SRVC Entered 11/02/05 DH

Groundwater file

Helle, Deborah

From: Jennifer Stirk [jstirk@co.volusia.fl.us]
Sent: Wednesday, November 02, 2005 1:58 PM
To: Helle, Deborah
Subject: Re: Monitoring Well Completion Reports for Tomoka Landfill

Sorry for the lack of information on the recent well completion reports. Here is the additional information requested. Please let me know if you need any thing else.

B-2: Lat N 29 degrees 07' 58.1"
Long W 81 degrees 06' 09.4"
ground elevation 31.550

B-59-1: Lat N 29 degrees 08' 23.3"
Long W 81 degrees 06' 04.7"
ground elevation 30.28

B-59-2: Lat N 29 degrees 08' 23.3"
Long W 81 degrees 06' 04.7"
ground elevation 30.28

>>> "Helle, Deborah" <Deborah.Helle@dep.state.fl.us> 10/31/05 1:34 PM >>>
Jennifer, I got the reports today and am trying to enter the data into the WACS data base. The ground surface elevations are missing and the locations are in easting/northing instead of latitude/longitude. The WACS database will not accept easting/northings. Please have them converted and e-mail me the results along with the ground surface elevations. Thank you.

Deborah B. Helle, P.G.
Florida Department of
Environmental Protection
Central District
3319 Maguire Blvd
Orlando, FL 32803
407-893-3320
Central District Web site: www.dep.state.fl.us/central

Helle, Deborah

From: Helle, Deborah
Sent: Monday, October 31, 2005 1:34 PM
To: 'jstirk@co.volusia.fl.us'
Cc: Depradine, Gloria
Subject: Monitoring Well Completion Reports for Tomoka Landfill

Jennifer, I got the reports today and am trying to enter the data into the WACS data base. The ground surface elevations are missing and the locations are in easting/northing instead of latitude/longitude. The WACS database will not accept easting/northings. Please have them converted and e-mail me the results along with the ground surface elevations. Thank you.

Deborah B. Helle, P.G.
Florida Department of
Environmental Protection
Central District
3319 Maguire Blvd
Orlando, FL 32803
407-893-3320
Central District Web site: www.dep.state.fl.us/central

Volusia County
FLORIDA

Public Works Department
Solid Waste Division

Entered 10/31/05

October 27, 2005

ENV-05-158

RECEIVED
OCT 31 2005
Central Dist. - DEP

Mr. James N. Bradner, P.E.
Program Manager, Solid Waste Section
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard Suite 232
Orlando, FL 32803

Re: Monitoring Well Completion Report
Volusia County's Tomoka Farms Road Landfill
Permit No. S064-0078767

Dear Mr. Bradner:

Enclosed please a copy of the Monitoring Well Completion Report for monitoring wells B-2, B-59-1, and B-59-2 at the Tomoka Farms Road Landfill. As indicated in a May 2005 email the wells were inadvertently damaged and/or destroyed. Universal Engineering constructed all three new monitoring wells similar to the well logs for the old damaged wells.

If you have any comments or questions regarding this matter please contact me at (386)947-2952 or jstirk@co.volusia.fl.us.

Sincerely,

Jennifer R. Stirk
Environmental Specialist

Enclosure: Monitoring Well Completion Reports
Well Development Activities
Well Replacement Report
Well Survey

CC: Josef Grusauskas, Director of Solid Waste
Mark Tumlin, SCS Engineers
Michael Dae, SCS Engineers
file

1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Tel: (386) 947-2952 • Fax: (386) 947-2955

www.volusia.org/recycle

Florida Department of Environmental Protection

3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767

RECEIVED OCT 31 2005 Central Dist. - DEP

MONITORING WELL COMPLETION REPORT

DATE 10/17/05

FACILITY NAME: Tomoka Farms Road Landfill

DER PERMIT NO.: SO64-0078767 WACS FACILITY ID: 27540

WACS TESTSITE ID.: 15402 WACS TESTSITE SITE NAME: B-2

WELL TYPE: BACKGROUND XX DETECTION COMPLIANCE

LATITUDE AND LONGITUDE (seconds to two decimal places): Easting: 623408.49 Northing: 1744590.83

AQUIFER MONITORED: Zone 4

DRILLING METHOD: Hollow Stem Augar DATE INSTALLED: 7/28/05

INSTALLED BY: Universal Engineering Sciences

BORE HOLE DIAMETER: 6.25" TOTAL DEPTH: 24.0' (BLS)

CASING TYPE: PVC CASING DIAMETER: 2" CASING LENGTH: 27.0'

SCREEN TYPE: PVC SCREEN SLOT SIZE: 0.008" SCREEN LENGTH: 5.0'

SCREEN DIAMETER: 2" SCREEN INTERVAL: 19.0' TO 24.0' (BLS)

FILTER PACK TYPE: sand FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 17.0' TO 24.0' (BLS)

SEALANT TYPE: fine sand SEALANT INTERVAL: 15.0' TO 17.0' (BLS)

GROUT TYPE: cement GROUT INTERVAL: 0.0 TO 15.0' (BLS)

TOP OF CASING ELEVATION (NGVD): 31.550 GROUND SURFACE ELEVATION (NGVD):

DESCRIBE WELL DEVELOPMENT: Please see attached report

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD):

DATE AND TIME MEASURED:

REMARKS:

NAME OF PERSON PREPARING REPORT: Jennifer Stirk, County of Volusia, 386-947-2952

(Name, Organization, Phone No.)

NOTE ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG.
(NGVD) NATIONAL GEODETIC VERTICAL DATUM OF 1929 (BLS) = BELOW LAND SURFACE

Florida Department of Environmental Protection

3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767

MONITORING WELL COMPLETION REPORT

DATE 10/17/05

FACILITY NAME: Tomoka Farms Road Landfill

DER PERMIT NO.: SO64-0078767 WACS FACILITY ID: 27540

WACS TESTSITE ID.: 15817 WACS TESTSITE SITE NAME: B59-1

WELL TYPE: BACKGROUND _____ DETECTION _____ COMPLIANCE XX

LATITUDE AND LONGITUDE (seconds to two decimal places): Easting: 623819.18 Northing: 1747140.07

AQUIFER MONITORED: Zone 4

DRILLING METHOD: Hollow Stem Augar DATE INSTALLED: 7/26/05

INSTALLED BY: Universal Engineering Sciences

BORE HOLE DIAMETER: 6.25" TOTAL DEPTH: 32.0' (BLS)

CASING TYPE: PVC CASING DIAMETER: 2" CASING LENGTH: 35.0'

SCREEN TYPE: PVC SCREEN SLOT SIZE: 0.008" SCREEN LENGTH: 10.0'

SCREEN DIAMETER: 2" SCREEN INTERVAL: 22.0' TO 32.0' (BLS)

FILTER PACK TYPE: sand FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 20.0' TO 32.0' (BLS)

SEALANT TYPE: fine sand SEALANT INTERVAL: 18.0' TO 20.0' (BLS)

GROUT TYPE: cement GROUT INTERVAL: 0.0 TO 18.0' (BLS)

TOP OF CASING ELEVATION (NGVD): 32.380 GROUND SURFACE ELEVATION (NGVD): _____

DESCRIBE WELL DEVELOPMENT: Please see attached report

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD):

DATE AND TIME MEASURED:

REMARKS:

NAME OF PERSON PREPARING REPORT: Jennifer Stirk, County of Volusia, 386-947-2952

(Name, Organization, Phone No.)

NOTE ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG.
(NGVD) NATIONAL GEODETIC VERTICAL DATUM OF 1929 (BLS) = BELOW LAND SURFACE

DEP Form 62-522.900(3) Effective April 14, 1994

Florida Department of Environmental Protection

3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767

MONITORING WELL COMPLETION REPORT

DATE 10/17/05

FACILITY NAME: Tomoka Farms Road Landfill

DER PERMIT NO.: SO64-0078767 WACS FACILITY ID: 27540

WACS TESTSITE ID.: 15818 WACS TESTSITE SITE NAME: B59-2

WELL TYPE: BACKGROUND _____ DETECTION _____ COMPLIANCE XX

LATITUDE AND LONGITUDE (seconds to two decimal places): Easting: 623820.91 Northing: 1747140.28

AQUIFER MONITORED: Zone 1-2

DRILLING METHOD: Hollow Stem Augar DATE INSTALLED: 7/27/05

INSTALLED BY: Universal Engineering Sciences

BORE HOLE DIAMETER: 6.25" TOTAL DEPTH: 15.0' (BLS)

CASING TYPE: PVC CASING DIAMETER: 2" CASING LENGTH: 18.0'

SCREEN TYPE: PVC SCREEN SLOT SIZE: 0.008" SCREEN LENGTH: 10.0'

SCREEN DIAMETER: 2" SCREEN INTERVAL: 5.0' TO 15.0' (BLS)

FILTER PACK TYPE: sand FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 3.0' TO 15.0' (BLS)

SEALANT TYPE: fine sand SEALANT INTERVAL: 2.0' TO 3.0' (BLS)

GROUT TYPE: cement GROUT INTERVAL: 0.0 TO 3.0' (BLS)

TOP OF CASING ELEVATION (NGVD): 33.040 GROUND SURFACE ELEVATION (NGVD): [redacted]

DESCRIBE WELL DEVELOPMENT: Please see attached report

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD):

DATE AND TIME MEASURED:

REMARKS:

NAME OF PERSON PREPARING REPORT: Jennifer Stirk, County of Volusia, 386-947-2952

(Name, Organization, Phone No.)

NOTE ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG.
(NGVD) NATIONAL GEODETIC VERTICAL DATUM OF 1929 (BLS) = BELOW LAND SURFACE

DEP Form 62-522.900(3) Effective April 14, 1994

UNIVERSAL
ENGINEERING SCIENCES
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• Orlando, FL
• Palm Coast, FL
• Pensacola, FL
• Rockledge, FL
• Sarasota, FL
• St. Augustine, FL
• Tampa, FL
• West Palm Beach, FL

October 17, 2005

Ms. Jennifer Stirk
Volusia County Solid Waste Division
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

Reference: **INITIAL WELL DEVELOPMENT ACTIVITIES**
Tomoka Well Replacement - Compliance Wells
Daytona Beach, Florida

Dear Ms. Stirk:

Universal Engineering Sciences, Inc. (UES) has completed well development activities at the Tomoka Landfill project following well installations. UES performed well development with a Grundfos Redi-Flo submersible pump. The submersible pump was decontaminated in between wells to eliminate any cross contamination between wells. These wells were installed at different locations at the project site and to varying depths. Turbidity was monitored during development activities and levels were recorded and are as follows: 24 gallons of water was removed from well B-2B and final turbidity was 19.6 Nephelometric Turbidity Unit's (N.T.U.'s), 37 gallons of water was removed from well B59-1 and final turbidity was 17.4 N.T.U.'s and 16 gallons of water was removed from well B59-2 and final turbidity was 11.3 N.T.U.'s. Some soils which contained silts were present along the well shafts, this makes development more difficult when turbidity needs to be low. Wells were developed until turbidity levels were below 20.0 N.T.U.'s.

Thank you once again for allowing UES to provide our services to you on this project. Please contact our office if you have any questions regarding the above referenced activities at (386) 756-1105.

Respectfully submitted,

Universal Engineering Sciences, Inc.

Richard LaRocca
Environmental Project Manager

RL:jl

UNIVERSAL
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Consultants In: Geotechnical Engineering • Environmental Engineering •
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• Orlando, FL
• Palm Coast, FL
• Pensacola, FL
• Rockledge, FL
• Sarasota, FL
• St. Augustine, FL
• Tampa, FL
• West Palm Beach, FL

August 15, 2005

Ms. Jennifer Stirk
Volusia County Solid Waste Division
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

Reference: **Tomoka Landfill Well Replacement**
Compliance Wells, Landfill - Various
Volusia County, Florida
UES Project No. 44936-001-011 and UES Report No. 93289

Dear Ms. Stirk

Universal Engineering Sciences, Inc. has completed the Contract Drilling Services at the above referenced site in Volusia County, Florida. The field services consisted of performing two compliance monitor well installations and one monitor well repair and development in two different locations at the facility. Upon arrival at the site it was determined that the well scheduled for repair was in fact damaged beyond repair and had to be replaced. Therefore three monitor wells were installed and one former well was abandoned. Monitor well B-2B was installed to a depth of 24' adjacent to the sludge plant. This well was installed next to the original well that was abandoned. Monitor wells B59-1 and B59-2 were installed next to each other and share a concrete pad. These wells were 32' and 15' in depth adjacent to the north retention pond located on the north side of the current garbage/waste pile.

All monitor well locations were supplied to Universal Engineering by Volusia County Solid Waste Division representatives.

Enclosed you will find well completion logs for B-2B replacement, B59-1 and B59-2 shown on pages A-1 thru A-4. A monitor well location map has been provided to show the approximate locations of monitor wells that were installed. Copies of monitor well permits were also included in this report.

We appreciate the opportunity to have worked with you on this project and look forward to a continued association. Please do not hesitate to contact us if you should have any questions, or if we may further assist you as your plans proceed.

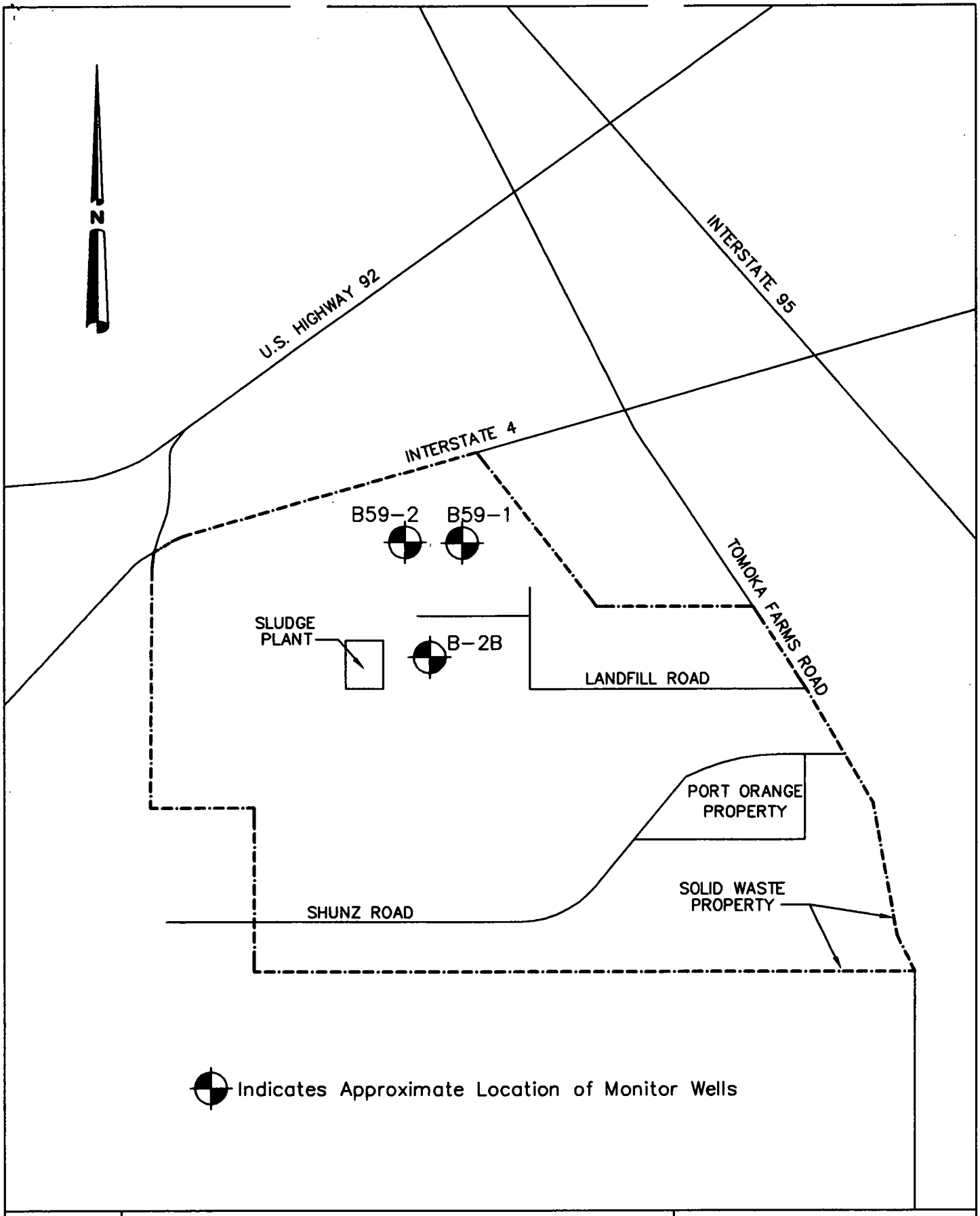
Respectfully submitted,

UNIVERSAL ENGINEERING SCIENCES, INC.

Richard LaRocca
Environmental Project Manager

Attachments

RL:jl



	UNIVERSAL ENGINEERING SCIENCES TOMOKA LANDFILL WELL REPLACEMENT VOLUSIA COUNTY SOLID WASTE	PROJECT NO: 44936-001-11 REPORT NO: 93289
	MONITOR WELL LOCATION MAP	PAGE: A-1 SCALE: NTS

UNIVERSAL ENGINEERING SCIENCES
WELL COMPLETION LOG

PROJECT NO.: 44936-001-11	
REPORT NO.: 93289	
PAGE NO.: A-2	

PROJECT: TOMOKA LANDFILL WELL REPLACEMENT

CLIENT: VOLUSIA COUNTY SOLID WASTE

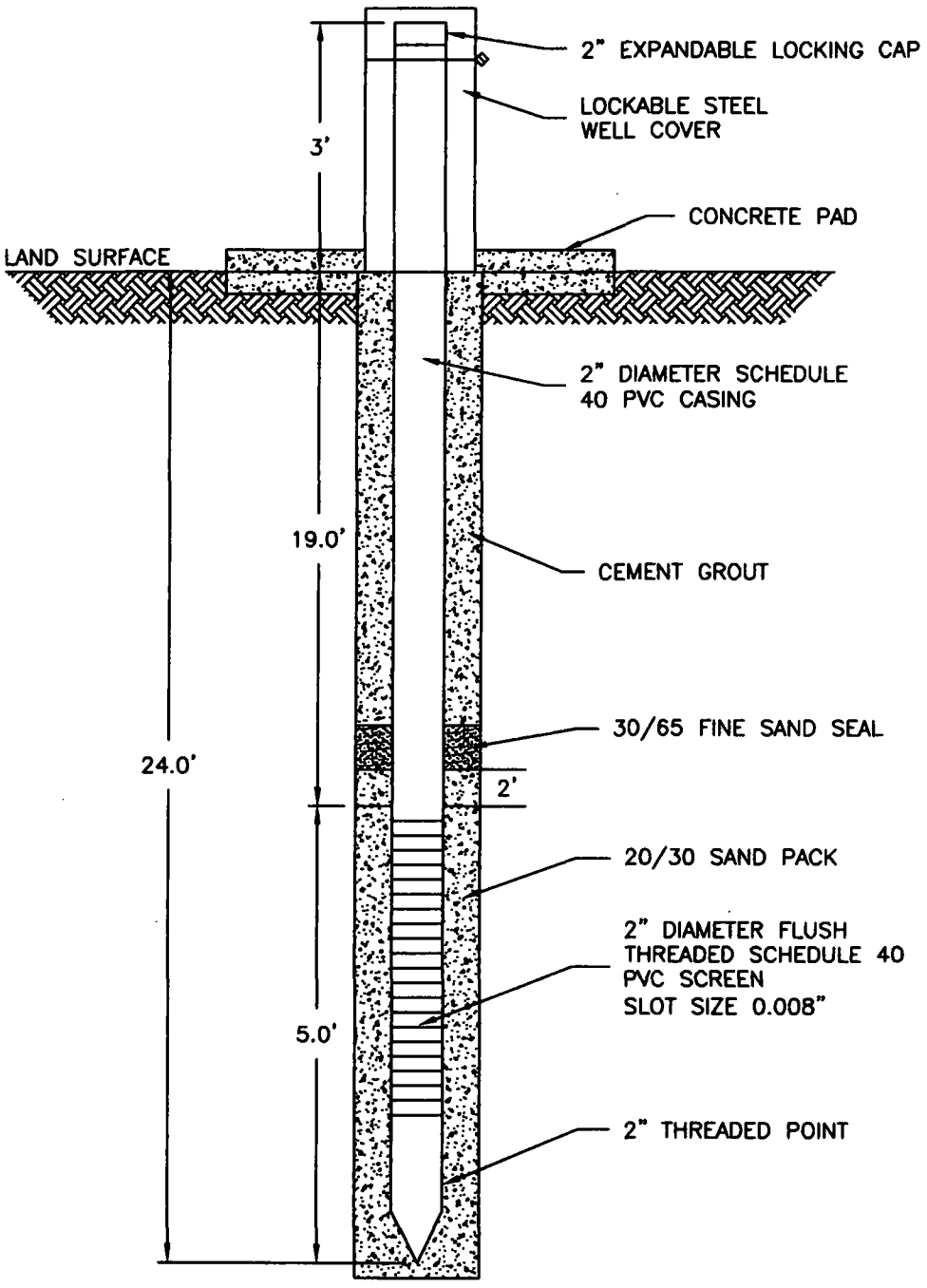
LOCATION: SEE SITE PLAN

WELL NO.: B-2B

DATE: 07/28/05

INSTALLED BY: UES DRILLING

WELL DIAGRAM – NOT TO SCALE



UNIVERSAL ENGINEERING SCIENCES
WELL COMPLETION LOG

PROJECT NO.: 44936-001-11	
REPORT NO.: 93289	
PAGE NO.: A-3	

PROJECT: TOMOKA LANDFILL WELL REPLACEMENT

CLIENT: VOLUSIA COUNTY SOLID WASTE

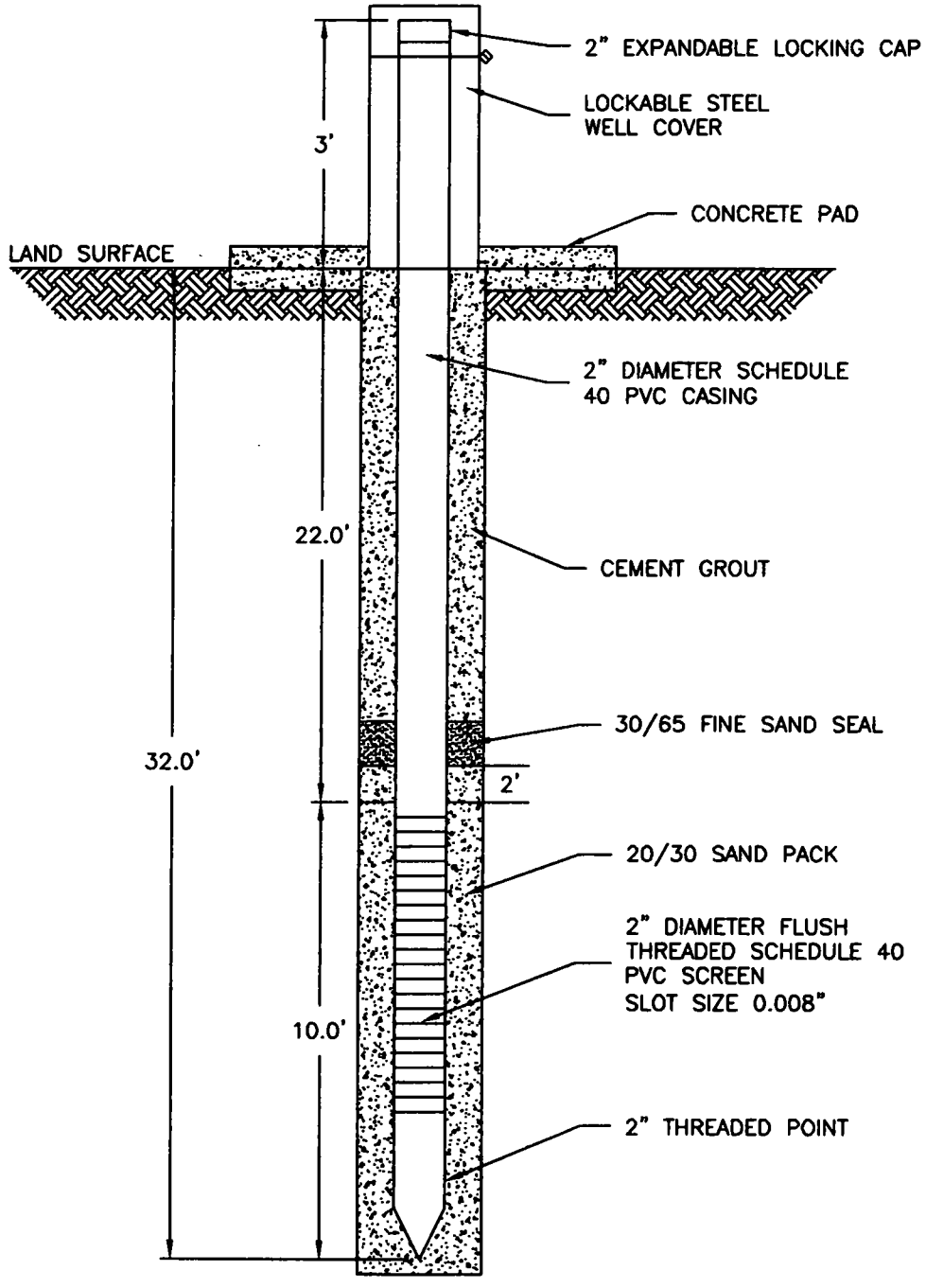
LOCATION: SEE SITE PLAN

WELL NO.: B59-1

DATE: 07/26/05

INSTALLED BY: UES DRILLING

WELL DIAGRAM – NOT TO SCALE



UNIVERSAL ENGINEERING SCIENCES
WELL COMPLETION LOG

PROJECT NO.: 44936-001-11

REPORT NO.: 93289

PAGE NO.: A-4

PROJECT: RECLAIMED WATER RESEVOIR

CLIENT: CENSTATE CONTRACTORS, INC.

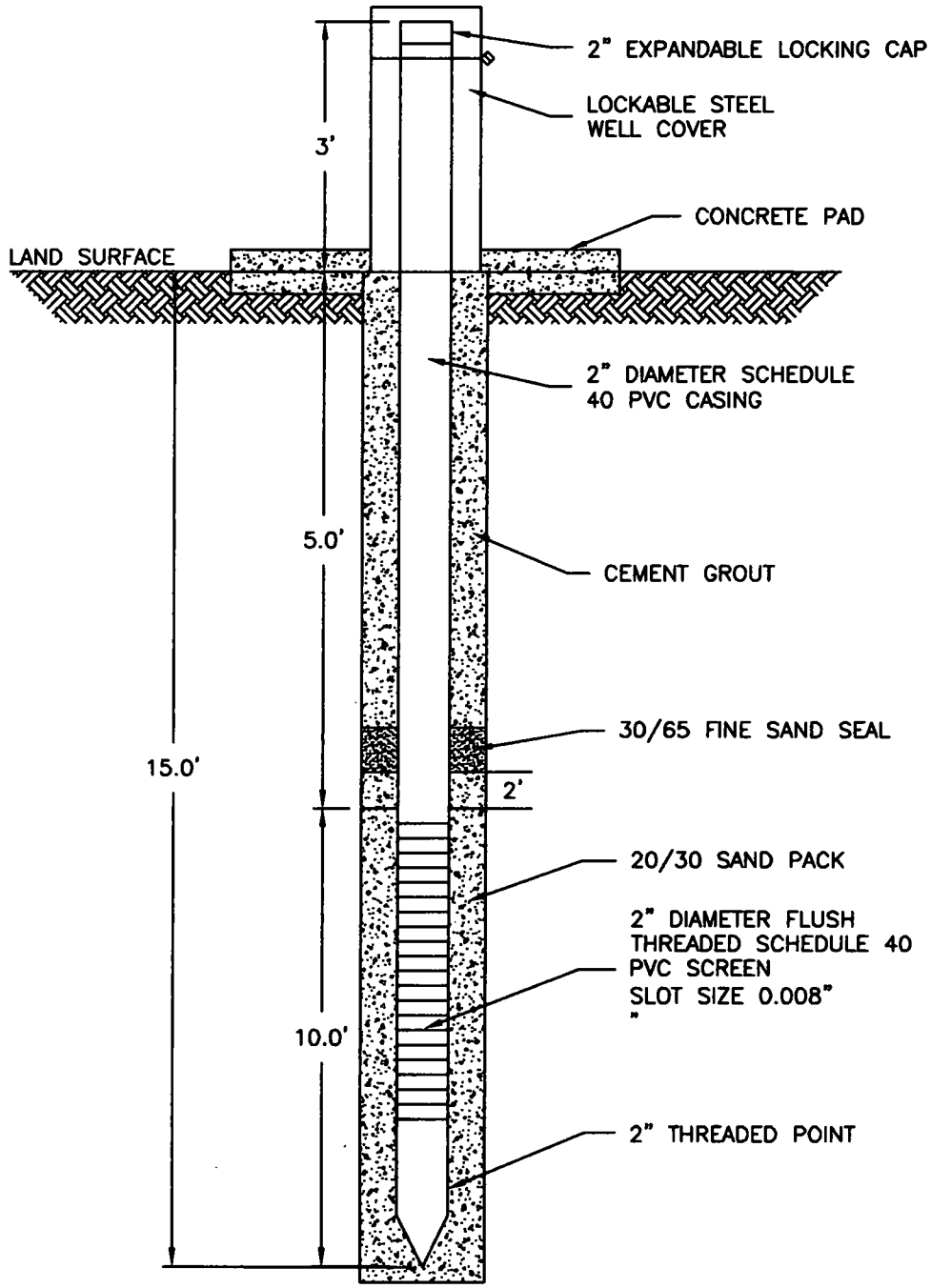
LOCATION: SEE SITE PLAN

WELL NO.: B59-2

DATE: 07/27/05

INSTALLED BY: UES DRILLING

WELL DIAGRAM - NOT TO SCALE



Volusia County Health Department

Well Permit

Date Expires: 1/26/2006

Location Permit: W2005-E-2536

PID: 621100000020 **Address:** 1990 TOMOKA FARMS DAYTONA BEACH, FL 3

Well Information

ApplType: New Well

WellUse: Monitoring Well

Irrigation System

Valve: **Source:**

Timing Device: ☐ **BackFlow:**

Contractor

BUCHLER PAUL BUCKY License#: 7233 Email: PBUCHLER@UESORL.COM

54450 C. STATE ROAD 13 ST. AUGUSTINE FL Phone: (904) 296-0757 Fax: (904) 296-0748

Owner

COUNTY OF VOLUSIA SOLID 1990 TOMOKA FARMS RD DAYTONA BEACH, 32124 (386) 947-2952

Permit Information

Issued By:: Ginger Hancock

Date Issued: 7/26/2005

Date Expires **1/26/2006**

Special Conditions: MONITORING WELL (MW-1), PLEASE INSURE THAT ALL MONITORING WELLS ARE PROPERLY TAGGED AND FLAGGED.

WELL

A permanent, metallic ID tag with license number, permit number, and date of completion must be affixed to the well. The well casing shall extend a minimum of 12" above existing grade and 12" above any known flood level. All wells must maintain a setback of 5ft to property lines and building foundations. Potable wells will maintain a 25ft setback to building foundations chemically treated for pests. Final well approval requires analysis of nitrate and chloride concentration, and must be absent of coliform bacteria. Well completion reports are due within 30 days of completed well construction.

Private potable well must be a minimum of 75 ft from all septic systems.

IRRIGATION SYSTEM

A rain sensor device, capable of overriding the sprinkler system when adequate rainfall has occurred, shall be installed as part of the irrigation system. Backflow into any water source shall be prevented by use of an approved backflow prevention device. All underground piping shall have a minimum 6" of soil cover.

For new construction sites, a C.O. will not be issued until after the Health Department has inspected and given final approval of the system.

Contact this department when work authorized by this permit is completed.

Daytona Beach
1845 Holsonback Drive
Daytona Beach, FL 32117
(386) 274-0694

DeLand
1360 S. Woodland Blvd
DeLand, FL 32729
(386) 822-6250

New Smyrna Beach
717 W. Canal St
New Smyrna Beach, FL 32168
(386) 424-2061

Orange City
2752 B Enterprise Rd
Orange City, FL 32763
(386) 775-5289

Environmental Health
VOLUSIA COUNTY HEALTH DEPARTMENT

Volusia County Health Department

Well Permit

Date Expires: 1/26/2006

HEALTH

Location Permit: W2005-E-2537

PID: 621100000020 **Address:** 1990 TOMOKA FARMS DAYTONA BEACH, FL 3

Well Information

ApplType: New Well
WellUse: Monitoring Well

Irrigation System

Valve: _____ **Source:** _____
Timing Device: ☐ **BackFlow:** _____

Contractor

BUCHLER PAUL BUCKY License#: 7233 Email: PBUCHLER@UESORL.COM
54450 C. STATE ROAD 13 ST. AUGUSTINE FL Phone: (904) 296-0757 Fax: (904) 296-0748

Owner

COUNTY OF VOLUSIA SOLID 1990 TOMOKA FARMS RD DAYTONA BEACH, 32124 (386) 947-2952

Permit Information

Issued By:: Ginger Hancock GH
Date Issued: 7/26/2005
Date Expires **1/26/2006**

Special Conditions: MONITORING WELLS, PLEASE INSURE THAT ALL MONITORING WELLS ARE PROPERLY TAGGED AND FLAGGED.

WELL

A permanent, metallic ID tag with license number, permit number, and date of completion must be affixed to the well. The well casing shall extend a minimum of 12" above existing grade and 12" above any known flood level. All wells must maintain a setback of 5ft to property lines and building foundations. Potable wells will maintain a 25ft setback to building foundations chemically treated for pests. Final well approval requires analysis of nitrate and chloride concentration, and must be absent of coliform bacteria. Well completion reports are due within 30 days of completed well construction.

Private potable well must be a minimum of 75 ft from all septic systems.

IRRIGATION SYSTEM

A rain sensor device, capable of overriding the sprinkler system when adequate rainfall has occurred, shall be installed as part of the irrigation system. Backflow into any water source shall be prevented by use of an approved backflow prevention device. All underground piping shall have a minimum 6" of soil cover.

For new construction sites, a C.O. will not be issued until after the Health Department has inspected and given final approval of the system.

Contact this department when work authorized by this permit is completed.

Volusia County Health Department

Well Permit

Location Permit: W2005-E-2744

PID: 62090000020 Address: 1990 TOMOKA FARMS DAYTONA BEACH, FL 3

Well Information

AppiType: New Well

WellUse: Monitoring Well

Irrigation System

Valve: Source:

Timing Device: BackFlow:

Contractor

BUCHLER PAUL BUCKY License#: 7233 Email: PBUCHLER@UESORL.COM

54450 C. STATE ROAD 13 ST. AUGUSTINE FL Phone: (904) 296-0757 Fax: (904) 296-0748

Owner

COUNTY OF VOLUSIA 1990 TOMOKA FARMS RD DAYTONA BEACH, 32124 (386) 947-2952

Permit Information

Issued By:: Ginger Hancock GH/SR

Date Issued: 8/11/2005

2/11/2006

Special Conditions: PLEASE INSURE THAT ALL MONITORING WELLS ARE PROPERLY TAGGED AND FLAGGED.
RE: A2005-E-2745 (ABANDONMENT)

WELL

A permanent, metallic ID tag with license number, permit number, and date of completion must be affixed to the well. The well casing shall extend a minimum of 12" above existing grade and 12" above any known flood level. All wells must maintain a setback of 5ft to property lines and building foundations. Potable wells will maintain a 25ft setback to building foundations chemically treated for pests. Final well approval requires analysis of nitrate and chloride concentration, and must be absent of coliform bacteria. Well completion reports are due within 30 days of completed well construction.

Private potable well must be a minimum of 75 ft from all septic systems.

IRRIGATION SYSTEM

A rain sensor device, capable of overriding the sprinkler system when adequate rainfall has occurred, shall be installed as part of the irrigation system. Backflow into any water source shall be prevented by use of an approved backflow prevention device. All underground piping shall have a minimum 6" of soil cover.

For new construction sites, a C.O. will not be issued until after the Health Department has inspected and given final approval of the system.

Contact this department when work authorized by this permit is completed.

Daytona Beach
1845 Holsonback Drive
Daytona Beach, FL 32117
(386) 274-0694

DeLand
1360 S. Woodland Blvd
DeLand, FL 32729
(386) 822-6250

New Smyrna Beach
717 W. Canal St
New Smyrna Beach, FL 32168
(386) 424-2061

Orange City
2752 B Enterprise Rd
Orange City, FL 32763
(386) 775-5289

Volusia County Health Department

Irrigation System Permit

Location Permit: A2005-E-2745

PID: 62090000020 Address: 1990 TOMOKA FARMS DAYTONA BEACH, FL 3

Well Information

ApplType: Well Abandonment
WellUse: Other Well

Irrigation System

Valve: Source:
Timing Device: ☐ BackFlow:

Contractor

BUCHLER PAUL BUCKY License#: 7233 Email: PBUCHLER@UESORL.COM
54450 C. STATE ROAD 13 ST. AUGUSTINE FL Phone: (904) 296-0757 Fax: (904) 296-0748

Owner

COUNTY OF VOLUSIA SOLID 1990 TOMOKA FARMS ROAD DAYTONA BEACH, 32124 (386) 947-2952

Permit Information

Issued By:: Ginger Hancock GH/SR
Date Issued: 8/11/2005
2/11/2006

Special Conditions: PLEASE CALL GINGER HANCOCK AT 547-6306 OR SUE ROYER AT 274-6306 TO SCHEDULE ABANDONMENT OF WELL.
RE: W2005-E-2744

WELL

A permanent, metallic ID tag with license number, permit number, and date of completion must be affixed to the well. The well casing shall extend a minimum of 12" above existing grade and 12" above any known flood level. All wells must maintain a setback of 5ft to property lines and building foundations. Potable wells will maintain a 25ft setback to building foundations chemically treated for pests. Final well approval requires analysis of nitrate and chloride concentration, and must be absent of coliform bacteria. Well completion reports are due within 30 days of completed well construction.

Private potable well must be a minimum of 75 ft from all septic systems.

IRRIGATION SYSTEM

A rain sensor device, capable of overriding the sprinkler system when adequate rainfall has occurred, shall be installed as part of the irrigation system. Backflow into any water source shall be prevented by use of an approved backflow prevention device. All underground piping shall have a minimum 6" of soil cover.

For new construction sites, a C.O. will not be issued until after the Health Department has inspected and given final approval of the system.

Contact this department when work authorized by this permit is completed.

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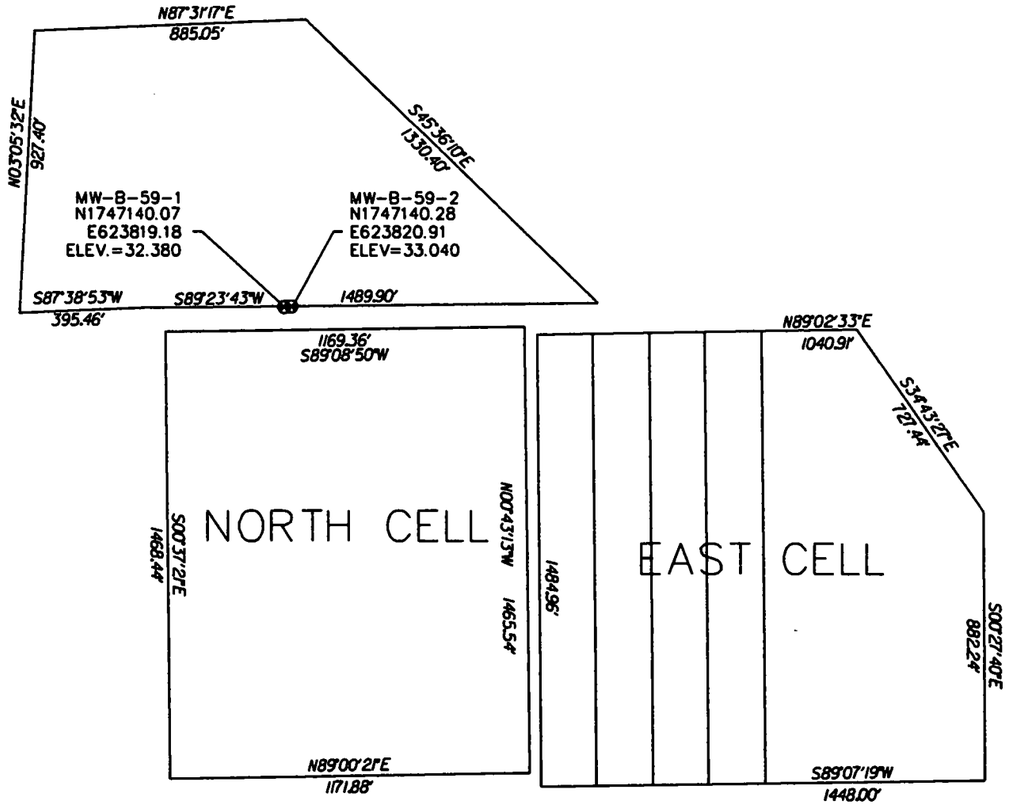
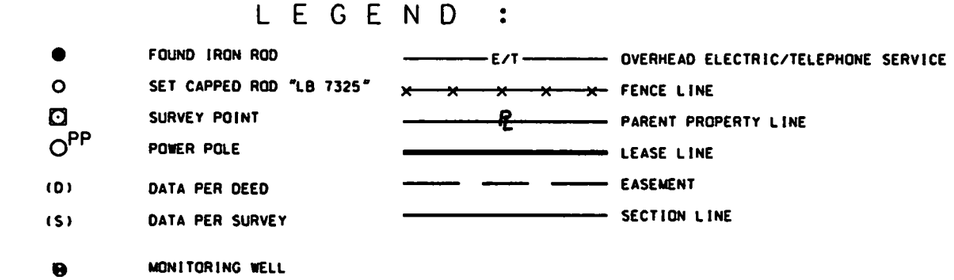
(386) 424-2061

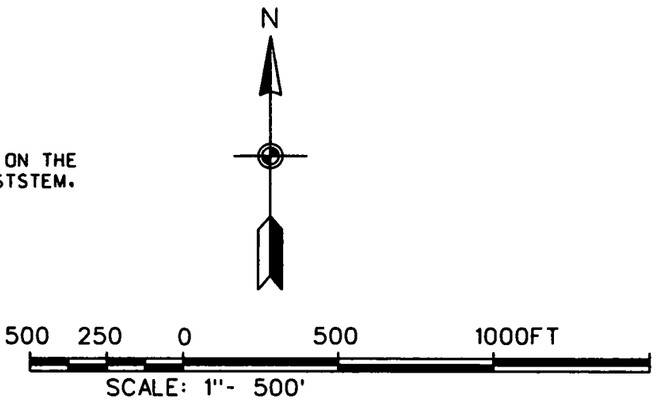
Orange City
2752 B Enterprise Rd
Orange City, FL 32763
(386) 775-5289





NOTES :

HORIZONTAL DATUM SHOWN IS BASED ON THE FLORIDA STATE PLANE COORDINATE STSTEM. EAST ZONE (NAD 83).



MW-B2
N1744590.83
E623408.49
ELEV=31.550

I hereby certify (or state) that all parts of this survey and drawing have been completed in accordance with the current requirements of the Minimum Technical Standards for Surveying in the State of Florida to the best of my knowledge, information, and belief.

10-25-05

Anthony L. Bryant
Registered Professional Land Surveyor and Mapper
State of Florida License Number 5815

Date:

Not valid without the signature and the original rosied seal

ANTHONY L BRYANT CERTIFICATE No. 5815 STATE OF FLORIDA PROFESSIONAL SURVEYOR & MAPPER

MAPTECH, INC.
SURVEYING • MAPPING
GPS SERVICES
1550 CREIGHTON RD.• SUITE 8 PENSACOLA, FLORIDA 32504 (850) 549-4843

TOMOKA FARMS ROAD LANDFILL
MONITORING WELL LOCATIONS
COUNTY OF VOLUSIA, FLORIDA

DRAWING NO.:	N4-067TH14.DWG	CADD NO.:	04001-067
DRAWN BY.:	T. HANEY	SURVEY NO.:	04001-067
		CHECKED BY.:	A.BRYANT
SCALE:	1"=500'	DATE: October 24, 2005	SHEET 1 of 1

...\Tomaka\N4-067TH14.dwg 10/25/2005 11:38:36 AM

TO: File

FROM G. De Pradine

DATE: January 20, 2007

SUBJECT: Volusia County –SW/GW
Volusia County Landfill (Class I and Class III)
WACS #27540
Review of Semi-annual Ground/Surface Water Report Sampling Event October 2006

The ground and surface water monitoring report received on January 8 2007, for the semi-annual sampling event conducted during the period October 23, 2006 to November 3, 2006.has been reviewed:

Background

The monitoring network consists of 51 groundwater monitoring wells and 7 surface water locations. It is divided into zones 1, 2 and 4. Two Floridan wells are included in the monitoring net work. total 53 wells in mps att A list

Assessment monitoring is conducted at the facility in 2 areas (B5 and B37) managed by Waste Cleanup section. Most of the assessment wells are located in Zone 4. There are approximately 16 wells in the B5 area including B5 and 15 groundwater wells including B37-1 and B37-2 in the B37 area.

The report stated that Monitoring well B8-1 and B42-2 were dry and SW-3 and SW-4.

Exceedances

1 Vinyl chloride exceeded primary standard in groundwater monitoring well B 37-2 (14 ug/L) this is a decrease from the April sampling event (74 ug/L).
2 Benzene exceeded the primary standard of 1 ug/L in the following wells:
   B36 1.8 ug/L,
   B37-1 12 ug/L
   B43-1 2.5 ug/L
   B45-1 6.5 ug/L
3 Sodium exceeded the primary standard of 160 mg/L in groundwater monitoring wells B37-1 (200 mg/L) B45-1(230 mg/L) B62-1R(310 mg/L), B33-2(980 mg/L).
4 Ammonia exceeded minimum criteria of 2.8 mg/L in the following wells:
   B1-B 14 mg/L
   B41-1 53 mg/L
   B61R 32 mg/L
   B62-1R 110 mg/L
   B62-2R 35 mg/L
5 Iron exceeded secondary standard in all ground water monitoring wells ranging from 1100 ug/L to 70,000 ug/L

6 Arsenic exceeded primary standard of 10 ug/L in monitoring well B75 (14 ug/L)
7 Sulfate exceeded 250 mg/L in monitoring well B42-1 (390 mg/L) B34-2 (350 mg/l)
8 Chloride exceeded the secondary standard of 250 mg/L in monitoring well B33-2 (1600 ug/L), B62-1R (350 mg/L).
9 Total Dissolved Solids (TDS) exceeded the secondary standard of 500 mg/L in 21 monitoring wells ranging from 680 mg/L to 3900 mg/L in groundwater monitoring B33-2
10 Metal detected below the maximum contamination level (MCL) and or minimum criteria included the following : Copper; Lead Chromium Nickel, Barium, Zinc
11 Other Volatile organics detected below MCL or minimum criteria are the following:
Chlorobenzene

B45-1 2.6 ug/l
B43-1 2.8 ug/L
B41-1 1.2 ug/L
B64 - 6.1
B37-1 – 13ug/L
B37-2 - 2.7

Cis-1,2 Dichloroethene 1.7 ug/L
1,1 Dichloethene -1.5 ug?Ll
Xylene
B45-1 2.8ug/L

Field

- Dissolved Oxygen (D.O) exceeded 20% saturation at the field measured temperature for several wells.
- Turbidity exceeded the secondary standard of 20 NTU in the B70-2(51 NTU), B73-2(52 NTU)B59-2R(80 NTU)
- pH, reported below the secondary standard of (6.5-8.5) in several wells.

Equipment blanks contained 2- Butanone.

Surface Water

- Dissolved Oxygen exceeded the standard of 5 mg/L in SW-2 (4.58mg/L), SW-4 (6.32mg/L)
- Surface water sampling locations SW- 3 and SW- 4 were dry during this sampling event.

Groundwater flow
Flow direction was not indicated on contour map. Report indicates that the flow direction in Zone 1- 2 is northeast/ east. Zone 4 flow direction is easterly direction across site.

Leachate Report
Exceedances include:

TDS- 5200 mg/L
Arsenic - 92 ug/L, Iron -10,000 ug/L, Sodium – 130,000 mg/L

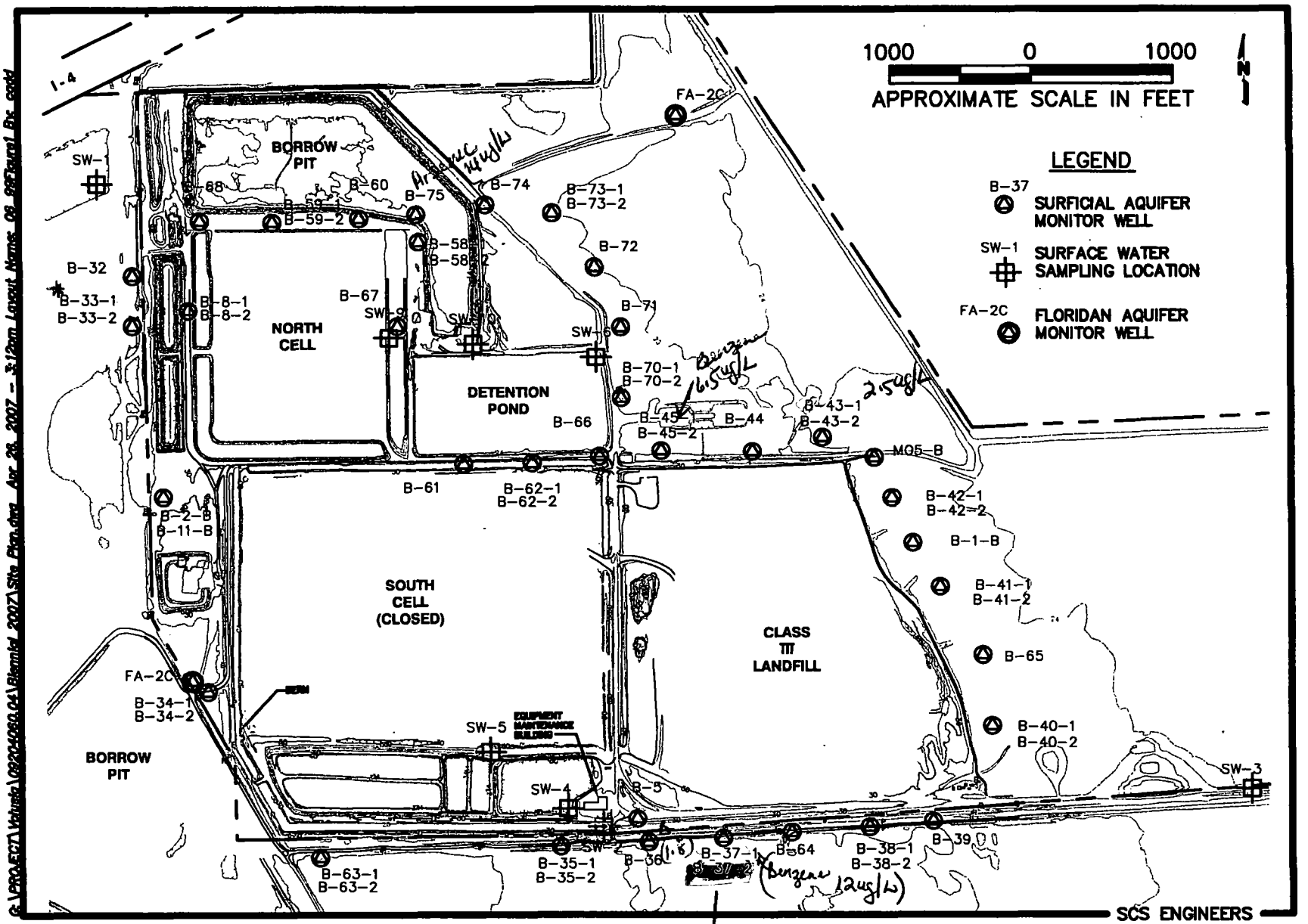


Figure 1. Site Plan, Tomoka Farms Road Landfill.

VC - 14 ug/L

* Sampling Event October 06 –

– Vinyl Chloride
benzene

GW file

RECEIVED
JAN 08 2007
Central Dist. - DEP

Volusia County
FLORIDA

Public Works Department
Solid Waste Division

January 4, 2007 ENV-07-100

Mr. James N. Bradner, P.E.
Program Manager, Solid Waste Section
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard Suite 232
Orlando, FL 32803

Re: Semi-Annual Groundwater Monitoring Report – December 2006
Volusia County's Tomoka Farms Road Landfill
Permit No. SO64-0078767-016

Dear Mr. Bradner:

Enclosed please find two (2) copies of the Semi-Annual Groundwater Monitoring Report – December 2006 sampling event for Volusia County's Tomoka Farms Road Landfill, as prepared by SCS Engineers.

If you have any comments or questions regarding this matter please contact me at (386)947-2952 or jstirk@co.volusia.fl.us.

Sincerely,

Jennifer R. Stirk
Environmental Specialist III

Enclosure: Semi-Annual Groundwater Monitoring Report

CC: Josef Grusauskas, Director of Solid Waste
Lee Powell, SCS Engineers
file

1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Tel: (386) 947-2952 • Fax: (386) 947-2955
www.volusia.org/recycle

CENTRAL DISTRICT

TO: File

FROM G. De Pradine

DATE: January 30, 2006

SUBJECT: Volusia County -SW/GW
Volusia County Landfill (Class I and Class III)
WACS # 27540
Review of Semi-annual Ground/Surface Water Report Sampling Event October 2005

The ground and surface water monitoring report received on January 5, 2006, for the semi-annual sampling event conducted during the period October 19, 2005 to October 28, 2005 was reviewed:

Background

The monitoring network consists of 51 groundwater monitoring wells and 7 surface water locations. It is divided into zones 1, 2 and 4. Two Floridan wells are included in the monitoring net work.

The report indicated that monitoring well B2 appears to be destroyed 35-1 and B35-2 were not sampled. The wells were inaccessible due to flooding in the area of the wells. Monitoring well B59-2 recently re-installed and B -surface water monitoring location SW-4 was moved to the north side and SW-6 and SW-9 were dry.

Exceedances

1 Vinyl chloride exceeded primary standard in groundwater monitoring well B 37-2 (58 ug/L), B36 (1 .4 ug/L), B 36 (1.4 ug/L), 59.2 (1.2 ug/L).
2 Benzene exceeded the primary standard of 1 ug/L in the following wells:
B36 1.3 ug/L,
B37-1 9.1 ug/L
B43-1 1.9 ug/L
B45-1 5.6 ug/L
3 Sodium exceeded the primary standard of 160 mg/L in groundwater monitoring wells B37-1 (200 mg/L) B45-1(230 mg/L) B62-1R(310 mg/L), B33-2(980 mg/L).
4 Ammonia exceeded minimum criteria of 2.8 mg/L in the following wells:
B1-B 14 mg/L
B38-2 3.4 mg/L

4 Ammonia exceeded minimum criteria of 2.8 mg/L in the following wells:

B1-B	14 mg/L
B38-2	3.4 mg/L
B40.2	3.2 mg/L
B41-1	7.1 mg/L
B68-	4.1 mg/L
B61-R	27 mg/L
B62-1R	9.1 mg/L
B62-2R	23 mg/L
B-64	5.6 mg/L
B-75	6.8 mg/L

5 Iron exceeded secondary standard in a majority of the ground water monitoring wells ranging from 320 ug/L to 34,000 ug/L

6 Arsenic exceeded primary standard of 10 ug/L in monitoring well B33-2 (14 ug/L), B59-2(16 ug/L),B73-2(11 ug/L).

7 Lead exceeded the primary standard 15 ug/L in monitoring wells B2 (33 ug/L), B59-2(29 ug/L).

8 Beryllium exceeded the primary standard of 4 ug/L in B2 (4.9 ug/L).

9 Vanadium exceeded the minimum criteria of 49 ug/L in B2 (84 ug/L), B59-2(130 ug/L). Vanadium was also, detected in other wells below the minimum criteria.

10 Sulfate exceeded 250 mg/L in monitoring well B42-1 (400 mg/L) B34-2 (350 mg/l)

11 Chloride exceeded the secondary standard of 250 mg/L in monitoring well B33-2 (1600 ug/L), B62-1R(350 mg/L).

12 Total Dissolved Solids (TDS) exceeded the secondary standard of 500 mg/L in 21 monitoring wells ranging from 520 mg/L to 1400mg/L.

13 Metal detected below the maximum contamination level (MCL) and or minimum criteria included the following: Copper, Lead, Chromium Nickel, Barium, Zinc.

14 Other Volatile Organic Compounds (VOC) detected below MCL or minimum criteria are the following:

Chlorobenzene

B37-1	10 ug/l
B43-1	1.9 ug/L
B45-1	2.5 ug/L

Cis-1,2 Dichloroethene

B37-1 1.7 ug/L

Xylene

B45-1 4.8 ug/L

Field

- Dissolved Oxygen (D.O) exceeded 20% saturation at the field measured temperature for several wells.
- Turbidity exceeded the secondary standard of 20 NTU in the B70-2(51 NTU), B73-2(52 NTU)B59-2R(80 NTU)
- pH, reported below the secondary standard of (6.5-8.5) in several wells.

Surface Water

- Dissolved Oxygen exceeded the standard of 5 mg/L in SW-3 (2.75mg/L), SW-12 (4.83 mg/L)
- Surface water sampling locations SW-6 and SW-9 were dry during this sampling event.

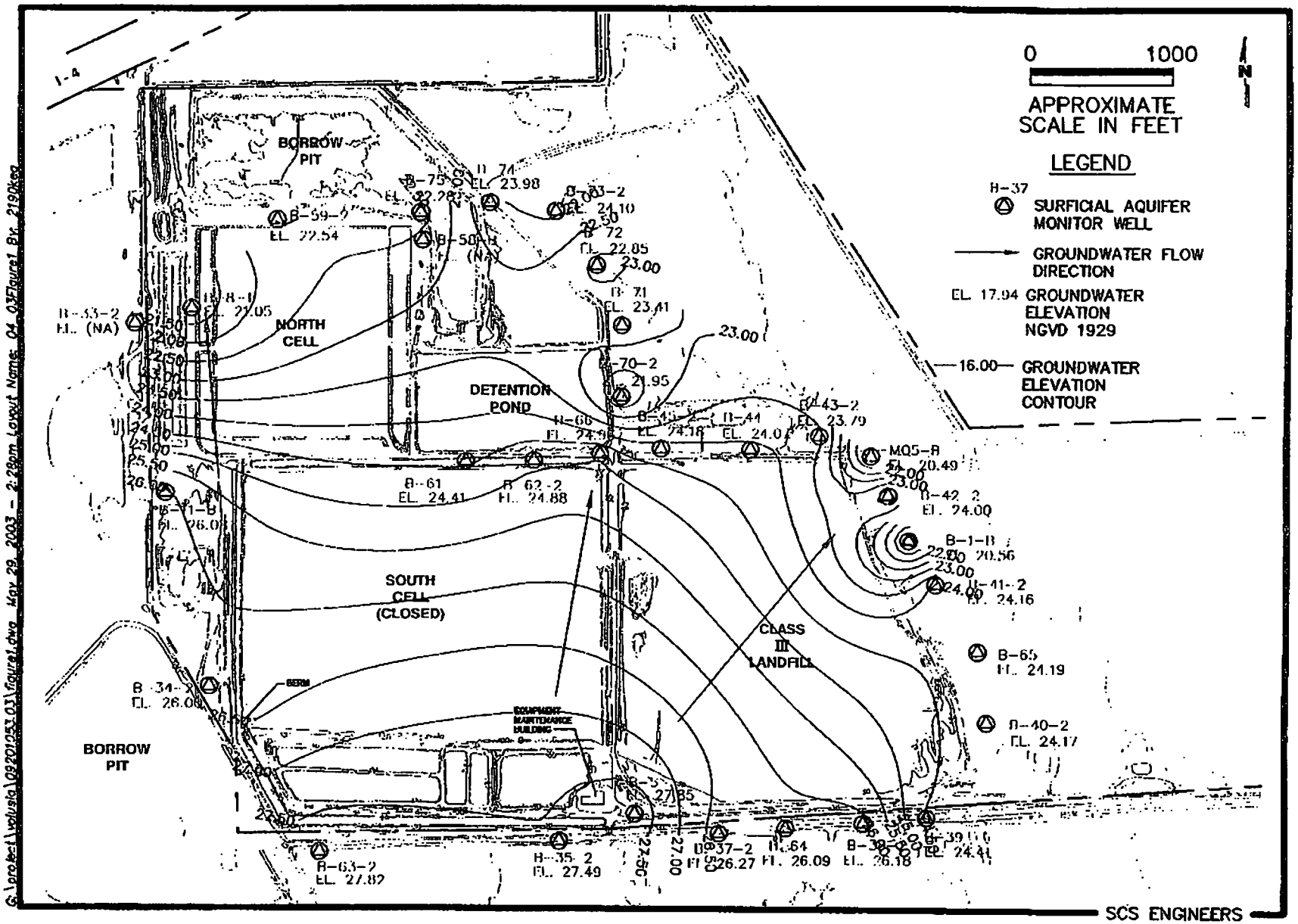
Groundwater flow

Flow direction was not indicated on contour map. Report indicates that the flow direction in Zone 1- 2 flows to the north and northeast. Zone 4 flow direction is northeasterly direction across site.

Leachate Report

Exceedances include:

TDS- 5200 mg/L
Arsenic-65 ug/L, Iron -3,000 ug/L, Sodium - 130,000 mg/L, Antimony-12 ug/L,
Acetone - 220 ug/L,
2-Butanone - 180 ug/L,



G:\project\wausau\09201053.03\figure1.dwg May 29, 2003 - 2:28pm Layout Name: 04-03Figure1 By: 2190keg

Figure 1. Groundwater Elevation Contour Map, Aquifer Zone 1–2, Tomoka Farms Road Landfill, April 2003

ATTACHMENT B

Volusia County
FLORIDA

Public Works Department
Solid Waste Division

August 17, 2005

ENV-05-140

Mr. James N. Bradner, P.E.
Program Manager, Solid Waste Section
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard Suite 232
Orlando, FL 32803

RECEIVED
AUG 17 2005
Central Dist. - DEP

Re: Semi-Annual Groundwater Monitoring Report – May 2005
Volusia County's Tomoka Farms Road Landfill
Permit No. SO64-0078767

Dear Mr. Bradner:

Enclosed please find two (2) copies of the Semi-Annual Groundwater Monitoring Report – May 2005 sampling event for Volusia County's Tomoka Farms Road Landfill, as prepared by SCS Engineers.

If you have any comments or questions regarding this matter please contact me at (386)947-2952 or jstirk@co.volusia.fl.us.

Sincerely,

Jennifer R. Stirk
Environmental Specialist

Enclosure: Groundwater Monitoring Report

CC: Josef Grusauskas, Director of Solid Waste
Mark Tumlin, SCS Engineers
file

1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Tel: (386) 947-2952 • Fax: (386) 947-2955

www.volusia.org/recycle

Florida Department Of

Memorandum

Environmental Protection

file
get book back from C BL

CENTRAL DISTRICT

TO: Bret LeRoux, P.G.

THROUGH: Tom Lubozynski, P.E. Agree! tm 4/21/05

THROUGH: Gloria DePradine

THROUGH: Jim Bradner, P.E.

FROM: Deborah Helle, P.G.

DATE: April 13, 2005

SUBJECT: Tomoka Farms Road Biennial (6/2001-11/2004) Report Review

FIND BI-ANNUAL FOR CLOSET UPDATE
REFERED TO NCU PER 4/13/5 MEMO
3/25/5

I have reviewed the referenced document. After discussing it with Tom, I have the following comments:

Exceedences of benzene north of the Class III cell should be included in the Waste Cleanup Section's assessment. Also exceedences of ammonia in wells around all of the cells and barium in the surface water should be referred to WCU.

Exceedences of chlorides and iron will be monitored by the Solid Waste Section to determine if evaluation monitoring will be necessary.

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Telephone (904) 947-2952

RECEIVED
JUN 27 2003
Central Dist. - DEP

June 23, 2003 ENV-03-131

Mr. James Bradner, P.E.
Program Manager, Solid Waste
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando, Florida 32803-3767

Re: April and May 2003, Tomoka Farms Road Landfill, Semi-Annual Groundwater Monitoring, FDEP Permit Number SO64-291432

Dear Mr. Bradner:

Enclosed for your review are the results for the Tomoka Landfill April and May Semi-Annual Groundwater Monitoring.
If additional information or clarification are required please feel free to call me at (386) 947-2952.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist III
Solid Waste Service Group

Enclosure(s)

C: Josef Grusauskas, Director Solid Waste Service Group

Environmental Consultants

3012 U.S. Highway 301 No.
Suite 700
Tampa, FL 33619-2242

813 621-0080
FAX 813 623-6757

SCS ENGINEERS

June 12, 2003
File No. 09201053.03

Mr. Josef F. Grusauskas, Director
Volusia County Solid Waste
1990 Tomoka Farms Road
Daytona Beach, Florida 32114

Subject: April and May 2003, Tomoka Farms Road Landfill, Semi-Annual Groundwater Monitoring, FDEP Permit Number SO64-291432

Dear Mr. Grusauskas:

SCS Engineers (SCS) has reviewed the Tomoka Farms Road Landfill Semi-Annual Analytical Report for groundwater, surface water, and leachate samples collected and analyzed by ELAB, Inc. (ELAB) in April and May 2003. The information reported by ELAB is consistent with previously reported monitoring data and the Florida Department of Environmental Protection (FDEP) Permit Number SO64-291432.

As indicated in the ELAB transmittal correspondence included in this report, groundwater from monitoring well B 33-2 was not sampled due to damage to the well and surface water from location SW-9 was not sampled due to the sampling site being dry.

This report also includes data from the eight newly installed monitoring wells (B 70-1, B 70-2, B 71, B 72, B 73-1, B 73-2, B 74, and B 75) located in the landfill expansion area and does not include data from those monitoring wells (B 58-1, B 58-2, and B 67) abandoned during the expansion construction.

Groundwater elevation data for April 2003 also was provided by ELAB. Groundwater elevation contour maps for aquifer zone 1-2 and aquifer zone 4 (Figure 1) were generated by SCS based on the groundwater elevation data provided by ELAB. The data generated during the April 2003 groundwater sampling event indicate that the groundwater flow direction in aquifer zone 1-2 radiates outward to the north and northeast from a higher elevation area on the southwestern corner of the landfill. The data generated during the April 2003 groundwater sampling event indicate that the groundwater in aquifer zone 4 (Figure 2) generally flows in a northeasterly direction across the site. The figures are included in the Landfill Map section of the report.

Enclosed are three copies of the subject report for your use and submittal to the FDEP. Also included are the original laboratory sheets as required by the FDEP.

SCS appreciates the opportunity to provide environmental consulting services to Volusia County. Please contact us with any questions or comments regarding this correspondence.

Very truly yours,

K. Mark Tumlin
Senior Project Scientist

Lee A. Powell, P.E.
Project Manager
SCS ENGINEERS

KMT/LAP: kmt
Enclosures

cc: Susan Gaze - Volusia County Solid Waste

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

GROUND WATER MONITORING REPORT

Rule 62-522.600 (11)

RECEIVED

JUN 27 2003

Central Dist. - L

GENERAL INFORMATION

Facility Name: Tomoka Farms Road Landfill

Address: 1990 Tomoka Farms Road

City: Daytona Beach Zip: 32114 Country: U.S.

Telephone Number: (386) 947-2952

Facility WACS Number: 64-00027540

DEP Permit Number: S064-198377

Authorized Representative's Name: Josef Grusauskas Title: Director of Solid Waste

Address: 123 West Indiana Avenue

City: Deland Zip: Country:

Telephone Number: (386) 943-7889

Type of Discharge: Settling with surface water discharge to an unnamed wetlands

Method of Discharge: Ditch pump

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission false information including the possibilty of fine and imprisonment.

5/24/03
Date

Owner or Authorized Representative's Signature

QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP #: 860198

Analytical Lab Comp QAP #/ HRS Certification: E83079

Lab Name: ELAB Inc.

Address: 8 East Tower Circle, Ormond Beach, Florida 32174

hone Number: (386) 672-5668

Environmental Consultants

501 N. Grandview Avenue
Suite 400
Daytona Beach, FL 32118

386 238-7770
FAX 386 238-7046
www.scsengineers.com

SCS ENGINEERS

January 24, 2003
File No. 09201053.03

Mr. Josef F. Grusauskas, Director
Volusia County Solid Waste
1990 Tomoka Farms Road
Daytona Beach, Florida 32114

Subject: November 2002, Tomoka Farms Road Landfill, Semi-Annual Groundwater Monitoring, FDEP Permit Number SO64-291432

Dear Mr. Grusauskas:

SCS Engineers (SCS) has reviewed the groundwater monitoring final data received from ELAB, Inc. (ELAB) on January 17, 2003 that was collected in November and December 2002 from monitoring wells located at the Tomoka Farms Road Landfill, Volusia County, Florida. The information reported by ELAB is consistent with previously reported monitoring data and the Florida Department of Environmental Protection (FDEP) Permit Number SO64-291432.

As indicated in the ELAB correspondence included in this report, one monitoring well (B-33-2) could not be sampled due to its destruction. This well is currently are being reinstalled and will be available for sampling during the next scheduled semi-annual groundwater monitoring event.

Groundwater elevation data for December 2002 also was provided by ELAB. Groundwater elevation contour maps for aquifer zone 1-2 and aquifer zone 4 (enclosed) were generated by SCS based on the groundwater elevation data provided by ELAB. The data generated during the December 2002 groundwater sampling event indicate that the groundwater flow direction in aquifer zone 1-2 (Figure 1) radiates outward from a higher elevation area on the southwestern corner of the landfill. The data generated during the December 2002 groundwater sampling event indicate that the groundwater in aquifer zone 4 (Figure 2) generally flows in a northeasterly direction across the site. The figures are included in the Landfill Map section of the report.

SCS appreciates the opportunity to provide environmental consulting services to Volusia County. Please contact us with any questions or comments regarding this correspondence.

Very truly yours,

K. Mark Tumlin
Senior Project Scientist
SCS ENGINEERS

Lee A. Powell, P.E.
Project Manager
SCS ENGINEERS

KMT/LAP: keg
Enclosure

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road . Daytona Beach, Florida 32124
Telephone (386) 947-2952

January 31, 2003 ENV-03-107

Mr. James Bradner, P.E.
Program Manager Solid Waste
Florida Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando,
Florida 32803-3767

Re: December Compliance Sampling for the Tomoka Landfill and Plymouth Landfill Monitoring Wells and Surface Water Analysis

Dear Mr. Bradner:

Enclosed for your review are the results for the Tomoka Landfill and Plymouth Avenue Landfill December 2002 Compliance sampling.

If additional information or clarification is needed, please feel free to call me at (386) 947-2952.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist III
Solid Waste Service Group

Enclosure(s)

C: Josef Grusauskas, Director of Solid Waste Service Group

Department of Environmental Protection

file

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

David B. Struhs
Secretary

Josef Grusauskas, Director
Solid Waste Services Group
3151 E. State Road 44
DeLand, Florida 32170
Email: jgrusauskas@co.volusia.fl.us

OCD-SW-02-0379

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Grusauskas:

Based on a review of the Ground Water Monitoring Report for the June 2002 sampling event, for the Tomoka Farms Road Landfill, the Department has the following comments.

1. Exceedences of total dissolved solids, iron, and pH were noted.

2. The reported concentrations of benzene in ground water monitoring wells were the following:

   B36-1 = 1.8 ug/L in December 2000, June 2001 1.9 ug/L, December 2001 2.1 ug/L, June 2002 2.3 ug/L.
   B43-1 = 4.7 ug/L in December 2000, June 2001 10 ug/L, December 2001 8.7 ug/L, June 2002 4.7 ug/L.
   B45-1 = 2.9 ug/L in December 2000, June 2001 7 ug/L, December 2001 7.7 ug/L, June 2002 3.4 ug/L.

   These values exceed the State G-II Ground Water Primary Standard. Although most appear to be decreasing in value over time, Well B36-1 appears to be increasing. Also, Well 41-1 reported a first time benzene exceedance of 2.1 ug/L during this sampling event. Please explain.

3. Vinyl Chloride exceedance was noted in wells B36 (7.5 ug/L). This well exceeds the MCL for Vinyl Chloride (1.0 ug/L). The value has decreased since the last sampling event. Please monitor this parameter closely in future reports, resample as required by your permit, and report any trends.

4. Trip Blank indicates concentration of Toluene 0.8 ug/L and 1.3 ug/L. Mehylene Chloride at 0.5 ug/L. Please explain.

5. Please report analytical results for metals in ug/L as indicated in the Monitoring Plan Implementation Schedule (MPIS) of the permit.

6. Please explain why no lab sheets were included in the submittal as required by your MPIS.

7. Pages 2 and 3 of your groundwater guidance exceedences indicate a sampling date of December 2001. Please explain.

8. Dissolved Oxygen results for all surface water samples less than 5 mg/l. Please explain.

Please respond to the above listed concerns within fifteen (15) days of receipt of this letter. Please contact Randall Cunningham at (407) 893-3328 if you have any questions or need additional information.

Sincerely,

Gloria-Jean De Pradine
Compliance & Enforcement Supervisor
Solid Waste

GJD/rc

Date 11/20/02

Environmental Consultants

3012 U.S. Highway 301 Nor
Suite 700
Tampa, FL 33619-2242

813 621-0080
FAX 813 623-6757

SCS ENGINEERS

October 15, 2002
File No. 09201053.07

Entered into WACS 10/24/02 DH

62-1K
62-2R
maybe switched

Mr. James Bradner, P.E.
Florida Department of Environmental Protection
Solid Waste Department
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Subject: Replacement Monitoring Wells, Volusia County Tomoka Farms Road Landfill, FDEP ID No. SO640291432

Dear Mr. Bradner:

SCS Engineers (SCS) was retained by Volusia County Solid Waste Services (Volusia County) to replace three previously existing groundwater monitoring wells (Compliance Wells B61, B62-1, and B62-2) located adjacent to the south cell of the Tomoka Farms Road Landfill (TFRL). The previously existing wells were damaged (buried) to the point of requiring replacement. SCS provided the proposed well replacement specifications in documentation to the Florida Department of Environmental protection (FDEP) dated June 27, 2002 and received verbal approval of the proposed replacement wells on July 16, 2002. This correspondence provides written documentation of the well replacement activities.

Diversified Drilling Corporation (Diversified), a Florida-licensed well drilling firm, was retained to conduct the well installation. Diversified mobilized to the TFRL site on August 28, 2002 and a second mobilization was required on September 24, 2002 to complete the well installations. Well installation activities were observed and details documented by SCS representatives.

Monitoring wells B62-1 and B62-2 were installed during the August 28, 2002 field activities. However, due to the presence of subsurface waste, monitoring well B61 was not installed in the replacement location. The location was laterally moved approximately 10 yards to the east; however, subsurface waste was again encountered. The located was then laterally moved approximately 10 yards to the west of the original location; however, subsurface waste continued to be encountered. Therefore, it was decided to demobilize until a final location could be identified outside of the subsurface waste. The construction details and survey of the site were reviewed and a final location was identified. Diversified mobilized to the TFRL site and successfully installed B61. A site map showing the locations of the wells is included in Attachment A.

Prior to drilling in each location, the drilling equipment was decontaminated by steam cleaning. The wells were installed using 8.25-inch outside diameter, 4.25-inch inside diameter, hollow-stem augers equipped with a wood bottom plug. The augers were advanced to the desired depth for well installation. The well construction consisted of ten feet of 2-inch diameter, 0.010-inch slot polyvinyl chloride (PVC) well screen equipped with a threaded end cap and

threaded 2-inch diameter PVC solid riser. A sand filter pack consisting of 20/30 washed silica sand was installed from the bottom of the annulus space to approximately three feet above the screened interval. A one foot thick, fine sand seal was installed above the filter pack in the shallow zone wells and a one foot thick bentonite seal was installed above the filter pack in the deep zone well. The remaining annulus space was filled with Portland Type I cement grout to land surface. The construction details of each replacement well are shown on Figures 2, 3, and 4 in Attachment A.

Each well was developed following installation by alternately pumping and surging the groundwater until a relatively clear discharge was observed and field stabilization parameters stabilized to within ten percent. Field stabilization parameters consisted of pH, conductivity, temperature, turbidity, and dissolved oxygen. Once the groundwater produced from the wells stabilized, the well construction was completed with a 2-foot by 2-foot by 4-inch thick concrete pad, locking well plug, and protective steel casing.

The location and elevation data for the replacement wells will be integrated into the current site survey. The existing wells were buried and could not be located for abandonment. Copies of the well installation field documentation are included in Attachment B. Copies of the Well Completion Reports are included in Attachment C. Please contact us if you have any questions or comments regarding this correspondence.

Very truly yours,

K. Mark Tumlin

K. Mark Tumlin
Senior Project Scientist

K. Mark Tumlin for:

Lee A. Powell, P.E.
Project Manager
SCS ENGINEERS

KMT/LAP: kmt
Attachment

cc: Josef Grusauskas, Director, Volusia County Solid Waste Division
Susan Gaze, Environmental Specialist, Volusia County Solid Waste Division

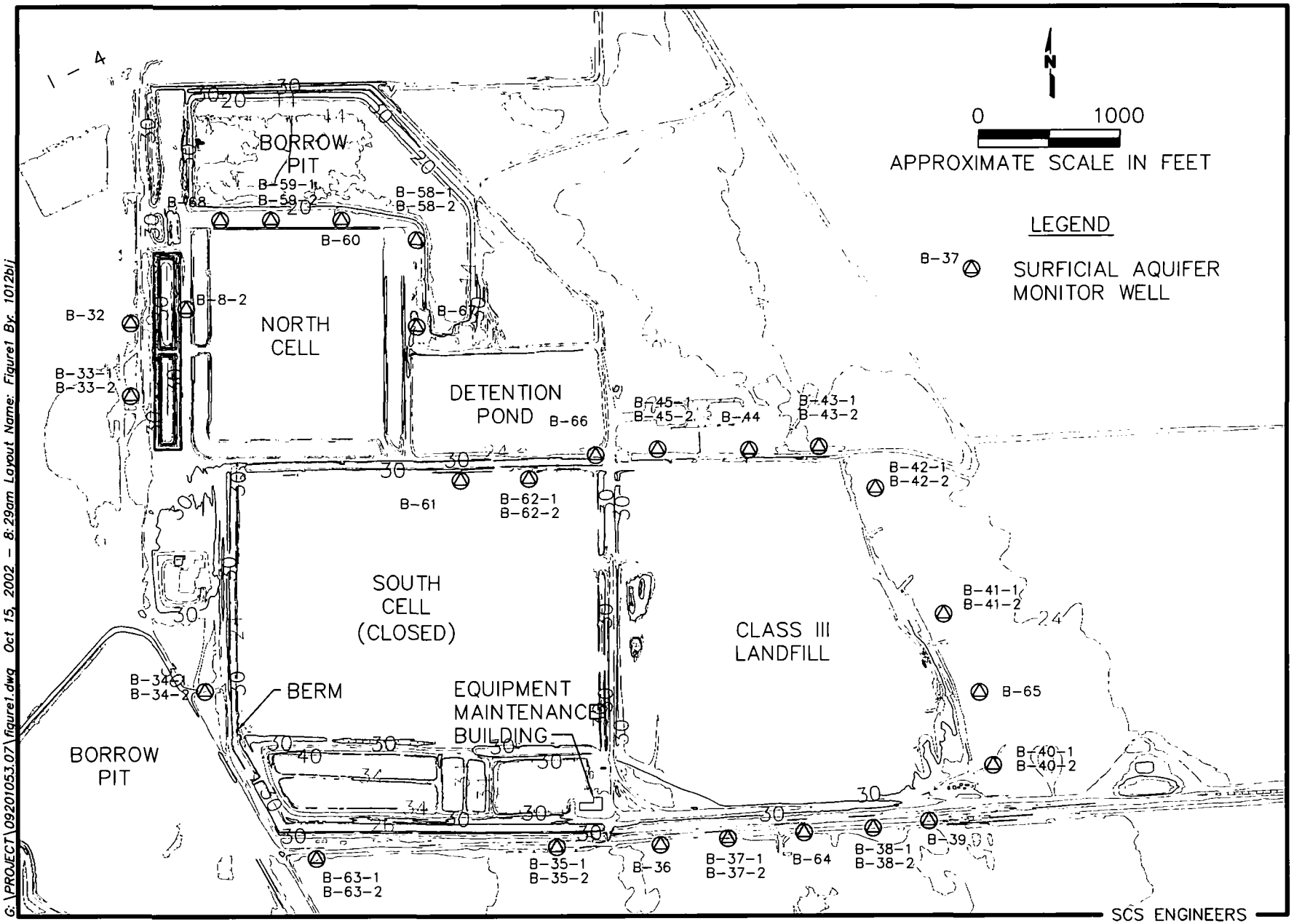


Figure 1. Site Plan, Locations of Monitoring Wells, Tomoka Farms Road Landfill, Volusia County, Florida, September 2002

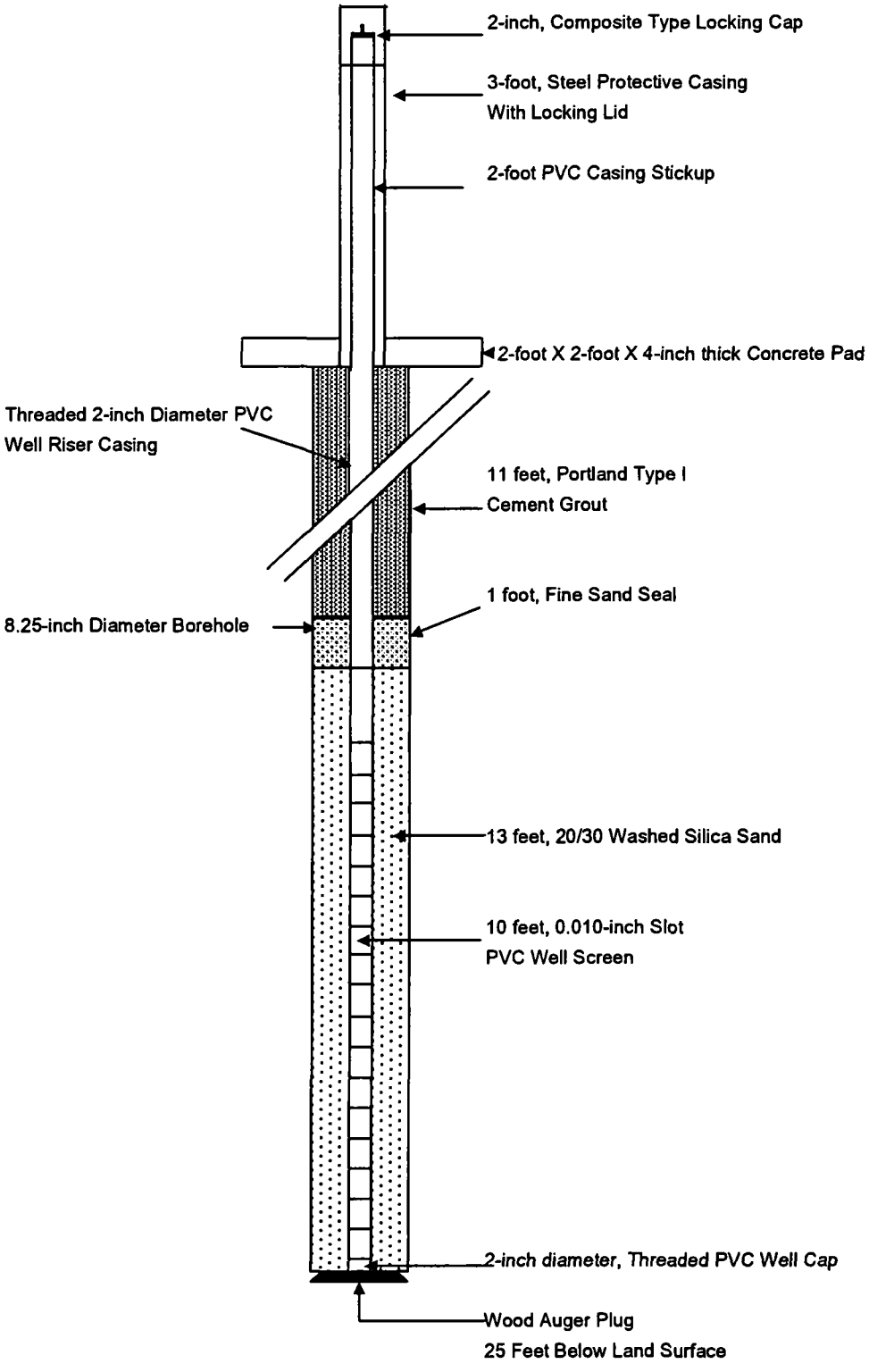


FIGURE 2. ZONE 1-2 MONITORING WELL B61, WELL CONSTRUCTION DIAGRAM, INSTALLED SEPTEMBER 24, 2002, TOMOKA FARMS ROAD LANDFILL, VOLUSIA COUNTY, FLORIDA.

SCS ENGINEERS
WELL INSTALLATION / LITHOLOGIC LOG

PROJECT INFORMATION

Project Name: Tomoka Farms Landfill	Project Number: 09201053.07
Project Location: Tomoka Farms Landfill, Volusia County	
Date: 9-24-02	Time: 11 45
SCS Representative: Scott Wally	

WELL INFORMATION

Well ID: B-61		
Drilling Firm and Drill Rig Description: Diversified Drilling Bk 66		
Drilling Method: Hollow Stem Auger		
Borehole Diameter (in.): 8"	Borehole Depth (ft. bls): 28'	
Casing Length (ft.): 18'	Casing Diameter (in.): 2"	Composition: Sch 40 PVC
Screen Length (ft.): 10'	Screen Slot Size: .010"	Composition: Sch 40 PVC
Filter Material: 20/30 Silica Sand	Thickness (ft.): 12'	Quantity: 7 bags 50 lbs each
Annulus Material: Portland Type I cement	Thickness (ft.): 12'	Quantity: 2
Well Development Method and Equipment: Pump on Rig		
Duration of Development: Start 12:55 End 13:25		
Development Measurements: pH: 7.22	Cond.: 1736	Temp: 48.2 Turb.: 368
Well Protection Details: 2'x2'x4" concrete Pad w steel Post 7.35 / 7.38	1738 / 1725	50.8 / 51.6 295 / 334
Other Details: TD 28.72 Dtw 15.17		↳ DOC TO PUMP TEMP.

LITHOLOGIC DESCRIPTION AND WELL CONSTRUCTION DETAIL

Boring Log	Well	Construction Detail
Lt gray fine grained Sand, Damp, no odor		
5'		
Light gray Fine grained Sand, Damp, no odor		Portland Type I cement
10'		
Dark gray fine grained Sand, Damp no odor		2' fine grained sand / 3'-20/30 silica sand
15'		
Lt gray Clayey Sand, moist no odor		12' 20/30 Silica Sand
water at approx 18'		
20'		
Gray clayey Sand saturated, no odor		
25'		

WELL COMPLETION REPORT

FORM D124
Rev. 11/90

WELL PERMIT NO. 0208606078
SFWMD WATER USE PERMIT NO. —

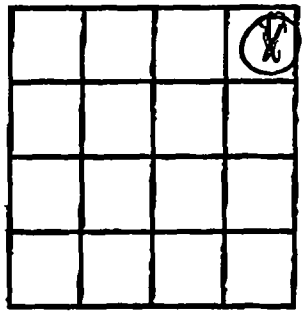
Volusia Co. 3151 East St Rd 44 Deland Fl 32724

Owner: Volusia Co. | Address: 3151 East St Rd 44 | City: Deland | State: Fl | Zip: 32724

Contractor's Signature: Robert B Hess | License No.: 2879 | Completion Date: 8/28/02 | Casing Depth: 15' | Total Depth: 25' | Well #: -

TYPE OF WORK: Construct (✓) Repair ( ) Abandon ( )
WELL USE: Domestic Well ( ) Public ( ) Monitor (✓) Test ( )
Irrigation ( ) Fire Well ( ) Other _____
METHOD: Rotary with MUD ( ) or Air ( ), Cable Tool ( ), Jet ( )
Casing Driven ( ), Other Auger
STATIC WATER LEVEL _____ Ft. below top of casing
PUMPING WATER LEVEL _____ Ft. after _____ Hrs. at _____ GPM
PUMP SIZE _____ H.P. CAPACITY _____ GPM
PUMP TYPE _____ INTAKE DEPTH _____ From top of ground

LOCATION
Located Near 1990 Tomoka Farms Rd.
County Volusia
NE NE 9 16S 32E
¼ ¼ Section Township Range
_____ Latitude-Longitude



LOCATE IN SECTION

Cuttings sent to District? ( ) Yes ( ) No

Note: PWS Wells attach a site map if well location is different from site location on permit application.

Grout Thickness & Depth	Casing & Screen Diameter & Depth	Depth (ft) From	Depth (ft) To	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Give color, grain size, and type of material. Note cavities, depth to producing zones.
	0.0 1SCH	0	15	BROWN MEDIUM SAND
	SCH 80	15	25	BROWN SAND AND CLAY
Number of bags: 3				

Casing: Black Steel ( ) Galv. ( ) PVC (✓) Fiberglass ( )
Screen: Type SCH 80 Slot size .01
Screened from 15 ft (ft.) to 25 ft (ft.)
Type of grout with % additives Portland
Water: Clear ( ) Colored (✓) Sulphur ( ) Salty ( ) Iron ( )
Conductivity _____ Chlorides _____ mg/l

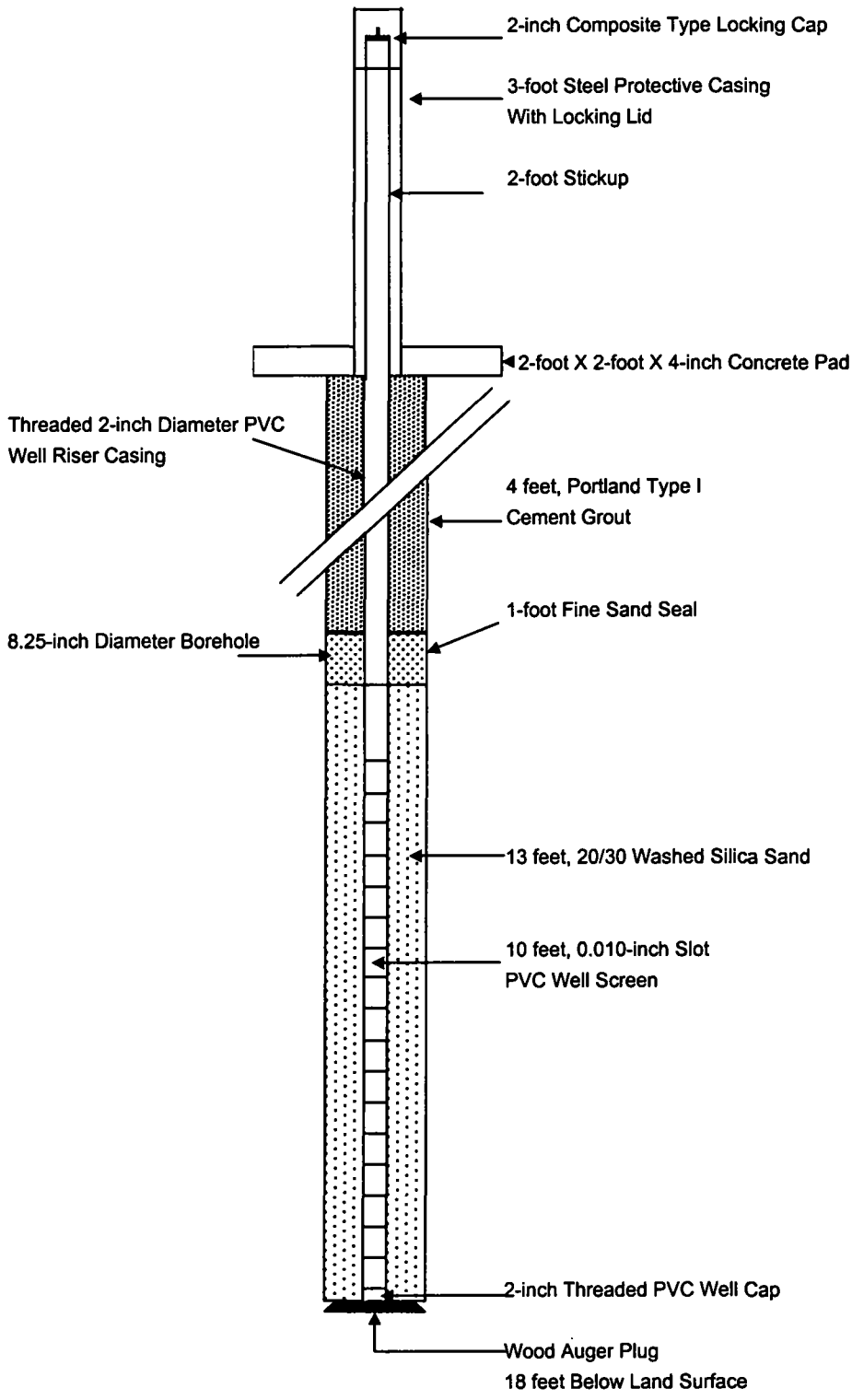


FIGURE 3. ZONE 4 MONITORING WELL B62-1, WELL CONSTRUCTION DIAGRAM, INSTALLED AUGUST 28, 2002, TOMOKA FARMS ROAD LANDFILL, VOLUSIA COUNTY, FLORIDA.

SCS ENGINEERS
WELL INSTALLATION / LITHOLOGIC LOG

PROJECT INFORMATION

Project Name: Tomoka Farms Landfill	Project Number: 09201053.07
Project Location: Daytona	
Date: 6/26/02	Time: 1430
SCS Representative: KEG	

WELL INFORMATION

Well ID: ~~BG-1R~~ 15-62-2R			
Drilling Firm and Drill Rig Description: Diversified Hollow Stem			
Drilling Method: Hollow Stem			
Borehole Diameter (in.): 4"+/-	Borehole Depth (ft. bls): 18.5		
Casing Length (ft.):	Casing Diameter (in.): 2	Composition: PVC	
Screen Length (ft.): 7	Screen Slot Size: 0.010	Composition: PVC	
Filter Material: 20/30	Thickness (ft.): 10'	Quantity: 4 5 bags	
Annulus Material: 30/60	Thickness (ft.): 3'	Quantity: 2 bags	
Well Development Method and Equipment: Pump			
Duration of Development: 1445 - 1520			

Development Measurements	PH:	Conductivity:	Temperature:	Turbidity:	DO:
	7.47/7.44	1566/1576	27.4 27.5	67.8/53.0	5.25/5.07

Well Protection Details: Metal Riser

Other Details:

LITHOLOGIC DESCRIPTION AND WELL CONSTRUCTION DETAIL

Boring Log	Well	Construction Detail
Brown FS 5'		Grout to surface; 5' Top of 30/60 Sand
DK Brown FS 10'		8' Top of 20/30 Sand
Grey FS 11 — Water 13' Bls 15'		11' Top of Screen
16.5 Boring Terminated 20'		18' Bls
25'		

WELL COMPLETION REPORT
FORM 0124
Rev, 11/90

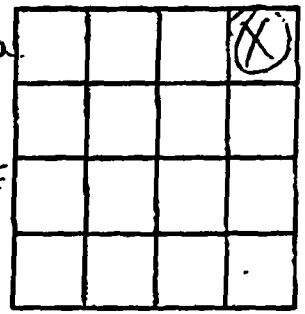
WELL PERMIT NO. 020560C.T1
SFWMD WATER USE PERMIT NO. _____

Volusia Co. 3151 East St Rd. 44 Deland FL. 32724
Owner — Address — City — State — Zip

Gilbert B. Nunez - 2879 5/28/02 25' _____
Contractor's Signature — License No. — Completion Date — Casing Depth — Total Depth — Well #

TYPE OF WORK: Construct (✓) Repair ( ) Abandon ( )
WELL USE: Domestic Well ( ) Public ( ) Monitor ( ) Test ( )
Irrigation ( ) Fire Well ( ) Other _____
METHOD: Rotary with MUD ( ) or Air ( ), Cable Tool ( ), Jet ( )
Casing Driven ( ), Other Auger
STATIC WATER LEVEL _____ Ft. below top of casing
PUMPING WATER LEVEL _____ Ft. after _____ Hrs. at _____ GPM
PUMP SIZE _____ H.P. CAPACITY _____ GPM
PUMP TYPE _____ INTAKE DEPTH _____ From top of ground

LOCATION
Located Near 1990 Tomoka Farms Rd.
County Volusia
NE ¼ of ¼ Sec. 9 Twp. 16S Rge. 32E
¼ ¼ Section Township Range
Latitude-Longitude



LOCATE IN SECTION

Cuttings sent to District? ( ) Yes ( ) No

Note: PWS Wells attach a site map if well location is different from site location on permit application.

Grout Thickness & Depth	Casing & Screen Diameter & Depth		Depth (ft) From	Depth (ft) To	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Give color, grain size, and type of material. Note cavities, depth to producing zones.
	Casing	2"	0	2	Gray Medium Sand
	Screen	2"	2	12	
Number of bags					

Casing: Black Steel ( ) Galv. ( ) PVC (✓) Fiberglass ( )
Screen: Type PVC Slot size .010
Screened from 12 (ft.) to 2 (ft.)
Type of grout with % additives Portland Cement 90%
Water: Clear ( ) Colored (✓) Sulphur ( ) Salty ( ) Iron ( )
Conductivity _____ Chlorides _____ mg/l

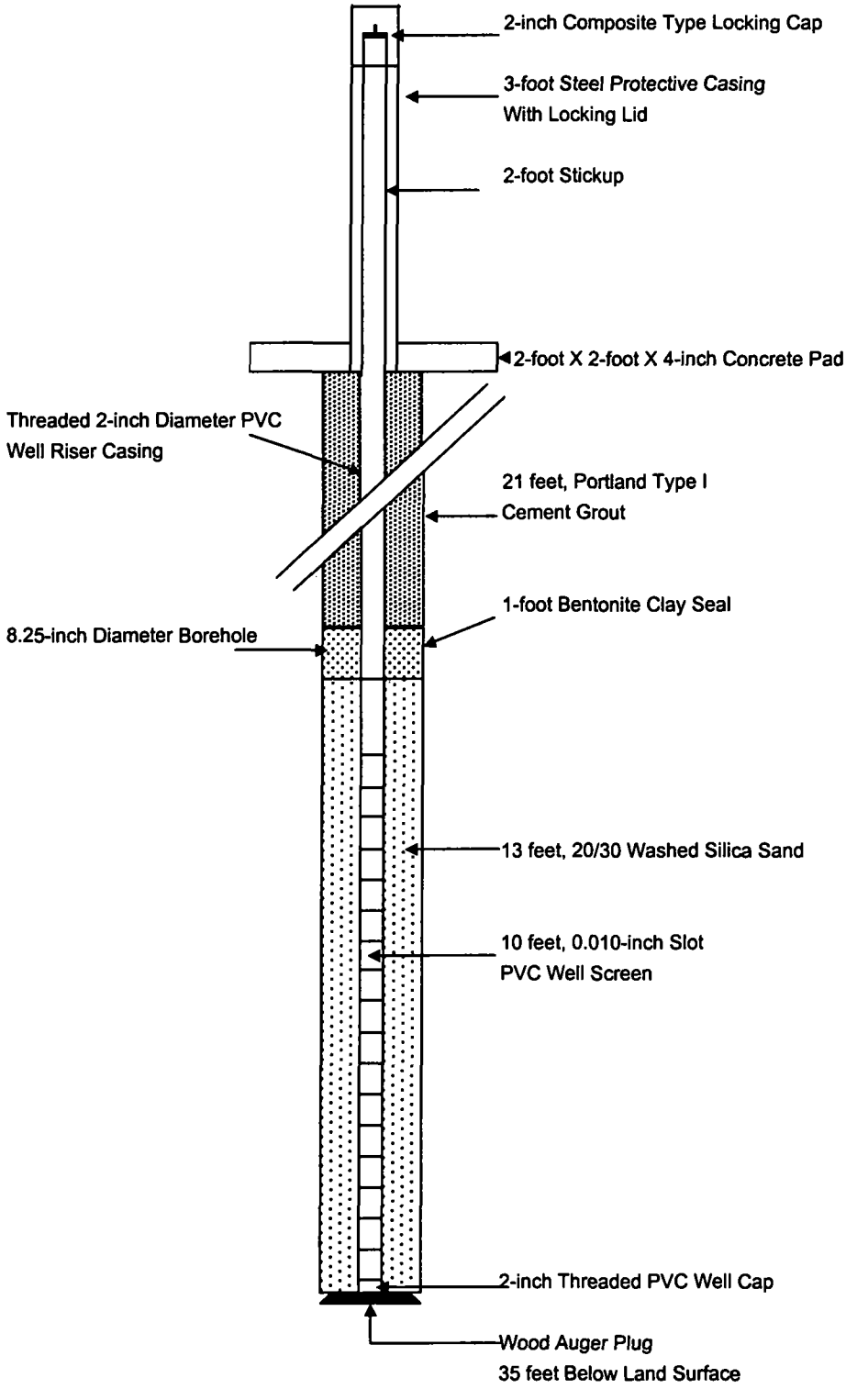


FIGURE 4. ZONE 1-2 MONITORING WELL B62-2, WELL CONSTRUCTION DIAGRAM, INSTALLED AUGUST 28, 2002, TOMOKA FARMS ROAD LANDFILL, VOLUSIA COUNTY, FLORIDA.

SCS ENGINEERS
WELL INSTALLATION / LITHOLOGIC LOG

PROJECT INFORMATION

Project Name: Tomoka Farms Road Landfill	Project Number: 0120/053.07
Project Location: Daytona	
Date: 8/28/02	Time: 1050
SCS Representative: KEG	

WELL INFORMATION B-62-1R Re

Well ID: ~~B62-2R~~ East of ~~B62-1R~~ Re B-62-2R			
Drilling Firm and Drill Rig Description: Diversified			
Drilling Method: Hollow stem Auger			
Borehole Diameter (in.): 4 1/4	Borehole Depth (ft. bls):		
Casing Length (ft.):	Casing Diameter (in.):	Composition:	
Screen Length (ft.): 10	Screen Slot Size: 0.010	Composition: PVC	
Filter Material: 20/30	Thickness (ft.): ~~15~~ 14	Quantity: 6 bags	
Annulus Material: Bentonite chip	Thickness (ft.): 3	Quantity: ~~2~~ 1 Bag	
Well Development Method and Equipment: Pump			
Duration of Development: 1200 - 1240 = 110 gallons			

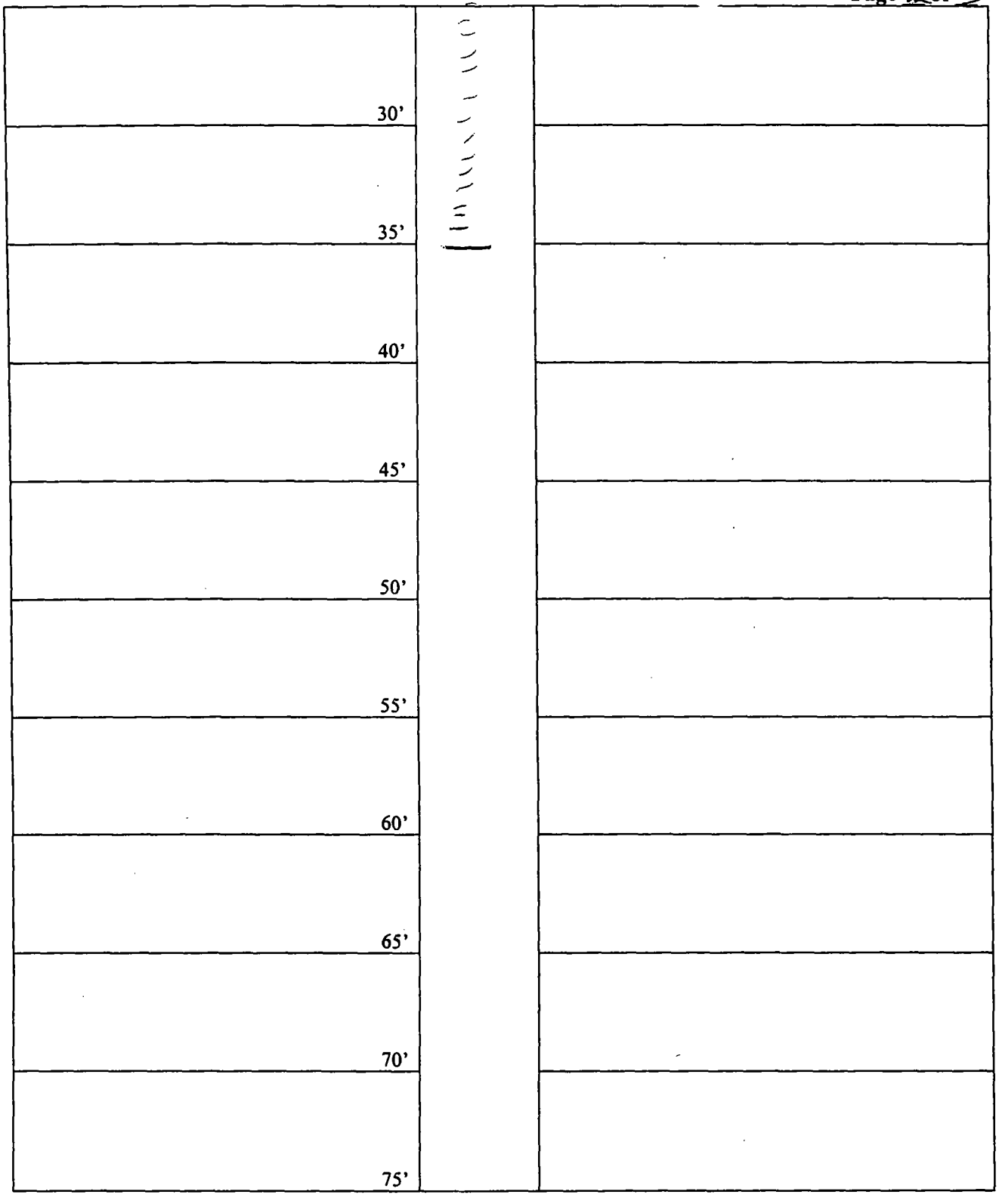
Development Measurements	PH:	Conductivity:	Temperature:	Turbidity:	DO:
	6.55	3932	27.7	706	0.85

Well Protection Details:

Other Details: did not clear up.

LITHOLOGIC DESCRIPTION AND WELL CONSTRUCTION DETAIL

Boring Log	Well	Construction Detail
Brown FS 5'		
Dk Brown FS 10'	7 —	Grout to Surface
Grey FS 15'		14 Bentonite chips
Wet Grey FS 20'	16 —	17 20/30 Sand
Wet Brown FS 25'		


30'
35'
40'
45'
50'
55'
60'
65'
70'
75'

WELL COMPLETION REPORT

FORM 0124
Rev. 11/90

WELL PERMIT NO. 0205012.075
SFWMD WATER USE PERMIT NO. —

Volusia Co. 3151 East St Rd 44 DeLand FL. 32724
Owner — Address — City — State — Zip

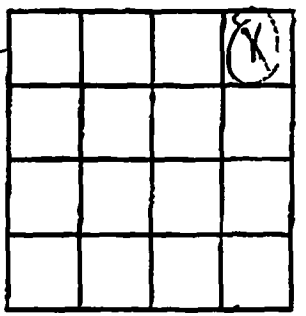
Contractor's Signature — License No. — Completion Date — Casing Depth: 25' — Total Depth: 35' — Well #

TYPE OF WORK: Construct (✓) Repair ( ) Abandon ( )
WELL USE: Domestic Well ( ) Public ( ) Monitor (✓) Test ( )
Irrigation ( ) Fire Well ( ) Other ~~Injector~~
METHOD: Rotary with MUD ( ) or Air ( ), Cable Tool ( ), Jet ( )
Casing Driven ( ), Other Auger
STATIC WATER LEVEL _____ Ft. below top of casing
PUMPING WATER LEVEL _____ Ft. after _____ Hrs. at _____ GPM
PUMP SIZE _____ H.P. CAPACITY _____ GPM
PUMP TYPE _____ INTAKE DEPTH _____ From top of ground

LOCATION
Located ~~Near~~ 1995 Tonka Farms Rd
County Volusia

NE LE. 9 11S 32E
¼ ¼ Section Township Range

Latitude-Longitude



LOCATE IN SECTION

Cuttings sent to District? ( ) Yes ( ) No

Note: PWS Wells attach a site map if well location is different from site location on permit application.

Grout Thickness & Depth	Casing & Screen Diameter & Depth		Depth (ft) From	Depth (ft) To	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Give color, grain size, and type of material. Note cavities, depth to producing zones.
	Casing	2"	0	25	
	0	25	0	35	Gray Medium Sand
	Screen	2"			
	25	35			
Number of bags					

Casing: Black Steel ( ) Galv. ( ) PVC (✓) Fiberglass ( )
Screen: Type PVC Slot size .010
Screened from 25 (ft.) to 35 (ft.)
Type of grout with % additives Portland cement 0%
Water: Clear ( ) Colored (✓) Sulphur ( ) Salty ( ) Iron ( )
Conductivity _____ Chlorides _____ mg/l

gw file

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Telephone (904) 947-2952

March 21, 2002 ENV-02-119

Ms. Gloria Jean DePradine, ~~P.E.~~
Enforcement Section of Solid Waste
Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando,
Florida 32803-3767

Re: Tomoka Farms Road Landfill – Your letter of 2/26/2002 concerning groundwater monitoring

Dear Ms. DePradine:

Enclosed for your review is a summary of Dr. David Gombergs observations to reasons for the levels reported in the December 2001 sampling event.

If additional information or clarification is needed please feel free to call me at (386) 947-2952.

Repsectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist III
Solid Waste Service Group

C: Josef Grusauskas, Director of Solid Waste Service Group

David N. Gomberg, Ph.D.
Water Resources Consultant
3006 Surfside Blvd.
Cape Coral, Fl. 33914
(941) 549-1297

Date: 3/14/02

Memo to: Susan Gaze, Regulatory Compliance Coordinator

Re: Tomoka Landfill – 2/26/02 Letter from Gloria-Jean De Pradine of FDEP concerning Dec, 2001 Groundwater Monitoring Report

Following are my comments on the issues raised by Ms. De Pradine in the above-referenced letter. I consulted with Jeff Baylor of E-Lab on several of the items, particularly where lab precision and statistical evaluation of results were concerned.

1. Please comment on exceedances of Total Dissolved Solids, iron and pH.

For the December, 2001 sampling, there were 44 functional wells in the monitoring network. Forty-two wells sample water from sandy sediments in the Surficial aquifer; two wells sample the limestone Floridan aquifer. TDS exceeded the 500 mg/l Maximum Contaminant Level (MCL) in 12 samples, iron exceeded the 300 ug/l MCL in 39 samples, and pH was below the 6.5-8.5 standard in 39 samples.

The 12 Total Dissolved Solids exceedances are all in samples from the Surficial aquifer. In 6 of the 12 samples, another parameter (exclusive of pH or iron) also exceeds an MCL. In these 6 samples, the TDS concentration ranges from 740 to 1600 mg/l. Five of these 6 samples are from wells adjacent to the old, unlined landfill, and it seems likely that these 5 results are indicative of a leachate component.

In the 6 other well samples, TDS is the only parameter with an exceedance (exclusive of pH or iron), and the concentrations are lower, varying from 530 to 770 mg/l. In these cases, it is not clear that leachate is responsible for the exceedance. This is particularly true, for example, in the cases of wells B59-2 and B67, which are adjacent to the new Class I site. In that area, there has never been any indication that leachate is present in groundwater, and it therefore seems unlikely that elevated TDS results in that location are associated with landfilling activity.

Regarding elevated concentrations of iron in Surficial aquifer water samples, it has long been apparent that exceedances at Tomoka Landfill are generally unrelated to leachate or landfilling activity. High iron concentrations have consistently been reported in most monitor wells at the landfill, regardless of their location with respect to solid waste. We have never done a quantitative assessment of the distribution of high iron concentrations, but my opinion is that it is related to leaching by low-pH rainwater, of iron from clay minerals and iron oxides present in Surficial aquifer sediments, particularly the iron-rich hardpan common in most areas.

Low pH in some of the 39 samples is unrelated to landfilling activities, and in other samples is a leachate indicator. As with iron, we have never done a quantitative evaluation of pH distribution, but it has long been noted that low Ph occurs in monitor wells distant from landfilling activities, and with no apparent relationship to upgradient or downgradient position. My opinion is that low pH in most groundwater samples at Tomoka Landfill is a consequence of low-pH rainfall coupled with the general absence of shell material (calcium carbonate) in the sandy sediments of the Surficial aquifer, which might otherwise provide a buffering influence and moderate pH levels. Just as an anecdote: some years ago I did a brief study of rainfall pH in eastern DeLand, less than 15 miles from the landfill. pH values were consistently acidic and, if my recollection is accurate, frequently less than 5.

2. Field notes again indicate that wells B32, B33-1 and B33-2 were not adequately secured due to broken locks. Please take appropriate action to rectify this problem.

We are gradually replacing all of the steel protective locking covers on monitor wells at Tomoka Landfill, since over the years some hinges and lock hasps have rusted. This is being done with existing personnel (i.e. as time permits) and with no budget increase. My understanding is that, until the permanent covers are installed at sites 32 and 33, you (Susan) will take appropriate action to insure that the wells are adequately secured.

3. The reported concentrations of benzene were the following:

Well	*Dec., 2000*	*June 2001*	*Dec., 2001*
B36-1	*1.6*	*1.9*	*2.1*
B37-1	*14*	*14*	*14*
B43-1	*4.7*	*10*	*8.7*
B45-1	*2.9*	*7*	*7.7*

These values exceed the State G-II Ground Water Primary Standard. Please explain why the concentration of benzene in wells B36-1 and B45-1 seems to be increasing.

According the Quality Assurance officer at E-lab, the difference of 0.5 ug/l in benzene concentrations between the 12/2000 and 12/2001 samples from well B36-1 is slightly less than the analytical accuracy. So it is uncertain if the most recent result actually represents a higher concentration than the older value. From a statistical standpoint, the confidence in a trend based on three points is quite low. I think we need more data at this location, and that it is premature to conclude that the concentration of benzene in B36-1 is increasing.

Regarding benzene in samples from B45-1, the difference between benzene concentrations in 12/2000 and 12/2001 is almost 5 ug/l, well beyond the lab margin of error and thus suggestive of an increase in concentration from the oldest to the most recent sample. If we look farther back, however, we find:

Date	Benzene (ug/l)
12/01	7.7
6/01	7
12/00	2.9
6/00	<.5
12/99	7.6
6/99	4.2
12/98	2.9

This is more representative of one of the patterns we have seen repeatedly at the landfill, namely fluctuations in concentrations, both up and down. My point here is that, if you look at the last 7 results, you see no apparent increase in benzene concentration. The same phenomenon is described below (Item #5) for vinyl chloride in well B37-2.

4. Ammonia exceedances (MCL = 2.8 mg/l) in the Dec., 2001 sampling were as follows:

Well	*Ammonia (mg/l)*
B1B	*11*
B8-1	*13*
B41-1	*26*
B43-1	*12*

Randall
Please check WCU to see the status of these assessments. In future you need not comment on it but make a note in file

Please explain the occurrence of these ammonia concentrations.

One cause for ammonia in groundwater is the microbial breakdown of organic matter under anoxic conditions. So, in the vicinity of a landfill, it is commonly a leachate indicator. Consistent with this interpretation, three of the four samples with elevated ammonia are from wells adjacent to the old landfill, and two of those samples also have elevated TDS concentrations.

5. Vinyl chloride exceedances were noted in wells B36 (38 ug/l) and B37-2 (10 ug/l). These values exceed the MCL of 1.0 ug/l for vinyl chloride.

Vinyl chloride has been present in the last 4 semi-annual samples from monitor well B36, at concentrations of 38 ug/l (12/01), 26 ug/l (6/01), 8.7 ug/l (12/00) and 24 ug/l (6/00). This well is along the south side of the old landfill, between sites B5 and B37. At both those sites, vinyl chloride has been detected for several years, and contamination assessments are in progress. The vinyl chloride data for the last 7 semi-annual samples from well B37-2 show how erratic the results can be. From the most recent to the 12/98 sample, the results are: 10, 2.3, 8.5, <.5, <.5, and 190 ug/l vinyl chloride.

6. Field notes indicate that monitoring well B59-1 was dry during the December 2001 sampling event. Please investigate the reason for this.

I am glad this came up, because it led me to discover another problem with site B59. Apparently the labels for the two wells are reversed, and we have been reporting the

results from B59-1 as B59-2, and vice-versa. This labeling problem is now being corrected.

Regarding the fact that well B59-1 (actually B59-2) was reported as dry, the field notes show that the well actually had about 3 feet of water in it, but that it recovered very slowly as it was purged, did not purge adequately in a moderate period of time, and was therefore not sampled. E-lab is being advised that, if the water table is reasonably above the bottom of the well, whatever steps are necessary need to be taken to obtain a water sample.

It would not be surprising if B59-2 were periodically dry. This well is screened near the bottom of sandy layer 1-2, below which are silty and clayey sediments that are not suitable for sampling. We knew when this well was installed that it might be dry some of the time, because it is shallow and on the edge of the new Class I cell, where dewatering occurs. Well B59-1 samples a deeper sedimentary layer beneath the silty, clayey strata, and it is not likely to go dry.

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road MS 4565
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

February 25, 2002

Mr. Richard McGarity
Volusia County
Department of Finance
123 West Indiana Avenue
Deland, Florida 32720-4609

Re: GMS 3064C00070 - Plymouth Avenue Landfill
GMS 3064C00071 - Tomoka Farms Road Landfill

Dear Mr. McGarity:

I reviewed the documentation submitted to demonstrate financial assurance for the above referenced facilities and find it is in order. The September 30, 2001, landfill management escrow account balances of $3,521,096 for Tomoka Farms Road Landfill and $375,600 for Plymouth Avenue Landfill adequately meet the funding requirements of Rule 62-701.630, Florida Administrative Code (F.A.C.). Therefore, Tomoka Farms Road Landfill and Plymouth Avenue Landfill are in compliance with the financial assurance requirements of Rule 62-701.630, F.A.C., at this time.

If you have any questions, please contact me at (850) 488-0300.

Sincerely,

Frank Hornbrook

Frank Hornbrook
Environmental Specialist
Solid Waste Section

FH

cc: Jim Bradner / ORL
Fred Wick / TLH

Tomoka Farms

Cunningham, Randall

From: Depradine, Gloria
Sent: Tuesday, November 13, 2001 7:58 AM
To: Cunningham, Randall
Subject: FW: Ground Water Monitoring Report / June 2001

-----Original Message-----
From: Susan Gaze [mailto:SGaze@co.volusia.fl.us]
Sent: Thursday, October 25, 2001 2:15 PM
To: Depradine, Gloria
Cc: Josef Grusauskas
Subject: Ground Water Monitoring Report / June 2001

Dear Mrs. DePradine:
With regards to your question in the review of ground water sampling for June 2001 B8-1, B32, SW-3 and SW-4 were dry and my investigation for surface waters indicate in April for rainfall 0" and May we only had 1.65".
If additional information or clarification is needed please call me @ (386)947-2952.
Respectfully submitted.

Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

David B. Struhs
Secretary

Josef Grusauskas, Director
Solid Waste Services Group
3151 E. State Road 44
DeLand, Florida 32170

OCD-SW-01-0304

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Grusauskas:

Based on a review of the Ground Water Monitoring Report, received on June 2001, for the Tomoka Farms Road Landfill, the Department has the following comments.

1. Exceedences of total dissolved solids, iron, and pH.

2. Field notes again indicate that some wells are not adequately secured due to broken locks. Please take the appropriate action to rectify this problem.

3. The reported concentrations of benzene in ground water monitoring wells were the following:

   B36-1 = 1.8 ug/l in December 2000 now 1.9 ug/l
   B37-1 = 14 ug/l in December 2000 still 14 ug/l
   B43-1 = 4.7 ug/l in December 2000 now 10 ug/l
   B45-1 = 2.9 ug/l in December 2000 now 7 ug/l

   These values exceed the State G-II Ground Water Primary Standard.

4. Field notes indicate that ground water monitoring well B8-1, B 32, SW-3 and SW-4 were dry during the June 2001 sampling event. Please investigate the reason for this occurrence.

Please contact Randall Cunningham at (407) 893-3328 if you have any questions or need additional information.

Sincerely,

Gloria-Jean De Pradine
Compliance & Enforcement Supervisor
Solid Waste

Date 10/2/01

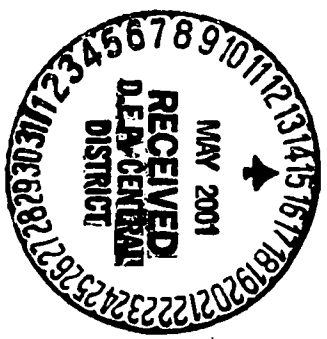
Enclosure
GJD/rc

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Telephone (904) 947-2952

May 11, 2001 ENV-01-122

Ms. Gloria-Jean DePradine
Florida Department of Environmental Protection
Compliance and Enforcement Supervisor
3319 Maguire Boulevard, Suite 232
Orlando,
Florida 32803-3767



Re: Volusia County-SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report/December 2000

Dear Ms. DePradine:

Enclosed for your review are the comments addressing your OCD-SW-01-0115 letter. Items 2,3,5,6,8,9,10 and 11 are covered by E-Laboratory. I have enclosed this response for your review as well.
Item 1. The authorized representative did not sign the form.
The new Director Josef Grusauskas had not started when this report was sent over to you and the Acting Director was out of town at the time. In the future this form shall be signed by the Director of Solid Waste.

Item 4. Field notes indicate that some wells are not adequately secured due to broken locks.
Most of the wells at Tomoka now have new covers with secure locks and the replacement of old covers should be completed by the time we sample again in June.

Item 7. Field notes and water level data, indicate that monitoring wells B61,B62-1and B62-2 have been destroyed.
I am requesting consideration from the Department not to replace these three wells for the following reasons.

1. The three wells are very close to the edge of garbage at the footprint with a canal on the otherside followed by an entrance road. The long term plan is to fill this ditch in with garbage due to the fact that the next cell will be directly north of the old closed cell. At the present time due North of these wells is a large borrow pit which is filled with water and wells are already on the North side of the body of water. If we did show contamination in these three wells presently we would have no other place to go but on the other side of the north borrow area and we already have monitor wells in this location. If you have questions regarding this issue or feel Dr. Gomberg needs to write something addressing this issue please advise.

Thanking you in advance for your consideration and assistance in this matter.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist III
Division of Solid Waste

C: Josef Grusauskas, Director of Solid Waste
Dr. Gomberg, Hydrologist
Lee Powell, P.E., SCS Engineers

Florida Certification: #E83079
ELAB, Inc.

May 8, 2001

Ms Susan Gaze
Volusia County Solid Waste Management
1990 Tomoka Farms Road
Daytona Beach, FL 32114

Re: Comments on DEP's Review of Tomoka Report

Comment #2:
The values for TDS and Iron have exceeded regulatory limits for most of the wells at Tomoka since Elab started testing the landfill in December 1998. pH has also been outside the regulatory limits often in the past for the landfill. The raw data for the December 2000 sampling event has been reviewed with no discrepancies found for these analytes.

Comment #3:
For all future semi-annual sampling events at the Tomoka landfill, any pH value outside of the regulatory limit will be reported on the exceedence log.

Comment #5:
The wells B37-1, B43-1, and B45-1 all have had values exceeding the regulatory limit for benzene for the past sampling events. This marks the first time well B36-1 has had an exceedance for benzene and will need to be watched in the future for any trends. The raw data for these wells has been checked for accuracy with no discrepancies found.

Comment #6:
Well B8-1 has been dry four of the past six months since December 2000 so it seems like a regular occurrence for this well. SW-4 was dry in December 2000 most likely from the severe drought central Florida is experiencing.

Comment #8:
For all future sampling events, the field crew will be instructed to make sure all sampling equipment be thoroughly cleaned both before beginning any sampling and in between sampling each well.

Comment #9:
For all future sampling events, the field crew will be instructed to purge each well slowly to ensure to not raise the turbidity of the wells. The purge rate for each well will be included on the field sheets.

Comment #10:
The GMS # will be replaced by the WACS # on the semi-annual report for the landfill. Will the Plymouth landfill need the same correction?

Comment #11:
In the future, submitting data electronically for each landfill could be a real timesaver. We would need time to set up the system however. It is unlikely that this system could be in place for the June 2001 sampling event but may be ready for any future events. Let me know if you want to pursue this.

Jeff Baylor

Mailing - P.O. Box 468 • Ormond Beach, Florida 32175-0468 • Shipping - 8 East Tower Circle • Ormond Beach, Florida 32174
(904) 672-5668 • Fax (904) 673-4001
Puerto Rico: Office (787) 787-0866 • Cellular (787) 390-3505 or (787) 399-4683

Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

David B. Struhs
Secretary

Josef Grusauskas, Director
Solid Waste Services Group
3151 E. State Road 44
DeLand, Florida 32170

OCD-SW-01-0115

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Grusauskas:

Based on a review of the Ground Water Monitoring Report, received on December 2000, for the Tomoka Farms Road Landfill, the Department has the following comments.

1. The authorized representative did not sign the Ground Water Monitoring Report form. This form should be signed. Please ensure that a signed formed is enclosed with all future submittals.

2. Exceedences of total dissolved solids, iron, and pH.

3. All pH values that are not within the range of 6.5 – 8.5 units must be reported on the exceedance log.

4. Field notes indicate that some wells are not adequately secured due to broken locks. Please take the appropriate action to rectify this problem.

5. The reported concentrations of benzene in ground water monitoring wells were the following:

   B36-1 = 1.8 ug/l
   B37-1 = 14 ug/l
   B43-1 = 4.7 ug/l
   B45-1 = 2.9 ug/l

   These values exceed the State G-II Ground Water Primary Standard.

6. Field notes indicate that ground water monitoring well B8-1 and SW-4 were dry during the December 2000 sampling event. Please investigate the reason for this occurrence.

7. Field notes and water level data level, indicate that monitoring wells B61, B62-1 and B62-2 have been destroyed. Please refer to paragraph 14 and 15 of your Monitoring Implementation Schedule (MPIS) issued June 25, 1999 and propose the necessary corrective action(s).

8. Equipment Blank #2 from the December 12, 2000 sampling events, reported detection of chloride, sulfate, zinc, and toluene. Detection of these analytes in equipment blank maybe an indication of inadequate cleaning of field equipment. In the future, please ensure all field sampling equipment is properly cleaned and analyte free water is used to collect the equipment blank.

9. Some of the monitoring wells exceeded the 20 Nephelometric Turbidity Units (NTUs), because of the reported turbidity values, appropriate precaution caution must be taken during purging and sampling. Please include purge rate on field data sheets.

10. The GMS has been replaced by the Water Assurance Compliance System (WACS) for tracking of water quality data. The WACS number for your facility is 64-00027540. Also a WACS number has been assigned to each monitoring well location. Enclosed is Attachment A of your MPIS which is part of the permit modification issued June 25, 1999. Please have your lab use this system for all future submittals.

11. Also the Department is exploring the use of submitting laboratory data electronically for entry in the WACS. If your organization is interested, please contact Mr. Bret LeRoux of the Waste Cleanup Section at 407-893-3330. This topic will be further discussed at the Information Exchange meeting scheduled for May 16, 2001.

Please contact Randall Cunningham at (407) 893-3328 if you have any questions or need additional information.

Sincerely,

Gloria-Jean De Pradine
Compliance & Enforcement Supervisor
Solid Waste

Date 4/30/01

Enclosure
GJD/rc

ATTACHMENT A

TOMOKA FARMS ROAD LANDFILL

WACS # 64-00027540

MONITORING SITES

SAMPLING POINT	NUMBER	TYPE	ZONE/LOCATION MONITORED
GROUND WATER			
B1-B	15636	C	ZONE 1-2
B-2	15402	B	ZONE 4
B5	15403	C	ZONE 1-2
B8	15642	I	ZONE 1-2
B8-2	15790	I	ZONE 4
B11-B	15679	B	ZONE 1-2
B-32	15791	B	ZONE 4
B33-1	15792	B	ZONE 4
B33-2	15793	B	ZONE 1-2
B34-1	15794	B	ZONE 4
B34-2	15795	B	ZONE 1-2
B35-1	15796	B	ZONE 4
B35-2	15797	B	ZONE 1-2
B36	15798	C	ZONE 4
B37-1	15799	C	ZONE 4
B37-2	15800	C	ZONE 1-2
B38-1	15801	C	ZONE 4
B38-2	15802	C	ZONE 1-2
B-39	15803	C	ZONE 1-2
B40-1	15804	C	ZONE 4

ATTACHMENT A

TOMOKA FARMS ROAD LANDFILL

WACS # 64-00027540

MONITORING SITES

SAMPLING POINT	NUMBER	TYPE	ZONE/LOCATION MONITORED
B40-2	15805	C	ZONE 1-2
B41-1	15806	C	ZONE 4
B41-2	15807	C	ZONE 1-2
B42-1	15808	C	ZONE 4
B42-2	15809	C	ZONE 1-2
B43-1	15810	C	ZONE 3-4
B43-2	15811	C	ZONE 1-2
B44	15812	C	ZONE 1-2
B45-1	15813	C	ZONE 4
B45-2	15814	C	ZONE 1-2
B58-1	15815	C	ZONE 4
B58-2	15816	C	ZONE 1-2
B59-1	15817	C	ZONE 4
B59-2	15818	C	ZONE 1-2
B60	15819	C	ZONE 4
B61	15820	C	ZONE 1-2
B62-1	15821	C	ZONE 4
B62-2	15822	C	ZONE 1-2
B63-1	15823	C	ZONE 4
B63-2	15824	C	ZONE 1-2
B64	15825	C	ZONE 1-2
B65	15826	C	ZONE 1-2

ATTACHMENT A

TOMOKA FARMS ROAD LANDFILL

WACS # 64-00027540

MONITORING SITES

SAMPLING POINT	NUMBER	TYPE	ZONE/LOCATION MONITORED
B66	15827	C	ZONE 1-2
B67	15828	C	ZONE 4
B68	15829	C	ZONE 4
FA-1B	15639	B	FLORIDAN
FA-2C	15638	C	FLORIDAN
MO5-B	15635	C	ZONE 1-2
SURFACE WATER			
SW-1	15830	C	BACKGROUND
SW-2	15831	C	OUTFALL OF EXTERNAL DITCH
SW-3	15832	C	OUTFALL FROM LANDFILL
SW-4	15833	C	OUTFALL OF RETENTION PONDS
SW-5	15638	C	OUTFALL OF INTERNAL DITCH
SW-6	15789	C	OUTFALL OF DETENTION POND
SW-9	15834	C	STORMWATER MANAGEMENT DITCH
SW-10	15835	C	OUTFALL OF BORROW AREA
LEACHATE			
L-1	15844	C	DISCHARGE PIPE INTO PONDS

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Telephone (904) 947-2952

December 5, 2000

Mr. James Bradner, P.E.
Department of Environmental Protection
Solid Waste Section
3319 Maguire Boulevard, Suite 232
Orlando,
Florida 32803-3767

Re: Volusia County – SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Bradner:

Regarding the comments made on the Monitoring Report received on September 15, 2000 the following answers are for your review.

Comment 1:
The Ground Water Monitoring Report form is not signed by the authorized representative. Please have this form signed and resubmit to the Department. This has been previously noted, and should be corrected in future reports.
Answer: Enclosed for your review is the signed form by the authorized representative, Mrs. Gloria Marwick.

Comment 2:
The report did not appear to contain semi-annual sampling results for the leachate monitoring point L-1 as required by the Monitoring Plan Implementation Schedule. Please have this sampling performed and submit the results to the Department. This has been previously noted, and should be corrected in the future reports.
Answer: As previously noted in past reports the Leachate Monitoring Point L-1 is not producing leachate at this time, therefore no sample could be collected for analysis.

Comment 3:
Appropriate detection limits, as noted below, should be used for future reports.
Answer: I have notified E-Lab of the appropriate detection limits to be used in future reports.

Comment 5:
The Department acknowledges the exceedance of Sodium, Chloride and Vinyl Chloride. Although corrective action is not required at this time, it is important to closely monitor future analysis results and identify any trends that indicate an increase in the concentration of these constituents.

Answer: Dr. David Gomberg, the Solid Waste Hydrologist will be notified of this comment and monitor future analysis results and identify any trends that indicate an increase in the concentration of these constituents.

Comment 6:
The Department has not received the resampling of the nine wells that you indicated would be resampled in you letter dated September 13, 2000. Please update the Department on the status of this procedure.
Answer: Resampling only confirmed initial sample results of the nine wells mentioned to be correct.

If additional information or clarification is required please feel free to call me at my office (904) 947-2952.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

C: G Marwick, Interim Director Solid Waste Service Group

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

GROUND WATER MONITORING REPORT

Rule 62-522.600 (11)

GENERAL INFORMATION

Facility Name: Tomoka Farms Road Landfill

Address: 1990 Tomoka Farms Road

City: Daytona Beach Zip: 32114 County: Volusia

Telephone Number: (904) 947-2952

Facility GMS Number: 3064C00071

DEP Permit Number: S064-198377

Authorized Representative's Name: Bill Gilley Title: Director of Solid Waste

Address: 123 West Indiana Avenue

City: Deland Zip: 32124 County: Volusia

Telephone Number: (904) 943-7889

Type of Discharge: Settling with surface water discharge to an unnamed wetlands

Method of Discharge: Ditch pump

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission false information including the possibilty of fine and imprisonment.

DEC. 5.00
Date

Owner or Authorized Representative's Signature

QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP #: 860198

Analytical Lab Comp QAP #/ HRS Certification: E83079

Lab Name: ELAB Inc.

Address: 8 East Tower Circle, Ormond Beach, Florida 32174

Phone Number: (904) 672-5668

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

GROUND WATER MONITORING REPORT

Rule 62-522.600 (11)

GENERAL INFORMATION

Facility Name: Plymouth Avenue Landfill

Address: Plymouth Avenue

City: Deland Zip: 32114 County: Volusia

Telephone Number: (904) 947-2952

Facility GMS Number: 3064C00070

DEP Permit Number: SF64-278764

Authorized Representative's Name: Bill Gilley Title: Director of Solid Waste

Address: 123 West Indiana Avenue

City: Deland Zip: 32124 County: Volusia

Telephone Number: (904) 943-7889

Type of Discharge: None

Method of Discharge: None

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission false information including the possibilty of fine and imprisonment.

Dec. 5.00
Date

Owner or Authorized Representative's Signature

QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP # 860198

Analytical Lab Comp QAP #/ HRS Certification E83079

Lab Name: ELAB Inc.

Address: 8 East Tower Circle, Ormond Beach, Florida 32174

Phone Number: (904) 672-5668

Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

David B. Struhs
Secretary

Gloria Marwick, Interim Director
Solid Waste Services Group
3151 E. State Road 44
DeLand, Florida 32170

OCD-SW-00-0519

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Ms. Marwick:

Based on a review of the Ground Water Monitoring Report, received on September 15, 2000, for the Tomoka Farms Road Landfill, the Department has the following comments.

Comment 1:
The Ground Water Monitoring Report form is not signed by the authorized representative. Please have this form signed and resubmit it to the Department. This has been previously noted, and should be corrected in future reports.

Comment 2:
The report did not appear to contain semi-annual sampling results for the leachate monitoring point L-1 as required by the Monitoring Plan Implementation Schedule. Please have this sampling performed and submit the results to the Department. This has been previously noted, and should be corrected in future reports.

Comment 3:
Appropriate detection limits, as noted below, should be used for future reports.

Parameter	Detection Limit (µg/L)
1,2,3 Trichloropropane	0.2
1,1,2,2 Tetrachloroethane	0.2
Cis-1,3 Dichloropropene	0.2
Trans-1,3 Dichloropropene	0.2
1,2- Dibromethane	0.02
Mercury(Surface Water)	.012 (Surface Water)
Acrylonitrile	1

Comment 4:
Exceedences of total dissolved solids, iron, and pH were typical for the site.

Comment 5:
The Department acknowledges the exceedance of Sodium, Chloride and Vinyl Chloride. Although corrective action is not required at this time, it is important closely monitor future analysis results and identify any trends that indicate an increase in the concentration of these constituents.

Comment 6:
The Department has not received the resampling of the nine wells that you indicated would be resampled in your letter dated September 13, 2000. Please update the department on the status of this procedure.

Please contact Randall Cunningham at (407) 893-3328 if you have any questions or need additional information.

Sincerely,

James N. Bradner, P.E.
Solid Waste Program Manager

JNB/rc

Date 11/22/2000

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Telephone (904) 947-2952

5/12/2000

May 08,2000

Mr. James Bradner, P.E.
Solid Waste Section
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando,
Florida 32803-3767

Re: Tomoka Farms Landfill
December 1999 Semi-annual Groundwater Monitoring
(6) comments to be addressed.

Dear Mr. Bradner:

Enclosed for your review are the replies to the (6) comments in question for the December sampling event at the Tomoka Farms Landfill.

I have enclosed the Ground Water Monitoring Report form signed by Mr. Gilley for your records. Also enclosed is the Leachate Monitoring report (L-1). All future leachate reports will be included in the landfill monitoring reports.

Comment 5: B32 and B62-1 replacement wells will be scheduled as soon as Dr. Gomberg comes back from vacation which will be in the middle of this month.

If additional information or clarification is required please feel free to call me at (904)947-2952.

Respectfully submitted,

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

Enclosure(s)

C: B.W. Bill Gilley, Director of Solid Waste Service Group

Florida Certification:
Drinking Water #83160
Environmental #E83079
Comm/Ind #83198

ELAB, Inc.
Formerly D/B/A Envirolab

May 3, 2000

Ms. Susan Gaze
Volusia County Solid Waste Management
1990 Tomoka Farms Road
Daytona Beach, Florida 32114

Re: Tomoka Farms Landfill
Florida DEP Comments on Semi-annual Groundwater Monitoring

Dear Ms. Susan Gaze:

We have reviewed the Florida DEP comments issued on April 26, 2000, for the semi-annual Groundwater Monitoring Report for Tomoka Farms Road Landfill reported on March 1, 2000. There are six (6) comments to be addressed. Our responses are as follows:

Comment 1. The Ground Water Monitoring Report form will be completed and attached with this response.

Comment 2: The Leachate monitoring point (L-1) was submitted to the Florida DEP at an earlier date (February 9, 2000). We understand that these reports must be sent together and have attached the 1999 L-1 report to this response. All future leachate reports will be included in the landfill monitoring reports.

Comment 3: Elab feels that the zinc, ammonia, acetone, chlorobenzene, chloroform and methylene chloride found in either the trip blanks or equipment blanks did not seem to directly affect the results of the wells. We feel that the above analytes were found due to possible lab contamination or lab water contamination. This problem was addressed and we are working to make sure that this will not be a problem in the future.

Comment 4: We have reviewed the field sheets and have found that some purge times do not correspond with the total purge volume. Some of the errors may have been made through calculations and this will be addressed before the next sampling event. The Elab field personnel use five gallon buckets to measure out the proper amount of water purged and this was performed for the Tomoka Farms Road sampling event.

Comment 5: Volusia County Environmental Specialist Susan Gaze will address the replacement of the damaged monitoring wells, B32 and B62-1, in the cover letter.

Florida Certification:
Drinking Water #83160
Environmental #E83079
ComQAP #860198

ELAB, Inc.
Formerly D/B/A Enviroiab

Comment 6: Elab and Volusia County understand that the December, 1999 Tomoka Farms Road report will be sent to the Waste Clean Up Section for further assessment due to the exceedences of benzene.

Respectively submitted,

Brent G. Warner
Project Manager/ Field Services Supervisor

Mailing - P.O. Box 468 • Ormond Beach, Florida 32175-0468 • Shipping - 8 East Tower Circle • Ormond Beach, Florida 32174
(904) 672-5668 • Fax (904) 673-4001

Puerto Rico: Office (787) 787-0866 • Cellular (787) 390-3505 or (787) 399-4683

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

GROUND WATER MONITORING REPORT

Rule 62-522.600 (11)

GENERAL INFORMATION

Facility Name: Tomoka Farms Road Landfill

Address: 1990 Tomoka Farms Road

City: Daytona Beach Zip: 32114 County: Volusia

Telephone Number: (904) 947-2952

Facility GMS Number: 3064C00071

DEP Permit Number: S064-198377

Authorized Representative's Name: Bill Gilley Title: Director of Solid Waste

Address: 123 West Indiana Avenue

City: Deland Zip: 32124 County: Volusia

Telephone Number: (904) 943-7889

Type of Discharge: Settling with surface water discharge to an unnamed wetlands

Method of Discharge: Ditch pump

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission false information including the possibility of fine and imprisonment.

May 08. 00
Date

Owner or Authorized Representative's Signature

QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP # 860198

Analytical Lab Comp QAP #/ HRS Certification E83079

Lab Name ELAB Inc.

Address 8 East Tower Circle, Ormond Beach, Florida 32174

Phone Number (904) 672-5668

MS. SUSAN GAZE
VOLUSIA CTY SOLID WASTE MGMT
1990 TOMOKA FARMS ROAD
DAYTONA BEACH, FL 32114

Florida Certification:
Drinking Water #83160
Environmental #E83079
ComQAP #860198

ELAB, Inc.
Formerly D/B/A Envirolab

ANALYTICAL REPORT

Submission Number: 4000027
Date Received: 04/03/00
Date Reported: 04/10/00

Client's P.O. Number: PA 75233
Project Number:
Project Name: TOMOKA LANDFILL SEMI-ANNUAL LEACHATE
Elab Report Name: Finalnew->Final2.RP1

Lab Sample Number: 0004027 1
Client Sample Number: 1
Sample Description: LEACHATE POND

Date Sampled: 04/03/00
Sample Matrix: WASTE WATER

Method	Analyte	Result	Q	Units	Reporting Limit	Analyst	Date Analyzed	Prepared
	DW DISINFECTANT BY-PRODUCTS							
504.1	1,2-DIBROMO-3-CHLOROPROPANE	0.020	U	ug/L	0.020	LNO	04/05/00	04/05/00
504.1	ETHYLENE DIBROMIDE	0.010	U	ug/L	0.010	LNO	04/05/00	04/05/00
160.1	TOTAL DISSOLVED SOLIDS (TDS)	91		mg/L	5.0	MMA	04/05/00	
310.1	BICARBONATE ALK. as CaCO3	12		mg/L	5.0	KFE	04/04/00	
350.1	AMMONIA NITROGEN (as N)	0.19		mg/L	0.050	TPE	04/06/00	
120.1	SPECIFIC CONDUCTANCE(Field)	84.0		umho/cm	1	KD	04/03/00	
360.1	DISSOLVED OXYGEN (Field)	9.7		mg/L	0.10	KD	04/03/00	
150.1	pH (Field)	10.2		UNIT	N/A	KD	04/03/00	
170.1	TEMPERATURE (Field)	24.0		DEG C	N/A	KD	04/03/00	
180.1	TURBIDITY (Field)	8.38		NTU	0.10	KD	04/03/00	
300.0	NITRATE NITROGEN (as N)	0.050	U	mg/L	0.050	SFI	04/04/00	17:15
204.2	ANTIMONY (Total)	3.0	U	ug/L	3.0	EM	04/05/00	
206.2	ARSENIC (Total)	1.8		ug/L	1.0	EM	04/05/00	
245.1	MERCURY	0.20	U	ug/L	0.20	EM	04/05/00	
270.2	SELENIUM (Total)	2.0	U	ug/L	2.0	EM	04/05/00	
279.2	THALLIUM (Total)	1.0	U	ug/L	1.0	EM	04/05/00	
	VOLUSIA COUNTY LANDFILL ICP METALS							
6010	BARIUM (Total)	10	U	ug/L	10	JAS	04/05/00	
6010	BERYLLIUM (Total)	1.0	U	ug/L	1.0	JAS	04/05/00	
6010	CADMIUM (Total)	0.50	U	ug/L	0.50	JAS	04/05/00	
6010	CHROMIUM (Total)	10	U	ug/L	10	JAS	04/05/00	
6010	COPPER (total)	10	U	ug/L	10	JAS	04/05/00	
6010	IRON (Total)	75		ug/L	25	JAS	04/05/00	
6010	LEAD (Total)	5.0	U	ug/L	5.0	JAS	04/05/00	
6010	NICKEL (Total)	10	U	ug/L	10	JAS	04/05/00	
6010	SILVER (Total)	10	U	ug/L	10	JAS	04/05/00	
6010	SODIUM (Total)	4.5		mg/L	0.50	JAS	04/05/00	
6010	VANADIUM (Total)	10	U	ug/L	10	JAS	04/05/00	
6010	ZINC (Total)	0.025	U	mg/L	0.025	JAS	04/05/00	
200.7	COBALT (Total)	10	U	ug/L	10	JAS	04/05/00	
	GC VOLATILE ORGANICS							

MS. SUSAN GAZE
VOLUSIA CTY SOLID WASTE MGMT
1990 TOMOKA FARMS ROAD
DAYTONA BEACH,FL 32114

Florida Certification:
Drinking Water #83160
Environmental #E83079
ComQAP #860198

ELAB, Inc.
Formerly D/B/A Enviralab

ANALYTICAL REPORT

Submission Number: 4000027
Date Received: 04/03/00
Date Reported: 04/10/00

Client's P.O. Number: PA 75233
Project Number:
Project Name: TOMOKA LANDFILL SEMI-ANNUAL LEACHATE
Elab Report Name: Finalnew->Final2.RP1

Lab Sample Number: 0004027 1
Client Sample Number: 1
Sample Description: LEACHATE POND

Date Sampled: 04/03/00
Sample Matrix: WASTE WATER

Method	Analyte	Result	Q	Units	Reporting Limit	Analyst	Date Analyzed	Prepared
	GC VOLATILE ORGANICS							
601	BROMODICHLOROMETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	BROMOFORM	1.0	U	ug/L	1.0	RM	04/06/00	
601	BROMOMETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	CARBON TETRACHLORIDE	1.0	U	ug/L	1.0	RM	04/06/00	
601	CHLOROBENZENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	CHLOROETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	2-CHLOROETHYL VINYL ETHER	2.0	U	ug/L	2.0	RM	04/06/00	
601	CHLOROFORM	1.0	U	ug/L	1.0	RM	04/06/00	
601	CHLOROMETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	DIBROMOCHLOROMETHANE	0.40	U	ug/L	0.40	RM	04/06/00	
601	1,2-DICHLOROBENZENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,3-DICHLOROBENZENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,4-DICHLOROBENZENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	DICHLORODIFLUOROMETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,1-DICHLOROETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,2-DICHLOROETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,1-DICHLOROETHENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	cis-1,2-DICHLOROETHENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	trans-1,2-DICHLOROETHENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,2-DICHLOROPROPANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	cis-1,3-DICHLOROPROPENE	0.20	U	ug/L	0.20	RM	04/06/00	
601	trans-1,3-DICHLOROPROPENE	0.20	U	ug/L	0.20	RM	04/06/00	
601	METHYLENE CHLORIDE	5.0	U	ug/L	5.0	RM	04/06/00	
601	1,1,2,2-TETRACHLOROETHANE	0.20	U	ug/L	0.20	RM	04/06/00	
601	TETRACHLOROETHENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,1,1-TRICHLOROETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	1,1,2-TRICHLOROETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	TRICHLOROETHENE	1.0	U	ug/L	1.0	RM	04/06/00	
601	TRICHLOROFLUOROMETHANE	1.0	U	ug/L	1.0	RM	04/06/00	
601	VINYL CHLORIDE	1.0	U	ug/L	1.0	RM	04/06/00	
602	BENZENE	1.0	U	ug/L	1.0	RM	04/06/00	

MS. SUSAN GAZE
VOLUSIA CTY SOLID WASTE MGMT
1990 TOMOKA FARMS ROAD
DAYTONA BEACH, FL 32114

Florida Certification:
Drinking Water #83160
Environmental #E83079
ComQAP #860198

ELAB, Inc.
Formerly D/B/A Envirolab

ANALYTICAL REPORT

Submission Number: 4000027
Date Received: 04/03/00
Date Reported: 04/10/00

Client's P.O. Number: PA 75233
Project Number:
Project Name: TOMOKA LANDFILL SEMI-ANNUAL LEACHATE
Elab Report Name: Finalnew->Final2.RP1

Lab Sample Number: 0004027 1
Client Sample Number: 1
Sample Description: LEACHATE POND

Date Sampled: 04/03/00
Sample Matrix: WASTE WATER

Method	Analyte	Result	Q	Units	Reporting Limit	Analyst	Date Analyzed	Prepared
	GC VOLATILE ORGANICS							
602	ETHYLBENZENE	1.0	U	ug/L	1.0	RM	04/06/00	
602	TOLUENE	1.0	U	ug/L	1.0	RM	04/06/00	
602	o-XYLENE	1.0	U	ug/L	1.0	RM	04/06/00	
602	m-XYLENE	1.0	U	ug/L	1.0	RM	04/06/00	
602	p-XYLENE	1.0	U	ug/L	1.0	RM	04/06/00	

Data Qualifier Code Key:
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

CERTIFICATION: All analytical data reported above were obtained using the specified methods and were validated by our laboratory quality control system. This laboratory follows an approved quality assurance program.

Respectfully submitted:

for Paul K. Canevaro
Laboratory Director

CHAIN OF CUSTODY RECORD

No. E 33168 Page 1 of 1

Elab, Inc.
8 East Tower Circle
Ormond Beach, FL 32174
(904)672-5668 ● FAX (904)673-4001
(INSTRUCTIONS ON BACK OF THIS FORM)

FOR LAB USE ONLY
Temp. of Contents: 4 °C (~~or Received on Ice~~, ROI)
Condition of Contents: ✓
Condition of Seals: N/A

FOR LAB USE ONLY
Submission No. 0004-27

1. Client: (Company or Individual) Volusia County Dept Solid Waste
Address: 1990 Tomoka Farms Rd.
City Daytona Bch State FL Zip Code
Phone: ( )
Fax: ( )

2. Report to: (if different from above)
Address:
City State Zip Code
Phone: ( )
Fax: ( )

18. Report Type:
✓ Routine
Standard QC
Datapackage

19. Turnaround Time
Standard
✓ Rush: 4/6/00

3. Client Project Name: Tomoka Land Fill Semi-Annual Leachate
4. Client Project No.:
5. P.O. No.: PA 75233
6. Custody Seal No.:
7. Sampled By: KD
8. Shipping Method:

Water Sample Codes (for Item 13)	Container Codes (for Item 16)
DW = Drinking Water	V = VOA vial
GW = Ground Water	G = glass
SW = Surface Water	P = plastic
PW = Processed Water	M = micro bag/cup
WW = Waste Water	O = other

Preservative Codes (for Item 15)
C = Cool Only
H = Hydrochloric Acid
M = Monochloroacetic Acid
N = Nitric Acid
OH = Sodium Hydroxide
S = Sulfuric Acid
T = Sodium Thiosulfate

Item	9. Sample ID or No.	10. Sample Description	11. Date	11. Time	12. Comp.	12. Grab	13. Water (Codes)	13. Air	13. Soil	13. Sludge	13. Other	14. No. of Containers	15. Preservatives	16. Containers	17. Analyses Requested: Field (Cond, pH, Temp, D.O.)	Nitrate, TX, AIK	Metals 8260	504	NH4	20 REMARK	LAB USE ONLY LAB SAMPLE NO.
													C	N	H	C	S				
													P	P	V	V	P				
1	1	Leachate Pond	4-3-00	1540		X	WW					8	X	X	X	X	X	X			-1
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

21. RELINQUISHED BY	DATE	TIME	22. RECEIVED BY	DATE	TIME
1 Kim Dostan	4-3-00	1700		4-3-00	1700
2					
3					
4					

FOR LAB USE ONLY
Sampling Fee: 35.00 Hrs.
Equipment Rental Fee:
Profile No.: 706
Quote No.:

DISTRIBUTION: White with report; Blue, Green, Yellow to labs; Gold to submitter

Revised: 1/99

Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Jeb Bush
Governor

David B. Struhs
Secretary

Mr. Bill Gilley, Director
Solid Waste Services Group
3151 E. State Road 44
DeLand, Florida 32170

OCD-SW-00-0208

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Gilley:

Based on a review of the December 1999 Ground Water Monitoring Report for the Tomoka Farms Road Landfill, the Department has the following comments.

Comment 1:
The Ground Water Monitoring Report form is not signed by the authorized representative. Please have this form signed and resubmit it to the Department.

Comment 2:
The report did not appear to contain semi-annual sampling results for the leachate monitoring point L-1 as required by the Monitoring Plan Implementation Schedule. Please have this sampling performed and submit the results to the Department.

Comment 3:
Zinc, ammonia, chlorobenzene, chloroform, and acetone appeared in some of the equipment blanks. Methylene Chloride and acetone appeared in some of the trip blanks.

Comment 4:
Purge rates on the field data sheets should be actual purge rates (purge volume/purge time), not projected rates. This does not appear to be the case for some of the wells.

Comment 5:
Damaged monitoring wells B32 and B62-1 need to be replaced. Monitoring well B9 is no longer a part of the Monitoring Plan Implementation Schedule and does not need to be replaced at this time.

Comment 6:
Due to the exceedances of benzene, this report has been forwarded to the Waste Clean Up Section for current assessment.

If you have any questions pertaining to this matter, please contact Jennifer Deal at (407) 893-3328.

Sincerely,

James N. Bradner

James N. Bradner, P.E.
Program Manager
Solid Waste

JNB/jd

Date 4/26/2000

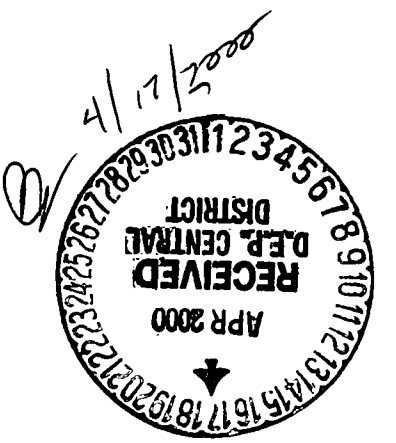
"More Protection, Less Process"

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, Florida 32124
Telephone (904) 947-2952

April 14, 2000

Mr. James Bradner, P.E.
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando,
Florida
32803-3767



Re: Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Bradner:

Enclosed for your review and information is the response to the March 27, 2000 letter. All Comments were addressed by the ELAB, Inc.

If additional information or clarification is needed please feel free to call me at (904)947-2952.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

C: Bill Gilley, Director of Solid Waste Service Group
Jennifer Deal, ES FDEP 3319 MaGuire Blvd., Suite, Orlando, Fla.32803-3767

Florida Certification:
Drinking Water #83160
Environmental #E83079
ComQAP #860198

ELAB, Inc.
Formerly D/[illegible] Environmental Lab

March 31, 2000

Ms. Susan Gaze
Volusia County Solid Waste Management
1990 Tomoka Farms Road
Daytona Beach, Florida 32114

Re: Tomoka Farms Landfill
Florida DEP Comments on Semi-annual Groundwater Monitoring

Dear Ms. Susan Gaze:

We have reviewed the Florida DEP comments issued on March 27, 2000, on the semi-annual Groundwater Monitoring Report for Tomoka Farms Road Landfill reported on October 1, 1999. There are nine (9) comments to be addressed. Our responses are as follows:

Comment 1. The flow rates on the field data forms are not consistent with the volumes that are documented because of the fluctuations in the amount of water that a well may produce. Elab initially calculates the time and volume of water needed, but there may be variations so Elab relies on the amount of water purged and not just on the calculated time. The correct amount of water was purged from each well and the exact time it had taken to complete the purging is documented on the field forms.

Comment 2: Elab Inc. ensures that all future reports after the December 1999 sampling event will include all updated information from the Monitoring Plan Information Schedule (MPIS).

Comment 3: Elab understands the importance of not agitating the water that is being sampled from wells and will be more cautious of dissolved oxygen levels. However, after reviewing reports that followed this sampling event the dissolved oxygen in well B37-2 was much lower and vinyl chloride still was not detected.

Comment 4 and 6: In future reports all exceedances will be included in the exceedances summary table.

Mailing - P.O. Box 468 • Ormond Beach, Florida 32175-0468 • Shipping - 8 East Tower Circle • Ormond Beach, Florida 32174
(904) 672-5668 • Fax (904) 673-4001

Puerto Rico: Office (787) 787-0866 • Cellular (787) 390-3505 or (787) 399-4683

Florida Certification:
Drinking Water #83160
Environmental #E83079
ComQAP #860198

ELAB, Inc.
Formerly D/B/A Envirolab

Comment 5: The presence of bromodichloromethane and chloroform in the Equipment Blank #1 and the zinc in Equipment Blank #4 is possibly due to lab contamination or lab water contamination. Elab rechecked the results and it was found not to be a data entry error.

Comment 7: The semi-annual sampling results for the leachate were included as SW-5. At the time, the leachate and SW-5 were the same sample points and the only difference between analytes was a bicarbonate test needed for the leachate. If there is a separate report necessary for submittal it will be included with this response.

Comment 8: Elab is currently modifying the detection limits EPA methods 601/602, 8021, and 8260 for the following analytes:

	MDL as of March 2000	MDL required by FLDEP	
acrylonitrile	8	1.0	
dibromochloromenthane	1	0.4	
1,3-dichloropropene	1	0.2	
1,1,2,2-tetrachloroethane	---	0.2	
1,2,3- trichloropropane	42	0.2	

Comment 9: It is understood that due to the exceedances of benzene and vinyl chloride, the Florida DEP Waste Clean Up section will also review the June 1999 Tomoka Farms Road Landfill report. Volusia County has already addressed this issue by coordinating with the DEP, a contamination assessment study of the B37 area at the Tomoka Farms Road facility.

Respectively submitted,

Brent G. Warner
Project Manager/ Field Services Supervisor

Mailing - P.O. Box 468 • Ormond Beach, Florida 32175-0468 • Shipping - 8 East Tower Circle • Ormond Beach, Florida 32174
(904) 672-5668 • Fax (904) 673-4001

Puerto Rico: Office (787) 787-0866 • Cellular (787) 390-3505 or (787) 399-4683

Department of Environmental Protection

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Orlando, Florida 32803-3767

David B. Struhs
Secretary

Mr. Bill Gilley, Director
Solid Waste Services Group
3151 E. State Road 44
DeLand, Florida 32170

OCD-SW-00-0138

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Gilley:

Based on a review of the June 1999 Ground Water Monitoring Report for the Tomoka Farms Road Landfill, the Department has the following comments.

Comment 1:
The flow rates on the field data sheets for many wells are not consistent with the volumes of water purged. Also, some information regarding total volume purged was incomplete. In future reports, please be sure that this data is complete and accurate.

Comment 2:
Please note that updated Parameter Monitoring Report Forms were included in the Monitoring Plan Implementation Schedule (MPIS) issued with the August 5, 1999 permit. Also, ground water elevation contour maps must meet all the requirements of paragraph 22 of the new MPIS.

Comment 3:
The result for vinyl chloride for monitoring well B37-2 was <0.5 µg/L. Previous sampling results have indicated the presence of this contaminant (350 µg/L in April 1999). The dissolved oxygen saturation of 55% at the field measured temperature indicates that the sample may have been agitated and therefore could have given a false result. Please comment.

Comment 4:
Surface water monitoring point SW-1 exceeded the MCL for zinc.

Comment 5:
Please comment on the presence of bromodichloromethane and chloroform in Equipment blank #1, and the presence of zinc in Equipment blank #4.

Comment 6:
In future reports, the exceedance summary table should contain **all exceedances**, including pH, for both ground water and surface water.

Comment 7:
The report did not appear to contain semi-annual sampling results for leachate. Please advise as to when the analysis will be received.

Comment 8:
In accordance with the Ground Water Cleanup Target Levels, please use the following detection limits for future sampling.

Parameter	Detection Limit (µg/L)
1,1,2,2-Tetrachloroethane	0.2
bromodichloromethane	0.6

Comment 9:
Due to the exceedances of benzene and vinyl chloride, this report has been forwarded to the Waste Clean Up Section for current assessment.

If you have any questions pertaining to this matter, please contact Jennifer Deal at (407) 893-3328.

Sincerely,

James N. Bradner, P.E.
Program Manager
Solid Waste

JNB/jd

Date 3/24/2000

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

May 13,1999

Mr. James N. Bradner, P.E.
Program Manager Solid Waste
Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando
Florida
32803-3767

Re: Volusia County SW
Tomoka Farms Road Landfill
Plymouth Avenue Landfill
Ground Water Monitoring Report

Dear Mr. Bradner:

Enclosed are the Ground water contour maps for both landfills Dr. Gomberg has signed and sealed each document.

For the life of me I know I enclosed the water contour maps in your first correspondence which I mail on April the 15th. Sorry for the delay and I told my secretary to double check her work before she sent out incomplete correspondence. Now that I am talking to myself (I'm the secretary) call the men in white coats.

Again, thank you for your understanding in this matter.

Respectfully submitted,
Susan M. Gaze
Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

Enclosure(s)

5/17/99
MAY 1999
RECEIVED
D.E.P. CENTRAL DISTRICT

VOLUSIA RECYCLES
Printed On Recycled Paper

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

GROUND WATER MONITORING REPORT

Rule 62-522.600 (11)

GENERAL INFORMATION

Facility Name: Tomoka Farms Road Landfill

Address: 1990 Tomoka Farms Road

City: Daytona Beach Zip: 32114 County: Volusia

Telephone Number: (904) 947-2952

Facility GMS Number: 3064C00071

DEP Permit Number: S064-198377

Authorized Representative's Name: Bill Gilley Title: Director of Solid Waste

Address: 123 West Indiana Avenue

City: Deland Zip: 32124 County: Volusia

Telephone Number: (904) 943-7889

Type of Discharge: Settling with surface water discharge to an unnamed wetlands

Method of Discharge: Ditch pump

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission false information including the possibilty of fine and imprisonment.

6 April 99
Date

Owner or Authorized Representative's Signature

QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP #: 860198

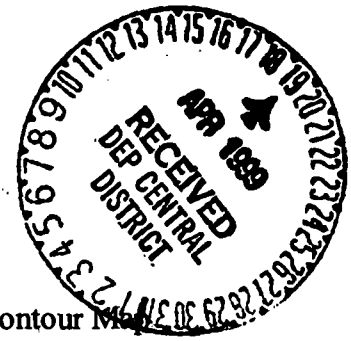
Analytical Lab Comp QAP #/ HRS Certification: E83079

Lab Name: ELAB Inc.

Address: 8 East Tower Circle, Ormond Beach, Florida 32174

Phone Number: (904) 672-5668

David N. Gomberg, Ph.D.
Water Resources Consultant
3006 Surfside Blvd.
Cape Coral, Fl. 33914
(941) 549-1297
April 9, 1999



Memo to: Susan M. Gaze, Environmental Specialist

Re: Tomoka Landfill- December, 1998 Semi-annual Ground Water Contour Map and Water Level Data

cc: Bill Gilley, Director, Solid Waste Services Group

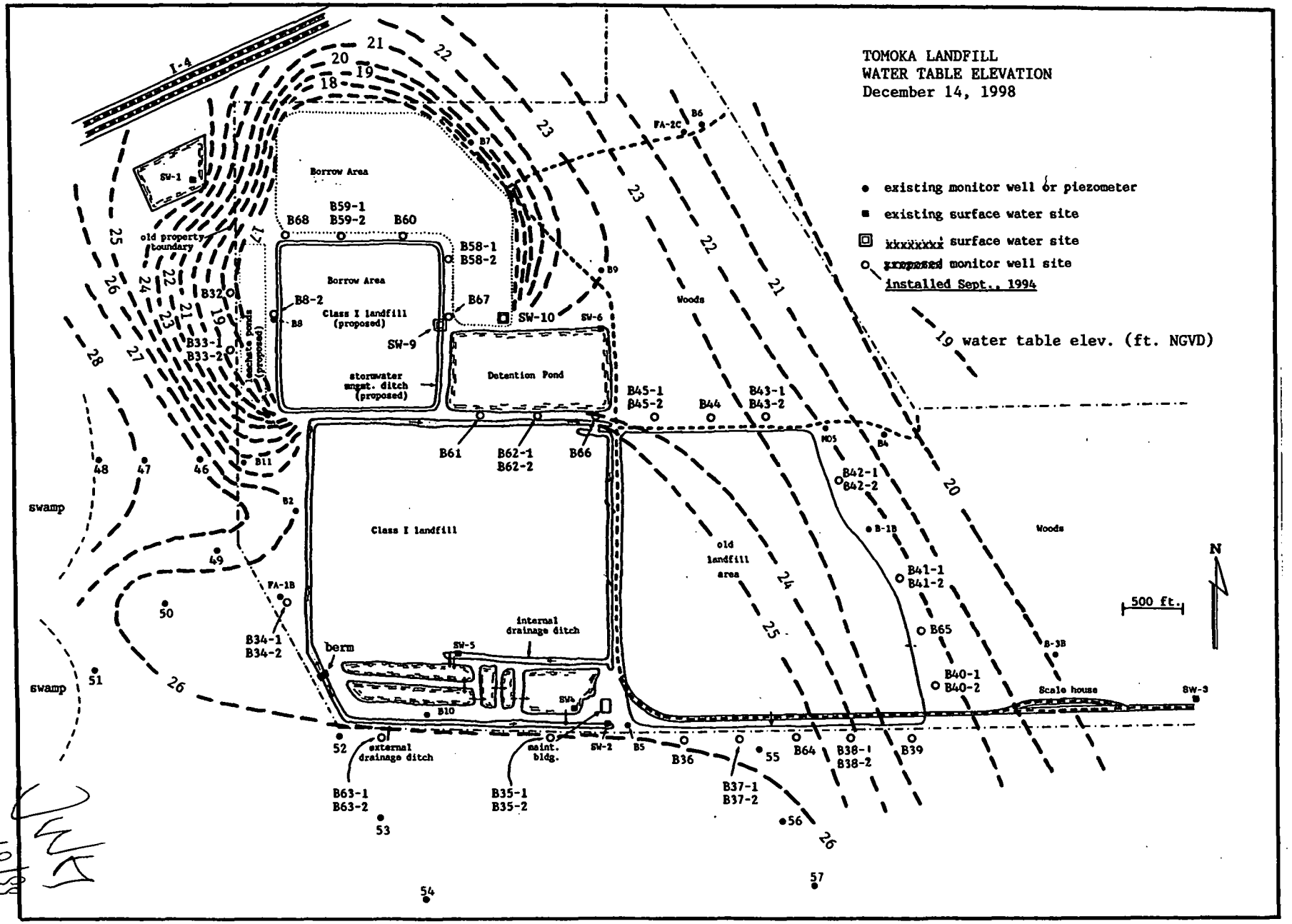
1. The accompanying map and table of water elevations are intended for submittal to FDEP, to comply with reporting requirements 20 and 21 of the Ground Water Monitoring Plan Implementation Schedule for Tomoka Landfill. Please note that I have signed and sealed both this memo and the potentiomentric map. The water level data used to prepare the map are from December 14, 1988, and were collected by Brent Warner of Envirolab.

2. There is no map, of course, for the upper Floridan aquifer potentiometric surface, because we have only two wells at the landfill which monitor that zone.

3. The water table map shows, as with past maps, a general pattern of ground water flow from southwest to northeast, with local variations and anomalies. The most pronounced of these is the depression of the water table created by dewatering of the new Class I cell and the adjacent borrow area. In this area, water levels decline from a background elevation of about 25 or 26 ft. NGVD to approximately 12 ft. NGVD in the dewatered area and adjacent monitor wells. (Some of the water level contours in this area are omitted, to avoid overcrowding on the map.) Groundwater flow in this area is radially inward, towards the borrow area.

4. Seasonal dry conditions occurring at the time these December water levels were collected has produced some contrasts.with previous water table maps. For comparison, I have attached the water table map for December, 1997, which you may recall was a period of unseasonably heavy rainfall. Comparison of the two maps shows that water levels this past December were approximately 1 to 2 feet lower than in December of the previous year. For example, water levels were 26 ft. NGVD in the southwest corner of the landfill this past December, and 28 ft. NGVD a year earlier.

DNG
4/9/99


TOMOKA LANDFILL
WATER TABLE ELEVATION
December 14, 1998
existing monitor well or piezometer
existing surface water site
surface water site
proposed monitor well site
installed Sept., 1994
19 water table elev. (ft. NGVD)
I-4
Borrow Area
Borrow Area
Class I landfill (proposed)
Detention Pond
stormwater mngmt. ditch (proposed)
Class I landfill
old landfill area
Woods
Woods
swamp
swamp
berm
internal drainage ditch
external drainage ditch
maint. bldg.
Scale house
500 ft.
N
SW-1
SW-2
SW-3
SW-4
SW-5
SW-6
SW-9
SW-10
B1
B2
B3
B4
B5
B6
B7
B8
B8-2
B9
B10
B11
B32
B33-1
B33-2
B34-1
B34-2
B35-1
B35-2
B36
B37-1
B37-2
B38-1
B38-2
B39
B40-1
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B41-2
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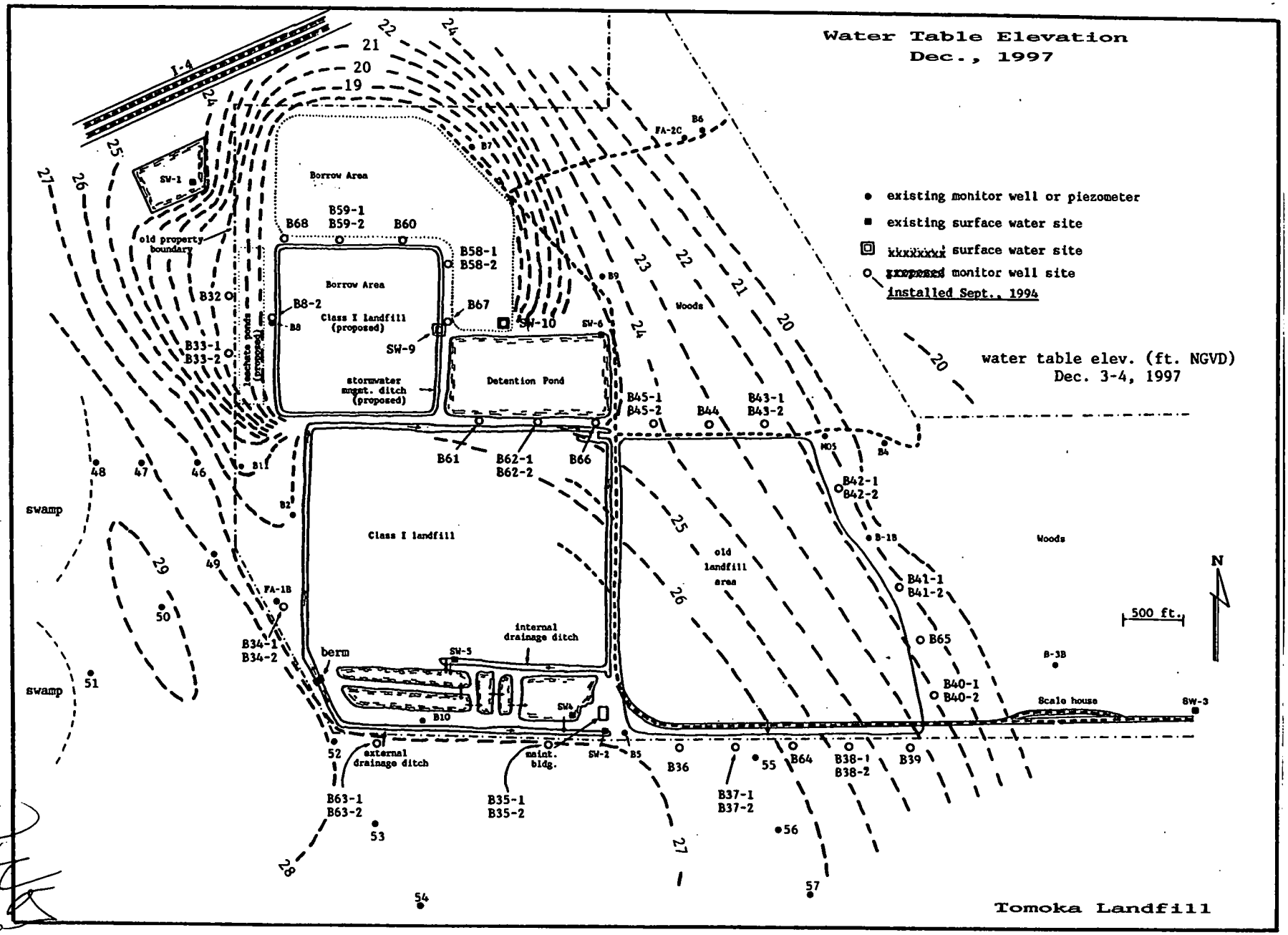
B59-1
B59-2
B60
B61
B62-1
B62-2
B63-1
B63-2
B64
B65
B66
B67
B68
FA-1B
FA-2C
MOS
B-1B
B-3B


Water Table Elevation
Dec., 1997
existing monitor well or piezometer
existing surface water site
surface water site
proposed monitor well site
installed Sept., 1994
water table elev. (ft. NGVD)
Dec. 3-4, 1997
I-4
Borrow Area
Borrow Area
Class I landfill (proposed)
Detention Pond
stormwater mgmt. ditch (proposed)
leachate ponds (proposed)
old property boundary
Class I landfill
old landfill area
Woods
Woods
swamp
swamp
berm
internal drainage ditch
external drainage ditch
maint. bldg.
Scale house
FA-2C
FA-1B
B-1B
B-3B
SW-1
SW-2
SW-3
SW-4
SW-5
SW-6
SW-9
SW-10
B32
B33-1
B33-2
B8-2
B68
B59-1
B59-2
B60
B58-1
B58-2
B67
B61
B62-1
B62-2
B66
B45-1
B45-2
B44
B43-1
B43-2
B42-1
B42-2
B41-1
B41-2
B65
B40-1
B40-2
B39
B38-1
B38-2
B64
B36
B37-1
B37-2
B35-1
B35-2
B63-1
B63-2
B34-1
B34-2
500 ft.
N
Tomoka Landfill

MONITOR WELL WATER LEVEL
TOMOKA FARMS ROAD LANDFILL

Current Month Collection Dates: Feb. 25, 1999
Sampled By : Scott Mulac

12/14/98

Well No.	Survey (TOC Elevation)	T. Depth	February Depth to Water	February Water Level MSL	January Water Level MSL	December Water Level MSL	November Water Level MSL	October Water Level MSL	September Water Level MSL	August Water Level MSL	July Water Level MSL	June Water Level MSL
B1B	27.31	33	7.85	19.46	18.62	18.62	20.36	19.89	20.15	17.14	17.14	14.89
B2B	31.81	24	4.86	26.95	26.47	26.47	26.10	26.81	26.20	25.50	25.39	25.05
B3B	27.17		8.02	19.15	17.52	19.91	19.80	19.67	19.53	16.79	16.89	14.07
B4	27.69		7.98	19.71	20.46	20.46	20.55	21.00	20.32	17.44	17.28	18.71
B5B	32.66	23	5.91	26.75	26.37	26.37	27.06	25.50	27.17	25.83	25.52	24.28
B6	27.3		7.54	19.76	15.09	20.91	21.04	21.85	21.69	18.00	17.63	15.62
B7	29.46		6.83	22.63	18.48	21.54	21.67	22.92	23.18	20.61	19.95	18.06
B8-1	33.02	48	14.78	18.24	18.36	18.36	19.22	19.08	18.81	17.75	DRY	DRY
B8-2	33.3	30	15.75	17.55	16.85	16.95	17.49	17.85	17.44	16.84	16.82	16.15
B-9	30.76		6.73	24.03	20.49	22.74	25.20	25.12	25.13	24.26	23.82	20.04
B10	32.2		3.89	28.31	27.10	28.16	28.24	28.25	28.02	26.97	26.82	25.50
B11	30.63	14	7.13	23.50	22.43	23.46	24.57	25.37	24.56	23.90	23.96	22.18
B32	30.51	30	Damaged	Damaged	Damaged	Damaged	Damaged	Damaged	Damaged	Damaged	Damaged	Damaged
B33-1	32.82	32	13.12	19.70	18.98	19.82	20.70	21.08	20.72	20.00	19.94	18.59
B33-2	32.1	15	12.78	19.32	18.95	18.97	19.95	20.43	20.16	19.47	19.39	18.26
B34-1	31.18	32	9.08	22.10	22.40	22.14	23.45	24.32	23.68	22.67	23.02	21.23
B34-2	31.21	15	8.54	22.67	22.00	22.81	24.75	26.24	25.30	23.81	24.35	22.06
B35-1	29.29	32	3.02	26.27	20.77	25.93	26.87	26.93	26.85	25.58	25.22	23.39
B35-2	29.36	15	2.68	26.68	22.07	26.09	26.77	26.98	26.99	25.91	25.38	23.21
B36	29.27	33	3.58	25.69	24.98	25.92	26.76	27.08	26.70	25.78	25.34	23.57
B37-1	28.59	37	3.18	25.41	23.49	25.62	26.32	26.59	26.36	25.21	24.89	23.07
B37-2	28.72	14.8	3.04	25.68	25.27	25.84	26.49	26.72	26.47	25.79	25.23	23.20
B38-1	28.22	37	4.96	23.26	21.97	23.04	24.29	24.79	24.62	22.27	22.21	20.62
B38-2	28.08	15.2	3.70	24.38	24.07	24.29	25.70	25.94	26.24	23.99	23.59	22.18
B39	29.06	15.3	6.56	22.50	21.82	22.39	23.94	24.32	23.65	21.15	20.54	18.83
B40-1	27.64	28	6.45	21.19	19.62	21.00	22.16	22.18	22.12	15.95	18.86	16.38
B40-2	27.68	15	4.85	22.83	20.63	22.62	23.81	23.92	23.93	17.26	19.87	16.96
B41-1	29.14	37	9.49	19.65	19.16	19.56	20.65	20.59	26.46	21.32	17.50	15.22
B41-2	29.26	15.3	6.33	22.93	22.41	22.85	23.89	23.95	24.01	20.42	19.28	16.61
B42-1	28.5	30	8.32	20.18	21.30	20.04	21.16	21.18	21.04	17.81	17.84	15.58
B42-2	28.36	12.4	5.49	22.87	20.68	22.96	23.78	23.86	23.90	17.17	17.74	16.06

MONITOR WELL WATER LEVEL
TOMOKA FARMS ROAD LANDFILL

Current Month Collection Dates: Feb. 25, 1999
Sampled By : Scott Mulac

Well No.	Survey (TOC Elevation)	T. Depth	February Depth to Water	February Water Level MSL	January Water Level MSL	December Water Level MSL	November Water Level MSL	October Water Level MSL	September Water Level MSL	August Water Level MSL	July Water Level MSL	June Water Level MSL
B43-1	28.07	27	5.84	22.23	22.15	22.16	23.23	23.34	23.37	21.22	21.37	19.21
B43-2	28.21	12.3	5.80	22.41	22.20	22.20	23.27	23.32	23.38	21.47	21.79	19.38
B44	30.02	12.3	6.58	23.44	23.18	23.41	24.14	24.04	24.25	23.55	23.42	21.24
B45-1	30.24	35	5.98	24.26	24.19	24.10	24.78	24.69	24.84	24.04	23.92	22.22
B45-2	30.31	15.2	6.55	23.76	24.08	23.91	24.61	24.35	24.61	24.10	23.90	22.01
B58-1	29.02	28	17.21	11.81	11.77	11.67	11.83	12.43	11.89	11.62	11.82	10.64
B58-2	29.57	16	Dry	Dry	15.05	Dry	15.39	15.56	DRY	DRY	DRY	DRY
B59-1	27.77	32	16.11	11.66	11.71	11.51	12.23	12.60	12.14	11.90	12.07	10.49
B59-2	27.79	15.2	15.72	12.07	11.96	11.70	12.08	13.15	DRY	DRY	DRY	DRY
B60	28.84	30	16.89	11.95	11.60	11.39	11.84	12.16	11.83	11.88	11.89	10.42
B61	31.53	12.1	6.92	24.61	24.51	25.29	25.32	25.76	25.50	25.42	25.00	23.15
B62-1	29.09	35	destroyed	destroyed	destroyed	destroyed	destroyed	destroyed	destroyed	destroyed	destroyed	destroyed
B62-2	29.63	12.1	4.36	25.27	25.79	25.79	25.78	26.21	25.83	25.91	25.51	23.58
B63-1	30.06	29	4.03	26.03	26.03	26.48	27.31	27.57	27.08	26.16	26.06	24.06
B63-2	30.42	12.5	4.12	26.30	25.13	26.35	27.12	27.31	26.93	26.15	26.02	23.87
B64	28.19	15.2	3.54	24.65	25.21	25.25	25.88	26.06	26.23	24.96	24.60	22.64
B65	28.04	15.5	5.18	22.86	21.82	22.68	23.85	23.95	23.94	18.04	18.48	16.79
B66	31.27	15.1	5.89	25.38	23.94	25.28	25.34	25.53	25.64	25.61	25.19	23.27
B67	30.22	28	16.25	13.97	14.17	14.03	14.31	15.12	14.64	14.20	14.35	13.12
B68	29.73	30	14.00	15.73	16.11	15.75	16.14	16.63	16.22	15.83	15.90	14.88
FA-1B	32.16	92	12.34	19.82	18.62	19.13	19.99	20.00	19.24	17.82	17.71	14.58
FA-2C	26.9	100	11.93	14.97	11.70	15.56	16.49	16.20	15.76	14.14	13.61	10.50
MO5-B	29.24	32	9.71	19.53	19.97	19.33	20.40	20.46	20.19	17.25	17.24	14.81
46	30.28		4.08	26.20	27.08	27.56	27.73	28.33	27.55	26.94	26.86	24.28
47	31.07		4.64	26.43	27.20	27.86	27.98	28.76	27.94	27.65	27.42	24.78
48	30.83		4.05	26.78	27.62	28.15	28.31	28.63	28.12	27.86	27.45	24.72
49	30.43		4.72	25.71	26.23	26.84	27.35	28.49	27.27	25.97	26.17	23.73
50	31.81		8.36	23.45	25.36	25.51	25.53	27.09	25.93	24.54	25.29	22.83
51	30.77		5.05	25.72	26.67	26.74	26.86	27.71	26.64	26.11	26.28	22.88
52	30.37		4.45	25.92	26.70	26.72	26.85	27.32	26.73	26.09	26.01	23.69
53	30.45		4.51	25.94	26.24	26.64	26.98	27.55	26.71	26.04	25.98	23.74

MONITOR WELL WATER LEVEL
TOMOKA FARMS ROAD LANDFILL

Current Month Collection Dates: Feb. 25, 1999
Sampled By : Scott Mulac

Well No.	Survey (TOC Elevation)	T. Depth	February Depth to Water	February Water Level MSL	January Water Level MSL	December Water Level MSL	November Water Level MSL	October Water Level MSL	September Water Level MSL	August Water Level MSL	July Water Level MSL	June Water Level MSL
54	29.92		4.58	25.34	25.90	26.33	26.58	27.09	26.39	25.90	25.68	23.37
55	29.08		3.68	25.40	25.88	26.19	26.36	26.49	26.38	25.66	25.11	23.08
56	30.06		4.48	25.58	26.04	26.15	26.30	26.65	26.50	25.01	24.57	22.44
57	28.7		2.80	25.90	24.72	26.12	26.29	26.57	26.35	24.92	24.49	22.38
SW-3				22.50	22.22	DRY	22.50	23.00				
SW-5				25.50	28.20	25.40	23.00	25.50				
SW-6				22.50	22.10	23.20	25.50	23.00				

Approved by:_____ **Date:** Mar. , 1999

Francis Y. Huang, Ph. D.
Lab Director / Vice President - operations

Note : Data prior to June, 1998 were collected by Karr Environmental.

p:\report98\field\tomwdata.xls

Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

David B. Struhs
Secretary

Mr. Bill Gilley, Director
Solid Waste Services Group
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

OCD-SW-99-0143

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Gilley:

Based on a review of the December 1998 Ground Water Monitoring Report for the Tomoka Farms Road Landfill, the Department has the following comments.

Comment 1:
The first page of DEP Form 62-522.900(2) that includes the certification is missing from the reports. Please provide this page.

Comment 2:
The Parameter Report Forms are not exact replicas of the forms in the Monitoring Plan Implementation Schedule. In future reports, please make sure the forms are identical. (The parameters are not in the proper order.)

Comment 3:
The landfill maps were inadvertently left out of the reports. Please provide these maps, complete with all requirements of the Monitoring Plan Implementation Schedule.

Comment 4:
Due to the exceedances of benzene, vinyl chloride, and turbidity, the report has been forwarded to the Waste Clean Up Section for current assessment.

Please note that either the first page of DEP Form 62-522.900(2) or all of the ground water contour maps must be signed and sealed by a professional engineer or geologist registered in the State of Florida.

If you should have any further questions pertaining to this matter, please contact me or Jennifer Deal at (407) 893-3328.

Sincerely,

James N. Bradner

James N. Bradner, P.E.
Program Manager
Solid Waste

JNB/jd

Date 3/25/99

State of Florida
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Interoffice Memorandum

CENTRAL DISTRICT

TO: Jim Bradner, P.E.
Solid Waste Program Manager

FROM: Gabor T. Matrai, P.E.
Waste Clean Up Program

DATE: February 3, 1999

SUBJECT: Volusia County - Waste Clean Up
Tomoka Farms Road Landfill
Transfer of Files Pertaining to Contamination Assessment In Vicinity of Monitoring Well B-5

Pursuant to our discussions February 3, 1998, files relating to contamination assessment activities in the vicinity of monitoring well B-5 have been transfered to the Waste Clean Up Program files.

Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

David B. Struhs
Secretary

February 3, 1999

BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED
Z 526 996 581

Mr. Bill Gilley
Solid Waste Services Group Director
Volusia County
1990 Tomoka Farms Road
Daytona Beach, FL 32124

OCD-WCU-99-0045

Volusia County-Waste Clean Up
Tomoka Farms Road Landfill
B37 Contamination Assessment

Dear Mr. Gilley:

On October 31, 1997, the Department sent Volusia County a letter commenting on the June 1997 semi-annual ground water monitoring report for the above referenced facility. In comment 8 of that letter, we requested that Volusia County initiate assessment monitoring in the vicinity of monitoring well B37-2, pursuant to Rule 62-701.510(7), Florida Administrative Code. Dr. David Gomberg in a letter dated December 5, 1997, responded on your behalf to our request. In his response he proposed bi-monthly sampling of monitoring wells B37-1 and B37-2. In light of ground water analytical data contained in the June 1998 semi-annual water monitoring report, this proposal is inadequate. In this report, laboratory analytical data for ground water samples collected from monitoring well B37-2 on June 24, 1998, indicate that vinyl chloride and cis-1,2-dichloroethene concentrations have increased to 440 µg/l and 330 µg/l, respectively. The state primary G-II ground water standard for vinyl chloride is 1 µg/l and for cis-1,2-dichloroethene it is 70 µg/l.

Please provide a contamination assessment plan to address the ground water contamination in the area of B37-2 within thirty (30) days of receipt of this letter. If you have any questions concerning this correspondence, please call me at (407) 893-3331.

Sincerely,

Gabor T. Matrai, P.E.
Waste Clean Up Program

GTM/gbl/gtm
GBL
pc: Susan M. Gaze
Dr. David Gomberg

Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

September 8, 1998

OCD-SW-98-0373

Mr. Bill Gilley, Acting Director
Solid Waste Services Group
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Gilley:

The Department has received the Ground Water Monitoring Report for June 1998 for the Tomoka Farms Road Landfill.

Due to the exceedances of Benzene, Vinyl Chloride, and turbidity, the report has been forwarded to the Waste Clean Up Section for further assessment.

In future reports, please ensure ground water flow arrows are included on the ground water elevation maps.

If you should have any further questions pertaining to this matter, please contact me or Jennifer Deal at (407) 893-3328.

Sincerely,

James N. Bradner, P.E.
Program Manager
Solid Waste

JNB/jd

Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

September 2, 1998

OCD-SW-98-0363

Mr. Bill Gilley, Acting Director
Solid Waste Services Group
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

Volusia County - SW
Tomoka Farms Road Landfill
Ground Water Monitoring Report

Dear Mr. Gilley:

The Department has received the Ground Water Monitoring Report for December 1997 for the Tomoka Farms Road Landfill.

Due to the exceedances of Benzene and Vinyl Chloride, the report has been forwarded to the Waste Clean Up Section for further assessment.

If you should have any further questions pertaining to this matter, please contact me or Jennifer Deal at (407) 893-3328.

Sincerely,

James N. Bradner

James N. Bradner, P.E.
Program Manager
Solid Waste

JNB/jd

Tomoka Landfill
SW file

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

April 2,1998

Mr. James Bradner, P.E.
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando,
Florida
32803-3767

4/6/98

APR 1998
RECEIVED
D.E.P. CENTRAL
DISTRICT

Re: Plymouth Avenue Landfill and T[redacted]
December 1997 Semi-annual Ground Water Contour Maps and Water Level Data

Dear Mr. Bradner:

Find enclosed the Plymouth Avenue Landfill and the Tomoka Landfill December 1997 Semi-annual Ground Water Contour Maps and Water Levels. I have enclosed Bret LeRoux's copy as well. One set for Mr. LeRoux is sealed

If additional information is needed please advise.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

SMG/smg

C: J.L. Griffin, Director of Solid Waste Service Group
B. Gilley, Assistant Director of Solid Waste Service Group
Bret LeRoux, P.G.
Dr. David Gomberg,3006 Surfside Blvd., Cape Coral, Fla. 33914

David N. Gomberg, Ph.D.
Water Resources Consultant
3006 Surfside Blvd.
Cape Coral, Fl. 33914
(941) 549-1297
March 23, 1998

Memo to: Susan M. Gaze

Re: Tomoka Landfill - Dec., 1997 Semi-annual Ground Water Contour Map and Water Level Data

cc: James L. Griffin, Bill Gilley, Bob Sullivan

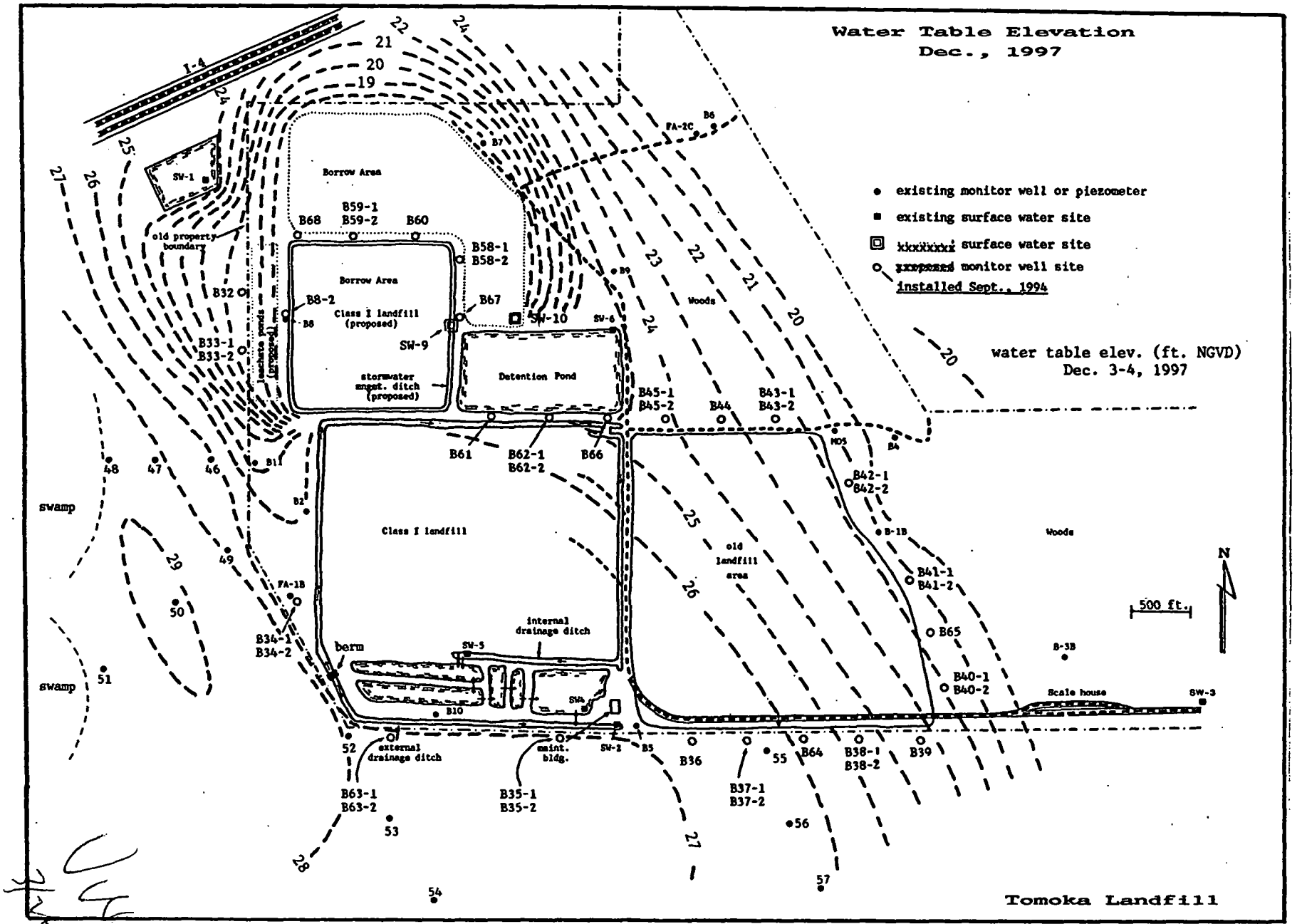
1. The accompanying map and table of water elevations are intended for submittal to FDEP, to comply with reporting requirements 20 and 21 of the Ground Water Monitoring Plan Implementation Schedule for Tomoka Landfill. The water level data used to prepared the map are from December, 1997, and were collected by Bob Sullivan of Karr Environmental.

2. There is no map, of course, for the upper Floridan aquifer potentiometric surface, because we have only two wells at the landfill which monitor that zone.

3. The water table map shows, as with past maps, a general pattern of ground water flow from the southwest towards the northeast, with some local variations and anomalies. For example, there is a substantial hydraulic depression created by dewatering in the new Class I area and the borrow area just to the north. Water levels decline from a background elevation of about 25 or 26 ft. NGVD to approximately 12 ft. NGVD in the dewatered area and adjacent monitor wells. (Some of the water level contours surrounding this area are omitted, so that the map will not be overcrowded.) Ground water flow in this area is radially inward, towards the borrow area. There is also small groundwater divide depicted in the extreme southwest, which has appeared on several previous water table maps, and which is probably related to drainage towards and shallow discharge into nearby wetlands.

4. For comparison, I have attached the water table map for December, 1996. The pattern of groundwater flow is almost identical to that found a year ago, but water elevations are about 2 feet higher on the western part of the site, and 1 foot higher in the eastern areas. Much of the rainfall associated with the extraordinary wet season we have had this year occurred beginning late in December, and so is not reflected on this map. I strongly suspect that a map of January of February water levels would show elevations even higher than those presented here.

3/26/98


Water Table Elevation
Dec., 1997
existing monitor well or piezometer
existing surface water site
surface water site
monitor well site
installed Sept., 1994
water table elev. (ft. NGVD)
Dec. 3-4, 1997
Tomoka Landfill
I-4
SW-1
old property boundary
Borrow Area
B68
B59-1
B59-2
B60
B58-1
B58-2
B32
B8-2
B8
Class I landfill (proposed)
B67
SW-10
SW-6
SW-9
B33-1
B33-2
stormwater mgmt. ditch (proposed)
Detention Pond
leachate ponds (proposed)
Woods
B45-1
B45-2
B44
B43-1
B43-2
B61
B62-1
B62-2
B66
B11
B2
swamp
Class I landfill
old landfill area
B42-1
B42-2
B-1B
B41-1
B41-2
B65
B-3B
B40-1
B40-2
Scale house
SW-3
500 ft.
N
FA-1B
B34-1
B34-2
berm
SW-5
internal drainage ditch
B10
SW4
external drainage ditch
maint. bldg.
SW-2
B5
B36
B37-1
B37-2
B64
B38-1
B38-2
B39
B63-1
B63-2
B35-1
B35-2
FA-2C
B6
B7
B9
MO5
B4
22
24
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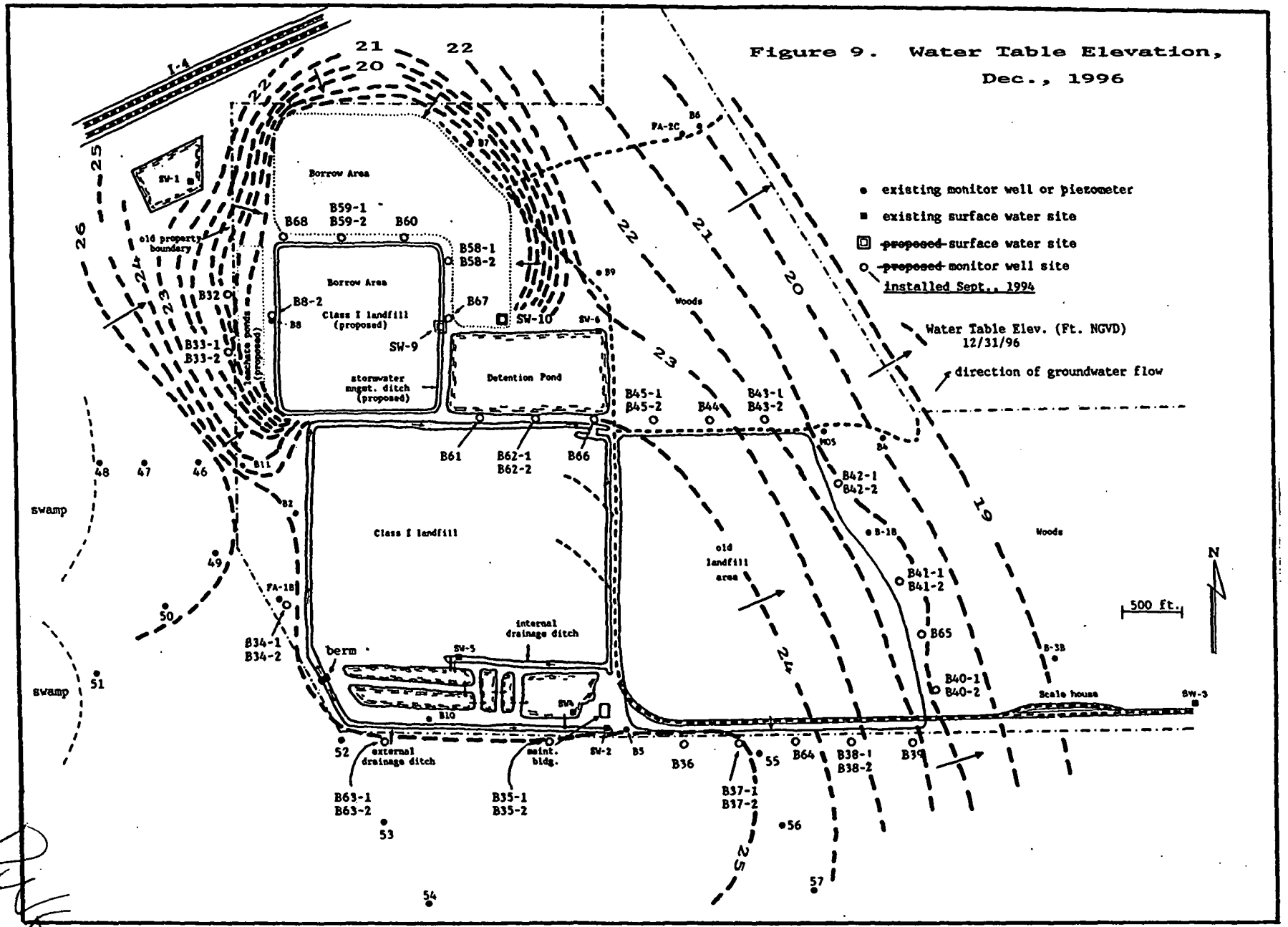
Figure 9. Water Table Elevation, Dec., 1996
existing monitor well or piezometer
existing surface water site
proposed surface water site
proposed monitor well site
installed Sept., 1994
Water Table Elev. (Ft. NGVD) 12/31/96
direction of groundwater flow
I-4
Borrow Area
Borrow Area
Class I landfill (proposed)
Detention Pond
stormwater mngmt. ditch (proposed)
leachate ponds (proposed)
old property boundary
Class I landfill
old landfill area
Woods
Woods
swamp
swamp
berm
internal drainage ditch
external drainage ditch
maint. bldg.
Scale house
500 ft.
B59-1
B59-2
B68
B60
B58-1
B58-2
B67
B8-2
B32
B33-1
B33-2
B61
B62-1
B62-2
B66
B45-1
B45-2
B44
B43-1
B43-2
B42-1
B42-2
B41-1
B41-2
B65
B40-1
B40-2
B34-1
B34-2
B63-1
B63-2
B35-1
B35-2
B36
B37-1
B37-2
B64
B38-1
B38-2
B39
SW-1
SW-9
SW-10
SW-6
SW-5
SW-4
SW-2
SW-3
FA-2C
FA-1B
MW5
B-1B
B-3B
21
22
20
19
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28

TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

Dec 3-4

WELL	SURVEY	T. DEPTH	December 1997 WATER LEVEL TOC	December 1997 WATER LEVEL MSL	November	October	SEPT.	AUGUST	JULY	JUNE	MAY	APRIL	MARCH	FEB	JAN
B1B	27.31	33	7.27	20.04	19.93	19.82	19.44	18.23	18.09	17.02	16.83	16.46	17.45	17.84	18.89
B2B	31.81	24	5.8	26.01	26.05	26.1	26.31	27.63	26.09	26.09	25.41	25.5	26.59	25.57	24.68
B3B	27.17		7.66	19.51	19.91	19.94	19.21	18.25	17.19	17.04	17.07	16.41	17.34	17.74	18.78
B4	27.69		7.76	19.93	19.85	19.91	19.51	18.16	18.34	16.87	16.94	16.71	17.72	18.55	19.02
B5B	32.66	23	5.61	27.05	27.24	27.43	26.72	27.74	27.61	26.79	25.21	25.3	25.54	25.59	25.76
B6	27.3		7.78	19.52	19.48	19.88	18.54	16.55	17.18	15.96	16.09	16.38	17.16	19.07	19.83
B7	29.46		9.11	20.35	20.35	20.54	19.84	18.54	19.21	17.74	17.79	17.95	18.19	18.39	19.36
B8-1	33.02	48	13.52	19.5	19.65	19.81	18.88	19.15	17.98	17.1	16.91	16.7	17.61	17.57	18.57
B8-2	33.3	30	15.15	18.15	18.16	18.38	18.28	18.88	18.61	18.57	18.22	18.14	18.29	18.28	18.92
B-9	30.76		6.27	24.49	24.83	24.98	24.65	24.47	23.54	22.22	22.39	22.46	21.82	22.28	23.08
B10	32.2		5.64	26.56	26.56	26.22	25.88	27.29	28.75	26.78	27.18	26.69	27.16	26.44	26.77
B11	30.63	14	5.85	24.78	25.01	25.21	23.87	24.49	25.33	23.24	23.44	23.63	23.74	23	23.29
B32	30.51	30	11.98	18.53	18.51	18.49	17.97	19.42	18.5	17.97	17.86	17.04	18.26	16.81	17.61
B33-1	32.82	32	11.74	21.08	20.79	20.26	19.81	21.21	20.3	19.84	19.73	19.55	20.13	19.41	20.48
B33-2	32.1	15	11.76	20.34	20.32	20.32	20.02	20.89	20.13	19.56	19.15	19.09	19.55	18.59	20.32
B34-1	31.18	32	5.97	25.21	25.42	25.66	25.84	27.31	27.09	25.59	25.99	24.83	26.39	24.64	24.92
B34-2	31.21	15	4.75	26.46	26.33	26.23	26.04	27.67	28.2	26.03	26.61	25.22	27	24.86	25.2
B35-1	29.29	32	2.31	26.98	26.94	26.92	26.42	27.19	27.68	25.72	26.03	24.95	26.24	25.36	25.59
B35-2	29.36	15	2.37	26.99	26.92	26.88	26.57	27.34	27.6	26.54	26.81	25.1	27.06	25.31	25.6
B36	29.27	33	2.79	26.48	26.49	26.26	26.07	27.19	26.86	25.86	26.4	24.81	26.65	24.82	25.06
B37-1	28.59	37	2.5	26.09	26.61	26.57	25.79	27.19	26.1	25.31	25.6	24.19	25.8	24.41	24.67
B37-2	28.72	14.8	2.26	26.46	26.74	26.74	26	27.32	26.66	26.72	26.41	25.27	26.67	24.63	24.94
B38-1	28.22	37	3.93	24.29	24.02	24.24	23.97	24.87	23.43	22.4	22.63	21.39	22.83	21.9	22.57

TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

WELL	SURVEY	T. DEPTH	December 1997 WATER LEVEL TOC	December 1997 WATER LEVEL MSL	November	October	SEPT.	AUGUST	JULY	JUNE	MAY	APRIL	MARCH	FEB	JAN
B38-2	28.08	15.2	2.64	25.44	25.38	25.3	24.9	26.27	25.72	24.06	24.78	22.87	24.99	22.35	23.43
B39	29.06	15.3	5.39	23.67	23.85	24.08	23.8	24.66	22.86	21.69	21.56	19.63	21.82	20.72	21.85
B40-1	27.64	28	5.44	22.2	22.34	22.02	21.76	21.41	21.17	20.51	20.28	18.26	19.49	21.17	20.92
B40-2	27.68	15	3.78	23.9	23.8	23.56	22.9	23.86	23.79	23.92	23.66	19.34	21.07	19.58	20.27
B41-1	29.14	37	8.66	20.48	20.26	20.16	19.88	19.1	18.58	17.65	18.91	16.93	17.92	18.28	19.44
B41-2	29.26	15.3	5.23	24.03	24.04	23.92	23.72	24.74	23.25	23.43	20.5	18.76	20.84	21.35	22.31
B42-1	28.5	30	7.56	20.94	20.86	20.52	20.25	18.9	21.79	17.63	17.41	17.16	18.22	18.67	20.66
B42-2	28.36	12.4	4.41	23.95	23.86	23.74	23.48	21.11	21.71	18.76	18.53	18.11	20.5	21.05	22.25
B43-1	28.07	27	5.29	22.78	22.72	22.61	22.17	22.75	21.91	21.16	21.84	20.07	20.44	20.67	21.45
B43-2	28.21	12.3	5.46	22.75	22.81	22.83	22.31	23.13	22.17	21.66	22.2	20.37	20.73	20.85	21.69
B44	30.02	12.3	6.24	23.78	23.8	23.82	23.84	24.76	23.73	23.27	25.77	22.22	22.34	22.55	22.91
B45-1	30.24	35	5.66	24.58	24.48	24.48	24.39	25.32	24.53	23.89	26.03	23.04	23.13	23.19	23.57
B45-2	30.31	15.2	5.99	24.32	24.47	24.59	24.14	25.35	24.42	23.94	26.09	23.11	23.07	23.12	23.42
B58-1	29.02	28	16.92	12.1	12.04	11.97	11.68	12.12	11.71	11.47	11.96	11.14	11.57	11.33	11.6
B58-2	29.57	12	DRY	DRY	DRY	DRY	DRY	14.83	15.45	DRY	DRY	DRY	DRY	DRY	DRY
B59-1	27.77	32	17.85	9.92	10.15	10.55	12.33	12.91	12.17	11.69	12.35	17.36	12.77	11.59	12.13
B59-2	27.79	15.2	dry	27.79	27.79	27.79	10.99	12.11	11.8	27.79	12.58	11.36	11.97	14.87	15.92
B60	28.84	30	16.57	12.27	12.21	12.06	12.13	12.02	12.09	11.72	13.41	11.26	11.29	11.07	11.32
B61	31.53	12.1	4.24	27.29	26.55	26.27	24.81	25.81	25.52	25.32	27.46	23.86	23.95	23.52	22.71
B62-1	29.09	35	destroyed	29.09	29.09	29.09	23.22	26.04	25.27	25.32	24.99	23.65	23.73	23.32	22.62
B62-2	29.63	12.1	5.06	24.57	24.62	24.67	24.12	26.37	25.78	25.64	25.48	24.28	24.45	24.05	23.61
B63-1	30.06	29	2.7	27.36	27.24	27.08	26.34	27.56	28.13	26.51	26.92	25.65	26.05	25.77	26.15
B63-2	30.42	12.5	2.21	28.21	27.88	26.68	26.37	27.47	27.72	26.68	27.13	25.66	26.54	25.72	25.91
B64	28.19	15.2	2.4	25.79	25.73	25.21	24.96	26.36	25.87	25.1	25.74	24.07	25.74	24.11	24.27

TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

WELL	SURVEY	T. DEPTH	December 1997 WATER LEVEL TOC	December 1997 WATER LEVEL MSL	November	October	SEPT.	AUGUST	JULY	JUNE	MAY	APRIL	MARCH	FEB
B63-2	30.42	12.5	2.21	28.21	27.88	26.68	26.37	27.47	27.72	26.68	27.13	25.66	26.54	25.72
B64	28.19	15.2	2.4	25.79	25.73	25.21	24.96	26.36	25.87	25.1	25.74	24.07	25.74	24.11
B65	28.04	15.5	4.03	24.01	23.96	23.91	23.72	25.29	23.85	24.01	23.74	18.92	21.04	21.33
B66	31.27	15.1	7	24.27	24.25	24.22	24.17	27.28	25.18	25.57	26.04	24.13	24.23	22.53
B67	30.22	28	15.47	14.75	14.59	14.39	14.27	14.79	14.43	14.08	15.14	13.62	13.88	13.61
B68	29.73	30	13.91	15.82	15.76	15.68	15.51	15.89	15.57	16.31	16.19	15.07	15.57	15.48
EA-1B	32.16	92	12.56	19.6	19.66	19.6	19.18	17.25	18.64	17.02	16.86	16.79	17.15	17.98
EA-2C	26.9	100	12.3	14.6	14.92	14.88	15.13	13.38	14.24	13.25	13.19	13.22	13.56	13.75
MD5-B	29.24	32	9.21	20.03	19.7	19.46	19.26	18.22	17.54	16.8	16.74	16.55	17.54	17.93
46	30.28		2.71	27.57	27.6	27.66	26.78	27.13	27.68	25.97	26.07	25.63	26.46	25.56
47	31.07		3.06	28.01	28.45	28.49	27.59	27.45	28.72	26.29	26.28	25.93	26.53	25.87
48	30.83		2.51	28.32	28.07	28.11	27.25	27.66	28.46	26.47	26.58	26.25	26.95	25.96
49	30.43		2.48	27.95	27.87	27.97	27.2	27.35	28.01	26.11	26.2	25.73	26.59	25.48
50	31.81		2.56	29.25	29.17	29.23	28.39	28.73	28.55	27.11	27.2	26.11	27.58	25.55
51	30.77		2.57	28.2	28.17	28.25	27.37	27.59	26.85	25.53	25.58	24.98	25.97	24.77
52	30.37		2.11	28.26	27.24	27.36	26.44	27.65	27.79	27.01	27.07	25.41	27.39	25.29
53	30.45		3.22	27.23	27.24	27.34	26.45	27.94	27.65	26.73	26.89	25.13	27.17	25.13
54	29.92		3.18	26.74	26.67	26.73	25.84	27.62	27.27	26.6	26.69	24.87	26.91	24.68
55	29.08		2.81	26.27	26.14	26.21	25.45	26.83	26.45	26.19	26.35	24.57	26.55	24.6
56	30.06		3.59	26.47	26.49	26.58	25.66	26.96	26.67	25.58	25.76	23.96	25.97	23.82
57	28.7		2.45	26.25	25.74	25.84	25.07	26.78	26.53	26.01	26.13	24.04	26.28	23.74

December 1997

TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

WELL	SURVEY T. DEPTH	December 1997 WATER LEVEL TOC	December 1997 WATER LEVEL MSL	November	October	SEPT.	AUGUST	JULY	JUNE	MAY	APRIL	MARCH	FEB
SURFACE WATERS		WATER LEVEL MSL	D.O.	P.H.	COND.								
SW1		N/A	5.5	7.2	108								
SW2		26	4.2	7.2	495								
SW-3		23.25	5.1	7.3	477								
SW-4		DRY	DRY	DRY	DRY								
SW-5		25.5	5.2	7.3	895								
SW-6		26	5.3	7.4	892								
SW-9		N/A	4	7.1	384								
SW-10		N/A	4.2	7.1	382								

Sampled By: Robert Sullivan and Eric Roth
Sampling Date 12/03/97 and 12/04/97

Submitted By: Robert L Sullivan

Robert L. Sullivan

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

December 09,1997

Mr. Dan Morrical, P.E.
FDEP, Central District
3319 MaGuire Blvd., Suite 232
Orlando, Fla. 32803-3767

CA

Dear Mr. Morrical:

First things first, I have enjoyed working with you very much and want to wish you the best of luck with your new position. We will miss you.

Enclosed you will find the corrections for the semi-annual collection that occurred in June 1997.
After you review, please pass on to Bret LeRoux,PG.

If additional information is needed please advise.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

October 31, 1997

Volusia County Public Works Solid Waste Services Group
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

OCD-SW-97-0464

Attention: Ms. Susan Gaze, Environmental Specialist

Volusia County - SW
Tomoka Farms Road Landfill
Semi-annual Monitoring Data

Dear Ms. Gaze:

Enclosed are comments from James Russell, of the Waste Cleanup Section, reference the information submitted in the Summary and Evaluation of 1992 - 1996 Monitoring Data for Tomoka Landfill. The staff of Waste Cleanup assists the Solid Waste Section in the review of ground water and surface water monitoring plans and related issues.

Please provide the information requested in the enclosed attachment within 45 days. If you should have any questions, please call Chris Aoussat in the Solid Waste Section, at 407/893-3328.

Sincerely,

Dan R. Morrical, P.E.
Program Manager
Solid Waste Program

w Ed
DRM/ca
Enclosures: Memo

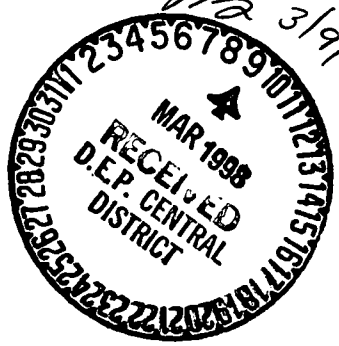
Tomoka

JW file

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

JW 3/9/98



March 5,1998

Mr. James Bradner, P.E.
Program Manager, Solid Waste
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando, Fla.
32803-3767

Re: Compliance Reporting December 1997
Tomoka Landfill Permit No. SO64-34352, IO64-39230, NPDES No. FL0037877, Permit No. SO64-171906, SO64-121811 and SO64-179781
Plymouth Landfill Permit No. SO64-58275 Monitoring Wells and Surface Water Analysis

Dear Mr. Bradner:

In accordance with specific conditions of the above referenced permits, enclosed are the December 1997 reports.

If additional information or clarification is needed please advise.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

C: J.L. Griffin, Director of Solid Waste Service Group
B. Gilley, Assistant Director of Solid Waste Service Group

KARR Environmental Inc.

02/25/1998

Mr. Jim Griffin
Volusia County Solid Waste
1900 Tomoka Farms Road
Daytona Beach, Florida 32124

Dear Mr. Griffin;

The Reports for the December 1997 sampling events at Plymouth Avenue Landfill and at Tomoka Landfill are complete. The data does not indicate any significant changes from previous sampling events. The vinyl chloride at Tomoka Landfill is still significantly elevated and the nitrate values at Plymouth are still showing a significant downward trend. Both landfills still show low level volatile contamination.

The values exceeding the DEP Groundwater Guidance Document values are included in the attached tables for each landfill. Due to a recent DEP audit, the documentation requirement of the lab has caused the paper volume of the report to dramatically increased.

If I can be of further assistance please feel free to give me a call

Sincerely Yours;

Robert J Sullivan

Robert Sullivan
Lab Manager

KARR Environmental Inc.

1495 South Volusia Ave, Orange City FL 32763

Certification # E83325 QAPlan 910047G

Exceedences from DEP Groundwater Guidance Document

Projectname: Tomoka Landfill **Submission: 97120036**

SAMPLE	COMPOUND	METHOD	MCL	RESULT	UNITS	MDL
B 1 B	Iron	7380	300	8280	UG/L	1
B 2	Iron	7380	300	6030	UG/L	1
B 5 B	Total Dissolved Solids	160.1	500	510	MG/L	1
B 5 B	Iron	7380	300	7830	UG/L	1
B 8	Iron	7380	300	3120	UG/L	1
B 8	Toluene	8260	40	340	UG/L	1
B 8-2	Iron	7380	300	1780	UG/L	1
B 11	Iron	7380	300	3350	UG/L	1
B 11 Duplicate	Iron	7380	300	3120	UG/L	1
B 32	Iron	7380	300	5140	UG/L	1
B 33-1	Iron	7380	300	5590	UG/L	1
B 33-1 Duplicate	Iron	7380	300	5360	UG/L	1
B 33-2	Iron	7380	300	6480	UG/L	1
B 34-1	Iron	7380	300	6480	UG/L	1
B 34-2	Iron	7380	300	6030	UG/L	1
B 35-1	Iron	7380	300	2450	UG/L	1
B 35-2	Total Dissolved Solids	160.1	500	540	MG/L	1
B 35-2	Turbidity, Field	180.1F	20	41	NTU	0.1
B 35-2	Iron	7380	300	7830	UG/L	1
B 36	Total Dissolved Solids	160.1	500	524	MG/L	1
B 36	Iron	7380	300	2900	UG/L	1
B 36	Benzene	8260	1	1.2	UG/L	1
B 36	Vinyl Chloride	8260	1	3.0	UG/L	1
B 36 Duplicate	Total Dissolved Solids	160.1	500	544	MG/L	1
B 36 Duplicate	Iron	7380	300	1550	UG/L	1
B 36 Duplicate	Benzene	8260	1	1.2	UG/L	1
B 36 Duplicate	Vinyl Chloride	8260	1	3.1	UG/L	1
B 37-1	Total Dissolved Solids	160.1	500	1670	MG/L	1
B 37-1	Iron	7380	300	7380	UG/L	1
B 37-1	Benzene	8260	1	12.8	UG/L	1
B 37-2	Iron	7380	300	9620	UG/L	1
B 37-2	Vinyl Chloride	8260	1	78.7	UG/L	1
B 38-1	Iron	7380	300	6710	UG/L	1
B 38-2	Iron	7380	300	4690	UG/L	1
B 39	Turbidity, Field	180.1F	20	27	NTU	0.1
B 39	Iron	7380	300	4690	UG/L	1

All analyses performed in accordance with the latest approved edition of "Standard Methods for the Examination o Water and Wastewater" and "Methods for Chemical Analysis of Water and Wastes", unless otherwise noted.

KARR Environmental Inc.

1495 South Volusia Ave, Orange City FL 32763

Certification # E83325 QAPlan 910047G

Exceedences from DEP Groundwater Guidance Document

Projectname: Tomoka Landfill **Submission: 97120036**

SAMPLE	COMPOUND	METHOD	MCL	RESULT	UNITS	MDL
B 40-1	Iron	7380	300	6480	UG/L	1
B 40-1 Duplicate	Iron	7380	300	6030	UG/L	1
B 40-2	Iron	7380	300	5360	UG/L	1
B 41-1	Total Dissolved Solids	160.1	500	876	MG/L	1
B 41-1	Iron	7380	300	5360	UG/L	1
B 41-1	Benzene	8260	1	2.5	UG/L	1
B 41-2	Total Dissolved Solids	160.1	500	664	MG/L	1
B 41-2	Iron	7380	300	8280	UG/L	1
B 42-1	Total Dissolved Solids	160.1	500	618	MG/L	1
B 42-1	Iron	7380	300	4240	UG/L	1
B 42-2	Iron	7380	300	8720	UG/L	1
B 43-1	Total Dissolved Solids	160.1	500	580	MG/L	1
B 43-1	Turbidity, Field	180.1F	20	22.5	NTU	0.1
B 43-1	Iron	7380	300	5810	UG/L	1
B 43-2	Iron	7380	300	6480	UG/L	1
B 44	Iron	7380	300	2000	UG/L	1
B 45-1	Iron	7380	300	6930	UG/L	1
B 45-1	Benzene	8260	1	6.0	UG/L	1
B 45-1	Vinyl Chloride	8260	1	2.2	UG/L	1
B 45-2	Turbidity, Field	180.1F	20	31.0	NTU	0.1
B 45-2	Iron	7380	300	10100	UG/L	1
B 58-1	Iron	7380	300	6260	UG/L	1
B 59-1	Total Dissolved Solids	160.1	500	702	MG/L	1
B 59-1	Iron	7380	300	4020	UG/L	1
B 60	Iron	7380	300	1110	UG/L	1
B 61	Total Dissolved Solids	160.1	500	924	MG/L	1
B 61	Iron	7380	300	4020	UG/L	1
B 62-2	Iron	7380	300	8720	UG/L	1
B 63-1	Iron	7380	300	3790	UG/L	1
B 63-2	Total Dissolved Solids	160.1	500	556	MG/L	1
B 63-2	Iron	7380	300	6930	UG/L	1
B 64	Iron	7380	300	3120	UG/L	1
B 65	Iron	7380	300	7380	UG/L	1
B 66	Iron	7380	300	6030	UG/L	1
B 67	Iron	7380	300	7150	UG/L	1
B 68	Iron	7380	300	6480	UG/L	1

All analyses performed in accordance with the latest approved edition of "Standard Methods for the Examination o Water and Wastewater" and "Methods for Chemical Analysis of Water and Wastes", unless otherwise noted.

KARR Environmental Inc.

1495 South Volusia Ave, Orange City FL 32763

Certification # E83325 QAPlan 910047G

Exceedences from DEP Groundwater Guidance Document

Projectname: Tomoka Landfill **Submission: 97120036**

SAMPLE	COMPOUND	METHOD	MCL	RESULT	UNITS	MDL
B 68 Duplicate	Iron	7380	300	3120	UG/L	1
M O 5 B	Total Dissolved Solids	160.1	500	688	MG/L	1
M O 5 B	Iron	7380	300	1110	UG/L	1
Surface Water 1	Iron	7380	300	760	UG/L	1
Surface Water 2	Iron	7380	300	1000	UG/L	1
Surface Water 3	Total Dissolved Solids	160.1	500	760	MG/L	1
Surface Water 3	Iron	7380	300	930	UG/L	1
Surface Water 5	Total Dissolved Solids	160.1	500	626	MG/L	1
Surface Water 5	Turbidity, Field	180.1F	33.9	38.7	NTU	0.1
Surface Water 5	Iron	7380	300	1350	UG/L	1
Surface Water 6	Turbidity, Field	180.1F	33.9	41.5	NTU	0.1
Surface Water 10	Iron	7380	300	424	UG/L	1

Robert L. Sullivan - Laboratory Director

All analyses performed in accordance with the latest approved edition of "Standard Methods for the Examination of Water and Wastewater" and "Methods for Chemical Analysis of Water and Wastes", unless otherwise noted.

State of Florida
DEPARTMENT OF ENVIRONMENTAL PROTECTION

gwfl
groundwater
file

Interoffice Memorandum

CENTRAL DISTRICT

10/28/97 CA

TO: Dan Morrical, P.E. OCD-WCU-97-0388
Solid Waste Program Manager

THROUGH: G. Bret LeRoux, P.G. GBL
Waste Cleanup Program Manager

FROM: James B. Russell, P.E.
Waste Cleanup Program

DATE: October 2, 1997

SUBJECT: Volusia County - Waste Cleanup
Tomoka Farms Road Landfill
Summary and Evaluation of 1992 - 1996 Monitoring Data
and Semiannual Monitoring Report

I have reviewed the above-referenced documents and have the following comments:

1. The Parameter Monitoring Reports presents the dissolved oxygen measurements as 0.5U, where U indicates less than the detection limit. However, the field Data Sheets indicate dissolved oxygen less than 1 milligram per liter. Please revise the Parameter Monitoring Reports accordingly.

2. The reported GMS ID No. 3064A15502 for monitoring point B8-2 is incorrect. This is the GMS ID No. for monitoring point B11. The correct GMS ID No. is 3064A17136. Please revise the Table of Contents and Parameter Monitoring Report for this well accordingly.

3. Data from leachate monitoring point L-1 was not included in the semiannual monitoring event. Was this location dry at the time of monitoring? If not, was this monitoring point sampled? If this location was sampled, please provide the laboratory analytical data and Parameter Monitoring Report form.

4. The summary of constituents that exceed ground water quality did not include total dissolved solids (TDS). TDS criteria were exceeded in samples collected from the following monitoring points: B33-1, B36, B41-1, B41-2, B43-1, B43-2, B45-1, B59-1, B61, B62-1, B62-2, B63-1, B64, and B68. Please revise the summary of compounds that exceed water quality standards or minimum criteria to include all constituents with exceedances.

5. Surface water quality criteria for turbidity is presented for surface water monitoring locations SW-1, SW-5, and SW-9 in the summary of constituents that exceed water quality standards or criteria. Please bear in mind that the surface water quality criteria for turbidity is less than or equal to 29 NTUs above natural background. Please modify the summary of constituents that exceed water quality standards or criteria accordingly.

6. The pH reported for surface water monitoring point SW-1 exceeds the standard for pH of 8.5 standard units. Please revise the summary of constituents that exceed water quality standards or criteria accordingly.

7. No laboratory analytical data sheets were submitted for surface water monitoring location SW-10. Please provide the laboratory analytical data sheet for this monitoring location.

8. The reported concentration of vinyl chloride in ground water monitoring location B37-2 of 126 micrograms per liter exceeds the G-II ground water primary standard. Therefore, in accordance with Chapter 62-701.510(7) Florida Administrative Code, please provide a plan to initiate assessment monitoring in the vicinity of B37-2.

9. We are not in receipt of the trend analysis document referenced by Dr. Gomberg in his summary. Please have Volusia County provide the Department with a copy of the referenced report. The referenced report was required as part of the permit renewal.

As noted on the transmittal memorandum, no ground water flow maps were provided and no water level elevation table was provided. Should you have any questions, please contact me.

Attachments

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road • Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

August 13, 1997

Mr. Dan Morrical, P.E.
Program Manager, Solid Waste
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando, Fla.
32803-3767

Re: Compliance Reporting June 1997
Tomoka Landfill Permit No. SO64-34352, IO64-39230, NPDES No. FL0037877, Permit No. SO64-171906, SO64-121811 and SO64-179781
Plymouth Landfill Permit No. SO64-58275 Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are the June 1997 reports.

If additional information or clarification is needed please advise.

Respectfully submitted,

Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

C: J.L. Griffin, Director of Solid Waste Service Group
B. Gilley, Assistant Director of Solid Waste Service Group

Dr Gomberg is back from vacation and the UC Study @ Tomoka will procede as soon as we get his time and budget.

Nitrate start up will be in Sept. I will call him at least (1) wk before pumps are turned on.

Sorry I missed you.

Susan. 8/22/97


RECEIVED
DISTRICT

Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

May 20, 1997

CERTIFIED MAIL
P-183-848-767

Volusia County Public Works Solid
Solid Waste Services Group
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

OCD-SW-97-0231

Attention: Ms. Susan Gaze, Environmental Specialist

Volusia County - SW
Tomoka Farms Road Landfill
Semi-annual Monitoring Data

Dear Ms. Gaze:

Enclosed are comments from James Russell, of the Waste Cleanup Section, reference the information submitted by KARR Environmental Inc. The staff of Waste Cleanup assists the Solid Waste Section in the review of groundwater and surface water monitoring plans and related issues.

Please provide the information requested in the enclosed attachment within 45 days. In addition, please provide flow contour maps, a table of groundwater elevations and an analyses of the L-1 leachate sampling point, as required in the Ground Water Monitoring Plan Implementation Schedule. If you should have any questions, please call Chris Aoussat in the Solid Waste Section, at 407/893-3328.

Sincerely,

Dan R. Morrical, P.E.
Program Manager
Solid Waste Program

DRM/ca
Enclosures: Memo
Forms

State of Florida
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Interoffice Memorandum

CENTRAL DISTRICT

TO: Dan Morrical, P.E.
Solid Waste Program Manager

OCD-WCU-97-0173

THROUGH: G. Bret LeRoux, P.G. GBL
Waste Cleanup Program Manager

FROM: James B. Russell, P.E.
Waste Cleanup Program

DATE: May 10, 1997

SUBJECT: Volusia County - Waste Cleanup
Tomoka Farms Road Landfill
Semi-annual Monitoring Data

I have completed the review of the Semi-annual monitoring report for the above referenced facility and have the following comments:

1. The Parameter Monitoring Report forms are not completed in accordance with Paragraph 21 of the Monitoring Plan Implementation Schedule (MPIS). In accordance with Paragraph 21, "Parameter Report Forms (FDEP Form 62-522.900(2) are attached for reporting semi-annual analyses. In order to facilitate entry of this data into the State computer system, these forms **or exact replicas** must be used and must not be altered as to content." Please revise the parameter report forms and resubmit the data for Department review.

Should you have any questions please contact me.

Co

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

GROUND WATER MONITORING REPORT

Rule 62-522.600(11)

GENERAL INFORMATION

Facility Name Tomoka Farms Road Landfill

Address _____

City _____ Zip _____ County _____

Telephone Number (_____) _____

Facility Gms Number 3064C00071

DEP Permit Number S064-198377

Authorized Representative's Name _____ Title _____

Address _____

City _____ Zip _____ County _____

Telephone Number (_____) _____

Type of Discharge _____

Method of Discharge _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission false information including the possibility of fine and imprisonment.

_____ _____

Date Owner or Authorized Representative's Signature

QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP # _____

Analytical Lab Comp QAP #/ HRS Certification _____

Lab Name _____

Address _____

Phone Number (_____) _____

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 1 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE:_____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to
Sample Collection (Yes/No)_____ Ground Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
000010	Temperature (field)					°C
000299	Dissolved Oxygen (field by probe)					mg/L
000406	pH (field)					STD
000094	Spec. Conductance (field)					umhos/cm
082078	Turbidity (field)					NTU's
000610	Total Ammonia as N					mg/L
000940	Chlorides					mg/L
000620	Nitrate as N					mg/L
070300	Total Dissolved Solids					mg/L
	METALS					
001097	Antimony					ug/L
001002	Arsenic					ug/L
001007	Barium					ug/L
001012	Beryllium					ug/L
001027	Cadmium					ug/L
001034	Chromium					ug/L
00137	Cobalt					ug/L
001042	Copper					ug/L
001045	Iron					ug/L
001051	Lead					ug/L
071900	Mercury					ug/l

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representative ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 2 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE:_____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to Sample Collection (Yes/No)_____ Ground Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
001067	Nickel					ug/L
001147	Selenium					ug/L
001077	Silver					ug/L
000929	Sodium					mg/L
001059	Thallium					ug/L
001087	Vanadium					ug/L
001092	Zinc					ug/L
	ORGANIC CONSTITUENTS					
081552	Acetone					ug/L
034215	Acrylonitrile					ug/L
034030	Benzene					ug/L
073085	Bromochloromethane					ug/L
032101	Bromodichloromethane					ug/L
034413	Bromomethane					ug/L
032104	Bromoform					ug/L
046372	Carbon Disulfide					ug/L
032102	Carbon Tetrachloride					ug/L
034301	Chlorobenzene					ug/L
034311	Chloroethane					ug/L
032106	Chloroform					ug/L
034418	Chloromethane					ug/L

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representative ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 3 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE: _____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to
Sample Collection (Yes/No) _____ Ground Water Elevation (NGVD) _____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
032105	Dibromochloromethane					ug/L
037860	1,2-Dibromo-3-chloropropane					ug/L
046369	1,2-Dibromoethane					ug/L
046361	Dibromomethane					ug/L
034536	1,2-Dichlorobenzene					ug/L
034571	1,4-Dichlorobenzene					ug/L
077268	trans-1,4-Dichloro-2-butene					ug/L
034496	1,1-Dichloroethane					ug/L
034531	1,2-Dichloroethane					ug/L
034501	1,1-Dichloroethene					ug/L
077093	cis-1,2-Dichloroethene					ug/L
034546	trans-1,2-Dichloroethene					ug/L
034541	1,2-Dichloropropane					ug/L
034704	cis-1,3-Dichloropropene					ug/L
034699	trans-1,3-Dichloropropene					ug/L
034371	Ethylbenzene					ug/L
077103	Methyl butly ketone					ug/L
081595	Methyl ethyl ketone					ug/L
077424	Methyl iodide					ug/L
034423	Methylene Chloride					ug/L
078133	Methyl isobutyl ketone					ug/L

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representative ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 4 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE: _____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to
Sample Collection (Yes/No) _____ Ground Water Elevation (NGVD) _____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
077128	Styrene					ug/L
077562	1,1,1,2-Tetrachloroethane					ug/l
034516	1,1,2,2-Tetrachloroethane					ug/L
034475	Tetrachloroethene					ug/L
034010	Toluene					ug/L
034506	1,1,1-Trichloroethane					ug/L
034511	1,1,2-Trichloroethane					ug/L
039180	Trichloroethene					ug/L
034488	Trichlorofluoromethane					ug/L
077443	1,2,3-Trichloropropane					ug/L
077057	Vinyl Acetate					ug/L
039175	Vinyl Chloride					ug/L
034020	Xylenes					ug/L

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representative ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 1 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
000010	Temperature (field)					°C
000299	Dissolved Oxygen (field by probe)					mg/L
000406	pH (field)					STD
000094	Spec. Conductance (field)					umhos/cm
082078	Turbidity (field)					NTU's
000612	Unionized Ammonia as N					mg/L
000900	Total Hardness as $CaCO_3$					mg/L
000680	Total Organic Carbon					mg/L
070300	Total Dissolved Solids					mg/L
00530	Total Suspended Solids					mg/L
000310	BOD (5 Day) @ 20 °C					mg/L
000340	Chemical Oxygen Demand					mg/L
000600	Total Nitrogen as N					mg/L
000620	Nitrate as N					mg/L
000665	Total Phosphates as P					mg/L
032211	Chlorophyll A					ug/L
	METALS					
001097	Antimony					ug/L
001002	Arsenic					ug/L
001007	Barium					ug/L
001012	Beryllium					ug/L
001027	Cadmium					ug/L
001034	Chromium					ug/L
00137	Cobalt					ug/L
001042	Copper					

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 2 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
001045	Iron					ug/L
001051	Lead					ug/L
071900	Mercury					ug/l
001067	Nickel					ug/L
001147	Selenium					ug/L
001077	Silver					ug/L
000929	Sodium					mg/L
001059	Thallium					ug/L
001087	Vanadium					ug/L
001092	Zinc					ug/L
	ORGANIC CONSTITUENTS					
081552	Acetone					ug/L
034215	Acrylonitrile					ug/L
034030	Benzene					ug/L
073085	Bromochloromethane					ug/L
032101	Bromodichloromethane					ug/L
034413	Bromomethane					ug/L
032104	Bromoform					ug/L
046372	Carbon Disulfide					ug/L
032102	Carbon Tetrachloride					ug/L
034301	Chlorobenzene					ug/L
034311	Chloroethane					ug/L
032106	Chloroform					ug/L
034418	Chloromethane					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 3 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
032105	Dibromochloromethane					ug/L
037860	1,2-Dibromo-3-chloropropane				-	ug/L
046369	1,2-Dibromoethane				-	ug/L
046361	Dibromomethane					ug/L
034536	1,2-Dichlorobenzene					ug/L
034571	1,4-Dichlorobenzene					ug/L
077268	trans-1,4-Dichloro-2-butene					ug/L
034496	1,1-Dichloroethane					ug/L
034531	1,2-Dichloroethane					ug/L
034501	1,1-Dichloroethene					ug/L
077093	cis-1,2-Dichloroethene					ug/L
034546	trans-1,2-Dichloroethene					ug/L
034541	1,2-Dichloropropane					ug/L
034704	cis-1,3-Dichloropropene					ug/L
034699	trans-1,3-Dichloropropene					ug/L
034371	Ethylbenzene					ug/L
077103	Methyl butly ketone					ug/L
081595	Methyl ethyl ketone					ug/L
077424	Methyl iodide					ug/L
034423	Methylene Chloride					ug/L
078133	Methyl isobutyl ketone					ug/L
077128	Styrene					ug/L
077562	1,1,1,2-Tetrachloroethane					ug/l
034516	1,1,2,2-Tetrachloroethane					ug/L
034475	Tetrachloroethene					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 4 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD) _____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
034010	Toluene					ug/L
034506	1,1,1-Trichloroethane					ug/L
034511	1,1,2-Trichloroethane					ug/L
039180	Trichloroethene					ug/L
034488	Trichlorofluoromethane					ug/L
077443	1,2,3-Trichloropropane					ug/L
077057	Vinyl Acetate					ug/L
039175	Vinyl Chloride					ug/L
034020	Xylenes					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-701.510)

Semi-Annual Leachate Monitoring (Page 1 of 3)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPLING POINT NAME _____

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
000010	Temperature (field)					°C
000299	Dissolved Oxygen (field by probe)					mg/L
000406	pH (field)					STD
000094	Spec. Conductance (field)					umhos/cm
000610	Total Ammonia as N					mg/L
000940	Chlorides					mg/L
000620	Nitrate as N					mg/L
070300	Total Dissolved Solids					mg/L
000440	Bicarbonate as HCO_3					mg/L
	METALS					
001097	Antimony					ug/L
001002	Arsenic					ug/L
001007	Barium					ug/L
001012	Beryllium					ug/L
001027	Cadmium					ug/L
001034	Chromium					ug/L
001037	Cobalt					ug/L
001042	Copper					ug/L
001045	Iron					ug/L
001051	Lead					ug/L
071900	Mercury					ug/L
001067	Nickel					ug/L
0147	Selenium					ug/L
001077	Silver					ug/L
000929	Sodium					mg/L
001059	Thallium					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-701.510)

Semi-Annual Leachate Monitoring (Page 2 of 3)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPLING POINT NAME _____

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
001087	Vanadium					ug/L
001092	Zinc					ug/L
	ORGANIC CONSTITUENTS					
081552	Acetone					ug/L
034215	Acrylonitrile					ug/L
034030	Benzene					ug/L
073085	Bromochloromethane					ug/L
032101	Bromodichloromethane					ug/L
034413	Bromomethane					ug/L
032104	Bromoform					ug/L
046372	Carbon Disulfide					ug/L
032102	Carbon Tetrachloride					ug/L
034301	Chlorobenzene					ug/L
034311	Chloroethane					ug/L
032106	Chloroform					ug/L
034418	Chloromethane					ug/L
032105	Dibromochloromethane					ug/L
037860	1,2-Dibromo-3-chloropropane					ug/L
046369	1,2-Dibromoethane					ug/L
046361	Dibromomethane					ug/L
034536	1,2-Dichlorobenzene					ug/L
034571	1,4-Dichlorobenzene					ug/L
077268	trans-1,4-Dichloro-2-butene					ug/L
034496	1,1-Dichloroethane					ug/L
034531	1,2-Dichloroethane					ug/L
034501	1,1-Dichloroethene					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-701.510)

Semi-Annual Leachate Monitoring (Page 3 of 3)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPLING POINT NAME _____

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
077093	cis-1,2-Dichloroethene					ug/L
034546	trans-1,2-Dichloroethene					ug/L
034541	1,2-Dichloropropane					ug/L
034704	cis-1,3-Dichloropropene					ug/L
034699	trans-1,3-Dichloropropene					ug/L
034371	Ethylbenzene					ug/L
077103	Methyl butly ketone					ug/L
081595	Methyl ethyl ketone					ug/L
077424	Methyl iodide					ug/L
034423	Methylene Chloride					ug/L
078133	Methyl isobutyl ketone					ug/L
077128	Styrene					ug/L
077562	1,1,1,2-Tetrachloroethane					ug/l
034516	1,1,2,2-Tetrachloroethane					ug/L
034475	Tetrachloroethene					ug/L
034010	Toluene					ug/L
034506	1,1,1-Trichloroethane					ug/L
034511	1,1,2-Trichloroethane					ug/L
039180	Trichloroethene					ug/L
034488	Trichlorofluoromethane					ug/L
077443	1,2,3-Trichloropropane					ug/L
077057	Vinyl Acetate					ug/L
039175	Vinyl Chloride					ug/L
034020	Xylenes					ug/L

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

MONITORING WELL COMPLETION REPORT

DATE _____

FACILITY NAME: Tomoka Farms Road Landfill

DER PERMIT NO.: SO64-198377 FACILITY GMS NO: 3064C00071

WELL GMS NO.: _____ WELL NAME: _____

WELL TYPE: BACKGROUND _____ DETECTION _____ COMPLIANCE _____

LATITUDE AND LONGITUDE: _____

AQUIFER MONITORED: _____

DRILLING METHOD: _____ DATE INSTALLED: _____

INSTALLED BY: _____

BORE HOLE DIAMETER: _____ TOTAL DEPTH: _____ (BLS)

CASING TYPE: _____ CASING DIAMETER: _____ CASING LENGTH: _____

SCREEN TYPE: _____ SCREEN SLOT SIZE: _____ SCREEN LENGTH: _____

SCREEN DIAMETER: _____ SCREEN INTERVAL: _____ TO _____ (BLS)

FILTER PACK TYPE: _____ FILTER PACK GRAIN SIZE: _____

INTERVAL COVERED: _____ TO _____ (BLS)

SEALANT TYPE: _____ SEALANT INTERVAL: _____ TO _____ (BLS)

GROUT TYPE: _____ GROUT INTERVAL: _____ TO _____ (BLS)

TOP OF CASING ELEVATION (NGVD): _____ GROUND SURFACE ELEVATION (NGVD): _____

DESCRIBE WELL DEVELOPMENT: _____

_____

_____

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): _____

DATE AND TIME MEASURED: _____

REMARKS: _____

_____

NAME OF PERSON PREPARING REPORT: _____
(Name, Organization, Phone No.)

NOTE: ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG.
(NGVD) NATIONAL GEODETIC VERTICAL DATUM OF 1929 (BLS) = BELOW LAND SURFACE

State of Florida
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Interoffice Memorandum

CENTRAL DISTRICT

TO: Dan Morrical, P.E. OCD-WCU-97-0183
Solid Waste Program Manager

THROUGH: G. Bret LeRoux P.G. GBL
Waste Cleanup Program Manager

FROM: James B. Russell P.E.
Waste Cleanup Program

DATE: May 14, 1997

SUBJECT: Volusia County - Waste Cleanup
Tomoka Farm Road Landfill
Review of Summary and Evaluation of 1992-1996

I have reviewed the attached above-referenced document and find that it adequately addresses Comments 8, 10, and 11 of the Departments July 17, 1996 letter.

Attachment

Waste Mgt.
RRM FII
CE
CA

Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

Volusia County Department of
Solid Waste Management
123 W. Indiana Avenue
DeLand, FL 32720
Attention: James L. Griffin, Director

OCD-IW-97-0111

Volusia County - IW
VCDSW/Tomoka Farm Road Landfill
Industrial Wastewater Permit No. FL0037877

Dear Mr. Griffin:

In reviewing the status of the referenced permit, it has been confirmed that Region IV EPA has delegated the referenced NPDES permit to the Department.

Upon further review, it has been determined that the Consolidation Order issued by this office on June 14, 1995 cited an expiration date based on the Solid Waste Permit No. SO64-198337 of 9/1/96. The County paid a full permitting fee for the Industrial Wastewater permit. Accordingly, the approval date for the Industrial Wastewater permit should be the basis for calculation of the expiration date of the Consolidation Order. That issuance date was October 6, 1994.

The EPA Region IV permit expiration date was February 28, 2000. Therefore, under the provisions of Chapters 62-4 and 62-620, Florida Administrative Code to allow the County a full five years under the fee paid for the Industrial Wastewater permit, the expiration date of the Consolidation Order is hereby revised to October 5, 1999. Application for renewal is required 180 days before expiration.

This letter shall be attached to Consolidation Letter OCD-IW-95-0349 issued on June 14, 1995.

If you have any questions, please contact Mr. Eugene Elliott at 407-893-3317.

Sincerely,

Christianne C. Ferraro

Christianne C. Ferraro, P.E.
Program Administrator
Water Facilities

Date: May 5, 1997

CCF/ee/jem
cc: Volusia County Environmental Management Department
EPA Region IV
Daryl Joyner/DEP/Tallahassee
Bill Bostwick

COMET # 20632
20204

State of Florida
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Interoffice Memorandum

TO: BRET LEROUX
FROM: DAN MORRICAL
DATE: 7/18/97
SUBJECT: County VOLUSIA Permit No. SO 64-257852 SF64-278764
Facility PLYMOUTH + TOMOKA LF
Attachment GW CONTOUR MAPS

The attached is being sent to you for:

✓ Information only

____ Review and comments

If review and comments are needed, please respond:

____ By _____

(Solid Waste deadline date is _____)

____ As soon as possible for your schedule.

Comments: reviewed DM

DONE

County of Volusia

PUBLIC WORKS SERVICES CENTER

SOLID WASTE SERVICES GROUP

1990 Tomoka Farms Road • Daytona Beach, FL 32124

Telephone (904) 947-2952 • Fax (904) 947-2955

July 14,1997

7/17 CA Make copy of letter & put one copy of each set of data — Tomoka — Plymouth. JFC

Mr. Dan Morrical, P.E.
Solid Waste Section
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando
Florida
32803-3767

Re: Tomoka Landfill and Plymouth Avenue Landfill
Semi-annual Ground Water Contour Map and Water Level Data

Dear Mr. Morrical:

Find enclosed the information for the Tomoka and Plymouth Avenue Landfills . If additional information is required please advise.

Respectfully submitted,

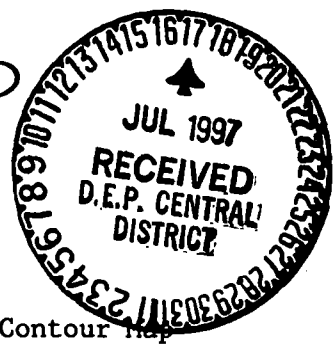
Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

C: J.L. Griffin, Director Solid Waste Service Group
B. Gilley, Assistant Director Solid Waste Service Group

David N. Gomberg, Ph.D.
Water Resources Consultant
3006 Surfside Blvd.
Cape Coral, FL 33914
(941) 549-1297

July 9, 1997



Memo to: Susan M. Gaze

Re: Tomoka Landfill - Semi-annual Ground Water Contour Map and Water Level Data

cc: James L. Griffin, Bob Sullivan

1. The accompanying map and table of water elevations are intended for submittal to comply with reporting requirements 20 and 21 of The Ground Water Monitoring Plan Implementation Schedule for Tomoka Landfill.

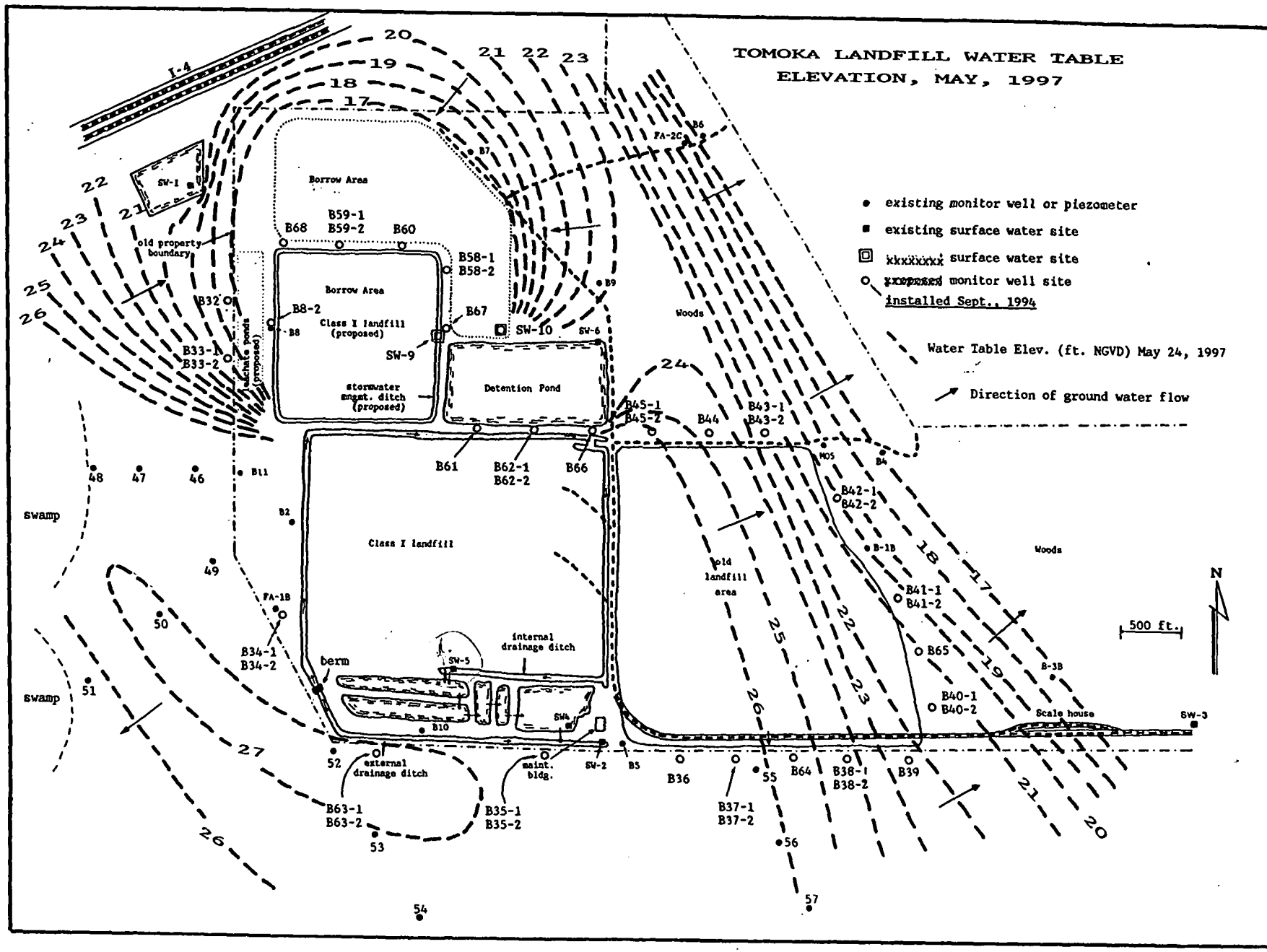
2. The water level data used in map preparation are for May, 1997. These were collected by Bob Sullivan of Karr Environmental, and were the most recent available to me.

3. The map and data should also allow you to respond to the information request contained the the 5/20/97 letter to you from Dan R. Morrical of FDEP.

4. Water levels at Tomoka Landfill where higher this past May than is common for this time of year. If you check your rainfall records, I would expect you will find significant precipitation in the week or two prior to water level data collection.

5. For comparison, I have attached the Water Table map for June, 1996. Water levels this past May were about 1-2 feet higher in the old landfill area and south of the active area than they were a year ago, reaching a maximum elevation of slightly over 27 ft. NGVD in the southwest corner of the site. Water levels along the eastern edge of the site are the same as or slightly lower than a year ago, with a minimum elevation just under 17 ft. NGVD. The direction of ground water flow is regionally east-northeastward, as in the past. Also as before, dewatering in the borrow area redirects local ground water flow radially inward.

DNG
7/9/97


TOMOKA LANDFILL WATER TABLE ELEVATION, MAY, 1997
existing monitor well or piezometer
existing surface water site
xxxxxxxx surface water site
xxxxxxx monitor well site installed Sept., 1994
Water Table Elev. (ft. NGVD) May 24, 1997
Direction of ground water flow
I-4
SW-1
old property boundary
Borrow Area
B59-1
B68
B59-2
B60
B58-1
B58-2
Borrow Area
B32
B8-2
B8
Class I landfill (proposed)
B67
SW-10
SW-6
SW-9
B33-1
B33-2
leachate ponds (proposed)
stormwater mngmt. ditch (proposed)
Detention Pond
B45-1
B45-2
B44
B43-1
B43-2
B61
B62-1
B62-2
B66
B11
B2
Class I landfill
swamp
swamp
FA-1B
B34-1
B34-2
berm
SW-5
internal drainage ditch
B10
SW4
external drainage ditch
maint. bldg.
SW-2
B5
B36
B37-1
B37-2
B64
B38-1
B38-2
B39
B63-1
B63-2
B35-1
B35-2
FA-2C
B6
B7
B9
Woods
MO5
B4
B42-1
B42-2
B-1B
old landfill area
B41-1
B41-2
B65
B40-1
B40-2
B-3B
Scale house
SW-3
Woods
500 ft.
N
48
47
46
49
50
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52
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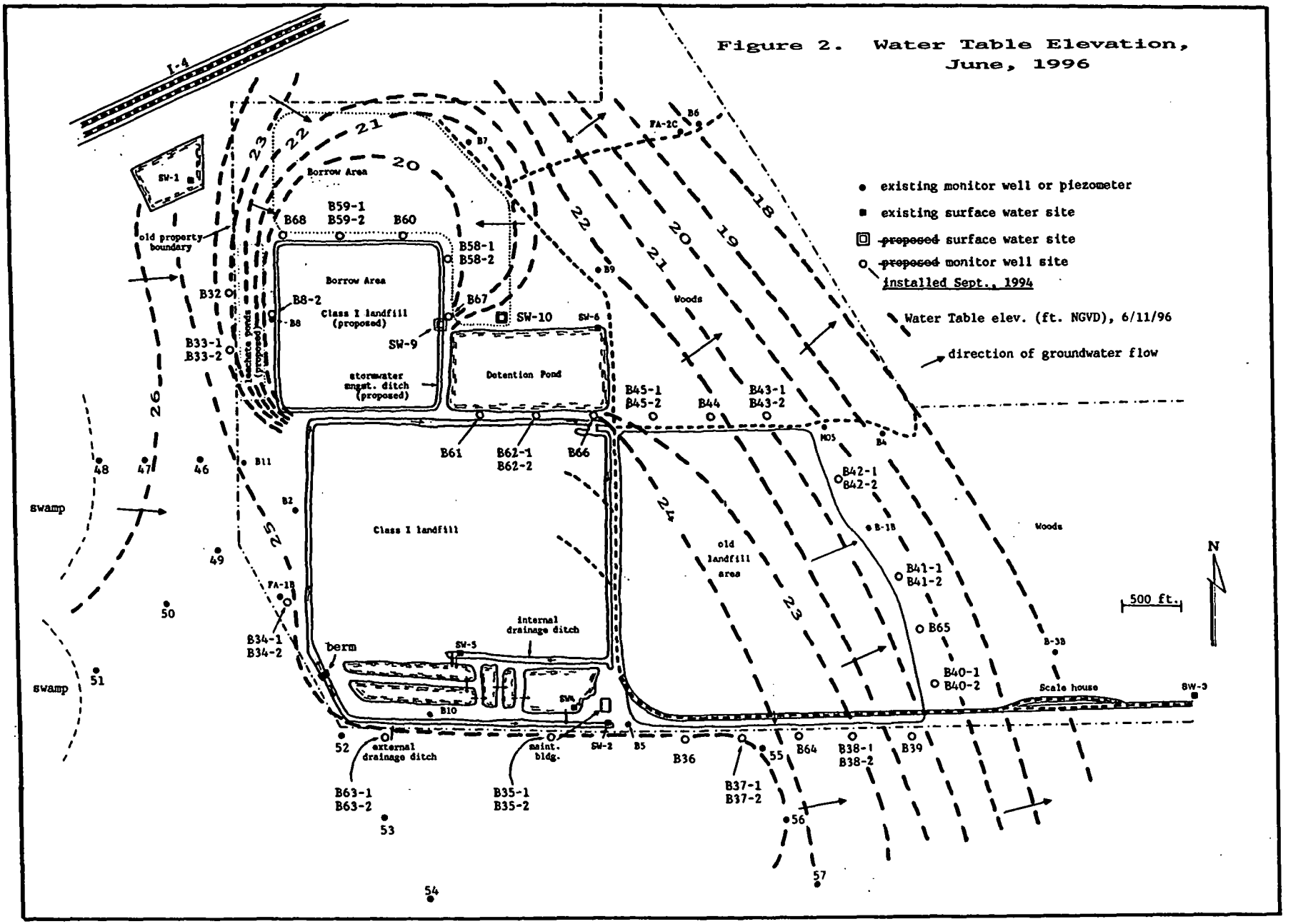
56
57

Figure 2. Water Table Elevation, June, 1996



TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

WELL I.D.	WELL SURVEY (TOC)	MAY 1997 WATER LEVEL TOC	MAY 1997 WATER LEVEL MSL	april	MARCH	FEB	JAN	DEC	NOV
B1B	27.31	10.48	16.83	16.46	17.45	17.84	18.89	19.33	20.11
B2B	31.81	6.40	25.41	25.5	26.69	25.57	24.68	25.09	26.06
B3B	27.17	10.10	17.07	16.41	17.34	17.74	18.78	19.16	19.71
B4	27.69	10.75	16.94	16.71	17.72	18.65	19.02	19.75	20.44
B5B	32.66	7.45	25.21	26.3	26.64	26.59	25.76	25.88	26.45
B6	27.3	11.21	16.09	16.38	17.16	19.07	19.83	20.38	20.79
B7	29.46	11.67	17.79	17.95	18.19	18.39	19.36	19.94	20.7
B8-1	33.02	16.11	16.91	16.7	17.61	17.57	18.57	19.11	19.89
B8-2	33.3	15.08	18.22	18.14	18.29	18.28	18.92	19.52	20.29
B-9	30.76	8.37	22.39	22.46	21.82	22.28	23.08	23.64	24.3
B10	32.2	5.02	27.18	26.69	27.16	26.44	26.77	26.99	27.63
B11	30.63	7.19	23.44	23.63	23.74	23	23.29	23.72	24.51
B32	30.51	12.66	17.86	17.04	18.26	16.81	17.61	17.94	18.73
B33-1	32.82	13.09	19.73	19.55	20.13	19.41	20.48	20.97	21.95
B33-2	32.1	12.95	19.16	19.09	19.55	18.59	20.32	21.02	21.86
B34-1	31.18	6.19	25.99	24.83	26.39	24.64	24.92	25.1	26.17
B34-2	31.21	4.60	26.61	25.22	27	24.86	25.2	26.47	26.6
B35-1	29.29	3.26	26.03	24.95	26.24	25.38	25.59	25.85	26.44
B35-2	29.36	2.55	26.81	25.1	27.06	25.31	25.6	26.83	26.58
B36	29.27	2.87	26.4	24.81	26.66	24.82	25.06	25.27	25.75
B37-1	28.59	2.99	25.6	24.19	25.8	24.41	24.67	24.94	25.62
B37-2	28.72	2.31	26.41	25.27	26.67	24.63	24.94	25.14	25.84
B38-1	28.22	5.59	22.63	21.39	22.83	21.9	22.57	22.98	23.8
B38-2	28.08	3.30	24.78	22.87	24.99	22.36	23.43	23.72	24.64
B39	29.06	7.50	21.56	19.63	21.82	20.72	21.85	22.28	23.34
B40-1	27.64	7.36	20.28	18.26	19.49	21.17	20.92	21.97	21.97
B40-2	27.68	4.02	23.66	19.34	21.07	19.58	20.27	20.9	23.26
B41-1	29.14	10.23	18.91	16.93	17.92	18.28	19.44	19.88	20.67
B41-2	29.26	8.76	20.5	18.76	20.64	21.35	22.31	22.79	23.48
B42-1	28.5	11.09	17.41	17.16	18.22	18.67	20.66	21.3	20.98
B42-2	28.36	9.83	18.53	18.11	20.5	21.05	22.25	22.8	23.08
B43-1	28.07	6.23	21.84	20.07	20.44	20.67	21.46	22.13	22.7
B43-2	28.21	6.01	22.2	20.37	20.73	20.85	21.69	22.21	22.67
B44	30.02	4.25	25.77	22.22	22.34	22.55	22.91	23.3	23.51
B45-1	30.24	4.21	26.03	23.04	23.13	23.19	23.57	24	24.25
B45-2	30.31	4.22	26.09	23.11	23.07	23.12	23.42	23.88	24.1
B58-1	29.02	17.06	11.96	11.14	11.57	11.33	11.6	11.98	12.21
B58-2	29.57	14.71	14.86					15.05	15.31

TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

WELL I.D.	WELL SURVEY (TOC)	MAY 1997 WATER LEVEL TOC	MAY 1997 WATER LEVEL MSL	april	MARCH	FEB	JAN	DEC	NOV
B59-1	27.77	15.42	12.35	17.36	12.77	11.69	12.13	12.63	12.8
B59-2	27.79	15.21	12.58	11.36	11.97	14.87	15.92	16.56	15.95
B60	28.84	15.43	13.41	11.26	11.29	11.07	11.32	11.74	13.32
B61	31.53	4.07	27.46	23.86	23.95	23.52	22.71	22.55	23.71
B62-1	29.09	4.10	24.99	23.65	23.73	23.32	22.62	22.2	22.17
B62-2	29.63	4.15	25.48	24.28	24.45	24.05	23.61	23.15	23.23
B63-1	30.06	3.14	26.92	25.65	26.05	25.77	26.15	26.43	26.72
B63-2	30.42	3.29	27.13	25.66	26.54	25.72	25.91	26.07	26.6
B64	28.19	2.45	25.74	24.07	25.74	24.11	24.27	24.41	25.18
B65	28.04	4.30	23.74	18.92	21.04	21.33	21.93	22.49	23.25
B66	31.27	5.23	26.04	24.13	24.23	22.53	22.75	22.92	23.51
B67	30.22	15.08	15.14	13.62	13.88	13.61	14.5	15.13	15.41
B68	29.73	13.54	16.19	15.07	15.57	15.48	16.15	16.62	16.87
FA-1B	32.16	15.30	16.86	16.79	17.15	17.98	18.93	19.7	20.24
FA-2C	26.9	13.71	13.19	13.12	13.66	13.75	14.89	15.59	16.19
MO5-B	29.24	12.50	16.74	16.65	17.54	17.93	18.84	19.49	20.26
46	30.28	4.21	26.07	25.63	26.48	25.66	26.07	26.37	26.97
47	31.07	4.79	26.28	25.93	26.53	25.87	26.41	26.7	27.26
48	30.83	4.25	26.58	26.25	26.95	25.96	26.6	26.91	27.79
49	30.43	4.23	26.2	25.73	26.59	25.48	26.02	26.41	27.42
50	31.81	4.61	27.2	26.11	27.58	25.55	25.99	26.4	27.3
51	30.77	5.19	25.58	24.98	25.97	24.77	25.25	25.72	26.64
52	30.37	3.30	27.07	26.41	27.39	25.29	25.66	25.82	26.34
53	30.45	3.56	26.89	25.13	27.17	25.13	25.43	25.78	26.28
54	29.92	3.23	26.69	24.87	26.91	24.68	24.84	25.18	25.94
55	29.08	2.73	26.35	24.57	26.55	24.6	24.61	24.46	25.37
56	30.06	4.30	26.76	23.96	25.97	23.82	23.94	24.32	25.88
57	28.7	2.57	26.13	24.04	26.28	23.74	23.94	24.19	25.7

SURFACE WATERS	MAY 1997 WATER LEVEL MSL	D.O.	P.H.	COND.
SW1	N/A	6.5	7.9	98
SW2	25.2	5.7	7.6	690
SW-3	23.25	6.4	7.8	580
SW-4	DRY	DRY	DRY	DRY
SW-5	23	5.2	7.4	1100
SW-6	23.5	6.6	7.6	710
SW-9	N/A	5.7	7.9	810
SW-10	N/A	5.6	7.8	820

County of Volusia

PUBLIC WORKS SERVICES CENTER

SOLID WASTE SERVICES GROUP

1990 Tomoka Farms Road • Daytona Beach, FL 32124

Telephone (904) 947-2952 • Fax (904) 947-2955

July 14,1997

7/17 CA Make copy of part one (letter) of each set of copy Tomoka / Plymouth. DFC

Mr. Dan Morrical, P.E.
Solid Waste Section
Florida Department of Environmental Protection
3319 MaGuire Blvd., Suite 232
Orlando
Florida
32803-3767

Re: Tomoka Landfill and Plymouth Avenue Landfill
Semi-annual Ground Water Contour Map and Water Level Data

Dear Mr. Morrical:

Find enclosed the information for the Tomoka and Plymouth Avenue Landfills . If additional information is required please advise.

Respectfully submitted,
Susan M. Gaze

Susan M. Gaze, Environmental Specialist II
Solid Waste Service Group

C: J.L. Griffin, Director Solid Waste Service Group
B. Gilley, Assistant Director Solid Waste Service Group

David N. Gomberg, Ph.D.
Water Resources Consultant
3006 Surfside Blvd.
Cape Coral, FL 33914
(941) 549-1297

July 9, 1997

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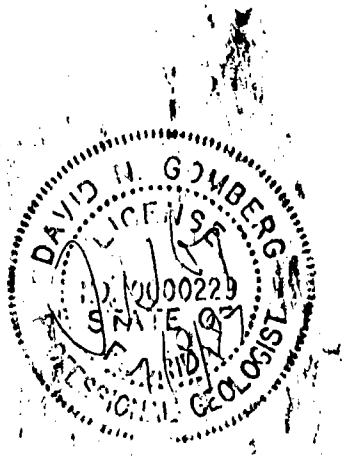
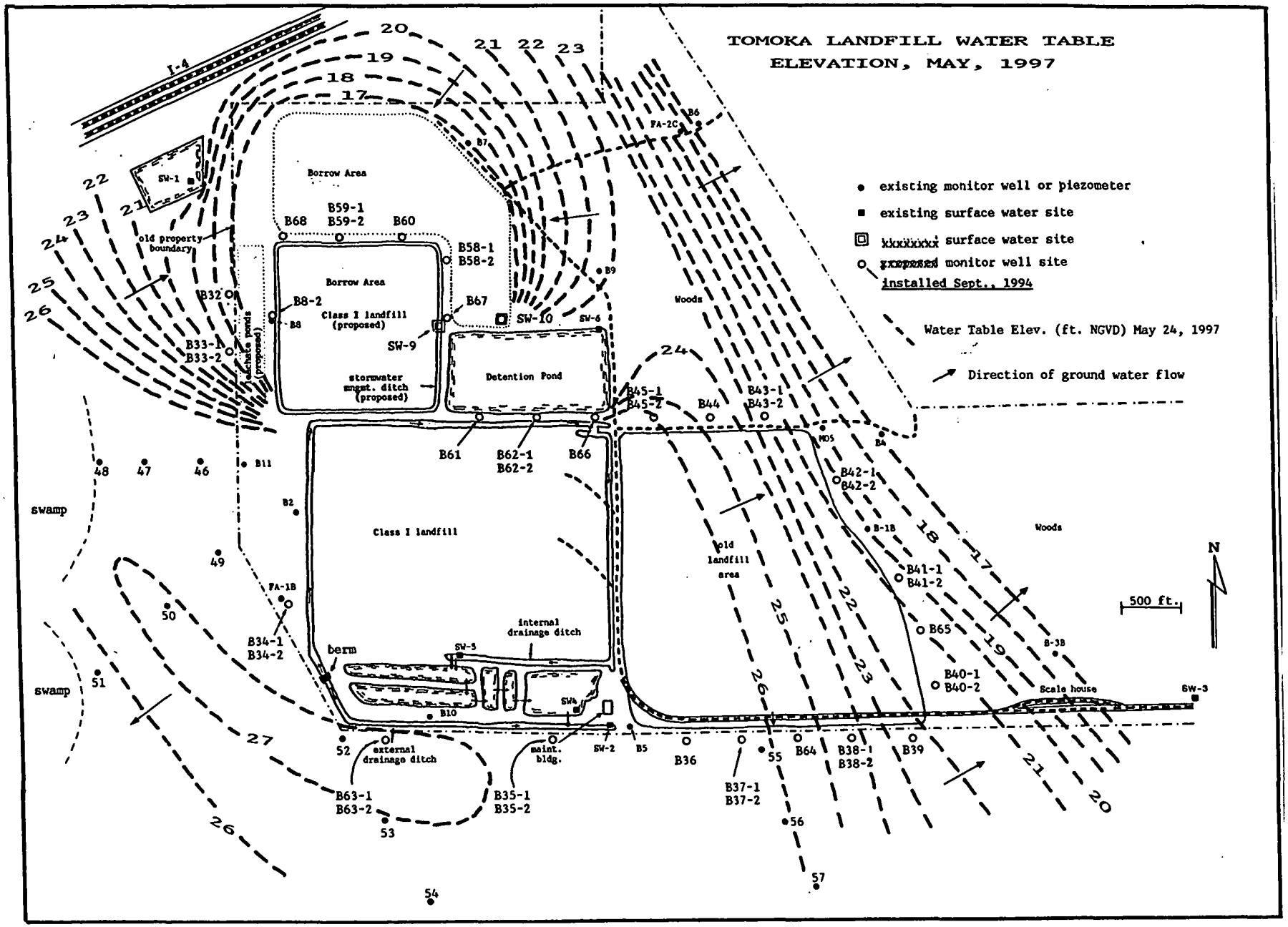
5. For comparison, I have attached the Water Table map for June, 1996. Water levels this past May were about 1-2 feet higher in the old landfill area and south of the active area than they were a year ago, reaching a maximum elevation of slightly over 27 ft. NGVD in the southwest corner of the site. Water levels along the eastern edge of the site are the same as or slightly lower than a year ago, with a minimum elevation just under 17 ft. NGVD. The direction of ground water flow is regionally east-northeastward, as in the past. Also as before, dewatering in the borrow area redirects local ground water flow radially inward.




TOMOKA LANDFILL WATER TABLE ELEVATION, MAY, 1997
existing monitor well or piezometer
existing surface water site
surface water site
proposed monitor well site
installed Sept., 1994
Water Table Elev. (ft. NGVD) May 24, 1997
Direction of ground water flow
500 ft.
N
I-4
SW-1
old property boundary
Borrow Area
B59-1
B68
B59-2
B60
B58-1
B58-2
Borrow Area
B8-2
B8
Class I landfill (proposed)
B67
SW-10
SW-6
SW-9
leachate ponds (proposed)
stormwater mngt. ditch (proposed)
Detention Pond
B32
B33-1
B33-2
B61
B62-1
B62-2
B66
B45-1
B45-2
B44
B43-1
B43-2
B6
FA-2C
B7
B9
Woods
MO5
B4
B42-1
B42-2
B-1B
B41-1
B41-2
B65
B40-1
B40-2
B-3B
Scale house
GW-3
B11
B2
Class I landfill
old landfill area
internal drainage ditch
berm
SW-5
SW4
B10
FA-1B
B34-1
B34-2
swamp
swamp
B5
B36
B64
B38-1
B38-2
B39
B37-1
B37-2
B63-1
B63-2
B35-1
B35-2
external drainage ditch
maint. bldg.
SW-2
48
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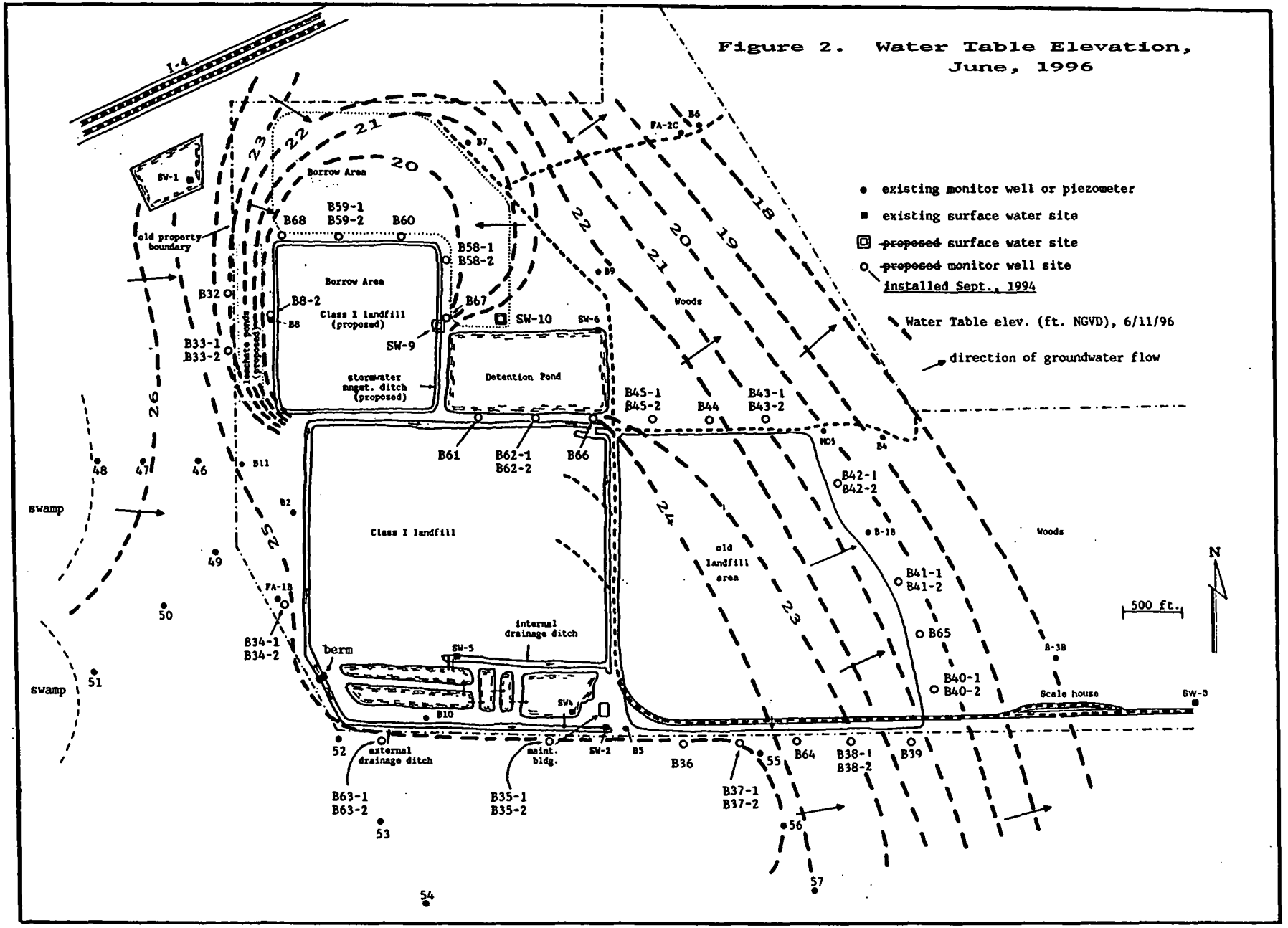
Figure 2. Water Table Elevation, June, 1996
I-4
SW-1
old property boundary
Borrow Area
B68
B59-1
B59-2
B60
B58-1
B58-2
B32
B8-2
B8
Class I landfill (proposed)
B67
SW-10
SW-6
SW-9
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leachate ponds (proposed)
stormwater mngmt. ditch (proposed)
Detention Pond
B61
B62-1
B62-2
B66
B45-1
B45-2
B44
B43-1
B43-2
B7
B9
FA-2C
B6
Woods
MO5
B4
B11
B2
Class I landfill
old landfill area
B42-1
B42-2
B-1B
B41-1
B41-2
B65
B40-1
B40-2
B-3B
Scale house
SW-3
swamp
swamp
FA-1B
B34-1
B34-2
berm
SW-5
internal drainage ditch
SW4
B10
external drainage ditch
maint. bldg.
SW-2
B5
B36
B37-1
B37-2
B64
B38-1
B38-2
B39
B63-1
B63-2
B35-1
B35-2
46
47
48
49
50
51
52
53
54
55
56
57
18
19
20
21
22
23
24
26
500 ft.
N
existing monitor well or piezometer
existing surface water site
~~proposed~~ surface water site
~~proposed~~ monitor well site
installed Sept., 1994
Water Table elev. (ft. NGVD), 6/11/96
direction of groundwater flow

TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

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B5B	32.66	7.45	25.21	25.3	26.64	25.59	25.76	25.88	26.45
B6	27.3	11.21	16.09	16.38	17.16	19.07	19.83	20.38	20.79
B7	29.46	11.67	17.79	17.95	18.19	18.39	19.36	19.94	20.7
B8-1	33.02	16.11	16.91	16.7	17.61	17.57	18.57	19.11	19.89
B8-2	33.3	15.08	18.22	18.14	18.29	18.28	18.92	19.52	20.29
B-9	30.76	8.37	22.39	22.46	21.82	22.28	23.08	23.64	24.3
B10	32.2	5.02	27.18	26.69	27.18	26.44	26.77	26.99	27.63
B11	30.63	7.19	23.44	23.63	23.74	23	23.29	23.72	24.51
B32	30.51	12.65	17.86	17.04	18.26	16.81	17.61	17.94	18.73
B33-1	32.82	13.09	19.73	19.55	20.13	19.41	20.48	20.97	21.95
B33-2	32.1	12.95	19.15	19.09	19.55	18.59	20.32	21.02	21.85
B34-1	31.18	6.19	25.99	24.83	26.39	24.64	24.92	25.1	26.17
B34-2	31.21	4.60	26.61	26.22	27	24.86	25.2	26.47	26.6
B35-1	29.29	3.26	26.03	24.95	26.24	25.38	25.59	25.85	26.44
B35-2	29.36	2.55	26.81	25.1	27.06	25.31	25.6	25.83	26.58
B36	29.27	2.87	26.4	24.81	26.65	24.82	25.08	25.27	25.75
B37-1	28.59	2.99	25.6	24.19	25.8	24.41	24.67	24.94	25.62
B37-2	28.72	2.31	26.41	26.27	26.67	24.83	24.94	25.14	25.84
B38-1	28.22	5.59	22.63	21.39	22.83	21.9	22.67	22.98	23.8
B38-2	28.08	3.30	24.78	22.87	24.99	22.36	23.43	23.72	24.64
B39	29.06	7.50	21.56	19.63	21.82	20.72	21.85	22.28	23.34
B40-1	27.64	7.36	20.28	18.26	19.49	21.17	20.92	21.97	21.97
B40-2	27.68	4.02	23.66	19.34	21.07	19.58	20.27	20.9	23.26
B41-1	29.14	10.23	18.91	16.93	17.92	18.28	19.44	19.88	20.67
B41-2	29.26	8.76	20.5	18.76	20.84	21.35	22.31	22.79	23.48
B42-1	28.5	11.09	17.41	17.16	18.22	18.67	20.66	21.3	20.98
B42-2	28.36	9.83	18.53	18.11	20.5	21.05	22.25	22.8	23.08
B43-1	28.07	6.23	21.84	20.07	20.44	20.67	21.45	22.13	22.7
B43-2	28.21	6.01	22.2	20.37	20.73	20.85	21.89	22.21	22.67
B44	30.02	4.25	25.77	22.22	22.34	22.55	22.91	23.3	23.51
B45-1	30.24	4.21	26.03	23.04	23.13	23.19	23.57	24	24.25
B45-2	30.31	4.22	26.09	23.11	23.07	23.12	23.42	23.88	24.1
B68-1	29.02	17.06	11.96	11.14	11.57	11.33	11.6	11.98	12.21
B58-2	29.57	14.71	14.86					15.05	15.31

TOMOKA LANDFILL MONTHLY WELL LEVEL MONITORING

WELL I.D.	WELL SURVEY (TOC)	MAY 1997 WATER LEVEL TOC	MAY 1997 WATER LEVEL MSL	april	MARCH	FEB	JAN	DEC	NOV
B59-1	27.77	15.42	12.35	17.36	12.77	11.69	12.13	12.63	12.8
B59-2	27.79	15.21	12.58	11.36	11.97	14.87	15.92	16.56	15.95
B60	28.84	15.43	13.41	11.26	11.29	11.07	11.32	11.74	13.32
B61	31.53	4.07	27.46	23.86	23.95	23.52	22.71	22.56	23.71
B62-1	29.09	4.10	24.99	23.65	23.73	23.32	22.62	22.2	22.17
B62-2	29.63	4.15	25.48	24.28	24.45	24.05	23.61	23.15	23.23
B63-1	30.06	3.14	26.92	25.85	26.05	25.77	26.15	26.43	26.72
B63-2	30.42	3.29	27.13	25.66	26.54	26.72	25.91	26.07	26.6
B64	28.19	2.45	25.74	24.07	25.74	24.11	24.27	24.41	25.18
B65	28.04	4.30	23.74	18.92	21.04	21.33	21.93	22.49	23.25
B66	31.27	5.23	26.04	24.13	24.23	22.53	22.75	22.92	23.51
B67	30.22	15.08	15.14	13.62	13.88	13.61	14.5	15.13	15.41
B68	29.73	13.54	16.19	15.07	15.57	15.48	16.15	16.62	16.87
FA-1B	32.16	15.30	16.86	16.79	17.15	17.98	18.93	19.7	20.24
FA-2C	26.9	13.71	13.19	13.12	13.66	13.75	14.89	15.59	16.19
MO5-B	29.24	12.50	16.74	16.65	17.54	17.93	18.84	19.49	20.26
46	30.28	4.21	26.07	25.63	26.46	25.66	26.07	26.37	26.97
47	31.07	4.79	26.28	25.93	26.53	25.87	26.41	26.7	27.28
48	30.83	4.26	26.58	26.25	26.95	26.96	26.6	26.91	27.79
49	30.43	4.23	26.2	25.73	26.59	25.48	26.02	26.41	27.42
50	31.81	4.61	27.2	26.11	27.58	25.55	25.99	26.4	27.3
51	30.77	5.19	25.58	24.98	25.97	24.77	25.25	25.72	26.64
52	30.37	3.30	27.07	26.41	27.39	25.29	25.66	25.82	26.34
53	30.45	3.56	26.89	26.13	27.17	25.13	25.43	25.78	26.28
54	29.92	3.23	26.69	24.87	26.91	24.68	24.84	26.18	26.94
55	29.08	2.73	26.35	24.57	26.55	24.6	24.51	24.45	25.37
56	30.06	4.30	26.76	23.98	25.97	23.82	23.94	24.32	25.88
57	28.7	2.57	26.13	24.04	26.28	23.74	23.94	24.19	25.7

SURFACE WATERS	MAY 1997 WATER LEVEL MSL	D.O.	P.H.	COND.
SW1	N/A	6.6	7.9	98
SW2	25.2	5.7	7.6	690
SW-3	23.25	5.4	7.8	580
SW-4	DRY	DRY	DRY	DRY
SW-5	23	5.2	7.4	1100
SW-6	23.6	6.6	7.6	710
SW-9	N/A	5.7	7.9	810
SW-10	N/A	5.6	7.8	820

KARR Envir. mental Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax # 904-775-4470

Mr. Chris Aoussat
Department of Environmental Protection
3319 Maguire Blvd.
Orlando Florida 32803

Dear Mr. Aoussat,

KARR Environmental Inc. is no longer performing organic analysis in house. All organic analyses are subcontracted to one of the following certified laboratories; Bionomics Laboratory, Southern Analytical and Envirodyne. KARR had stopped performing the organic analysis in November 1996 and has no intention of performing the analysis for at least another year until more staff members can be hired to adequately perform the organic analysis.

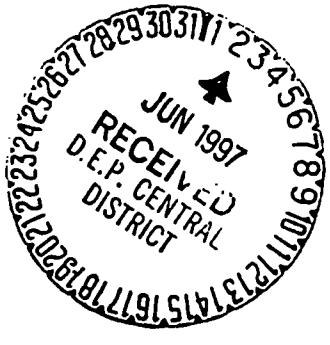
KARR Environmental had terminated an employee the end of March and the individual has contacted every one of KARR's clients and written complaints to regulatory agencies about KARR falsifying results. While KARR in not perfect there is never any intentional falsification of results. KARR invites any and all regulatory agencies to drop in at any time unannounced to see the operation of the lab.

If you wish to check with the other labs about any subcontracting issues this letter will suffice for my permission to the other labs to release any and all information pertaining to KARR's subcontracting of samples .

If I can be of further assistance please feel free to give me a call

Sincerely Yours

Robert L. Sullivan
Lab Director



County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road, Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

May 28,1997

Mr. Dan R. Morrical, P.E.
Program Manager
Solid Waste Program
Department of Environmental Protection
Central District
3319 Maguire Boulevard, Suite 232
Orlando, Fla.
32803-3767

Re: OCD-SW-97-0232 Tomoka and Plymouth Landfill Semi-annual Monitoring Data

Dear Mr. Morrical: 6/2 CA

Chris — Copy a Copy a cont. Enclosed

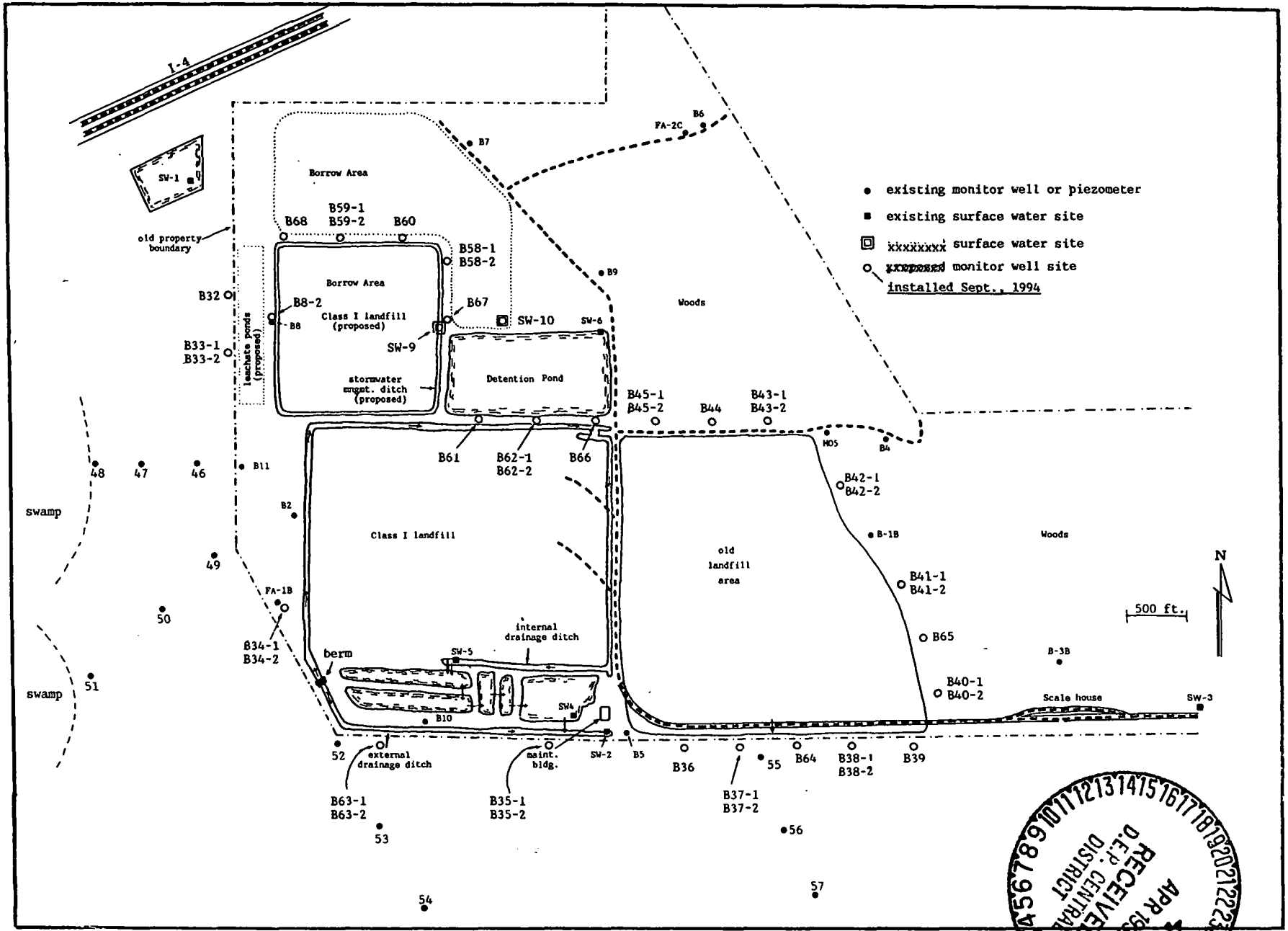
In response to your correspondence dated May 20,1997, please be advised the semi-annual ground water monitoring parameter report forms enclosed will be used in the June sampling event and to continue in future events. Flow contour maps and a table of groundwater elevations will also be enclosed.
In response to the Tomoka Landfill L-1 leachate sampling point, this sampling point relates to the new cell which has no waste at this time. As soon as we start using the new cell and generate leachate, this sampling point will be included in the semi-annual monitoring data.
Dr. Gomberg will be copied, to expedite your needs pertaining to flow contour maps as well as a table of groundwater elevations.
If additional information or clarification is needed please call me at (904) 947-2952.

Respectfully submitted,

Susan Margaret Gaze

Susan Margaret Gaze, Environmental Specialist II
Solid Waste Service Group

C: JL Griffin, Director Solid Waste Services
Dr. D. Gomberg, 3006 Surfside Blvd., Cape Coral, Fla. 33914



Tomoka File

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road, Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

March 24, 1997

CA

3/28

Mr. Dan Morrical, P.E.
Program Manager, Solid Waste
Florida Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, Fl 32803-3767

Re: December Quarter 1996

Tomoka Landfill: Permit No. SO64-34352, IO64-39230, NPDES No. FI0037877, Permit No. SO64-171906,SO64-121811 and SO64-179781
Plymouth Landfill: Permit No. SO64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are Monitoring Wells and Surface Water Analysis Reports for the Tomoka and Plymouth Landfill Systems.
Exceedences are covered in the summary letter prepared by Karr Environmental Laboratory. When reading this summary letter you will notice new volatiles appearing in the newly constructed shallow wells, located at the Plymouth Avenue Landfill. We believe this is not a Landfill problem, but a sampling problem dealing perhaps with the new PVC casings?
These results should not be considered the final results.
The Solid Waste Division will meet with Dr. Gomberg and Bob Sullivan to determine our next move in resolving this error, keeping the Department notified of any pending activity. If we feel the wells need to be better developed, all water pumped would be collected and taken to a treatment facility.
Thanking you in advance for your consideration in this matter.

Respectfully submitted

Susan Margaret Gaze

Susan Margaret Gaze, Environmental Specialist II
Solid Waste Service Group
SMG/smg
Enclosure(s)

C: JL Griffin, Director of Solid Waste Service Group
B. Gilley, Assistant Director of Solid Waste Service Group
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, Floirda 33904

KARR Environmental Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax # 904-775-4470

03/13/97

Mr. Jim Griffin
Director of Solid Waste
Volusia County
123 West Indiana Avenue
Deland, Fl 32720

Dear Mr. Griffin:

KARR Environmental sampled Tomoka Farms Road Landfill (12/03/96) and Plymouth Avenue Landfill (12/17/96). Both Landfills exhibit Volatile hits.

Tomoka Farms Road Landfill volatile hits primarily border the old landfill which is currently being used for construction and debris. Well 37-2 is of significance due to the large vinyl chloride hit of 232 ppb.

Plymouth Avenue Landfill had hits primarily on the downstream side of the landfill. The nitrates continue their downward slide in concentration and the values are under 25 ppm. Monitor well 13-1 was sampled in January due to the well being damaged prior to December and then being repaired in early January.

A complete list of excedences of DEP's Ground Water Guidance values are included in the following pages. The columns MCL (guidance values) and MDL (lower laboratory analytical range) are included with the result values for comparison purposes.

If I can be of further assistance please feel free to give me a call

Sincerely Yours,

Robert L. Sullivan
Lab Director

KARR Environmental Inc.

1495 South Volusia Ave, Orange City FL 32763

Certification # E83325 QAPlan 910047G

Projectname: Tomoka Farms Rd

Submission: 96120035

SAMPLE	COMPOUND	METHOD	MCL	RESULT	UNITS	MDL
B 1 B	Iron	7380	300	13800	UG/L	100
B 2	Iron	7380	300	11600	UG/L	100
B 5 B	Iron	7380	300	5500	UG/L	100
B 8	Iron	7380	300	4200	UG/L	100
B 8-2	Iron	7380	300	2600	UG/L	100
B 11 B	Iron	7380	300	2000	UG/L	100
B 11 B Duplicate	Iron	7380	300	2600	UG/L	100
B 32	Iron	7380	300	2300	UG/L	100
B 33-2	Turbidity, Field	180.1F	20	132	NTU	0.1
B 34-1	Iron	7380	300	6200	UG/L	100
B 34-2	Turbidity, Field	180.1F	20	42	NTU	0.1
B 34-2	Iron	7380	300	1800	UG/L	100
B 35-2	Iron	7380	300	650	UG/L	100
B 36	Iron	7380	300	2900	UG/L	100
B 36	Benzene	8260	1	1.3	UG/L	1
B 36	Vinyl Chloride	8260	1	2.1	UG/L	1
B 36 Duplicate	Iron	7380	300	2800	UG/L	100
B 36 Duplicate	Benzene	8260	1	1.4	UG/L	1
B 36 Duplicate	Vinyl Chloride	8260	1	2.4	UG/L	1
B 37-1	Iron	7380	300	28900	UG/L	100
B 37-1	Sodium	7770	160	329	MG/L	0.5
B 37-1	Benzene	8260	1	11.9	UG/L	1
B 37-2	Iron	7380	300	15400	UG/L	100
B 37-2	Benzene	8260	1	1.8	UG/L	1
B 37-2	Vinyl Chloride	8260	1	232	UG/L	1
B 38-1	Iron	7380	300	8000	UG/L	100
B 38-2	Iron	7380	300	4000	UG/L	100
B 39	Turbidity, Field	180.1F	20	106	NTU	0.1
B 39	Iron	7380	300	9300	UG/L	100
B 40-1	Turbidity, Field	180.1F	20	23	NTU	0.1
B40-1 Duplicate	Turbidity, Field	180.1F	20	23	NTU	0.1
B 40-2	Turbidity, Field	180.1F	20	27	NTU	0.1
B 41-2	Iron	7380	300	5600	UG/L	100
B 43-1	Iron	7380	300	29000	UG/L	100
B 43-1	Sodium	7770	160	169	MG/L	0.5
B 43-1	Benzene	8260	1	8.3	UG/L	1
B 43-2	Iron	7380	300	1300	UG/L	100

l analyses performed in accordance with the latest approved edition of "Standard Methods for the Examination of Water and Wastewater" and "Methods for Chemical Analy: of Water and Wastes", unless otherwise noted.

Projectname: Tomoka . .is Rd

SAMPLE	COMPOUND	METHOD	MCL	RESULT	UNITS	MDL
B 43-2	Benzene	8260	1	1.7	UG/L	1
B 44	Iron	7380	300	11000	UG/L	100
B 45-1	Iron	7380	300	31400	UG/L	100
B 45-1	Sodium	7770	160	190	MG/L	0.5
B 45-1	Benzene	8260	1	5.0	UG/L	1
B 45-1	Vinyl Chloride	8260	1	1.6	UG/L	1
B 45-2	Iron	7380	300	2100	UG/L	100
B 58-1	Iron	7380	300	8000	UG/L	100
B 59-1	Iron	7380	300	7700	UG/L	100
B 59-2	Turbidity, Field	180.1F	20	67	NTU	0.1
B 60	Iron	7380	300	2600	UG/L	100
B 61	Iron	7380	300	50000	UG/L	100
B 62-1	Iron	7380	300	48000	UG/L	100
B 62-2	Chloride	325.3	250	288	MG/L	1
B 62-2	Iron	7380	300	75300	UG/L	100
B 62-2	Benzene	8260	1	2.7	UG/L	1
B 63-1	Iron	7380	300	1900	UG/L	100
B 63-2	Iron	7380	300	2700	UG/L	100
B 64	Iron	7380	300	30200	UG/L	100
B 64	Benzene	8260	1	2.4	UG/L	1
SW 10	Turbidity, Field	180.1F	20	26	NTU	0.1
SW 10	Iron	7380	300	700	UG/L	100
SW 2	Iron	7380	300	900	UG/L	100
SW 5	Iron	7380	300	900	UG/L	100
SW 9	Turbidity, Field	180.1F	20	35	NTU	0.1
SW 9	Iron	7380	300	900	UG/L	100

Robert L. Sullivan - Laboratory Director

l analyses performed in accordance with the latest approved edition of "Standard Methods for the Examination of Water and Wastewater" and "Methods for Chemical Analy: of Water and Wastes", unless otherwise noted.

KARR Environmental Inc.

1495 South Volusia Ave, Orange City FL 32763

Certification # E83325 QAPlan 910047G

Submission: 96120248

Projectname: Plymouth Avenue

SAMPLE	COMPOUND	METHOD	MCL	RESULT	UNITS	MDL
M 0 4	Iron	7380	300	670	UG/L	100
M 0 5	Nitrate Nitrogen	353.2	10	19	MG/L	0.05
M 0 5	Turbidity, Field	180.1F	20	40	NTU	0.1
M 10	Iron	7380	300	5600	UG/L	100
M 11	Nitrate Nitrogen	353.2	10	18.8	MG/L	0.05
M 11	Turbidity, Field	180.1F	20	30.9	NTU	0.1
M 11	Iron	7380	300	2100	UG/L	100
M 11	Benzene	8260	1	7.5	UG/L	1
M 12	Iron	7380	300	7000	UG/L	100
M 12	Benzene	8260	1	2.2	UG/L	1
M 12 Duplicate	Iron	7380	300	6300	UG/L	100
M 12 Duplicate	Benzene	8260	1	2.2	UG/L	1
M 14	Iron	7380	300	2500	UG/L	100
18 S-1	Turbidity, Field	180.1F	20	200	NTU	0.1
18 S-1	Iron	7380	300	47800	UG/L	100
18 S-1	Benzene	8260	1	5.1	UG/L	1
18 S-1	Vinyl Chloride	8260	1	2.6	UG/L	1
18 S-2	Iron	7380	300	15000	UG/L	100
18 S-2 Duplicates	Iron	7380	300	17000	UG/L	100
M 13-2	Vinyl Chloride	8260	1	4.4	UG/L	1
D 1	Iron	7380	300	29000	UG/L	100
D 2	Benzene	8260	1	3.6	UG/L	1
R 2	Iron	7380	300	3710	UG/L	100
R 2	Benzene	8260	1	5.9	UG/L	1
M 53-2	Iron	7380	300	16100	UG/L	100
M 53-2	Benzene	8260	1	2.0	UG/L	1
M 53-2	Vinyl Chloride	8260	1	1.1	UG/L	1
M 54-2	Benzene	8260	1	1.3	UG/L	1
M 55-1	Iron	7380	300	8400	UG/L	100
51- S Nitrate Well	Benzene	8260	1	2.6	UG/L	1
51- D Nitrate Well	Zinc	7950	5000	15100	UG/L	5
52- D Nitrate Well	Nitrate Nitrogen	353.2	10	19.7	MG/L	0.05
52- D Nitrate Well	Iron	7380	300	3000	UG/L	100
52- D Nitrate Well	Zinc	7950	5000	5100	UG/L	5
52- S Nitrate Well	Turbidity, Field	180.1F	20	25	NTU	0.1
52- S Nitrate Well	Iron	7380	300	19600	UG/L	100
52- S Nitrate Well	Benzene	8260	1	3.6	UG/L	1

l analyses performed in accordance with the latest approved edition of "Standard Methods for the Examination of Water and Wastewater" and "Methods for Chemical Analy: of Water and Wastes", unless otherwise noted.

Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

March 25, 1997

McKim & Creed Engineers
483 South Nova Road
Ormond Beach, Florida 32174

OCD-SW-97-0119

Attention: Mr. Scott Spooner, Senior Project Engineer

Volusia County - SW
Tomoka Farms Road Landfill
Response to March 11, 1997 Correspondence

Dear Mr. Spooner:

The Department has reviewed the correspondence from Dr. David Gomberg and concurs with his responses. The issues of concern have been addressed and the State sees no reason not to proceed with the completion of the contamination assessment.

If you should have any questions, please call Chris Aoussat in the Solid Waste Section at 407/893-3328.

Sincerely,

Dan R. Morrical, P.E.
Program Manager
Solid Waste Program

DRM/ca

cc: James L. Griffin, Volusia County
Susan Gaze, Volusia County

COMET #20632

State of Florida
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Interoffice Memorandum

TO: BRET LEROUX FOR JIM RUSSELL

FROM: CHRIS AOUSSAT

DATE: 12/9/96

SUBJECT: County VOLUSIA Permit No. SO64-198377

Facility TOMOKA FARMS LANDFILL

Attachment RESPONSE TO CORRESPONDENCE OF 9/10/96

The attached is being sent to you for:

____ Information only

✓ Review and comments

If review and comments are needed, please respond:

✓ By 1/17/97

(Solid Waste deadline date is _____)

____ As soon as possible for your schedule.

Comments: _____

McKIM & CREED

ENGINEERS

SURVEYORS

PLANNERS

November 22, 1996

M&C 10410002.0F

CA

Mr. Dan Morrical, P.E.
Program Manager, Solid Waste
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767

RE: Volusia County - SW
Tomoka Farms Road Landfill
Well B5 Contamination Assessment

Dear Mr. Morrical:

Enclosed please find correspondence from Dr. David Gomberg which responds to the comments contained within your correspondence of September 10, 1996.

If we can be of further assistance, please don't hesitate to call our office.

Sincerely,

McKIM & CREED ENGINEERS, P.A.

Scott R. Spooner, P.E.
Senior Project Engineer

/jls

cc: Mr. James L. Griffin, Director, Solid Waste Services Group
Ms. Susan Gaze, Volusia County Environmental Spec II
Dr. David Gomberg

NORTH CAROLINA

FLORIDA

483 S. NOVA ROAD

ORMOND BEACH, FL 32174

904/672-5660

FAX 904/673-8264

601 CLEVELAND STREET

SUITE 205

CLEARWATER, FL 34615

813/442-7196

FAX 813/461-3827

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David N. Gomberg, Ph.D.
Water Resources Consultant
3006 Surfside Blvd.
Cape Coral, FL 33914
(941) 549-1297

11/14/96

November 14, 1996

Memo to: Scott R. Spooner, P.E.
McKim & Creed

Re: Tomoka Landfill Contamination Assessment Near Well B5 -
Response to 9/10/96 Letter from Dan R. Morrical, P.E. of FDEP

cc: James L. Griffin, Volusia Co.
Susan Gaze, Volusia Co.

The referenced letter from Dan Morrical was accompanied by a 7-point memo prepared by James B. Russell, P.E. of the Waste Cleanup Program. That memo dealt with a DEP review of data submitted by us concerning the Contamination Assessment near well B5, on the south side of Tomoka Landfill. The memo recommended that additional field work be undertaken to further define the extent of contamination. The letter from Dan Morrical requested that we respond to the items in the memo, which I do below.

As a preface to the responses, here is an update of the water quality monitoring that has been continuing at the site. The attached table, which was last revised in April, 1996, shows that through October, 1996 the extent of detectable contamination remains unchanged. For the last year, VOC's have been searched for in 10 wells near B5 and found only in B5-28, a well that is located within 17 feet of buried waste. These results continue to show no broadening of the local contamination that we have found, and to support our conclusion that groundwater in this area moves extremely slowly.

Here are responses to the 7 DEP memo items.

Comment 1. Based on the concentration of Vinyl Chloride detected in monitoring well B5-28 during monthly ground water monitoring events, a deeper monitoring well needs to be installed adjacent to B5-28. This well should be completed in the lithologic zone identified as Zone 6.

Response 1. We reluctantly agree to install a monitor well into Layer 6, in the vicinity of well B5-28. One location might be 10-15 feet south of B5-28, which is as far south as we can get without being too close to the overhead powerlines. The proposed location can be seen on the attached Phase II Site Location Map. Construction specifications are suggested in item 3 below. A second location is proposed after the following discussion.

It may be helpful to refresh our memories regarding Layer 6. This is a stratum about 10 feet thick of silty sand and shell. The top of the layer is at 47 ft. depth at site B5-19 and at 45 ft. depth at site B5-39. (The layer is horizontal; the ground at B5-19 is 2-3 ft. higher than at B5-39). Layer 6 is overlain by the clayey confining bed of Layer 5, which is laterally continuous in the area and has permeabilities of 10^{-6} to 10^{-8} cm/sec.

Geologic logs of the two test borings are enclosed; boring locations are shown on the site plan.

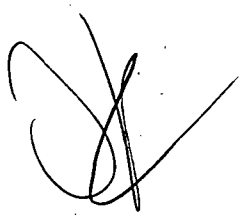
There are some good reasons not to drill into Layer 6. One of these reasons is that we already have strong evidence that Layer 6 is uncontaminated. So much data has been generated in the vicinity of B5 that this evidence may have been overlooked in the recent DEP review. During our Phase I assessment, we used the Geoprobe to sample water from Layer 6 at 6 locations (shown on an attached Figure), including very near B5-28. No VOC's were detected in any sample.

Another reason to avoid construction into Layer 6 is the technical difficulty of drilling through the confining layer, constructing a well into Layer 6, but not introducing even the least bit of contamination. Recall that VOC's in the upper strata at B5-28 are about 20,000 parts per billion (ppb) and that if even a few ppb's show up in Layer 6, we will very likely need to engage in an investigation with additional well construction - of equal difficulty. In fact, it was this very issue that originally led DEP to approve our CAP, wherein no wells would be constructed into Layer 6 if the Geoprobe results for that layer were negative.

A final reason to avoid construction into Layer 6 is cost. These are expensive wells, mostly because of the precautions needed to minimize the risk of introducing contamination. The proposed well will also be expensive because we will need to address health and safety concerns. Cost would not be a legitimate concern if we did not already have evidence that Layer 6 is uncontaminated. But we do have that evidence.

All this having been said (or, in this case, written), there is still an argument to be made for installing a well into Layer 6. Such a well would, if properly constructed, be a definitive statement regarding the presence or absence of contamination. Because it is not clear whether the arguments for or against should prevail, I propose that we construct a Layer 6 well at a location that minimizes the negatives but still accomplishes the objectives.

The alternate, recommended location is shown on the Site Plan. It is about 80 feet south of B5-28, on the other side of the powerlines, adjacent to B5-22 and B5-35. No VOC's have been detected in those wells for 18 months. Thus the chances of introducing contamination into Layer 6 are greatly reduced. We also do not need a sophisticated health and safety plan, but need only take precautions to insure no unacceptable exposures. Finally, it can be noted that VOC's were initially detected at this site in June, 1990. If, after 6½ years, they are not detected in Layer 6 at a distance of 80 feet from B5-28, one might reasonably conclude that Layer 6 remains uncontaminated. In other words, it is not necessary that the Layer 6 well be drilled in the middle of the highest contamination.



IS THIS AN OK ALTERNATE SITE?

Comment 2. Based on the concentration of Trichloroethene and Vinyl Chloride in monitoring well B5-25 during the November 1994 ground water sampling event, the following monitoring well clusters are needed to determine the lateral and vertical extent of contamination: one (1) cluster should be installed due north of monitoring well B5-25 and one (1) cluster due west of monitoring well B5-25. Well clusters should include a shallow (Zone 1 & 2) and an intermediate (Zone 4) monitoring well. Additionally, one (1) deep (zone 6) monitoring well should be installed adjacent to monitoring well B5-25.

Response 2. Five wells are recommended in this comment. I respectfully suggest that two of those wells can provide useful data, but that 3 of the wells should be omitted. For background, note that well B5-25 had VOC's of about 300 ppb's in Sept., 1994 and about 200 ppb's in Oct., 1994.

For all the reasons discussed in the previous response, I would argue that the recommended Layer 6 well should not be constructed. The original agreement with DEP was that, if the Geoprobe screening showed no VOC's in Layer 6, no monitor wells would be constructed into that layer. I suggest that the new agreement be that, if the Layer 6 well near B5-22 has no VOC's, we leave Layer 6 alone. If VOC's are found in the new well, we will evaluate at that time and based on what is detected, what additional steps are appropriate.

The well cluster recommended to the north of B5-25 leads us in a direction we have no reason to go. There is no zone of discharge in that direction, because everything is landfill. To the east is old landfill; to the west is active landfill. The only exception to this is the small island that includes the maintenance building and the nearby stormwater management ponds. There has never been, nor should there be, any suggestion that the extent of contamination within the landfill should be defined. To carry this a step further, suppose we install wells north of B5-25 and find some VOC's. What do we do then? We certainly would not propose a remediation effort, because we are effectively "in" the landfill. There would also be no point in drilling more wells even farther north, because that just extends the reconaissance deeper into landfill territory.

A well cluster to the west of B5-25, near the edge of the drainage canal, would furnish evidence as to whether groundwater containing VOC's might be seeping into the canal, from where it could conceivably be discharged to wetlands. While this possibly is quite remote, there is no substitute for the data that can be provided by monitoring wells. I propose that we install one well into Layer 1-2, screened at 7-12 feet below ground, and one well into Layer 4, screened at 26-31 feet below ground. The locations are shown on the Site Plan. Additional specifications are given below.

Comment 3. Please provide monitoring well design details for the Department's review and approval, prior to monitoring well installation of the new wells discussed in comments #1 and 2. Please bear in mind, in order to properly design ground water monitoring wells, continuous exploratory borings using split spoon samplers should be performed at all of the proposed well locations. Soil samples should be collected in each boring, for grain size distribution analysis, using split spoon samplers, from the depth interval in which the well screen will be set. This lithologic and grain size data should be used to design the filter pack(s) and screen slot size(s) using established EPA or ASTM design criteria. The proposed well designs incorporating these criteria or other technically justifiable criteria, should be provided the Department for approval prior to well installation. If Tomoka Farm Road Landfill chooses not to design and construct the ground water monitoring wells based upon site specific conditions., the Department recommends that the filter pack grain size and well screen slot size be as conservative as possible. If turbidity values during purging and sampling are high and the monitoring wells were not designed for specific conditions, the Department may require the well(s) to be abandoned and replacement wells, designed for site specific conditions, installed.

Response 3. Here is my proposed construction for the well into Layer 6. I am receptive to alternate suggestions. We will drive 6" galvanized steel casing from land surface to a depth of 40 feet, or into about the middle of confining Layer 5. We will then clean out the inside of the casing using solid-stem auger or, if that doesn't work, mud rotary techniques. Then we will use hollow stem auger inside the steel casing, to install a 2" PVC well into Layer 6 with the screen set at 45-50 ft. below ground.

The wells into Layer 1-2 and Layer 4 will be constructed using 4" I.D. hollow-stem auger. The casing and screens will be 2" diameter, flush-joint, Sch. 40 PVC. We learned several years ago from Bret LeRoux, P.G. of DEP that a conservative well design consisting of .008" screen slot size and filter pack of 30/40 sand would produce an acceptable monitoring well. That is what we propose, for these two wells and for the Layer 6 well. The filter pack will extend to 2 feet above the top of the screen, followed by a cement/bentonite slurry to land surface. Wells will be finished with a locking, steel, protective cover and a 2'x2'x6" cement slab. Development will be by gentle surging and pumping, to a relatively clear, sand-free condition.

Protocols for health and safety, and for handling of auger cuttings, development water and, if required, drilling fluids, will be the same as previously approved by DEP for the original Contamination Assessment.

Comment 4. Ground water from all of the new assessment monitoring wells should be collected and laboratory analyzed by USEPA methods 601 and 602. In addition to the newly proposed monitoring wells, the following existing monitoring wells need to be sampled to provide current site conditions: B5-23, B5-24, B5-25, B5-31, B5-33, and B5-36.

Response 4. We agree to follow the recommendations of this comment.

Comment 5. Dissolved oxygen and turbidity should be included in the field parameters to be collected during ground water sampling of the monitor wells. Should dissolved oxygen exceed 20 percent of saturation, resampling should be considered, since aeration of the sample may have occurred. Turbidity for a properly designed, constructed, developed and sampled well should not exceed 20 NTU's. These parameters as well as pH, temperature and specific conductivity should be collected during well purging and sampling. Care should be taken during sampling events to ensure that neither the water column in the wells nor the samples are agitated prior to or while filling sample containers. If wells are purged by pumping, low flow rates 0.5 to 2 liters per minute should be used. If the wells are bailed, during either purging or sampling, the bailer should be lowered and raised slowly to minimize disturbing the water column in the well. Field data sheets should be submitted in conjunction with the laboratory analytical reports.

Response 5. Robert Sullivan of KARR Environmental will be responsible for carrying out the field sampling and analytical work. He is intimately familiar with the protocols and procedures, having led similar efforts many times in the past. Bob agrees with and will conduct his field exercises in accordance with the recommendations of Comment 5.

Comment 6. Ground water levels in all wells, whether sampled or not, and all piezometers must be measured to the nearest 0.01 foot and reported. All water level measurements must be made within a one (1) day period. These measurements must be referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Please provide this data in a table detailing the ground water elevation data for all monitoring wells and/or piezometers. The table should include monitoring well name, date ground water measured, top of casing elevation referenced to NGVD, depth to ground water, and ground water elevation calculated to NGVD. Additionally, these data should be used to generate ground water elevation contour maps. These maps should include monitoring well and piezometer locations, ground water elevation at each monitoring well location referenced to NGVD, a bar scale, ground water contour interval, date of measurement and ground water flow direction.

Response 6. We agree completely with the comments regarding water level measurements. In fact, water levels in all monitor wells and piezometers at the landfill are measured monthly (though not required by permit), under precisely these guidelines.

Comment 7. Based on the hydrologic data presented to date, the ground water flow rate does not warrant monthly monitoring of the on-site monitoring wells. Monthly ground water monitoring may be discontinued at the discretion of Tomoka Farms Road Landfill/Volusia County.

Response 7. We appreciate these remarks, but would respectfully point out that the monthly monitoring program was undertaken voluntarily by the County and has always been subject to termination solely at the discretion of the County. Monitoring was begun to keep track of changes in the extent of VOC contamination and in the chemistry and concentration of contaminants. The monthly monitoring was continued to and past the point at which it was clear that localized VOC contamination represents no imminent threat to health or to the environment. After a year during which no change in the extent of contamination was observed, the frequency of sampling was reduced in June, 1996 to every other month. If no changes are observed in the December results, we will probably begin sampling on a quarterly basis.

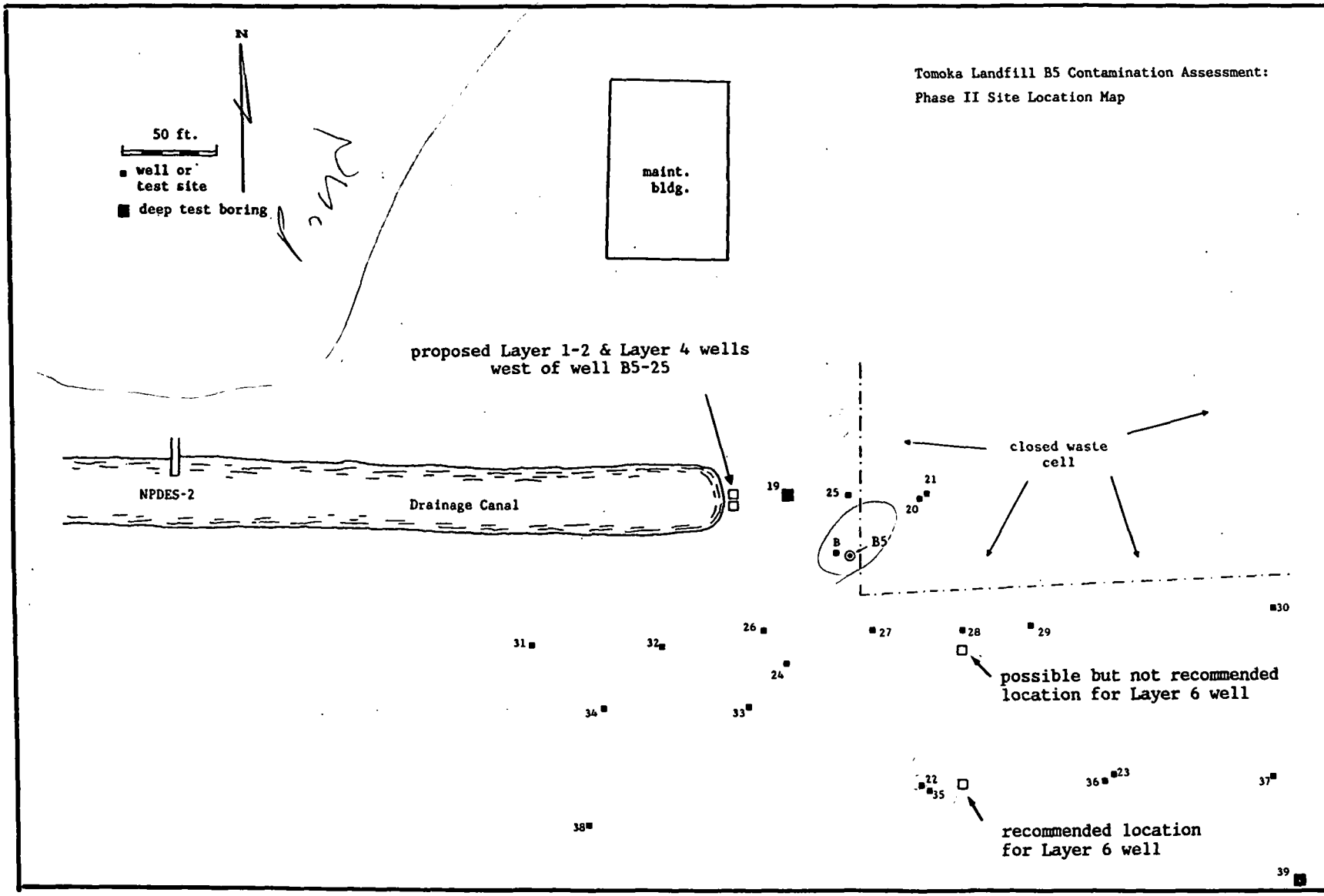
Total VOC's in monitor wells near B5,

(values in micrograms/liter)

Well	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1996 Jan.	Feb.	Mar.	April	May	Aug.	Oct.
B5-B	10	13	1.3	*	*	*	*	*	39	*	*	*	*	*	*	*	*	*	*
B5-22	2	9	2	1.2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
B5-28	6916	4724	10720	16120	704	14793	12684	4054	6521	14050	17300	5883	25230	18560	23050	68434	22620	19155	22661
B5-30A	11	33	15	11	*	1.3	24	*	3	*	*	*	*	*	*	*	*	*	*
B5-30B	3	38	14	*	*	1.3	*	1.3	*	*	*	*	*	*	*	*	*	*	*
B5-32	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
B5-34	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
B5-35	*	21	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
B5-37A	2	7	3	2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
B5-37B	79	35	19	7	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

*no VOC detected at greater than 1 ug/l

Tomoka Landfill B5 Contamination Assessment:
Phase II Site Location Map



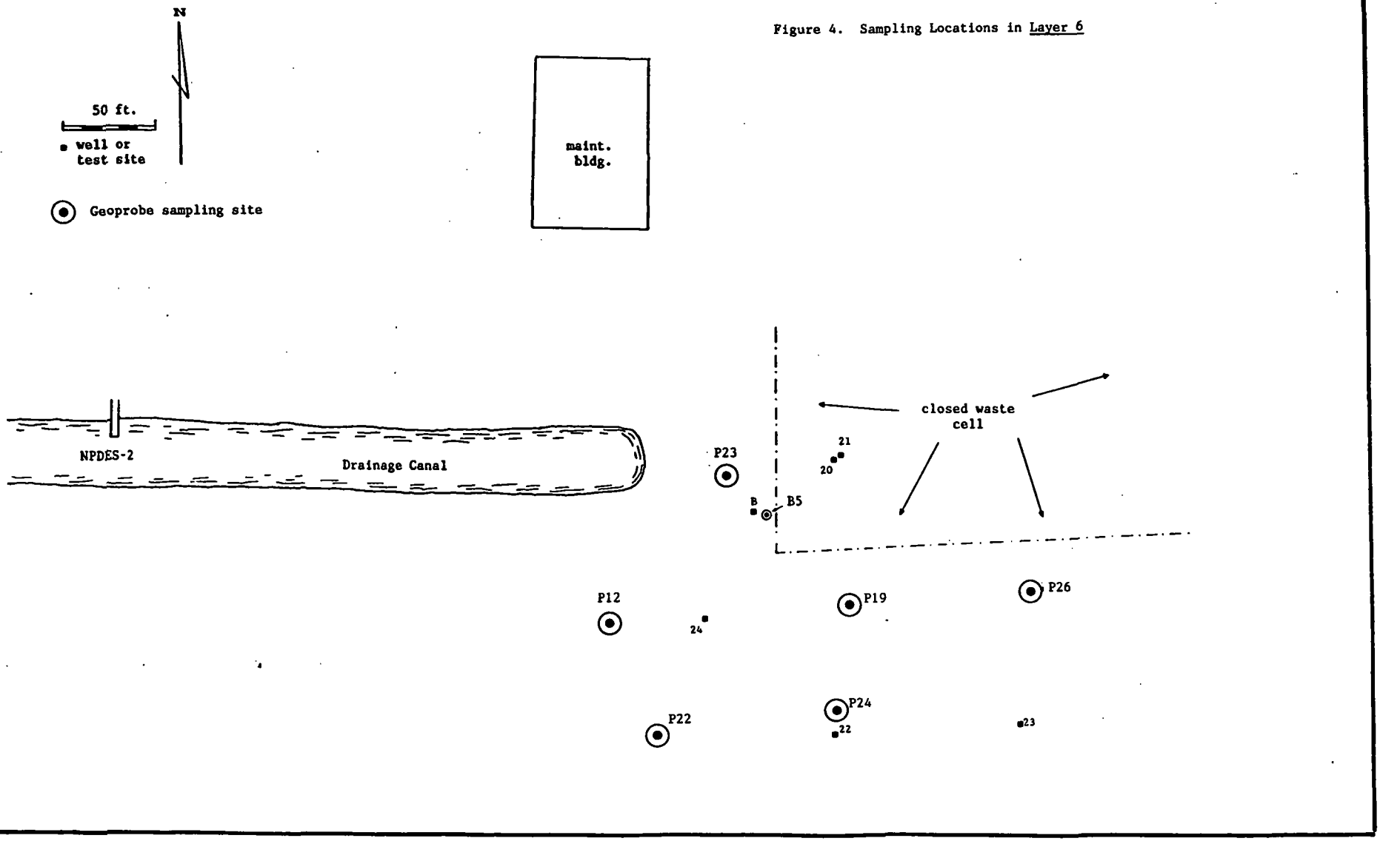
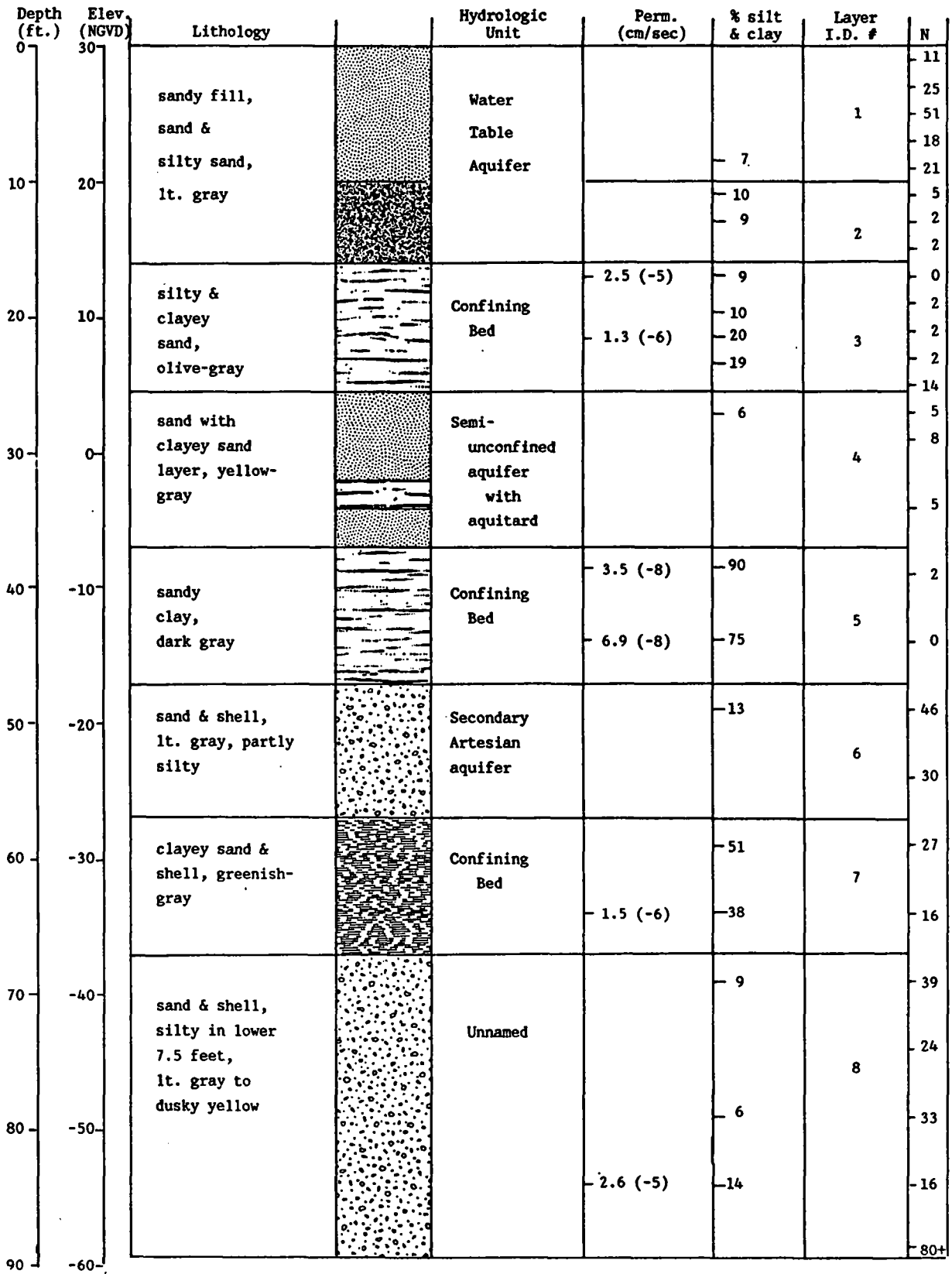
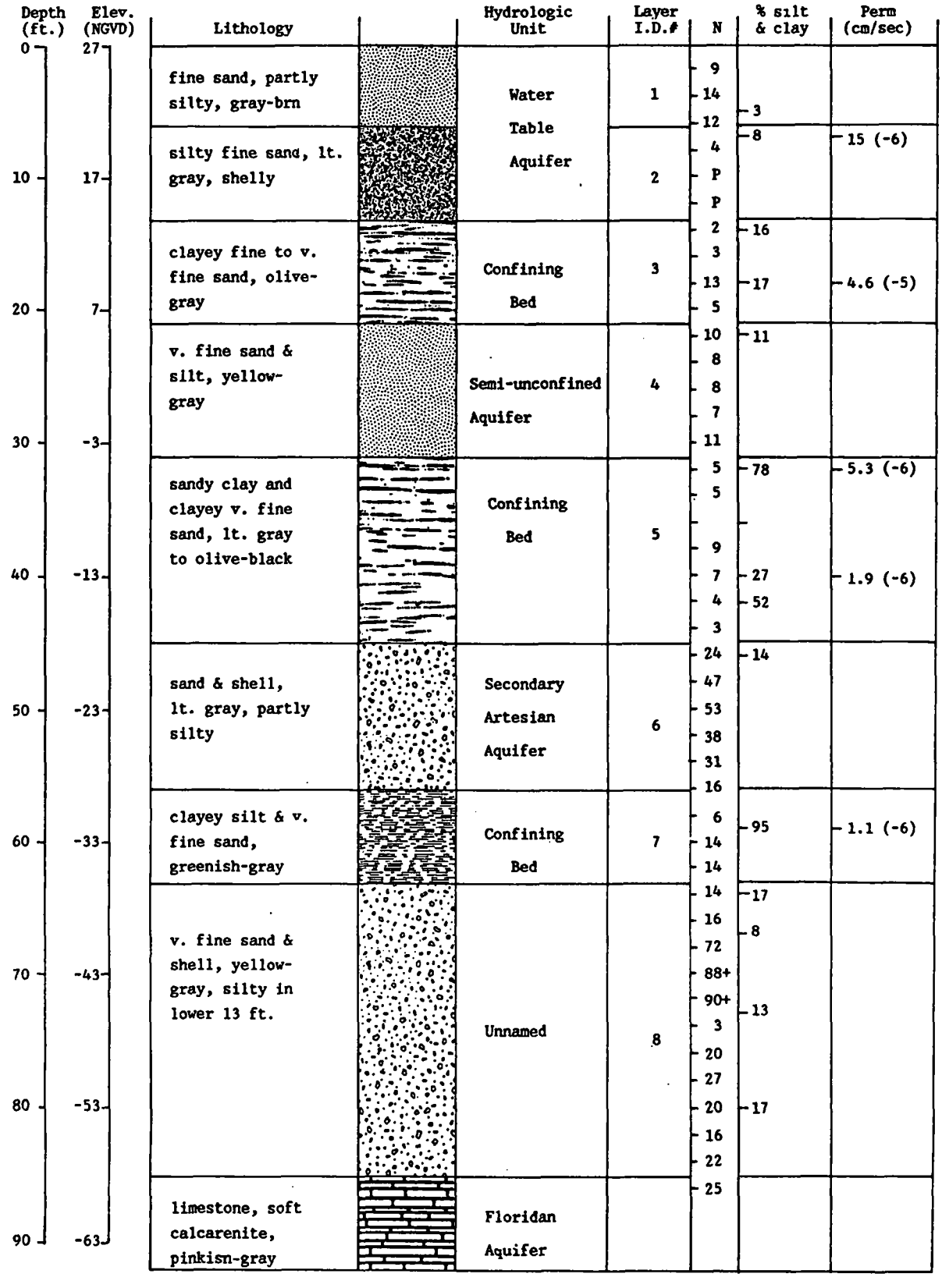


Figure 4. Sampling Locations in Layer 6

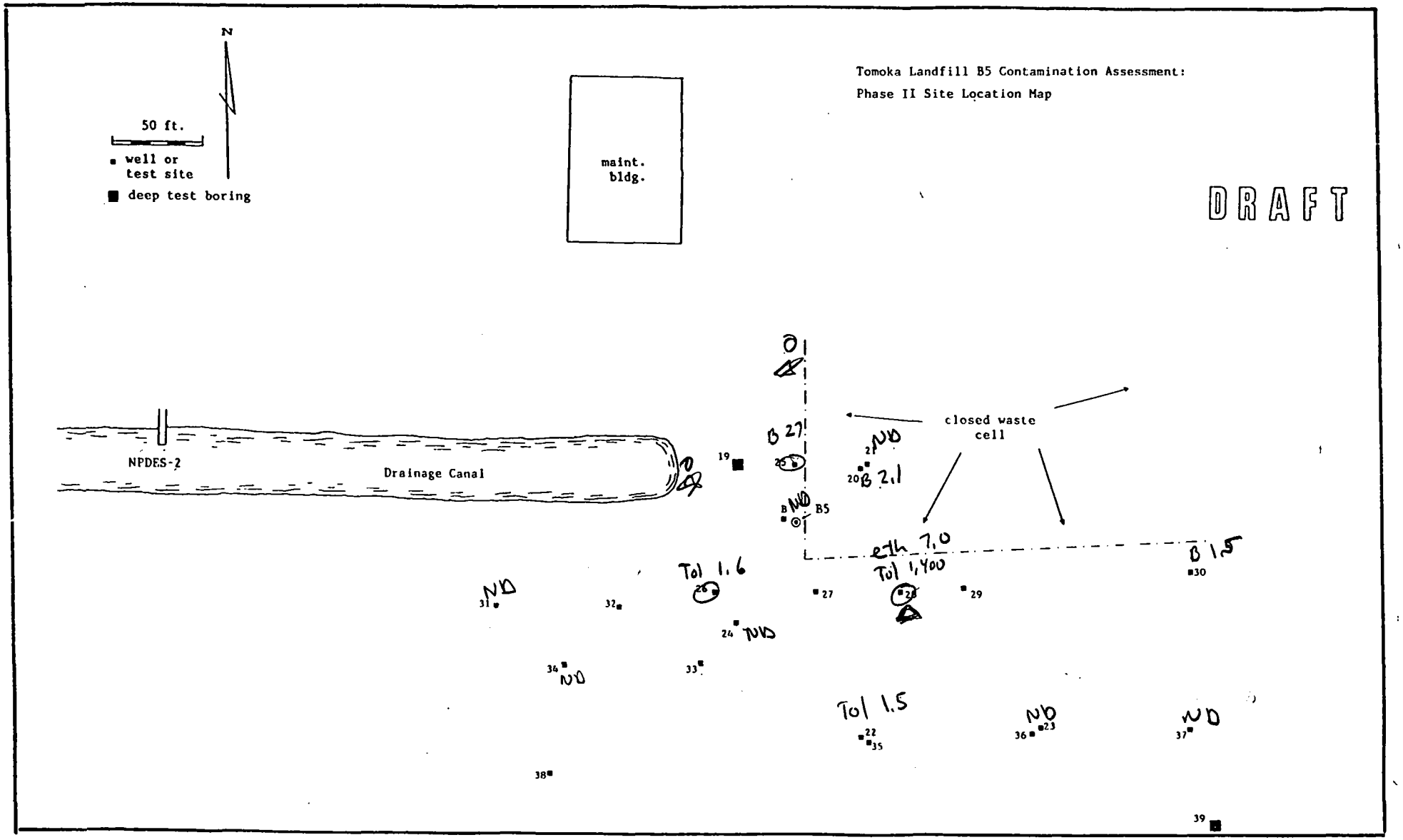


Hydrogeologic Profile, Site B5-19



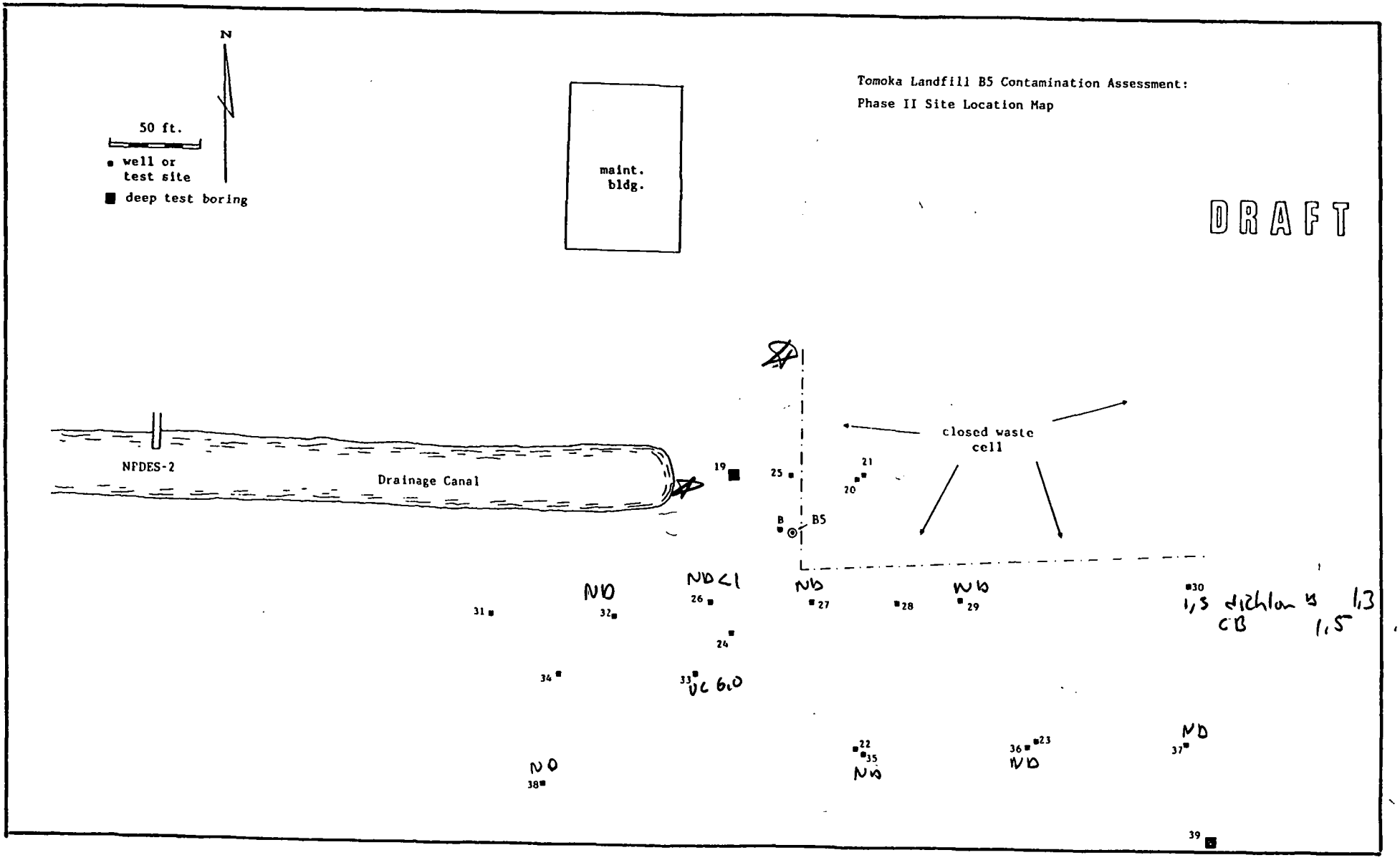
Hydrogeologic Profile, Site B5-39

Petroleum Pollutants
Deep / Zone 4

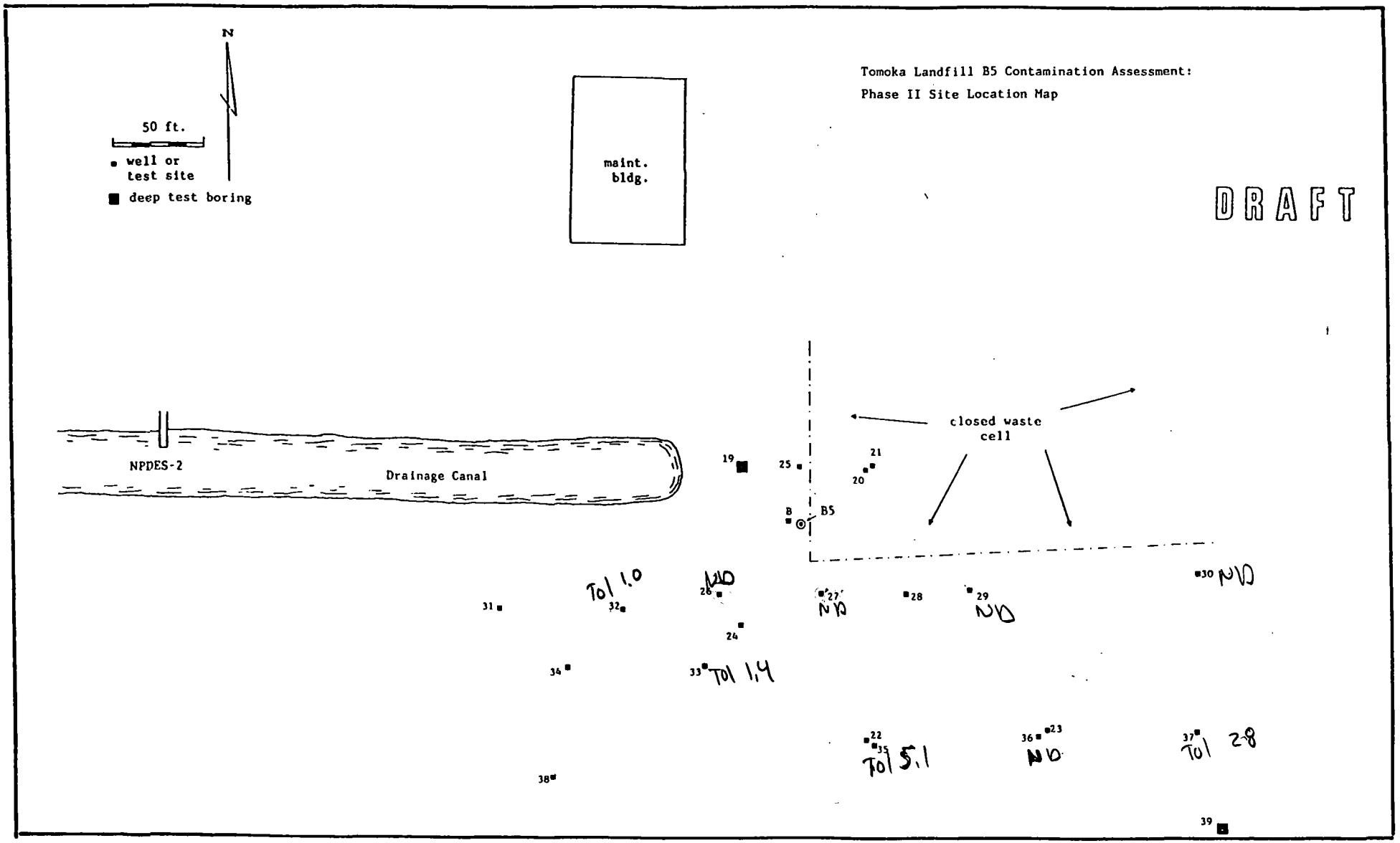


Shallow chlorinated solvents

Zone 1-2



Shallow Petroleum distillates
Zone 1-2



County of Volusia

Department of Solid Waste Management
1990 Tomoka Farms Road
Daytona Beach, Florida 32124
Telephone (904) 947-2952

DRM
File

January 26, 1996

SW

Ms. Laxsammee Levin, Supervisor
Compliance and Enforcement
Solid Waste Program
FDEP
3319 MaGuire Blvd., Suite 232
Orlando, FL 32803-3767

Re: Inventory Update - July 1995 through December 1995
Tomoka Sanitary Landfill, Volusia County Solid Waste Permit # SO-064-198377
Plymouth Avenue Sanitary Landfill, Volusia County Solid Waste Permit # S064-241041

Dear Ms. Levin:

Enclosed is the completed inventory update for the Tomoka and Plymouth Landfills. The inventory covers the period from July 1, 1995 through December 31, 1995.

If further information is needed, please advise.

Sincerely,

James L. Griffin
Director

JLG:SMG:kl

Enclosure(s)

c: Bill Gilley, Assistant Director
Wayne Cribbs, Coordinator
Susan M. Gaze, Environmental Specialist II
Mary Jean Yon, FDEP, Twin Towers Office Bldg., 2600 Blair Stone Road, Tallahassee, FL 32301-8241

INVENTORY UPDATE OF SOLID WASTE FACILITY

TOMOKA LANDFILL

1. a. TOTAL SITE AREA: **160 ACRES**
   b. TOTAL AREA AVAILABLE FOR DISPOSAL: **60 ACRES**
   c. TOTAL ACRES USED FOR BURIAL OF SOLID WASTE TO DATE: **100 ACRES**

2. a. HOW MANY TONS OF WASTE ARE RECEIVED AT THE SITE EACH DAY? **1,310.69 TONS/DAY**
   TOTAL TONS FROM: **JULY 95 TO DECEMBER 95**
   b. TYPE(S) AND AMOUNT OF WASTE RECEIVED:

1.	ASBESTOS	**17.31 TONS**
2.	DEMO	**23,299.79 TONS**
3.	GARBAGE	**145,183.58 TONS**
4.	INERT	**36,644.41 TONS**
5.	LAND CLEARING	**8.28 TONS**
6.	MIXED MATERIALS (MOSTLY YARD WASTE)	----------
7.	PROCESSED TIRES	**0.00 TONS**
8.	LIME/SLUDGE	**13,126.91 TONS**
9.	RECYCLING MATERIALS	----------
10.	SLUDGE	**2,644.19 TONS**
11.	WHOLE TIRES	**758.63 TONS**
12.	WHITE GOODS/SCRAP METAL (WEIGHT IN)	----------
13.	YARD TRASH	**16,883.26 TONS**
14.	SPECIAL WASTE	**1,291.07 TONS**

3. ESTIMATE HOW MANY MORE YEARS THE SITE CAN BE USED: **2.5 YRS.**

4. WHAT IS THE TIPPING FEE PER TON OF WASTE RECEIVED: **SEE ATTACHED**

5. WHAT PROVISIONS HAVE BEEN MADE FOR THE DISPOSAL OF WASTE AFTER THE SITE IS EXHAUSTED? **NEW CELL**

6. HOURS OF OPERATION: **7:00am - 5:30pm MON-FRI**
   8:00am - 2:30pm SAT-SUN

239,857.43 ÷ 183 DAYS = 1,310.69 TONS/DAY

McKIM & CREED

September 26, 1996 CA 9/30 M&C 10410002.0F

Mr. Dan Morrical, P.E.
Program Manager, Solid Waste
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RE: Volusia County - SW
Tomoka Farms Road Landfill - Well B5 Contamination Assessment

Dear Mr. Morrical:

We have received your most recent correspondence dated September 10, 1996 on the referenced project. Dr. David Gomberg will be addressing those issues when he returns from vacation.

If I can be of further assistance, please don't hesitate to call.

Sincerely,

McKIM & CREED ENGINEERS, P.A.

Scott R. Spooner, P.E.
Senior Project Engineer

/jls

cc: Mr. James L. Griffin, Director, Solid Waste Services Group
Ms. Susan Gaze, Volusia County Environmental Spec. II

ENGINEERS
SURVEYORS
PLANNERS

NORTH CAROLINA
FLORIDA

483 S. NOVA ROAD
ORMOND BEACH, FL 32174
904/672-5660
FAX 904/673-8264

601 CLEVELAND STREET
SUITE 205
CLEARWATER, FL 34615
813/442-7196
FAX 813/461-3827

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road, Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

August 8,1996

Mr. Dan R. Morrical, P.E.
Program Manager Solid Waste
Florida Department of Environmental Protection
3319 McGuire Blvd., Suite 232
Orlando, Fl. 32803-3767

Re: June Biannual 1996
Tomoka Landfill - Permit No. SO64-34352m IO64-39230, NPDES No. Fl. 0037877, Permit No. SO64-171906, SO64-121811, and SO64-179781
Plymouth Biannual 1996
Plymouth Landfill - Permit No. SO64-58275, Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill systems. Exceedences are covered in the summary letter prepared by Karr Environmental Laboratories.
If additional information or clarification is required, please advise.

Sincerely,

James L. Griffin, Director of Solid Waste Service Group

JLG:smg
enclosure (s)
c: Bill Gilley, Assistant Director
Susan M. Gaze, Environmental Specialist II
Denise Kemp, Division of Records, SJWMD,P.O. Box 14294,Palatka, Fl 32077
Dr. David Gomberg,WRC, 5331 Skyline Blvd.,Cape Coral, Fla. 33914

KARR Environmental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

07/25/96

Mr. Jim Griffin
Volusia County Department of Solid Waste
123 West Indiana Avenue
Deland, Florida 32720-4262

Dear Jim,

The semi annual reports for the sampling (Tomoka Farms 06/11/96 and Plymouth Avenue 06/13/96) and analysis of Volusia County's landfills are inclosed. The Tomoka Farms Road Landfill exhibited some difficulty this time for several reasons. This area of the county had not had any substantial rainfall for the previous four months.

Surface water four was dry and surface water three had been extremely low for the previous two months. The water level during sampling at SW 3 was four to six inches deep.

Monitor well 58-2 did not have enough water to sample and the both wells in well cluster 40 were pumped dry (1.5 gallons /minute) four times and allowed to recharge before sampling. The swamp area by the well cluster was very dry.

Wells 32, 33-1 and 33-2 were not sampled due to the risers being in the berms in the construction area of the sludge holding pond and the risers being eight feet off surface level.

Several of the wells (B61 and B8) the samples formed iron precipitates while sampling .

The good news is that the volatiles for the new wells depleted to lower than detectable limits and otherwise there was no analytical surprises.

The parameters that exceeded drinking water standards are included in the "Exceedances" attachment

If I can be of further assistance please feel free to give me a call.

Sincerely Yours,

Robert L. Sullivan
Lab Manager

KARR Environmental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

TOMOKA FARMS ROAD LANDFILL

SAMPLE	PARAMETER	UNITS	VALUE	MCL
B1B	IRON	UG/L	15,000	300
B2	IRON	UG/L	12,000	300
B5B	IRON	UG/L	15,000	300
B8	IRON	UG/L	3,200	300
B8	TURBIDITY	NTU	42.7	20
B8-2	IRON	UG/L	4,100	300
B11	IRON	UG/L	3,600	300
B34-1	IRON	UG/L	6,000	300
B34-2	IRON	UG/L	7,600	300
B35-1	IRON	UG/L	25,000	300
B35-1	CHLORIDE	MG/L	368	250
B35-2	IRON	UG/L	15,000	300
B36	IRON	UG/L	3,400	300
B37-1	IRON	UG/L	2,400	300
B37-1	CHLORIDE	MG/L	304	300
B37-2	IRON	UG/L	18,000	300
B38-1	IRON	UG/L	8,300	300
B38-2	IRON	UG/L	7,400	300
B39	IRON	UG/L	8,000	300
B40-1	IRON	UG/L	12,000	300
B40-1	TURBIDITY	NTU	42	20
B40-2	IRON	UG/L	12,000	300
B40-2	TURBIDITY	NTU	63	20
B40-2	SULFATE	MG/L	270	250
B41-1	IRON	UG/L	15,000	300
B41-1	CHLORIDE	MG/L	300	250
B41-2	IRON	UG/L	3,000	300
B42-1	IRON	UG/L	12,000	300
B42-2	IRON	UG/L	6,400	300

KARR Environmental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

SAMPLE	PARAMETER	UNITS	VALUE	MCL
B43-1	IRON	UG/L	19,000	300
B43-2	IRON	UG/L	11,000	300
B44	IRON	UG/L	12,000	300
B44	TURBIDITY	NTU	23.8	20
B45-1	IRON	UG/L	26,000	300
B45-1	CHLORIDE	MG/L	627	250
B45-2	IRON	UG/L	21,000	300
B58-1	IRON	UG/L	8,600	300
B59-1	IRON	UG/L	8,000	300
B59-1	CHLORIDE	MUG/L	250	250
B59-2	IRON	UG/L	8,100	300
B60	IRON	UG/L	3,500	300
B61	IRON	UG/L	23,000	300
B61	TURBIDITY	NTU	47	20
B62-1	IRON	UG/L	31,000	300
B62-2	IRON	UG/L	3,100	300
B62-2	CHLORIDE	MG/L	250	250
B62-2	SULFATE	MG/L	550	250
B63-1	IRON	UG/L	3,300	300
B63-2	IRON	UG/L	4,000	300
B64	IRON	UG/L	20,000	300
B65	IRON	UG/L	8,800	300
B66	IRON	UG/L	15,000	300
B67	IRON	UG/L	10,000	300
B68	IRON	UG/L	6,700	300
MO5B	IRON	UG/L	4,700	300
SW1	IRON	UG/L	500	300
SW10	IRON	UG/L	920	300
SW6	IRON	UG/L	710	300
SW9	IRON	UG/L	920	300

KARR Environmental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

PLYMOUTH AVENUE LANDFILL

SAMPLE	PARAMETER	UNITS	VALUE	MCL
M04	IRON	UG/L	870	300
M05	IRON	UG/L	660	300
M05	NITRATE	MG/L	34	10
M10	IRON	UG/L	2,300	300
M11	NITRATE	MG/L	20	10
M12	IRON	UG/L	5,400	300
M14	IRON	UG/L	1,000	300
18D	IRON	UG/L	660	300
18-S-1	IRON	UG/L	10,000	300
18-S-2	IRON	UG/L	12,000	300

Department of Environmental Protection

Lawton Chiles
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Virginia B. Wetherell
Secretary

September 10, 1996

Volusia County Solid Waste Management
123 West Indiana Avenue
DeLand, Florida 32720-4617

OCD-SW-96-0290

Attention: Mr. James L. Griffin, Director

Volusia County - SW
Tomoka Farms Road Landfill - Semi-Annual Monitoring Data

Dear Mr. Griffin:

Enclosed for your response is a September 9 memorandum from Jim Russell of our Waste Cleanup Section commenting on the June semi-annual monitoring data. Please provide responses to these comments.

Sincerely,

Dan R. Morrical, P.E.
Program Manager
Solid Waste

DRM

Enclosure

State of Florida
DE. RTMENT OF ENVIRONMENTAL P.OTECTION

Interoffice Memorandum

CENTRAL DISTRICT

TO: Dan Morrical, P.E.
Solid Waste Program Manager

OCD-WCU-96-0317

THROUGH: G. Bret LeRoux, P.G. GBL
Waste Cleanup Program Manager

FROM: James B. Russell, P.E.
Waste Cleanup Program

DATE: September 9, 1996

SUBJECT: Volusia County - Waste Cleanup
Tomoka Farms Road Landfill
Semi-annual Monitoring Data

I have completed the review of the Semi-annual monitoring report for the above referenced facility and have the following comments:

1. The Chain of Custody records were not included in the submittal. Please submit the Chain of Custody sheets. Please also include the sample Chain of Custody sheets with future reports.

2. The leachate monitoring analytical reports were not included in accordance with Paragraph 13 of the Monitoring Plan Implementation Schedule. Please provide these reports.

3. The ground water elevation contour maps were not included in accordance with Paragraph 23 of the Monitoring Plan Implementation Schedule. Please provide these maps.

4. The summary of exceedances that accompanied the monitoring data indicates that surface water criteria was exceeded for Iron in samples SW01, SW06, and SW10; however, the surface water quality criteria for Iron in a Class III surface water is 1 milligram per liter (mg/l).

5. The ground water analytical data indicates that the levels of Iron exceed the state G-II ground water standard in all ground water monitoring wells with the exception of Floridan Aquifer monitoring wells FA-1B and FA-2C. Based on the low turbidity values reported during ground water sampling, and the distribution of iron in the ground water, this appears to be naturally occurring. However, please provide a trend analysis of the Iron concentrations in the ground water.

6. The ground water analytical data indicates that the level of mercury in monitoring well B62-1 was 11 micrograms per liter (ug/l). This level exceeds the state G-II ground water standard of 2 ug/l. This well needs to be resampled for Mercury. Additionally, please provide a trend analysis of the mercury concentrations in the ground water from this well.

7. The ground water analytical data indicates that the levels of Chloride in monitoring wells B35-1, B37-1, B41-1, B62-2 exceed the state G-II ground water standard of 250,000 ug/l. Please provide a trend analysis of the Chloride concentrations in these monitoring wells.

8. The ground water analytical data indicates that the level of Sulfate in monitoring well B62-2 exceeds the state G-II ground water standard of 250,000 ug/l. Please provide a trend analysis of the Sulfate concentrations in this monitoring well.

9. No surface water analytical data were submitted for surface water monitoring points SW-7 and SW-8. Please submit these data. Future reports should include data for these points or provide a discussion on why data is not being submitted.

10. Dissolved oxygen (D.O.) data for all surface water samples indicate that field measurements were below the minimum allowable of 5 milligrams per liter (mg/l) over a 24-hour period. Please investigate the trends in D.O. concentrations in the surface water bodies.

11. The levels of unionized ammonia in surface water samples SW-1, SW-3, SW-5, SW-6 and SW-9 exceed the allowable concentration of 0.02 mg/l. Please provide a trend analysis of unionized ammonia in these surface water sampling locations.

If you have any questions, please feel free to contact me.

Attachment

MLE

File:
Volusia
Tomoka
GW File
(Blue Tab)

State of Florida
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Interoffice Memorandum

TO: CBL

FROM: DRM

DATE: 8/14/96

SUBJECT: County Volusia Permit No. ✓

Facility Tomoka Farms Rd. Landfill & Plymouth Ave

Attachment 8/8/96 Cover Letter & June Semi-annual sampling results (1-3-ring notebook for Tomoka) (1-3-ring notebook for Plymouth

The attached is being sent to you for:

____ Information only

__✓__ Review and comments

If review and comments are needed, please respond:

____ By _____

(Solid Waste deadline date is _____)

__✓__ As soon as possible for your schedule.

Comments: _____

County of Volusia

PUBLIC WORKS SERVICES CENTER
SOLID WASTE SERVICES GROUP
1990 Tomoka Farms Road, Daytona Beach, FL 32124
Telephone (904) 947-2952 • Fax (904) 947-2955

August 8,1996

Mr. Dan R. Morrical, P.E.
Program Manager Solid Waste
Florida Department of Environmental Protection
3319 McGuire Blvd., Suite 232
Orlando, Fl. 32803-3767

Re: June Biannual 1996
Tomoka Landfill - Permit No. SO64-34352m IO64-39230, NPDES No. Fl. 0037877, Permit No. SO64-171906, SO64-121811, and SO64-179781
Plymouth Biannual 1996
Plymouth Landfill - Permit No. SO64-58275, Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill systems. Exceedences are covered in the summary letter prepared by Karr Environmental Laboratories.
If additional information or clarification is required, please advise.

Sincerely,

James L. Griffin, Director of Solid Waste Service Group

JLG:smg
enclosure (s)
c: Bill Gilley, Assistant Director
Susan M. Gaze, Environmental Specialist II
Denise Kemp, Division of Records, SJWMD,P.O. Box 14294,Palatka, Fl 32077
Dr. David Gomberg,WRC, 5331 Skyline Blvd.,Cape Coral, Fla. 33914

KARR Environmental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

07/25/96

Mr. Jim Griffin
Volusia County Department of Solid Waste
123 West Indiana Avenue
Deland, Florida 32720-4262

Dear Jim,

The semi annual reports for the sampling (Tomoka Farms 06/11/96 and Plymouth Avenue 06/13/96) and analysis of Volusia County's landfills are inclosed. The Tomoka Farms Road Landfill exhibited some difficulty this time for several reasons. This area of the county had not had any substantial rainfall for the previous four months.

Surface water four was dry and surface water three had been extremely low for the previous two months. The water level during sampling at SW 3 was four to six inches deep.

Monitor well 58-2 did not have enough water to sample and the both wells in well cluster 40 were pumped dry (1.5 gallons /minute) four times and allowed to recharge before sampling. The swamp area by the well cluster was very dry.

Wells 32, 33-1 and 33-2 were not sampled due to the risers being in the berms in the construction area of the sludge holding pond and the risers being eight feet off surface level.

Several of the wells (B61 and B8) the samples formed iron precipitates while sampling .

The good news is that the volatiles for the new wells depleted to lower than detectable limits and otherwise there was no analytical surprises.

The parameters that exceeded drinking water standards are included in the "Exceedances" attachment

If I can be of further assistance please feel free to give me a call.

Sincerely Yours,

Robert L. Sullivan
Lab Manager

KARR Environmental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

TOMOKA FARMS ROAD LANDFILL

SAMPLE	PARAMETER	UNITS	VALUE	MCL
B1B	IRON	UG/L	15,000	300
B2	IRON	UG/L	12,000	300
B5B	IRON	UG/L	15,000	300
B8	IRON	UG/L	3,200	300
B8	TURBIDITY	NTU	42.7	20
B8-2	IRON	UG/L	4,100	300
B11	IRON	UG/L	3,600	300
B34-1	IRON	UG/L	6,000	300
B34-2	IRON	UG/L	7,600	300
B35-1	IRON	UG/L	25,000	300
B35-1	CHLORIDE	MG/L	368	250
B35-2	IRON	UG/L	15,000	300
B36	IRON	UG/L	3,400	300
B37-1	IRON	UG/L	2,400	300
B37-1	CHLORIDE	MG/L	304	300
B37-2	IRON	UG/L	18,000	300
B38-1	IRON	UG/L	8,300	300
B38-2	IRON	UG/L	7,400	300
B39	IRON	UG/L	8,000	300
B40-1	IRON	UG/L	12,000	300
B40-1	TURBIDITY	NTU	42	20
B40-2	IRON	UG/L	12,000	300
B40-2	TURBIDITY	NTU	63	20
B40-2	SULFATE	MG/L	270	250
B41-1	IRON	UG/L	15,000	300
B41-1	CHLORIDE	MG/L	300	250
B41-2	IRON	UG/L	3,000	300
B42-1	IRON	UG/L	12,000	300
B42-2	IRON	UG/L	6,400	300

KARR Environmental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

SAMPLE	PARAMETER	UNITS	VALUE	MCL
B43-1	IRON	UG/L	19,000	300
B43-2	IRON	UG/L	11,000	300
B44	IRON	UG/L	12,000	300
B44	TURBIDITY	NTU	23.8	20
B45-1	IRON	UG/L	26,000	300
B45-1	CHLORIDE	MG/L	627	250
B45-2	IRON	UG/L	21,000	300
B58-1	IRON	UG/L	8,600	300
B59-1	IRON	UG/L	8,000	300
B59-1	CHLORIDE	MUG/L	250	250
B59-2	IRON	UG/L	8,100	300
B60	IRON	UG/L	3,500	300
B61	IRON	UG/L	23,000	300
B61	TURBIDITY	NTU	47	20
B62-1	IRON	UG/L	31,000	300
B62-2	IRON	UG/L	3,100	300
B62-2	CHLORIDE	MG/L	250	250
B62-2	SULFATE	MG/L	550	250
B63-1	IRON	UG/L	3,300	300
B63-2	IRON	UG/L	4,000	300
B64	IRON	UG/L	20,000	300
B65	IRON	UG/L	8,800	300
B66	IRON	UG/L	15,000	300
B67	IRON	UG/L	10,000	300
B68	IRON	UG/L	6,700	300
MO5B	IRON	UG/L	4,700	300
SW1	IRON	UG/L	500	300
SW10	IRON	UG/L	920	300
SW6	IRON	UG/L	710	300
SW9	IRON	UG/L	920	300

KARR Enviro ıental, Inc.

1495 South Volusia Ave. Suite 101
Orange City, Florida 32763
904-775-0144 Fax. 904-775-4470

PLYMOUTH AVENUE LANDFILL

SAMPLE	PARAMETER	UNITS	VALUE	MCL
M04	IRON	UG/L	870	300
M05	IRON	UG/L	660	300
M05	NITRATE	MG/L	34	10
M10	IRON	UG/L	2,300	300
M11	NITRATE	MG/L	20	10
M12	IRON	UG/L	5,400	300
M14	IRON	UG/L	1,000	300
18D	IRON	UG/L	660	300
18-S-1	IRON	UG/L	10,000	300
18-S-2	IRON	UG/L	12,000	300

TOMOKA FARMS ROAD

LANDFILL

JUNE 1996

KARR ENVIRONMENTAL INC
1495 SOUTH VOLUSIA AVENUE
ORANGE CITY, FLORIDA 32763

QAP 910047G
CERTIFICATION # E83325

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

Tomoka LF
GW Files < Plymouth LF.

August 10, 1995

9/18

Mr. Dan R. Morrical, P.E.
Program Manager Solid Waste
FDEP
3319 McGuire Blvd., Suite 232
Orlando, FL 32803-3767

Re: June Biannual 1995
Tomoka Landfill - Permit No. S064-34352, I064-39230, NPDES No. Fl. 0037877, Permit No. S064-171906, S064-121811, and S064-179781
Plymouth Quarterly June 1995
Plymouth Landfill - Permit No. S064-58275, Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill systems. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

James L. Griffin
Director

JLG:SMG:kl

Enclosure(s)

c: Bill Gilley, Assistant Director
Susan M. Gaze, Environmental Specialist II
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, Water Resources Consultant, 5331 Skyline Blvd., Cape Coral, FL 33914

J. L. Griffin
Copy

REVISED

Drinking Water
HRS #83160
Environmental
HRS #E83079
ENVIROLAB

GW Tomoka LF
File.

August 1, 1995

Mr. Jim Griffin
Director of Public Works
Volusia County
123 West Indiana Avenue
DeLand, Florida 32720

RE: June Groundwater Monitoring Reports for Tomoka Farms Road Landfill

Dear Mr. Griffin:

Enclosed are the reports of the Semiannual Groundwater Monitoring conducted at Tomoka Farms Road Landfill in June for the following monitoring sites:

B1-B, B-2, B5-B, B-8, B8-2, B-11, B-32, B-33-1, B33-2, B34-1, B34-2, B35-1, B35-2, B-36, B37-1, B37-2, B38-1, B38-2, B-39, B40-1. B40-2, B41-1, B41-2, B42-1, B42-2, B43-1, B43-2, B-44, B45-1, B45-2, B58-1, B58-2, B59-1, B59-2, B-60, B-61, B-62-1, B-62-2, B-63-1, B63-2, B-64, B-65, B-66, B-67, B-68, FA-1B, FA-2C, MO5, SW-1, SW-2, SW-3, SW-4(dry), SW-5, SW-6, SW-9, and SW-10.

The attached table is a summary of the parameters exceeding the drinking water standards at the sampling sites.

The following wells had turbidity reading at or above 20 N.T.U. at the end of purging by pumping at least 100 gallons of groundwater: B33-2, B36, B38-2, B39, B40-1, and B58-2.

The equipment blanks EQ-1, EQ-2, EQ-3, and EQ-4 were found to contain low parts per billion (ug/L) of acetone, chlorobenzene, MEK, and MBK. Those ketone compounds were found only in the laboratory water and have been determined as laboratory contaminants which have no impact on results of well samples. Chlorobenzene was found in some well with concentrations way below the drinking water standards.

The field dissolved oxygen (DO) date for surface water SW-1, SW-2, SW-3, SW-5, SW-6, SW-9, and SW-10 were found to be inaccurate. They were too high and some were exceeding situation limits for DO at the temperature recorded for the surface water. We have determined that there were errors made by our sampling crew in conducting field DO analyses. Therefore we reported only the laboratory dissolved oxygen data obtained on the following day of sample collection.

P.O. Box 468 • 8 East Tower Circle • Ormond Beach, Florida 32175-0468
(904) 672-5668 • Fax (904) 673-4001

The laboratory DO data could be regarded as close to field DO data since the samples have been properly preserved and were kept under controlled condition before laboratory analyses.

Thank you for the opportunity to be of service to you. If you need further information or have any questions about these reports please feel free to call us.

Sincerely,

Francis Y. Huang

Francis Y. Huang, Ph.D.
Laboratory Director/Vice President-Operations

FYH/jg

Enclosure

Table 1. Sampling Sites with Parameters Exceeding Drinking Water Limits

Sampling Sites	Parameters	Results	Drinking Water Limits
B-1B	Iron	12,000 ug/L	300 ug/L
B2	Iron	11,000 ug/L	300 ug/L
B5B	Iron	20,000 ug/L	300 ug/L
	TDS	690 mg/L	500 mg/L
B8	Iron	3,100 ug/L	300 ug/L
B8-2	Iron	6,600 ug/L	300 ug/L
B11	Iron	6,900 ug/L	300 ug/L
B11 (Dup)	Iron	7,300 ug/L	300 ug/L
B32	Iron	5,000 ug/L	300 ug/L
B33-1	Iron	13,000 ug/L	300 ug/L
B33-1 (Dup)	Iron	14,000 ug/L	300 ug/L
B33-2	Iron	6,500 ug/L	300 ug/L
B34-1	Iron	8,200 ug/L	300 ug/L
B34-2	Iron	7,000 ug/L	300 ug/L
B35-1	Iron	50,000 ug/L	300 ug/L
	TDS	1,300 mg/L	500 mg/L
	Chloride	430 mg/L	250 mg/L
B35-2	Iron	11,000 ug/L	300 ug/L
B36	Iron	3,500 ug/L	300 ug/L
	TDS	630 mg/L	500 mg/L
B36 (Dup)	Iron	3,500 ug/L	300 ug/L
	TDS	690 mg/L	500 mg/L
B37-1	Iron	50,000 ug/L	300 ug/L
	TDS	2,400 mg/L	500 mg/L
	Chloride	420 mg/L	250 mg/L
	Benzene	8.3 ug/L	1 ug/L
	Sodium	350 mg/L	160 mg/L
B37-2	Iron	17,000 ug/L	300 ug/L
	Benzene	1.9 ug/L	1 ug/L
B38-1	Iron	7,400 ug/L	300 ug/L
B38-2	Iron	8,400 ug/L	300 ug/L
B39	Iron	9,700 ug/L	300 ug/L
B40-1	Iron	15,000 ug/L	300 ug/L
B40-1 (Dup)	Iron	12,000 ug/L	300 ug/L
B40-2	Iron	3,000 ug/L	300 ug/L
B41-1	Iron	22,000 ug/L	300 ug/L
	Benzene	2.0 ug/L	1 ug/L

Table 1. Sampling Sites with Parameters Exceeding Drinking Water Limits (Continued)

Sampling Sites	Parameters	Results	Drinking Water Limits
B41-2	Iron	1,800 ug/L	300 ug/L
B42-1	Iron	16,000 ug/L	300 ug/L
	TDS	670 mg/L	500 mg/L
B42-2	Iron	1,100 ug/L	300 ug/L
B43-1	Iron	32,000 ug/L	300 ug/L
	TDS	680 mg/L	500 mg/L
	Benzene	7.2 ug/L	1 ug/L
B43-2	Iron	48,000 ug/L	300 ug/L
	TDS	660 mg/L	500 mg/L
	Benzene	1.5 ug/L	1 ug/L
B44	Iron	9,500 ug/L	300 ug/L
B45-1	Iron	61,000 ug/L	300 ug/L
	TDS	1,700 mg/L	500 mg/L
	Benzene	3.1 ug/L	1 ug/L
B45-2	Iron	17,000 ug/L	300 ug/L
B58-1	Iron	6,400 ug/L	300 ug/L
B58-2	Iron	10,000 ug/L	300 ug/L
B59-1	Iron	10,000 ug/L	300 ug/L
B59-2	Iron	1,100 ug/L	300 ug/L
B60	Iron	3,800 ug/L	300 ug/L
B61	Iron	6,400 ug/L	300 ug/L
B62-1	Iron	86,000 ug/L	300 ug/L
	TDS	800 mg/L	500 mg/L
	Chloride	280 mg/L	250 mg/L
B62-2	Iron	10,000 ug/L	300 ug/L
B63-1	Iron	3,800 ug/L	300 ug/L
B63-2	Iron	3,400 ug/L	300 ug/L
B64	Iron	35,000 ug/L	300 ug/L
	TDS	570 mg/L	500 mg/L
B65	Iron	5,300 ug/L	300 ug/L
B66	Iron	2,600 ug/L	300 ug/L
	TDS	550 mg/L	500 mg/L
B67	Iron	13,000 ug/L	300 ug/L
B68	Iron	7,600 ug/L	300 ug/L
B68 (Dup)	Iron	8,200 ug/L	300 ug/L
M05-B	Iron	5,800 ug/L	300 ug/L
SW-5	Iron	820 ug/L	300 ug/L
SW-9	Iron	1,500 ug/L	300 ug/L
SW-10	Iron	830 ug/L	300 ug/L

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

August 10, 1995

Mr. Trent Rainey, Enforcement Official
U.S. Environmental Protection Agency Region IV
Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management
345 Courtland Street, N.E. Division
Atlanta, Georgia 30365

Re: NPDES No. FL. 0037877
June Quarter 1995

Dear Mr. Rainey:

In conformance with the regulations of the NPDES Permit No. Fl. 0037877, attached are monthly and quarterly forms for the prospective lab analyses report for the designated sampling locations of the Tomoka Landfill. Zero gallons of water was discharged this quarter.

If additional information is needed, please advise.

Sincerely,

James L. Griffin
Director

JLG:SMG:kl

Attachment

c: Bill Gilley, Assistant Director
Susan M. Gaze, Environmental Specialist II
Dan R. Morrical, P.E., 3319 McGuire Blvd., Suite 232, Orlando, FL 32803
Denise Kemp, Division of Records, St. John's River Water Management District, P.O. Box 14294, Palatka, FL 32077

Drinking Water
HRS #83160
Environmental
HRS #E83079

ENVIROLAB

Grant —

DR
LL
SW
File GW Files
Plymouth orig
Tomoka copy

February 20, 1995

Ms. Susan Gaze
Volusia County Solid Waste Management
1990 Tomoka Farms Road
Daytona Beach, FL 32114

RE: Corrections of September Analytical Results for Plymouth Avenue and Tomoka Farms Road Landfills.

Dear Susan:

During our recent data reviews of September analytical results for the above referenced landfills, we discovered some data reporting errors for Metals. The results for Copper, Iron and Zinc for Plymouth Avenue Landfill, and Iron and Zinc for Tomoka Farms Road Landfill were inadvertently reported in mg/L while the units on the reports are shown to be ug/L. The errors were originated in our raw data reports generated by the chemists. The requirement of reporting these metals in the units of ug/L for these landfills was oversighted by us.

Per your request, we summarized the corrected data in the attached Table 1 and Table 2 for Plymouth Avenue Landfill and Tomoka Farms Road Landfill respectively. Please accept our sincere apology for any inconvenience this may have caused you by using the reports containing these errors. We have taken immediate measures in our laboratory operations to prevent the same mistakes from reoccurring. Your patience and understanding is highly appreciated.

Sincerely,

Francis Y. Huang

Francis Y. Huang, Ph.D
Laboratory Director

FYH/ps
att.

P.O Box 468 • 8 East Tower Circle • Ormond Beach, Florida 32175-0468
(904) 672-5668 • Fax (904) 673-4001

TABLE 1. CORRECTED METALS DATA FOR SEPTEMBER ANALYTICAL RESULTS - PLYMOUTH AVENUE LANDFILL

Well Name	Copper, ug/L	Iron, ug/L	Zinc, ug/L
M-02	<10	<100	23
M-08	<10	14,000	10
M-10	<10	1,200	7
M-05	<10	160	15
M-11	<10	260	25
M-15	<10	<100	<5
M-16	<10	740	7
Equipment Blank	<10	<100	7

==========

TABLE 2. CORRECTED METALS DATA FOR SEPTEMBER ANALYTICAL RESULTS - TOMOKA FARMS ROAD LANDFILL

Well Name	Iron, ug/L	Zinc, ug/L
B-1B	11,000	17
B-3B	2,100	6
B-4	<100	<5
B-6	4,100	6
B-8B	3,400	10
B-9B	4,400	10
B-10B	3,300	10
FA-1B	280	12
FA-2C	<100	8
MO-5	5,400	9
B-5	20,000	6
B-2	11,000	9
B-7B	4,700	11
B-11B	3,700	9
Field Blank	<100	12
SW-1	680	12
SW-2	730	8
SW-3	460	10
SW-5	480	5
SW-6	< 100	<5

Florida Department of
Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

Volusia County Department of
Solid Waste Management
123 West Indiana Avenue
DeLand, Florida 32720

OCD-SW-94-0377

Attention: Mr. J. L. Griffin, Director

Volusia County - SW
Tomoka Farms Road Landfill, Class I
Ground Water, Surface Water and Leachate
Monitoring Plan Implementation Schedule
Modification of Permit No. SO64-198377
Permit Application No. SO64-257852

Dear Mr. Griffin:

In response to your letter submitted August 25, 1994, requesting a permit modification per Rule 62-701.510(1)(a), F.A.C. (formerly, Rule 17-701.510(1)(a), F.A.C.), attached as Exhibit I is the revised Ground Water, Surface Water, and Leachate Monitoring Plan Implementation Schedule to replace Specific Condition 13 in Permit No. SO64-198377.

All other conditions of the subject permit remain unchanged.

This letter with the attachment must be attached to Permit No. SO64-198377 in place of the current Exhibit I and becomes part of that permit.

Sincerely,

W. A. Alexander, P.E.
District Director

Date: 10/26/94

AA/gcw

Enclosure

cc: Mary Jean Yon - FDEP - Tallahassee
Lee Powell, P.E. - McKim & Creed

EXHIBIT I

TOMOKA FARMS ROAD LANDFILL

GMS #: 3064C00071

GROUND WATER MONITORING PLAN IMPLEMENTATION SCHEDULE

GENERAL

1. The permittee must initiate implementation of this Monitoring Plan within sixty (60) days from the date of permit issuance.

2. The field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with **Chapter 62-160 (formerly 17-160) Florida Administrative Code (F.A.C.).** Approved methods as published by the Department or as published in Standard Methods, ASTM, or EPA Methods shall be used.

3. The organization collecting samples at this site must have or obtain a Comprehensive Quality Assurance Plan approved by the Department's Quality Assurance Section (Tallahassee). A copy of this plan and the approved annual plan updates shall be provided to the Department. This plan or its equivalent must be followed for the collection, preservation and transport of water samples for this facility under this permit. Any equivalent plan must be approved by the Department prior to sample collection. Sampling personnel must have a copy of the quality assurance plan for purging and sampling in the field when sampling and must be knowledgeable of its contents, procedures, and forms. The laboratory designated to conduct the chemical analyses must have or obtain a Comprehensive Quality Assurance Plan approved by the Department's Quality Assurance Section (Tallahassee) for the parameters included in this monitoring plan.

4. If, at any time, analyses show that ground water standards are exceeded at the edge of the Zone of Discharge, the Permittee shall resample the wells within fifteen (15) days after the sampling data are received, to confirm the data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data are confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department in writing within 14 days of this finding. Upon notification by the Department, the permittee shall initiate assessment monitoring in accordance with Rule 62-701.510(7) (formerly 17-701.510(7)) F.A.C..

5. The Department must be notified in writing at least fourteen (14) days prior to the installation and/or sampling of any monitoring well(s).

GROUND WATER QUALITY MONITORING

6. The forty-eight (48) ground water monitoring wells designated for water quality testing are listed on Attachment A and are shown on Attachment B. The forty-eight (48) ground water monitoring wells and piezometers B3-B, B4, B6, B7, B9, B10, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56 and 57 to be used for water level measurements are shown on Attachment B.

NOTE: Unless otherwise approved by the Department, wells with high turbidities must be remediated or reinstalled to reduce the turbidity value to less than 20 NTU's prior to sample collection. Should any ground water sample exhibit dissolved oxygen concentrations greater than 20% of oxygen saturation at the field measured temperature, the sampled well must be repurged then resampled as soon as an acceptable dissolved oxygen value has been attained unless it can be demonstrated that insitu ground water contains higher levels of dissolved oxygen. All water quality analyses will be performed on unfiltered samples unless approved by the Department.

7. Samples from the forty-eight (48) ground water monitoring wells shall be analyzed as follows:

SEMI-ANNUAL ANALYSIS - pH (field), specific conductance (field), turbidity (field), dissolved oxygen (field), temperature (field), total ammonia as N, chlorides, iron, mercury, nitrate, sodium, total dissolved solids and the EPA 40 CFR, Part 258, Appendix I parameters. All analyses must use detection limits at or below State Standards;

8. Ground water levels in all wells, whether sampled or not, and all piezometers must be measured to the nearest 0.01 foot and reported semiannually unless required more frequently by permit condition. All water level measurements must be made within a one day period. These measurements must be referenced to the National Geodetic Vertical Datum of 1929 (NGVD).

SURFACE WATER MONITORING

9. The eight (8) surface water sites included in this

monitoring plan are SW-1, SW-2, SW-3, SW-4, SW-5, SW-6, SW-9 and SW-10. They are listed on Attachment A and shown on Attachment B.

10. Samples from the eight (8) surface water monitoring sites shall be analyzed as follows:

SEMI-ANNUAL ANALYSIS - dissolved oxygen (field), pH (field), specific conductance (field), temperature (field), turbidity (field), unionized ammonia (NH_3), biochemical oxygen demand (5 day), chemical oxygen demand, chlorophyll A, iron, mercury, nitrate, total dissolved solids, total hardness, total organic carbon, total nitrogen, total phosphates, total suspended solids and the EPA 40 CFR, Part 258, Appendix I parameters. All analyses must use detection limits at or below State Standards;

11. Surface water elevations at sampling locations SW-1, SW-2, SW-3, SW-4, SW-5, SW-6, SW-9 and SW-10 must be measured to the nearest 0.01 foot and reported semiannually unless required more frequently by permit condition. All water level measurements must be made within a one day period. These measurements must be referenced to NGVD.

LEACHATE QUALITY MONITORING

12. The site designated for leachate quality testing is L-1. The site is listed on Attachment A and shown on Attachment B.

13. Samples from the leachate monitoring site shall be analyzed as follows:

SEMI-ANNUAL - pH (field), specific conductance (field), temperature (field), dissolved oxygen (field), bicarbonate as HCO_3, chlorides, iron, mercury, nitrate as N, total ammonia as N, total dissolved solids and the EPA 40 CFR, Part 258, Appendix I parameters. All analyses must use detection limits at or below State Standards;

ANNUALLY - In addition to the semi-annual analyses, the EPA 40 CFR, Part 258, Appendix II parameters.

MONITORING WELL REQUIREMENTS

14. Well completion reports for new well installation shall be submitted to the Department on the attached Ground Water Completion Report Form within thirty (30) days after

installation. Note that the latitude and longitude in degrees, minutes and seconds of each well must be provided on the form. In addition, as-built well construction diagrams and soil boring logs that cover the entire depth of the monitoring wells must be submitted to the Department.

15. If a monitoring well becomes damaged or inoperable, the Permittee shall notify the Department in writing within seven (7) days. The written report shall describe what problem has occurred and the remedial measures that have been taken to prevent a recurrence. The Department can require the replacement of inoperable monitoring wells.

16. New or replacement monitoring well design or placement must be approved by the Department. Proposed well construction details based on site specific borings must be submitted with all supporting data (grain size analyses, in-situ hydraulic conductivity testing, depth to water, etc.) for Department approval prior to well installation. Use of hollow stem auger equipment is recommended. Other drilling methods must be approved by the Department prior to well installation.

17. All wells shall be clearly and permanently labeled and the well site maintained so that the well is visible at all times. Protective barriers must be installed at all wells which may be subject to damage by heavy equipment or traffic.

18. An abandonment plan for abandoning any well which is unsuitable for ground water monitoring must be approved by the Department prior to abandonment.

REPORTING REQUIREMENTS

GENERAL

19. Well completion reports for new monitor well(s) B8-2, B-32, B33-1, B33-2, B34-1, B34-2, B35-1, B35-2, B36, B37-1, B37-2, B38-1, B38-2, B39, B40-1, B40-2, B41-1, B41-2, B43-1, B43-2, B44, B45-1, B45-2, B58-1, B58-2, B59-1, B59-2, B60, B61, B62-1, B62-2, B63-1, B63-2, B64, B65, B66, B67 and B68 must be submitted to the Department thirty (30) days after installation.

20. A survey drawing must be submitted within sixty (60) days following monitor well installation showing the location of all monitor wells (active and abandoned), water bodies and waste filled areas. The location of features on the survey drawing must be horizontally located by standard surveying techniques. The survey drawing shall include the monitor well name and identification number as well as the location and elevation,

referenced to NGVD, of all wells, permanent benchmark(s) and/or corner monument marker(s) at the site. The survey shall be conducted and certified by a Florida Registered Surveyor.

SEMI-ANNUALLY

21. Ground water, surface water and leachate quality analyses shall include the parameters described above. Parameter Report Forms (FDEP Form 62-522.900(2), formerly 17-522.900(2)) are attached for reporting semi-annual analyses. In order to facilitate entry of this data into the State computer system, these forms or exact replicas must be used and must not be altered as to content. **If these forms are computerized, the completed forms should be submitted on an IBM formatted diskette along with the hardcopy.** The original copies of the forms should be retained so that the necessary information is available to properly complete future reports. The laboratory sheets shall be submitted for all analyses. The semi-annual submittal shall also include a summary of any water quality standards or criteria that are exceeded. Monitoring test results must be submitted to the Department within fourteen (14) days of receipt from the laboratory.

22. Water levels in all monitoring wells, whether sampled or not, all piezometers and all surface water sites must be measured to the nearest 0.01 foot and reported semi-annually unless required more frequently by permit condition. All water level measurements must be made within a one day period. These measurements should be reported in a table that includes well or surface water point name, date water level measured, measuring point elevation referenced to NGVD, depth to water and calculated water level elevation referenced to NGVD.

23. A ground water contour map for each monitored aquifer zone must be submitted semi-annually to the Department. The map(s) must incorporate adjacent and on-site surface water elevations where appropriate.

BI-ANNUALLY

24. A total depth measurement must be made on all wells bi-annually, beginning with the initial monitoring. This measurement is to be reported as total apparent depth below ground surface and should be compared to the original total depth of the well.

25. A technical report shall be submitted to the Department every two years, and shall be updated at the time of permit renewal. The report shall summarize and interpret the water quality data and water level measurements collected during the past four years. The report shall contain, at a minimum, the

following:

a. Tabular and graphical displays of any data which shows that a monitoring parameter has been detected, including hydrographs for all monitor wells.
b. Trend analyses of any monitoring parameters detected.
c. Comparisons among shallow, middle, and deep zone wells.
d. Comparisons between upgradient and downgradient wells.
e. Correlations between related parameters such as total dissolved solids and specific conductance.
f. Discussion of erratic and/or poorly correlated data.
g. An interpretation of the ground water contour maps, including an evaluation of ground water flow rates.
h. An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

This report must be signed and sealed pursuant to Florida Statutes (F.S.) Chapters 471 and 472 which require that documents requiring the practice of professional engineering or professional geology, as described in Chapter 471 or 472, F.S., be signed and sealed by the professional(s) who prepared or approved them. This certification must be made by a registered professional who is able to demonstrate competence in the subject area(s) addressed within the sealed document.

ATTACHMENT A

TOMOKA FARMS ROAD LANDFILL

GMS # 3064C00071

MONITORING SITES

SAMPLING POINT	NUMBER	TYPE	ZONE/LOCATION MONITORED
GROUND WATER			
B1-B	3064A14965	C	ZONE 1-2
B-2	3064A12081	B	ZONE 4
B5	3064A12082	C	ZONE 1-2
B8	3064A14971	I	ZONE 1-2
B8-2	3064A17136	I	ZONE 4
B11-B	3064A15502	B	ZONE 1-2
B-32	3064A17137	B	ZONE 4
B33-1	3064A17138	B	ZONE 4
B33-2	3064A17139	B	ZONE 1-2
B34-1	3064A17140	B	ZONE 4
B34-2	3064A17141	B	ZONE 1-2
B35-1	3064A17142	B	ZONE 4
B35-2	3064A17143	B	ZONE 1-2
B36	3064A17144	C	ZONE 4
B37-1	3064A17145	C	ZONE 4
B37-2	3064A17146	C	ZONE 1-2
B38-1	3064A17147	C	ZONE 4
B38-2	3064A17148	C	ZONE 1-2
B-39	3064A17149	C	ZONE 1-2
B40-1	3064A17150	C	ZONE 4

ATTACHMENT A

TOMOKA FARMS ROAD LANDFILL

GMS # 3064C00071

MONITORING SITES

SAMPLING POINT	NUMBER	TYPE	ZONE/LOCATION MONITORED
B40-2	3064A17151	C	ZONE 1-2
B41-1	3064A17152	C	ZONE 4
B41-2	3064A17153	C	ZONE 1-2
B42-1	3064A17154	C	ZONE 4
B42-2	3064A17155	C	ZONE 1-2
B43-1	3064A17156	C	ZONE 3-4
B43-2	3064A17157	C	ZONE 1-2
B44	3064A17158	C	ZONE 1-2
B45-1	3064A17159	C	ZONE 4
B45-2	3064A17160	C	ZONE 1-2
B58-1	3064A17161	C	ZONE 4
B58-2	3064A17162	C	ZONE 1-2
B59-1	3064A17163	C	ZONE 4
B59-2	3064A17164	C	ZONE 1-2
B60	3064A17165	C	ZONE 4
B61	3064A17166	C	ZONE 1-2
B62-1	3064A17167	C	ZONE 4
B62-2	3064A17168	C	ZONE 1-2
B63-1	3064A17169	C	ZONE 4
B63-2	3064A17170	C	ZONE 1-2
B64	3064A17171	C	ZONE 1-2
B65	3064A17172	C	ZONE 1-2

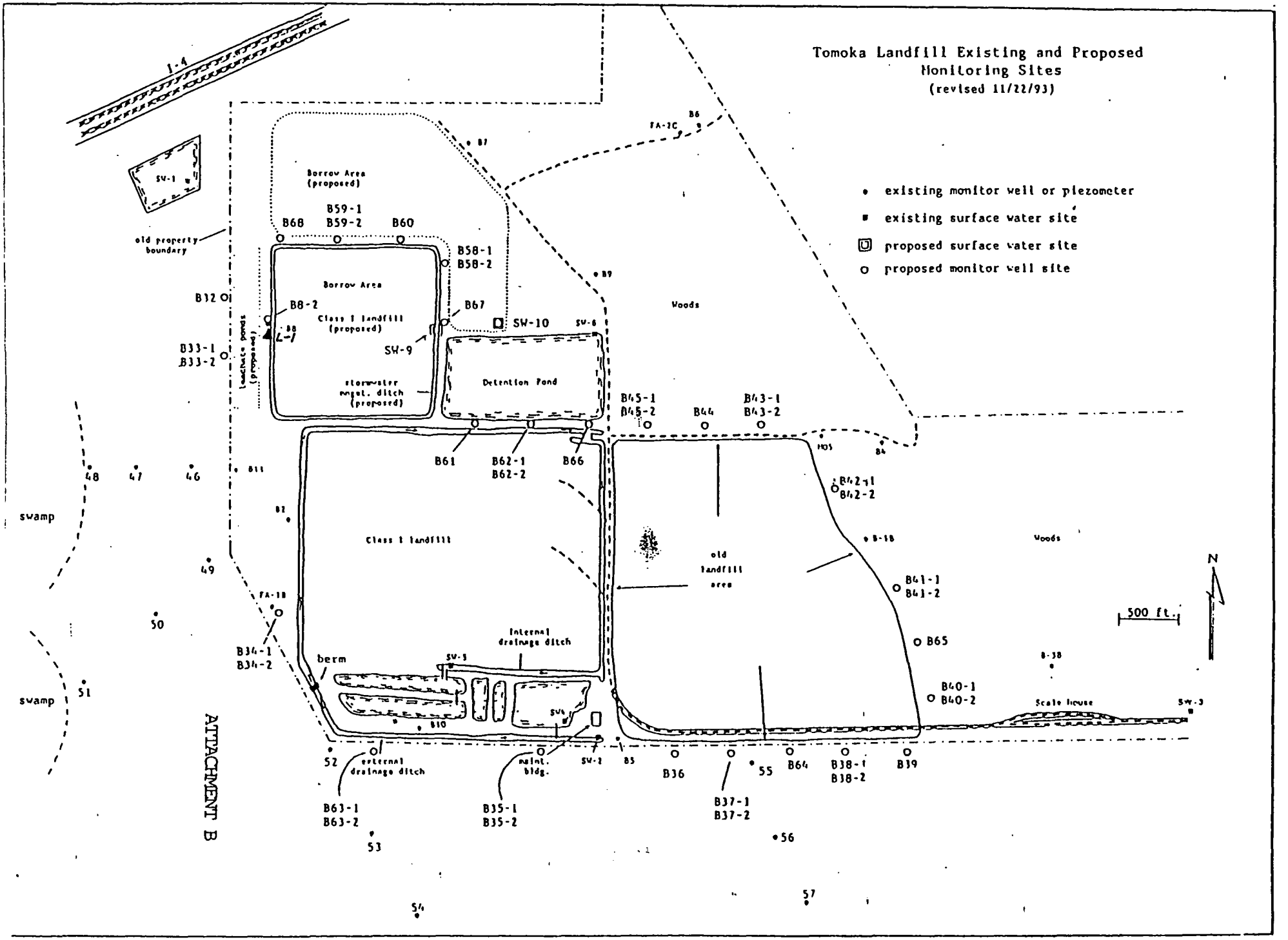
ATTACHMENT A

TOMOKA FARMS ROAD LANDFILL

GMS # 3064C00071

MONITORING SITES

SAMPLING POINT	NUMBER	TYPE	ZONE/LOCATION MONITORED
B66	3064A17173	C	ZONE 1-2
B67	3064A17174	C	ZONE 4
B68	3064A17175	C	ZONE 4
FA-1B	3064A14968	B	FLORIDAN
FA-2C	3064A17182	C	FLORIDAN
MO5-B	3064A14964	C	ZONE 1-2
SURFACE WATER			
SW-1	3064A17176	C	BACKGROUND
SW-2	3064A17177	C	OUTFALL OF EXTERNAL DITCH
SW-3	3064A17178	C	OUTFALL FROM LANDFILL
SW-4	3064A17179	C	OUTFALL OF RETENTION PONDS
SW-5	3064A14967	C	OUTFALL OF INTERNAL DITCH
SW-6	3064A17014	C	OUTFALL OF DETENTION POND
SW-9	3064A17180	C	STORMWATER MANAGEMENT DITCH
SW-10	3064A17181	C	OUTFALL OF BORROW AREA
LEACHATE			
L-1	3064A17323	C	PUMP STATION INTO PONDS FOR NEW CELL


Tomoka Landfill Existing and Proposed
Monitoring Sites
(revised 11/22/93)
existing monitor well or piezometer
existing surface water site
proposed surface water site
proposed monitor well site
I-4
SV-1
Borrow Area
(proposed)
B59-1
B68
B59-2
B60
B58-1
B58-2
old property
boundary
Borrow Area
B12
B8-2
B67
SW-10
SV-6
Class I landfill
(proposed)
SW-9
B33-1
B33-2
stormwater
perpet. ditch
(proposed)
Detention Pond
Woods
B45-1
B45-2
B44
B43-1
B43-2
B61
B62-1
B62-2
B66
B42-1
B42-2
swamp
Class I landfill
old
landfill
area
B41-1
B41-2
500 ft.
N
B65
B34-1
B34-2
berm
SV-5
internal
drainage ditch
B40-1
B40-2
Scale house
SW-3
swamp
SV-4
B10
external
drainage ditch
maint.
bldg.
SV-2
B5
B36
B64
B38-1
B38-2
B39
B37-1
B37-2
B63-1
B63-2
B35-1
B35-2
ATTACHMENT B

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

GROUND WATER MONITORING REPORT

Rule 62-522.600(11)

GENERAL INFORMATION

Facility Name Tomoka Farms Road Landfill

Address _____

City _____ Zip _____ County _____

Telephone Number (_____) _____

Facility Gms Number 3064C00071

DEP Permit Number S064-198377

Authorized Representative's Name _____ Title _____

Address _____

City _____ Zip _____ County _____

Telephone Number (_____) _____

Type of Discharge _____

Method of Discharge _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission false information including the possibility of fine and imprisonment.

_____ _____

Date Owner or Authorized Representative's Signature

QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Comp QAP # _____

Analytical Lab Comp QAP #/ HRS Certification _____

Lab Name _____

Address _____

Phone Number (_____) _____

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 1 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE:_____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to
Sample Collection (Yes/No)_____ Ground Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
000010	Temperature (field)					°C
000299	Dissolved Oxygen (field by probe)					mg/L
000406	pH (field)					STD
000094	Spec. Conductance (field)					umhos/cm
082078	Turbidity (field)					NTU's
000610	Total Ammonia as N					mg/L
000940	Chlorides					mg/L
000620	Nitrate as N					mg/L
070300	Total Dissolved Solids					mg/L
	METALS					
001097	Antimony					ug/L
001002	Arsenic					ug/L
001007	Barium					ug/L
001012	Beryllium					ug/L
001027	Cadmium					ug/L
001034	Chromium					ug/L
00137	Cobalt					ug/L
001042	Copper					ug/L
001045	Iron					ug/L
001051	Lead					ug/L
071900	Mercury					ug/l

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representative ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 2 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE:_____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to Sample Collection (Yes/No)_____ Ground Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
001067	Nickel					ug/L
001147	Selenium					ug/L
001077	Silver					ug/L
000929	Sodium					mg/L
001059	Thallium					ug/L
001087	Vanadium					ug/L
001092	Zinc					ug/L
	ORGANIC CONSTITUENTS					
081552	Acetone					ug/L
034215	Acrylonitrile					ug/L
034030	Benzene					ug/L
073085	Bromochloromethane					ug/L
032101	Bromodichloromethane					ug/L
034413	Bromomethane					ug/L
032104	Bromoform					ug/L
046372	Carbon Disulfide					ug/L
032102	Carbon Tetrachloride					ug/L
034301	Chlorobenzene					ug/L
034311	Chloroethane					ug/L
032106	Chloroform					ug/L
034418	Chloromethane					ug/L

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representetive ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 3 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE:_____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to
Sample Collection (Yes/No)_____ Ground Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
032105	Dibromochloromethane					ug/L
037860	1,2-Dibromo-3-chloropropane					ug/L
046369	1,2-Dibromoethane					ug/L
046361	Dibromomethane					ug/L
034536	1,2-Dichlorobenzene					ug/L
034571	1,4-Dichlorobenzene					ug/L
077268	trans-1,4-Dichloro-2-butene					ug/L
034496	1,1-Dichloroethane					ug/L
034531	1,2-Dichloroethane					ug/L
034501	1,1-Dichloroethene					ug/L
077093	cis-1,2-Dichloroethene					ug/L
034546	trans-1,2-Dichloroethene					ug/L
034541	1,2-Dichloropropane					ug/L
034704	cis-1,3-Dichloropropene					ug/L
034699	trans-1,3-Dichloropropene					ug/L
034371	Ethylbenzene					ug/L
077103	Methyl butly ketone					ug/L
081595	Methyl ethyl ketone					ug/L
077424	Methyl iodide					ug/L
034423	Methylene Chloride					ug/L
078133	Methyl isobutyl ketone					ug/L

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representative ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-520.400, 62-520.420, 62-520.460)

Semi-Annual Ground Water Monitoring (Page 4 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

MONITORING WELL GMS# _____ ANALYSIS DATE _____

WELL NAME _____ WELL TYPE:_____ (B) Background
(D) Detection
(C) Compliance
(O) Other

CLASSIFICATION OF GROUNDWATER G-II

Well Purged* prior to
Sample Collection (Yes/No)_____ Ground Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
077128	Styrene					ug/L
077562	1,1,1,2-Tetrachloroethane					ug/l
034516	1,1,2,2-Tetrachloroethane					ug/L
034475	Tetrachloroethene					ug/L
034010	Toluene					ug/L
034506	1,1,1-Trichloroethane					ug/L
034511	1,1,2-Trichloroethane					ug/L
039180	Trichloroethene					ug/L
034488	Trichlorofluoromethane					ug/L
077443	1,2,3-Trichloropropane					ug/L
077057	Vinyl Acetate					ug/L
039175	Vinyl Chloride					ug/L
034020	Xylenes					ug/L

*Well Purging is the process of pumping the well prior to sampling in order to obtain a representative ground water sample.

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 1 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
000010	Temperature (field)					°C
000299	Dissolved Oxygen (field by probe)					mg/L
000406	pH (field)					STD
000094	Spec. Conductance (field)					umhos/cm
082078	Turbidity (field)					NTU's
000612	Unionized Ammonia as N					mg/L
000900	Total Hardness as $CaCO_3$					mg/L
000680	Total Organic Carbon					mg/L
070300	Total Dissolved Solids					mg/L
00530	Total Suspended Solids					mg/L
000310	BOD (5 Day) @ 20 °C					mg/L
000340	Chemical Oxygen Demand					mg/L
000600	Total Nitrogen as N					mg/L
000620	Nitrate as N					mg/L
000665	Total Phosphates as P					mg/L
032211	Chlorophyll A					ug/L
	METALS					
001097	Antimony					ug/L
001002	Arsenic					ug/L
001007	Barium					ug/L
001012	Beryllium					ug/L
001027	Cadmium					ug/L
001034	Chromium					ug/L
00137	Cobalt					ug/L
001042	Copper					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 2 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
001045	Iron					ug/L
001051	Lead					ug/L
071900	Mercury					ug/l
001067	Nickel					ug/L
001147	Selenium					ug/L
001077	Silver					ug/L
000929	Sodium					mg/L
001059	Thallium					ug/L
001087	Vanadium					ug/L
001092	Zinc					ug/L
	ORGANIC CONSTITUENTS					
081552	Acetone					ug/L
034215	Acrylonitrile					ug/L
034030	Benzene					ug/L
073085	Bromochloromethane					ug/L
032101	Bromodichloromethane					ug/L
034413	Bromomethane					ug/L
032104	Bromoform					ug/L
046372	Carbon Disulfide					ug/L
032102	Carbon Tetrachloride					ug/L
034301	Chlorobenzene					ug/L
034311	Chloroethane					ug/L
032106	Chloroform					ug/L
034418	Chloromethane					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 3 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
032105	Dibromochloromethane					ug/L
037860	1,2-Dibromo-3-chloropropane					ug/L
046369	1,2-Dibromoethane					ug/L
046361	Dibromomethane					ug/L
034536	1,2-Dichlorobenzene					ug/L
034571	1,4-Dichlorobenzene					ug/L
077268	trans-1,4-Dichloro-2-butene					ug/L
034496	1,1-Dichloroethane					ug/L
034531	1,2-Dichloroethane					ug/L
034501	1,1-Dichloroethene					ug/L
077093	cis-1,2-Dichloroethene					ug/L
034546	trans-1,2-Dichloroethene					ug/L
034541	1,2-Dichloropropane					ug/L
034704	cis-1,3-Dichloropropene					ug/L
034699	trans-1,3-Dichloropropene					ug/L
034371	Ethylbenzene					ug/L
077103	Methyl butly ketone					ug/L
081595	Methyl ethyl ketone					ug/L
077424	Methyl iodide					ug/L
034423	Methylene Chloride					ug/L
078133	Methyl isobutyl ketone					ug/L
077128	Styrene					ug/L
077562	1,1,1,2-Tetrachloroethane					ug/l
034516	1,1,2,2-Tetrachloroethane					ug/L
034475	Tetrachloroethene					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-302.500, 62-302.510, 62-302.530)

Semi-Annual Surface Water Monitoring (Page 4 of 4)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPING POINT NAME _____ Surface Water Elevation (NGVD)_____ Ft

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
034010	Toluene					ug/L
034506	1,1,1-Trichloroethane					ug/L
034511	1,1,2-Trichloroethane					ug/L
039180	Trichloroethene					ug/L
034488	Trichlorofluoromethane					ug/L
077443	1,2,3-Trichloropropane					ug/L
077057	Vinyl Acetate					ug/L
039175	Vinyl Chloride					ug/L
034020	Xylenes					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-701.510)

Semi-Annual Leachate Monitoring (Page 1 of 3)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPLING POINT NAME _____

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
000010	Temperature (field)					°C
000299	Dissolved Oxygen (field by probe)					mg/L
000406	pH (field)					STD
000094	Spec. Conductance (field)					umhos/cm
000610	Total Ammonia as N					mg/L
000940	Chlorides					mg/L
000620	Nitrate as N					mg/L
070300	Total Dissolved Solids					mg/L
000440	Bicarbonate as HCO_3					mg/L
	METALS					
001097	Antimony					ug/L
001002	Arsenic					ug/L
001007	Barium					ug/L
001012	Beryllium					ug/L
001027	Cadmium					ug/L
001034	Chromium					ug/L
001037	Cobalt					ug/L
001042	Copper					ug/L
001045	Iron					ug/L
001051	Lead					ug/L
071900	Mercury					ug/L
001067	Nickel					ug/L
0147	Selenium					ug/L
001077	Silver					ug/L
000929	Sodium					mg/L
001059	Thallium					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-701.510)

Semi-Annual Leachate Monitoring (Page 2 of 3)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPLING POINT NAME _____

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
001087	Vanadium					ug/L
001092	Zinc					ug/L
	ORGANIC CONSTITUENTS					
081552	Acetone					ug/L
034215	Acrylonitrile					ug/L
034030	Benzene					ug/L
073085	Bromochloromethane					ug/L
032101	Bromodichloromethane					ug/L
034413	Bromomethane					ug/L
032104	Bromoform					ug/L
046372	Carbon Disulfide					ug/L
032102	Carbon Tetrachloride					ug/L
034301	Chlorobenzene					ug/L
034311	Chloroethane					ug/L
032106	Chloroform					ug/L
034418	Chloromethane					ug/L
032105	Dibromochloromethane					ug/L
037860	1,2-Dibromo-3-chloropropane					ug/L
046369	1,2-Dibromoethane					ug/L
046361	Dibromomethane					ug/L
034536	1,2-Dichlorobenzene					ug/L
034571	1,4-Dichlorobenzene					ug/L
077268	trans-1,4-Dichloro-2-butene					ug/L
034496	1,1-Dichloroethane					ug/L
034531	1,2-Dichloroethane					ug/L
034501	1,1-Dichloroethene					ug/L

TOMOKA FARMS ROAD LANDFILL

PARAMETER MONITORING REPORT
(Rule 62-701.510)

Semi-Annual Leachate Monitoring (Page 3 of 3)

FACILITY GMS# 3064C00071 SAMPLE DATE _____

SAMPLING POINT GMS# _____ ANALYSIS DATE _____

SAMPLING POINT NAME _____

STORET CODE	PARAMETER MONITORED	SAMPLING METHOD	FIELD FILTERED	ANALYSIS METHOD	ANALYSIS RESULT	UNITS
077093	cis-1,2-Dichloroethene					ug/L
034546	trans-1,2-Dichloroethene					ug/L
034541	1,2-Dichloropropane					ug/L
034704	cis-1,3-Dichloropropene					ug/L
034699	trans-1,3-Dichloropropene					ug/L
034371	Ethylbenzene					ug/L
077103	Methyl butly ketone					ug/L
081595	Methyl ethyl ketone					ug/L
077424	Methyl iodide					ug/L
034423	Methylene Chloride					ug/L
078133	Methyl isobutyl ketone					ug/L
077128	Styrene					ug/L
077562	1,1,1,2-Tetrachloroethane					ug/l
034516	1,1,2,2-Tetrachloroethane					ug/L
034475	Tetrachloroethene					ug/L
034010	Toluene					ug/L
034506	1,1,1-Trichloroethane					ug/L
034511	1,1,2-Trichloroethane					ug/L
039180	Trichloroethene					ug/L
034488	Trichlorofluoromethane					ug/L
077443	1,2,3-Trichloropropane					ug/L
077057	Vinyl Acetate					ug/L
039175	Vinyl Chloride					ug/L
034020	Xylenes					ug/L

Florida Department of Environmental Protection

Suite 232 3319 Maguire Boulevard Orlando, Florida 32803

MONITORING WELL COMPLETION REPORT

DATE _____

FACILITY NAME: Tomoka Farms Road Landfill

DER PERMIT NO.: SO64-198377 FACILITY GMS NO: 3064C00071

WELL GMS NO.: _____ WELL NAME: _____

WELL TYPE: BACKGROUND _____ DETECTION _____ COMPLIANCE _____

LATITUDE AND LONGITUDE: _____

AQUIFER MONITORED: _____

DRILLING METHOD: _____ DATE INSTALLED: _____

INSTALLED BY: _____

BORE HOLE DIAMETER: _____ TOTAL DEPTH: _____ (BLS)

CASING TYPE: _____ CASING DIAMETER: _____ CASING LENGTH: _____

SCREEN TYPE: _____ SCREEN SLOT SIZE: _____ SCREEN LENGTH: _____

SCREEN DIAMETER: _____ SCREEN INTERVAL: _____ TO _____ (BLS)

FILTER PACK TYPE: _____ FILTER PACK GRAIN SIZE: _____

INTERVAL COVERED: _____ TO _____ (BLS)

SEALANT TYPE: _____ SEALANT INTERVAL: _____ TO _____ (BLS)

GROUT TYPE: _____ GROUT INTERVAL: _____ TO _____ (BLS)

TOP OF CASING ELEVATION (NGVD): _____ GROUND SURFACE ELEVATION (NGVD): _____

DESCRIBE WELL DEVELOPMENT: _____

_____

_____

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): _____

DATE AND TIME MEASURED: _____

REMARKS: _____

_____

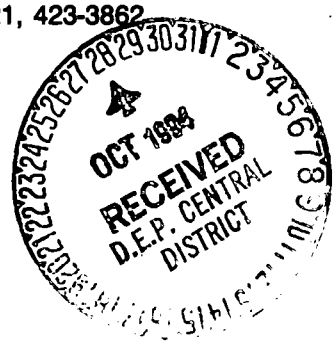
NAME OF PERSON PREPARING REPORT: _____
(Name, Organization, Phone No.)

NOTE ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG.
(NGVD) NATIONAL GEODETIC VERTICAL DATUM OF 1929 (BLS) = BELOW LAND SURFACE

DEP Form 62-522.900(3) Effective April 14, 1994

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862



October 25, 1994

Dan R. Morrical, P.E.
Program Manager Solid Waste
Florida Department of Environment Protection
3319 McGuire Boulevard, Suite 232
Orlando, Florida 32803-3767

Re: September Quarter 1994
Tomoka Landfill: Permit No. S064-34352, I064-39230, NPDES No. FL0037877
Permit No. S064-171906, S064-121811 and S064-179781
Plymouth Landfill: Permit No. S064-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are Monitoring Wells and Surface Water Analysis Reports for the Tomoka and Plymouth Landfill Systems. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

J. L. Griffin
Director of Solid Waste Management

JLG/SG/kl

c: Bill Gilley, Assistant Director of Solid Waste Management
Susan Gaze, Environmental Specialist II, Solid Waste Management
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, Florida 33904

ENVIROLAB

Environmental Certification
HRS #E83079

ENVIROLAB
1032 U.S. Highway One, North
P.O. Box 468
Ormond Beach, Florida 32175
(904) 672-5668
Fax (904) 673-4001
Drinking Water Certification
HRS #83160

October 17, 1994

Mr. Jim Griffin
Director of Public Works
Volusia County
123 W. Indiana Avenue
Deland, FL 32720

Dear Mr. Griffin:

The September Landfill Monitoring Reports are complete and enclosed. The results did not significantly deviate from historical patterns. The following wells at Plymouth Avenue Landfill exceed the drinking water requirements for primary standards.

PLYMOUTH

Monitoring Well	Parameter	Units	Value	DW Limits
MO5	Nitrate	mg/l	68	10
M11	Nitrate	mg/l	70	10

TOMOKA

Tomoka Farms Road Landfill did not indicate any values exceeding drinking water requirements for primary standards. However, the values for Iron have been consistently increasing.

Surface Water	Iron Values	Units
SW1	0.68	mg/l
SW2	0.73	mg/l
SW3	0.46	mg/l
SW4	Dry	mg/l
SW5	0.48	mg/l

If I can be of further assistance please feel free to give me a call at (904) 672-5668.

Sincerely,

Frank Guzman
Vice President

FG/ps

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

October 25, 1994

U.S. Environmental Protection Agency Region IV
Attention: Trent Rainey, Enforcement Official
Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management
345 Courtland Street, N.E. Division
Atlanta, Georgia 30365

Re: NPDES No. FL-0037877
September Quarter 1994

Dear Mr. Rainey:

In conformance with the regulations of the NPDES Permit No. FL-0037877, attached are monthly and quarterly forms for the prospective lab analyses report for the designated sampling locations of the Tomoka Landfill. There was a zero discharge for this quarter.

If additional information is needed, please advise.

Very truly yours,

J. L. Griffin
Director of Solid Waste Management

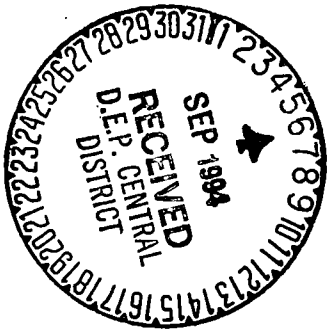
JLG:SG:kl

c: D. R. Morrical, P.E., Department of Environmental Protection
3319 McGuire Blvd., Suite 232, Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Management District
P.O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 S.E. 27th Street, Cape Coral, Florida 33904
Susan M. Gaze, Environmental Specialist II, Solid Waste Management

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

DRM
LL
Files
Volusia-Tomoka
-Plymouth



August 31, 1994

Dan R. Morrical, P.E.
Program Manager Solid Waste
Florida Department of Environmental Protection
3319 McGuire Boulevard, Suite 232
Orlando, Florida 32803-3767

Re: June Quarter 1994
Tomoka Landfill: Permit No. SO64-34352, IO64-39230, NPDES No. FL0037877
Permit No. SO64-171906, SO64-121811 and SO64-179781
Plymouth Landfill: Permit No. SO64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are Monitoring Wells and Surface Water Analysis Reports for the Tomoka and Plymouth Landfill Systems. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

J. L. Griffin
Director of Solid Waste Management

JLG/SG/mb

c: Bill Gilley, Assistant Director of Solid Waste Management
Susan Gaze, Environmental Specialist II, Solid Waste Management
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, Florida 33904

WP51\sw\gaze\1994\morrical.6

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

August 31, 1994

U.S. Environmental Protection Agency Region IV
Attention: Trent Rainey, Enforcement Official
Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management
345 Courtland Street, N.E. Division
Atlanta, Georgia 30365

RE: NPDES No. FL-0037877
June Quarter 1994

Dear Mr. Rainey:

In conformance with the regulations of the NPDES Permit No. FL-0037877, attached are monthly and quarterly forms for the prospective lab analyses report for the designated sampling locations of the Tomoka Landfill. There was a zero discharge for this quarter.

If additional information is needed, please advise.

Very truly yours,

J. L. Griffin
Director of Solid Waste Management

JLG:SG:mb

Enclosures

C: D. R. Morrical, P.E., Department of Environmental Protection
3319 McGuire Blvd., Suite 232 Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Management District
P.O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 S. E. 27th Street, Cape Coral, Florida 33904
Susan M. Gaze, Environmental Specialist II, Solid Waste Management

WP51\SW\Gaze\1994\Rainey.1

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

May 27, 1994

U.S. Environmental Protection Agency Region IV
Attention: Trent Rainey, Enforcement Official
Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management
345 Courtland Street, N.E. Division
Atlanta, GA 30365

RE: NPDES No. FL-0037877
March Quarter 1994

Dear Mr. Rainey:

In conformance with the regulations of the NPDES Permit No. FL-0037877, attached are monthly and quarterly forms for the respective lab analyses report for the designated sampling locations of the Tomoka Landfill. There was a zero discharge for this quarter. If additional information is needed, please advise.

Very truly yours,

J. L. Griffin
Director of Solid Waste Management

JLG:SG:sw

Enclosures

C: D.R. Morrical, P.E., Department of Environmental Protection
3319 McGuire Blvd., Suite 232 Orlando, FL 32803
Denise Kemp, Division of Records, St. Johns River Management District
P.O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, 2247 S.E. 27th Street, Cape Coral, FL 33904
Susan M. Gaze, Environmental Specialist II, Solid Waste Management

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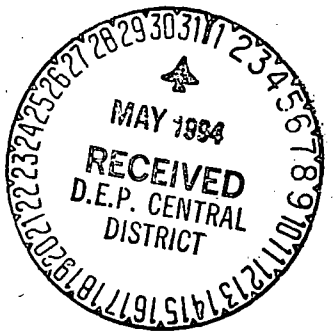
County of Volusia

Tomoka LF
Plymouth LF.

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862



May 26, 1994

Mr. Dan R. Morrical, P.E.
Solid Waste Management Section
Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: March Quarter 1994

Tomoka Landfill, Permit #SO64-34352, Permit #IO64-39230
Permit #NPDES FL-0037877, Permit #SO64-171906
Permit #SO64-121811, Permit #SO64-179781

Plymouth Landfill, Permit #SO64-58275

Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill System. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

James L. Griffin, Director
Solid Waste Management

JLG:SMG:mb

Attachments

c: Denise Kemp, Division of Records
Susan M. Gaze, Environmental Specialist II for Solid Waste Management
St. Johns River Water Management District, P. O. Box 14294
Palatka, Florida 32077
Dr. David Gomberg, 2247 Southeast 27th Street, Cape Coral, Florida 33904

WP51\SW\Gaze\Morrical.3

ENVIROLAB
1032 U.S. Highway One, North
P.O. Box 468
Ormond Beach, Florida 32175
(904) 672-5668
Fax (904) 673-4001
Drinking Water Certification
HRS #83160

ENVIROLAB

Environmental Certification
HRS #E83079

April 25, 1994

Jim Griffin
Director of Public Works
Volusia County
123 W. Indiana Ave.
Deland, Fl 32720

Dear Mr. Griffin,

The March landfill monitoring reports are complete and enclosed. The results did not significantly deviate from historical patterns. The following wells at Plymouth Avenues Landfill exceed the drinking water requirements for primary standards.

PLYMOUTH

Monitoring Well	Parameter	Units	Value	DW Limits
MO5	Nitrate	mg/l	66	10
M11	Nitrate	mg/l	96	10

Tomoka Farms Road Landfill did not indicate any values exceeding drinking water requirements for primary standards. However, the value for Iron have been consistently increasing.

TOMOKA

Surface Water	Iron Values	Units
SW 1	220	ug/l
SW 2	410	ug/l
SW 3	570	ug/l
SW 4	620	ug/l
SW 5	1600	ug/l

If I can be of further assistance please feel free to give me a call at (904)672-5668.

Sincerely,

Frank Guzman
Vice President
Envirolab

FG/tar

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

May 23, 1994

Mr. Dan R. Morrical, P.E.
Solid Waste Management Section
Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803

RE: Annual Report 1993
Tomoka Landfill, Permit #SO64-34352, Permit #IO64-39230
Plymouth Landfill, Permit #SO64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Morrical:

In accordance with specific conditions of the above referenced permits enclosed are the Water Quality Monitoring Data for Tomoka and Plymouth Landfills covering the period 1980-1993.

Dr. David N. Gomberg, Registered Professional Geologist has reviewed the data and provided comments (see attachment).

If additional information is needed, please advise.

Sincerely,

J.L. Griffin, Director
Solid Waste Management

JLG:SG:sw

C: Bill Gilley, Assistant Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist II

Enclosures (2)

WP51\sw\gaze\morrical.2

David N. Gomberg, Ph.D.
Water Resources Consultant

2247 S.E. 27th ST.
CAPE CORAL, FL 33904
(813) 574-6196
May 13, 1994

Ms. Susan Gaze, Environmental Specialist
Volusia County Dept. of Solid Waste Management
Volusia County Tamoka Farms Road Landfill
1990 Tomoka Farms Road
Daytona Beach, Florida 32115

Re: Water Quality Monitoring Data for Tomoka and Plymouth Landfills

Dear Ms. Gaze:

I have received and briefly reviewed the tabular and graphical monitoring data sent to me by Envirolab. These data cover the period 1980 - 1993, and include Primary metals, other Primary Drinking Water constituents, and Secondary Drinking Water parameters. My impression is that the data are comprehensive and accurately reflect the analyses which have been conducted over that time period. The graphical presentation, particularly for Secondary constituents such as Iron, are especially useful in illustrating fluctuations in groundwater chemistry at individual sites.

Very truly yours,

David N. Gomberg

5/14/94

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

Tomoka
Plymouth

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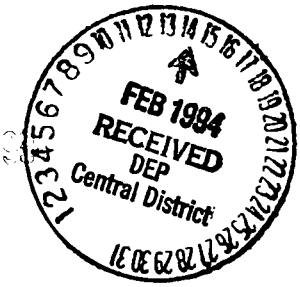


February 10, 1994

ENTERED APR 1 3

Ms. Laxsammee Levin, Supervisor
Compliance and Enforcement
Solid Waste Program
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RE: December Quarter 1993
Tomoka Landfill - Permit #SO64-34352, Permit #IO64-39230,
NPDES #FL-0037877, Permit #SO64-171906,
Permit #SO64-121811, Permit #SO64-179781,
Plymouth Landfill - Permit #SO64-58275 Monitoring Wells
and Surface Water Analysis

Dear Ms. Levin:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill Systems. Location maps of the well system are attached. Exceedances are covered in the summary letter prepared by Enviro Lab.

If additional information or clarification is required, please advise.

Sincerely,

J. L. Griffin

James L. Griffin
Director of Solid Waste Management

JLG:SG:lm

Enclosures

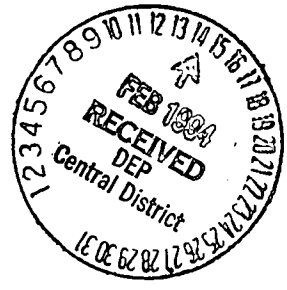
c: Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 S.E. 27th Street, Cape Coral, Florida 33904
Susan M. Gaze, Environmental Specialist II, for Solid Waste Management

WP51\SW\GAZE\LEVIN

County of Volusia

Ali Kazi

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862



February 10, 1994

Environmental Protection Agency, Region 4
Attn: Michael Hom
Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management
345 Courtland Street, NE Division
Atlanta, Georgia 30365

RE: NPDES #SL-0037877-December Quarter 1993

Dear Mr. Hom:

In conformance with the regulations of the NPDES #SL-0037877, attached are monthly and quarterly forms for the prospective lab analysis report for the designated sampling location at the Tomoka Landfill (map enclosed). There was zero discharge of water for this quarter.

If additional information or clarification is required, please advise.

Very truly yours,

James L. Griffin
Director of Solid Waste Management

JLG:SMG:lm

Enclosures

c: Laxsammee Levin, Supervisor Compliance and Enforcement Solid Waste Program, Florida Department of Environmental Protection, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767 ✓
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, Florida 33904
Susan M. Gaze, Environmental Specialist II, Solid Waste Management

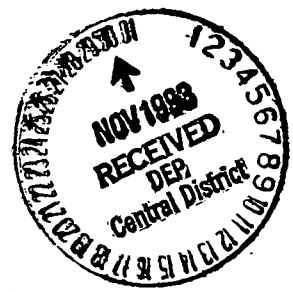
WP51\SW\Gaze\Hom.5

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

November 29, 1993

Mr. Richard Tedder, P.E., Section Manager
Solid Waste Program
Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767



RE: December Quarterly
1993 Sampling
Tomoka Landfill - Permit #SO64-34352,
Permit #IO64-39230, NPDES #SL-0037877,
Permit #SO64-171906, Permit #SO64-121811,
Permit #SO64-179781
Plymouth Landfill - Permit #SO64-58275,
Monitoring Wells and Surface Water Analysis

Dear Mr. Tedder:

In accordance with specific conditions of the above referenced permits, Quarterly sampling will take place on December 14th for Plymouth and December 15th for Tomoka.

If additional information is required, please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG:SMG:mb

c: Bill Gilley, Assistant Director of Solid Waste Management
Wayne Cribbs, Solid Waste Coordinator
Susan M. Gaze, Environmental Specialist II

WP51\SW\Gaze\Tedder.19

ENVIROLAB

Environmental Certification
HRS #E83079

ENVIROLAB
1032 U.S. Highway One, North
P.O. Box 468
Ormond Beach, Florida 32175
(904) 672-5668
Fax (904) 673-4001
Drinking Water Certification
HRS #83160

MR. JIM GRIFFIN
DIRECTOR OF SOLID WASTE
1990 TOMOKA FARMS ROAD
DAYTONA BEACH, FLORIDA
32114

DEAR MR. GRIFFIN,

ENVIROLAB HAS COMPLETED THE LANDFILL ANALYSIS AND THE RESULTS ARE INCLUDED WITH THIS COVER LETTER. THE RESULTS HAVE GENERALLY AGREED WITH THE HISTORICAL VALUES. BELOW ARE THE PARAMETERS AND THE WELLS THAT EXCEED THE DRINKING WATER REQUIREMENTS OR DEVIATE FROM THE NORMAL RANGES..

TOMOKA FARMS ROAD LANDFILL
SURFACE WATER THREE AND FOUR WERE DRY FOR THIS QUARTER.
SURFACE WATER FIVE HAS ELEVATED VALUES FOR CONDUCTIVITY AND TOTAL SOLIDS. WITH THE DRY WEATHER THE VALUES WOULD BE EXPECTED TO RISE DUE TO THE WATER EVAPORATION.

PLYMOUTH AVENUE

MONITOR WELL	PARAMETER	VALUE	DRINKING WATER VALUE
MO5	NITRATE	69 MG/L	10 MG/L
M11	NITRATE	63 MG/L	10 MG/L
	MANGANESE	180 UG/L	50 UG/L

IF I CAN BE OF FURTHER ASSISTANCE PLEASE FEEL FREE TO GIVE ME A CALL

Robert L. Sullivan

ROBERT L. SULLIVAN
PRESIDENT
ENVIROLAB

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

RBT
LL LAX

November 16, 1993

Mr. Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803

RE: September Quarter 1993
Tomoka Landfill - Permit #SO64-34352, Permit #IO64-39230,
NPDES #FL-0037877, Permit #SO64-171906,
Permit #SO64-121811, Permit #SO64-179781,
Plymouth Landfill - Permit #SO64-58275 Monitoring Wells and
Surface Water Analysis

Dear Mr. Tedder:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedances are covered in the summary letter prepared by Enviro Lab. If additional information or clarification is required, please advise.

Sincerely,

J.L. Griffin
Director of Solid Waste Management

JLG:sw

Enclosures

C: Denise Kemp, Division of Records, St. Johns River Water Management District,
P.O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904
Susan M. Gaze, Environmental Specialist II, for Solid Waste Management

WP51\sw\gaze\tedder.18

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

June 21, 1993

Mr. Richard Tedder, P.E.
Section Manager, Solid Waste Program
Florida Department of Environmental Regulation
3319 Maquire Boulevard, Suite 232
Orlando, Florida 32803-3767

RE: Volusia County-SW/GW Tomoka Landfill Groundwater Monitoring
June 16, 1993

Dear Mr. Tedder:

Referencing the review of groundwater and surface water data submitted approximately May 25, 1993, Items 2 through 6 have been forwarded to Enviro Lab for correction on their present database. Item 1 was a consideration for your review. All corrections will be noted on the September quarterly report following this reply.

Please contact Susan Gaze at (904) 239-7766 for clarification or additional information.

Sincerely,

James L. Griffin, Director
Solid Waste Management

JLG/SG/cmn/mb

cc: Susan M. Gaze, Environmental Specialist II for Solid Waste Mgmt.
Bill Gilley, Asst. Director of Solid Waste Management

WP51\sw\gaze\Tedder

Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767

Lawton Chiles, Governor

~~Carol M. Browner, Secretary~~

Virginia B. Wetherell, Secretary

June 16, 1993

James L. Griffin
Director of Solid Waste Management
Volusia County Department of Solid Waste
123 West Indiana Avenue
DeLand, Florida 32720-4617

OCD-SW-93-0258

Volusia County - SW/GW
Tomoka Landfill
Ground Water Monitoring

Dear Mr. Griffin:

Review of ground water and surface water data submitted approximately on May 25, 1993 generates the following comments:

1. Separate ground water data submittal for sludge pond is not necessary. Monitoring wells; B-2, B-7 and B-11 analyses are already included in Tomoka Landfill Ground Water Monitoring Report.

2. Surface water; SW-4 Site ID number is 3064A12095 (not 3064A12228).

3. Surface water; SW-5 and SW-6 Site ID numbers are 3064A12222 and 3064A17014 respectively.

4. Ground water monitoring wells; B-10 and B-11 Site ID numbers are 3064A15206 and 3064A15502 respactively.

5. Turbidity measurement should be taken in the field for quality control purposes. The correct field turbidity storet code is 082078 (not 000076) in NTUs.

6. The field conductivity storet code is 00094 (not 00095).

Please contact Mrs. Laxsamee Levin at (407) 894-7555 if you have further questions.

Sincerely,

Richard B. Tedder, P.E.
Section Manager
Solid Waste Program

LAX
RBT/ll

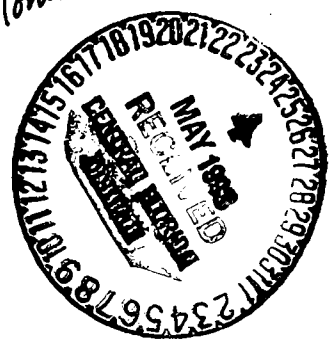
cc: Susan Gaze, Volusia County, FDER

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

Tomoka LF GW File

RBT
LL HAX



Mr. Richard Tetter, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 McGuire Boulevard, Suite 232
Orlando, Florida 32803

To Ali Kazi

RE: March Quarter 1993
Tomoka Landfill - Permit# SO64-34352, Permit# IO64-39230, NPDES# FL-0037877
Permit# SO64-171906, Permit# SO64-121811, Permit# SO64-179781,
Plymouth Landfill - Permit# SO64-58275 Monitoring Wells and Surface Water Analysis

Dear Mr. Tetter:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedances are covered in the summary letter prepared by Enviro Lab. If additional information or clarification is required please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG/SG/ma

Enclosures

c: Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904
Susan M. Gaze, Environmental Specialist II, for Solid Waste Management

WP51\SW\GAZE\TETTER

LA 6/16/93

Tomoka Farm Rd LF

Plymouth Rd LF

ENVIROLAB
1032 U.S. Highway One, North
P.O. Box 468
Ormond Beach, Florida 32175
(904) 672-5668
Fax (904) 673-4001
Drinking Water Certification
HRS #83160

ENVIROLAB
Environmental Certification
HRS #E83079

May 17, 1993

Jim Griffin
Director of Solid Waste
Volusia County DPW
1990 Tomoka Farms Rd.
Daytona Beach, Fl 32114

Dear Mr. Griffin,

Enclosed you will find the March 1993 quarterly sampling and analysis results on Plymouth Avenue Landfill and Tomoka Road Landfill.

The following parameters are over the primary drinking water standards.

Plymouth Avenue Landfill		Drinking Water Standard
MW 05	Nitrate 64 mg/l	10 mg/l
MW 11	Nitrate 77 mg/l	10 mg/l

Tomoka Farms Road Landfill

No parameters exceeded primary drinking water standards.

If I can be of further assistance please feel free to give me a call at (904)672-5668.

Sincerely,

Robert L. Sullivan
President
Envirolab

RLS/tar

BRILEY, WILD
AND ASSOCIATES

RBT
LL LAX
SW SW
Tomoka Farms Rd LF
Correspondence File

February 17, 1993

VC 93094-6R

Mr. Richard B. Tedder, P.E.
Solid Waste Program Manager
Florida Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Re: Volusia County
Tomoka Farms Road Landfill
Monitor Well B-11

Dear Mr. Tedder:

Groundwater Monitor Well B-11 at the above landfill was reported accidentally destroyed near the end of 1992. A replacement well in the same location was constructed in December 1992. Enclosed is the well completion report for that replacement well, along with a sketch of its construction.

If you have any questions on this well please let me know.

MWB-11 compliance well for sludge basins which have been discontinued for use.
Ok. RBT

Very truly yours,

BRILEY, WILD & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

Lee A. Powell, P.E.
Assistant Director of Engineering

LAP/seg
cc: Mr. James Griffin
Ms. Susan Gaze
Dr. David N. Gomberg

Briley, Wild and Associates, Inc.
Consulting Engineers and Planners
1040 North U.S. Highway One
P.O. Box 607
Ormond Beach, FL 32175
904/672-5660 • FAX 904/673-8264
Offices in Bradenton, Clearwater, Daytona Beach, Orlando & Ormond Beach, FL

MONITORING WELL

COMPLETION REPORT

DATE February 17, 1993

FACILITY NAME: Tomoka Farms Road Landfill

DER PERMIT NUMBER: SC64-149850 GMS NO.: 3064C00071

WELL NO.: 3064A15502 WELL NAME: B-11B WELL TYPE: C

DRILLING METHOD: Auger DATE INSTALLED: 12/17/92

BY: Bob's Well Drilling

AQUIFER MONITORED: surficial

HOLE DIAMETER: 6 1/4" TOTAL DEPTH: 14.5' (BLS)

CASING TYPE: PVC CASING DIAMETER/LENGTH: 2"/9.5' BLS

SCREEN TYPE: PVC SCREEN SLOT SIZE/LENGTH: .010/5'

SCREEN INTERVAL: 9.5 TO 14.5 (BLS)

FILTER PACK TYPE/SIZE: silica sand 20/30 INTERVAL COVERED: 8 - 14.5' BLS

SEALANT TYPE: auger cuttings - fine sand GROUT TYPE: cement + 2% bentonite

SEALANT INTERVAL: 7' TO 8' BLS GROUT INTERVAL: 0 TO 7' BLS

MEASURING POINT LOCATION AND ELEVATION (NGVD): top of casing 33.00

GROUND SURFACE ELEVATION (NGVD): 30.8

LATITUDE AND LONGITUDE OF THE WELL: 29° 08' 03", 81° 06' 03"

DESCRIBE WELL DEVELOPMENT: 1/2 hour pumping & surging to clear, sand-free condition

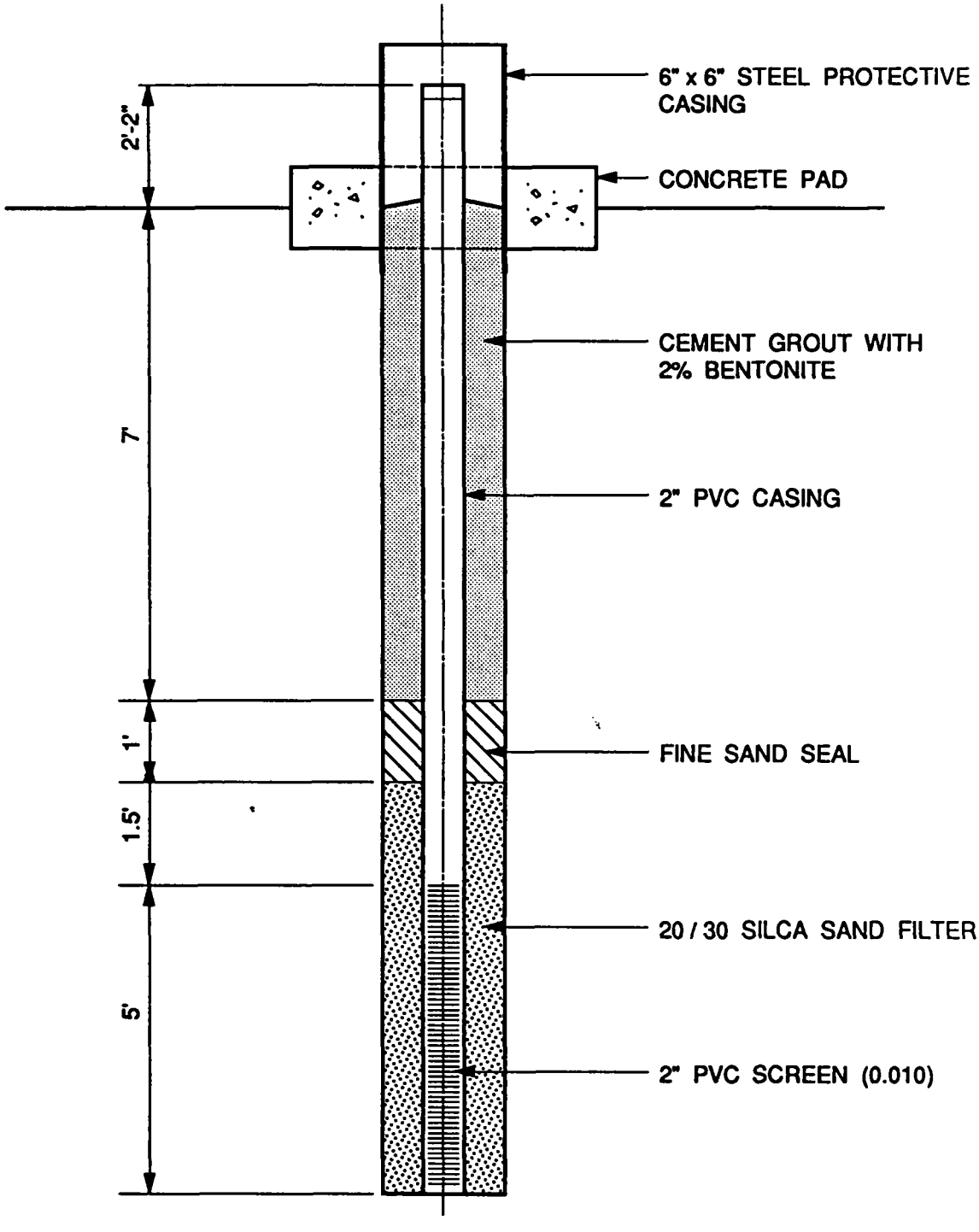
NAME OF PERSON PREPARING REPORT: Lee Powell

ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG.

BLS = BELOW LAND SURFACE

WELL TYPE: B = BACKGROUND I = INTERMEDIATE C = COMPLIANCE

VC-93 094-6R



WELL COMPLETION DETAIL

NOT TO SCALE

VOLUSIA COUNTY
TOMOKA FARMS ROAD LANDFILL
WELL B - 11B

PREPARED BY:
BRILEY, WILD AND ASSOCIATES
CONSULTING ENGINEERS AND PLANNERS

FIGURE 1

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

RLB
LL LAX
SW SV

January 28, 1993

Mr. Richard Tedder, P.E.
Section Manager, Solid Waste Program
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RE: Annual Compliance Summary
Tomoka/Plymouth Landfills

Dear Mr. Tedder:

In accordance with the Tomoka Landfill Permit No. SO64-121811 and Plymouth Landfill Permit NO. SO64-58275, enclosed you will find the Annual Compliance Summary report for the groundwater monitoring of Volusia County's landfills for 1992.

If additional information is needed, please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG:SG:lm

Enclosures (4)

c: Bill Gilley, Assistant Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist II

WP51\SW\GAZE\TEDDER.8

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

January 26, 1993

Mr. Richard Tedder, P.E.
Section Manager, Solid Waste Program
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RE: December Quarter 1992
Tomoka Landfill: Permit No. SO64-34352, IO64-39230,
NPDES No. FL-0037877, Permit NO. SO64-171906,
SO64-121811, SO64-179781
Plymouth Landfill: Permit No. SO64-58275
Monitoring Wells and Surface Water Analyses

Dear Mr. Tedder:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarifications is required, please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG:SG:lm

Enclosures
c: Bill Gilley, Assistant Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist, Solid Waste Mgmt
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 14294, Polatka, FL 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904

WP51\SW\GAZE\TEDDER.5

RICHARD TEDDER
DER

ENVIROLAB, INC.

P.O. Box 607
Ormond Beach, Florida 32175
(904) 672-5668 • FAX (904) 673-8264

ENVIROLAB

Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

VOLUSIA COUNTY DPW
1990 TOMOKA FARMS RD.
DELAND,FL 32114

Submission #:9212000152
Date Received:12/10/92
Date Reported:12/22/92

Client PO Number:
Project: B5 STUDY

Order Number	Client Sample Number	Sample Description
13036	1	B5-23
13037	2	B5-22
13038	3	B5-24
13039	4	B5-B
13040	5	B5
13041	6	B5-21
13042	7	B5-20

Laboratory Contact

QC ACCEPTABLE
DEC 2 2 1992
H.F. ACOSTA
QA/QC OFFICER

ENVIROLAB

ENVIROLAB, INC.

P.O. Box 607
Ormond Beach, Florida 32175
(904) 672-5668 • FAX (904) 673-8264

Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

SUBMISSION #: 9212000152
PRINTED ON: 12/22/92

METHOD	PARAMETER	UNITS	13036	13037	13038	13039	13040	13041
624	BENZENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	BROMOFORM	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	CHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	2-CHLOROETHYLVINYL ETHER	UG/L	<20	<20	<20	<20	<20	<20
624	CHLOROFORM	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	DIBROMOCHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,2-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	1.6	<1.0	<1.0
624	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,1-DICHLOROETHENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	TRANS-1,2-DICHLOROETHENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	CIS-1,3-DICHLOROPROPENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	TRANS-1,3-DICHLOROPROPENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	ETHYLBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	METHYLENE CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,1,2,2-TETRACHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	TETRACHLOROETHENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	TOLUENE	UG/L	<1.0	<1.0	1.4	<1.0	<1.0	<1.0
624	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	1,1,2-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	TRICHLOROETHENE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
624	VINYL CHLORIDE	UG/L	<1.0	2.1	2.0	<1.0	<1.0	<1.0

ENVIROLAB

ENVIROLAB, INC.

P.O. Box 607
Ormond Beach, Florida 32175
(904) 672-5668 • FAX (904) 673-8264

Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

SUBMISSION #: 9212000152
PRINTED ON: 12/22/92

METHOD	PARAMETER	UNITS	13042
624	BENZENE	UG/L	<100
624	BROMODICHLOROMETHANE	UG/L	<100
624	BROMOFORM	UG/L	<100
624	BROMOMETHANE	UG/L	<100
624	CARBON TETRACHLORIDE	UG/L	<100
624	CHLOROBENZENE	UG/L	<100
624	CHLOROETHANE	UG/L	<100
624	2-CHLOROETHYLVINYL ETHER	UG/L	<2000
624	CHLOROFORM	UG/L	<100
624	CHLOROMETHANE	UG/L	<100
624	DIBROMOCHLOROMETHANE	UG/L	<100
624	1,2-DICHLOROBENZENE	UG/L	<100
624	1,3-DICHLOROBENZENE	UG/L	<100
624	1,4-DICHLOROBENZENE	UG/L	<100
624	1,1-DICHLOROETHANE	UG/L	<100
624	1,2-DICHLOROETHANE	UG/L	<100
624	1,1-DICHLOROETHENE	UG/L	<100
624	TRANS-1,2-DICHLOROETHENE	UG/L	<100
624	1,2-DICHLOROPROPANE	UG/L	<100
624	CIS-1,3-DICHLOROPROPENE	UG/L	<100
624	TRANS-1,3-DICHLOROPROPENE	UG/L	<100
624	ETHYLBENZENE	UG/L	<100
624	METHYLENE CHLORIDE	UG/L	<100
624	1,1,2,2-TETRACHLOROETHANE	UG/L	<100
624	TETRACHLOROETHENE	UG/L	<100
624	TOLUENE	UG/L	<100
624	1,1,1-TRICHLOROETHANE	UG/L	<100
624	1,1,2-TRICHLOROETHANE	UG/L	<100
624	TRICHLOROETHENE	UG/L	<100
624	TRICHLOROFLUOROMETHANE	UG/L	<100
624	VINYL CHLORIDE	UG/L	3000

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

November 4, 1992

Mr. Richard Tedder, P.E.
Solid Waste Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RE: September Sampling B_5 Tomoka Landfill

Dear Mr. Tedder:

Enclosed you will find analysis for the B_5 monitoring wells located at the Tomoka Landfill.

Please advise if additional information is needed.

Respectfully submitted,

Susan M. Gaze
Environmental Specialist II for Solid Waste Management

SG:lm

Enclosures (4)

c: James L. Griffin, Director of Solid Waste Management

WP51\SW\GAZE\TEDDER.3

ENVIROLAB

ENVIROLAB, INC.

P.O. Box 607
Ormond Beach, Florida 32175
(904) 672-5668 • FAX (904) 673-8264

Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

VOLUSIA COUNTY DPW

1990 TOMOKA FARMS RD
DELAND FL 32114
ATTN: SUSAN GAZE

Description: 9 WATER SAMPLES Samples Received on 09/23/92

Sampled By: ENVIROLAB Client Job/PO Number: NC24353

Reference Number: 92090303 Reported Date : 10/08/92
Invoice Number: 9209-0303

Sample	Description	Client Id
0001	TOMOKA LANDFILL	B-5
0002	TOMOKA LANDFILL	B5-B
0003	TOMOKA LANDFILL	B5-20
0004	TOMOKA LANDFILL	B5-21
0005	TOMOKA LANDFILL	B5-22
0006	TOMOKA LANDFILL	B5-23
0007	TOMOKA LANDFILL	B5-24
0008	TOMOKA LANDFILL	EQUIPMENT BLANK
0009	TOMOKA LANDFILL	TRIP BLANK

PARAMETER		SAMPLE NUMBER 0001	0002	0003	0004	0005	0006	0007	0008
PROFILE: GC/MS VOLATILES									
1,1,1-TRICHLOROETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
1,1,2,2-TETRACHLOROETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
1,1,2-TRICHLOROETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
1,1-DICHLOROETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
1,1-DICHLOROETHENE	UG/L	5.2 OK	< 1	< 5	3.1 OK	< 1	< 1	< 1	< 1
1,2-DICHLOROBENZENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1

ENVIROLAB

ENVIROLAB, INC.

P.O. Box 607
Ormond Beach, Florida 32175
(904) 672-5668 • FAX (904) 673-8264

Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

Reference Number: 92090303 **Page: 2**

PARAMETER		SAMPLE NUMBER 0001	0002	0003	0004	0005	0006	0007	0008
1,2-DICHLOROETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
1,2-DICHLOROPROPANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
1,3-DICHLOROBENZENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
1,4-DICHLOROBENZENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
2-CHLOROETHYLVINYL ETHER	UG/L	< 20	< 20	< 100	< 20	< 20	< 20	< 20	< 20
BENZENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
BROMODICHLOROMETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
BROMOFORM	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
BROMOMETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
CARBON TETRACHLORIDE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
CHLOROBENZENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
CHLOROETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
CHLOROFORM	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
CHLOROMETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
CIS-1,3-DICHLOROPROPENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
DIBROMOCHLOROMETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
ETHYLBENZENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
METHYLENE CHLORIDE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
TETRACHLOROETHENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
TOLUENE	UG/L	< 1	< 1	52 OK	< 1	< 1	< 1	4.8 OK	< 1
TRANS-1,2-DICHLOROETHENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
TRANS-1,3-DICHLOROPROPENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
TRICHLOROETHENE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
TRICHLOROFLUOROMETHANE	UG/L	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
VINYL CHLORIDE	UG/L	< 1	< 1	8000	< 1	< 1	< 1	< 1	< 1

[redacted] detected

[redacted] exceed.

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Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

Reference Number: 92090303

PARAMETER		SAMPLE NUMBER 0009
PROFILE: GC/MS VOLATILES		
1,1,1-TRICHLOROETHANE	UG/L	< 1
1,1,2,2-TETRACHLOROETHANE	UG/L	< 1
1,1,2-TRICHLOROETHANE	UG/L	< 1
1,1-DICHLOROETHANE	UG/L	< 1
1,1-DICHLOROETHENE	UG/L	< 1
1,2-DICHLOROBENZENE	UG/L	< 1
1,2-DICHLOROETHANE	UG/L	< 1
1,2-DICHLOROPROPANE	UG/L	< 1
1,3-DICHLOROBENZENE	UG/L	< 1
1,4-DICHLOROBENZENE	UG/L	< 1
2-CHLOROETHYLVINYL ETHER	UG/L	< 20
BENZENE	UG/L	< 1
BROMODICHLOROMETHANE	UG/L	< 1
BROMOFORM	UG/L	< 1
BROMOMETHANE	UG/L	< 1
CARBON TETRACHLORIDE	UG/L	< 1
CHLOROBENZENE	UG/L	< 1
CHLOROETHANE	UG/L	< 1
CHLOROFORM	UG/L	< 1
CHLOROMETHANE	UG/L	< 1
CIS-1,3-DICHLOROPROPENE	UG/L	< 1
DIBROMOCHLOROMETHANE	UG/L	< 1
ETHYLBENZENE	UG/L	< 1
METHYLENE CHLORIDE	UG/L	< 1
TETRACHLOROETHENE	UG/L	< 1
TOLUENE	UG/L	< 1
TRANS-1,2-DICHLOROETHENE	UG/L	< 1
TRANS-1,3-DICHLOROPROPENE	UG/L	< 1
TRICHLOROETHENE	UG/L	< 1

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Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

Reference Number: 92090303 Page: 4

PARAMETER		SAMPLE NUMBER 0009
TRICHLOROFLUOROMETHANE	UG/L	< 1
VINYL CHLORIDE	UG/L	< 1

QC ACCEPTABLE
OCT 09 1992
H.F. ACOSTA
QA/QC OFFICER

APPROVED BY: Frank Guzman
F. GUZMAN/R. SULLIVAN
Laboratory Contact

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

November 4, 1992

Mr. Richard Tedder, P.E.
Solid Waste Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RE: September Quarter 1992
Tomoka Landfill: Permit No. SO64-34352, IO64-39230,
NPDES No. FL-0037877, Permit No. SO64-171906,
SO64-121811, SO64-179781
Plymouth Landfill: Permit No. SO64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Tedder:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface analysis reports for the Tomoka and Plymouth Landfill Systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Enviro Lab.

If additional information or clarification is required, please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG:SG:lm

Enclosures

c: Susan M. Gaze, Environmental Specialist, Solid Waste
Denise Kemp, Division of Records, SJRWMD, P.O. Box 14294,
Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904

WP51\SW\GAZE\TEDDER.2

ENVIROLAB

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P.O. Box 607
Ormond Beach, Florida 32175
(904) 672-5668 • FAX (904) 673-8264

Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

October 30, 1992

Jim Griffin
Volusia County DPW
1990 Tomoka Farms Road
Deland, Fl 32114

Dear Mr. Griffin,

The September quarterly analysis of Plymouth Avenue Landfill and Tomoka Farms Road Landfill ground water monitoring newtwork is complete. DER performed a field sampling audit of Envirolab's field sampling at Tomoka Farms Road Landfill. Preliminary reports indiate a very successful audit.

The analysis did not yield any results deviating form the historical norm for the landfill. The following parameters were found to exceed drinking water MCL's.

Plymouth:

Well	pH	Nitrate	Units	Drinking Water MCL
MO5		63	mg/l	10
M11		110	mg/l	10
M11	4.0		pH units	6.5-8.5

Tomoka:

No Exceedences

If I can be of further assistance please feel free to give me a call.

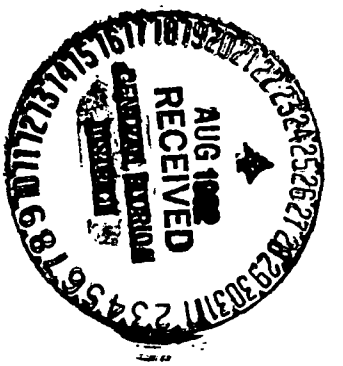
Sincerely,

Robert L. Sullivan
Vice President
Envirolab, Inc.

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

LL LAX.



August 21, 1992

Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: September Quarter, 1992 Sampling
Tomoka Landfill Permit No. SO64-34352,
Permit No. IO64-39230, NPDES No. FL-0037877,
Permit No. SO64-171906, Permit No. SO64-121811,
Permit No. SO64-179781
Plymouth Landfill Permit No. SO64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Tedder:

In accordance with the specific conditions of the above referenced permits, we will be sampling the Plymouth Landfill on September 2, 1992, and the Tomoka Landfill on September 3, 1992.

If additional information is needed, please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG:SMG:lm
SW-92-3337

c: Bill Gilley, Assistant Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist for Solid Waste
Bob Sullivan, Envirolab, Inc., P.O. Box 607, Ormond Beach, FL 32175

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

RBB ✓
GJD
LL LAX.
K. Tulloch

August 11, 1992

Mr. Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: June Quarter 1992
Tomoka Landfill - Permit No. SO64-34352,
Permit No. IO64-39230, NPDES No. FL-0037877,
Permit No. SO64-171906, Permit No. SO64-121811,
Permit No. SO64-179781,
Plymouth Landfill - Permit No. SO64-58275
Monitoring Wells and Surface Water Analysis

Does JW need to see this data?

Dear Mr. Tedder:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface analysis reports for the Tomoka and Plymouth Landfill Systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Enviro Lab.

If additional information or clarification is required, please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG:SMG:lm
SW-92-3210

Enclosures

c: Denise Kemp, Division of Records, St. Johns Water Management District, P.O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904
Susan M. Gaze, Environmental Specialist, Solid Waste

Eugene Elliott. 10/19/92

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

August 11, 1992

Environmental Protection Agency Region 4
ATTN: Michael Hom
Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management
345 Courtland Street, Northeast Division
Atlanta, Georgia 30365

RE: NPDES No. FL-0037877 - June Quarter 1992

Dear Mr. Hom:

In conformance with the regulations of the NPDES No. FL-0037877, attached are monthly and quarterly forms for the respective lab analysis report for the designated sampling locations at the Tomoka Landfill (map enclosed). There was a total of 3,600,000 gallons of water discharged this quarter.

If you need additional information or clarification, please advise.

Very truly yours,

James L. Griffin
Director of Solid Waste Management

JLG:SMG:lm
SW-92-3208

Enclosures

c: Richard Tedder, Department of Environmental Regulations, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Water Mgmt District, P.O. Box 14294, Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904
Susan M. Gaze, Environmental Specialist, Solid Waste

Volusia County Tomoka Farm Road Landfill

Sample Date 6/10/92

Parameters Tested indicators, VOCs, Metals

14 wells tested B-8 (upgradient well) background

5 surface water locations SW-1 (off-site) background

Water elevation on all wells

B-1B no VOC's detected
bicarb, Ca, Fe, Mg, K, conductivity > BG

B-2 no VOC's detected
Fe, Org-N, > BG
pH < 1°

B-3B *Toluene 310 ppb (limit 24 ppb)
bicarb, Ca, Mg, conductivity > BG

B-4 no VOC's detected
bicarb, Ca, Conductivity, Fe, Mg, Mn, Org-N, TDS > BG

B-5 no VOC's detected
bicarb, Ca, Cl⁻, Conductivity, Fe, Mg, TDS > BG

B-6 no VOC's detected
Fe, pH > BG

B-7 no VOC's detected
bicarb, Ca, Conductivity, Mg, Org-N, TDS > BG

* note field blank during sludge pond sampling was also 310 ppb Toluene

Tomoka Farm Landfill
Sample Date 6/10/92

B-8/background	Conductivity, TOC, pH	> i°
B-9	no VOC's detected pH 5.8 (limit 6.5-8.5)	
B-10	no VOC's detected Conductivity, Mg	> BG.
B-11	no VOC's	
FA 1B	no VOC's bicarb, Ca, Mg, K	> BG
FA 2B	no VOC's. bicarb, Conductivity, Mg, K	> BG
MO-5B.	no VOC's. Conductivity, Fe, Mg, Org-N	> BG.

Tomoka Farm Road Landfill Surface Water Taken 6/10/92

SW-1	background off-site no staff gauge	
SW-2	Cl^-, Conductivity, Fe, Na, SO_4^{2-}, TDS, total P	> SW-1
SW-3	NH_3, BOD, Cl^-, Conductivity, Fe, Na, SO_4^{2-}, TDS, total P	> SW-1
SW-4	BOD, Cl^-, Conductivity, Fe, Na, SO_4^{2-}, TDS, Zn	> SW-1
SW-5	BOD, Cl^-, Conductivity, Fe, Na, SO_4^{2-}, TDS, total P	> SW-1
SW-6	Cl^-, Conductivity, Na, SO_4^{2-}, TDS	> SW-1

County of Volusia

Department of Solid Waste Management
123 West Indiana Avenue • DeLand, Florida 32720-4617
Telephone (904) 736-5982, 257-6021, 423-3862

RPO BD GJD LAX. to K. Tulloch

April 29, 1992

Mr. Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: March Quarter 1992
Tomoka Landfill Permit #SO64-34352, Permit #IO64-39230,
NPDEF FL-0037877, Permit #SO64-171906,
Permit #SO64-121811, Permit #SO64-179781
Plymouth Landfill, Permit #SO64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Tedder:

In accordance with specific conditions of the above referenced permits, enclosed are Monitoring Wells and Surface Analysis Reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Enviro Lab.

If additional information or clarification is required, please advise.

Sincerely,

James L. Griffin
Director of Solid Waste Management

JLG:SMG:lm
SW-92-2110

Attachments

c: Susan M. Gaze, Environmental Specialist
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 1429, Palatka, FL 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904

ENVIROLAB

April 27, 1992

Mr. Jim Griffin
Volusia County
123 W. Indiana
Deland, 32720-4253

Dear Mr. Griffin:

The March Analysis of Plymouth Avenue Landfill and Tomoka Farms Road Landfill is complete. Envirolab's pH meters were not properly working on the day of the sampling so that Field, pH values are not available, Lab pH values are reported.

The Landfills followed the general historic trends. Vinyl Chloride was not present at Monitor Well #B5 Tomoka. It should be noted that B5 was a low rate of purging and that in the past low rates of purge have yielded little or no Vinyl Chloride. Also Monitor Well FA2C Tomoka has a slightly elevated pH of 9.6 units. Note that FA2C is a replacement well for FA2B which also elevated in pH. A tabulation of values exceeding normal values are as follows:

Plymouth Landfill			**MCL**
MW M05	Nitrate	82 mg/l	10 mg/l
MW M11	Nitrate	43 mg/l	10 mg/l
	pH	4.4 units	6.5 - 8.5
Tomoka Landfill			
FA 2C	pH	9.6	6.5 - 8.5

If you need further assistance, please feel free to contact me at (904) 672-5668.

Sincerely,

Robert L. Sullivan
Vice President
ENVIROLAB, INC.

RLS:cas

Envirolab, Inc..
1030 U.S. Highway One, North
P.O. Box 607
Ormond Beach, FL 32175
904/672-5668 • FAX 904/673-8264

COR file

County of Volusia

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

November 12, 1991

Environmental Protection Agency Region 4
Attn: Michael Hom, Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management Division
345 Courtland Street Northeast
Atlanta, Georgia 30365

RE: NPDES No. FL-0037877 - September Quarter 1991

Dear Mr. Hom:

In conformance with the regulations of the NPDES No. FL-0037877, attached are monthly and quarterly forms for the respective lab analysis report for the designated sampling locations at the Tomoka Landfill (map enclosed).

Water discharge this Quarter was 50,488,000 gallons.

If you need additional information or clarification, please advise.

Very truly yours,

Thomas M. McClelland
Assistant County Manager
for Public Works

TMM:SMG:mb
PW-SW-91-0462

Enclosure

c: ✓Richard Tedder, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, FL 33904
James L. Griffin, Director of Solid Waste Management
Susan M. Gave, Environmental Specialist

GW file

County of Volusia

RBT

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

GJD 900

November 13, 1991

Mr. Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: September Quarter 1991
Tomoka Landfill, Permit No. SO64-34352
Permit No. IO64-39230
NPDES No. SL-0037877
Permit No. SO64-171906
Permit No. SO64-121811
Permit Nos. SO64-179781
Plymouth Landfill, Permit No. SO64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Tedder:

In accordance with specific conditions of the above referenced permits, enclosed are monitoring wells and surface analysis reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

Thomas M. McClelland
Assistant County Manager
for Public Works

TMM:SMG:mb
PW-SW-91-0461

c: J. L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist
✓Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 1429, Palatka, Florida 32077
Dr. David Gomberg, 2247 SE 27th Street, Cape Coral, Florida 33904

County of Volusia

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

August 26, 1991

Environmental Protection Agency, Region 4
ATTN: Michael Hom, Chief Facilities Performance Branch
Florida/Mississippi Unit Water Management Division
345 Courtland Street N.E.
Atlanta, Georgia 30365

RE: NPDES #FL-0037877 - June Quarter, 1991

Dear Mr. Hom:

In conformance with the regulations of the NPDES #FL-0037877, attached are monthly and quarterly forms for the respective lab analysis report for the designated sampling locations at the Tomoka Landfill (map enclosed). Water discharge this quarter was 46,944,000 gallons.

If you need additional information or clarification, please advise.

Very truly yours,

Thomas M. McClelland
Assistant County Manager for Public Works

TMM:SMG:lm
PW-SW-91-3811

c: Richard Tedder, 3319 Maguire Boulevard, Suite 232, Orlando FL 32803
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, 2247 Southeast 27th Street, Cape Coral, FL 33904
James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist

County of Volusia

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

August 27, 1991

Mr. Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: June Quarter 1991
Tomoka Landfill Permit #SO 64-34352, Permit #IO 64-39230,
NPDES #FL-0037877, Permit #SO 64-171906,
Permit #SO 64-121811, Permit #SO 64-179781
Plymouth Landfill Permit #SO 64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Tedder:

In accordance with the specific conditions of the above referenced permits, enclosed are monitoring wells and surface analysis reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

Thomas M. McClelland by JHS

Thomas M. McClelland
Assistant County Manager for Public Works

TMM:SMG:lm
PW-SW-91-3812

c: James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 1429, Palatka, Florida 32077
Dr. David Gomberg, 2247 Southeast 27th Street, Cape Coral FL 33904

County of Volusia

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

May 15, 1991

Mr. Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: March Quarter 1991
Tomoka Landfill Permit No. SO 64-34352
Permit No. IO 64-39230 NPDES No. SL-0037877
Permit No. SO 64-171906
Permit No. SO 64-121811
Permit No. SO 64-179781
Plymouth Landfill Permit No. SO 64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Tedder:

In accordance with the specific conditions of the above referenced permits, enclosed are monitoring wells and surface analysis reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

Thomas M. McClelland

Thomas M. McClelland
Assistant County Manager
for Public Works

TMM:SMG:mb
PW-SW-91-2862

c: James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist
Denise Kemp, Division of Records, St. Johns Water Management District, P. O. Box 1429, Palatka, Florida 32077
Dr. David Gomberg, 2247 Southeast 27th Street, Cape Coral, Florida 33904

County of Volusia

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

May 15, 1991

Environmental Protection Agency
Region 4
Attn: Peter B. McGarrity
Chief Facilities Performance Branch
Florida/Mississippi Unit, Water Management Division
345 Courtland Street Northeast
Atlanta, George 30365

RE: NPDES No. FL-0037877
March Quarter 1991

Dear Mr. McGarrity:

In conformance with the regulations of the NPDES No. FL-0037877, attached are monthly and quarterly forms for the respective lab analysis report for the designated sampling locations at the Tomoka Landfill (map enclosed). Water discharged this quarter was 0 gallons.

If you need additional information or clarification, please advise.

Very truly yours,

Thomas M. McClelland
Assistant County Manager
for Public Works

TMM:SMG:mb
PW-SW-91-2861

c: Richard Teder, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, 2247 Southeast 27th Street, Cape Coral, Florida 33904
James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist

County of Volusia

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

March 11, 1991

Mr. Richard Teder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: December Quarter 1990
Tomoka Landfill Permit SO-64-34352
Permit No. IO-64-39230, NPDES No. FL-0037877
Permit No. SO-64-171906, Permit No. SO-64-121811
Permit No. SO-64-179781
Plymouth Landfill Permit No. SO-64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Teder:

In accordance with the specific conditions of the above referenced permits, enclosed are monitoring wells and surface analysis reports for the Tomoka and Plymouth Landfill Systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Envirolab.

If additional information or clarification is required, please advise.

Sincerely,

Thomas M. McClelland
Assistant County Manager
for Public Works

TMM:SMG:mb
PW-SW-91-2090

Enclosures

cc: James L. Griffin, Director, Solid Waste Management
Susan M. Gaze, Environmental Specialist
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 1429, Palatka, Florida 32077
Dr. David Gomberg, 2247 Southeast 27th Street, Cape Coral Florida 33904

County of Volusia

Department of Public Works
123 West Indiana Avenue • DeLand, Florida 32720-4262

March 12, 1991

Environmental Protection Agency, Region 4
Attn: Peter B. McGarrity, Chief Facilities Performance Branch
Florida/Mississippi Unit, Water Management Division
345 Courtland Street Northeast
Atlanta, Georgia 30365

RE: NPDES No. SL-0037877
December Quarter 1990

Dear Mr. McGarrity:

In conformance with the regulations of the NPDES No. SL-0037877, attached are monthly and quarterly forms for the respective lab analysis report for the designated sampling locations at the Tomoka Landfill (map enclosed). Water discharge this quarter was 0 gallons.

If you need additional information or clarification, please advise.

Very truly yours,

Thomas M. McClelland
Assistant County Manager
for Public Works

TMM:SG:mb
PW-SW-91-2089

Enclosure

cc: Richard Teder, 3319 Maguire Boulevard, Susite 232, Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 14294, Palatka, FL 32077
Dr. David Gomberg, 2247 Southeast 27th Street, Cape Coral, Florida 33904
J. L. Griffin, Director, Solid Waste Management
Susan M. Gaze, Environmental Specialist

County of Volusia
Florida

DEPARTMENT OF PUBLIC WORKS
123 W. Indiana Avenue
DeLand, Florida 32720-4262

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December 4, 1990

Mr. Richard Tedder, P.E.
Solid Waste Management Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: Tomoka Landfill Permit No. SO 64-34352
Permit No. IO 64-39230
Plymouth Landfill Permit No. SO 64-58275
Monitoring Wells and Surface Water Analyses

Dear Mr. Tedder:

In accordance with the specific conditions of the above referenced permits, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfill systems. Location maps of the well system are attached. Exceedences are covered in the summary letter prepared by Envirolab. B-5, located at the Tomoka Landfill, was resampled several times during this quarter and indicates no Vinyl Chloride being present.

If additional information or clarification is required, please advise.

Sincerely,

Thomas M. McClelland
Assistant County Manager for Public Works

TMM:SMG:lm
PW-SW-90-905

Enclosures

c: James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist, DPW
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 1429, Palatka, FL 32077
Charles W. Luther, Environmental Specialist for Health Dept.

County of Volusia - Florida

DEPARTMENT OF PUBLIC WORKS
123 W. Indiana Avenue
DeLand, Florida 32720-4262

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December 4, 1990

Environmental Protection Agency, Region 4
ATTN: Peter B. McGarry, Chief
Facilities Performance Branch
Florida/Mississippi Unit, Water Management Division
345 Courtland Street NE
Atlanta, Georgia 30365

RE: NPDES No. SL-0037877 SEPTEMBER QUARTER 1990

Dear Mr. McGarry:

In conformance with the regulations of the NPDES No. SL-0037877, attached are monthly and quarterly forms for the respective lab analysis report for the designated sampling locations at the Tomoka Landfill (and map enclosures). Water discharge this quarter was 504,000 gallons.

If you need additional information or clarification, please advise.

Very truly yours,

Thomas M. McClelland

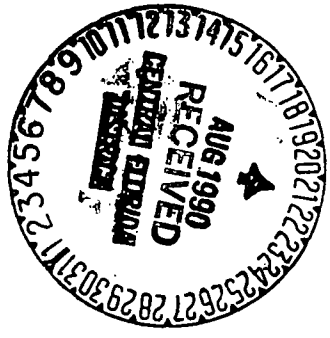
Thomas M. McClelland
Assistant County Manager for Public Works

TMM:SMG:lm
PW-SW-90-907

c: Richard Tedder, P.E., DER, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 1429, Palatka, FL 32077
Charles E. Luther, Environmental Specialist, Health Dept.
James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist, DPW

County of Volusia
Florida

DEPARTMENT OF PUBLIC WORKS
123 W. Indiana Avenue
DeLand, Florida 32720-4262



August 17, 1990

Mr. Bill Bostwick, P.E.
Groundwater Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: Tomoka Landfill Permit #SO-64-34352, #ID-64-39230
Plymouth Landfill Permit #SO-64-58275
Monitoring Wells and Surface Water Analysis

Dear Mr. Bostwick:

In accordance with the specific conditions of the above referenced permit, enclosed are monitoring wells and surface water analysis reports for the Tomoka and Plymouth Landfills systems. Location maps of the wells systems are attached. Exceedences are covered in the summary letter prepared by Enviro Lab. B-5 located at the Tomoka Landfill was resampled on August 17th and the level of Vinyl Chloride was 0. We will be resampling B-5 every week until September 20th when we perform quarterly samples to confirm no contaminants in B-5.

If you require additional information or clarification, please advise.

Sincerely,

Thomas M. McClelland
Assistant County Manager for Public Works

TMM:SMG:B/mb 17F03
PW-SW-90-268

Enclosures

c: J. L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. Box 1429, Palatka, Florida 32077
Charles W. Luther, Environmental Specialist, Health Department

County of Volusia
Florida

DEPARTMENT OF PUBLIC WORKS
123 W. Indiana Avenue
DeLand, Florida 32720-4262

August 17, 1990

Environmental Protection Agency Region 4
Attn: Peter D. McGarry, Chief
Facilities Performance Branch
Florida/Mississippi Unit
Water Management Division
345 Courtland Street Northeast
Atlanta, Georgia 30365

RE: NPDES #SL-0037877

Dear Mr. McGarry:

In conformance with the regulations of the NPDES #SL-0037877, attached are monthly and quarterly forms for the receptive lab analysis report for the designated sampling locations at the Tomoka Landfill (map enclosures). There was no discharge of storm water during this quarter.

If you need additional information or clarification, please advise.

Very truly yours,

Thomas M. McClelland
Assistant County Manager
for Public Works

TMM:SG:B/mb 17F02
PW-SW-90-269

Enclosures

c: ✓Bill Bostwick, P.E., DER, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803
Denise Kemp, Division of Records, St. Johns River Water Management District, P. O. box 1429, Palatka, Florida 32077
Charles E. Luther, Environmental Specialist, Health Department, Daytona Beach
James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist

RJ B. Sellars

County of Volusia Florida

DEPAR. ENT OF PUBLIC WORKS
123 W. Indiana Avenue
DeLand, Florida 32720-4262

VOLUSIA RECYCLES

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June 6, 1990

Mr. Tom Sawicki, P.E.
Ground Water Section
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: Tomoka Landfill Permit #SO64-121811
NPDES Permit #FL-0037877
Discharge Permit #IO64-122221
Plymouth Avenue Landfill Permit #SO64-582
Monitoring Wells and Surface Water Analysis

Dear Mr. Sawicki:

In accordance with the specific conditions of the above referenced permits, enclosed are Monitoring Well and Surface Water Analysis Reports for the Tomoka and Plymouth Landfill Systems. Location maps of the well systems are attached. Exceedences are covered in the summary letter prepared by Envirolab.

If you require additional information or clarification, please advise.

Sincerely,

Thomas M. McClelland
Assistant County Manager for Public Works

TMM:SG:C/lm 06W03.SG
PW-SW-90-195

Enclosures

c: James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist, Solid Waste
Denise Kemp, Division of Records, St. Johns River Water Management District, P.O. Box 1429, Palatka, FL 32077
Charles E. Luther, Environmental Specialist, Volusia County Health Department, 501 S. Clyde Morris Boulevard, Daytona Beach, FL 32120
Enid Ehrbar, Senior Planner, P.O. Box 290005, Port Orange, FL 32129-0005

County of Volusia
Florida

DEPARTMENT OF PUBLIC WORKS
123 W. Indiana Avenue
DeLand, Florida 32720-4262

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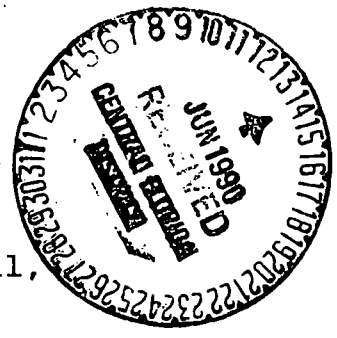
June 6, 1990



Mr. Roy A. Herwig, P.E.
Enforcement Officer, Compliance Section
U.S. Protection Agency, Region IV
345 Courtland Street
Atlanta, Georgia 30365

RE: NPDES Permit #FL-0037877, Tomoka Landfill,
Volusia County, Florida

Dear Mr. Herwig:

In conformance with the requirements of the NPDES Permit #FL-0037877, attached are monthly and quarterly forms for the respective lab analysis report for the designated sampling locations at the Tomoka Landfill (map enclosed). There was no discharge of storm water during this quarter.

If you need additional information or clarification, please advise.

Very truly yours,

Thomas M. McClelland
Assistant County Manager for Public Works

TMM:SG:C/lm 06W04.SG
PW-SW-90-196

Enclosures

c: Tom Sawicki, P.E., Ground Water Section, DER, 3319 Maguire Boulevard, Suite 232, Orlando, FL 32803
James L. Griffin, Director of Solid Waste Management
Susan M. Gaze, Environmental Specialist, Solid Waste