Sumter County Recycling, Processing and Composting Facility
Leachate Quantity Report

First Quarter 1997

9/3/97

Volume of leachate removed from MRF Building wet well

January	500 gallons
February	500 gallons
March	500 gallons
TOTAL	1500 gallons

Sumter County Recycling, Processing and Composting Facility
Leachate Quantity Report

Second Quarter 1997

J 9/3/97

Volume of leachate removed from MRF Building wet well

April	500 gallons
May	500 gallons
June	1500 gallons
TOTAL	2500 gallons

Springstead Engineering, inc.
Consulting Engineers — Planners — Surveyors

727 South 14th Street
Leesburg, Florida 34748

Lake (904) 787-1414
Sumter (904) 793-3639
Fax (904) 787-7221

March 31, 1993

D.E.R.

APR 01 1993

SOUTHWEST DISTRICT
TAMPA

Mr. Kim Ford, P.E.
Department of Environmental Regulation
3804 Coconut Palm Drive
Tampa, Florida 33619

RE: SUMTER COUNTY
PERMIT NO. SO60-211179
921100.00

Dear Kim:

This will acknowledge receipt of a copy of a letter that Mr. Garry Breeden has forwarded to us, of your March 22, 1993 letter requesting additional information and/or reports to be submitted prior to May 15, 1993.

Regarding your request for daily records from January 1, 1993 through April 1, 1993 there is no equipment or procedures in place to collect the data necessary to calculate a response to the items requested, therefore, no data was collected during the referenced period.

We could however, provide a rough or general estimate of values for the overall period, if that will be satisfactory to you.

Please note that in order for our firm as engineer on this project, to respond timely to future requests, please address all correspondence to me at the above address with a copy to Mr. Garry Breeden, Director, Sumter County Public Works as stated in our letter of April 1, 1992 (copy attached) to Mr. Richard Garrity, copied to you.

Thank you for your continued cooperation and should you have any questions, please feel free to call.

Very truly yours,

SPRINGSTEAD ENGINEERING, INC.

John W. Springstead, P.E.

JWS/jal

Enclosure

cc: Mr. Garry Breeden - Sumter County
Amerecycle

(FORD.M30)

Springstead
Engineering, inc.
Consulting Engineers — Planners — Surveyors

727 South 14th Street
Leesburg, Florida 34748

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Fax (904) 787-7221

FILE COPY

April 1, 1992

Mr. Richard Garrity
Department of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

RE: SUMTER COUNTY SOLID WASTE FACILITY
921100.00

Dear Mr. Garrity:

Please accept this letter as our notification that Springstead Engineering, Inc. (SEI) will be corresponding to Florida Department of Environmental Regulation (FDER) in the future on the behalf of Sumter County. Please consider SEI as the official correspondent for all notices, submittals and any other materials pertaining to the facility.

Please copy all correspondence to Mr. Garry Breeden, Director of Public Works, 222 East McCollum Avenue, Bushnell, Florida 33513. Should any other party request or wish to be copied relative to any correspondence, please do so.

Thank you for your continued cooperation.

Very truly yours,

SPRINGSTEAD ENGINEERING, INC.

John W. Springstead, P.E.

JWS/jal

cc: William Kutash
Robert Butera
Kim Ford
Steve Morgan
Stephanie Hinson
Garry Breeden
Tommy Hurst

(SOLID)

Springstead Engineering, inc.
Consulting Engineers — Planners — Surveyors

727 South 14th Street
Leesburg, Florida 34748

Lake (904) 787-1414
Sumter (904) 793-3639
Fax (904) 787-7221

June 20, 1991

Mr. Ernie Weeks
State of Florida
Department of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

RE: SUMTER COUNTY LANDFILL
LEACHATE HOLDING POND
LEACHATE TEST RESULTS
SAMPLED 3/22/91
RESULTS REPORTED 4/16/91
C-103

Dear Mr. Weeks:

We are enclosing results of testing of leachate from the leachate holding pond at the Sumter County Landfill composting facility.

Should you have any questions, please contact our office.

very truly yours,

SPRINGSTEAD ENGINEERING, INC.

Paul Bradley

Paul Bradley, P.E.

PB/jal

Enclosures

CC: Garry Breeden
Tommy Hurst

(C10361391)

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

OZONE FRESH INC.

502 PALM ST. STE. #7
WEST PALM BEACH FL 33401
ATTN: GEORGE HARRS

Description: 1 Sample Received on 03/22/91

Sampled By: ENVIROLAB   Client Job/PO Number:

Reference Number: 919394   Reported Date : 04/16/91
Invoice Number: 91-9394

Sample	Description	Client Id
0001	SUMTER COUNTY LANDFILL	RAW LEACHATE

PARAMETER		SAMPLE NUMBER 0001
FECAL COLIFORM	#/100	TNTC
FIELD CONDUCTIVITY	UMHOS	1590
PH FIELD	UNITS	9.2
TEMPERATURE	C	30.6
TOTAL CYANIDE	MG/L	< 0.01
TOTAL PHENOLS BY 4AAP	MG/L	0.10
PROFILE: 40 CFR PRI. POL. ORGANICS		
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
1,2,4-TRICHLOROBENZENE	UG/L	< 5
1,2-DICHLOROBENZENE	UG/L	< 1
1,2-DICHLOROETHANE	UG/L	< 1

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PARAMETER		SAMPLE NUMBER 0001
1,2-DICHLOROPROPANE	UG/L	< 1
1,2-DIPHENYL HYDRAZINE	UG/L	< 20
1,3-DICHLOROBENZENE	UG/L	< 1
1,4-DICHLOROBENZENE	UG/L	< 1
2,4,6-TRICHLOROPHENOL	UG/L	< 5
2,4-DICHLOROPHENOL	UG/L	< 5
2,4-DIMETHYL PHENOL	UG/L	< 5
2,4-DINITROPHENOL	UG/L	< 5
2,4-DINITROTOLUENE	UG/L	< 5
2,6-DINITROTOLUENE	UG/L	< 5
2-CHLOROETHYLVINYL ETHER	UG/L	< 1
2-CHLORONAPHTHALENE	UG/L	< 5
2-CHLOROPHENOL	UG/L	< 5
2-METHYL-4,6-DINITROPHENOL	UG/L	< 5
2-NITROPHENOL	UG/L	< 5
3,3'-DICHLOROBENZIDINE	UG/L	< 10
4,4'-DDE	UG/L	< 5
4,4'-DDT	UG/L	< 5
4-4'-DDD	UG/L	< 5
4-BROMOPHENYLPHENYLETHER	UG/L	< 5
4-CHLORO-3-METHYLPHENOL	UG/L	< 5
4-CHLOROPHENLYPHENYLETHER	UG/L	< 5
4-NITROPHENOL	UG/L	< 5
A-BHC	UG/L	< 5
ACENAPHTHENE	UG/L	< 5
ACENAPHTHYLENE	UG/L	< 5
ACROLEIN	UG/L	< 100
ACRYLONITRILE	UG/L	< 100
ALDRIN	UG/L	< 5
ANTHRACENE	UG/L	< 5
B-BHC	UG/L	< 5
BENZENE	UG/L	< 1

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PARAMETER		SAMPLE NUMBER 0001
BENZIDINE	UG/L	< 5
BENZO(A)ANTHRACENE	UG/L	< 5
BENZO(A)PYRENE	UG/L	< 5
BENZO(B)FLUORANTHENE	UG/L	< 5
BENZO(GHI)PERYLENE	UG/L	< 5
BENZO(K)FLUORANTHENE	UG/L	< 5
BIS(2-CHLOROETHOXY)METHANE	UG/L	< 5
BIS(2-CHLOROETHYL)ETHER	UG/L	< 5
BIS(2-CHLOROISOPROPYL)ETHER	UG/L	< 5
BIS(2-ETHYLHEXYL)PHTHALATE	UG/L	< 5
BROMODICHLOROMETHANE	UG/L	< 1
BROMOFORM	UG/L	< 1
BROMOMETHANE	UG/L	< 1
BUTYL BENZYL PHTHALATE	UG/L	< 5
CARBON TETRACHLORIDE	UG/L	< 1
CHLORDANE	UG/L	< 5
CHLOROBENZENE	UG/L	< 1
CHLOROETHANE	UG/L	< 1
CHLOROFORM	UG/L	< 1
CHLOROMETHANE	UG/L	< 1
CHRYSENE	UG/L	< 5
CIS-1,3-DICHLOROPROPENE	UG/L	< 1
D-BHC	UG/L	< 5
DI-N-BUTYL PHTHALATE	UG/L	< 5
DI-N-OCTYL PHTHALATE	UG/L	< 5
DIBENZO(A,H)ANTHRACENE	UG/L	< 5
DIBROMOCHLOROMETHANE	UG/L	< 1
DIELDRIN	UG/L	< 5
DIETHYL PHTHALATE	UG/L	< 5
DIMETHYL PHTHALATE	UG/L	< 5
DIOXIN	UG/L	< 10
ENDOSULFAN I	UG/L	< 5

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PARAMETER		SAMPLE NUMBER 0001
ENDOSULFAN II	UG/L	< 5
ENDOSULFAN SULFATE	UG/L	< 5
ENDRIN	UG/L	< 0.05
ENDRIN ALDEHYDE	UG/L	< 5
ETHYLBENZENE	UG/L	< 1
FLUORANTHENE	UG/L	< 5
FLUORENE	UG/L	< 5
G-BHC	UG/L	< 5
HEPTACHLOR	UG/L	< 5
HEPTACHLOR EPOXIDE	UG/L	< 5
HEXACHLOROBENZENE	UG/L	< 5
HEXACHLOROBUTADIENE	UG/L	< 5
HEXACHLOROCYCLOPENTADIENE	UG/L	< 5
HEXACHLOROETHANE	UG/L	< 5
INDENO(1,2,3-CD)PYRENE	UG/L	< 5
ISOPHORONE	UG/L	< 5
METHYLENE CHLORIDE	UG/L	< 1
N-NITROSODI-N-PROPYLAMINE	UG/L	< 5
N-NITROSODIMETHYLAMINE	UG/L	< 5
N-NITROSODIPHENYLAMINE	UG/L	< 5
NAPHTHALENE	UG/L	< 5
NITROBENZENE	UG/L	< 5
PCB 1016	UG/L	< 5
PCB 1221	UG/L	< 5
PCB 1232	UG/L	< 5
PCB 1242	UG/L	< 5
PCB 1248	UG/L	< 5
PCB 1254	UG/L	< 5
PCB 1260	UG/L	< 5
PENTACHLOROPHENOL	UG/L	< 5
PHENANTHRENE	UG/L	< 5
PHENOL	UG/L	< 5

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Reference Number: 919394

PARAMETER		SAMPLE NUMBER 0001
PYRENE	UG/L	< 5
TETRACHLOROETHENE	UG/L	< 1
TOLUENE	UG/L	< 1
TOXAPHENE	UG/L	< 5
TRANS-1,2-DICHLOROETHENE	UG/L	< 1
TRANS-1,3-DICHLOROPROPENE	UG/L	< 1
TRICHLOROETHENE	UG/L	< 1
VINYL CHLORIDE	UG/L	< 1
PROFILE: PRIORITY POLLUTANT METALS		
ANTIMONY	MG/L	< 0.005
ARSENIC	MG/L	< 0.005
BERYLLIUM	MG/L	< 0.005
CADMIUM	MG/L	< 0.005
CHROMIUM	MG/L	< 0.02
COPPER	MG/L	0.01
LEAD	MG/L	< 0.02
MERCURY	MG/L	< 0.0002
NICKEL	MG/L	0.03
SELENIUM	MG/L	< 0.005
SILVER	MG/L	< 0.01
THALLIUM	MG/L	< 0.005
ZINC	MG/L	0.056
PROFILE: 17.550 PRIMARIES		
2,4,5-TP SILVEX	UG/L	< 8
2,4-D	UG/L	< 4
ARSENIC	MG/L	< 0.005
BARIUM	MG/L	< 0.05
CADMIUM	MG/L	< 0.005

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HRS #83160

Reference Number: 919394

PARAMETER		SAMPLE NUMBER 0001
CHROMIUM,	MG/L	< 0.02
ENDRIN	UG/L	< 0.05
FLUORIDE	MG/L	0.34
LEAD	MG/L	< 0.02
LINDANE	UG/L	< 0.2
MERCURY	MG/L	< 0.0002
METHOXYCHLOR	UG/L	< 5
NITRATE NITROGEN	MG/L	< 0.50
SELENIUM	MG/L	< 0.005
SILVER	MG/L	< 0.01
SODIUM	MG/L	150
TOXAPHENE	UG/L	< 5
TURBIDITY	NTU	52
PROFILE: SECONDARIES		
CALCIUM HARDNESS	MG/L	94
CHLORIDE	MG/L	160
COLOR	PT CO	350
COPPER	MG/L	0.01
CORROSIVITY	UNITS	1.6
IRON	MG/L	0.80
MANGANESE	MG/L	0.50
ODOR	OTN	< 1
PH LAB	UNITS	9.1
SULFATE	MG/L	19
SURFACTANTS	MG/L	0.19
TOTAL ALKALINITY	MG/L	300
TOTAL DISSOLVED SOLIDS	MG/L	800
ZINC	MG/L	0.056

APPROVED BY: Michael C. Price

Michael C. Price
Laboratory Director

ENVIROLAB

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Ormond Beach, Florida 32175
(904) 672-5668 • FAX (904) 673-8264

Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

OZONE FRESH INC.

502 PALM STREET SUITE #7
WEST PALM BCH. FL 33401
ATTN: STEPHEN ALEX

escription: 1 Sample Received on 12/28/90

ampled By: ENVIROLAB   Client Job/PO Number:

eference Number: 918619   Reported Date : 03/12/91
Invoice Number: 91-8619

ample	Description	Client Id
0001	SUMTER LANDFILL LEACHATE	

PARAMETER		SAMPLE NUMBER 0001
ARSENIC	MG/L	0.023
CALCIUM	MG/L	20
CHEMICAL OXYGEN DEMAND	MG/L	42
CHLORIDE	MG/L	280
COLOR	PT CO	35
CONDUCTIVITY	UMHOS	1800
IRON	MG/L	1.2
MAGNESIUM	MG/L	7.7
MANGANESE	MG/L	0.11
PH LAB	UNITS	8.2
POTASSIUM	MG/L	110
SODIUM	MG/L	29
TOTAL ALKALINITY	MG/L	400
TOTAL DISSOLVED SOLIDS	MG/L	1100
TOTAL KJELDAHL NITROGEN	MG/L	2.4
TOTAL PHENOLS BY 4AAP	MG/L	0.04
TOTAL SUSPENDED SOLIDS	MG/L	12

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Environmental Certification
HRS #E83079

Drinking Water Certification
HRS #83160

ference Number: 918619

PARAMETER		SAMPLE NUMBER - 0001
URBIDITY	NTU	13

APPROVED BY: Michael C. Price
Michael C. Price
Laboratory Director

THE AMERICAN RECYCLING COMPANY, INC.
County Road 529 • P.O. Box 338 • Sumterville, Florida 33585 • (904) 568-1100 • 1-800-THE-ARC-1 • FAX (904) 568-1103

May 20, 1991

D. E. R.
MAY 24 1991
SOUTHWEST DISTRICT
TAMPA

Kim Ford
Department of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, FL 33610-7347

Ref: Sumter County Permit Modification

Dear Kim;

Your letter of May 2 indicated that there were two remaining items which needed to be addressed in the Sumter County permit modification.

1. Publication: The required Notice of Application will be published on May 23 in the Sumter County Times. Proof of publication per FAC section 17-701.030(6), will be sent to you next week.

2. Leachate Treatment: Ozonation treatment and filter system to treat the Sumter County landfill leachate, prior to discharging this treated water. The vendor will be Ozone Fresh. Attached is an explanation of their system along with recently completed test results and some relevant professional papers that explain their process.

This system will be designed to treat 25 gallons per minute, 1,500 gallons per hour or 36,000 gallons per day. It can be set to operate automatically or on demand. It uses a combination of ozonation, micron filtration, GAC (activated charcoal) and ultraviolet sterilization.

Advantages of Ozone - Ozone, the most powerful oxidizer that can safely be used in water, is receiving wide-spread acceptance in the U.S. and abroad for both drinking water and waste water treatment. The resurgence of ozone has been due to advanced technology, cost savings, and increased attention and demand for environmental improvements. Further advantages over various chemical treatments are:

a. Provides a safe alternative to chemicals, especially chlorine which in itself needs to be re-treated before discharge.
b. Highly efficient bacterial and viral disinfection.
c. Dependable precipitation of heavy metals.
d. Active microflocculation* of dissolved and suspended solids.
e. Conclusive degradation of all organic substances.
f. Very effective odor control.

* Microflocculation with ozone provides the ability to cause organic and inorganic compounds to coagulate into large groupings so that they will settle, or can be filtered out as inert material.

Testing Status

Amerecycle requested that Ozone Fresh utilize Envirolab for its water quality tests on this new system since Envirolab has been the laboratory of choice for Sumter County for some time. The treated leachate tests conducted on May 1, 1991 and the annual analysis taken on April 16, 1991 for raw leachate, are enclosed. They show significant purification results over a wide range of contaminants - coming very close to bottled water standards.

It is Sumter County's intent (as well as Amerecycle's) to follow your testing guidelines as listed on the top of page two (attached) of your letter to Garry Breeden on March 21, 1990. As we discussed during your site visit on May 8, we would like to talk about adjusting some of the testing frequencies defined in your letter after the first month of results are available. As per our discussion, perhaps monthly and quarterly tests on most parameters might be acceptable (see our recommended revised frequencies on the top of your page two).

Test results to date indicate that the ozone system meets all required discharge standards. Please advise us as to the appropriate action or procedure which is needed in order for Sumter County to receive permit approval on this leachate treatment system. As soon as approval is received, we can begin treating and discharging the water in our leachate pond and begin removing and treating all the leachate from Sumter County's lined cell. In our opinion, this can be accomplished within a month after initiating full, active service with the ozone system.

We understand that this water treatment system change will be incorporated into Sumter County's pending permit modifications relating to additional compost pad space and leachate ponds. As proposed, the two new compost pads will be constructed with two separate ozone systems servicing the two new leachate collection lagoons. This will provide a beneficial redundancy in the onsite water treatment system.

Thanks for your assistance.

Sincerely,

Ric Gray
Vice President

cc: Garry Breeden, Sumter County
Greg Perrine, Black & Veatch
George Harrs, Ozone Fresh

ERG/tgt

ENVIROLAB

ENVIROLAB, INC.

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HRS #E83079

Drinking Water Certification
HRS #83160

OZONE FRESH INC.

502 PALM ST. STE. #7
WEST PALM BEACH FL 33401
ATTN: GEORGE HARRS

Description: 1 Sample Received on 03/22/91

Sampled By: ENVIROLAB Client Job/PO Number:

Reference Number: 919394 Reported Date : 04/16/91
Invoice Number: 91-9394

Sample	Description	Client Id
0001	SUMTER COUNTY LANDFILL	RAW LEACHATE

PARAMETER		SAMPLE NUMBER 0001
FECAL COLIFORM	#/100	TNTC
FIELD CONDUCTIVITY	UMHOS	1590
PH FIELD	UNITS	9.2
TEMPERATURE	C	30.6
TOTAL CYANIDE	MG/L	< 0.01
TOTAL PHENOLS BY 4AAP	MG/L	0.10

PROFILE: 40 CFR PRI. POL. ORGANICS

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
1,2,4-TRICHLOROBENZENE	UG/L	< 5
1,2-DICHLOROBENZENE	UG/L	< 1
1,2-DICHLOROETHANE	UG/L	< 1

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HRS #83160

Reference Number: 919394

PARAMETER		SAMPLE NUMBER 0001
1,2-DICHLOROPROPANE	UG/L	< 1
1,2-DIPHENYL HYDRAZINE	UG/L	< 20
1,3-DICHLOROBENZENE	UG/L	< 1
1,4-DICHLOROBENZENE	UG/L	< 1
2,4,6-TRICHLOROPHENOL	UG/L	< 5
2,4-DICHLOROPHENOL	UG/L	< 5
2,4-DIMETHYL PHENOL	UG/L	< 5
2,4-DINITROPHENOL	UG/L	< 5
2,4-DINITROTOLUENE	UG/L	< 5
2,6-DINITROTOLUENE	UG/L	< 5
2-CHLOROETHYLVINYL ETHER	UG/L	< 1
2-CHLORONAPHTHALENE	UG/L	< 5
2-CHLOROPHENOL	UG/L	< 5
2-METHYL-4,6-DINITROPHENOL	UG/L	< 5
2-NITROPHENOL	UG/L	< 5
3,3'-DICHLOROBENZIDINE	UG/L	< 10
4,4'-DDE	UG/L	< 5
4,4'-DDT	UG/L	< 5
4-4'-DDD	UG/L	< 5
4-BROMOPHENYLPHENYLETHER	UG/L	< 5
4-CHLORO-3-METHYLPHENOL	UG/L	< 5
4-CHLOROPHENLYPHENYLETHER	UG/L	< 5
4-NITROPHENOL	UG/L	< 5
A-BHC	UG/L	< 5
ACENAPHTHENE	UG/L	< 5
ACENAPHTHYLENE	UG/L	< 5
ACROLEIN	UG/L	< 100
ACRYLONITRILE	UG/L	< 100
ALDRIN	UG/L	< 5
ANTHRACENE	UG/L	< 5
B-BHC	UG/L	< 5
BENZENE	UG/L	< 1

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HRS #83160

Reference Number: 919394

PARAMETER		SAMPLE NUMBER 0001
BENZIDINE	UG/L	< 5
BENZO(A)ANTHRACENE	UG/L	< 5
BENZO(A)PYRENE	UG/L	< 5
BENZO(B)FLUORANTHENE	UG/L	< 5
BENZO(GHI)PERYLENE	UG/L	< 5
BENZO(K)FLUORANTHENE	UG/L	< 5
BIS(2-CHLOROETHOXY)METHANE	UG/L	< 5
BIS(2-CHLOROETHYL)ETHER	UG/L	< 5
BIS(2-CHLOROISOPROPYL)ETHER	UG/L	< 5
BIS(2-ETHYLHEXYL)PHTHALATE	UG/L	< 5
BROMODICHLOROMETHANE	UG/L	< 1
BROMOFORM	UG/L	< 1
BROMOMETHANE	UG/L	< 1
BUTYL BENZYL PHTHALATE	UG/L	< 5
CARBON TETRACHLORIDE	UG/L	< 1
CHLORDANE	UG/L	< 5
CHLOROBENZENE	UG/L	< 1
CHLOROETHANE	UG/L	< 1
CHLOROFORM	UG/L	< 1
CHLOROMETHANE	UG/L	< 1
CHRYSENE	UG/L	< 5
CIS-1,3-DICHLOROPROPENE	UG/L	< 1
D-BHC	UG/L	< 5
DI-N-BUTYL PHTHALATE	UG/L	< 5
DI-N-OCTYL PHTHALATE	UG/L	< 5
DIBENZO(A,H)ANTHRACENE	UG/L	< 5
DIBROMOCHLOROMETHANE	UG/L	< 1
DIELDRIN	UG/L	< 5
DIETHYL PHTHALATE	UG/L	< 5
DIMETHYL PHTHALATE	UG/L	< 5
DIOXIN	UG/L	< 10
ENDOSULFAN I	UG/L	< 5

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: 919394

PARAMETER		SAMPLE NUMBER 0001
ENDOSULFAN II	UG/L	< 5
ENDOSULFAN SULFATE	UG/L	< 5
ENDRIN	UG/L	< 0.05
ENDRIN ALDEHYDE	UG/L	< 5
ETHYLBENZENE	UG/L	< 1
FLUORANTHENE	UG/L	< 5
FLUORENE	UG/L	< 5
G-BHC	UG/L	< 5
HEPTACHLOR	UG/L	< 5
HEPTACHLOR EPOXIDE	UG/L	< 5
HEXACHLOROBENZENE	UG/L	< 5
HEXACHLOROBUTADIENE	UG/L	< 5
HEXACHLOROCYCLOPENTADIENE	UG/L	< 5
HEXACHLOROETHANE	UG/L	< 5
INDENO(1,2,3-CD)PYRENE	UG/L	< 5
ISOPHORONE	UG/L	< 5
METHYLENE CHLORIDE	UG/L	< 1
N-NITROSODI-N-PROPYLAMINE	UG/L	< 5
N-NITROSODIMETHYLAMINE	UG/L	< 5
N-NITROSODIPHENYLAMINE	UG/L	< 5
NAPHTHALENE	UG/L	< 5
NITROBENZENE	UG/L	< 5
PCB 1016	UG/L	< 5
PCB 1221	UG/L	< 5
PCB 1232	UG/L	< 5
PCB 1242	UG/L	< 5
PCB 1248	UG/L	< 5
PCB 1254	UG/L	< 5
PCB 1260	UG/L	< 5
PENTACHLOROPHENOL	UG/L	< 5
PHENANTHRENE	UG/L	< 5
PHENOL	UG/L	< 5

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PARAMETER		SAMPLE NUMBER 0001
PYRENE	UG/L	< 5
TETRACHLOROETHENE	UG/L	< 1
TOLUENE	UG/L	< 1
TOXAPHENE	UG/L	< 5
TRANS-1,2-DICHLOROETHENE	UG/L	< 1
TRANS-1,3-DICHLOROPROPENE	UG/L	< 1
TRICHLOROETHENE	UG/L	< 1
VINYL CHLORIDE	UG/L	< 1
PROFILE: PRIORITY POLLUTANT METALS		
ANTIMONY	MG/L	< 0.005
ARSENIC	MG/L	< 0.005
BERYLLIUM	MG/L	< 0.005
CADMIUM	MG/L	< 0.005
CHROMIUM	MG/L	< 0.02
COPPER	MG/L	0.01
LEAD	MG/L	< 0.02
MERCURY	MG/L	< 0.0002
NICKEL	MG/L	0.03
SELENIUM	MG/L	< 0.005
SILVER	MG/L	< 0.01
THALLIUM	MG/L	< 0.005
ZINC	MG/L	0.056
PROFILE: 17.550 PRIMARIES		
2,4,5-TP SILVEX	UG/L	< 8
2,4-D	UG/L	< 4
ARSENIC	MG/L	< 0.005
BARIUM	MG/L	< 0.05
CADMIUM	MG/L	< 0.005

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PARAMETER		SAMPLE NUMBER 0001
CHROMIUM.	MG/L	< 0.02
ENDRIN	UG/L	< 0.05
FLUORIDE	MG/L	0.34
LEAD	MG/L	< 0.02
LINDANE	UG/L	< 0.2
MERCURY	MG/L	< 0.0002
METHOXYCHLOR	UG/L	< 5
NITRATE NITROGEN	MG/L	< 0.50
SELENIUM	MG/L	< 0.005
SILVER	MG/L	< 0.01
SODIUM	MG/L	150
TOXAPHENE	UG/L	< 5
TURBIDITY	NTU	52
PROFILE: SECONDARIES		
CALCIUM HARDNESS	MG/L	94
CHLORIDE	MG/L	160
COLOR	PT CO	350
COPPER	MG/L	0.01
CORROSIVITY	UNITS	1.6
IRON	MG/L	0.80
MANGANESE	MG/L	0.50
ODOR	OTN	< 1
PH LAB	UNITS	9.1
SULFATE	MG/L	19
SURFACTANTS	MG/L	0.19
TOTAL ALKALINITY	MG/L	300
TOTAL DISSOLVED SOLIDS	MG/L	800
ZINC	MG/L	0.056

APPROVED BY: Michael C. Price

Michael C. Price
Laboratory Director

SPECIFIC CONDITIONS:

b. treated leachate shall be sampled by grab samples before discharge to the percolation pond system as follows:

Parameter	Unit		Frequency
pH	std. units	Monthly	~~weekly~~
TOC	mg/L	quarterly	~~monthly~~
TDS	mg/L	quarterly	~~monthly~~
BOD_5	mg/L		monthly
COD	mg/L	quarterly	~~monthly~~
TSS	mg/L		monthly
TN (as N)	mg/L	quarterly	~~monthly~~
TKN (as N)	mg/L	quarterly	~~monthly~~
NO_3-N (as N)	mg/L		monthly
Lead	mg/L	quarterly	~~monthly~~
Chlorides	mg/L	quarterly	~~monthly~~
Fecal Coliform	#/100 ml	Monthly	~~weekly~~
Total Alkalinity	mg/L $CaCo_3$	Monthly	~~weekly~~

Based upon the results of the analysis, the Department may require further testing and alternative disposal in order to assure compliance with all Department rules and regulations. The results of the analysis shall be submitted to the Solid Waste Section of the DER Southwest District Office within sixty (60) days following the sampling, along with an evaluation of the results and an assessment of the effectiveness of the leachate treatment and disposal facility design and operation. Within the first sixty (60) days of leachate treatment and disposal activities, the permittee shall submit an adequate standard operating procedures manual to describe daily operations, the complete leachate treatment and disposal process, and equipment. Following the end of the one (1) year for operating and testing, the permittee shall request a modification of the landfill permit to include the operation of the leachate treatment and disposal facility.

43. The goal of the leachate treatment facility shall be to obtain the following concentrations prior to disposal of the treated leachate to the percolation pond system:

Parameter	Concentration	Unit
Flow	-	gpd
pH	6.5 - 8.5	std. units
SS	20	mg/L
BOD_5	20	mg/L
COD	(acceptable BOD_5:COD Ratio)	-
Nitrate as N	12	mg/L
Fecal Coliform	N.D.	#/100 ml

OZONE FRESH

OZONE FRESH LEACHATE TREATMENT SYSTEM

The Ozone Fresh system designed for Amerecycle offers a succesful, cost-efficient, method for treating contaminated leachate water, and preparing it, to meet DER standards, for discharge back into ground water...or for recycling the water for re-use for many purposes.

Utilizing state-of-the-art ozonation and other components, the process applies technology developed by NASA for use in both difficult waste water clean-up situations, and for making high-quality drinking water.

Following many months of adjustment to meet a wide range of pesticides, metals, bacteria, viruses and other contaminants, the Ozone Fresh/ Amerecycle system has undergone independent testing requirements (results are available) to meet current and future DER discharge standards. However, it should be noted that some DER stations vary requirements, and that differing contaminats exists in different areas of the state. Adjustments can be made to accomodate these variations, although it was recognized that the leachate water at Amerecycle was significantly contaminated.

Ozone, now recognized as a great improvement over ...and as a practical alternative to chemicals, the most powerful oxidant man can use in his own environment, yet is far less toxic (and costly) than various out-dated water cleaning methods.

OZONE, produced as it is used (not stored) is a form of oxygen, and exists as a gas, which has a very short life -and after it performs its cleaning task - in air or water- it reverts to air. It is blue in color, has a sweet pungent odor - like the smell in the air after a rain or lighting storm. The chemical formula is 03, a three atom molecule. It is 52 % more powerful than chlorine.

How it is employed in the Amerecycle Operation:
(see accompanying diagram)

1. The leachate water is pumped into a (1) 500 gal contact tank from a trash pump (5). When the tank fills, a re-circulating ozone injection loop is automatically activated. Here a heavy ozone treatment occurs, which destroys bacteria, viruses, and flocculates pesticides, metals etc. (accumulates into manageable debris which is filtered out in a continuous process. The ozone is injected by a venturi system, after which it flows to a Harmsco heavy duty 10 micron filter (3).

2. The heavily ozonated water is then transferred back into the contact tanks, and this process continues until the ozone has knocked-down (oxidized) the contaminants. These are continually filtered out. This lowers the TDS (total dissolved solids) to a level suitable for discharged

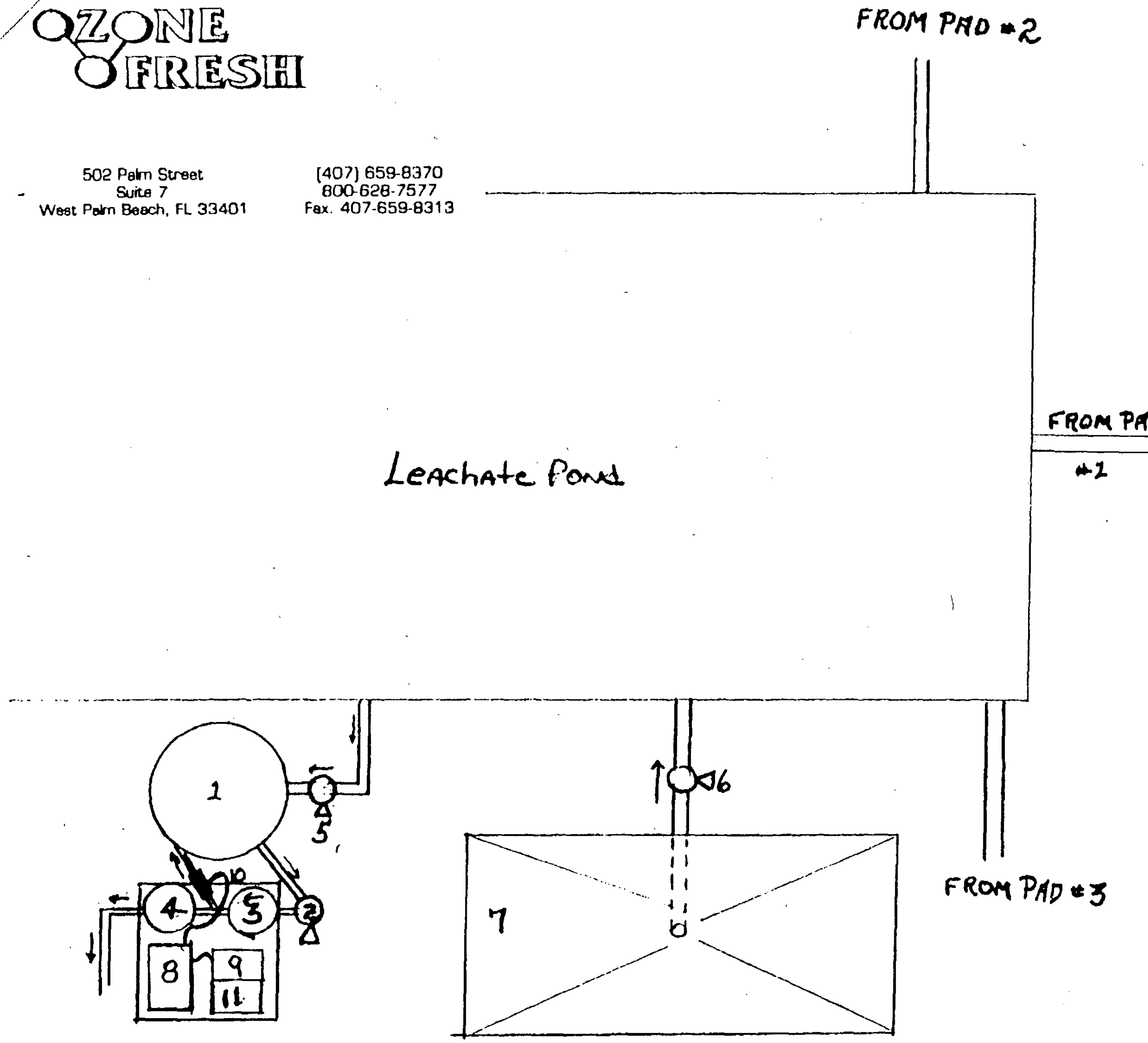
3. The OzoneFresh system monitors through various controls, the condition of the effluent, and when it is sufficiently clean, solenoid valves open for discharge into a final heavy-duty GAC (activated charcoal) filter (4) and flows to the perk pond. The flow from the leachate pond to the final process is continuous as required. A portion of the water can be diverted for use in other purposes, such as washing down contaminated trucks or floors.

SEVERAL SYSTEMS, OR VARIATIONS, ARE
AVAILABLE TO BE TAILORED TO DIFFERNENT
LOCALES OR SITUATIONS.

OZONE FRESH

502 Palm Street
Suite 7
West Palm Beach, FL 33401

(407) 659-8370
800-628-7577
Fax. 407-659-8313



1) 500 gal. contact (treatment) tank.
2) 3HP 50gpm High head pump (recirculating).
3) High capicity 10 micron primary filter.
4) Auto backwash heavy duty GAC filter.
5) 2HP 50gpm trash pump.
6) ½HP sump pump (future)
7) Truck wash pad (future)
8) 2lb. day dual quad OzoneFresh ozone generator.
9) 8ltr. min. OzoneFresh oxygen generator.