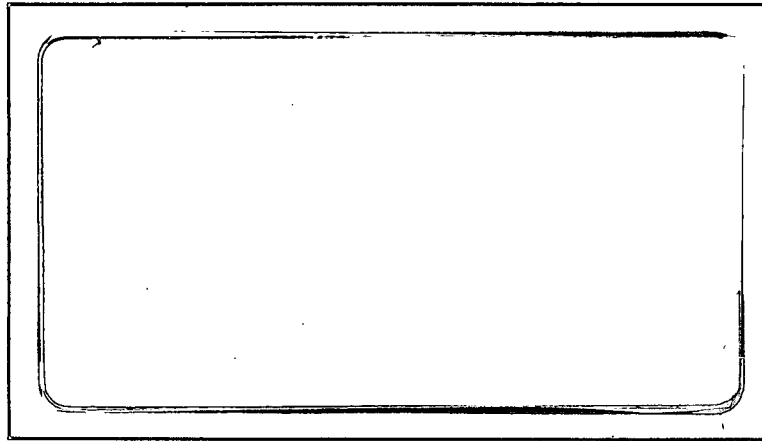




D. E. R.
JUN 26 1992
SOUTHWEST DISTRICT
TAMPA

Ardaman & Associates, Inc.

**Revised Groundwater Monitoring Plan
Lena Road Class I Sanitary Landfill
Manatee County, Florida**



Ardaman & Associates, Inc.

D.E.R.

JUN 26 1992

SOUTHERN DISTRICT
TAMPA

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Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

January 11, 1990
File Number 86-115B

Manatee County Solid Waste Department
Caller Service 25010
Bradenton, FL 34203

Attention: Mr. Dan Gray

Subject: Revised Groundwater Monitoring Plan for Lena Road Class I Sanitary Landfill,
Manatee County, Florida

Gentlemen:

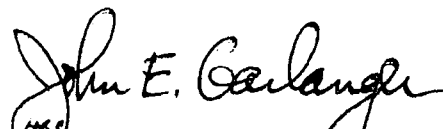
As requested and authorized by Mr. D. Gray, we submit this report on the revised groundwater monitoring plan for the subject sanitary landfill. It addresses the items referred to in the permit conditions pertaining to the revised plan and the assessment of the effectiveness of the landfill design.

This report has been prepared for the exclusive use of Manatee County Solid Waste Department for specific application to the subject project in accordance with generally accepted geotechnical and groundwater engineering practice. No other warranty, expressed or implied is made.

Please do not hesitate to contact us if you have questions, need additional information and/or when we can be of further assistance. We appreciate the opportunity to professionally serve you on this element of the project.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.


Herbert G. Stangland, Jr., P.E.
Senior Water Resources Engineer
Florida Registration No. 16713


John E. Garlanger, Ph.D., P.E.
Principal

HGS/JEG/js

Enclosures

cc: G. Schmidt (w/encl.)

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Background

The Lena Road Landfill is located in east-central Manatee County within Sections 6 and 7 of Township 35 South, Range 19 East, Section 31 of Township 34 South, Range 19 East and Section 1 of Township 35 South, Range 18 East. The north boundary of the site is approximately State Road 64. The location of the subject landfill is superimposed on a USGS map in Figure 1.

The Lena Road Landfill consists of three stages. Stage I is the existing landfill area. Stage II is the landfill expansion area north of the existing landfill and Stage III is the Gun Club landfill area to the west of the Stage I area. No refuse is presently located within the Stage II area. Refuse from a presently inactive landfill is located within the Stage III area.

This revised groundwater monitoring plan (GWMP) deals with Florida Department of Environmental Regulation (FDER) Permits SO41-118353 (Stage I), SC41-095658 (Stage II) and SC41-095667 (Stage III). Figure 2 indicates our understanding of the existing monitoring well network for these three stages. The two SMR wells are located on Figure 1.

Between August 29, 1985 and September 22, 1989 a slurry wall system was installed around the three stages of the Lena Road Landfill. Stage I construction occurred between August 29, 1985 and November 14, 1985. Stage II construction was completed between June 20, 1989 and August 16, 1989 while the Stage III construction was completed between August 20, 1989 and September 22, 1989. A leachate collection system was installed as part of Stages I and III. The leachate collection system for Stage II will be installed at a later time before refuse is placed in this area.

A special condition of the permit requires a revised groundwater monitoring plan. This special condition also requires an assessment of the effectiveness of the existing landfill design and operation as it relates to the prevention of groundwater contamination. This report addresses both of the requirements.

A number of reports have been prepared by Ardaman & Associates, Inc. describing and discussing the geotechnical and groundwater conditions at the subject site. The data from the following reports form the basis for this revised GWMP:

- Geotechnical and Hydrogeological Investigation at the Existing Stage I Lena Road Landfill, Manatee County, Florida. January 26, 1983. File No. 82-7047.
- Geotechnical and Hydrogeological Investigation at the Existing and Proposed Expansion for the Lena Road Landfill, Manatee County, Florida. March 3, 1983. File No. 82-7047.

- Geotechnical/Groundwater Responses to letter dated April 18, 1983 from Mr. E. G. Snipes of FDER on Lena Road Landfill. May 27, 1983. File No. 82-7047.
- Additional Hydrogeological Investigation at the Lena Road Landfill, Manatee County. February 24, 1984. File No. 82-7047.
- Responses to FDER Questions, Construction Permit Application, Lena Road Landfill, Stage II, Manatee County, Florida. May 8, 1985. File No. 82-7047.
- Final Report for Laboratory Testing of Backfill Samples for Slurry Wall Construction at the Stage I Lena Road Landfill Site. December 9, 1985. File No. 82-7047A.
- Completion Report for Monitoring Wells Installed at Lena Road Landfill, Manatee County, Florida. March 10, 1989. File No. 86-115.
- Completion Report for Slurry Wall Construction Lena Road Landfill within Manatee County, Florida. October 10, 1989. File No. 86-115A.

In addition, Manatee County provided us with the water quality monitoring results for 1984 to 1989 from the existing monitoring well network.

Hydrogeological Setting

Based upon a review of the many Standard Penetration Test (SPT) borings performed within the subject site and along the route of the slurry wall, the near-surface subsurface profile generally consists of two generalized strata: a surficial fine sand to clayey fine sand layer overlying a relatively impervious stratum of clayey sand to clay (confining layer) which contains interbedded seams of silt and sand most prevalent between 50 to 150 feet below land surface. This clayey stratum begins about 15 feet below land surface and extends to the top of the Tampa Limestone unit approximately 335 feet below land surface. The artesian aquifer monitor wells on-site are open between 50 and 160 feet below land surface. The most transmissive zone within the top 150 feet of this clayey unit at the landfill site was approximately 125 to 150 feet below land surface. However, shallow domestic wells in the area are typically open between 50 and 150 feet below land surface. A generalized hydrostratigraphic section at the site is shown in Figure 3.

The surficial sandy soils generally consist of brown or gray fine sands to silty fine sands interbedded with gray clayey fine sands. The thickness of the surficial sandy soils is typically 10 to 15 feet.

The top of the confining unit consists of clay, silt or very clayey sand. According to the Unified Soil Classification System (USCS), the classification of fine-grained soils based on the plasticity of the soils, is clayey sands to highly plastic, inorganic clay or sandy clay. The coefficient of vertical permeability within the top part of the confining unit, as determined

from our laboratory permeability tests is on the order of 5×10^{-8} cm/sec.

The clayey unit beneath the top of this upper confining unit consists of clayey sands to clay with rock lenses to 335 feet below land surface.

The water table is approximately 13 feet above the potentiometric surface in the first artesian aquifer.

Water quality information from the monitoring wells are summarized in the Appendix.

Assessment of Existing Landfill Design

The upper part of the confining unit beneath the Lena Road Landfill consists of approximately 50 feet of alternating layers of highly plastic clay, slightly sandy to sandy clay, clayey to slightly clayey sand, and occasional lenses of silty fine sand. The predominant layer at the top of the confining unit is a green to gray clayey sand to clay with phosphate and it contains several facies. The major facies include:

- a) a gray and green to brown sandy clay to clay.
- b) a gray and green clayey sand.
- c) a gray dolosilt.

Based on the hydraulic characteristics of the upper confining unit at the landfill, the downward seepage rate is estimated to be on the order of 0.2 inches per year.

An assessment of the water quality changes after the installation of the slurry wall was determined by comparing the indicator parameters in the groundwater quality data for MW-2 and MW-3 wells. The indicator parameters include total dissolved solids, chloride, sodium, and total Kjeldahl nitrogen. The data are summarized in Figure 4. These wells are located at the edge of the slurry wall within the southwest corner of the Stage I fill area.

Both of these wells indicate a trend towards decreasing mineralization since the installation of the slurry wall system.

None of the other monitoring wells along the outside perimeter of the slurry wall indicate any temporal trend in groundwater quality characteristics. This is not unexpected because of the slow movement of the groundwater plume and because of the relatively low recharge rate in this area.

If the water level inside the wall is maintained 1 foot lower than the water level outside the wall, the total seepage of "fresh" groundwater into the leachate collection system is

0.3 acre-feet/year considering a 15-foot thick aquifer and 20,000 lineal feet of slurry wall along the perimeter of the fill areas. For the 314-acre landfill area, this is equivalent to an additional percolation volume of 0.01 inches/year. It is our opinion that, if this condition does exist, the amount of additional leachate which would have to be collected and treated would be quite insignificant compared to the amount of percolation through the final cover. Percolation through the final cover is expected to be no more than on the order of 2 inches/year after closure.

Revised Groundwater Monitoring Plan

The following revised groundwater monitoring plan shows the location of the monitoring wells, construction details of the monitor wells, and water sampling and chemical analysis protocol.

Well Locations

The proposed monitor well locations for the subject site are shown on Figure 5. The plan shows monitoring wells at 19 locations along the perimeter of the slurry wall system. This monitoring well network includes 19 surficial aquifer monitor wells, 7 artesian aquifer monitor wells and 17 piezometers. The surficial aquifer and artesian aquifer wells are existing while the piezometers are proposed.

Existing wells SMR-1 and SMR-2 (Figure 1) are proposed as the background wells. The piezometers are required for monitoring head differences across the slurry wall system. No data are available at this time to document head differences across the slurry wall. The piezometers will be located at the locations of surficial aquifer monitor wells. The piezometers are proposed to be located between the slurry wall and the leachate collection system.

The surficial aquifer wells adjacent to the slurry wall are considered "downgradient" wells only because they monitor water quality outside the slurry wall. These same wells will also be used to monitor water levels outside the wall so that during operation of the leachate collection system the water level within the slurry wall can be maintained below the adjacent groundwater level to the extent possible. In this context all of the surficial aquifer wells are "upgradient" wells, i.e., when the leachate collection system is operating as proposed, the surficial aquifer monitor wells will have higher water levels than the water level inside the slurry wall.

Piezometers are proposed between the slurry wall and the leachate collection system at the location of noted surficial aquifer wells. These piezometers will be shallow wells used to document the water level inside the slurry wall at each monitor well locations.

The length of the collection zones for the piezometers will be 5 feet. The collection zone will be located below the seasonal high water table elevation.

Existing wells not used for monitoring will be properly abandoned and upon completion a report will be provided to the FDER documenting abandonment procedures and well locations. CW-3 well in the Stage III area is such a well.

Well Construction

The surficial aquifer wells including the piezometers will be constructed in the following manner after being permitted by the Southwest Florida Water Management District (SWFWMD).

A schematic of the monitor well construction is presented in Figure 6. The 2-inch diameter wells will be fully screened in the collection zone and be installed by advancing a 6-inch diameter hole to the final well depth, inserting a length of 2-inch diameter No. 10 slotted PVC pipe connected to a 2-inch diameter schedule 40 PVC riser, backfilling with a clayey sand to land surface. The monitor wells will be protected by a lockable vented cap.

Based on our knowledge of the site geology, the piezometers will typically vary in depth from 10 to 20 feet.

The following pertinent hydrogeological data will be documented for each monitor well:

- | | |
|--|--|
| ● Well identification | ● Total depth of well |
| ● Latitude/Longitude of well | ● Screen type and slot size |
| ● Aquifer monitored | ● Lithologic description of the screened zone |
| ● Casing diameter | ● Permeability of screened zone |
| ● Casing type and length | ● Direction of groundwater flow in screened zone |
| ● Elevation at top of pipe | ● SWFWMD or County well construction permit number |
| ● Elevation at land surface | |
| ● Elevation of top and bottom of collection zone | |

Sampling Protocol

Each well would be sampled quarterly. Grab samples will be taken using a peristaltic, submersible or bladder pump or bailer. The procedures for sampling are summarized as follows:

- Transport the sample bottles and preservatives to the site as provided by the water analysis laboratory.
- Rinse, with distilled water, the tubing or sampling device to be used for sample collection to avoid cross contamination.
- Measure in situ water level to the nearest .01 foot from the top of the casing.

Purge the well of a minimum of three casing volumes prior to sampling. (A casing volume is determined by subtracting the water table depth from the depth of the well then calculating the volume within that length of casing). Record water temperature, pH and electrical conductivity of the pumped water at the start of pumping and every five minutes thereafter. Guidelines for obtaining water level measurements are provided in Table 1.

- Withdraw water sample and place into proper container once measurement values from three consecutive readings are constant. Laboratory instructions (e.g., type of bottle, quantity of sample, and preservative) must be followed carefully and thoroughly. Record types of materials that the water sample contacted during collection (e.g., teflon, pvc, steel).
- Label sample bottle with well identification(s), final temperature, pH, conductivity, date and sampler's initials.
- Ice samples down and prepare for transportation to water analysis laboratory.
- Complete field note-taking as per water sample log sheet shown in Table 2. Document the pump operating time prior to collection of sample plus pumping rate at well in gallons per minute. Alternatively, document the casing volumes evacuated from the well prior to sampling.
- Transmit collected samples to water analysis laboratory within 24 hours of sampling. The chain of custody form to be used is shown in Table 3.

Sample, collection, preparation and testing procedures will adhere to the applicable procedures set forth by the Florida Department of Environmental Regulation.

Groundwater Monitoring Parameters

The groundwater monitoring parameters will adhere to the lists from the appropriate FDER permit conditions.

At a minimum, analyses for the following indicator parameters will be determined quarterly for each of the monitor wells and submitted to the FDER on a timely basis. Water level data will be obtained on all piezometers quarterly.

Field Determinations

- Water Level
- Temperature
- pH
- Specific conductance

Laboratory Determinations

- Total Dissolved Solids
- Total Organic Carbon
- Total Kjeldahl Nitrogen
- Chloride
- Iron
- Bicarbonate

It has been our experience that these parameters are most likely to be elevated above background levels in a leachate plume from a sanitary landfill. If the results of the routine monitoring of indicator parameters from any of the wells indicate the presence of leachate, then a more elaborate analysis program will need to be established with FDER during the next quarterly sampling. If the results of the analyses for the added parameters do not exceed the MCL, then these added parameters will be analyzed on an annual basis until the indicator parameters have concentration levels lower than determined in the initial sampling. Added parameters above the MCL will be monitored on a quarterly basis.

Analyses for metals will be performed on unfiltered samples. However, because of the possibility that the preserved metals sample may contain suspended particulates, any metal analysis which indicates non-compliance with the applicable groundwater standard will be considered as potentially unrepresentative of the actual groundwater. Consequently, both filtered and unfiltered samples will be obtained from the subject well on the next scheduled sampling trip and both of the samples will be analyzed for metals. Procedures for in-line field filtering will be those approved by FDER. The analytical test result sheets to FDER on unfiltered samples for metals will contain the following type note: "The results reported herein for metals were performed on unfiltered groundwater samples. These results may not be representative of the actual groundwater quality".

Proposed Action

The groundwater monitoring plan will be implemented with 90 days after approval by the FDER. After four quarters of data are available the data collection network and monitoring parameters should be reviewed. Mean sea level elevations need to be obtained for all piezometers and wells in the network. Water level elevations should be reported in addition to depths below land surface.

TABLE 1

REPORT SHEET

PIEZOMETER AND OBSERVATION WELLS

FILE NUMBER: _____ DATE: _____ INSPECTOR: _____

[illegible]

TABLE 2

Project Number _____

WATER QUALITY SAMPLE FIELD SHEET

Sample Source: Sampling Point Identification _____

Site Name/City/County _____

Sample Type: Surficial Secondary Floridan Surface

Sampled By: _____

Date & Time: _____

Weather Conditions _____

Well Depth: _____ Ft. Water Level _____ Ft. Above LSD
Below

Purging Method: _____ Time and/or amount: _____

Sampling Method: _____

Sample Containers: (number/size/type): _____

Reason for Sampling: _____

Appearance of Sample: _____ Odor: _____

Lab Performing Analysis: _____

Temp: _____ °C pH: _____ Cond: _____ µMHOS

<u>Vol. Pumped (gals)</u>	<u>Temp</u>	<u>Cond.</u>	<u>pH</u>	<u>Remarks:</u>

TABLE 3

TRANSFER OF CUSTODY SHEET

I, _____ of _____
(Signature) (Company)

hereby transfer the items listed below to

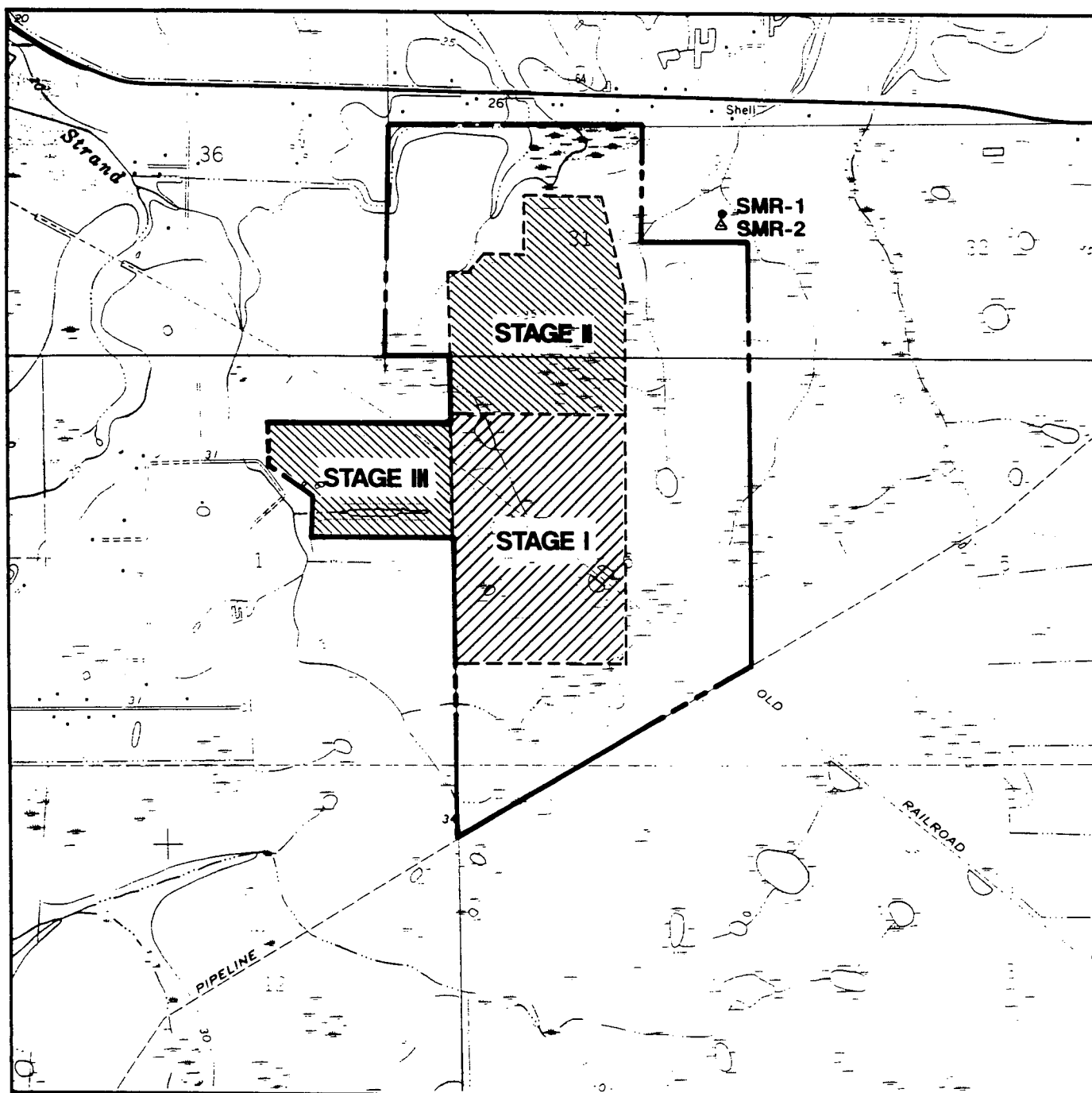
_____ of _____
(Name) (Company)

Items Transferred

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Receipt of above listed items acknowledged by

(Signature) _____ (Date) _____ (Time)



SITE LOCATION MAP

SECTION 1, TOWNSHIP 35 S, RANGE 18 E
 SECTION 6 AND 7, TOWNSHIP 35 S, RANGE 19 E
 SECTION 31, TOWNSHIP 34 S, RANGE 19 E



LEGEND

- SURFICIAL AQUIFER MONITOR WELL
- △ ARTESIAN AQUIFER MONITOR WELL

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 Foundations, and Materials Testing

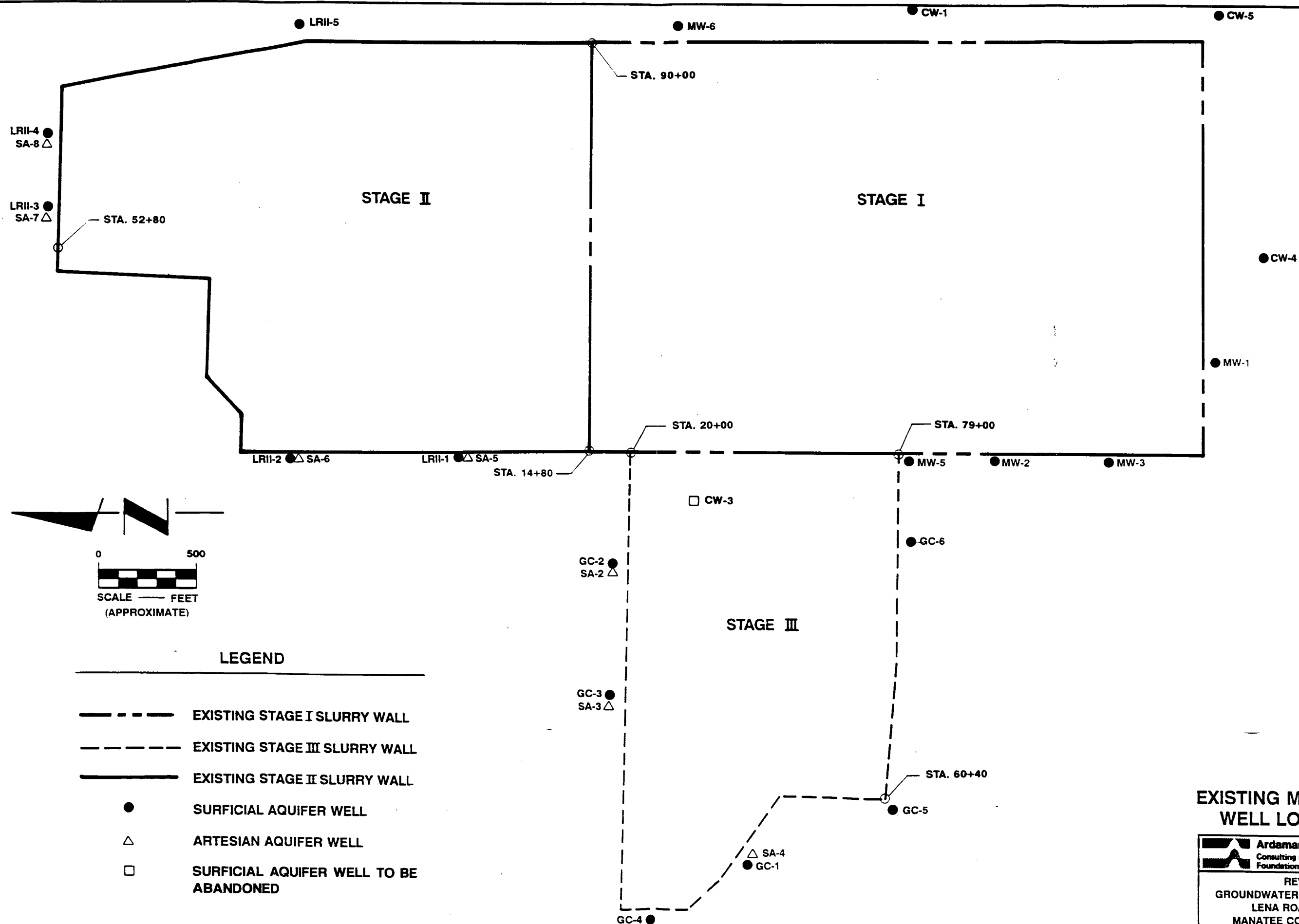
REVISED
 GROUNDWATER MONITORING PLAN
 LENA ROAD LANDFILL
 MANATEE COUNTY, FLORIDA

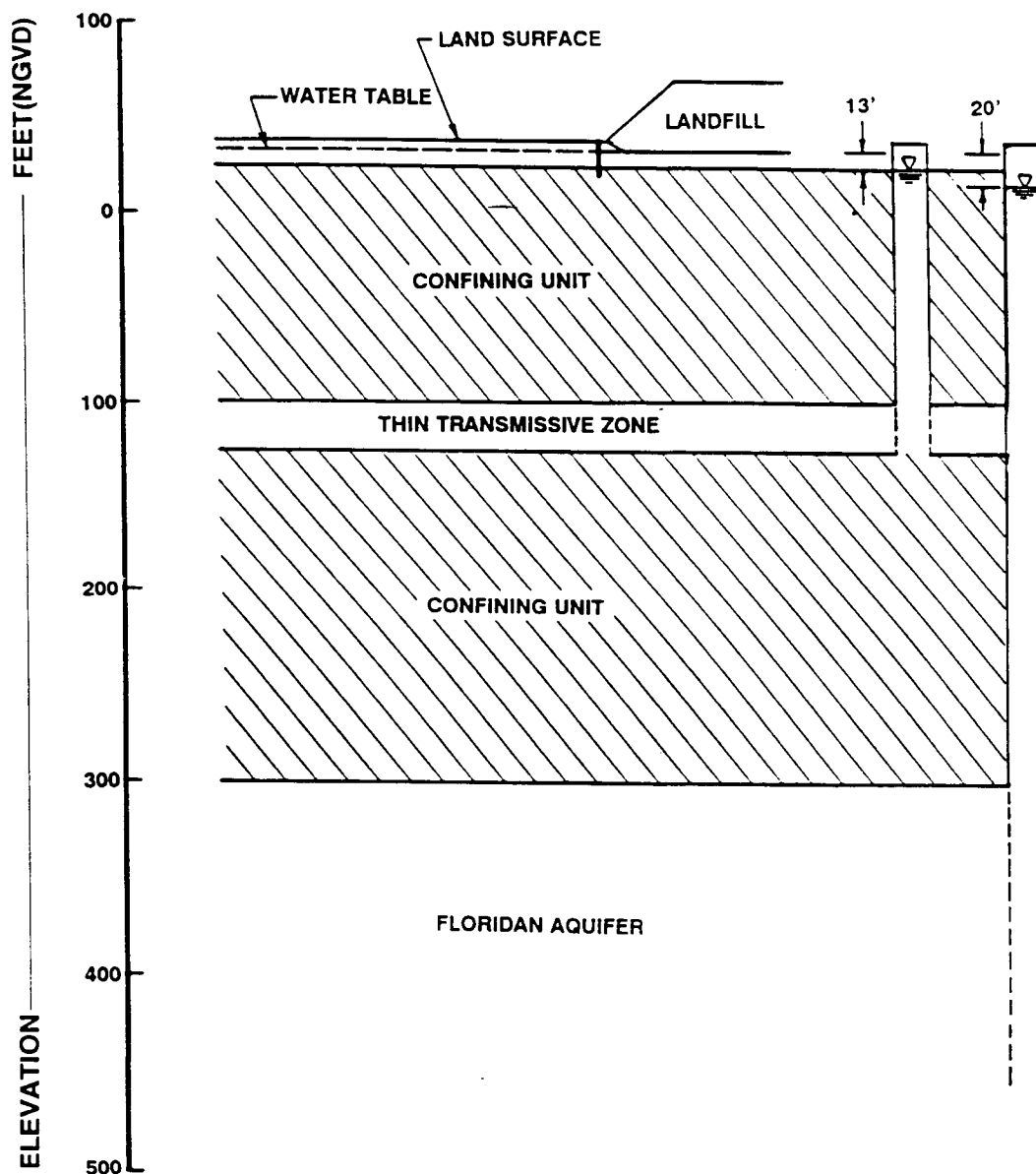
DRAWN BY: SEF CHECKED BY: HGS DATE: 01/09/90
 FILE NO. 86-115B APPROVED BY: H.G. Stangland

SOURCE: U.S.G.S. QUAD MAP, LORRAINE FL 1973

N24568

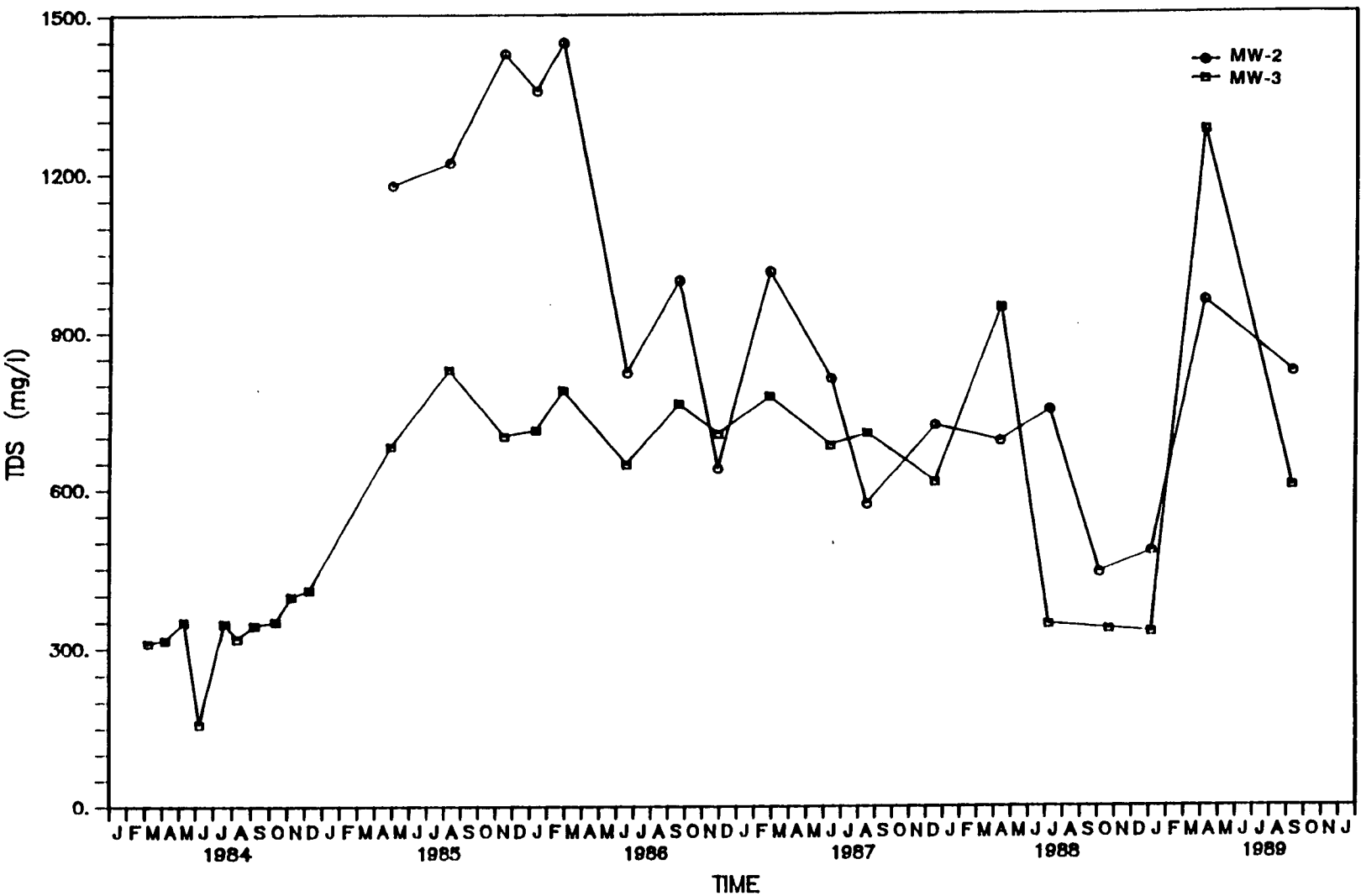
FIGURE 1





GENERALIZED HYDROSTRATIGRAPHIC SECTION

Ardaman & Associates, Inc. Consulting Engineers in Soil Mechanics, Foundations, and Materials Testing		
REVISED GROUNDWATER MONITORING PLAN LENA ROAD LANDFILL MANATEE COUNTY, FLORIDA		
DRAWN BY: SEF	CHECKED BY: HGS	DATE: 01/09/90
FILE NO: 86-115B	APPROVED BY: <i>H.G. Stanalaw</i>	



SELECTED WATER QUALITY DATA SUMMARY

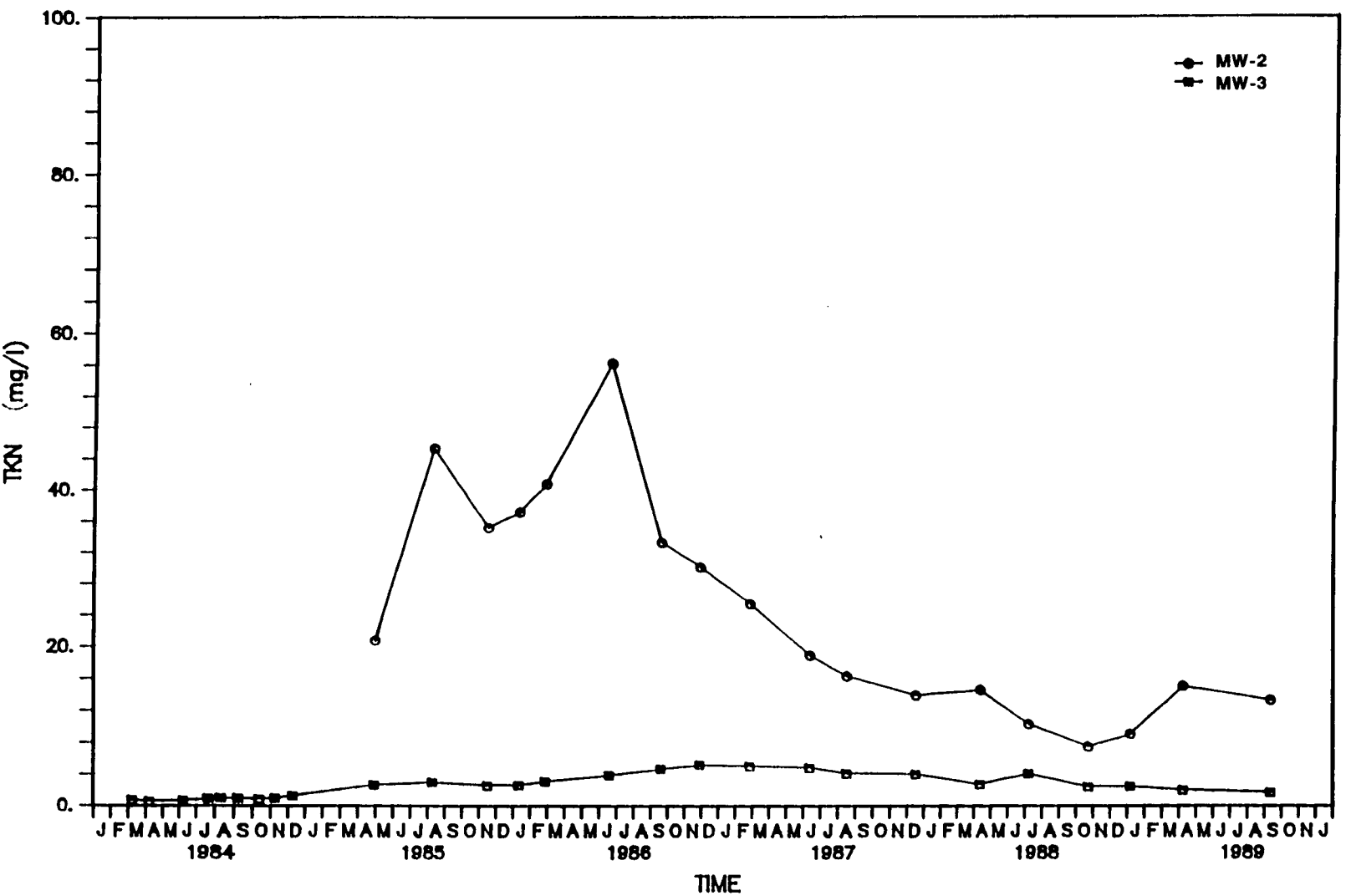
REVISED

Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics,
Foundations, and Materials Testing

GROUNDWATER MONITORING PLAN
LENA ROAD LANDFILL
MANATEE COUNTY, FLORIDA

DRAWN BY: SEF | CHECKED BY: H6S | DATE: 01/09/90
FILE NO. 86-115B | APPROVED BY: H.G. Stangland

FIGURE 4



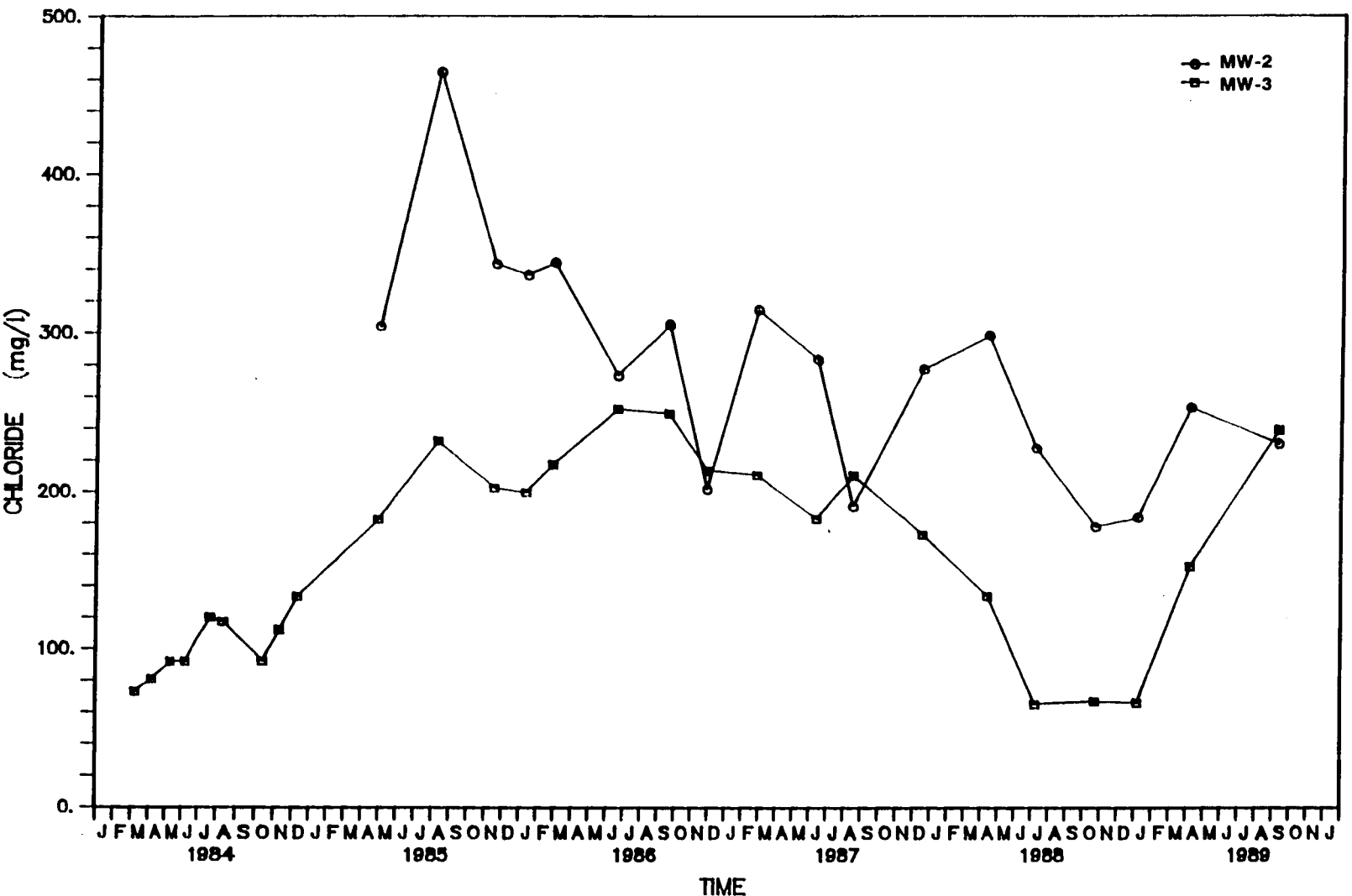
SELECTED WATER QUALITY DATA SUMMARY

Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics,
Foundations, and Materials Testing

REVISED

GROUNDWATER MONITORING PLAN
LENA ROAD LANDFILL
MANATEE COUNTY, FLORIDA

DRAWN BY: SEF
FILE NO. 86-115B
APPROVED BY: H.G.S.
CHECKED BY: H.G.S.
DATE: 01/09/90
H.G. Standland

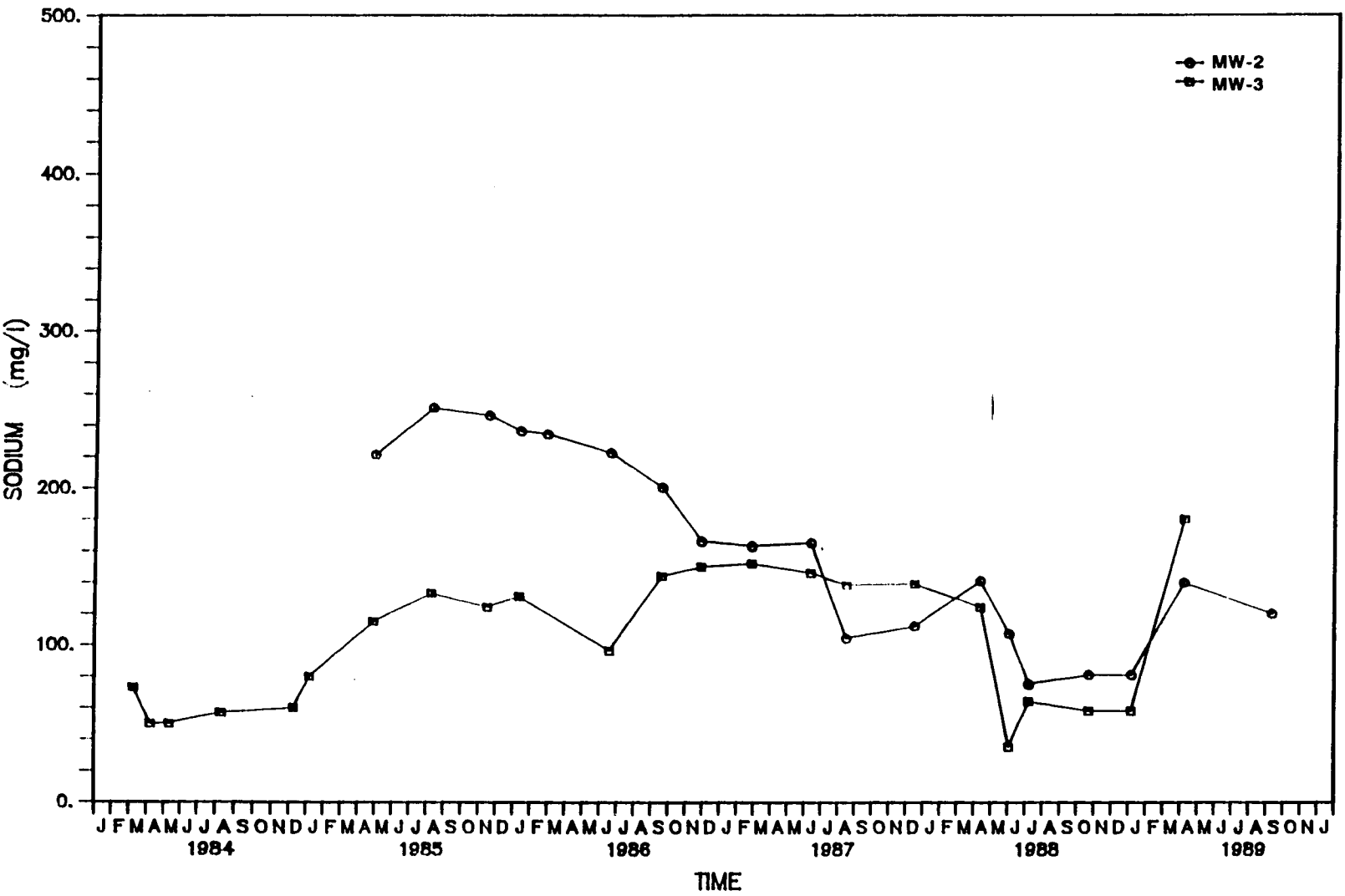


SELECTED WATER QUALITY DATA SUMMARY

Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics,
Foundations, and Materials Testing

REVISED
GROUNDWATER MONITORING PLAN
LENA ROAD LANDFILL
MANATEE COUNTY, FLORIDA

DRAWN BY: SEF
FILE NO. 86-115B
CHECKED BY: HGS
APPROVED BY: H.G. Shandland
DATE: 01/09/90



SELECTED WATER QUALITY DATA SUMMARY

Ardaman & Associates, Inc.
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Foundations, and Materials Testing

REVISED

GROUNDWATER MONITORING PLAN
LENA ROAD LANDFILL
MANATEE COUNTY, FLORIDA

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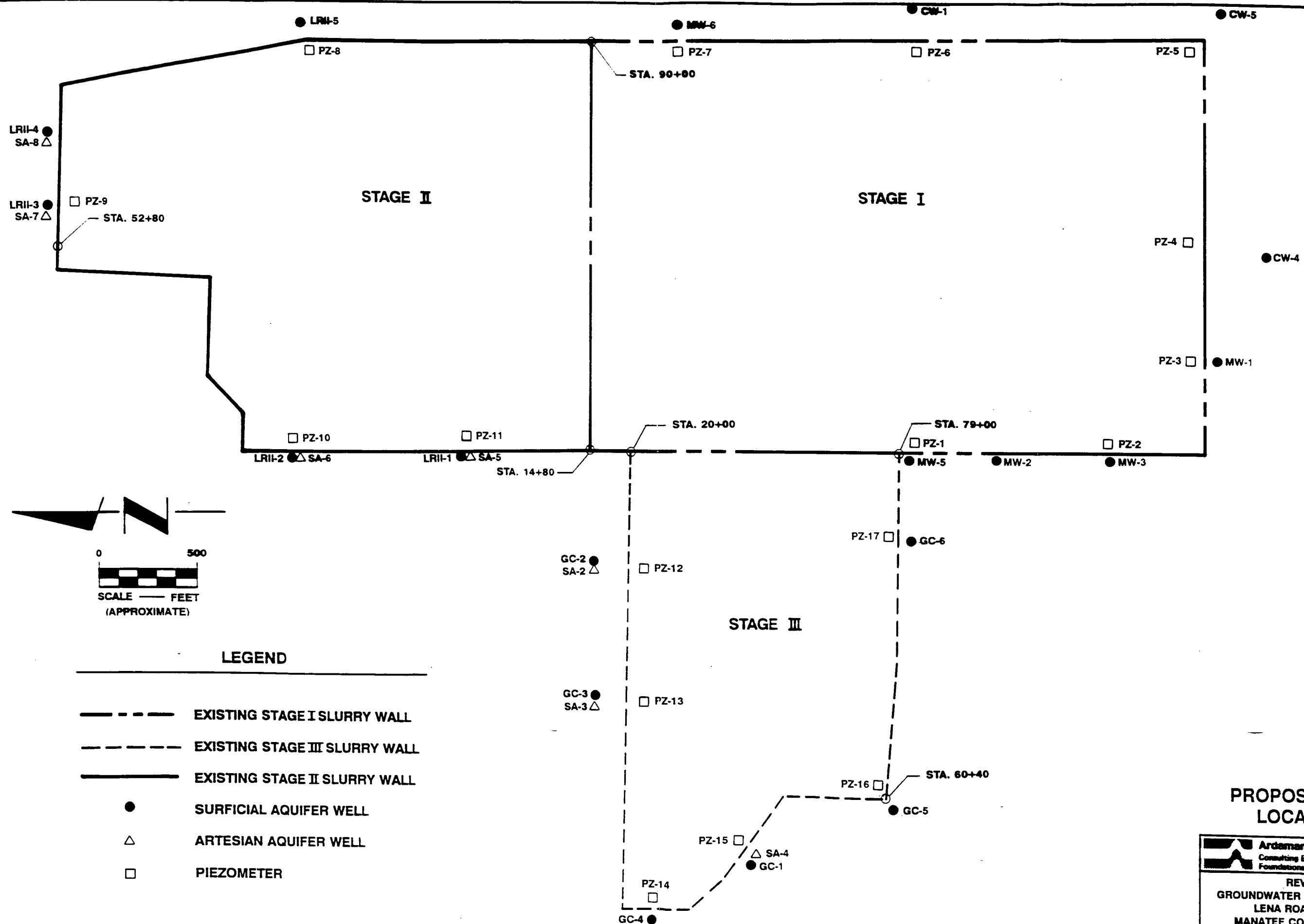
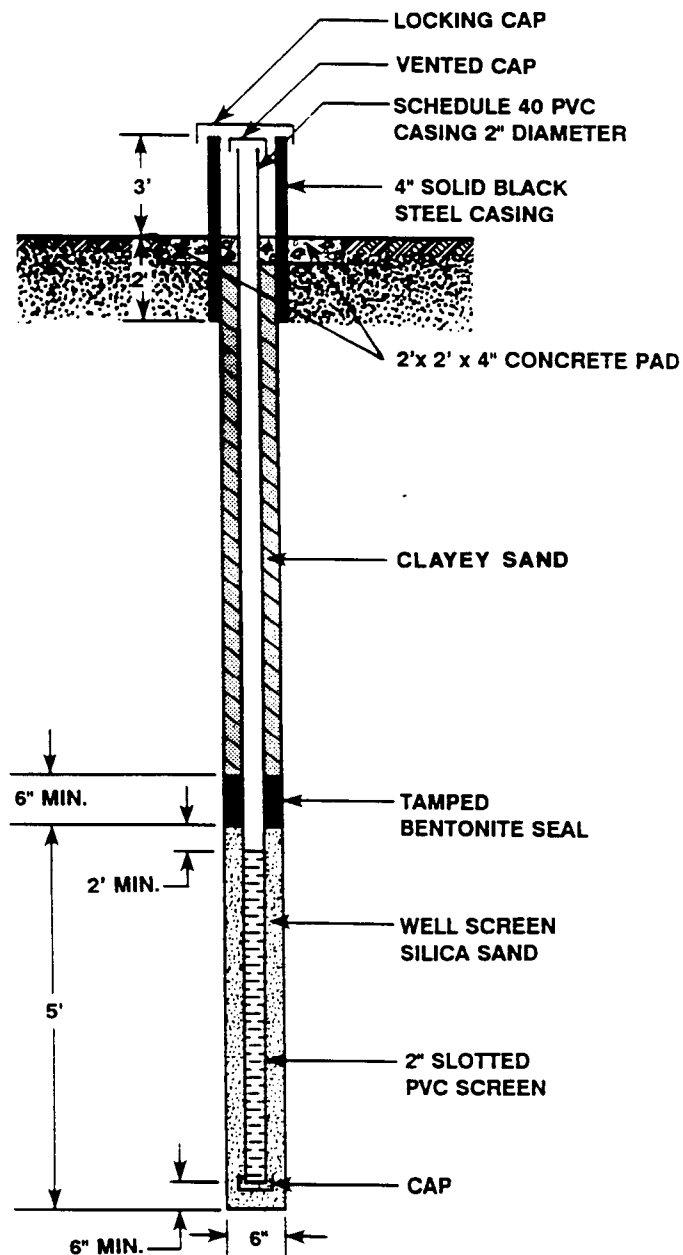


FIGURE 5



SCHEMATIC OF MONITORING WELL INSTALLATION

 Ardaman & Associates, Inc. Consulting Engineers in Soil Mechanics, Foundations, and Materials Testing		
REVISED GROUNDWATER MONITORING PLAN LENA ROAD LANDFILL MANATEE COUNTY, FLORIDA		
DRAWN BY: SEF FILE NO.: 86-115B	CHECKED BY: G.S. APPROVED BY: <i>H.G. Stamland</i>	DATE: 01/09/90

APPENDIX

1984-1988 WATER QUALITY MONITORING DATA

A1.L46 LANDFILL WELL MONITORING STATIONS

LENA0284

FEBRUARY 06, 1984

	MW-1	MW-3	MW-7	MW-8	CW-4	CW-1	CW-5
FIELD MEASUREMENTS							
Water Depth, (Ft)	3.69	1.42	1.58	3.94	3.02	2.33	3.10
Water Temperature, C							
Conductance, umhos/cm	52	410	4620	3300	880	222	175
pH (Field)	5.6	6.1	7.0	6.6	6.8	6.0	5.8
pH (Lab)							
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab, N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	0.03	0.03	0.02	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	<0.02	<0.02	<0.02	0.10	<0.02	0.94	0.63
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	2.4	72.7	87.2	313	85.3	27.1	36.3
Copper, Cu							
Fluoride, F							
Iron, Fe	1.46	4.70	1.61	17.7	2.92	6.01	3.62
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05
Sulfate, SO4	1.4	6.5	3.2	1.5	89.7	23	14.8
Total Dissolved Solids, TDS	136	310	396	1,662	720	266	176
Zinc, Zn	0.02	0.02	0.01	0.02	0.03	0.03	0.01
OTHER PARAMETERS							
Turbidity, NTU							
Sodium, Na (mg/l)	7.3	73	92.1	284	38	30.1	16.4
Potassium, K (mg/l)	0.6	1.16	40	36.4	0.76	0.48	5.4
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)							
Total Alkalinity, as CaCO3 (mg/l)	15	72.6	157	1882	344	106	46.2
TKN (mg/l)	0.59	0.74	13	186	1.1	0.94	0.63

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.J47 LANDFILL WELL MONITORING STATIONS

LENA0384

MARCH 06, 1984

	MW-1	MW-3	MW-7	MW-8	CW-1	CW-4	CW-5
FIELD MEASUREMENTS							
Water Depth, (Ft)	3.65	1.42	2.46	3.94	2.50	3.06	3.58
Water Temperature, C							
Conductance, umhos/cm	64	522	744	404	326	1068	258
pH (Field)	5.36	5.96	6.6	6.5	5.75	6.8	5.6
pH (Lab)							
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	0.03	0.02	0.02	0.01	0.01	0.03	0.02
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	6.8	80.9	108	296	32	93	38.3
Copper, Cu							
Fluoride, F							
Iron, Fe	1.42	4.89	2.07	32.01	6.35	4.04	3.68
Manganese, Mn	<0.05	<0.05	<0.05	0.05	<0.05	0.05	<0.05
Sulfate, SO4	3.0	64.5	<1.0	<1.0	13.3	85.5	15.9
Total Dissolved Solids, TDS	64	316	372	1,640	236	746	125
Zinc, Zn	0.02	0.01	<0.01	0.02	0.01	0.02	<0.01
OTHER PARAMETERS							
Turbidity, NTU							
Sodium, Na (mg/l)	4.67	49.6	74.8	241	30.5	38.9	16.5
Potassium, K (mg/l)	0.4	0.92	33.6	520	0.56	0.76	8.8
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)							
Total Alkalinity, as CaCO3 (mg/l)	6.2	68.7	201	1,911	106	353	41.2
TKN (mg/l)	0.56	0.56	21	141	0.98	0.71	0.45

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

LANDFILL WELL MONITORING STATIONS

LENA0484

APRIL 9, 1984

COLLECTED BY:

SMARR, BAILEY & STEPHENS

	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS							
Water Depth, (Ft)							
Water Temperature, C	21.0	N/A	20.5	20.2	N/A	20.5	18.5
Conductance, umhos/cm	67.2	(A)	564.0	1044.0	(A)	780.0	3900.0
pH (Field)	5.60	6.10	5.64	6.80	6.10	6.52	6.70
pH (Lab)	5.5	6.4	6.4	7.3	6.4	7.3	6.9
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.09	0.03	0.04	0.02	0.04	0.03	0.03
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	26.8	46.5	91.6	98.3	49.6	115	285
Copper, Cu							
Fluoride, F							
Iron, Fe	2.49	5.87	5.35	4.06	3.11	2.05	30.8
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfate, SO4	5.0	12.0	15.0	100.0	11.0	*	*
Total Dissolved Solids, TDS	123	258	350	702	155	435	1665
Zinc, Zn	0.05	0.03	0.03	0.02	0.02	0.05	0.05
OTHER PARAMETERS							
Turbidity, NTU	--	--	--	--	--	--	--
Sodium, Na (mg/l)	6.8	29.6	50.3	34.2	16	70.1	224.6
Potassium, K (mg/l)							
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)							
Total Alkalinity, as CaCO3 (mg/l)	7.8	8.7	58.0	305.1	32.8	176.3	1570
TKN (mg/l)							

NOTE : N/A or '--' - not analyzed. (A) - not recorded due to field instrument failure.

* - sample not analyzed due to matrix problems.

LENA0584

DATE: MAY 7, 1984

COLLECTED BY: SMARR, RACHMANINOFF & CLELAND

	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS							
Water Depth, (Ft)							
Water Temperature, C	26.2	23.0	24.8	24.2	23.3	22.1	22.9
Conductance, umhos/cm	72.0	354.0	531.6	1104.0	276.0	75.6	3960.0
pH (Field)	5.40	6.10	5.90	6.70	5.70	6.40	6.50
pH (Lab)	5.4	6.1	5.9	6.7	5.7	6.4	6.5
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.09	0.01	0.01	0.02	< 0.01	0.01	0.02
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	5.36	37.5	92.0	98.3	49.1	116.0	536.0
Copper, Cu							
Fluoride, F							
Iron, Fe	3.31	7.33	6.08	5.14	3.71	3.30	29.8
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05
Sulfate, SO4	5.0	18.0	53.0	100.0	13.0	1.0	*
Total Dissolved Solids, TDS	266	795	157	205	329	402	1715
Zinc, Zn	0.06	0.05	0.04	0.07	0.01	0.03	0.04
OTHER PARAMETERS							
Turbidity, NTU	91.0	3.2	4.5	25.0	4.4	7.5	404.0
Sodium, Na (mg/l)							
Potassium, K (mg/l)							
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)	0.31	1.01	0.20	0.07	0.31	0.23	0.54
Total Alkalinity, as CaCO3 (mg/l)	8.7	83	53.5	289.5	24.3	147.7	1582
TKN (mg/l)	0.52	1.16	0.71	0.85	0.60	25.5	164

NOTE : N/A - not analyzed.

* - sample not analyzed due to matrix problems.

A1.J50 LANDFILL WELL MONITORING STATIONS

LENA0684

DATE: JUNE 19, 1984

COLLECTED BY: CLELAND, SMAR

	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS							
Water Depth, (Ft)							
Water Temperature, C	26.4	24.8	23.8	25.2	25.2	24.1	25.0
Conductance, umhos/cm (LAB)	81.0	298	561	1008	228	2650	3310
Conductance, umhos/cm (FIELD)	83	366	582	1176	264	2976	3936
pH (Field)	5.50	6.10	5.90	6.70	5.50	6.40	6.50
pH (Lab)	5.79	6.25	6.15	6.80	5.90	6.55	6.70
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.06	0.01	0.01	0.02	0.01	0.02	0.02
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	34.8	46.5	120	118	56.7	327	307
Copper, Cu							
Fluoride, F							
Iron, Fe	3.11	6.24	6.96	4.35	3.14	36.0	29.7
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.07	<0.05	0.05
Sulfate, SO4							
Total Dissolved Solids, TDS	113	254	347	774	144	1282	1599
Zinc, Zn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
OTHER PARAMETERS							
Turbidity, NTU	36	5.2	8.4	25	6.3	210	440
Sodium, Na (mg/l)							
Potassium, K (mg/l)							
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)	0.18	0.94	0.17	0.11	0.36	0.24	0.59
Total Alkalinity, as CaCO3 (mg/l)							
TKN (mg/l)	0.75	1.01	0.95	0.95	0.66	102	152

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.J54 LANDFILL WELL MONITORING STATIONS

LENA0784

DATE: JULY 9, 1984

COLLECTED BY: SMARR, RACHMANINOFF

	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS							
Water Depth, (Ft)							
Water Temperature, C	23.3	23.1	23.5	23.5	23.5	23.8	24.4
Conductance, umhos/cm	69.1	310	539	1030	226	3680	2970
pH (Field)	5.90	6.70	6.10	5.90	7.30	6.40	6.50
pH (Lab)	6.2	6.5	6.4	7.2	5.7	7.2	7.3
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.06	0.03	0.02	0.03	0.03	0.05	0.04
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	35.7	55.4	117	111	61.6	65.2	127
Copper, Cu							
Fluoride, F							
Iron, Fe (Orl L)	2.49	7.06	6.15	4.31	3.27	54.1	27.8
Iron, Fe (WTP L?)	3.1	6.8	6.3	5.2	4	82.7	23.4
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfate, SO4	7.0	18.0	20.0	76.0	12.0	*	*
Total Dissolved Solids, TDS	117	226.6	317.8	713.8	111	1614	1278
Zinc, Zn	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
OTHER PARAMETERS							
Turbidity, NTU	97	3.1	8.0	33	6.2	580	330
Sodium, Na (mg/l)	7.9	32.3	56.6	35.9	18.6	287.7	179.4
Potassium, K (mg/l)	0.3	0.5	1.3	0.8	6	178.3	272.9
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)	0.21	0.26	0.11	0.06	0.18	0.14	0.24
Total Alkalinity, as CaCO3 (mg/l)	10.9	95.8	91.0	219.5	30.9	1183.5	1282.4
TKN (mg/l)	0.7	1.19	1.05	1.07	0.66	145	129

NOTE : * - sample matrix problems did not allow for accurate determination.

LENA0884

A1.J51 LANDFILL WELL MONITORING STATIONS
DATE: AUGUST 7, 1984

COLLECTED BY: RACHMANINOFF, BUNGO, BAKER

	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS							
Water Depth, (Ft)							
Water Temperature, C	27.0	25.0	26.0	25.5	26.0	26.0	27.5
Conductance, umhos/cm (LAB)	66.5	315	556	1035	229	3630	2730
Conductance, umhos/cm (FIELD)	84	372	600	1224	227	4200	2640
pH (Field)							
pH (Lab)	5.3	6.2	6.1	7.1	5.5	7.9	7.7
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab, N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.04	0.03	0.04	0.05	0.03	0.03	0.05
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	NA	NA	NA	NA	NA	NA	NA
Copper, Cu							
Fluoride, F							
Iron, Fe (ORLI)	1.69	7.01	6.19	4.38	3.20	32.8	21.5
Iron, Fe (WTP)	2.4	7	6.3	5.4	3.7	98.3	24.4
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05
Sulfate, SO4	6.0	24.0	19.0	93.0	16.0	*	*
Total Dissolved Solids, TDS	83.2	252	343.4	714.6	134.2	1610	1187
Zinc, Zn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
OTHER PARAMETERS							
Turbidity, NTU	26.00	6.40	13.70	31.00	5.10	740.00	215.00
Sodium, Na (mg/l)							
Potassium, K (mg/l)							
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity, as CaCO3 (mg/l)	7.8	86.1	95.8	314.6	24.6	1239.0	1134
TKN (mg/l)	0.48	1.25	1.00	0.8	0.6	158	127

NOTE : * - matrix interferences in sulfates. NA - not analyzed.

A1.J49 LANDFILL WELL MONITORING STATIONS

LENA0984

DATE: 11-Sep-84

COLLECTED BY: SMARR, BUNGO, & RACHMANINOFF

	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS							
Water Depth, (Ft)							
Water Temperature, C	28.3	26.0	26.6	26.5	27.0	25.8	25.9
Conductance, umhos/cm	61.0	277	484	907	194	3280	2190
pH (Field)	6.00	6.10	5.80	6.60	5.40	6.60	6.60
pH (Lab)	5.5	6.2	6.1	7.0	5.7	6.7	6.8
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.16	0.06	0.08	0.06	0.14	0.12	0.09
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	4.84	24.6	91.6	89.3	38	387	171
Copper, Cu							
Fluoride, F							
Iron, Fe	2.13	7.13	7.64	3.56	3.38	63.0	23.2
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05
Sulfate, SO4	7	22	18	94	14	*	*
Total Dissolved Solids, TDS	128	251.2	349.6	760.2	121	1743	1245
Zinc, Zn	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	<0.05
OTHER PARAMETERS							
Turbidity, NTU	98	5.5	4.3	28	113.0	750	290
Sodium, Na (mg/l)							
Potassium, K (mg/l)							
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)	0.37	0.98	0.20	0.15	0.80	0.17	0.67
Total Alkalinity, as CaCO3 (mg/l)	8.8	86.6	87.6	306.1	18.1	1379.0	1193
TKN (mg/l)	0.35	0.92	0.89	0.63	0.5	176	126

NOTE : * - matrix interference, values not available.

A1.K51 LENA ROAD LANDFILL WELL MONITORING STATIONS

LENA1084

DATE: 08-Oct-84

RACHMANINOFF, SMARR

	C W 2	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS								
Water Depth, (Ft)								
Water Temperature, C	26.9	27.5	26.8	25.3	26.8	27.5	26.0	25.5
Conductance, umhos/cm	162	84	366	660	1020	258	2580	2760
pH (Field)	5.4	5.5	6.0	5.7	6.6	5.5	6.6	6.3
pH (Lab)	5.9	5.8	6.3	6.1	7.0	5.7	6.7	7.0
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As								
Barium, Ba								
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium, Se								
Silver, Ag								
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl	10.1	5.60	22.3	112	82.6	40.2	317	143
Copper, Cu								
Fluoride, F								
Iron, Fe	4.37	2.16	6.11	7.02	3.44	2.21	30.2	19.0
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05
Sulfate, SO4	4	5	25	11	97	12		
Total Dissolved Solids, TDS	94	132	248	397	702	123	1250	1086
Zinc, Zn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)								
Potassium, K (mg/l)								
Calcium, Ca (mg/l)								
Orthophosphate, PO4 as P (mg/l)	2.18	0.23	1.03	0.14	0.05	0.39	0.02	0.10
Total Alkalinity, as CaCO3 (mg/l)	45.5	16.2	86.0	91.0	312	18.8	1464	1034
Total Alkalinity, as CaCO3 (Orl L)	18.7	13.7	95.5	89.4	362	18.7	1117	1166
TKN (mg/l)	0.35	0.59	1.03	1.03	0.71	0.47	142	120

NOTE : ND - NOT DETECTED.B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUCP - CENTRIFUGAL PUMP, TP - TURBINE PUMP

A1.K52 LANDFILL WELL MONITORING STATIONS

LENA1184

DATE: 08-Nov-84

COLLECTED BY:MARMARO, SMARR

	C W 2	M W 1	C W 1	M W 3	C W 4	C W 5	M W 7	M W 8
FIELD MEASUREMENTS								
Water Depth, (Ft)								
Water Temperature, C	26.0	26.8	25.8	24.2	23.0	25.3	24.8	24.2
Conductance, umhos/cm	168	94	360	720	1068	338	3732	1824
pH (Field)	5.7	5.9	6.4	5.8	6.7	5.4	6.6	6.6
pH (Lab)	5.8	5.6	6.4	6.1	7.1	5.8	7.0	6.9
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As								
Barium, Ba								
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium, Se								
Silver, Ag								
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl	11.2	7.82	29.0	133	80.4	36.9	226	123
Copper, Cu								
Fluoride, F								
Iron, Fe	4.15	3.45	7.58	8.57	4.29	2.20	40.5	31.2
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfate, SO4	4	5	19	5	88	6	<1	<1
Total Dissolved Solids, TDS	104	102	252	409	660	146	944	959
Zinc, Zn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)	6.7	9.4	31	60	38	18	336	134
Potassium, K (mg/l)								
Calcium, Ca (mg/l)								
Orthophosphate, PO4 as P (mg/l)	2.34	0.05	1.04	0.12	<0.01	0.43	0.07	0.32
Total Alkalinity, as CaCO3 (mg/l)	47.2	12.1	92.2	91.7	320	22.0	695	922
TKN (mg/l)	0.28	0.42	0.95	1.33	0.68	0.49	137	112

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.K26 LANDFILL WELL MONITORING STATIONS

LENA1284

DECEMBER 06, 1984

	MW-1	MW-3	MW-7	MW-8	CW-1	CW-2	CW-4	CW-5
FIELD MEASUREMENTS								
Water Depth, (Ft)	3.92	1.5	1.92	4.42	4.35	5.69	3.4	5.46
Water Temperature, C								
Conductance, umhos/cm								
pH (Field)								
pH (Lab)								
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As								
Barium, Ba								
Cadmium, Cd	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N								
Selenium, Se								
Silver, Ag								
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl								
Copper, Cu								
Fluoride, F								
Iron, Fe	2.61	14.0	19.7	14.2	5.65	25.9	3.38	2.04
Manganese, Mn	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfate, SO4								
Total Dissolved Solids, TDS								
Zinc, Zn								
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)	10.9	80.2	250	107	26.8	44.3	37.6	18.4
Potassium, K (mg/l)	< 1.0	1.21	113.4	67.8	< 1.0	< 1.0	< 1.0	5.31
Calcium, Ca (mg/l)								
Orthophosphate, PO4 as P (mg/l)								
Total Alkalinity, as CaCO3 (mg/l)								
TKN (mg/l)								

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.S39 LANDFILL WELL MONITORING STATIONS

LENA0385

MARCH 28-29, 1985

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
FIELD MEASUREMENTS								
Water Depth, (Ft)								
Water Temperature, C								
Conductance, umhos/cm (LAB)	233	1795	1000	2010	849	1266	1691	1792
Conductance, umhos/cm (FIELD)	242.4	1536	936	1656	864	1416	1536	1920
pH (Field)	4.7	5.9	5.7	6.1	5.6	6.2	6.8	6.6
pH (Lab)								
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As								
Barium, Ba								
Cadmium, Cd								
Chromium, Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium, Se								
Silver, Ag								
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl	54.0	304	182	250	156	223	232	126
Copper, Cu								
Fluoride, F								
Iron, Fe	4.57	15.7	11.7	10.3	18.8	42.6	12.9	12.5
Manganese, Mn								
Sulfate, SO4								
Total Dissolved Solids, TDS	193	1179	681	1187	698	876	901	868
Zinc, Zn								
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)	24.7	221	115	217	28.1	159	210	131
Potassium, K (mg/l)	0.41	10.2	1.93	27	0.67	10.3	68.5	169
Calcium, Ca (mg/l)								
Orthophosphate, PO4 as P (mg/l)								
Total Alkalinity, as CaCO3 (mg/l)	9.5	440	184	720	138	276	488	750
TKN (mg/l)	0.64	20.7	2.67	43	2.04	13	33.5	95.1

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.S39 LANDFILL WELL MONITORING STATIONS

LENA0385

MARCH 28-29, 1985

	CW-1	CW-2	CW-3	CW-3 (FD)	CW-4	CW-5	NEW	N (FD)
FIELD MEASUREMENTS								
Water Depth, (Ft)								
Water Temperature, C								
Conductance, umhos/cm (LAB)	312	149	2500	2510	983	247	575	561
Conductance, umhos/cm (FIELD)	322.8	163	1908		888	312	540	
pH (Field)	6.1	5.4	6.4		6.6	5.1	5.1	
pH (Lab)								
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As								
Barium, Ba								
Cadmium, Cd								
Chromium, Cr	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	
Lead, Pb	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	
Mercury, Hg	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	
Nitrate, as N	<0.01	0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01
Selenium, Se								
Silver, Ag								
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl	25.5	7.37	277	277	88.2	35.7	136	134
Copper, Cu								
Fluoride, F								
Iron, Fe	5.63	4.91	16.53		3.2	2.15	25.5	
Manganese, Mn								
Sulfate, SO4								
Total Dissolved Solids, TDS	279	124	1382	1385	736	152	432	417
Zinc, Zn								
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)	27.6	6.17	246		29.9	16.6	56.96	
Potassium, K (mg/l)	0.79	0.36	32.6		0.66	5.53	0.38	
Calcium, Ca (mg/l)								
Orthophosphate, PO4 as P (mg/l)								
Total Alkalinity, as CaCO3 (mg/l)	84.2	48.0	930	940	318	32.0	43.0	40.0
TKN (mg/l)	1.97	0.43	78.3	79.4	0.71	4.35	0.85	0.99

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.E37 LANDFILL WELL MONITORING STATIONS

LENA0685

JUNE 04, 1985

	SA-1	SA-3
FIELD MEASUREMENTS		
Water Depth, (Ft)	8.7	25.3
Water Temperature, C		
Conductance, umhos/cm	380	318
Conductance, umhos/cm(Orl L)	456	378
pH (Field)	7.2	6.8
pH (Lab)	7.2	6.8
Sampling Method (See Notes)		
Filtered (F-Field, L-Lab,N-No)		
PRIMARY DRINKING WATER STANDARDS		
INORGANIC CONSTITUENTS (mg/l)		
Arsenic, As	0.01	<0.01
Barium, Ba		
Cadmium, Cd	<0.005	<0.005
Chromium, Cr	<0.01	<0.01
Lead, Pb	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005
Nitrate, as N		
Selenium, Se		
Silver, Ag		
RADIONUCLIDES (pci/l)		
Gross Alpha		
Radium 226 & 228		
SECONDARY DRINKING WATER STANDARDS		
Chloride, Cl		
Copper, Cu	0.04	0.01
Fluoride, F		
Iron, Fe	3.02	0.13
Manganese, Mn		
Sulfate, SO4	105	32.2
Total Dissolved Solids, TDS		
Zinc, Zn		
OTHER PARAMETERS		
Turbidity, NTU		
Potassium, K (mg/l)	2.01	1.61
Sodium, Na (mg/l)	49.7	21.9
Calcium, Ca (mg/l)	301	66.7
Orthophosphate, PO4 as P (mg/l)		
Total Alkalinity, as CaCO3 (mg/l)	287	257
TKN (mg/l)		

A1.R30 LANDFILL WELL MONITORING STATIONS

LENA0785

JULY 08,1985

	MW-1	MW-2	MW-2 FD	MW-3	MW-5	MW-6	MW-8
FIELD MEASUREMENTS							
Water Depth, (Ft)	6	5.5		5.4	5	4.7	5.3
Water Temperature, C							
Conductance, umhos/cm	218	2680		1220	1500	1480	2500
pH (Field)	4.9	6.1		6.3	6	6.4	6.5
pH (Lab)							
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd							
Chromium, Cr	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	50.5	465	420	232	241.0	250	219
Copper, Cu							
Fluoride, F							
Iron, Fe	4.33	28.5		16	30.9	51.5	24
Manganese, Mn							
Sulfate, SO4							
Total Dissolved Solids, TDS	150	1221	1661	828	922	912	1163
Zinc, Zn							
OTHER PARAMETERS							
Turbidity, NTU							
Sodium, Na (mg/l)	26.9	251		133	61.7	158	128
Potassium, K (mg/l)	< 1.0	43.6		2.1	< 1.0	12.3	141
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)							
Total Alkalinity, as CaCO3 (mg/l)	10.5	1070	780	244	273	320	940
TKN (mg/l)	1.19	45.3	46.4	3.01	2.87	20.1	107

NOTE : ND - NOT DETECTED.B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.R30 LANDFILL WELL MONITORING STATIONS

LENA0785

JULY 08,1985

	WELL							
	CW-1	CW-2	CW-3	CW-3-FD	CW-4	CW-5	SA-1	NEAR MW-8
FIELD MEASUREMENTS								
Water Depth, (Ft)	4	6.1	3.1		5.4	5.4	5.7	
Water Temperature, C								
Conductance, umhos/cm	318	147	2370		1080	215	920	650
pH (Field)	6	5.6	6.4		6.8	5.5	6.7	4.9
pH (Lab)								
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As								
Barium, Ba								
Cadmium, Cd								
Chromium, Cr	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Lead, Pb	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	
Selenium, Se								
Silver, Ag								
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl	25.9	6.7	274	259	80.4	38.9	52.7	
Copper, Cu								
Fluoride, F								
Iron, Fe	5.59	4.29	32.8		4.21	2.33	0.34	9.24
Manganese, Mn								
Sulfate, SO4								
Total Dissolved Solids, TDS	256	91.0	1245	1206	753	125	627	
Zinc, Zn								
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)	23	6.8	185		36.4	17.6	56	52.8
Potassium, K (mg/l)	< 1.0	< 1.0	47.3		4.1	5.63	1.6	1.4
Calcium, Ca (mg/l)								
Orthophosphate, PO4 as P (mg/l)								
Total Alkalinity, as CaCO3 (mg/l)	69	38.5	840	810	308	273	340	
TKN (mg/l)	2.17	0.63	85.1	81.7	1.33	3.57	0.77	

NOTE : ND - NOT DETECTED.B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.N29 LANDFILL WELL MONITORING STATIONS
 LENA ROAD LANDCOLLECTED BY: RACHMANINOFF AND STEPHENS
 DATE: OCTOBER 15,16, 1985

LENA1085

	M W 1	M W 2	M W 3	M W 5	M W 6
FIELD MEASUREMENTS					
Water Depth, (Ft)	8.73	8.54	9.33	12.73	8.83
Water Temperature, C	28.0	26.1	26.0	29.8	28.2
Conductance, umhos/cm	97.8	2240	1170	1500	1350
pH (Field)	5.32	6.16	6.20	5.55	6.30
pH (Lab)	5.3	6.5	6.4	6.2	6.5
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab,N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As					
Barium, Ba					
Cadmium, Cd					
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mercury, Hg	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Nitrate, as N	< 0.01	< 0.01	< 0.01	0.10	0.18
Selenium, Se					
Silver, Ag					
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	11.8	343	202	269	233
Copper, Cu					
Fluoride, F					
Iron, Fe	2.14	20.27	12.06	29.66	41.02
Manganese, Mn					
Sulfate, SO4					
Total Dissolved Solids, TDS	109	1427	700	1006	806
Zinc, Zn					
OTHER PARAMETERS					
Turbidity, NTU					
Sodium, Na (mg/l)	11.9	246	124	89.3	158
Potassium, K (mg/l)	0.58	16.6	2.21	0.94	10.2
Calcium, Ca (mg/l)					
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)	8.1	559	198	326	268
TKN (mg/l)	0.34	35.1	2.55	1.81	17.1

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.N29 LANDFILL WELL MONITORING STATIONS
 LENA ROAD LANDFILL COLLECTED BY: RACHMANINOFF AND STEPHENS
 DATE: OCTOBER 15,16, 1985

LENA1085

	C W 2	C W 3	C W 4	C W 5	CW5-FD	S A 1
FIELD MEASUREMENTS						
Water Depth, (Ft)	13.63	12.60	10.65	10.33		41.94
Water Temperature, C	27.1	26.2	28.0	29.1		25.9
Conductance, umhos/cm	152	2320	1066	234		909
pH (Field)	5.82	6.61	6.86	5.64		7.28
pH (Lab)	6.0	6.8	7.1	5.8		7.5
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	< 0.01
Lead, Pb	< 0.03	< 0.03	< 0.03	< 0.03	<0.03	< 0.03
Mercury, Hg	< 0.0002	< 0.0002	< 0.0002	< 0.0002	<0.0002	< 0.0002
Nitrate, as N	< 0.01	< 0.01	0.03	0.01		< 0.01
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	7.31	254	82.5	35.4		52.1
Copper, Cu						
Fluoride, F						
Iron, Fe	4.29	18.33	2.88	2.38	2.3	0.062
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	123	1035	162	164		652
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	6.05	146	35.3	16.9	16.8	57.2
Potassium, K (mg/l)	0.44	119	4.00	5.15	5.2	4.2
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	46.6	588	300	24.7		293
TKN (mg/l)	0.48	98	0.69	1.44		0.8

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

LENA1185

A1.F35

LENA ROAD LANDFILL

RCV'D BY ENVIROPACT 11-21-85

	SA-1	SA-2	SA-3
FIELD MEASUREMENTS			
Water Depth, (Ft)			
Water Temperature, C	24.9	23.9	24.5
Conductance, umhos/cm	1025	5580	650
pH	7.4	12.2	7.6
Sampling Method (See Notes)			
Filtered (F-Field, L-Lab,N-No)			
PRIMARY DRINKING WATER STANDARDS			
INORGANIC CONSTITUENTS (mg/l)			
Arsenic, As	<0.005	<0.005	<0.005
Barium, Ba			
Cadmium, Cd	<0.01	<0.01	<0.01
Chromium, Cr	<0.02	<0.02	0.03
Lead, Pb	<0.02	0.03	<0.02
Mercury, Hg	0.0003	0.0052	<0.0002
Nitrate, as N			
Selenium, Se			
Silver, Ag			
RADIONUCLIDES (pci/l)			
Gross Alpha			
Radium 226 & 228			
SECONDARY DRINKING WATER STANDARDS			
Chloride, Cl	55	31	26
Copper, Cu	<0.01	0.02	0.1
Fluoride, F			
Iron, Fe	0.54	1.2	0.23
Manganese, Mn			
Sulfate, SO4	121	35	16
Total Dissolved Solids, TDS	609	1465	329
Zinc, Zn			
OTHER PARAMETERS			
Turbidity, NTU	38	148	32
Potassium, K (mg/l)	2.2	7.3	1.6
Sodium, Na (mg/l)	60	53	26
Calcium, Ca (mg/l)	98	533	70
Orthophosphate, PO4 as P (mg/l)			
Total Alkalinity, as CaCO3 (mg/l)	290	<1	261
TKN (mg/l)	0.94	3.15	0.98

NOTE : ND - NOT DETECTED.CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

LENA ROAD LANDFILL

COLLECTED BY: ELLIOTT, PARKER, RACHMANINOFF

LENA1285

DATE: DECEMBER 10-12, 1985 (SA-2 SAMPLED 12-23-85)

	M W 1	M W 2	M W 3	M W 5	M W 6
FIELD MEASUREMENTS					
Water Depth, (Ft)	8.08	7.46	8.75	11.50	7.67
Water Temperature, C	26.3	25.3	26.0	28.0	25.8
Conductance, umhos/cm	117	2200	1148	1550	1371
pH (Field)	5.4	6.2	6.2	5.9	6.3
pH (Lab)	5.2	6.4	6.4	5.9	6.3
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab, N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As					
Barium, Ba					
Cadmium, Cd					
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	< 0.03	< 0.03	< 0.03	0.03	< 0.03
Mercury, Hg	0.0005	0.0007	0.0007	0.0010	0.0004
Nitrate, as N	0.04	0.03	0.02	0.02	< 0.01
Selenium, Se					
Silver, Ag					
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	16.1	336	199	195	207
Copper, Cu					
Fluoride, F					
Iron, Fe	2.05	16.7	12.68	29.8	41.3
Manganese, Mn					
Sulfate, SO ₄					
Total Dissolved Solids, TDS	100	1356	712	908	812
Zinc, Zn					
OTHER PARAMETERS					
Turbidity, NTU					
Sodium, Na (mg/l)	11.7	236	131	103	160
Potassium, K (mg/l)	0.22	10.85	3.69	0.73	10.35
Calcium, Ca (mg/l)					
Orthophosphate, PO ₄ as P (mg/l)					
Total Alkalinity, as CaCO ₃ (mg/l)	6.5	511	189	363	272
TKN (mg/l)	1.26	37.1	2.62	3.42	16.9

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

LENA ROAD LANDFILL

COLLECTED BY: ELLIOTT, PARKER, RACHMANINOFF

LENA1285

DATE: DECEMBER 10-12,1985 (SA-2 SAMPLED 12-23-85)

	C W 1	C W 2	C W 3	C W 4	C W 5	S A 1	S A 2
FIELD MEASUREMENTS							
Water Depth, (Ft)	6.79	12.83	11.79	9.63	8.00	117.21	
Water Temperature, C	25.3	25.8	25.8	26.0	27.2	23.9	23.2
Conductance, umhos/cm	308	149	2280	1030	252	927	482
pH (Field)	6.1	5.8	6.6	6.9	5.8	7.3	7.3
pH (Lab)	6.0	5.9	6.7	7.0	5.6	7.4	7.3
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab,N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							0.002
Barium, Ba							
Cadmium, Cd							< 0.005
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.01
Lead, Pb	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	<0.03
Mercury, Hg	0.0005	0.0005	0.0005	0.0005	0.0008	0.0005	<0.0002
Nitrate, as N	0.01	< 0.01	< 0.01	0.03	0.01	< 0.01	
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	24.2	8.6	239	76.6	31.9	48.7	28.4
Copper, Cu							< 0.005
Fluoride, F							
Iron, Fe	5.83	4.0	16.0	3.27	2.21	0.22	0.04
Manganese, Mn							
Sulfate, SO4							21
Total Dissolved Solids, TDS	228	96.0	1052	684	120	576	314
Zinc, Zn							
OTHER PARAMETERS							
Turbidity, NTU							
Sodium, Na (mg/l)	29.2	6.33	154	33.5	16.5	59.0	27.9
Potassium, K (mg/l)	0.89	0.71	9.97	0.69	5.8	2.46	1.67
Calcium, Ca (mg/l)							54.7
Orthophosphate, PO4 as P (mg/l)							
Total Alkalinity, as CaCO3 (mg/l)	84.3	47.5	654	307	26	240	234
TKN (mg/l)	1.25	0.55	21.3	0.9	0.73	3.4	0.615

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.P27 LANDFILL WELL MONITORING STATIONS
 LENA ROAD LANDFILL COLLECTED BY: BAILEY, PARKER
 DATE: JANUARY 27-28, 1986

LENA0186

	M W 1	M W 2	M W 3	M W 5	M W 6
FIELD MEASUREMENTS					
Water Depth, (Ft)	7.75	2.75	8.42	11.50	7.83
Water Temperature, C	18.5	18.5	19.0	18.5	18.6
Conductance, umhos/cm	121	2090	1183	981	880
pH (Field)	5.8	6.2	6.0	6.0	6.5
pH (Lab)	6.1	7.0	6.9	6.5	7.5
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab,N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As					
Barium, Ba					
Cadmium, Cd					
Chromium, Cr	< 0.01	0.01	< 0.01	< 0.01	0.01
Lead, Pb	< 0.03	< 0.03	NA	NA	< 0.03
Mercury, Hg	0.0002	0.0003	0.0005	0.0005	0.0003
Nitrate, as N	0.02	0.02	0.02	0.02	0.03
Selenium, Se					
Silver, Ag					
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	21.9	34.4	217	215	200
Copper, Cu					
Fluoride, F					
Iron, Fe	3.90	12.7	10.5	12.3	9.00
Manganese, Mn					
Sulfate, SO4					
Total Dissolved Solids, TDS	132	1448	788	1024	764
Zinc, Zn					
OTHER PARAMETERS					
Turbidity, NTU					
Sodium, Na (mg/l)	13.3	234	NA	NA	124
Potassium, K (mg/l)	1.63	580	3.77	3.22	7.75
Calcium, Ca (mg/l)			52.7	72	
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)	6	545	213	255	202
TKN (mg/l)	1.85	40.7	3.11	2.91	15.6

NOTES: WELLS M W - 4, M W - 7 AND M W - 8 WERE DESTROYED BY
 CONSTRUCTION OF BERM WALL SURROUNDING THE LANDFILL.

A1.P27 LANDFILL WELL MONITORING STATIONS

LENA ROAD LANDFILL COLLECTED BY: BAILEY, PARKER

LENA0186

DATE: JANUARY 27-28, 1986

	C W 1	C W 2	CW2-FD	C W 3	CW3-FD	C W 4	C W 5	S A 1
FIELD MEASUREMENTS								
Water Depth, (Ft)	9.17	13.50		12.17		11.67	9.08	125
Water Temperature, C	15.3	18.4		19.0		14.9	19.6	19.8
Conductance, umhos/cm	385	92		2150		1099	236	670
pH (Field)	7.0	5.7		6.6		7.2	6.1	8.9
pH (Lab)	6.9	6.4		7.4		7.5	6.4	7.6
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As								
Barium, Ba								
Cadmium, Cd								
Chromium, Cr	< 0.01	< 0.01	<0.01	0.011		< 0.01	< 0.01	0.01
Lead, Pb	< 0.03	NA		< 0.03		NA	< 0.03	< 0.03
Mercury, Hg	0.0004	0.0003	0.0009	< 0.0002		< 0.0002	0.0003	< 0.0002
Nitrate, as N	0.05	0.02		0.03		0.05	0.01	0.04
Selenium, Se								
Silver, Ag								
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl	23.5	8.2		253		93.7	30.5	48.1
Copper, Cu								
Fluoride, F								
Iron, Fe	4.25	2.38	2.51	13.5	13.6	1.17	3.23	1.08
Manganese, Mn								
Sulfate, SO4								
Total Dissolved Solids, TDS	252	76.0		1276		864	140	496
Zinc, Zn								
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)	28	NA		158		NA	15.5	72
Potassium, K (mg/l)	1.73	1.53	1.56	129		2.73	6.77	7.21
Calcium, Ca (mg/l)		11.4	11.1			149		
Orthophosphate, PO4 as P (mg/l)								
Total Alkalinity, as CaCO3 (mg/l)	82.4	38.6		683		300	26.6	280
TKN (mg/l)	1.48	0.25		86.8		1.54	1.99	1.43

NOTES: WELLS M W - 4, M W - 7 AND M W - 8 WERE DESTROYED BY
CONSTRUCTION OF BERM WALL SURROUNDING THE LANDFILL.

A1.LANDFILL WELL MONITORING ST LENA ROAD LANDFILL

LENA0586

MAY 17-20

JUNE 3,1986

COLLECTED BY: SEELEY, SM

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1
FIELD MEASUREMENTS						
Water Depth, (Ft)	6.92	6.92	7.25	9.33	6.75	7.33
Water Temperature, C	25.2	26.3	23.2	23.6	24.5	23.9
Conductance, umhos/cm	123	1539	955	672	9100	327
pH (Field)	5.9	5.8	6.2	6.1	5.6	5.7
pH (Lab)	5.9	6.9	6.6	6.4	6.5	7.4
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.01	< 0.01	0.012	< 0.01	0.010	0.015
Lead, Pb	0.087	0.076	0.037	0.103	0.054	0.106
Mercury, Hg	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate, as N	0.01	< 0.01	0.04	0.01	0.05	0.01
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	19.9	273	252	144	214	29.0
Copper, Cu						
Fluoride, F						
Iron, Fe	2.80	10.75	13.9	13.65	30.89	4.92
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	113	821	646	533	698	257
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	14.3	222.3	96.1	59.4	95.4	34.5
Potassium, K (mg/l)	0.75	30.3	5.65	0.92	11.2	0.44
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	1.7	65.2	53.6	119	107	125
TKN (mg/l)	1.3	56.2	3.9	2.3	14.8	1.7

NOTES: WELLS M W - 4, M W - 7 AND M W - 8 WERE DESTROYED BY
CONSTRUCTION OF BERM WALL SURROUNDING THE LANDFILL.

A1.LANDFILL WELL MONITORING ST LENA ROAD LANDFILL

LENA0586

MAY 17-20

JUNE 3,1986

COLLECTED BY: SEELEY, SMITH

	C W 2	CW2-FD	C W 3	C W 4	C W 5	S A 1
FIELD MEASUREMENTS						
Water Depth, (Ft)	11.50		11.83	8.33	6.25	38.33
Water Temperature, C	23.0		24.5	23.5	24.1	24.7
Conductance, umhos/cm	100		1994	1035	223	977
pH (Field)	6.0		6.1	5.7	6.2	5.9
pH (Lab)	6.4		7.2	7.8	6.6	11.2
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	0.011	0.012	< 0.01	0.014	0.024	0.013
Lead, Pb	0.033	<0.03	0.035	0.104	0.103	0.052
Mercury, Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate, as N	< 0.01		1.47	0.01	0.01	0.04
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	9.2		251	102	34.8	70.1
Copper, Cu						
Fluoride, F						
Iron, Fe	1.61	1.81	11.78	4.24	2.45	0.110
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	91.0		926	812	155	362
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	4.7	2.7	99.7	42.0	18.3	73.7
Potassium, K (mg/l)	1.32	0.8	130.9	1.74	8.41	7.49
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	21.8		592	302	40.4	0
TKN (mg/l)	0.7		91.6	1.6	1.6	0.9

NOTES: WELLS M W - 4, M W - 7 AND M W - 8 WERE DESTROYED BY
CONSTRUCTION OF BERM WALL SURROUNDING THE LANDFILL.

A1.LANDFILL WELL MONITORING STATIONS

LENA ROAD LANDFILL

LENA0886

DATE: AUGUST 18-19, 1986

COLLECTED BY: OWENS, SMITH

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1
FIELD MEASUREMENTS						
Water Depth, (Ft)	10.50	10.33	13.33	12.67	9.58	11.58
Water Temperature, C	28.8	29.1	26.6	29.3	28.3	28.1
Conductance, umhos/cm	110	1910	1330	540	400	320
pH (Field)	7.2	6.3	6.6	7.1	6.4	7.1
pH (Lab)	5.5	6.4	6.4	6.0	6.2	6.2
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Mercury, Hg	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002
Nitrate, as N	0.02	0.10	0.02	0.02	0.03	0.02
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	19.9	305	249	85.4	145	24.1
Copper, Cu						
Fluoride, F						
Iron, Fe	2.99	8.69	11.4	6.51	19.2	4.53
Manganese, Mn						
Sulfate, SO ₄						
Total Dissolved Solids, TDS	111	999	762	325	539	224
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	13.0	200	144	34.6	104	29.7
Potassium, K (mg/l)	0.56	29.4	4.4	0.64	6.7	0.48
Calcium, Ca (mg/l)						
Orthophosphate, PO ₄ as P (mg/l)						
Total Alkalinity, as CaCO ₃ (mg/l)	8.2	371	274	87.6	164	81
TKN (mg/l)	1	33.2	4.7	2.4	9.2	1.6

NOTE : ND - NOT DETECTED.B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.032 LANDFILL WELL MONITORING STATIONS LENA ROAD LANDFILL

LENA0886

DATAUGUST 18-19, 1986

COLLECTED BY: OWENS, SMITH

	C W 2	C W 3	CW3-DUP	C W 4	C W 5	S A 1
FIELD MEASUREMENTS						
Water Depth, (Ft)	15.17	13.92		12.58	9.42	41
Water Temperature, C	27.5	27.2		27.7	28.8	28.9
Conductance, umhos/cm	130	1170		1440	290	440
pH (Field)	5.7	6.6		7.0	7.0	9.6
pH (Lab)	5.7	7.4		7.1	6.0	9.4
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.02	< 0.02	<0.02	< 0.02	< 0.02	< 0.02
Lead, Pb	< 0.02	< 0.02	<0.02	< 0.02	< 0.02	< 0.02
Mercury, Hg	0.0005	0.0010	0.0009	0.0002	<0.0002	0.0010
Nitrate, as N	0.02	0.02		0.07	0.02	0.91
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	15.6	285		112	36.8	67.3
Copper, Cu						
Fluoride, F						
Iron, Fe	1.26	13.9	17.7	3.38	1.75	0.02
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	89	1039		873	145	249
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	8.20	159	154	46.4	17.2	55.2
Potassium, K (mg/l)	0.62	121	114	1.75	5.45	4.02
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	18.4	709		297	24.8	35.9
TKN (mg/l)	1.2	86.6		2.3	1.3	2.0

NOTE : ND - NOT DETECTED.B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

A1.024 LANDFILL WELL MONITORING STATIONS

LENA1086

DATE: OCTOBER 27-28, 1986

COLLECTED BY: PARKER

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1
FIELD MEASUREMENTS						
Water Depth, (Ft)	8.58	9.17	8.17	12.25	7.58	9.17
Water Temperature, C	26.5	25.5	24.8	27.8	28.2	27.6
Conductance, umhos/cm	138	1054	1251	66	771	327
pH (Field)	5.3	6.5	6.9	5.2	6.2	6.4
pH (Lab)	5.7	6.4	6.6	6.2	6.5	6.5
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Mercury, Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate, as N	0.02	0.07	0.03	0.02	0.05	0.03
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	16.5	201	213	55.2	155	27.0
Copper, Cu						
Fluoride, F						
Iron, Fe	2.51	8.81	11.9	7.12	15.4	4.87
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	160	638	704	227	464	203
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	11.0	166	150	28.2	101	30.2
Potassium, K (mg/l)	0.76	28.4	4.1	0.66	6	0.54
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	9.3	281	267	55.4	157	86.8
TKN (mg/l)	1.5	30	5.2	2.4	8.2	1.6

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.024 LANDFILL WELL MONITORING STATIONS

LENA1086

DATE: OCTOBER 27-28, 1986

COLLECTED BY: PARKER

	C W 2	C W 3	C W 4	C W 5	S A 1	S A 1-DUP
FIELD MEASUREMENTS						
Water Depth, (Ft)	13.17	11.75	10.25	11.92	117.08	
Water Temperature, C	25.2	25.6	25.7	26.8	23.9	
Conductance, umhos/cm	99	2430	858	219	443	
pH (Field)	4.7	7.0	6.2	5.0	8.8	
pH (Lab)	5.7	6.7	7.1	6.0	9.0	
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<0.02
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<0.02
Mercury, Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate, as N	0.02	0.25	0.02	0.02	< 0.01	
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	14.3	294	91.0	31.5	81.0	
Copper, Cu						
Fluoride, F						
Iron, Fe	2.20	13.8	2.56	2.07	0.12	0.18
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	72	1064	731	113	255	
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	8.35	159	37.0	17.5	54.0	56.0
Potassium, K (mg/l)	0.3	132	1.2	4.8	3.8	4.8
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	13.3	740	296	23.7	38.6	
TKN (mg/l)	0.7	91.2	1.1	0.9	0.8	

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.N32 LANDFILL WELL MONITORING STATIONS

LENA0187

DATE: JANUARY 26-27, 1987

COLLECTED BY: PARKER

	M W 1	M W 2	M W 3	M W 5	M W 6	MW6-DUP
FIELD MEASUREMENTS						
Water Depth, (Ft)	8.42	10.00	9.92	12.33	8.58	
Water Temperature, C	21.8	19.7	19.7	20.9	21.3	
Conductance, umhos/cm	1847	992	987	188	636	
pH (Field)	5.4	6.3	6.4	6.1	5.9	
pH (Lab)						
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<0.02
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<0.02
Mercury, Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate, as N	0.01	0.03	0.04	0.02	0.02	
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	14.0	314	210	18.0	178	
Copper, Cu						
Fluoride, F						
Iron, Fe	2.56	5.66	9.24	3.78	18.9	18.1
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	213	1015	776	174	520	
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	10.0	163	152	16.4	120	116
Potassium, K (mg/l)	0.49	11	4.62	0.42	4.18	4.66
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)						
TKN (mg/l)	1.5	25.3	5	2.5	6	

NOTES: SA-1 DESTROYED THROUGH CONSTRUCTION

A1.N32 LANDFILL WELL MONITORING STATIONS

LENA0187

DATE: JANUARY 26-27, 1987

COLLECTED BY: PARKER

	C W 1	C W 2	C W 3	C W 4	C W 5
FIELD MEASUREMENTS					
Water Depth, (Ft)	11.83	11.83	13.50	12.00	10.83
Water Temperature, C	21.0	20.9	22.6	20.1	17.7
Conductance, umhos/cm	374	162	2360	1079	224
pH (Field)	6.4	5.9	6.4	6.7	6.0
pH (Lab)					
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab,N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As					
Barium, Ba					
Cadmium, Cd					
Chromium, Cr	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Mercury, Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate, as N	< 0.01	0.03	0.03	0.02	0.03
Selenium, Se					
Silver, Ag					
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	23.7	10.5	247	116	24.7
Copper, Cu					
Fluoride, F					
Iron, Fe	4.76	2.43	14.6	1.57	2.43
Manganese, Mn					
Sulfate, SO4					
Total Dissolved Solids, TDS	253	86	104	845	143
Zinc, Zn					
OTHER PARAMETERS					
Turbidity, NTU					
Sodium, Na (mg/l)	29.2	6.5	166	47.8	16.6
Potassium, K (mg/l)	0.54	0.18	118	2	4.16
Calcium, Ca (mg/l)					
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)					
TKN (mg/l)	1.4	0.5	87.8	1.5	1.4

NOTES: SA-1 DESTROYED THROUGH CONSTRUCTION

A1.024 LANDFILL WELL MONITORING STATIONS

LENA ROAD LANDFILL

LENA0587

DATE: MAY 11-12, 1987

COLLECTED BY: ELLIOTT, PARKER

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1
FIELD MEASUREMENTS						
Water Depth, (Ft)						
Water Temperature, C	25.1	25.0	24.5	27.6	24.6	28
Conductance, umhos/cm	79	1210	1165	151	691	266
pH (Field)	5.2	5.2	6.2	6.0	5.7	6.1
pH (Lab)	5.4	6.1	6.5	5.8	5.9	6.3
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab, N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Mercury, Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate, as N	0.01	0.02	0.01	0.04	0.04	0.03
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	9.1	283	182	22.7	138	24.1
Copper, Cu						
Fluoride, F						
Iron, Fe	2.32	9.53	10.2	3.88	9.0	2.78
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	81	809	682	172	395	219
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	8.4	165	146	14.6	68	30.2
Potassium, K (mg/l)	0.39	205	3.8	0.28	5.4	0.52
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	8.1	214	224	33.2	86	97.4
TKN (mg/l)	1.1	18.8	4.8	2.2	5.2	1.2

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.024 LANDFILL WELL MONITORING STATIONS

LENA ROAD LANDFILL

LENA0587

DATE: MAY 11-12, 1987

COLLECTED BY: ELLIOTT, PARKER

	C W 2	C W 3	C W 4	C W 5	S A 1
FIELD MEASUREMENTS					
Water Depth, (Ft)					
Water Temperature, C	23.0	23.5	24.8	27.1	
Conductance, umhos/cm	131	2380	1273	229	
pH (Field)	5.9	6.3	6.9	6.0	
pH (Lab)	5.8	6.4	6.8	5.7	*****
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab, N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As					
Barium, Ba					
Cadmium, Cd					
Chromium, Cr	< 0.02	< 0.02	< 0.02	< 0.02	
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	
Mercury, Hg	<0.0002	<0.0002	<0.0002	<0.0002	
Nitrate, as N	0.02	0.18	0.05	0.02	
Selenium, Se					
Silver, Ag					
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	12.9	306	128.0	26.9	
Copper, Cu					
Fluoride, F					
Iron, Fe	1.96	11.0	1.38	1.69	
Manganese, Mn					
Sulfate, SO4					
Total Dissolved Solids, TDS	80	1111	931	143	
Zinc, Zn					
OTHER PARAMETERS					
Turbidity, NTU					
Sodium, Na (mg/l)	6.20	176	59.0	15.8	
Potassium, K (mg/l)	0.18	117	0.4	5.94	
Calcium, Ca (mg/l)					
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)	26	653	256	27.9	
TKN (mg/l)	0.8	80.8	1.2	1.1	

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

LENA ROAD LANDFILL

LENA0787

COLLECTED BY:

ELLIOTT, PARKER

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1
FIELD MEASUREMENTS						
Water Depth, (Ft)						
Water Temperature, C	38.0	36.0	37.0	32.0	32.0	28.5
Conductance, umhos/cm	100	580	600	145	525	245
pH (Field)	5.3	5.8	6.2	4.9	4.9	5.7
pH (Lab)	5.6	6.1	6.6	5.6	5.9	6.5
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate, as N	0.14	0.29	0.09	0.03	0.06	0.14
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	12.0	190	210	13.4	140	14.5
Copper, Cu						
Fluoride, F						
Iron, Fe	1.98	4.56	11.9	3.92	10.5	4.46
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	117	570	705	169	383	217
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	7.08	104	138	11.9	50	26.5
Potassium, K (mg/l)	< 1.00	9.8	3.52	< 1.00	4.36	< 1.00
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	9.4	109	312	20.2	73	84.5
TKN (mg/l)	1.1	16.2	4.1	1.8	4.3	2

NOTE: SA-1 DESTROYED THROUGH CONSTRUCTION

LENA ROAD LANDFILL

LENA0787

COLLECTED BY:

ELLIOTT, PARKER

	C W 2	C W 3	C W 4	C W 5	S A 1
FIELD MEASUREMENTS					
Water Depth, (Ft)					
Water Temperature, C	25.5	26.5	26.0	32.0	
Conductance, umhos/cm	120	2350	1200	130	
pH (Field)	5.6	6.0	6.5	5.8	
pH (Lab)	6.0	6.5	7.1	6.0	*****
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab,N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As					
Barium, Ba					
Cadmium, Cd					
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	
Mercury, Hg	<0.0005	<0.0005	<0.0005	<0.0005	
Nitrate, as N	0.11	1.5	0.05	0.1	
Selenium, Se					
Silver, Ag					
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	19.0	193	116.0	35.3	
Copper, Cu					
Fluoride, F					
Iron, Fe	1.86	12.3	2.47	2.77	
Manganese, Mn					
Sulfate, SO4					
Total Dissolved Solids, TDS	117	997	877	141	
Zinc, Zn					
OTHER PARAMETERS					
Turbidity, NTU					
Sodium, Na (mg/l)	7.00	174	43.8	16.8	
Potassium, K (mg/l)	< 1.00	114	1.88	4.2	
Calcium, Ca (mg/l)					
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)	34.8	629	283	32.2	
TKN (mg/l)	1.4	79.6	1.7	1.6	

NOTE: SA-1 DESTROYED THROUGH CONSTRUCTION

LENA1187

A1.024
DATE: NOV ,1987LANDFILL WELL MONITORING STATIONS
LENA ROAD LANDFILL

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1
FIELD MEASUREMENTS						
Water Depth, (Ft)						
Water Temperature, C	25.0	24	24.0	25.0	25.0	25
Conductance, umhos/cm	70	600	1000	110	490	260
pH (Field)	NA	NA	NA	NA	NA	NA
pH (Lab)	5.7	6.3	6.4	6.2	5.8	6.3
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Mercury, Hg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nitrate, as N	0.01	0.01	0.01	0.01	0.02	0.01
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	6.4	277	172	11.0	154	24.4
Copper, Cu						
Fluoride, F						
Iron, Fe	4.63	6.4	9.24	1.23	12.1	4.04
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	130	720	612	133	344	193
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	8.17	112	139	9.58	68.4	26.3
Potassium, K (mg/l)	< 1.00	7.02	1.64	< 1.00	2.68	< 1.00
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	13.6	208	251	27.2	60	87.4
TKN (mg/l)	1.6	13.8	4.0	1.7	4.6	1.5

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

LENA1187

A1.024
DATE: NOV ,1987LANDFILL WELL MONITORING STATIONS
LENA ROAD LANDFILL

	C W 2	C W 3	C W 4	C W 5	S A 1
FIELD MEASUREMENTS					*****
Water Depth, (Ft)					
Water Temperature, C	23.0	24.5	24.0	25.0	
Conductance, umhos/cm	100	1950	1100	220	
pH (Field)	NA	NA	NA	NA	
pH (Lab)	5.7	6.6	6.9	5.8	
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab,N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As					
Barium, Ba					
Cadmium, Cd					
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	
Lead, Pb	< 0.02	< 0.02	< 0.02	< 0.02	
Mercury, Hg	<0.50	<0.50	<0.50	<0.50	
Nitrate, as N	0.01	0.08	0.1	0.01	
Selenium, Se					
Silver, Ag					
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	13.5	286	95.4	24.1	
Copper, Cu					
Fluoride, F					
Iron, Fe	2.14	8.3	2.14	2.02	
Manganese, Mn					
Sulfate, SO4					
Total Dissolved Solids, TDS	88	1080	795	148	
Zinc, Zn					
OTHER PARAMETERS					
Turbidity, NTU					
Sodium, Na (mg/l)	5.61	173	39.4	14.4	
Potassium, K (mg/l)	< 1.00	93.8	1.25	1.53	
Calcium, Ca (mg/l)					
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)	20.7	735	281	21.3	
TKN (mg/l)	0.7	75.9	1.2	1.3	

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

MANATEE COUNTY PUBLIC WORKS: SOLID WASTE DIVISION

MONITORING RESULTS:

A. LOCATION:

LENA ROAD LANDFILL

B.

DATE: FIRST QUARTER-1988

LDER0188

DATE COLLECTED: MARCH 14-15, 1988

COLLECTED BY: PARKER, ELLIOTT JAN. 01, 1988 to MAR. 31, 1988

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1	C W 2
FIELD MEASUREMENTS							
Water Depth, (Ft)							
Water Temperature, C	20.5	21	21	21	22	21	19
Conductance, umhos/cm	72	900	975	120	450	300	270
pH (Field)	5.6	5.8	6	6	5.6	6.2	6.1
pH (Lab)							
Sampling Method (See Notes)							
Filtered (F-Field, L-Lab, N-No)							
PRIMARY DRINKING WATER STANDARDS							
INORGANIC CONSTITUENTS (mg/l)							
Arsenic, As							
Barium, Ba							
Cadmium, Cd							
Chromium, Cr	0.56	0.25	0.2	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	0.15	0.14	0.11	0.18	0.21	0.15	0.13
Mercury, Hg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Nitrate, as N	0.02	0.02	0.11	0.09	0.11	0.11	0.79
Selenium, Se							
Silver, Ag							
RADIONUCLIDES (pci/l)							
Gross Alpha							
Radium 226 & 228							
SECONDARY DRINKING WATER STANDARDS							
Chloride, Cl	5.6	298	133	12	107	25.1	34.3
Copper, Cu							
Fluoride, F							
Iron, Fe	8.38	9	51.8	5.83	14.9	8	3.64
Manganese, Mn							
Sulfate, SO4							
Total Dissolved Solids, TDS	94	690	946	174	308	240	192
Zinc, Zn							
OTHER PARAMETERS							
Turbidity, NTU							
Sodium, Na (mg/l)	7.66	141	124	11.61	55.5	30.06	15.76
Potassium, K (mg/l)	1.01	5.55	1.47	0.68	2.69	1.01	2.18
Calcium, Ca (mg/l)							
Orthophosphate, PO4 as P (mg/l)							
Total Alkalinity, as CaCO3 (mg/l)	8.5	139	112	49.6	59.3	83.9	22.2
TKN (mg/l)	1.7	14.5	2.7	2.9	3.9	2.2	2.1

MANATEE COUNTY PUBLIC WORKS: SOLID WASTE DIVISION

MONITORING RESULTS:

A. LOCATION: LENA ROAD LANDFILL

B. DATE: FIRST QUARTER-1988

LDER0188

DATE COLLECTED: MARCH 14-15, 1988 COLLECTED BY: PARKER, ELLIOTT JAN. 01, 1988 to MAR. 31, 1988

	C W 3	C W 4	C W 5	MIN	MAX	STANDARD
FIELD MEASUREMENTS						
Water Depth, (Ft)						
Water Temperature, C	22	21	22	19	22	
Conductance, umhos/cm	2200	1000	235	72	2200	
pH (Field)	6.5	6.8	5.7	5.6	6.8	
pH (Lab)						
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab, N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	0.24	< 0.01	< 0.01	< 0.01	0.56	0.05
Lead, Pb	0.14	0.13	0.03	0.03	0.21	0.05
Mercury, Hg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Nitrate, as N	0.08	0.1	0.12	0.02	0.79	10
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	292	120	23.3	5.6	298	
Copper, Cu						
Fluoride, F						
Iron, Fe	25.7	4.75	4.96	3.64	51.8	
Manganese, Mn						
Sulfate, SO ₄						
Total Dissolved Solids, TDS	1090	818	200	94	1090	
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU						
Sodium, Na (mg/l)	159	34.52	17.92	7.66	159	160
Potassium, K (mg/l)	82.2	1.86	1.75	0.68	82.2	
Calcium, Ca (mg/l)						
Orthophosphate, PO ₄ as P (mg/l)						
Total Alkalinity, as CaCO ₃ (mg/l)	772	286	35.9	8.5	772	
TKN (mg/l)	80	1.4	1.5	1.4	80	

MANATEE COUNTY PUBLIC WORKS SOLID WASTE DIVISION - LENA ROAD LANDFILL
FIRST QUARTER RESUBMITTAL

LENA0588

DATE: MAY 2-6, 1988

DATA COMPARISON OF UNFILTERED & FILTERED OF METALS

	MW-1	MW-1	MW-2	MW-2	MW-3	MW-3	MW-5	MW-5	MW-6	MW-6
FIELD MEASUREMENTS										
Water Depth, (Ft)										
Water Temperature, C										
Conductance, umhos/cm										
pH (Field)										
pH (Lab)										
Sampling Method (See Notes)										
Filtered (F-Field, L-Lab,N-No)	N	F	N	F	N	F	N	F	N	F
PRIMARY DRINKING WATER STANDARDS										
INORGANIC CONSTITUENTS (mg/l)										
Arsenic, As										
Barium, Ba										
Cadmium, Cd										
Chromium, Cr	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03	0.01	< 0.01
Lead, Pb	0.05	< 0.01	0.06	0.02	0.04	0.01	0.05	0.01	0.04	0.1
Mercury, Hg	< 0.001	0.004	< 0.001	0.002	< 0.001	0.003	< 0.001	0.003	< 0.001	0.003
Nitrate, as N										
Selenium, Se										
Silver, Ag										
RADIONUCLIDES (pci/l)										
Gross Alpha										
Radium 226 & 228										
SECONDARY DRINKING WATER STANDARDS										
Chloride, Cl										
Copper, Cu										
Fluoride, F										
Iron, Fe	1.62	1.5	6.47	3.69	4.12	4.23	3.15	3.77	17.06	12.29
Manganese, Mn										
Sulfate, SO4										
Total Dissolved Solids, TDS										
Zinc, Zn										
OTHER PARAMETERS										
Turbidity, NTU										
Sodium, Na (mg/l)	4.84	5.91	106.9	51.23	34.53	49.08	9.79	9.79	20.2	30.43
Potassium, K (mg/l)	0.34	0.65	5.34	3.1	3.61	5.45	6.1	0.74	3.48	4.11
Calcium, Ca (mg/l)										
Orthophosphate, PO4 as P (mg/l)										
Total Alkalinity, as CaCO3 (mg/l)										
TKN (mg/l)										

NOTE: F = FILTERED

Samples collected May 6, 1988

N = UNFILTERED

Samples collected May 02-05, 1988

MANATEE COUNTY PUBLIC WORKS

SOLID WASTE DIVISION - LENA ROAD LANDFILL

FIRST QUARTER RESUBMITTAL

LENA0588

DATE: MAY 2-6, 1988

DATA COMPARISON OF UNFILTERED & FILTERED OF METALS

	CW-1	CW-1	CW-2	CW-2	CW-3	CW-3	CW-4	CW-4	CW-5	CW-5
FIELD MEASUREMENTS										
Water Depth, (Ft)										
Water Temperature, C										
Conductance, umhos/cm										
pH (Field)										
pH (Lab)										
Sampling Method (See Notes)										
Filtered (F-Field, L-Lab,N-No)	N	F	N	F	N	F	N	F	N	F
PRIMARY DRINKING WATER STANDARDS										
INORGANIC CONSTITUENTS (mg/l)										
Arsenic, As										
Barium, Ba										
Cadmium, Cd										
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	0.06	< 0.01	0.05	0.02	0.05	0.03	0.04	< 0.01	0.07	0.01
Mercury, Hg	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	0.005	< 0.001	< 0.001
Nitrate, as N										
Selenium, Se										
Silver, Ag										
RADIONUCLIDES (pci/l)										
Gross Alpha										
Radium 226 & 228										
SECONDARY DRINKING WATER STANDARDS										
Chloride, Cl										
Copper, Cu										
Fluoride, F										
Iron, Fe	7.35	5.13	3.46	1.68	29.54	20.07	3.54	0.38	4.96	3.27
Manganese, Mn										
Sulfate, SO4										
Total Dissolved Solids, TDS										
Zinc, Zn										
OTHER PARAMETERS										
Turbidity, NTU										
Sodium, Na (mg/l)	29.61	29.34	21.04	26.68	106.88	143.95	20.23	12.28	15.37	17.92
Potassium, K (mg/l)	0.05	0.88	4.11	5.91	6.16	23.8	1.75	3.34	1.11	3.4
Calcium, Ca (mg/l)										
Orthophosphate, PO4 as P (mg/l)										
Total Alkalinity, as CaCO3 (mg/l)										
TKN (mg/l)										

NOTE: F = FILTERED

Samples collected May 6, 1988

N = UNFILTERED Sample collected May 02-05, 1988

A1.MANATEE COUNTY PUBLIC WORKS: SOLID WASTE DIVISION

MONITORING RESULTS: LOCATION: LENA ROAD LANDFILL

LENA0788

DATE COLLECTED: JUNE 6-7, 1988

COLLECTED BY: ELLIOT, PARKER

	M W 1	M W 2	M W 3	M W 5	M W 6	C W 1
FIELD MEASUREMENTS						
Water Depth, (Ft)						
Water Temperature, C	29	27	27.5	24.7	24.7	27.9
Conductance, umhos/cm	120	850	700	160	425	310
pH (Field)	5.1	5.6	6.1	5.5	5.6	6.6
pH (Lab)						
Sampling Method (See Notes)						
Filtered (F-Field, L-Lab,N-No)						
PRIMARY DRINKING WATER STANDARDS						
INORGANIC CONSTITUENTS (mg/l)						
Arsenic, As						
Barium, Ba						
Cadmium, Cd						
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	0.03	0.1	0.03	< 0.01	< 0.01	0.03
Mercury, Hg	0.001	< 0.001	0.001	0.001	< 0.001	< 0.001
Nitrate, as N	0.04	0.03	0.07	< 0.01	< 0.01	< 0.01
Selenium, Se						
Silver, Ag						
RADIONUCLIDES (pci/l)						
Gross Alpha						
Radium 226 & 228						
SECONDARY DRINKING WATER STANDARDS						
Chloride, Cl	4.5	227	64.6	9.8	100	22.8
Copper, Cu						
Fluoride, F						
Iron, Fe	1.03	0.74	0.3	0.42	1.27	0.6
Manganese, Mn						
Sulfate, SO4						
Total Dissolved Solids, TDS	103	75	343	151	330	226
Zinc, Zn						
OTHER PARAMETERS						
Turbidity, NTU	160	75	450	16	7.6	45
Sodium, Na (mg/l)	6.67	154	64	9.7	50	37.9
Potassium, K (mg/l)	0.13	10.5	1.99	0.17	2.56	0.19
Calcium, Ca (mg/l)						
Orthophosphate, PO4 as P (mg/l)						
Total Alkalinity, as CaCO3 (mg/l)	20.5	79.1	40.4	32.2	44.6	77.6
TKN (mg/l)	66.5	10.2	4.1	2.3	3.8	1.4

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

A1.024 MANATEE COUNTY PUBLIC WORKS: SOLID WASTE DIVISION
MONITORING RESULTS: LOCATION: LENA ROAD LANDFILL

LENA0788

DATE COLLECTED: JUNE 6-7, 1988

COLLECTED BY: ELLIOT, PARKER

	C W 2	C W 3	C W 4	C W 5
FIELD MEASUREMENTS				
Water Depth, (Ft)				
Water Temperature, C	26.5	25.1	23.5	25.2
Conductance, umhos/cm	200	2050	1050	250
pH (Field)	5.8	6.6	7.5	6
pH (Lab)				
Sampling Method (See Notes)				
Filtered (F-Field, L-Lab,N-No)				
PRIMARY DRINKING WATER STANDARDS				
INORGANIC CONSTITUENTS (mg/l)				
Arsenic, As				
Barium, Ba				
Cadmium, Cd				
Chromium, Cr	< 0.01	< 0.01	< 0.01	< 0.01
Lead, Pb	0.02	0.04	< 0.01	< 0.01
Mercury, Hg	< 0.001	< 0.001	0.001	< 0.001
Nitrate, as N	0.05	0.04	< 0.01	< 0.01
Selenium, Se				
Silver, Ag				
RADIONUCLIDES (pci/l)				
Gross Alpha				
Radium 226 & 228				
SECONDARY DRINKING WATER STANDARDS				
Chloride, Cl	19.7	262	112	20.6
Copper, Cu				
Fluoride, F				
Iron, Fe	0.32	1.57	0.41	0.33
Manganese, Mn				
Sulfate, SO4				
Total Dissolved Solids, TDS	125	1080	782	148
Zinc, Zn				
OTHER PARAMETERS				
Turbidity, NTU	29	200	29	26
Sodium, Na (mg/l)	9.72	137	56.5	37.9
Potassium, K (mg/l)	0.29	75.6	0.76	0.19
Calcium, Ca (mg/l)				
Orthophosphate, PO4 as P (mg/l)				
Total Alkalinity, as CaCO3 (mg/l)	33.3	645	278	33.8
TKN (mg/l)	1.2	66.5	1.0	1.0

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,
CP - CENTRIFUGAL PUMP, TP - TURBINE PUMP.

MANATEE COUNTY PUBLIC WORKS

DATE: FIRST QUARTER-1988

SOLID WASTE DIVISION

JANUARY 01, 1988 to MARCH 31, 1988

ERIE ROAD LANDFILL GROUNDWATER MONITORING DATA

EDER0188

DATE COLLECTED: MARCH 16, 1988

COLLECTED BY: PARKER

	DATA					STATE		
	M W 1	M W 2	M W 3	M W 4	M W 5	MIN	MAX	STANDARD
FIELD MEASUREMENTS								
Water Depth, (Ft)								
Water Temperature, C	19.1	20	20.1	22	21	19.1	22	
Conductance, umhos/cm	180	1550	370	1050	950	180	1550	
pH (Field)	6.6	6.4	6	6.4	6.3	6	6.6	
pH (Lab)								
Sampling Method (See Notes)								
Filtered (F-Field, L-Lab,N-No)								
PRIMARY DRINKING WATER STANDARDS								
INORGANIC CONSTITUENTS (mg/l)								
Arsenic, As	< 0.01	0.06	0.01	< 0.01	0.04	< 0.01	0.06	0.05
Barium, Ba	< 0.01	5.92	1.18	3.67	2.6	< 0.01	5.92	1-
Cadmium, Cd	< 0.01	< 0.01	< 0.01	0.05	< 0.01	< 0.01	0.05	0.01
Chromium, Cr	< 0.01	0.17	0.08	0.25	0.02	< 0.01	0.25	0.05
Lead, Pb	0.15	0.13	0.19	0.11	0.15	0.11	0.19	0.05
Mercury, Hg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Nitrate, as N	0.02	< 0.01	0.16	< 0.01	3.28	< 0.01	3.28	10
Selenium, Se	0.07	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.07	0.01
Silver, Ag	0.01	0.02	0.03	0.02	0.02	0.01	0.03	0.05
RADIONUCLIDES (pci/l)								
Gross Alpha								
Radium 226 & 228								
SECONDARY DRINKING WATER STANDARDS								
Chloride, Cl	3.2	228	21.5	14.6	122	3.2	228	
Copper, Cu	< 0.01	< 0.01	0.03	0.02	0.02	< 0.01	0.03	1
Fluoride, F								
Iron, Fe	2.10	5.92	16.6	40.2	20.9	2.1	40.2	0.3
Manganese, Mn	< 0.01	0.05	0.02	0.5	0.11	< 0.01	0.5	0.05
Sulfate, SO4	8.2	18.9	2	4.5	8.2	2	18.9	
Total Dissolved Solids, TDS	157	1070	816	657	562	157	1070	
Zinc, Zn	0.03	0.04	0.03	0.04	0.07	0.03	0.07	5
OTHER PARAMETERS								
Turbidity, NTU								
Sodium, Na (mg/l)	7.37	98.2	37.42	25.74	69.1	7.37	98.2	160
Potassium, K (mg/l)								
Calcium, Ca (mg/l)								
Orthophosphate, PO4 as P (mg/l)								
Total Alkalinity, as CaCO3 (mg/l)	96.3	622	97.1	581	330	96.3	622	
TKN (mg/l)	0.9	1.3	11.7	25.5	27.2	0.9	27.2	

MANATEE COUNTY PUBLIC WORKS

SOLID WASTE DIVISION

ERIE ROAD LANDFILL GROUNDWATER MONITORING DATA

ERIE0588

DATE COLLECTED: 05/02-05/88

COLLECTED BY: PARKER

	M W 1	M W 2	M W 3	M W 4	M W 5
FIELD MEASUREMENTS					
Water Depth, (Ft)					
Water Temperature, C	21.8	22.3	22.5	22.9	23.5
Conductance, umhos/cm	255	1600	450	1175	750
pH (Field)	5.9	6.3	5.5	6.2	6
pH (Lab)					
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab,N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As	< 0.01	0.05	0.02	< 0.01	< 0.01
Barium, Ba	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, Cd	< 0.01	< 0.01	0.02	< 0.01	< 0.01
Chromium, Cr	< 0.01	< 0.01	0.02	0.02	0.03
Lead, Pb	0.02	< 0.01	0.04	< 0.01	< 0.01
Mercury, Hg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Nitrate, as N	0.02	< 0.01	0.05	0.11	0.07
Selenium, Se	0.01	0.01	0.05	0.05	0.03
Silver, Ag	0.01	0.01	0.01	0.01	0.06
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	14.6	343	106	27.8	164
Copper, Cu	0.03	0.04	0.05	0.03	0.03
Fluoride, F					
Iron, Fe	2.89	1.78	9.95	1.89	36.65
Manganese, Mn	< 0.01	< 0.01	0.02	0.02	0.03
Sulfate, SO4	7.3	18	< 0.1	< 0.1	<0.1
Total Dissolved Solids, TDS	194	1030	1330	648	404
Zinc, Zn	0.03	0.02	0.1	0.06	0.04
OTHER PARAMETERS					
Turbidity, NTU	14.4	12.9	840	65	384
Sodium, Na (mg/l)	13.12	43.5	42.35	44.28	23.93
Potassium, K (mg/l)					
Calcium, Ca (mg/l)					
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)	128.1	637.1	11.3	572.6	82.4
TKN (mg/l)	1.5	1.4	12.4	23.3	10.8

NOTE : ND - NOT DETECTED. B - BAILER, PP - PERISTALTIC PUMP, BP - BLADDER PUMP,

ERIE0788

	M W 1	M W 2	M W 3	M W 4	M W 5
FIELD MEASUREMENTS					
Water Depth, (Ft)					
Water Temperature, C	23.5	25	24.7	24.1	25.2
Conductance, umhos/cm	310	1250	5500	1150	800
pH (Field)	5.9	6.3	5.7	6.3	5.7
pH (Lab)					
Sampling Method (See Notes)					
Filtered (F-Field, L-Lab, N-No)					
PRIMARY DRINKING WATER STANDARDS					
INORGANIC CONSTITUENTS (mg/l)					
Arsenic, As	< 0.01	0.04	0.03	0.02	0.01
Barium, Ba	0.2	0.3	0.84	0.22	0.15
Cadmium, Cd	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chromium, Cr	< 0.01	< 0.01	0.02	< 0.01	< 0.01
Lead, Pb	< 0.01	< 0.01	0.21	< 0.01	< 0.01
Mercury, Hg	< 0.001	< 0.001	0.001	0.001	0.001
Nitrate, as N	0.06	0.08	0.21	3.95	0.09
Selenium, Se	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Silver, Ag	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
RADIONUCLIDES (pci/l)					
Gross Alpha					
Radium 226 & 228					
SECONDARY DRINKING WATER STANDARDS					
Chloride, Cl	7.2	185	103	48.8	155
Copper, Cu	0.02	< 0.01	0.02	< 0.01	< 0.01
Fluoride, F					
Iron, Fe	0.15	0.04	1.13	0.12	2.85
Manganese, Mn	< 0.01	0.02	0.02	0.12	0.02
Sulfate, SO4	38	28	478	17	154
Total Dissolved Solids, TDS	159	830	1440	678	414
Zinc, Zn	0.09	0.04	0.06	0.04	0.05
OTHER PARAMETERS					
Turbidity, NTU	32	30	550	95	330
Sodium, Na (mg/l)	0.15	0.04	1.13	0.12	2.85
Potassium, K (mg/l)					
Calcium, Ca (mg/l)					
Orthophosphate, PO4 as P (mg/l)					
Total Alkalinity, as CaCO3 (mg/l)	93.8	436	56.4	555	78
TKN (mg/l)	1.4	1	17.3	17.5	1.4