016	.2U
113P	8001-35-2TOXAPHENE	.05U

USEPA-SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA,VA 22313

SAMPLE NO.
E8327

DC10 G-102

ORGANICS ANALYSIS DATA SHEET.

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO. DR956
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

SEMIVOLATILE COMPOUNDS

RECEIVED SEP 21 1984

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/11/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----500

PP#	CAS#		UG/L
(21A)	88-06-2	2,4,6-TRICHLOROPHENOL	10U
(22A)	59-50-7	P-CHLORO-M-CRESOL	10U
(24A)	95-57-8	2-CHLOROPHENOL	10U
(31A)	120-83-2	2,4-DICHLOROPHENOL	10U
(34A)	105-67-9	2,4-DIMETHYLPHENOL	10U
(57A)	88-75-5	2-NITROPHENOL	20U
(58A)	100-02-7	4-NITROPHENOL	50U
(59A)	51-28-5	2,4-DINITROPHENOL	50U
(60A)	534-52-1	4,6-DINITRO-O-CRESOL	20U
(64A)	87-86-5	PENTACHLOROPHENOL	10U
(65A)	108-95-2	PHENOL	10U
	65-85-0	BENZOIC ACID	100U
	95-48-7	2-METHYLPHENOL	5U
	108-39-4	4-METHYLPHENOL	5U
	95-95-4	2,4,5-TRICHLOROPHENOL	100U
(1B)	83-32-9	ACENAPTHENE	10U
(5B)	92-87-5	BENZIDINE	40U
(8B)	120-82-1	1,2,4-TRICHLOROBENZENE	10U
(9B)	118-74-1	HEXACHLOROBENZENE	10U
(12B)	67-72-1	HEXACHLOROETHANE	10U
(18B)	111-44-4	BIS(2-CHLOROETHYL)ETHER	10U
(20B)	91-58-7	2-CHLORONAPTHALENE	10U
(25B)	95-50-1	1,2-DICHLOROBENZENE	10U
(26B)	541-73-1	1,3-DICHLOROBENZENE	10U
(27B)	106-46-7	1,4-DICHLOROBENZENE	10U
(28B)	91-94-1	3,3'-DICHLOROBENZIDINE	20U
(35B)	121-14-2	2,4-DINITROTOLUENE	20U
(36B)	606-20-2	2,6-DINITROTOLUENE	20U
(37B)	122-66-7	1,2-DIPHENYLHYDRAZINE	20U
(39B)	206-44-0	FLUORANTHENE	10U
(40B)	7005-72-3	4-CHLOROPHENYLPHENYLETHER	10U
(41B)	101-55-3	4-BROMPHENYLPHENYLETHER	10U
(42B)	39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	20U
(43B)	111-91-1	BIS(2-CHLORETHOXY)METHANE	20U

PP#	CAS#		UG/L
(52B)	87-68-3	HEXACHLOROBUTADIENE	10U
(53B)	77-47-4	HEXACHLOROCYCLOPENTADIENE	10U
(54B)	78-59-1	ISOPHORONE	10U
(55B)	91-20-3	NAPTHALENE	10U
(56B)	98-95-3	NITROBENZENE	10U
(62B)	86-30-6	N-NITROSODIPHENYLAMINE	10U
(63B)	621-64-7	N-NITROSODIPROPYLAMINE	10U
(66B)	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	13.4
(67B)	85-68-7	BENZYLBUTYL PHTHALATE	10U
(68B)	84-74-2	DI-N-BUTYL PHTHALATE	5.6K
(69B)	117-84-0	DI-N-OCTYL PHTHALATE	10U
(70B)	84-66-2	DIETHYL PHTHALATE	10U
(71B)	131-11-3	DIMETHYL PHTHALATE	10U
(72B)	56-55-3	BENZO(A)ANTHRACENE	10U
(73B)	50-32-8	BENZO(A)PYRENE	20U
(74B)	205-99-2	BENZO(B)FLUORANTHENE AND/	20U
(75B)	207-08-9	BENZO(K)FLUORANTHENE OR	20U
(76B)	218-01-9	CHRYSENE	20U
(77B)	208-96-8	ACENAPTHYLENE	10U
(78B)	120-12-7	ANTHRACENE	10U
(79B)	191-24-2	BENZO(GHI)PERYLENE	20U
(80B)	86-73-7	FLUORENE	10U
(81B)	85-01-8	PHENANTHRENE	10U
(82B)	53-70-3	DIBENZO(AH)ANTHRACENE	20U
(83B)	193-39-5	INDENO(123-CD)PYRENE	20U
(84B)	129-00-0	PYRENE	10U
	62-53-3	ANILINE	5U
	100-51-6	BENZYL ALCOHOL	20U
	106-47-8	4-CHLORANILINE	50U
	132-64-9	DIBENZOFURAN	10U
	91-57-6	2-METHYLNAPTHALENE	20U
	88-74-4	2-NITROANILINE	100U
	99-09-2	3-NITROANILINE	100U
	100-01-6	4-NITROANILINE	100U

Lab Number: E7327

Laboratory Name: PEDCO ENVIRONMENTAL Case No: 9140 G-102

QC Report No:

00011

B. Tentatively Identified Compounds

	CAS #	Compound Name	Fraction	Scan No. or Retention Time	Q Maximum Score Attained Mass Matching Routine: (Specify: Purity)	Estimated Concentration (ug/L or ug/kg)
1.		NONE	VOA			
2.						
3.		UNKNOWN	BNA	777		40
4.		"		926		250
5.		"		936		250
6.		"		1186		30
7.		"		1263		10
8.		Acid		1321		50
9.		UNKNOWN		1422		10
10.		"		1748		10
11.		Phthalate		1724		10
12.		UNKNOWN		1630		30
13.		UNKNOWN		1598		100
14.		PAH		1575		15
15.		UNKNOWN		1567		15
16.		"		1424		20
17.		"		1384		150
18.						
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PO BOX 818 ALEXANDRIA, VA 22313

RECEIVED SEP 21 1984

SAMPLE NO.
E8329

G-104

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO. DR958
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

SEMIVOLATILE COMPOUNDS

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/11/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----500

PP#	CAS#		UG/L
(21A)	88-06-2	2,4,6-TRICHLOROPHENOL	10U
22A)	59-50-7	P-CHLORO-M-CRESOL	10U
24A)	95-57-8	2-CHLOROPHENOL	10U
(31A)	120-83-2	2,4-DICHLOROPHENOL	10U
34A)	105-67-9	2,4-DIMETHYLPHENOL	10U
57A)	88-75-5	2-NITROPHENOL	20U
(58A)	100-02-7	4-NITROPHENOL	50U
59A)	51-28-5	2,4-DINITROPHENOL	50U
60A)	534-52-1	4,6-DINITRO-O-CRESOL	20U
(64A)	87-86-5	PENTACHLOROPHENOL	10U
65A)	108-95-2	PHENOL	10U
	65-85-0	BENZOIC ACID	100U
	95-48-7	2-METHYLPHENOL	5U
	108-39-4	4-METHYLPHENOL	5U
	95-95-4	2,4,5-TRICHLOROPHENOL	100U
1B)	83-32-9	ACENAPTHENE	10U
5B)	92-87-5	BENZIDINE	40U
8B)	120-82-1	1,2,4-TRICHLOROBENZENE	10U
9B)	118-74-1	HEXACHLOROBENZENE	10U
(12B)	67-72-1	HEXACHLOROETHANE	10U
18B)	111-44-4	BIS(2-CHLOROETHYL)ETHER	10U
20B)	91-58-7	2-CHLORONAPTHALENE	10U
(25B)	95-50-1	1,2-DICHLOROBENZENE	10U
26B)	541-73-1	1,3-DICHLOROBENZENE	10U
27B)	106-46-7	1,4-DICHLOROBENZENE	10U
28B)	91-94-1	3,3'-DICHLOROBENZIDINE	20U
(35B)	121-14-2	2,4-DINITROTOLUENE	20U
36B)	606-20-2	2,6-DINITROTOLUENE	20U
37B)	122-66-7	1,2-DIPHENYLHYDRAZINE	20U
(39B)	206-44-0	FLUORANTHENE	10U
40B)	7005-72-3	4-CHLOROPHENYLPHENYLETHER	10U
41B)	101-55-3	4-BROMPHENYLPHENYLETHER	10U
(42B)	39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	20U
43B)	111-91-1	BIS(2-CHLORETHOXY)METHANE	20U

PP#	CAS#		UG/L
(52B)	87-68-3	HEXACHLOROBUTADIENE	10U
(53B)	77-47-4	HEXACHLOROCYCLOPENTADIENE	10U
(54B)	78-59-1	ISOPHORONE	10U
(55B)	91-20-3	NAPTHALENE	10U
(56B)	98-95-3	NITROBENZENE	10U
(62B)	86-30-6	N-NITROSODIPHENYLAMINE	10U
(63B)	621-64-7	N-NITROSODIPROPYLAMINE	10U
(66B)	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	10U
(67B)	85-68-7	BENZYLBUTYL PHTHALATE	10U
(68B)	84-74-2	DI-N-BUTYL PHTHALATE	10U
(69B)	117-84-0	DI-N-OCTYL PHTHALATE	10U
(70B)	84-66-2	DIETHYL PHTHALATE	10U
(71B)	131-11-3	DIMETHYL PHTHALATE	10U
(72B)	56-55-3	BENZO(A)ANTHRACENE	10U
(73B)	50-32-8	BENZO(A)PYRENE	20U
(74B)	205-99-2	BENZO(B)FLUORANTHENE AND/	20U
(75B)	207-08-9	BENZO(K)FLUORANTHENE OR	20U
(76B)	218-01-9	CHRYSENE	20U
(77B)	208-96-8	ACENAPTHYLENE	10U
(78B)	120-12-7	ANTHRACENE	10U
(79B)	191-24-2	BENZO(GHI)PERYLENE	20U
(80B)	86-73-7	FLUORENE	10U
(81B)	85-01-8	PHENANTHRENE	10U
(82B)	53-70-3	DIBENZO(AH)ANTHRACENE	20U
(83B)	193-39-5	INDENO(123-CD)PYRENE	20U
(84B)	129-00-0	PYRENE	10U
	62-53-3	ANILINE	5U
	100-51-6	BENZYL ALCOHOL	20U
	106-47-8	4-CHLOROANILINE	50U
	132-64-9	DIBENZOFURAN	10U
	91-57-6	2-METHYLNAPTHALENE	20U
	88-74-4	2-NITROANILINE	100U
	99-09-2	3-NITROANILINE	100U
	100-01-6	4-NITROANILINE	100U

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PO BOX 818 ALEXANDRIA,VA 22313

RECEIVED SEP 2 1 1984

SAMPLE NO.
E8329

G-104

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO DR958
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

VOLATILES

CONCENTRATION LOW
DATE PREPARED 8/17/84
DATE ANALYZED 8/17/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----5ML

PESTICIDES

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/5/84
PERCENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----10

PP#	CAS#		UG/L
(2V)	107-02-8	ACROLEIN	100U
(3V)	107-13-1	ACRYLONITRILE	100U
(4V)	71-43-2	BENZENE	5U
(6V)	56-23-2	CARBON TETRACHLORIDE	5U
(7V)	108-90-7	CLOROBENZENE	5U
(10V)	107-06-2	1,2-DICHLOROETHANE	5U
(11V)	71-55-6	1,1,1-TRICHLOROETHANE	5U
(13V)	75-34-3	1,1-DICHLOROETHANE	5U
(14V)	79-00-5	1,1,2-TRICHLOROETHANE	5U
(15V)	79-34-5	1,1,2,2-TETRACHLOROETHANE	10U
(16V)	75-00-3	CHLOROETHANE	10U
(19V)	110-75-8	2-CHLOROETHYLVINYLETHER	10U
(23V)	67-66-3	CHLOROFORM	5U
(29V)	75-35-4	1,1-DICHLOROETHENE	5U
(30V)	156-60-5	TRANS-1,2-DICHLOROETHENE	5U
(32V)	78-87-5	1,2-DICHLOROPROPANE	10U
(33V)	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5U
	10061-01-0	5CIS-1,3-DICHLOROPROPENE	5U
(38V)	100-41-4	ETHYLBENZENE	5U
(44V)	75-09-2	METHYLENE CHLORIDE	5UC
(45V)	74-87-3	CHLOROMETHANE	10U
(46V)	74-83-9	BROMOMETHANE	10U
(47V)	75-25-2	BROMOFORM	10U
(48V)	75-27-4	BROMODICHLOROMETHANE	5U
(49V)	75-69-4	FLUOROTRICHLOROMETHANE	5U
(50V)	75-71-8	DICHLORODIFLUOROMETHANE	NA
(51V)	124-48-1	CHLORODIBROMOMETHANE	5U
(85V)	127-18-4	TETRACHLOROETHENE	5U
(86V)	108-88-3	TOLUENE	5U
(87V)	79-01-6	TRICHLOROETHENE	5U
(88V)	75-01-4	VINYL CHLORIDE	10U
	67-64-1	ACETONE	5UC
	78-93-3	2-BUTANONE	5U
	75-15-0	CARBON DISULFIDE	1U
	519-78-6	2-HEXANONE	5U
	108-10-1	4-METHYL-2-PENTANONE	5U
	100-42-5	STYRENE	5U
	108-05-4	VINYL ACETATE	5U
	1330-20-7	TOTAL XYLENES	5U

PP#	CAS#		UG/L
(89P)	309-00-2	ALDRIN	.005U
(90P)	60-57-1	DIELDRIN	.005U
(91P)	57-74-9	CHLORDANE	.05U
(92P)	50-29-3	4,4'DDT	.01U
(93P)	72-55-9	4,4'DDE	.005U
(94P)	72-54-8	4,4'DDD	.1U
(95P)	115-29-7	ALPHA-ENDOSULFAN	.005U
(96P)	115-29-7	BETA-ENDOSULFAN	.005U
(97P)	1031-07-8	ENDOSULFAN SULFATE	.01U
(98P)	72-20-8	ENDRIN	.005U
(99P)	7421-93-4	ENDRIN ALDEHYDE	.01U
(100P)	76-44-8	HEPTACHLOR	.005U
(101P)	1024-57-3	HEPTACHLOR EPOXIDE	.005U
(102P)	319-84-6	ALPHA-BHC	.005U
(103P)	319-85-7	BETA-BHC	.005U
(104P)	319-86-8	DELTA-BHC	.005U
(105P)	58-89-9	GAMMA-BHC (LINDANE)	.005U
106P	53469-21-9	PCB-1242	.05U
107P	11097-69-1	PCB-1254	.1U
108P	11104-28-2	PCB-1221	.1U
109P	11141-16-5	PCB-1232	.05U
110P	12672-29-6	PCB-1248	.1U
111P	11096-82-5	PCB-1260	.1U
112P	12674-11-2	PCB-1016	.2U
113P	8001-35-2	TOXAPHENE	.05U

ORGANICS ANALYSIS DATA SHEET - Page 3

Sample Number: E-8329

Laboratory Name: PEDCO ENVIRONMENTAL Case No: 3140 G-104

QC Report No: 00082

B. Tentatively Identified Compounds

	CAS #	Compound Name	Fraction	Scan No. or Retention Time	Maximum Score Attained Mass Matching Routine: (Specify: Purity)	Estimated Concentration (ug/l or ug/kg)
1.		~~VOA~~ KY				
2.		None	VOA			
3.						
4.		Unknown	BNA	1899		3
5.		"		1630		6
6.		Alkyl Benzene		1597		15
7.		Unknown		1830		50
8.		"		1867		200
9.		"		1929		5
10.		"		1310		200
11.		"		1186		10
12.		Acid		936		200
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						
21.						
22.						
23.						
24.						
25.						
26.						
27.						
28.						
29.						
30.						

6/82

USEPA-SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA, VA 22313

RECEIVED SEP 21 1984

SAMPLE NO.
E8330

G-105

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO. DR959
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED X9

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

SEMIVOLATILE COMPOUNDS

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/11/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----500

P#	CAS#		UG/L
(21A)	88-06-2	2,4,6-TRICHLOROPHENOL	10U
2A)	59-50-7	P-CHLORO-M-CRESOL	10U
4A)	95-57-8	2-CHLOROPHENOL	10U
(31A)	120-83-2	2,4-DICHLOROPHENOL	10U
4A)	105-67-9	2,4-DIMETHYLPHENOL	10U
7A)	88-75-5	2-NITROPHENOL	20U
(58A)	100-02-7	4-NITROPHENOL	50U
9A)	51-28-5	2,4-DINITROPHENOL	50U
0A)	534-52-1	4,6-DINITRO-O-CRESOL	20U
(64A)	87-86-5	PENTACHLOROPHENOL	10U
5A)	108-95-2	PHENOL	10U
	65-85-0	BENZOIC ACID	100U
	95-48-7	2-METHYLPHENOL	5U
	108-39-4	4-METHYLPHENOL	5U
	95-95-4	2,4,5-TRICHLOROPHENOL	100U
1B)	83-32-9	ACENAPTHENE	10U
5B)	92-87-5	BENZIDINE	40U
8B)	120-82-1	1,2,4-TRICHLOROBENZENE	10U
9B)	118-74-1	HEXACHLOROBENZENE	10U
(12B)	67-72-1	HEXACHLOROETHANE	10U
3B)	111-44-4	BIS(2-CHLOROETHYL)ETHER	10U
0B)	91-58-7	2-CHLORONAPTHALENE	10U
(25B)	95-50-1	1,2-DICHLOROBENZENE	10U
6B)	541-73-1	1,3-DICHLOROBENZENE	10U
7B)	106-46-7	1,4-DICHLOROBENZENE	10U
(28B)	91-94-1	3,3'-DICHLOROBENZIDINE	20U
(35B)	121-14-2	2,4-DINITROTOLUENE	20U
5B)	606-20-2	2,6-DINITROTOLUENE	20U
7B)	122-66-7	1,2-DIPHENYLHYDRAZINE	20U
(39B)	206-44-0	FLUORANTHENE	10U
0B)	7005-72-3	4-CHLOROPHENYLPHENYLETHER	10U
1B)	101-55-3	4-BROMPHENYLPHENYLETHER	10U
(42B)	39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	20U
3B)	111-91-1	BIS(2-CHLORETHOXY)METHANE	20U

PP#	CAS#		UG/L
(52B)	87-68-3	HEXACHLOROBUTADIENE	10U
(53B)	77-47-4	HEXACHLOROCYCLOPENTADIENE	10U
(54B)	78-59-1	ISOPHORONE	10U
(55B)	91-20-3	NAPTHALENE	10U
(56B)	98-95-3	NITROBENZENE	10U
(62B)	86-30-6	N-NITROSODIPHENYLAMINE	10U
(63B)	621-64-7	N-NITROSODIPROPYLAMINE	10U
(66B)	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	10U
(67B)	85-68-7	BENZYLBUTYL PHTHALATE	10U
(68B)	84-74-2	DI-N-BUTYL PHTHALATE	10U
(69B)	117-84-0	DI-N-OCTYL PHTHALATE	10U
(70B)	84-66-2	DIETHYL PHTHALATE	10U
(71B)	131-11-3	DIMETHYL PHTHALATE	10U
(72B)	56-55-3	BENZO(A)ANTHRACENE	10U
(73B)	50-32-8	BENZO(A)PYRENE	20U
(74B)	205-99-2	BENZO(B)FLUORANTHENE AND/	20U
(75B)	207-08-9	BENZO(K)FLUORANTHENE OR	20U
(76B)	218-01-9	CHRYSENE	20U
(77B)	208-96-8	ACENAPTHYLENE	10U
(78B)	120-12-7	ANTHRACENE	10U
(79B)	191-24-2	BENZO(GHI)PERYLENE	20U
(80B)	86-73-7	FLUORENE	10U
(81B)	85-01-8	PHENANTHRENE	10U
(82B)	53-70-3	DIBENZO(AH)ANTHRACENE	20U
(83B)	193-39-5	INDENO(123-CD)PYRENE	20U
(84B)	129-00-0	PYRENE	10U
	62-53-3	ANILINE	5U
	100-51-6	BENZYL ALCOHOL	20U
	106-47-8	4-CHLOROANILINE	50U
	132-64-9	DIBENZOFURAN	10U
	91-57-6	2-METHYLNAPTHALENE	20U
	88-74-4	2-NITROANILINE	100U
	99-09-2	3-NITROANILINE	100U
	100-01-6	4-NITROANILINE	100U

.2

USEPA-SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA,VA 22313

RECEIVED SEP 21 1984

SAMPLE NO.
E8330

G-105

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO. DR959
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

VOLATILES

CONCENTRATION LOW
DATE PREPARED 8/17/84
DATE ANALYZED 8/17/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----5ML

PP#	CAS#		UG/L
(2V)	107-02-8	ACROLEIN	100U
3V)	107-13-1	ACRYLONITRILE	100U
(4V)	71-43-2	BENZENE	10.9
(6V)	56-23-2	CARBON TETRACHLORIDE	5U
7V)	108-90-7	CLOROBENZENE	8.5
(10V)	107-06-2	1,2-DICHLOROETHANE	5U
(11V)	71-55-6	1,1,1-TRICHLOROETHANE	5U
13V)	75-34-3	1,1-DICHLOROETHANE	5U
14V)	79-00-5	1,1,2-TRICHLOROETHANE	5U
(15V)	79-34-5	1,1,2,2-TETRACHLOROETHANE	10U
16V)	75-00-3	CHLOROETHANE	10U
19V)	110-75-8	2-CHLOROETHYLVINYLETHER	10U
(23V)	67-66-3	CHLOROFORM	5U
(29V)	75-35-4	1,1-DICHLOROETHENE	5U
30V)	156-60-5	TRANS-1,2-DICHLOROETHENE	5U
(32V)	78-87-5	1,2-DICHLOROPROPANE	10U
(33V)	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5U
	10061-01-0	5CIS-1,3-DICHLOROPROPENE	5U
38V)	100-41-4	ETHYLBENZENE	5U
(44V)	75-09-2	METHYLENE CHLORIDE	2.3CK
45V)	74-87-3	CHLOROMETHANE	10U
46V)	74-83-9	BROMOMETHANE	10U
(47V)	75-25-2	BROMOFORM	10U
48V)	75-27-4	BROMODICHLOROMETHANE	5U
49V)	75-69-4	FLUOROTRICHLOROMETHANE	5U
(50V)	75-71-8	DICHLORODIFLUOROMETHANE	NA
(51V)	124-48-1	CHLORODIBROMOMETHANE	5U
85V)	127-18-4	TETRACHLOROETHENE	5U
(86V)	108-88-3	TOLUENE	5U
(87V)	79-01-6	TRICHLOROETHENE	5U
88V)	75-01-4	VINYL CHLORIDE	10U
	67-64-1	ACETONE	15.9C
	78-93-3	2-BUTANONE	5U
	75-15-0	CARBON DISULFIDE	1U
	519-78-6	2-HEXANONE	5U
	108-10-1	4-METHYL-2-PENTANONE	5U
	100-42-5	STYRENE	5U
	108-05-4	VINYL ACETATE	5U
	1330-20-7	TOTAL XYLENES	5U

PESTICIDES

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/5/84
PERCENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----10

PP#	CAS#		UG/L
(89P)	309-00-2	ALDRIN	.005U
(90P)	60-57-1	DIELDRIN	.005U
(91P)	57-74-9	CHLORDANE	.05U
(92P)	50-29-3	4,4'DDT	.01U
(93P)	72-55-9	4,4'DDE	.005U
(94P)	72-54-8	4,4'DDD	.1U
(95P)	115-29-7	ALPHA-ENDOSULFAN	.005U
(96P)	115-29-7	BETA-ENDOSULFAN	.005U
(97P)	1031-07-8	ENDOSULFAN SULFATE	.01U
(98P)	72-20-8	ENDRIN	.005U
(99P)	7421-93-4	ENDRIN ALDEHYDE	.01U
(100P)	76-44-8	HEPTACHLOR	.005U
(101P)	1024-57-3	HEPTACHLOR EPOXIDE	.005U
(102P)	319-84-6	ALPHA-BHC	.005U
(103P)	319-85-7	BETA-BHC	.005U
(104P)	319-86-8	DELTA-BHC	.005U
(105P)	58-89-9	GAMMA-BHC (LINDANE)	.005U
106P	53469-21-9	PCB-1242	.05U
107P	11097-69-1	PCB-1254	.1U
108P	11104-28-2	PCB-1221	.1U
109P	11141-16-5	PCB-1232	.05U
110P	12672-29-6	PCB-1248	.1U
111P	11096-82-5	PCB-1260	.1U
112P	12674-11-2	PCB-1016	.2U
113P	8001-35-2	TOXAPHENE	.05U

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Sample Number: E8330

Laboratory Name: PEDCO ENVIRONMENTAL

Case No: 3140 G-105

QC Report No:

C6110

B. Tentatively Identified Compounds

	CAS #	Compound Name	Fraction	Scan No. or Retention Time	% Maximum Score Attained Mass Matching Routine: (Specify: Purity)	Estimated Concentration (ug/l or ug/kg)
1.			VOA			
2.						
3.		UNKNOWN	BNA	1865		5
4.		"		1846		30
5.		"		1575		3
6.		PHTHALATE		1521		10
7.		UNKNOWN		1424		5
8.		"		1377		25
9.		ALKENE		1303		10
10.		Acid		1196		10
11.		UNKNOWN		928		60
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						
21.						
22.						
23.						
24.						
25.						
26.						
27.						
28.						
29.						
30.						

6/82

Site Name / TDDI: Loves Park / ROS-8303-01P

Case Number : 3140

Sampling Date: 8-15-84

Sampling Time: ~~[illegible]~~ 10:00

Sample/Station Location: W-4 / G-104

Organic Traffic Number E 8329

Inorganic Traffic Number ME 3267

High Hazard Traffic Number E

Physical Description

At time of collection: Low Conc. Ground water

Physical Changes (if any)

From time of collection until shipment: NaOH added to Cyanide
HNO3 added to metals metals filt. 45 ug

Instrument Readings (i.e. - pH, conductivity...): PH~2 metals
PH~12 Cyanide

Sampling Date: 8-15-84

Sampling Time: 10:00

Sample/Station Location: W-5 / G-105

Organic Traffic Number E 8330

Inorganic Traffic Number ME 3268

High Hazard Traffic Number E

Physical Description

At time of collection: Low Conc. Ground water

Physical Changes (if any)

From time of collection until shipment: NaOH added to Cyanide
Metals filtered 45 ug HNO3 added to metals

Instrument Readings (i.e. - ph, conductivity...): PH~2 metals
PH~12 cyanide

BLK

85FD03R12

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MED096

Date 4-15-85

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 4129
QC REPORT NO. 5725

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	ALUMINUM	23U	P	13.	MAGNESIUM	330U	P
2.	ANTIMONY	46U	P	14.	MANGANESE	3U	P
3.	ARSENIC	4u	F	15.	MERCURY	0.1u	CV
4.	BARIUM	12U	P	16.	NICKEL	[12]	P
5.	BERYLLIUM	0.5U	P	17.	POTASSIUM	470U	P R
6.	CADMIUM	5U	P	18.	SELENIUM	2u	F R
7.	CALCIUM	290U	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	880U	P
9.	COBALT	7U	P	21.	THALLIUM	4u	F R
10.	COPPER	45	P	22.	TIN	36U	P
11.	IRON	[18]	P	23.	VANADIUM	4U	P
12.	LEAD	2u	F	24.	ZINC	[5.8]	P

Cyanide 10u MS Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: BLANK

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Lab Manager Jm

Site Name / TDDI: [illegible]

Case Number : 3140

Sampling Date: 8-15-84

Sampling Time: 9:30

Sample/Station Location: W-2 / G-102

Organic Traffic Number E 8327

Inorganic Traffic Number HE 3265

High Hazard Traffic Number E

Physical Description

At time of collection: Low CONC. Ground water

Physical Changes (if any)

From time of collection until shipment: NaOH added to Cyanide
metals filtered 45 µg HNO3 added to metals

Instrument Readings (i.e. - pH, conductivity...): pH~2 metals
pH~12 Cyanide

Sampling Date: 8-15-84

Sampling Time: 9:30

Sample/Station Location: W-3 / G-103

Organic Traffic Number E 8328

Inorganic Traffic Number HE 3266

High Hazard Traffic Number E:

Physical Description

At time of collection: Low Conc Ground water

Physical Changes (if any)

From time of collection until shipment: NaOH added to Cyanide
metals filtered 45 µg HNO3 added to metals

Instrument Readings (i.e. - ph, conductivity...): pH~2 metals
pH~12 cyanide

Site Name / TDDI: COVES PARK / KOS-8505 OH

Case Number : 3140

Sampling Date: ~~10:00~~ 8-15-84

Sampling Time: ~~W-4/6-104~~ 10:00

Sample/Station Location: W-4/6-104

Organic Traffic Number E 8331

Inorganic Traffic Number ME 3269

High Hazard Traffic Number E

Physical Description

At time of collection: Low Conc. Ground water

Physical Changes (if any)

From time of collection until shipment: NaOH added to Cyanide
metals filtered .45 ug HNO3 added to metals

Instrument Readings (i.e. - pH, conductivity...): PH<2 metals
PH<12 Cyanide

Sampling Date: 8-15-84

Sampling Time: 11:00

Sample/Station Location: BLANK/BLANK

Organic Traffic Number E 8332

Inorganic Traffic Number ME 3270

High Hazard Traffic Number E

Physical Description

At time of collection: DISTILLED WATER

Physical Changes (if any)

From time of collection until shipment: NaOH added to Cyanide
metals filtered .45 ug HNO3 added to metals

Instrument Readings (i.e. - ph, conductivity...): PH<2 metals
PH<12 Cyanide

ecology and environment, inc.
223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL. 312-663-9415
International Specialists in the Environmental Sciences

Date Received for Review: 9/21/84 Date Review Completed: 9/28/84

To: RON ST. JOHN

From: Cynthia Bachunas

Subject: LOVES PARK
ROS-8303-01D (ILLINOIS)

Sample Description: CASE 3140 - LOW WATER ORGANICS

Project Data Status: STILL AWAITING METALS & CYANIDE

FIT Data Review Findings:

- FIELD BLANK CONTAINS 7.5 ppb ACETONE

SEE ATTACHED CRL REVIEW FOR COMMENTS

Additional Comments:

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE 9/19/84

RECEIVED SEP 21 1984

SUBJECT Review of Region V CLP Data
Received for Review on 9/14/84

FROM Curtis Ross, Director
Central Regional Laboratory Chuck Elby

TO Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME Loves Park SMO Case No. 3140

EPA Data Set No. SF638 No. of Samples 6 D.U./Activity Numbers Y405 IC48500

CRL No. 84MS07570 To 84MS09R12

SMO Traffic No. E8327 to E8332

Contract Laboratory: Pedco Hours Required for Review: 8

Following are our findings.

WATER SURROGATE % RECOVERY - SEE ATTACHMENT 1

SEMI-VOLATILES

SAMPLE	Compounds	
BLANK	D_5 - Nitrobenzene D_{14} - p-Terphenyl	OUTSIDE OF QC LIMITS.
E8327	D_5 - Nitrobenzene	" " " "
E8329	D_5 - Nitrobenzene	" " " "
E8330	D_{14} - p-Terphenyl	" " " "
E8330MS	D_5 - Nitrobenzene	" "

CONT. ON NEXT PAGE

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above. 9-18-84
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Robert Pritchard, CLP/SMO

EPA FORM 1320-6 (REV. 3-76)

WATER SURROGATE % RECOVERY CONT.

RECEIVED SEP 2 1 1984

PESTICIDES

SAMPLE	Compound	OUTSIDE OF QC LIMITS
BLANK	DibuTYL Chlorendate	" " " "
E 8328	"	" " " "
E 8330	"	" " " "
E 8332	"	" " " "

MATRIX SPIKE DUPLICATE/RECOVERY. SEE ATTACHMENT 3

FRACTION	SAMPLE	Compound	STATISTIC	OUTSIDE OF QC LIMITS
B/N	E 8327 MS+MSD	Di-N-BUTYL-PHTHALATE	% REC	" " " "
B/N	E 8227MS	PYRENE	% REC	

FORM III

WATER SURROGATE PERCENT RECOVERY SUMMARY

CASE NO. 3140
LOW LEVEL ✓
WATER ✓
QC REPORT NO.

CONTRACTOR PEDCo Environmental
MED. LEVEL

CONTRACT NO. 68-01-6779
HIGH LEVEL
OTHER (Specify)

ATTACHMENT 1

[-------Volatile -------][----------Semi-Volatile----------][Pesticide]--[Dioxin]

SMO Traffic Report No.	D_8 Toluene (85-119)	BFB (85-121)	D_4-1,2-Dichloroethane (77-120)	D_5-Nitrobenzene (41-120)	2-Fluorobiphenyl (44-119)	D_{14}-p-Terphenyl (33-128)	D_5-Phenol (15-96)	2-Fluorophenol (23-107)	2,4,6-Tribromophenol (20-105)	Dibutyl-Chlorendate (67-114)**	1,2,3,4-TCDD (23-148)
LANIL	100	100	95	40*	70	132*	24	62	22	45*	
S327	106	112	86	24*	54	62	26	66	46	90	
S328	105	109	88	46	84	102	26	70	40	115*	
S326	103	110	89	34*	62	88	18	54	38	98	
S330	104	111	89	72	62	10*	28	80	38	10*	
S331	102	110	90	44	84	104	26	70	44	114	
S332	105	112	93	46	80	128	26	72	22	125*	
S329MS	103	107	86	38*	74	124	32	88	48		
S329MSD	103	100	85	52	92	94	34	70	48		

* Asterisked values are outside of QC limits.
** Advisory Limit

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Comments:

Dioxins: ___ out of ___ outside of QC limits
___ out of ___ outside of QC limits

FORM V

MATRIX SPIKE DUPLICATE/RECOVERY

CASE NO. 3140
LOW LEVEL ✓
WATER ✓
QC REPORT NO.

CONTRACTOR PEDCo Environmental
MED. LEVEL
SOIL/SED.

CONTRACT NO. 63-01-6779
HIGH LEVEL
OTHER (Specify)
UNITS (Circle) ug/kg ug/L

ATTACHMENT 2

FRACTION	COMPOUND	CONC. SPIKE ADDED	CONC. MS	% REC.	CONC. MSD	% REC	RPD	QC %RECOVERY LIMITS* RPD	WATER	SOIL	COMMENTS
VOA SMO # E8329	1,1-Dichloroethylene	49.9	56.5	113.2	53.1	106.4	6.2	<15%	61-145	59-177	
	Trichloroethylene	55.4	63.4	114.4	60.9	109.9	4.0	<15%	71-120	62-137	
	Chlorobenzene	42.3	49.2	116.3	49.5	117.0	0.6	<15%	75-130	60-133	
	Toluene	42.1	46.6	110.7	44.3	105.2	5.1	<15%	76-125	59-139	
	Benzene	41.7	47.1	112.9	44.9	107.7	4.6	<15%	76-127	66-142	
B/N SMO # E8327	1,2,4-Trichlorobenzene	51.7	32.6	63	44.6	86	27	<50%	39- 98	38-107	
	Acenaphthene	50.8	33.6	67	39.9	78	15	<50%	46-118	31-137	
	2,4-Dinitrotoluene	52.2	22.8	44	24.6	47	7	<50%	24- 96	28- 89	
	Di-N-Butylphthalate	69.5	5.2	7*	5.2	7*	0	<50%	11-117	29-135	
	Pyrene	65.0	95.8	147*	78.	120	20	<50%	26-127	35-142	
	N-Nitrosodi-N-Propylamine	56.0	27.8	50	36.2	65	26	<50%	41-116	41-126	
	1,4-Dichlorobenzene	60.7	30.2	50	39.0	64	25	<50%	36- 97	28-104	
ACID SMO # E8327	Pentachlorophenol	101.2	59.0	58	57.6	57	2	<40%	9-103	17-109	
	Phenol	103.8	60.4	58	70.4	68	16	<40%	12- 89	26- 90	
	2-Chlorophenol	110.4	88.6	80	75.4	68	16	<40%	27-123	25-102	
	P-Chlor-M-Cresol	100.8	55.0	55	54.6	54	2	<40%	23- 97	26-103	
	4-Nitrophenol	100.8	52.0	52	44.0	44	17	<40%	10- 80	11-114	
PEST SMO # E8329	Lindane	13.0	11.7	90.0	11.6	89.2	0.8	<40%	56-123	46-127	
	Heptachlor	13.2	9.97	75.7	9.91	75.1	0.6	<40%	40-131	35-130	
	Aldrin	10.7	9.33	87.2	9.20	86.0	1.2	<40%	40-120	34-132	
	Dieldrin	10.0	9.28	92.8	9.22	92.2	0.6	<40%	52-126	31-134	
	Endrin	10.7	9.97	93.2	9.55	89.4	3.9	<40%	56-121	42-139	
	p,p-DDT	9.0	9.44	93.8	9.31	92.3	1.5	<40%	38-127	23-134	

*Asterisked values are outside QC limits.

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RPD:
VOAs 0 out of 5; outside QC limits
B/N 0 out of 7; outside QC limits
ACID 0 out of 5; outside QC limits
PEST 0 out of 6; outside QC limits

RECOVERY:
VOAs 0 out of 10; outside of QC limits
B/N 3 out of 14; outside of QC limits
ACID 0 out of 10; outside of QC limits
PEST 0 out of 12; outside of QC limits

'62

USEPA-SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA, VA 22313

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SAMPLE NO.
E8328

G-103

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO. DR957
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

VOLATILES

CONCENTRATION LOW
DATE PREPARED 8/17/84
DATE ANALYZED 8/17/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----5ML

PP#	CAS#		UG/L
(2V)	107-02-8	ACROLEIN	100U
(3V)	107-13-1	ACRYLONITRILE	100U
(4V)	71-43-2	BENZENE	5U
(6V)	56-23-2	CARBON TETRACHLORIDE	5U
(7V)	108-90-7	CLOROBENZENE	5U
(10V)	107-06-2	1,2-DICHLOROETHANE	5U
(11V)	71-55-6	1,1,1-TRICHLOROETHANE	5U
(13V)	75-34-3	1,1-DICHLOROETHANE	5U
(14V)	79-00-5	1,1,2-TRICHLOROETHANE	5U
(15V)	79-34-5	1,1,2,2-TETRACHLOROETHANE	10U
(16V)	75-00-3	CHLOROETHANE	10U
(19V)	110-75-8	2-CHLOROETHYLVINYLETHER	10U
(23V)	67-66-3	CHLOROFORM	5U
(29V)	75-35-4	1,1-DICHLOROETHENE	5U
30V)	156-60-5	TRANS-1,2-DICHLOROETHENE	5U
32V)	78-87-5	1,2-DICHLOROPROPANE	10U
(33V)	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5U
	10061-01-0	5CIS-1,3-DICHLOROPROPENE	5U
38V)	100-41-4	ETHYLBENZENE	5U
(44V)	75-09-2	METHYLENE CHLORIDE	5UC
(45V)	74-87-3	CHLOROMETHANE	10U
46V)	74-83-9	BROMOMETHANE	10U
(47V)	75-25-2	BROMOFORM	10U
(48V)	75-27-4	BROMODICHLOROMETHANE	5U
49V)	75-69-4	FLUOROTRICHLOROMETHANE	5U
50V)	75-71-8	DICHLORODIFLUOROMETHANE	NA
(51V)	124-48-1	CHLORODIBROMOMETHANE	5U
85V)	127-18-4	TETRACHLOROETHENE	5U
86V)	108-88-3	TOLUENE	5U
(87V)	79-01-6	TRICHLOROETHENE	5U
88V)	75-01-4	VINYL CHLORIDE	10U
	67-64-1	ACETONE	5U
	78-93-3	2-BUTANONE	5U
	75-15-0	CARBON DISULFIDE	1U
	519-78-6	2-HEXANONE	5U
	108-10-1	4-METHYL-2-PENTANONE	5U
	100-42-5	STYRENE	5U
	108-05-4	VINYL ACETATE	5U
	1330-20-7	TOTAL XYLENES	5U

PESTICIDES

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/5/84
PERCENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----10

PP#	CAS#		UG/L
(89P)	309-00-2	ALDRIN	.005U
(90P)	60-57-1	DIELDRIN	.005U
(91P)	57-74-9	CHLORDANE	.05U
(92P)	50-29-3	4,4'DDT	.01U
(93P)	72-55-9	4,4'DDE	.005U
(94P)	72-54-8	4,4'DDD	.1U
(95P)	115-29-7	ALPHA-ENDOSULFAN	.005U
(96P)	115-29-7	BETA-ENDOSULFAN	.005U
(97P)	1031-07-8	ENDOSULFAN SULFATE	.01U
(98P)	72-20-8	ENDRIN	.005U
(99P)	7421-93-4	ENDRIN ALDEHYDE	.01U
(100P)	76-44-8	HEPTACHLOR	.005U
(101P)	1024-57-3	HEPTACHLOR EPOXIDE	.005U
(102P)	319-84-6	ALPHA-BHC	.005U
(103P)	319-85-7	BETA-BHC	.005U
(104P)	319-86-8	DELTA-BHC	.005U
(105P)	58-89-9	GAMMA-BHC (LINDANE)	.005U
106P	53469-21-9	PCB-1242	.05U
107P	11097-69-1	PCB-1254	.1U
108P	11104-28-2	PCB-1221	.1U
109P	11141-16-5	PCB-1232	.05U
110P	12672-29-6	PCB-1248	.1U
111P	11096-82-5	PCB-1260	.1U
112P	12674-11-2	PCB-1016	.2U
113P	8001-35-2	TOXAPHENE	.05U

USEPA-SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA,VA 22313

SAMPLE NO.
E8328

G-103

RECEIVED SEP 21 1984

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO. DR957
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

SEMIVOLATILE COMPOUNDS

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/11/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----500

00050

PP#	CAS#		UG/L
(21A)	88-06-2	2,4,6-TRICHLOROPHENOL	10U
22A)	59-50-7	P-CHLORO-M-CRESOL	10U
(24A)	95-57-8	2-CHLOROPHENOL	10U
(31A)	120-83-2	2,4-DICHLOROPHENOL	10U
34A)	105-67-9	2,4-DIMETHYLPHENOL	10U
(57A)	88-75-5	2-NITROPHENOL	20U
(58A)	100-02-7	4-NITROPHENOL	50U
59A)	51-28-5	2,4-DINITROPHENOL	50U
(60A)	534-52-1	4,6-DINITRO-O-CRESOL	20U
(64A)	87-86-5	PENTACHLOROPHENOL	10U
65A)	108-95-2	PHENOL	10U
	65-85-0	BENZOIC ACID	100U
	95-48-7	2-METHYLPHENOL	5U
	108-39-4	4-METHYLPHENOL	5U
	95-95-4	2,4,5-TRICHLOROPHENOL	100U
(1B)	83-32-9	ACENAPTHENE	10U
(5B)	92-87-5	BENZIDINE	40U
8B)	120-82-1	1,2,4-TRICHLOROBENZENE	10U
(9B)	118-74-1	HEXACHLOROBENZENE	10U
(12B)	67-72-1	HEXACHLOROETHANE	10U
18B)	111-44-4	BIS(2-CHLOROETHYL)ETHER	10U
(20B)	91-58-7	2-CHLORONAPTHALENE	10U
(25B)	95-50-1	1,2-DICHLOROBENZENE	10U
26B)	541-73-1	1,3-DICHLOROBENZENE	10U
27B)	106-46-7	1,4-DICHLOROBENZENE	10U
(28B)	91-94-1	3,3'-DICHLOROBENZIDINE	20U
(35B)	121-14-2	2,4-DINITROTOLUENE	20U
36B)	606-20-2	2,6-DINITROTOLUENE	20U
(37B)	122-66-7	1,2-DIPHENYLHYDRAZINE	20U
(39B)	206-44-0	FLUORANTHENE	10U
40B)	7005-72-3	4-CHLOROPHENYLPHENYLETHER	10U
(41B)	101-55-3	4-BROMPHENYLPHENYLETHER	10U
(42B)	39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	20U
43B)	111-91-1	BIS(2-CHLORETHOXY)METHANE	20U

PP#	CAS#		UG/L
(52B)	87-68-3	HEXACHLOROBUTADIENE	10U
(53B)	77-47-4	HEXACHLOROCYCLOPENTADIENE	10U
(54B)	78-59-1	ISOPHORONE	10U
(55B)	91-20-3	NAPTHALENE	10U
(56B)	98-95-3	NITROBENZENE	10U
(62B)	86-30-6	N-NITROSODIPHENYLAMINE	10U
(63B)	621-64-7	N-NITROSODIPROPYLAMINE	10U
(66B)	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	10U
(67B)	85-68-7	BENZYLBUTYL PHTHALATE	10U
(68B)	84-74-2	DI-N-BUTYL PHTHALATE	10U
(69B)	117-84-0	DI-N-OCTYL PHTHALATE	10U
(70B)	84-66-2	DIETHYL PHTHALATE	10U
(71B)	131-11-3	DIMETHYL PHTHALATE	10U
(72B)	56-55-3	BENZO(A)ANTHRACENE	10U
(73B)	50-32-8	BENZO(A)PYRENE	20U
(74B)	205-99-2	BENZO(B)FLUORANTHENE AND/	20U
(75B)	207-08-9	BENZO(K)FLUORANTHENE OR	20U
(76B)	218-01-9	CHRYSENE	20U
(77B)	208-96-8	ACENAPTHYLENE	10U
(78B)	120-12-7	ANTHRACENE	10U
(79B)	191-24-2	BENZO(GHI)PERYLENE	20U
(80B)	86-73-7	FLUORENE	10U
(81B)	85-01-8	PHENANTHRENE	10U
(82B)	53-70-3	DIBENZO(AH)ANTHRACENE	20U
(83B)	193-39-5	INDENO(123-CD)PYRENE	20U
(84B)	129-00-0	PYRENE	10U
	62-53-3	ANILINE	5U
	100-51-6	BENZYL ALCOHOL	20U
	106-47-8	4-CHLOROANILINE	50U
	132-64-9	DIBENZOFURAN	10U
	91-57-6	2-METHYLNAPTHALENE	20U
	88-74-4	2-NITROANILINE	100U
	99-09-2	3-NITROANILINE	100U
	100-01-6	4-NITROANILINE	100U

ORGANICS ANALYSIS DATA SHEET - Page 3

Sample Number: E8328

Laboratory Name: PEDCO ENVIRONMENTAL Case No: 3140 G-103

QC Report No: 00051

B. Tentatively Identified Compounds

CAS #	Compound Name	Fraction	Scan No. or Retention Time	% Maximum Score Attained Mass Matching Routine: (Specify: Purity)	Estimated Concentration (ug/l or ug/kg)
1.	None	VOA			
2.					
3.	Acid	BNA	935		230
4.	Unknown		1186		20
5.	Acid		1199		30
6.	Unknown		1310		400
7.	"		1377		70
8.	"		1631		20
9.	"		1750		110
10.	"		1793		15
11.	"		1925		10
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

6/82

USEPA SAMPLE MANAGEMENT OFFICE
PO BOX 818 ALEXANDRIA,VA 22313

RECEIVED SEP 2 1 1984

00009

SAMPLE NO.
E8327

G-102

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME PEDCO ENV.
LAB SAMPLE ID NO DR956
SAMPLE MATRIX WATER
DATA RELEASE AUTHORIZED A9

CASE NO: 3140
QC REPORT NO.
CONTRACT NO. 68-01-6779
DATE SAMPLE RECEIVED 8/16/84

VOLATILES

CONCENTRATION LOW
DATE PREPARED 8/17/84
DATE ANALYZED 8/17/84
PER CENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----5ML

PP#	CAS#	UG/L
(2V)	107-02-8ACROLEIN	100U
(3V)	107-13-1ACRYLONITRILE	100U
1V)	71-43-2BENZENE	5U
3V)	56-23-2CARBON TETRACHLORIDE	5U
(7V)	108-90-7CLOROBENZENE	5U
0V)	107-06-21,2-DICHLOROETHANE	5U
1V)	71-55-61,1,1-TRICHLOROETHANE	5U
(13V)	75-34-31,1-DICHLOROETHANE	5U
(14V)	79-00-51,1,2-TRICHLOROETHANE	5U
5V)	79-34-51,1,2,2-TETRACHLOROETHANE	10U
(16V)	75-00-3CHLOROETHANE	10U
(19V)	110-75-82-CHLOROETHYLVINYLETHER	10U
3V)	67-66-3CHLOROFORM	5U
(29V)	75-35-41,1-DICHLOROETHENE	5U
(30V)	156-60-5TRANS-1,2-DICHLOROETHENE	5U
2V)	78-87-51,2-DICHLOROPROPANE	10U
3V)	10061-02-6TRANS-1,3-DICHLOROPROPENE	5U
	10061-01-05CIS-1,3-DICHLOROPROPENE	5U
8V)	100-41-4ETHYLBENZENE	5U
4V)	75-09-2METHYLENE CHLORIDE	5UC
(45V)	74-87-3CHLOROMETHANE	10U
(46V)	74-83-9BROMOMETHANE	10U
7V)	75-25-2BROMOFORM	10U
(48V)	75-27-4BROMODICHLOROMETHANE	5U
(49V)	75-69-4FLUOROTRICHLOROMETHANE	5U
0V)	75-71-8DICHLORODIFLUOROMETHANE	NA
(51V)	124-48-1CHLORODIBROMOMETHANE	5U
(85V)	127-18-4TETRACHLOROETHENE	5U
6V)	108-88-3TOLUENE	5U
7V)	79-01-6TRICHLOROETHENE	5U
(88V)	75-01-4VINYL CHLORIDE	10U
	67-64-1ACETONE	5U
	78-93-32-BUTANONE	5U
	75-15-0CARBON DISULFIDE	1U
	519-78-62-HEXANONE	5U
	108-10-14-METHYL-2-PENTANONE	5U
	100-42-5STYRENE	5U
	108-05-4VINYL ACETATE	5U
	1330-20-7TOTAL XYLENES	5U

PESTICIDES

CONCENTRATION LOW
DATE EXTRACTED 8/16/84
DATE ANALYZED 9/5/84
PERCENT MOISTURE N/A
CONCENTRATION/DIL. FACTOR-----10

PP#	CAS#	UG/L
(89P)	309-00-2 ALDRIN	.005U
(90P)	60-57-1 DIELDRIN	.005U
(91P)	57-74-9 CHLORDANE	.05U
(92P)	50-29-3 4,4'DDT	.01U
(93P)	72-55-9 4,4'DDE	.005U
(94P)	72-54-8 4,4'DDD	.1U
(95P)	115-29-7 ALPHA-ENDOSULFAN	.005U
(96P)	115-29-7 BETA-ENDOSULFAN	.005U
(97P)	1031-07-8 ENDOSULFAN SULFATE	.01U
(98P)	72-20-8 ENDRIN	.005U
(99P)	7421-93-4 ENDRIN ALDEHYDE	.01U
(100P)	76-44-8 HEPTACHLOR	.005U
(101P)	1024-57-3HEPTACHLOR EPOXIDE	.005U
(102P)	319-84-6 ALPHA-BHC	.005U
(103P)	319-85-7 BETA-BHC	.005U
(104P)	319-86-8 DELTA-BHC	.005U
(105P)	58-89-9 GAMMA-BHC (LINDANE)	.005U
106P	53469-21-9PCB-1242	.05U
107P	11097-69-1PCB-1254	.1U
108P	11104-28-2PCB-1221	.1U
109P	11141-16-5PCB-1232	.05U
110P	12672-29-6PCB-1248	.1U
111P	11096-82-5PCB-1260	.1U
112P	12674-11-2PCB-1016	.2U
113P	8001-35-2TOXAPHENE	.05U