



14055 Riveredge Drive, Suite 300
Tampa, Florida 33637
Tel. 813.558.0990 • Fax 813.558.9726

30 June 2005

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

Re: 3rd Semi-Annual Water Quality Sampling Event
Oak Hammock Disposal Facility (OHDF)
Omni Waste of Osceola County, LLC
Permit Application Nos. SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

The purpose of this letter is to inform the Florida Department of Environmental Protection that the sampling of 45 groundwater monitoring wells, Cell 1 leachate, and 2 surface water samples around Phase 1 of the OHDF is expected to commence on 25 July 2005 and will be performed over a period of approximately 2 weeks. This will be the third semi-annual sampling event after completion of construction of Cell 1 (in Phase 1 development) of the facility.

If you have any questions or need additional information, please contact the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Kirk Wills".

Kirk Wills
Asst. Project Engineer

cc: Mr. Lenny Marion, Omni Waste

WQ Sampling Notice



RECYCLED AND RECYCLABLE





14055 Riveredge Drive, Suite 300
Tampa, Florida 33637 USA
Telephone: (813) 558-0990
Telefax: (813) 558-9726

FAX COVER SHEET

To: Mr. James N. Bradner, P.E.
Firm: FDEP
Fax No.: 407 - 893 - 3124
From: Kirk Wills Project No.: FQ 0709

Cover page plus 1 pages following.

Sent by: Joe Terry Date: 6-29-05 Time: 17:24

MESSAGE

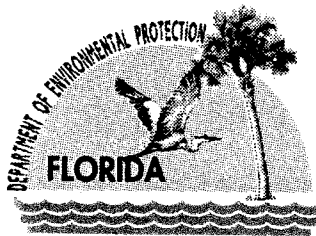
Mr. Bradner,
Here is a copy of the letter of notification for the
3rd semi-annual water quality sampling event at
the Oak Hammock Disposal Facility. An original
will be sent by mail.

Thank You,

Joe Terry

Acton, MA Office: (978) 263-9588
Austin, TX Office: (512) 451-4003
Chicago, IL Office: (312) 658-0500
Guelph, Canada Office: (519) 822-2230
Portland, OR Office: (503) 222-90518
San Diego, CA Office: (619) 674-6559
Tampa, FL Office: (813) 558-0990

Atlanta, GA Office: (404) 705-9500
Boca Raton, FL Office: (561) 995-0900
Columbia, MD Office: (410) 381-4333
Huntington Beach, CA Office: (714) 969-0800
Santa Barbara, CA Office: (805) 897-3800
Walnut Creek, CA Office: (925) 943-3034



Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

May 23, 2005

Mr. Tim J. Salopek
President
Omni Waste of Osceola County, LLC
Post Office Box 421613
Kissimmee, Florida 34741

Re: WACS 00089544 – Oak Hammock Disposal (Cells 1 & 4)

Dear Mr. Salopek:

I have reviewed the documentation submitted to demonstrate financial assurance for the above referenced facility and find it is in order. Evergreen National Indemnity Company endorsements to policy numbers 850576 for closing and 850577 for long-term care both dated May 11, 2005, demonstrate adequate financial assurance in the amount of the inflation adjusted closing and long-term care cost estimates for cells 1 and 4 of phase I in the amount of \$2,134,021 and \$3,009,231, respectively. Therefore, Oak Hammock Disposal is in compliance with the financial assurance requirements of 40 CFR Part 264, Subpart H, as adopted by reference in Rule 62-701.630, Florida Administrative Code, at this time.

Remember, specific condition number 53 of your permit requires that proof of financial assurance must be approved at least sixty (60) days prior to any solid waste being accepted in cells 2 or 3 of phase 1. If you have any questions, please contact me at (850) 245-8732.

Sincerely,

Frank Hornbrook
Environmental Specialist
Solid Waste Section

FH

cc: Fred Wick, DEP/TLH
James Bradner, DEP/ORL

Visit our Web Site: <http://www.dep.state.fl.us/waste/categories/swfr/>

"More Protection, Less Process"

Printed on recycled paper.

Williams, Elizabeth

From: Chris at Omni Waste [crkomni@earthlink.net]
Sent: Monday, May 16, 2005 10:31 AM
To: Williams, Elizabeth
Cc: Sharon Stanfill
Subject: Hurricane Plan for Omni Waste

Elizabeth,

Regarding your request for updating your hurricane plan for Omni Waste, here is our information:

Charlotte County-

*26530 Mallard Way, Unit A
Punta Gorda, FL 33950
PH- 941/575-8623
FX- 941/575-8759
email- crkomni@earthlink.net*

Osceola County-

*1501 Omni Way
Saint Cloud, FL 34773
PH- 407/891-3720
FX- 407/891-3730
email- tjsomni@aol.com*

Please let me know if you require any additional information. We would be happy to assist you at either address.

*Chris Kittelberger
Omni Waste of Charlotte, LLC
26530 Mallard Way Unit A
Punta Gorda, FL 33950
Ph- 941/575-8623
Fx- 941/575-8759*

5/16/2005

Williams, Elizabeth

From: Bradner, James
Sent: Friday, May 13, 2005 3:27 PM
To: Williams, Elizabeth
Subject: FW: Oak Hammock Landfill - Certification of Construction Completion - Cell 4

Receipt for Tim Salopek.

-----Original Message-----

From: Sharon Stanfill [mailto:SStanfill@wasteservicesinc.com]
Sent: Friday, May 13, 2005 9:06 AM
To: Bradner, James
Subject: RE: Oak Hammock Landfill - Certification of Construction Completion - Cell 4

It was great seeing you the other day!

Sharon Stanfill for Tim Salopek
Omni Waste
1501 Omni Way
St. Cloud, FL 34773
(407) 891-3720
(407) 891-3730 fax

CONFIDENTIALITY NOTICE: The information transmitted in this email is intended for the addressee and may contain confidential information of Waste Services Inc. or its affiliated corporations. Any unauthorized review, distribution or use or the taking of any action in reliance on the information contained in this email or any attachments is strictly prohibited. If you have received this message in error, please delete or destroy it, all attachments and any copies, and notify the sender.-----Original Message-----

From: Bradner, James [mailto:James.Bradner@dep.state.fl.us]
Sent: Wednesday, May 11, 2005 3:50 PM
To: Lenny Marion
Cc: Ken Cargill (E-mail); Timothy J. Salopek (E-mail) (E-mail); Williams, Elizabeth
Subject: Oak Hammock Landfill - Certification of Construction Completion - Cell 4

<<Oak Hammock Certification Letter 05-11-2005.pdf>>

Please send a reply acknowledging receipt of this message and the attachment



The J.E.D. Solid Waste Management Facility

1501 Omni Way

St. Cloud, FL 34773


(407) 891-3720 phone

(407) 891-3730 fax

MEMORANDUM

Date: April 14, 2005

To: Jim Bradner, P. E., Manager
Solid & Hazardous Waste Section

From: Lenny Marion, General Manager 
JED Solid Waste Disposal Facility

Sub: Waste Records First Quarter

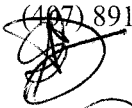
Dear Mr. Bradner:

Attached for your review is the first quarter waste report for the JED Solid Waste Disposal Facility located at 1501 Omni Way St. Cloud, FL 34773.

Upon your review, if you have any questions please don't hesitate to me at 407-891-3720 Monday -Friday 8:00 a.m. to 5:00 p.m.

Thank you.

/LLM


RECEIVED
APR 18 2005
Central Dist. - DEP

Quantity Summary by Material & UOM

Ticket Date In is between 1/1/2005 and 3/31/2005

	Disposal Qty	UOM
Auto Fluff	12137.08	TN
Construction & Demo	2830.90	TN
Construction & Demo	22199.00	YD
Contaminated Soil	22496.99	TN
Cert. Weight	2.00	CW
CLASS 3 / ICI WASTE	4193.78	TN
Mulch	5841.28	TN
Mun. Solid Waste	49105.56	TN
Sludae	11059.60	TN
Special Waste	13386.09	TN
Special Waste	335.00	YD
Car Tire	87.00	EA
White Goods	27.00	EA
Yard Waste	33.54	TN

RECEIVED
APR 18 2005
Central Dist. - (1)

Helle, Deborah

From: KWillis@GeoSyntec.com
Sent: Monday, March 14, 2005 12:30 PM
To: Helle, Deborah
Subject: Oak Hammock Disposal Facility

Deborah,

Attached, please find Lat/Long for the monitoring wells and piezometers at the Oak Hammock Site. I will forward a hard copy of this table with a cover letter. Let me know if you have any other questions. Thanks!

Kirk

KIRK E. WILLS
ASSISTANT PROJECT ENGINEER
GEOSYNTEC CONSULTANTS
14055 RIVEREDGE DRIVE SUITE 300
TAMPA, FLORIDA 33637
PHONE: (813) 558-0990
FAX: (813) 558-9726
MOBILE: (813) 918-4732
E-MAIL: kwillis@geosyntec.com

03/15/05

Omni Waste Oak Hammock Disposal Facility
Groundwater monitoring Network Geographic Locations
11-Mar-05

SOFTWARE: Corpscon for Windows 5.11.08

COMPANY: Geosyntec Consultants

Horizontal Datum: Geographic

NAD83

Vertical Datum: NGVD29

Vertical Units: U.S. Survey Feet

WELL ID	LAT (DD MM SS.S)	LONG (DD MM SS.S)	ELEV.
DP-1	28 03 58.25893	81 36 49.08888	84.12
DP-2	28 03 58.30866	81 36 49.09797	84.11
SZ-1	28 03 42.09768	81 36 33.46760	82.43
DP-3	28 03 50.84034	81 36 41.56771	82.22
DP-4	28 03 50.86977	81 36 41.50476	82.24
DP-5	28 03 43.96700	81 36 53.71347	84.13
DP-6	28 03 43.99798	81 36 53.74272	84.23
DP-7	28 03 42.17326	81 36 33.47738	82.63
DP-8	28 03 42.21634	81 36 33.47967	82.78
DP-9	28 03 40.09501	81 36 25.11648	81.58
DP-10	28 03 40.09264	81 36 25.15433	81.59
DP-11	28 03 36.56412	81 36 41.88346	84.06
DP-12	28 03 36.51984	81 36 41.91275	84.18
DP-13	28 03 35.65043	81 36 30.96986	83.09
DP-14	28 03 33.66230	81 36 23.10885	81.97
DP-15	28 03 33.63071	81 36 23.10729	81.98
DP-16	28 03 30.98098	81 36 31.38931	82.57
DP-17	28 03 30.97504	81 36 31.35473	82.58
SZ-3	28 03 26.80132	81 36 19.76007	81.27
DP-18	28 03 26.52961	81 36 53.01873	84.38
DP-19	28 03 26.56541	81 36 52.96849	84.34
SZ-2	28 03 20.92361	81 36 38.35873	83.16
DP-20	28 03 20.96544	81 36 38.44531	83.07
DP-21	28 03 20.91932	81 36 38.45117	83.00
DP-22	28 03 26.88403	81 36 19.80396	81.00
DP-23	28 03 26.91910	81 36 19.81065	81.27
DP-24	28 03 27.88540	81 36 29.05462	82.22
SPT-1	28 03 33.34777	81 36 25.13247	79.30
SPT-3	28 03 33.40252	81 36 37.37718	80.10
SPT-2	28 03 25.66883	81 36 37.28233	79.40
SPT-4	28 03 42.38320	81 36 37.24427	80.20
SPT-5	28 03 33.53717	81 36 53.49488	82.30
SPT-6	28 03 42.54324	81 36 48.30567	80.80
SPT-7	28 03 51.02440	81 36 50.11710	80.40
SPT-8	28 03 58.18597	81 36 43.97420	80.10
SPT-9	28 03 58.10348	81 36 53.35132	81.50
SPT-10	28 04 03.39997	81 36 49.45882	81.00
SPT-11	28 03 10.68928	81 36 48.52029	80.70
SPT-12	28 03 06.77518	81 36 37.02689	80.40
SPT-13	28 03 03.16500	81 36 28.02160	81.10

Omni Waste Oak Hammock Disposal Facility
Groundwater monitoring Network Geographic Locations
11-Mar-05

SOFTWARE: Corpscon for Windows 5.11.08

COMPANY: Geosyntec Consultants

Horizontal Datum: Geographic

NAD83

Vertical Datum: NGVD29

Vertical Units: U.S. Survey Feet

SPT-14	28 02 54.83851	81 36 31.85779	81.00
SPT-15	28 02 48.94956	81 36 36.28769	80.70
SB-2	28 03 22.55640	81 36 53.66803	0.00
SB-1	28 03 54.32057	81 36 46.18717	0.00
SB-3	28 03 28.60991	81 36 26.93566	0.00
O.C. 1406	28 03 07.99718	81 36 22.63973	80.91
MW 15C	28 03 47.82830	81 36 50.38082	85.89
MW 15B	28 03 47.82418	81 36 50.42873	85.65
MW 15A	28 03 47.82193	81 36 50.47461	85.92
MW 14C	28 03 48.02920	81 36 44.86522	85.92
MW 14B	28 03 48.03077	81 36 44.82313	85.80
MW 14A	28 03 48.03135	81 36 44.78272	85.88
MW 1A	28 03 48.38202	81 36 55.94831	95.12
MW 1B	28 03 48.42262	81 36 55.95107	95.00
MW 1C	28 03 48.46004	81 36 55.94580	95.18
BM PK-1	28 03 48.42355	81 36 55.96323	92.88
MW 2C	28 03 51.73896	81 36 55.94293	95.32
MW 2B	28 03 51.77609	81 36 55.94458	95.17
MW 2A	28 03 51.82085	81 36 55.94587	95.21
BM PK-2	28 03 51.77684	81 36 55.96222	93.10
MW 3C	28 03 55.11144	81 36 55.93872	94.66
MW 3B	28 03 55.14580	81 36 55.93837	94.68
MW 3A	28 03 55.17927	81 36 55.93859	94.64
BM BOLT-3	28 03 55.14723	81 36 55.95355	92.85
MW 4A	28 03 58.80922	81 36 55.93792	95.48
MW 4B	28 03 58.84358	81 36 55.93769	95.18
MW 4C	28 03 58.87922	81 36 55.93589	95.39
BM BOLT-4	28 03 58.84391	81 36 55.94997	93.14
MW 5C	28 04 02.66852	81 36 55.94436	95.39
MW 5B	28 04 02.71398	81 36 55.94677	95.30
MW 5A	28 04 02.75676	81 36 55.94840	95.32
BM PK-5	28 04 02.71570	81 36 55.96195	93.41
MW 6C	28 04 06.28836	81 36 55.19904	94.58
MW 6B	28 04 06.31074	81 36 55.16458	94.60
MW 6A	28 04 06.33242	81 36 55.12822	94.72
BM PK-6	28 04 06.32175	81 36 55.17224	92.93
MW 7A	28 04 06.94277	81 36 50.75757	95.48
MW 7B	28 04 06.94376	81 36 50.79340	95.27
MW 7C	28 04 06.94310	81 36 50.83795	94.93
BM PK-7	28 04 06.95634	81 36 50.79336	93.51

Omni Waste Oak Hammock Disposal Facility
Groundwater monitoring Network Geographic Locations
11-Mar-05

SOFTWARE: Corpscon for Windows 5.11.08

COMPANY: Geosyntec Consultants

Horizontal Datum: Geographic

NAD83

Vertical Datum: NGVD29

Vertical Units: U.S. Survey Feet

MW 8C	28 04 05.97315	81 36 46.53324	94.50
MW 8B	28 04 05.98804	81 36 46.58096	94.58
MW 8A	28 04 05.99924	81 36 46.62122	94.67
BM PK-8	28 04 06.00079	81 36 46.57467	92.24
MW 9C	28 04 04.07342	81 36 42.52560	94.54
MW 9B	28 04 04.09787	81 36 42.55655	94.63
MW 9A	28 04 04.12728	81 36 42.59194	94.66
BM PK-9	28 04 04.10883	81 36 42.54735	92.74
MW 10A	28 03 59.85560	81 36 40.77805	96.25
MW 10B	28 03 59.81971	81 36 40.76311	96.23
MW 10C	28 03 59.78849	81 36 40.75251	96.36
BM PK-10	28 03 59.82501	81 36 40.74836	94.09
MW 11C	28 03 55.13669	81 36 39.29724	93.65
MW 11B	28 03 55.17244	81 36 39.29845	93.59
MW 11A	28 03 55.20849	81 36 39.29988	93.56
BM PK-11	28 03 55.17239	81 36 39.28237	91.73
MW 12C	28 03 51.78869	81 36 39.31300	95.10
MW 12B	28 03 51.82345	81 36 39.31366	95.01
MW 12A	28 03 51.85305	81 36 39.31266	95.10
BM PK-12	28 03 51.82300	81 36 39.29602	93.26
MW 13C	28 03 48.37588	81 36 39.30913	95.04
MW 13B	28 03 48.41301	81 36 39.30710	95.12
MW 13A	28 03 48.45045	81 36 39.31087	95.19
BM PK-13	28 03 48.41277	81 36 39.29415	92.92



The J.E.D. Solid Waste Management Facility

1501 Omni Way

St. Cloud, FL 34773

(407) 891-3720 phone

(407) 891-3730 fax

February 28, 2005

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

RECEIVED
MAR 01 2005
Central Dist. - DEP

RE: Annual Operating Report
Oak Hammock Disposal Facility
Permit #SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

Attached for your review is the Annual Operating Report for the Oak Hammock Disposal Facility.

If you have any questions do not hesitate to give me a call.

Sincerely,


Lenny Marion
Facility Manager

LM/ss

Attachment (1)

Quantity Summary by Material & UOM

Ticket Date In is between 1/1/2004 and 12/31/2004

	Disposal Qty	UOM
Auto Fluff	42638.28	TN
Construction & Demo	14093.13	TN
Construction & Demo	65455.00	YD
Clean Fill	170.86	TN
Clean Fill	3400.00	YD
Contaminated Soil	45954.10	TN
Cert. Weight	6.00	CW
Mulch	60340.61	TN
Mun. Solid Waste	1.00	BG
Mun. Solid Waste	208209.29	TN
Sludae	15953.19	TN
Special Waste	47996.48	TN
Special Waste	510.00	YD
Car Tire	92.00	EA
Truck Tires	10.00	EA
White Goods	57.00	EA
Yard Waste	34.24	TN
Yard Waste	20.00	YD

RECEIVED

MAR 01 2005

Central Dist. - DEP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER

61 FORSYTH STREET

ATLANTA, GEORGIA 30303-8960

Central Dist - DC

FEB 04 2005

RECEIVED

FEB 02 2005

4WD-RCRA

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

Mr. R. Shawn McCash
Vice President, Environmental Management and Engineering - US
Waste Services, Inc.
7025 E. Greenway Parkway, Suite 100
Scottsdale, AZ 85254

**SUBJ: Notice of Acceptability Pursuant to the CERCLA Off-Site Rule
Oak Hammock Landfill**

Dear Mr. McCash:

The U.S. Environmental Protection Agency, Region 4 (EPA) has made an affirmative determination of acceptability for the receipt of CERCLA Off-Site wastes at the Oak Hammock Landfill **located at 1501 Omni Way, Saint Cloud, Florida 34773 in Osceola County**. Oak Hammock Landfill has a solid waste permit (SO49-0199726-002) issued by the Florida Department of Environmental Protection (FDEP). This facility is also governed by, and inspected by, the South Florida Water Management District (SFWMD) and the Osceola County Solid Waste Department.

The CERCLA Off-Site wastes to which this Notice of Acceptability applies are defined as those wastes generated as a result of activities authorized pursuant to, or funded by, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The receipt of these CERCLA wastes by facilities is regulated by the Off-Site Rule found at 40 C.F.R. § 300.440; and at 58 FR 182 pages 49200 - 49218, September 22, 1993.

The Off-Site Rule establishes the criteria and procedures for determining if facilities are acceptable for the offsite receipt of CERCLA waste, and outlines the actions affected by the standard. The Off-Site Rule requires that prior to a facility's initial receipt of CERCLA waste, EPA shall determine if there are relevant releases and/or relevant violations at the facility. EPA believes that affirmative determinations of "compliance" and "control of releases" are necessary before a facility may be deemed acceptable for the receipt of CERCLA wastes.

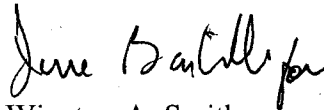
Pursuant to 40 C.F.R. § 300.440(a)(4) of the Off-Site Rule, EPA has completed its assessment of the Oak Hammock Landfill. Based on recent telephone conversations between EPA, FDEP, SFWMD and Osceola County personnel, this facility does not currently have any

relevant violations or relevant releases as those terms are defined in the Off-Site Rule. **Therefore, effective upon receipt of this letter the Oak Hammock Landfill in Saint Cloud, Florida is acceptable to receive non-hazardous CERCLA Off-Site waste.**

EPA would like to make it clear that this affirmative determination of acceptability does not, and can not, grant any facility the right or authority to exceed its permit provisions; receive any waste not allowed by its permit; or violate any local, state or federal law, rule, regulation or ordinance. Specifically, this determination does not supersede, limit, conflict with or set aside the requirements of any environmental program.

Should any new information affecting this determination develop, EPA reserves its right to revisit this decision. Please note that the CERCLA Off-Site status for a facility is dynamic in nature and is subject to change. EPA reserves its right to rescind this Notice of Acceptability pursuant to the Off-Site Rule if necessary. If you have any questions concerning this matter, please contact Jack Cowart, of my staff, at (404) 562-8591 or cowart.jack@epa.gov.

Sincerely yours,



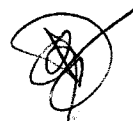
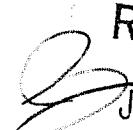
Winston A. Smith
Director
Waste Management Division

cc: ✓Randall Cunningham, FDEP, Solid Waste
Tom Mulligan, FDEP, Air Program
Jared Justesen, South Florida Water Management District
Lane Barker, Osceola County Solid Waste

28 January 2005

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

Subject: Addendum to Operation Plan
Oak Hammock Disposal Facility (Facility ID # 0970079)
Omni Waste of Osceola County, LLC
Operation Permit No. SO49-0199726-002


RECEIVED
 JAN 31 2005
Central Dist. - DEP

Dear Mr. Bradner:

On behalf of Omni Waste of Osceola County, LLC (Omni), GeoSyntec Consultants has prepared the attached Addendum to the Operation Plan for the Oak Hammock Disposal Facility (OHDF) for submittal to the Florida Department of Environmental Protection (FDEP). The OHDF is a Class I municipal solid waste landfill located in Osceola County, Florida, and is owned and operated by Omni.

✓ The Addendum describes the plan to recirculate leachate at the OHDF and has been prepared in accordance with Rule 62-701.400(5) of the Florida Administrative Code. Leachate will be recirculated: (i) only on the top area of the landfill prior to installation of the final cover system; (ii) at a nominal flow rate of 100 gallons per minute (gpm); and (iii) only during the operating hours of the landfill and periods of no rainfall.

The leachate collection system on top of the landfill liner was originally designed for an average peak flow rate of 248 gpm (see Table 6 in Appendix K of the Permit Application), which is greater than the proposed rate of recirculation. Further, this recirculation rate corresponds to only about 0.2 inches of rainfall for an 11-acre cell assuming 10 hours of recirculation per day. Therefore, the leachate collection and removal system is fully capable of handling the proposed recirculation rate of 100 gpm.

The proposed leachate recirculation flow rate is small enough to prevent leachate runoff. In addition, Omni will manage the placement of leachate spray heads or soaker hoses to prevent runoff from the top of the landfill onto the side slopes.

If you have any questions or need additional information, please do not hesitate to contact the undersigned.

Sincerely,



Kenneth W. Cargill, P.E.
Principal

Attachment

copy: Mr. Lenny Marion, Omni Waste



RECEIVED

GeoSyntec Consultants

JAN 31 2005

Central Dist. - DEP

ADDENDUM TO OPERATION PLAN – LEACHATE RECIRCULATION

Overview

Leachate will be recirculated at the Oak Hammock Disposal Facility on an as needed basis and only prior to installation of the final cover system. Leachate recirculation will be used primarily as a method to stabilize the final leachate that may not be acceptable at the waste water treatment facility. Leachate recirculation is also expected to have the added benefit of accelerating degradation of the MSW. No leachate recirculation will take place in areas covered with the final cover system. Leachate will be recirculated during periods of no rainfall only. Landfill personnel will stop leachate recirculation immediately during rain events. Leachate will be recirculated only during the operating hours of the landfill.

Leachate collected at the sumps will be pumped to the top area of the landfill and sprayed onto the waste. No leachate will be sprayed on the landfill slopes. Leachate will be pumped to the top of the landfill through PVC pipe or rigid hose. The leachate will be applied to the waste by using either spray type sprinkler heads or drip irrigation soaker hoses. Sprinklers will be oriented to prevent or minimize wind-blown spray. Each sprinkler and/or soaker hose will be individually controlled by valves.

Leachate will be recirculated at a nominal flow rate of 100 gallons per minute (gpm). Two methods are proposed to pump the leachate for recirculation. These methods include: (i) using the existing sump pumps and (ii) using a trailer mounted unit. For either method, the leachate recirculation will be stopped if sufficient leachate is not available in the sumps. Alternatively, if the "high level" alarm is activated during leachate recirculation, leachate recirculation will be immediately stopped and the leachate will be pumped to the leachate storage area to lower the leachate levels in the sump.

Using Existing Sump Pumps

When the landfill operations are at elevations below approximately EL. 130 ft (NGVD), the existing pumps in the leachate collection sumps can be used to pump leachate for recirculation. This will be accomplished by attaching a PVC pipe or rigid hose to a bypass lateral on the leachate header pipe. Leachate will be pumped to the top of the landfill by opening the valve for the bypass lateral and closing the valve to the leachate transmission pipe. The flow meters installed at each collection sump will be used to record the quantity of leachate recirculated. The leachate recirculation flow rate will be controlled by restricting the number of sprinklers and/or soaker hoses that are open such that the recirculation flow rate is no more than 100 gpm.

Using Trailer Mounted Unit

When the landfill operations are at elevations above approximately EL. 130 ft (NGVD), the existing sump pumps will not have sufficient head capacity to pump leachate to the top of the landfill. In this case a portable booster pump system will be used to boost the pressure high enough to send the leachate to the top of the landfill.

The booster system has been designed with the following attributes:

- trailer-mounted unit;
- 460VAC 3-phase power;
- 250 ft of head capacity at a flow rate of 100 gallons per minute (gpm); and
- built-in flow meter.

The booster pump system will be trailer mounted to allow the booster system to be moved as necessary. The booster pump system will consist of a self priming pump controlled by a variable frequency drive (VFD). The control system will monitor the flow rate of the leachate being pumped and the VFD will adjust the speed of the pump motor to provide a nominal flow rate of 100 gpm. If the flow rate drops below 80 gpm, the booster pump system will shut down for a period of time to allow the sump to recharge. A flow meter will be installed on the trailer-mounted system to record the quantity of leachate recirculated.

The booster pump system is designed to be plugged into an auxiliary outlet installed at the sump pump control panel. This auxiliary outlet will be equipped with a separate disconnect that will disable the existing sump pumps when it is activated. This will prevent the existing sump pumps from pumping leachate to the storage area while the booster pump is operating.

The booster pump system has been designed to allow connection to a separate riser pipe installed in a sump riser manhole. This riser pipe will penetrate the sump riser manhole and end in a camlock fitting. The intake on the booster pump will be equipped with a spiral reinforced PVC hose that will connect directly to the camlock on the riser pipe. Then the pump can be plugged into the outlet and the system started.

RECEIVED
JAN 24 2005
Central Dist. - DEP

13 January 2005

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

Re: 2nd Semi-Annual Water Quality Sampling Event
Oak Hammock Disposal Facility (OHDF)
Omni Waste of Osceola County, LLC
Permit Application Nos. SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

The purpose of this letter is to inform the Florida Department of Environmental Protection that the sampling of 45 groundwater monitoring wells and 2 surface water samples around Phase 1 of the OHDF is expected to commence on 18 January 2005 and will be performed over a period of approximately 2 weeks. This will be the second semi-annual sampling event after completion of construction of Cell 1 (in Phase 1 development) of the facility.

If you have any questions or need additional information, please contact the undersigned.

Sincerely,



Kirk Wills
Asst. Project Engineer

cc: Mr. Lenny Marion, Omni Waste





Department of Environmental Protection

Southeast District
400 N. Congress Ave. Suite 200
West Palm Beach, Florida 33401

Jeb Bush
Governor
VIA ELECTRONIC MAIL
Rick.Grubb@negt.com

Colleen M. Castille
Secretary

September 16, 2004

Mr. Rick Grubb, General Manager
Indiantown Cogeneration, L.P.
P.O. Box 1799
19140 SW Warfield Blvd.
Indiantown, FL 34956

Martin County
SW – Ash Disposal
Compliance files

REF: Letter of Request Dated: September 13, 2004
Coal Ash Disposal – Oak Hammock Landfill, Osceola County
Indiantown Cogeneration, L.P. Certification No: PA 90-11
Condition II.(6)B.3.

Dear Mr. Grubb:

The Department acknowledges receipt of the above as referenced. The Southeast District's Solid Waste Section of the Department has no objections for the disposal of coal ash generated at the Indiantown Cogeneration Plant at the following facility located in the Central District:

Oak Hammock Landfill – Class I Landfill
(AKA J.E.D. Solid Waste Management Facility)
1501 Omni Way
St. Cloud, FL 34773

Location: West side of US 441, approximately five miles south of the intersection
of U.S. Highways 441 and 192

If you have any questions concerning this matter, please contact me at telephone number 561/681-6668.

Sincerely,

Joseph Lurix, Engineer
Solid Waste Programs

Cc: Buck Oven, PE – OSC/TLH via electronically – Oven_H@dep.state.fl.us
Richard Tedder, PE – SW/TLH via electronically – Richard.Tedder@dep.state.fl.us
Tom Lubozynsky, PE – CD via electronically – Tom.Lubozynski@dep.state.fl.us
James Bradner, PE – CD via electronically – James.Bradner@dep.state.fl.us
Lenny Marion – WIS via electronically – LMarion@wasteservicesinc.com
David S. Dee, Esq. – via electronically – ddee@landersandparsons.com
Nicholas Laryea – via electronically – Nicholas.Laryea@negt.com

"More Protection, Less Process"

Printed on recycled paper.

Williams, Elizabeth

From: Bradner, James
Sent: Friday, August 20, 2004 1:18 PM
To: 'KCargill@GeoSyntec.com'
Cc: sstanfill@ceri.biz; SStanfill@wasteservicesinc.com; LMarion@wasteservicesinc.com; Williams, Elizabeth; Lubozynski, Tom
Subject: OCD-SW-04-0298 RE: Staging Area for Mulch Stockpiles in Support of Hurricane Charley Cleanup

Good afternoon, Ken:

In response to your request on behalf of Omni Waste of Osceola County (Omni), the Department has no objection to Omni receiving, storing, processing, and transferring mulch stockpiles at the Oak Hammock Landfill, as proposed in the attached message. It is understood that the source of the mulch is processed vegetative debris resulting from Hurricane Charley. The Department reserves the right to impose additional requirements and constraints, should they become necessary, on the proposed operation.

Please contact me if I can be of further assistance.

James N. Bradner, P.E.
Manager, Solid and Hazardous Waste Program
Central District
Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767
407-893-3329 direct phone
407-893-3167 fax
407-894-7555 Central District switchboard
325-3329 direct SunCom
James.Bradner@floridadep.net

-----Original Message-----

From: KCargill@GeoSyntec.com [mailto:KCargill@GeoSyntec.com]
Sent: Friday, August 20, 2004 12:47 PM
To: Lubozynski, Tom; Bradner, James
Cc: sstanfill@ceri.biz; SStanfill@wasteservicesinc.com; LMarion@wasteservicesinc.com
Subject: Staging Area for Mulch Stockpiles in Support of Hurricane Charley Cleanup

Mr. Jim Bradner:

GeoSyntec has prepared the following request on behalf of our client, Omni Waste of Osceola County (Omni).

Omni requests approval to receive, store, process, and transfer mulch stockpiles within the Phase 1 area at the Oak Hammock Disposal facility in Osceola County, Florida. The stockpiles would specifically be located in the area of future Cells 2 and 4 at the Oak Hammock landfill. The future cell areas to be used for mulch handling and processing are within the current area of groundwater monitoring at Oak Hammock.

The mulch handling and processing area will operate under the authority of the 14 August 2004 emergency order issued by the Florida Department of Environmental Protection (FDEP). The authority to operate the area will expire 60 days from the date of the order, that is 13 October 2004. A 30-day extension in the operation of the area may be approved by FDEP if allowed by the emergency order and if timely requested by Omni.

The anticipated date to start the mulch handling and processing operation is 21 August 2004. The site supervisor is Mr. Lenny Marion; contact information is given below.

The mulch handled and processed at the site will come only from sources related to the damage caused by Hurricane Charley and the subsequent cleanup activities. No solid waste or C&D will be handled on the areas defined in this request.

It is Omni's intention to apply for a modification to the current operation permit for the Oak Hammock landfill to allow the continuation of the mulch handling and processing operation beyond the time constraints of the emergency order and its possible extension. Final closure of the mulch area will be performed within 30 days after the end of mulch handling and processing at the site or the expiration of the authority to operate the site, whichever comes first, unless a permit modification is issued by FDEP.

The Omni corporate point of contact is:

Lenny Marion
Operations Manager, JED Solid Waste Facility
1501 Omni Way
Holopaw, Florida 34773
407 891 3720 - office
407 908 2110 - mobile

Thank you for your consideration. If you need additional information, please contact myself or Mr. Lenny Marion or Mr. Tim Salopek.

Kenneth W. Cargill, P.E.
GeoSyntec Consultants
14055 Riveredge Drive, Ste 300
Tampa, FL 33637
813 558 0990 - office
813 390 7038 - mobile

Williams, Elizabeth

From: Depradine, Gloria
Sent: Tuesday, August 03, 2004 3:13 PM
To: Bradner, James; Cunningham, Randall; Williams, Elizabeth
Subject: FW: Oak Hammock

FYI

-----Original Message-----

From: Hornbrook, Frank
Sent: Tuesday, August 03, 2004 9:46 AM
To: Cunningham, Randall; Depradine, Gloria; Cheryan, George; Bradner, James
Subject: Oak Hammock

FYI,

The facility has called me and given updated contact information.

OAK HAMMOCK DISPOSAL
1501 OMNI WAY
ST. CLOUD, FL. 34773
(407) 891-3720 FAX: (407) 891-3730
OFFICE MANAGER: SHARON STANFILL

Frank Hornbrook



Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

July 28, 2004

Mr. Tim J. Salopek
President
Omni Waste of Osceola County, LLC
Post Office Box 421613
Kissimmee, Florida 34741

Re: WACS 00089544 – Oak Hammock Disposal

Dear Mr. Salopek:

I have reviewed the documentation submitted to demonstrate financial assurance for the above referenced facility and find it is in order. Evergreen National Indemnity Company endorsements to policy numbers 850576 for closing and 850577 for long-term care both dated July 26, 2004, demonstrate adequate financial assurance in the amount of the inflation adjusted closing and long-term care cost estimates for cell I of phase I in the amount of \$1,306,988 and \$2,452,071, respectively. Therefore, Oak Hammock Disposal is in compliance with the financial assurance requirements of 40 CFR Part 264, Subpart H, as adopted by reference in Rule 62-701.630, Florida Administrative Code, at this time.

Remember, specific condition number 53 of your permit requires that proof of financial assurance must be approved at least sixty (60) days prior to any solid waste being accepted in cells 2-4 of phase 1. If you have any questions, please contact me at (850) 245-8732.

Sincerely,

Frank Hornbrook
Environmental Specialist
Solid Waste Section

FH

cc: Fred Wick, DEP/TLH
James Bradner, DEP/ORL

Visit our Web Site: <http://www.dep.state.fl.us/waste/categories/swfr/>

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Department of Environmental Protection

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

Colleen M. Castille
Secretary

July 13, 2004

Mr. Tim J. Salopek
President
Omni Waste of Osceola County, LLC
Post Office Box 421613
Kissimmee, Florida 34741

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JUL 16 2004
Central Dist. - DEP

Re: WACS 00089544 – Oak Hammock Disposal

Dear Mr. Salopek:

A review of the financial assurance file for the above referenced facility reveals it is deficient. Specifically, Evergreen National Indemnity Company insurance policies numbered 850576 for closing and 850577 for long-term care do not demonstrate financial assurance covering the latest inflation adjusted closing and long-term care cost estimates for Phase 1 Cell 1 in the amount of \$1,306,988 and \$2,452,071, respectively, dated February 12, 2004. Pursuant to 40 CFR Part 264, Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, whenever the cost estimates increase to an amount greater than the face amount of the policy, within 60 days you must either increase the face amount to an amount at least equal to the current cost estimate, or provide alternate financial assurance.

Within 30 days of the date of this letter, please demonstrate an increase in the face amount of the insurance policies to an amount at least equal to the current cost estimates or provide alternate financial assurance. If you have any questions, please contact me at (850) 245-8742.

Sincerely,

Frank Hornbrook
Environmental Specialist
Solid Waste Section

FH

cc: Fred Wick, DEP/TLH
Jim Bradner, DEP/ORL



GEOSYNTEC CONSULTANTS

14055 Riveredge Drive, Suite 300
Tampa, Florida 33637 • USA
Telephone (813) 558-0990 • Fax (813) 558-9726

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JUL 14 2004
Central Dist. - DEP

13 July 2004

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

Re: Groundwater Sampling of Monitoring Wells Around Phase 1
Oak Hammock Disposal Facility (OHDF)
Omni waste of Osceola County, LLC
Permit Application Nos. SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

The purpose of this letter is to inform the Florida Department of Environmental Protection that the sampling of 15 groundwater monitoring wells around Phase 1 of the OHDF is expected to commence on 19 July 2004 and will be performed over a period of approximately 2 weeks. This will be the first semi-annual sampling event after completion of construction of Cell 1 (in Phase 1 development) of the facility.

If you have any questions or need additional information, please contact the undersigned.

Sincerely,

for Kenneth W. Cargill, P.E.
Principal

cc: Mr. Lenny Marion, Omni Waste



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JUL 06 2004
Central Dist. - DEP



The J.E.D. Solid Waste Management Facility

1501 Omni Way
St. Cloud, FL 34773
(407) 891-3720 phone
(407) 891-3730 fax

July 1, 2004

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

Sub: Omni Waste of Osceola County, LLC
2nd Quarter Quantity Report

Dear Mr. Bradner:

Attached for your review are the 2nd quarter quantity reports for Omni Waste of Osceola County, LLC.

Not attached per our conversations and your e-mail (attached) dated May 19, 2004 is the quarterly gas monitoring report for our facility.

Upon your review if you have any questions please do not hesitate to contact my office Monday-Friday 8:00a.m. to 5:00p.m.

Sincerely,


Leonard L. Marion
Facility Manager

/LLM

cc: File

Quantity Summary by Material & UOM

Ticket Date In is between 4/1/2004 and 4/30/2004

	Disposal Qty	UOM
Auto Fluff	2941.43	TN
Construction & Demo	5510.00	YD
Clean Fill	17.81	TN
Contaminated Soil	4137.00	TN
Mun. Solid Waste	19037.70	TN
Sludge	2284.70	TN
Special Waste	670.17	TN
Car Tire	4.00	EA
White Goods	2.00	EA
Yard Waste	1.19	TN

Quantity Summary by Material & UOM

Ticket Date In is between 5/1/2004 and 5/31/2004

	Disposal Qty	UOM
Auto Fluff	2667.59	TN
Construction & Demo	3990.00	YD
Clean Fill	135.74	TN
Contaminated Soil	1614.03	TN
Cert. Weight	1.00	CW
Mun. Solid Waste	17582.04	TN
Sludae	1554.98	TN
Special Waste	1594.31	TN
Car Tire	7.00	EA
White Goods	6.00	EA
Yard Waste	10.64	TN

Quantity Summary by Material & UOM

Ticket Date In is between 6/1/2004 and 6/30/2004

	Disposal Qty	UOM
Auto Fluff	2194.34	TN
Construction & Demo	3500.00	YD
Clean Fill	210.00	YD
Contaminated Soil	3358.34	TN
Cert. Weight	1.00	CW
Mun. Solid Waste	0.00	BG
Mun. Solid Waste	18333.90	TN
Sludge	1094.65	TN
Special Waste	911.00	TN
Car Tire	5.00	EA
Truck Tires	10.00	EA
White Goods	5.00	EA
Yard Waste	0.29	TN

Lenny Marion

From: KCargill@GeoSyntec.com
Sent: Thursday, July 01, 2004 2:03 PM
To: Lenny Marion
Subject: FW: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Lenny

This is the chain of correspondence with Jim Bradner on the gas monitoring. Ken

-----Original Message-----

From: Ken Cargill
Sent: Wednesday, May 19, 2004 12:49 PM
To: 'Bradner, James'
Cc: Lenny Marion (E-mail)
Subject: RE: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Jim

Thanks for the reply. We will clarify with the inspector and pursue as appropriate. Ken

-----Original Message-----

From: Bradner, James [mailto:James.Bradner@dep.state.fl.us]
Sent: Wednesday, May 19, 2004 12:15 PM
To: Ken Cargill
Cc: Timothy J. Salopek (E-mail) (E-mail); Williams, Elizabeth; Lubozynski, Tom
Subject: RE: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Ken:

This is what the solid waste rule says about ambient monitoring:

62-701.530(a) Ambient monitoring points. Ambient monitoring points shall be located in on-site structures, excluding gas control or recovery components, that can be impacted by combustible gases from the landfill as determined by the location of these structures and property boundaries of the facility.

Because the rule citation refers to "on-site structures," I see no reason to make open-air measurements at the landfill perimeter unless such measurements are a requirement of an air resource management permit or rule. 40CFR Part 60.755(c)(1) refers to ambient monitoring at landfills after a gas collection system is installed. I do not believe this requirement would apply to the Oak Hammock landfill now. You may consult our air compliance section at 407-893-3322 for further guidance.

Let me know if you I can be of further assistance.

Thanks,

Jim

-----Original Message-----

From: KCargill@GeoSyntec.com [mailto:KCargill@GeoSyntec.com]
Sent: Wednesday, May 19, 2004 9:57 AM
To: Bradner, James
Cc: lmarion@capitalenvironmental.com; AGupta@GeoSyntec.com
Subject: RE: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Jim

Thanks for the reply. Did your agreement with our proposal also include the gas measurements at the perimeter of the landfill? Lenny was led to believe that he also needed to make measurements in the air at the landfill perimeter. We do not believe that such measurements in the air are of any benefit and would not expect open-air measurements to provide any valid information relative to methane migration.

Thanks for your consideration.

Ken

-----Original Message-----

From: Bradner, James [mailto:James.Bradner@dep.state.fl.us]

Sent: Wednesday, May 19, 2004 9:45 AM

To: Ken Cargill

Cc: Timothy J. Salopek (E-mail) (E-mail); Lubozynski, Tom; Depradine, Gloria; Williams, Elizabeth

Subject: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Good morning, Ken:

In response to your letter, dated April 27, 2004, and based upon my observations during a site visit to the Oak Hammock Disposal Facility on May 6, 2004, I concur that gas monitoring need not be conducted in the scale house and administration building during the life of the current permits (DEP Permit No. SC49-0199726-001 and SO49-0199726-002).

This conclusion is based upon the liner design, natural barriers, including the high ground water table, the separation of more than 4000 feet between the buildings and the current solid waste disposal area, and building design, which allows air circulation between the ground and the floor of each building.

2 The issue of gas monitoring in onsite buildings must be reconsidered and addressed when applying for permit renewal and/or if additional buildings are to be constructed on site. Please contact me if I can be of further assistance.

Thanks,

James N. Bradner, P.E.

Manager, Solid and Hazardous Waste Program
Central District

Department of Environmental Protection

3319 Maguire Boulevard, Suite 232

Orlando, Florida 32803-3767

407-893-3329 direct phone

407-893-3167 fax

407-894-7555 Central District switchboard

325-3329 direct SunCom

James.Bradner@floridadep.net



GEOSYNTEC CONSULTANTS

14055 Riveredge Drive, Suite 300
Tampa, Florida 33637 • USA
Telephone (813) 558-0990 • Fax (813) 558-9726

09 June 2004

Mr. Al Linero
Division of Air Resources Management, MS 5505
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 5505
Tallahassee, Florida 32399-2400

RECEIVED

JUN 10 2004

Central Dist. - DEP

Subject: Request for Modification of Air Construction Permit
Construction Permit No. 0970079-001-AC
Oak Hammock Disposal Facility (Facility ID # 0970079)
Omni Waste of Osceola County, LLC

Dear Mr. Linero:

This letter forwards a request to modify the emission limits for criteria pollutants in the above mentioned air construction permit issued for Oak Hammock Disposal Facility (OHDF). OHDF is a new Class I municipal solid waste landfill near Holopaw, Osceola County, Florida. Omni Waste of Osceola County (Omni) owns and operates the OHDF landfill. GeoSyntec Consultants (GeoSyntec) is submitting this letter on behalf of Omni.

In April 2003, Florida Department of Environmental Protection (FDEP) issued the above mentioned air permit to construct the OHDF landfill. Item 6 in Section III of the permit establishes the emission limits for five criteria pollutants i.e., carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM), volatile organic compound (VOC), and nitrogen oxides (NO_x). Based on the current language in the permit, the maximum emission limit for each of these pollutants, after the installation of gas extraction and control system (GECS), is 57 pounds/hour or 250 tons/year. No emission limits have been established for the criteria pollutants prior to installation of the GECS.

Based on our conversation with Bruce Mitchell and Tom Cascio, Title V Section, Division of Air Resources Management, FDEP, it is our understanding that Title V annual emissions fee are assessed based on the emission limits outlined in the air permits. Based on the current language in the permit, after the installation of the GECS, the Title V annual emissions fee will be assessed for 1,000 tons every year (corresponding to 250 tons/year for each of the four criteria pollutants, excluding CO). Using a fee factor of \$25/ton for calendar year 2003, Omni would be required to pay \$25,000 every year towards Title V annual emissions fee after the installation of the GECS. It is our understanding that



Mr. Al Linero
09 June 2004
Page 2

landfills similar to OHDF typically pay less than \$1,000 in Title V annual emissions fee. Further, we believe that the Title V annual emissions fee should be fairly assessed based on expected emissions at the landfill which are estimated using the best available information.

The mass emission rates for the criteria pollutants at the OHDF landfill were estimated using the methodology outlined in USEPA AP-42 for 30 years (i.e., for 12 years of operating life and for 18 years after closure of the OHDF landfill) and are presented in Table 1 and Figures 1 through 5. The methodology and assumptions used in estimating the emission rates are discussed in GeoSyntec report titled *Application for an Air Construction Permit, Oak Hammock Disposal Facility* dated January 2003, which was submitted to FDEP in support of the application for air construction permit. The mass emission rates presented assume a waste disposal rate of 4,000 tons/day, an operating life of 12.4 years for the OHDF landfill, and installation of the GECS in the third year of landfill operation (i.e., when the total quantity of waste disposed in the landfill reaches 2,750,000 tons).

Table 1 and Figures 1 through 5 present uncontrolled emissions (prior to installation of the GECS) and controlled emissions (after installation of the GECS) for waste disposal rate of 4,000 tons/day. Table 1 presents the uncontrolled emissions expected at the OHDF landfill for the first 5 years of operation in the event that a GECS is not installed in the third year of the landfill operation. This delay in the installation of the GECS is possible if the actual waste disposal rate at the landfill is considerably lower than the conservatively assumed waste disposal rate of 4,000 tons/day. It is noted that uncontrolled emissions are presented only for the first 5 years because a GECS must be installed in the first 5 years of operation in accordance with the Florida Administrative Code. As discussed in the GeoSyntec report dated January 2003, the waste disposal rate of 4,000 tons/day is conservative and, therefore, the estimated emission rates for the criteria pollutants are also conservative. However, if the average waste disposal rate exceeds 4,000 tons/day, GeoSyntec will update the mass emission rates expected at the OHDF landfill during permit renewal.

GeoSyntec requests that the emission limits established for criteria pollutants in Item 6 in Section III of the air construction permit be modified to allow a fair assessment of the Title V annual emissions fee for the OHDF landfill. GeoSyntec recommends that the emission rates presented in Table 1 be incorporated as part of the permit (as Table III-1) to establish the maximum emission limits for the criteria pollutants for each year of the OHDF landfill operation. It is noted that OHDF landfill began operations (i.e., waste deposition in the first cell at the landfill) on 26 January 2004.



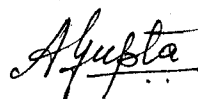
Based on our conversation with Syed Arif, Division of Air Resources Management, FDEP, GeoSyntec recommends the following modifications to Item 6 in Section III of the air permit:

6. Emission Limits: The following emission limits apply:

- Odor: *No change*
- Visible Emissions: *No change*
- Criteria Pollutants: Neither carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM₁₀), volatile organic compound (VOC), nor nitrogen oxides (NO_x) emissions from the facility shall exceed the respective mass emission rates (in tons/year) indicated in Table III-1 for corresponding year of the landfill operation. Uncontrolled emission rates shall govern prior to installation of the GECS at the facility. Compliance measures shall be proposed by the applicant upon submittal of the GECS and flare design.

If you have any questions or need additional information, please contact either of the undersigned.

Sincerely,



Ayushman Gupta, P.E.
Project Engineer



Kenneth W. Cargill, P.E.
Principal

cc: Mr. Len Koslov, FDEP
Mr. Jim Bradner, FDEP
Mr. Lenny Marion, Omni Waste

Table 1

MASS EMISSION RATES FOR CRITERIA POLLUTANTS (tons/yr)¹
(WASTE DISPOSAL RATE = 4,000 tons/day)²

Year No.	Calendar Year	GECS INSTALLED IN THIRD YEAR OF LANDFILL OPERATION						WITHOUT GECS (UNCONTROLLED EMISSIONS)				
		CO	TRS as S or SO ₂	PM	VOC	NO _x as NO ₂		CO	TRS as S	PM	VOC	NO _x as NO ₂
OPERATING LIFE	1	2004	1.3	0.5	NA ³	6.1	NA ³	1.3	0.5	NA ³	6.1	NA ³
	2	2005	2.6	1.0	NA ³	11.9	NA ³	2.6	1.0	NA ³	11.9	NA ³
	3	2006	117.4	2.9	2.6	4.5	6.3	3.8	1.4	NA ³	17.6	NA ³
	4	2007	153.4	3.8	3.4	5.9	8.2	5.0	1.9	NA ³	23.0	NA ³
	5	2008	188.1	4.6	4.2	7.2	10.1	6.1	2.3	NA ³	28.2	NA ³
	6	2009	221.4	5.5	4.9	8.5	11.9					
	7	2010	253.4	6.3	5.7	9.7	13.6					
	8	2011	284.2	7.0	6.3	10.9	15.3					
	9	2012	313.8	7.7	7.0	12.0	16.9					
	10	2013	342.1	8.4	7.6	13.1	18.4					
	11	2014	369.4	9.1	8.2	14.1	19.8					
POST-CLOSURE	12	2015	395.6	9.8	8.8	15.1	21.3					
	13	2016	396.2	9.8	8.8	15.2	21.3					
	14	2017	380.7	9.4	8.5	14.6	20.5					
	15	2018	365.7	9.0	8.2	14.0	19.7					
	16	2019	351.4	8.7	7.8	13.5	18.9					
	17	2020	337.6	8.3	7.5	12.9	18.1					
	18	2021	324.4	8.0	7.2	12.4	17.4					
	19	2022	311.7	7.7	7.0	11.9	16.7					
	20	2023	299.4	7.4	6.7	11.5	16.1					
	21	2024	287.7	7.1	6.4	11.0	15.5					
	22	2025	276.4	6.8	6.2	10.6	14.9					
	23	2026	265.6	6.6	5.9	10.2	14.3					
	24	2027	255.2	6.3	5.7	9.8	13.7					
	25	2028	245.2	6.0	5.5	9.4	13.2					
	26	2029	235.5	5.8	5.3	9.0	12.7					
	27	2030	226.3	5.6	5.1	8.7	12.2					
	28	2031	217.4	5.4	4.9	8.3	11.7					
	29	2032	208.9	5.2	4.7	8.0	11.2					
	30	2033	200.7	5.0	4.5	7.7	10.8					

Notes:

¹ From GeoSyntec report dated January 2003, which was submitted to FDEP with the application for air construction permit.

² Corresponding operating life of OHDF landfill is 12.4 years as indicated.

³ Not Applicable. NO₂ and PM are not landfill gas constituents and are generated only by the flare(s).

Figure 1

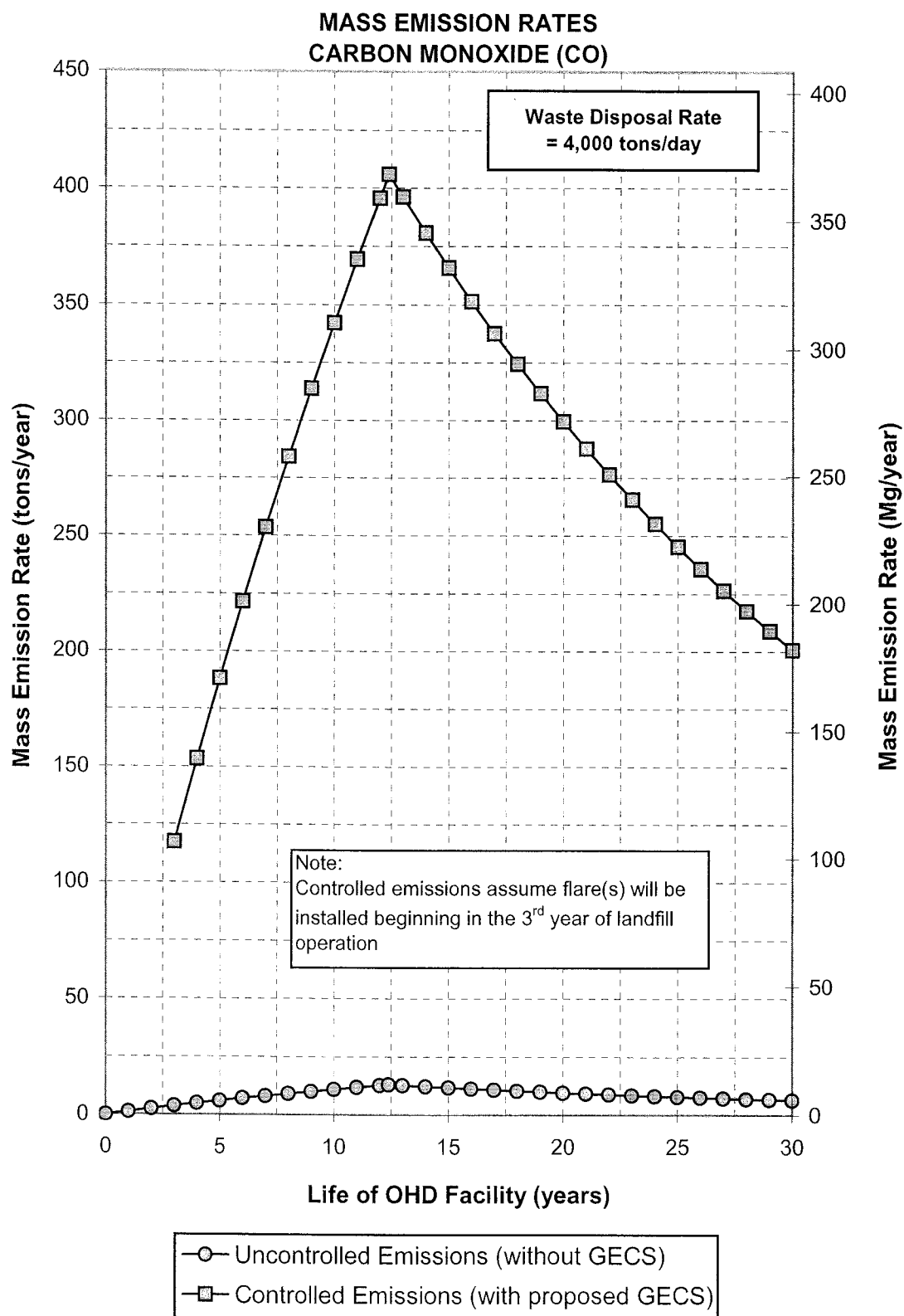
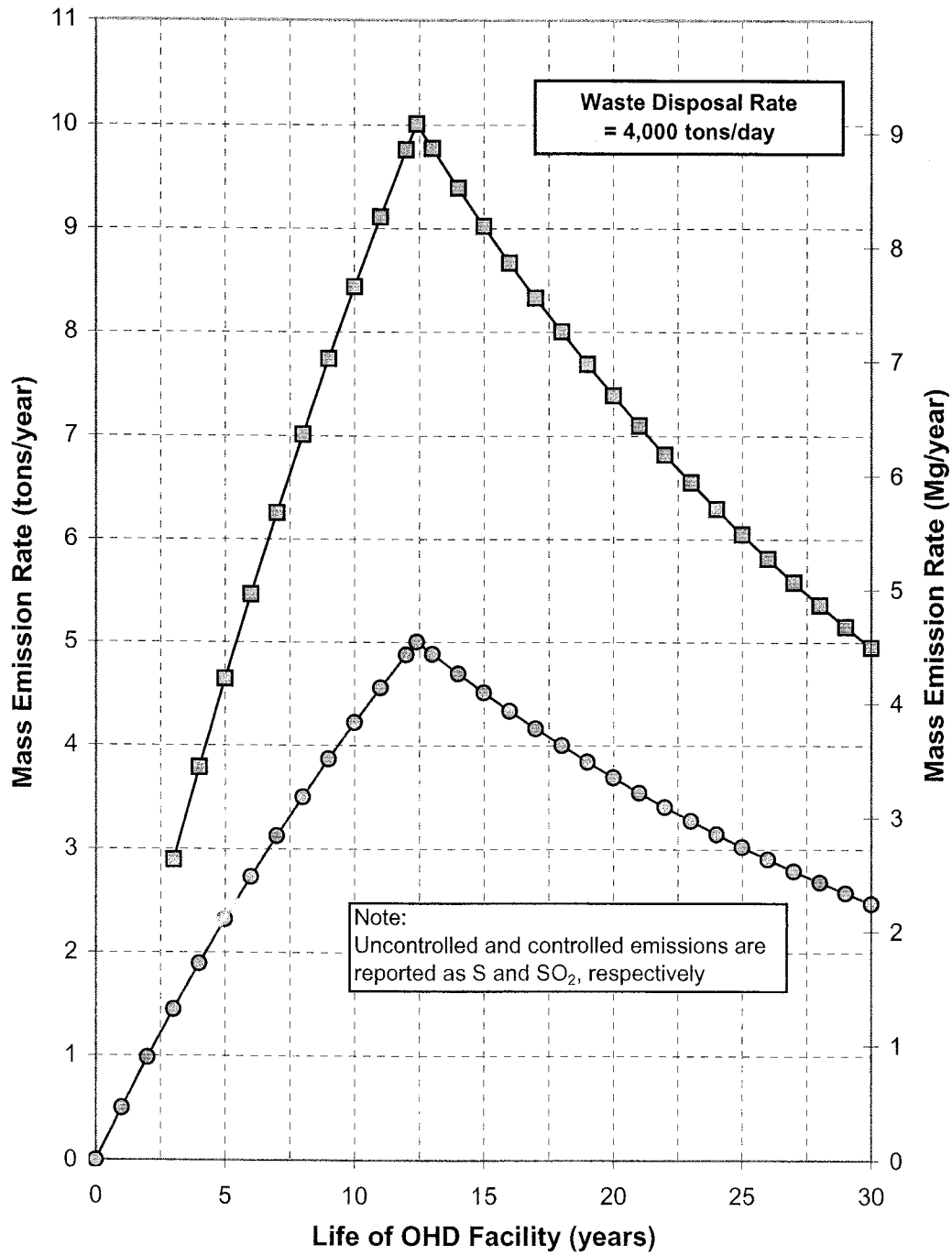


Figure 2

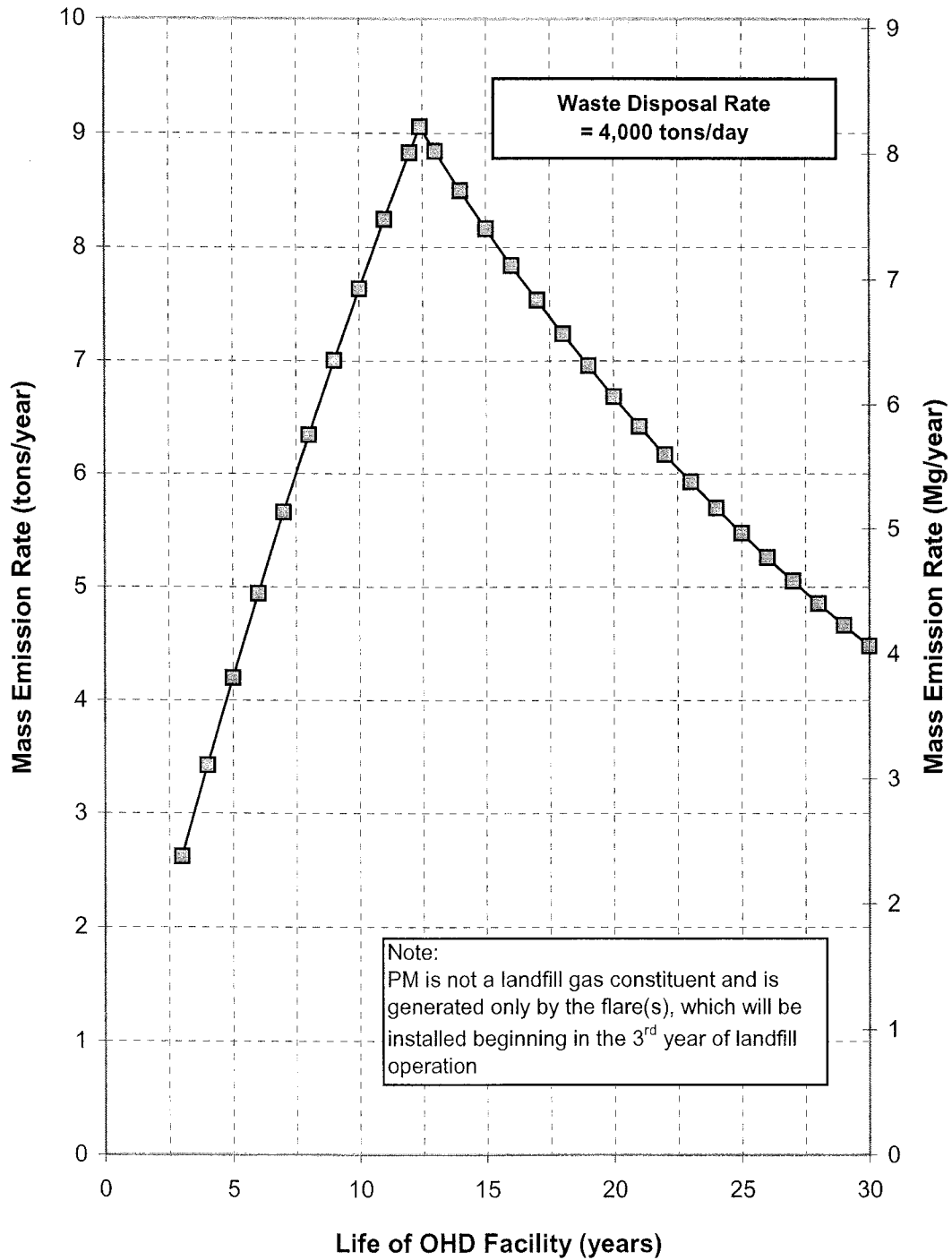
MASS EMISSION RATES
TOTAL REDUCED SULFUR (TRS as S or SO₂)



- Uncontrolled Emissions (without GECS)
- Controlled Emissions (with proposed GECS)

Figure 3

MASS EMISSION RATES
PARTICULATE MATTER (PM)



—■— Controlled Emissions (with proposed GECS)

Figure 4

**MASS EMISSION RATES
TOTAL VOLATILE ORGANIC COMPOUNDS (VOC)**

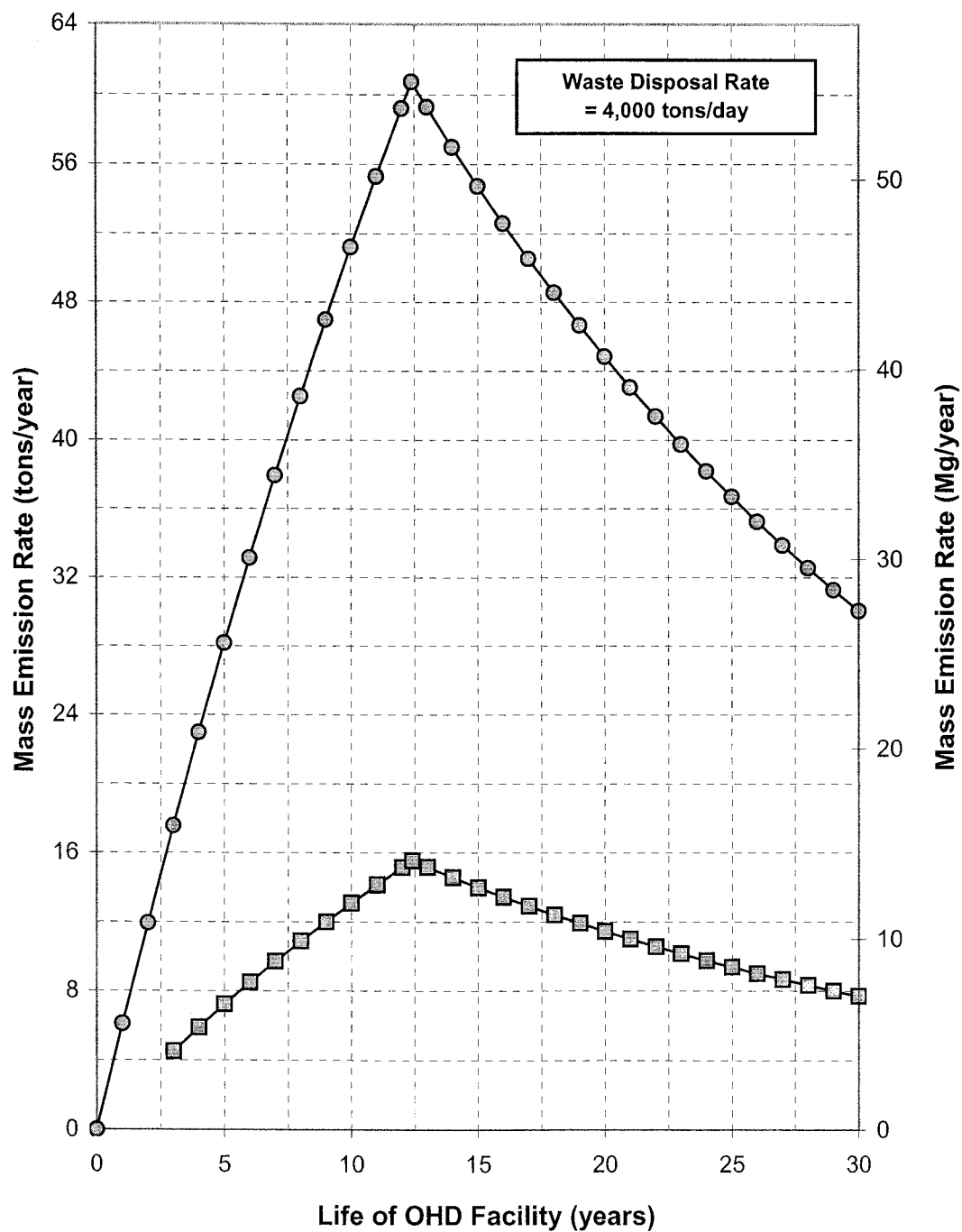
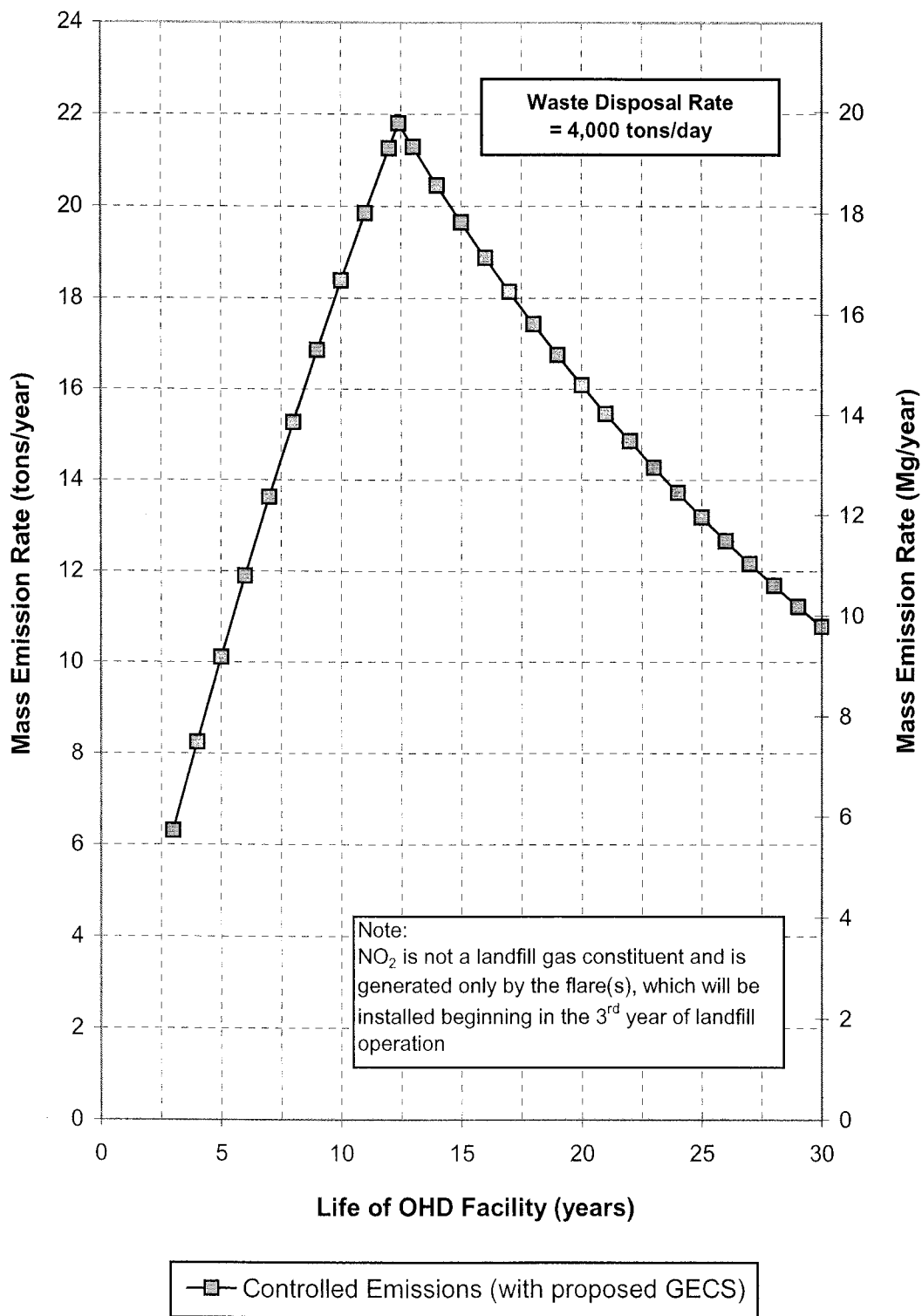


Figure 5

MASS EMISSION RATES
NITROGEN DIOXIDE (NO_x as NO_2)



Williams, Elizabeth

From: Bradner, James
Sent: Thursday, June 03, 2004 8:47 AM
To: 'tjsomni@aol.com'
Cc: Williams, Elizabeth
Subject: OCD-SW-04-0194 Liner System at the Oak Hammock Disposal - Class I Landfill

In reply to Dick Rabon's message, appended below, it is my opinion that the double composite liner system in use at the Oak Hammock landfill provides a highly effective barrier to protect the underlying soil and ground water from contact with leachate from waste disposed in the landfill cells. The liner design is very conservative, and can be expected to provide a lower probability of leakage and higher degree of protection than older clay liners and single or single composite geosynthetic liners.

This opinion is based upon review of the engineering design documents, on-site inspections during liner installation, and review of construction quality control and construction quality assurance documents.

Please contact me if you have questions or need further information.

James N. Bradner, P.E.
Manager, Solid and Hazardous Waste Program
Central District
Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767
407-893-3329 direct phone
407-893-3167 fax
407-894-7555 Central District switchboard
325-3329 direct SunCom
James.Bradner@floridadep.net

Jim,

It was good seeing you at the Florida Center meeting, and I particularly enjoyed the brief tour of the Gardens . I'll look forward to that again.

As I mentioned to you, I would like your opinion on the liner system installed at Omni Waste's J.E.D. Landfill in Osceola County. I am sure that your agency's review of the design during the facility's permitting has made you quite familiar with its stand apart double composite liner system. I am particularly interested in knowing if this liner design is superior to other designs in use, and your opinion on this liner's ability to protect the environment.

Jim, would you please e-mail me at Omni's office (tjsomni@aol.com <<mailto:tjsomni@aol.com>>) rather than respond to the sender's address?

Again, Thanks and I will look forward to seeing you the next time. If you have any questions, my cell phone number is (321) 624-9438

Dick Rabon

Omni Waste

Williams, Elizabeth

From: Bradner, James
Sent: Wednesday, May 19, 2004 12:15 PM
To: 'KCargill@GeoSyntec.com'
Cc: Timothy J. Salopek (E-mail) (E-mail); Williams, Elizabeth; Lubozynski, Tom
Subject: RE: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Ken:

This is what the solid waste rule says about ambient monitoring:

62-701.530(a) Ambient monitoring points. Ambient monitoring points shall be located in on-site structures, excluding gas control or recovery components, that can be impacted by combustible gases from the landfill as determined by the location of these structures and property boundaries of the facility.

Because the rule citation refers to "on-site structures," I see no reason to make open-air measurements at the landfill perimeter unless such measurements are a requirement of an air resource management permit or rule. 40CFR Part 60.755(c)(1) refers to ambient monitoring at landfills after a gas collection system is installed. I do not believe this requirement would apply to the Oak Hammock landfill now. You may consult our air compliance section at 407-893-3322 for further guidance.

Let me know if you I can be of further assistance.

Thanks,

Jim

-----Original Message-----

From: KCargill@GeoSyntec.com [mailto:KCargill@GeoSyntec.com]
Sent: Wednesday, May 19, 2004 9:57 AM
To: Bradner, James
Cc: lmarion@capitalenvironmental.com; AGupta@GeoSyntec.com
Subject: RE: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Jim

Thanks for the reply. Did your agreement with our proposal also include the gas measurements at the perimeter of the landfill? Lenny was led to believe that he also needed to make measurements in the air at the landfill perimeter. We do not believe that such measurements in the air are of any benefit and would not expect open-air measurements to provide any valid information relative to methane migration.

Thanks for your consideration.

Ken

-----Original Message-----

From: Bradner, James [mailto:James.Bradner@dep.state.fl.us]
Sent: Wednesday, May 19, 2004 9:45 AM
To: Ken Cargill
Cc: Timothy J. Salopek (E-mail) (E-mail); Lubozynski, Tom; Depradine, Gloria; Williams, Elizabeth
Subject: OCD-SW-04-0170 Landfill Gas Monitoring Requirements - Oak Hammock Disposal Facility

Good morning, Ken:

In response to your letter, dated April 27, 2004, and based upon my observations during a site visit to the Oak Hammock Disposal Facility on May 6, 2004, I concur that gas monitoring need not be conducted in the scale

house and administration building during the life of the current permits (DEP Permit No. SC49-0199726-001 and SO49-0199726-002).

This conclusion is based upon the liner design, natural barriers, including the high ground water table, the separation of more than 4000 feet between the buildings and the current solid waste disposal area, and building design, which allows air circulation between the ground and the floor of each building.

The issue of gas monitoring in onsite buildings must be reconsidered and addressed when applying for permit renewal and/or if additional buildings are to be constructed on site. Please contact me if I can be of further assistance.

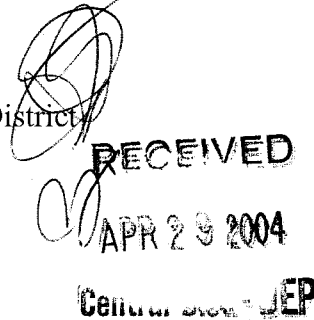
Thanks,

James N. Bradner, P.E.
Manager, Solid and Hazardous Waste Program
Central District
Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767
407-893-3329 direct phone
407-893-3167 fax
407-894-7555 Central District switchboard
325-3329 direct SunCom
James.Bradner@floridadep.net



27 April 2004

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



Subject: Landfill Gas Monitoring Requirements
Oak Hammock Disposal Facility
Omni Waste of Osceola County, LLC
Permit Application Nos. SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

The purpose of this letter is to clarify the landfill gas monitoring requirements at the Oak Hammock Disposal Facility (OHDF). The letter is written on behalf of Omni Waste of Osceola County (Omni). Florida Department of Environmental Protection (FDEP) conducted a routine inspection of the Oak Hammock Disposal Facility (OHDF) on 19 April 2004. One of the comments by the FDEP representative, Randall Cunningham, requires that Omni routinely monitor for landfill gas within on-site buildings and around the perimeter of the landfill.

OHDF is a new landfill that started operations on 26 January 2004. Landfill cells consist of a double-composite liner system including two layers of drainage geocomposite, geomembrane liner, and geosynthetic clay liner. Therefore, no landfill gas is expected to reach the ground underlying the liner system. Further, the groundwater table throughout the site is typically 2 feet below the ground surface. Therefore, landfill gas migration at the site is not possible for any significant distance. The on-site buildings are more than 4,000 feet away from the limits of the waste expected to be disposed under the current permit. As a result, Omni requests that they be exempted from landfill gas monitoring within on-site buildings and around the perimeter of the landfill.



If you have any questions or need additional information, please contact either of the undersigned.

Sincerely,



Ayushman Gupta, P.E.
Project Engineer



Kenneth W. Cargill, P.E.
Principal

cc: Mr. Lenny Marion, Omni Waste

Williams, Elizabeth

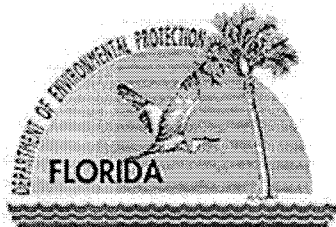
From: Bradner, James
Sent: Monday, May 17, 2004 9:53 AM
To: Williams, Elizabeth
Subject: FW: Oak Hammock Certification Letter

-----Original Message-----

From: TJSOmni@aol.com [mailto:TJSOmni@aol.com]
Sent: Monday, May 17, 2004 8:54 AM
To: Bradner, James
Subject: Re:

this is to acknowledge receipt for Tim Salopek.

Sharon Stanfill
Omni Waste
sstanfill@ceri.biz



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

ELECTRONIC MAIL

May 14, 2004

Mr. Timothy J. Salopek, President
(tjsomni@aol.com)
Omni Waste of Seminole County, LLC
1501 Omni Way
Holopaw, Florida 34773

OCD-SW-04-0164

Osceola County SW
Oak Hammock Disposal Facility
Certification of Construction Completion

Dear Mr. Salopek:

This will acknowledge receipt of the *Certification of Construction Completion of a Solid Waste Management Facility*, dated, May 5, 2004, by Kenneth W. Cargill, P.E. of GeoSyntec Consultants, addressing Cell 1B.

Based upon my inspection on May 6, 2004, construction of the Cell 1B, as certified by the professional engineer of record, has been completed and is substantially consistent with plans and specifications approved under DEP Permit No. SC49-0199726-001. Accordingly, solid waste may be placed in Cell 1B for disposal.

Please contact me at 407-893-3329 if you have questions or need further information.

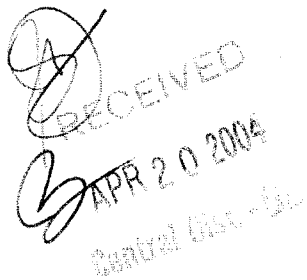
Sincerely,

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

/jnb

cc: David S. Dee, Landers and Parsons (ddee@landersandparsons.com)
Kenneth Cargill, P.E., GeoSyntec Consultants (kcargill@geosyntec.com)

89544



Omni Waste

1501 Omni Way
St. Cloud, FL 34773
(407) 891-3720 phone
(407) 891-3730 fax

Date April 19, 2004

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

Re: Omni Waste 1st Quarter Quantity Report

Dear Mr. Bradner:

Attached for your review are the 1st quarter quantity reports for Omni Waste of Osceola. If you have any questions please don't hesitate to contact me at 407-891-3721.

Not attached, but will be forthcoming, is the gas monitoring report for Omni Waste. We are in the process of developing a site map and monitoring points to record LEL levels that will be submitted to your Department shortly.

I apologize for any inconvenience this may cause you and your staff. Due to start up of this new facility and construction management I honestly over looked the gas monitoring report.

Respectfully Submitted

Leonard J. Marion
Operations Manager

cc: File

Quantity Summary by Material & UOM

Ticket Date In is between 1/1/2004 and 1/31/2004

	Disposal Qty	UOM
Auto Fluff	484.41	TN
Mun. Solid Waste	2917.65	TN

Quantity Summary by Material & UOM

Ticket Date In is between 2/1/2004 and 2/29/2004

	Disposal Qty	UOM
Auto Fluid	1224.22	TN
Construction & Demo	630.00	YD
Contaminated Soil	342.96	TN
Mun. Solid Waste	14931.34	TN
Sludge	961.29	TN
Special Waste	151.05	TN
White Goods	1.00	EA

Quantity Summary by Material & UOM

Ticket Date In is between 3/1/2004 and 3/31/2004

	Disposal Qty	UOM
Auto Fluff	1631.58	TN
Construction & Demo	6900.00	YD
Contaminated Soil	2046.36	TN
Mun. Solid Waste	19659.64	TN
Sludge	2098.02	TN
Special Waste	655.38	TN
Car Tire	35.00	EA
White Goods	2.00	EA
Yard Waste	0.49	TN



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

David B. Struhs
Secretary

MEETING ATTENDANCE RECORD

Purpose: Oak Hammock wells	Date: 11/12/04
----------------------------	----------------

[illegible]

**DATA PACKAGE REGARDING
MONITORING WELL
INSTALLATION AND DEVELOPMENT**

Prepared for:

**Meeting with FDEP
January 12, 2004**

Prepared by:



GEOSYNTEC CONSULTANTS

14055 Riveredge Dr., Suite 300
Tampa, FL 33637

January 2004

(Cover letter)
1 more
rept to
Giv files
2/12/04
mht



GEOSYNTEC CONSULTANTS

14055 Riveredge Drive, Suite 300
Tampa, Florida 33637 • USA
Telephone (813) 558-0990 • Fax (813) 558-9726

3 October 2003

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

DP
RECEIVED
GOCT **6 2003**
Central Dist. - DEP

Re: Commencement of Geosynthetics Installation in Cell 1 of Phase 1
Oak Hammock Disposal Facility
Omni Waste of Osceola County, LLC
Permit Application Nos. SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

The purpose of this letter is to inform the Florida Department of Environmental Protection that the installation of geosynthetics in Cell 1 of Phase 1 of Oak Hammock Disposal Facility is expected to commence on 13 October 2003. The installation is likely to continue through February 2003 in accordance with the above referenced permits.

If you have any questions or need additional information, please contact the undersigned.

Sincerely,

Kenneth W. Cargill, P.E.
Principal

cc: Mr. Lenny Marion, Omni Waste





GEOSYNTEC CONSULTANTS

14055 Riveredge Drive, Suite 300
Tampa, Florida 33637 • USA
Telephone (813) 558-0990 • Fax (813) 558-9726

23 June 2003

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

RECEIVED
JUN 26 2003
Central Dist. - DEP

Re: Commencement of Construction of Phase 1
Oak Hammock Disposal Facility
Omni waste of Osceola County, LLC
Permit Application Nos. SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

The purpose of this letter is to inform the Florida Department of Environmental Protection that the construction of Phase 1 of Oak Hammock Disposal Facility is expected to commence on 26 June 2003. The construction is likely to continue through August 2007 in accordance with the above referenced permits.

If you have any questions or need additional information, please contact the undersigned.

Sincerely,

Kenneth W. Cargill, P.E.
Principal

cc: Mr. Lenny Marion, Omni Waste





CITY OF ST. CLOUD, FLORIDA

2901 SEVENTEENTH STREET • ST. CLOUD, FLORIDA 34769

August 27, 2002

RECEIVED

AUG 28 2002

FDEP-CENTRAL DISTRICT
SOLID WASTE

Mr. Timothy J. Salopek, President
Omni Waste of St. Cloud, LLC
P.O. Box 421613
Kissimmee, Florida 34742

Reference: Oak Hammock Sanitary Landfill

Dear Mr. Salopek:

This letter is to confirm that the City of St. Cloud has sewer capacity to serve the project known as the Oak Hammock Sanitary Landfill for leachate disposal (approximately five thousand gallons per day). There has not yet been an application for a Certificate of Capacity, however, upon application, submittal of quantitative and qualitative chemical analysis, and compliance with all applicable codes, a certificate may be issued by the City Council of the City of St. Cloud.

We look forward to working with you and Omni Waste on this project. If you have any questions, please call my direct number - (407) 957-7262.

Sincerely,

Robert A. MacKichan
Public Works Director

RAM:bep/corr208



GEOSYNTEC CONSULTANTS

14055 Riveredge Drive, Suite 300
Tampa, Florida 33637 • USA
Telephone (813) 558-0990 • Fax (813) 558-9726

27 August 2002

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

Subject: Construction/Operation Permits
Oak Hammock Disposal Facility
Permit Application Nos. SC49-0199726-001 and SO49-0199726-002

Dear Mr. Bradner:

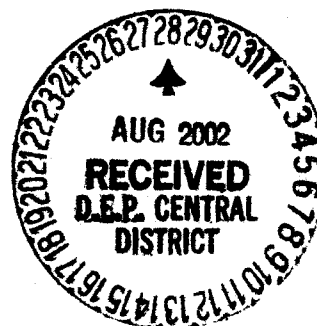
Forwarded herewith are five sets of the revised drawings as submitted with Addendum 2 of the Environmental Resources Permit application.

If you have any questions or require additional information please contact me at your convenience.

Sincerely,

Kenneth W. Cargill, P.E.
Principal

Attachments



RECYCLED AND RECYCLABLE



Escorted by SW

Bradner, James

From: Zahm, Alan
Sent: Monday, June 24, 2002 10:35 AM
To: Kozlov, Leonard
Cc: Bradner, James
Subject: RE: ~~Oak Hammock~~ Landfill, Fed Reg Citation cut and pasted

Hello Jim and Len:

Out came the "scissors and paste" and here is your condition, it was neither complicated or difficult.

Jim, alter the style and font of the main rule citation to fit your permits as I understand that our sections have different fonts and styles, so the final product is up to you. You may desire to add 1) it is an air program title V operating permit and 2) application sent to the air program at same address as solid waste program. If you want my personalized version (I prefer the original language from the federal register) read below.

xx. **Title V Air Operating Permit.** To obtain a title V air operation permit, the owner or operator shall submit a timely and complete permit application to the Department of Environmental Protection, Air Program, at the above address. A timely application and complete application shall be submitted within 12 months after being placed in operation.

From the Federal Register:

xx. Operating Permits. Duty to apply. For each part 71 source, the owner or operator shall submit a timely and complete permit application in accordance with this section. (1) Timely application. (i) A timely application for a source which does not have an existing operating permit issued by a State under the State's approved part 70 program and is applying for a part 71 permit for the first time is one that is submitted within 12 months after the source becomes subject to the permit program or on or before such earlier date as the permitting authority may establish. Sources required to submit applications earlier than 12 months after the source becomes subject to the permit program will be notified of the earlier submittal date at least 6 months in advance of the date. **40CFR71.5**

-----Original Message-----

From: Kozlov, Leonard
Sent: Monday, June 24, 2002 9:54 AM
To: Zahm, Alan
Cc: Bradner, James
Subject: FW: Oak Hammock Landfill

Alan, Don't make this complicated. Write a condition for Jim stating that they must apply for a Title V permit within one year of issuance of the solid waste permit along with the citation. What is so difficult about this?. I am directing you to do it and then send it to Jim today.

Len

-----Original Message-----

From: Zahm, Alan
Sent: Monday, June 24, 2002 9:42 AM
To: Bradner, James
Cc: Kozlov, Leonard
Subject: FW: Oak Hammock Landfill

Good morning Jim:

I hear you are still interested in specific condition language to place within your permits. I'll direct you back to my previous email which has exact language from Federal Register Chapters 70.5 and 71.5. Those sections discuss the time requirements to submit a title v permit. You can use the language directly by cutting and pasting the section. It is my understanding that Len wants this in your permit.

Should you want other more specific requirements on the air rules (standards, compliance, record keeping, etc), please consult the federal register sections within a different email. Once again you can cut and paste the sections you desire.

Take care and good health

Alan

-----Original Message-----

From: Zahm, Alan
Sent: Thursday, June 20, 2002 10:22 AM
To: Bradner, James
Subject: FW: Oak Hammock Landfill

Some of the answers to your question, as provided by Len

<< File: Code of Federal Regulations, Landfills.doc >>

-----Original Message-----

From: Kozlov, Leonard
Sent: Thursday, June 20, 2002 9:10 AM
To: Zahm, Alan
Subject: FW: Oak Hammock Landfill

Alan, See me on this. I believe 40CFR70 and/or 71 applies. I requested Jim to place a condition in this new landfill permit a condition telling these folks to apply for a Title V within 90 days of the issuance of the SW landfill permit.

-----Original Message-----

From: Bradner, James
Sent: Thursday, June 20, 2002 9:06 AM
To: Kozlov, Leonard
Subject: RE: Oak Hammock Landfill

Good morning, Len:

Would you be so kind as to give me your proposed wording for the specific condition, including appropriate rule citations?

Thanks!

Jim

-----Original Message-----

From: Kozlov, Leonard
Sent: Monday, June 17, 2002 4:14 PM
To: Bradner, James
Cc: Zahm, Alan; Laisure, Debra
Subject: RE: Oak Hammock Landfill

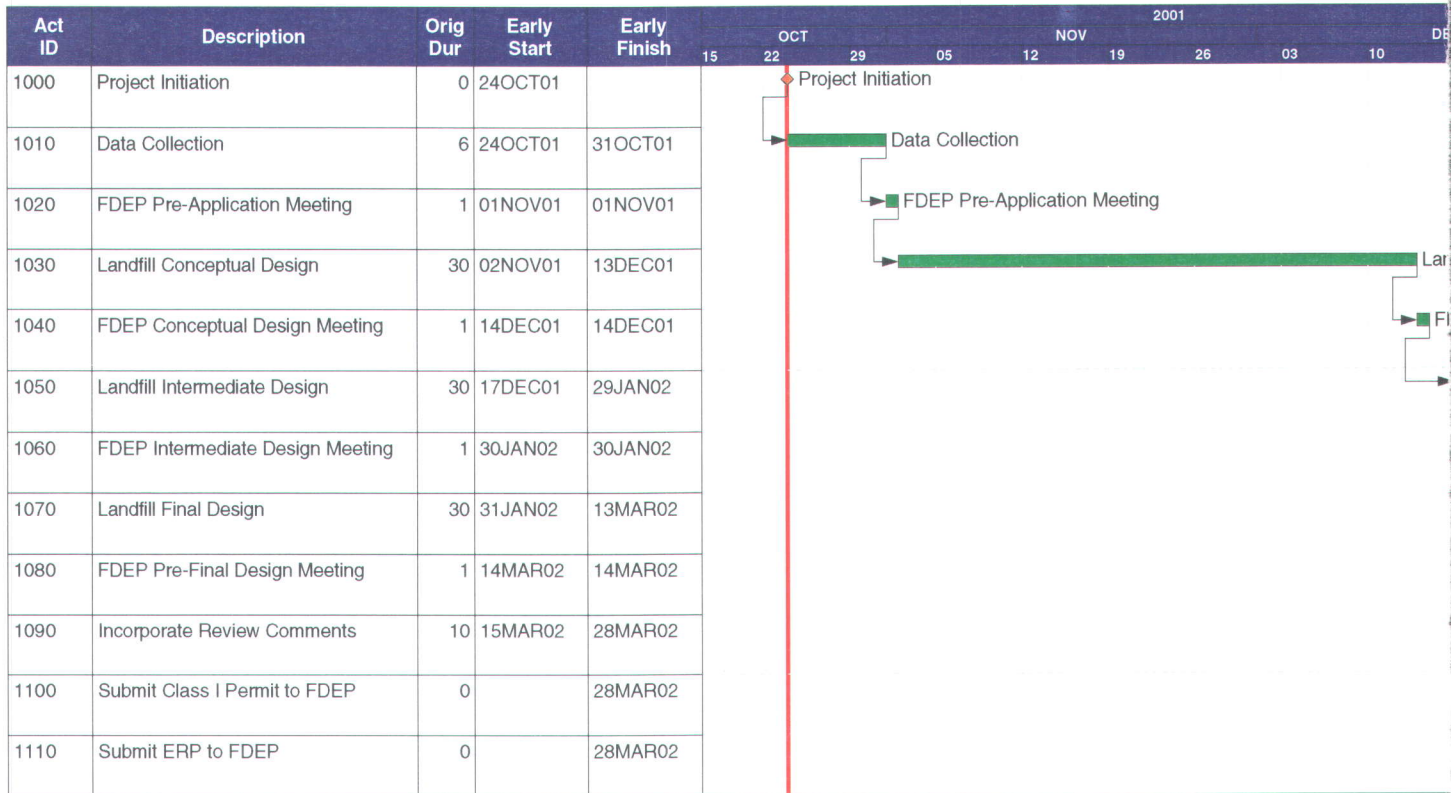
Jim, The design capacity of the landfill that you will be permitting is has to be 2.5 million megagrams or 2.5 million cubic meters to be Title V. This is very important. A Title V application must be submitted 90 days after issuance of your permit. Please put this in as a condition of your permit. In the design they should have a gas collection system because if the cell is active and any waste that is in the active cell after five years, the gas has to be collected, ergo, a gas collection system. Closed cells must have a gas collection system if the waste is two years old. If you have any questions please call.

-----Original Message-----

From: Bradner, James
Sent: Monday, June 17, 2002 3:05 PM
To: Kozlov, Leonard
Cc: Bostwick, William
Subject: Oak Hammock Landfill

Good afternoon, Len:

I understand you spoke with Ken Cargill of GeoSyntec last week. Do you agree that Title V permit application does not need to be submitted concurrently with the solid waste application? This is his understanding.



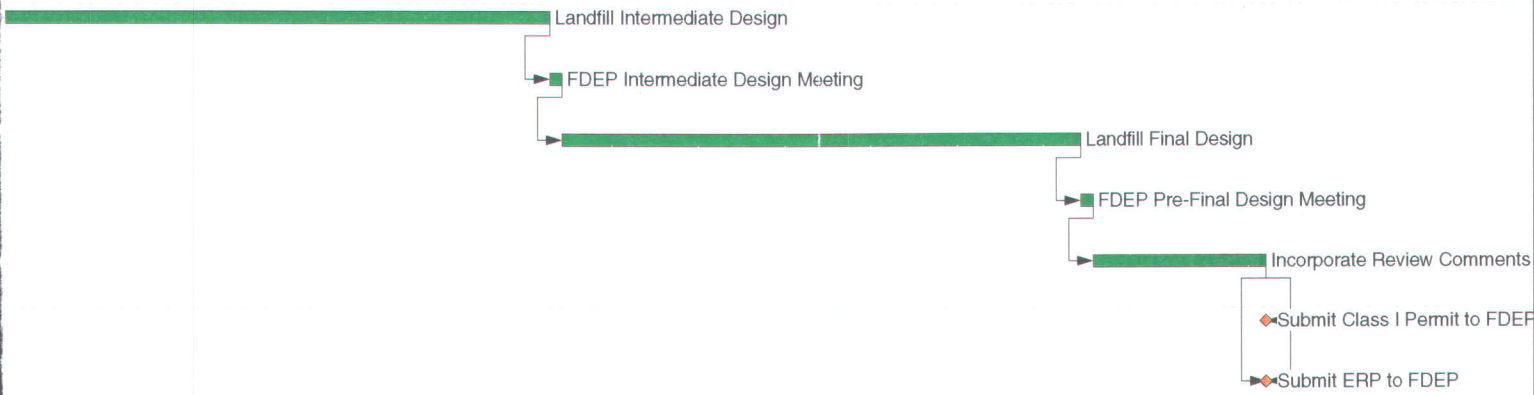
Start date	24OCT01
Finish date	28MAR02
Data date	24OCT01
Run date	31OCT01
Page number	1A
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On
Oak Hammo



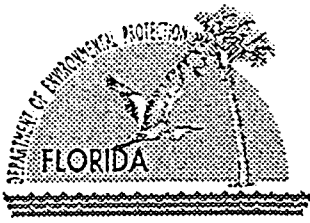
Landfill Conceptual Design

FDEP Conceptual Design Meeting



nni Waste
ck Disposal Facility

- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

MEETING ATTENDANCE RECORD

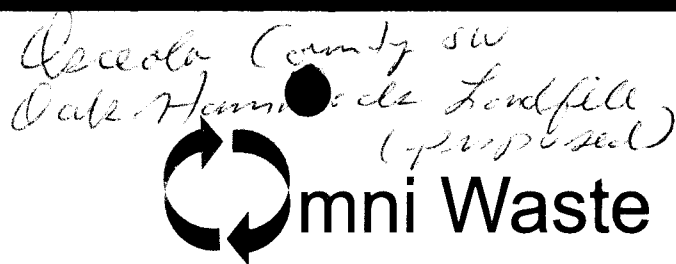
Purpose: *OMNI WASTE*

Date: *1/28/02*

Name (please print)	Affiliation
<i>Deborah Helle</i>	<i>FDEP</i>
<i>GEORGE CHERYAN</i>	<i>FDEP</i>
<i>SHADIA GURESHI</i>	<i>FDEP/SW</i>
<i>BILL BOSTWICK</i>	<i>DEP</i>
<i>HARRY TOMLINSON</i>	<i>GEOSYNTEL CONSULTANTS</i>
<i>Said Iravani</i>	<i>" "</i>
<i>RAY TOBEY</i>	<i>CITY OF ST. CLOUD</i>
<i>WILLIAM J. KOZUH</i>	<i>OMNI - OAK HAMMOCK</i>
<i>Ken Canill</i>	<i>Geosyntec Consultants</i>
<i>Lenny Marion</i>	<i>OSCEOLA County</i>
<i>Jim Bradner</i>	<i>FDEP</i>

MEETING ATTENDANCE RECORD

Continued on reverse side



P.O. Box 421613
Kissimmee, FL 34742
407-957-7284 Phone
407-957-7202 Fax

January 28, 2002

Jim Bradner
FDEP – Solid Waste Section
3319 Maguire Blvd, Suite 232
Orlando, FL 32803-3767

Dear Jim:

Enclosed for your reading are the most recent articles printed in various papers regarding our proposed Oak Hammock Disposal facility near Holopaw.

Sincerely,



Tim Salopek
President

TS/ss

Enclosures

County finds a home for trash — for 25 years

About the time the current landfill reaches its capacity, a new one will open south of Holopaw.

By APRIL HUNT
SENTINEL STAFF WRITER

KISSIMMEE — Omni Waste, which cleared hurdle after hurdle in its multiyear bid for Osceola County's trash, edged to the finish line this

week with county approval of a 10-year contract with the company.

Omni officials say they are about 18 months away from opening a new landfill south of Holopaw where all of the county's household garbage will go.

"We've been at this for almost four years and we are ready to go," said Omni Waste President Tim Salopek. "It's great."

As part of the deal, county commissioners also OK'd the construction of a \$6.4 million transfer station

to be built at Southport Landfill.

For residents, the deal guarantees a place for their household trash to go for the next 25 years. It also could mean about 5 percent annual increases in the garbage fee to pay for the new transfer station. Residents pay about \$144 a year for the service now. Projections show the bill will be about \$158 by 2004.

Still, the county had to make a decision quickly. The Southport site is near capacity and will close by the end of 2003 or early 2004. About the

same time, the new landfill and transfer station will be ready.

"This has hung out there for years, and the landfill closure has been creeping up on us," Commission Chairman Paul Owen said. "I'm glad the issue is settled."

Omni and Waste Management have been negotiating to haul the county's trash for nearly two years, but court battles and heated pleas from residents caused several de-

PLEASE SEE **TRASH, 2**

Residents chose not to file landfill lawsuit

TRASH FROM 1

lays.

The county originally rejected Omni's proposal to build a 195-acre landfill in a rural area south of Holopaw. In June, however, officials approved a settlement to the company's resulting civil lawsuit.

The settlement allowed the company's landfill proposal to meet county code and let Omni begin getting environmental and other permits needed to for construction.

Several Holopaw residents fought the site of a new landfill all along. The main concern was environmental damage or an accident in an area where residents rely on wells for water. In June, a small group,

the Omni agreement. Once it is finalized, Omni will haul the trash for \$26.50 a ton, with the company paying the county back 50 cents per ton for the right to be the hauler. That's \$6 a ton cheaper than what Waste Management proposed, but the company would have given the county \$1 a ton to haul Osceola's trash to its landfill in Okeechobee County.

In the meantime, the county will begin to prepare about 20 acres for the new transfer station, which also will accommodate recycling, resident drop-off and an operations center for the county's Solid Waste Department.

The transfer station will be able to process 500 tons of waste daily and can be expanded, said Lenny Marion, director of the Solid Waste Department.

Without Kissimmee and St. Cloud, whose trash will be taken to the St. Cloud transfer station for removal, the county produces 350 to 400 tons of waste daily.

Once the transfer station is running, about eight 110-cubic-yard trucks will haul trash between the transfer station and landfill daily, Marion said. To get to the new landfill, trucks will go up Pleasant Hill Road and then east on U.S. Highway 192 before heading south on U.S. Highway 441. If the county moves forward on building a Southport Road extension to Canoe Creek Road, that route will be used instead.

"It's going to be a smooth transition," he said.

April Hunt can be reached at 407-931-5940 or ahunt@orlando-sentinel.com.

County inks long-term trash deal

By Sylvia L. Ollande
News-Gazette Staff Writer

Osceola County has entered into an agreement with Omni Waste Inc. to handle its trash through the year 2025 by hauling trash to the company's new landfill near Holopaw.

The county also agreed to build a transfer station on 44 acres of its existing Southport landfill.

The commission voted 4-0 Monday in favor of building a solid waste management facility on the landfill, to solve the question of what to do with its trash when Southport reaches capacity by early 2004. The facility is estimated to cost approximately \$6.4 million.

"There's a pretty good cost savings to the citizens of Osceola County (with this plan)," said Commission Chairman Paul Owen. "We needed some long range solu-

tion to it and I think that was the best long range solution."

In considering options to replace its Southport landfill, the county had thought of building two transfer stations to handle its solid waste load, one in the eastern section of county and one in the west.

To that end, the county studied several potential sites, and it accepted bids from various operators. The list ultimately was narrowed down to two: Omni Waste and Waste Management.

Omni Waste's proposal was to dispose of the county's trash for \$26.50 a ton. Waste Management's bid was \$32.50 a ton.

When Omni entered into an agreement with the city of St. Cloud in December to build a transfer station at its municipal landfill, there was no longer a need to build two.

County officials said that

See Trash, page A-2

Trash Continued from page A-1

move will save the county an estimated \$1 million in land acquisition costs.

"I give these communities a lot of credit," said Tim Salopek, president of Omni Waste. "They had two or three years to come up with solutions to their solid waste problem, and by approving these transfer stations, they've solved them for the next 20 to 30 years. I don't know of many more communities in Florida that can say that."

In addition to the transfer station, the new solid waste management facility would include several services that would be moved from the Bass Road Landfill. They are a trash drop-off station for citizens, a yard waste processing area, a tire waste area, an area for large appliances, a recycling drop-off and processing area and an opera-

tions center.

Construction on the new facility is estimated to begin in 2003 and completed in early 2004, about the time the county expects the landfill to close.

Before the vote Monday, some commissioners voiced concern about what Cypress Cove and residents of nearby Poinciana would have to say about the new operations. In settling a lawsuit brought against it in the mid-1980s by Cypress Cove, the county agreed that the site would not be used beyond 2005.

Officials at Cypress Cove and the Association of Poinciana Villages Inc., said they didn't have enough information about the project to form an opinion either way. But they said they would be looking into it.

"The county agreed they would stop handling garbage, all garbage handling opera-

tions, by March 2005," said Dean Hadley, owner of Cypress Cove. "Certainly, the transport station is still garbage handling. We would have to talk to them about what exactly it is and learn all the ramifications before we decide what our course of action will be."

Leonard Marion, director of the solid waste department, said he will work with the communities to ensure that they are comfortable with it.

"We want to be a good partner here," Marion said. "There will be no storage of solid waste at that facility, it's going to be a transfer garbage."

The trash will be taken from the transfer station to Omni's Oak Hammock Landfill in Holopaw, a site that the county had originally voted against but settled when Omni filed suit.

EDITORIAL

A crucial decision

Osceola County commissioners made decisions last week that should meet their needs for solid-waste disposal for more than two decades.

And it was the right decision.

The commission voted 4-0 in favor of building a solid waste management facility at the Southport Landfill to handle trash when Southport reaches capacity by early 2004. The transfer station and other services are estimated to cost about \$6.4 million.

Construction on the facility is estimated to begin in 2003 and be completed in early 2004, about the time the county expects the landfill to close.

Meanwhile, county officials have agreed to allow Omni Waste Inc. to handle the county's trash through the year 2025. The company plans to operate a landfill near Holopaw.

Contracting with Omni Waste to take care of their solid-waste needs was the most practical and cost-effective option available for county commissioners.

County officials had studied several potential sites and accepted

bids from various vendors. Proposals were narrowed down to two, and Omni's rates for trash disposal were the lowest, at \$26.50 a ton.

In addition, local haulers will benefit from having a landfill in their own county, and county officials won't be saddled with the burden of obtaining permits, opening and operating a landfill.

The proposed site for the landfill should have minimal adverse effects, environmental or otherwise, on the surrounding area.

The landfill will be built on 195 of 2,600 acres of land, which Omni bought for under \$6 million, five miles south of Holopaw. Surrounding the landfill site will be 10,000 acres of ranch land, including 1,600 acres that are a conservation easement that can't be developed. County officials would be hard pressed to find a better site in the county.

No proposed option for disposing of garbage is perfect, but the county commission's action was crucial to meet the challenge of growth and providing an affordable solution to a pressing problem.

Opinion

Osceola Sentinel

804 Emmett St., 34741, Kissimmee

EDITORIAL

Phone: 407-931-5930



WENDY SPIRDUSO *County Editor*
MARK PINO *Assistant County Editor*

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Holopaw landfill is the way to go

Our position: Osceola County's solution
for solid-waste disposal makes sense.

After years of uncertainty, Osceola County is finally moving forward with plans for garbage disposal after its Southport Landfill closes.

The county recently signed a 10-year contract with Omni Waste, which is working to open a 195-acre landfill in Holopaw. The facility will be open in about 18 months if it meets all state and federal permitting requirements.

The plan is to haul trash to the facility from a \$6.4 million transfer station that will be built at the site of the old county landfill. The station and the landfill should be ready around the same time if everything works out.

Good thing. Leaders were running out of time to make a decision on what to do with the tons of trash the county produces. The current landfill is near capacity and will close by early 2004.

Not everyone has agreed that another landfill in the county was the way to go — particularly a private facility operated for profit. Some wanted to build a transfer station and truck the trash out of Osceola with the hope that some miraculous disposal technology would come along. But systems that burn trash or turn it into compost have proven costly experiments. One only need to look at Lake County, where the fiasco surrounding the escalating cost of its Okahumpka trash-burning plant is a lesson

in how not to handle solid-waste problems.

There had been talk about trucking garbage all the way to a landfill in Okeechobee County, but driving big rigs all the way there with heavy loads of refuse never seemed like a practical solution. The local option means disposal costs will be less, though individuals will see slightly larger trash bills to pay for the transfer station, which will be able to process about 500 tons of waste a day. As a bonus, the county will be able to accommodate recycling. A true recycling program is something Osceola has lacked for years and sorely needs.

Although some residents are opposed to the Holopaw location — they fear contamination of drinking water — Omni has pledged that the landfill won't threaten the aquifer and that it will carry insurance in case it does. The company will also pay a county employee to oversee the site.

Those are good, mandatory safeguards. The fact that the company must still complete the tough environmental permitting process before the landfill is built should also be comforting to doubters.

That said, it behooves county leaders to keep a close eye on Omni as it continues the permitting process to make sure residents and our resources are protected.

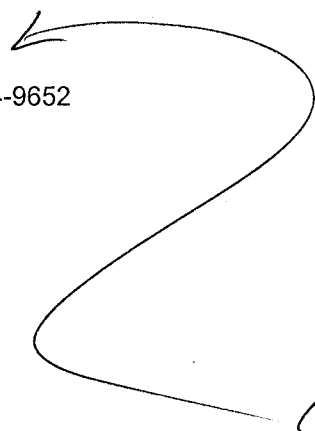
Osceola County SW
Oak Hammock (Proposed) Landfill

Bradner, James

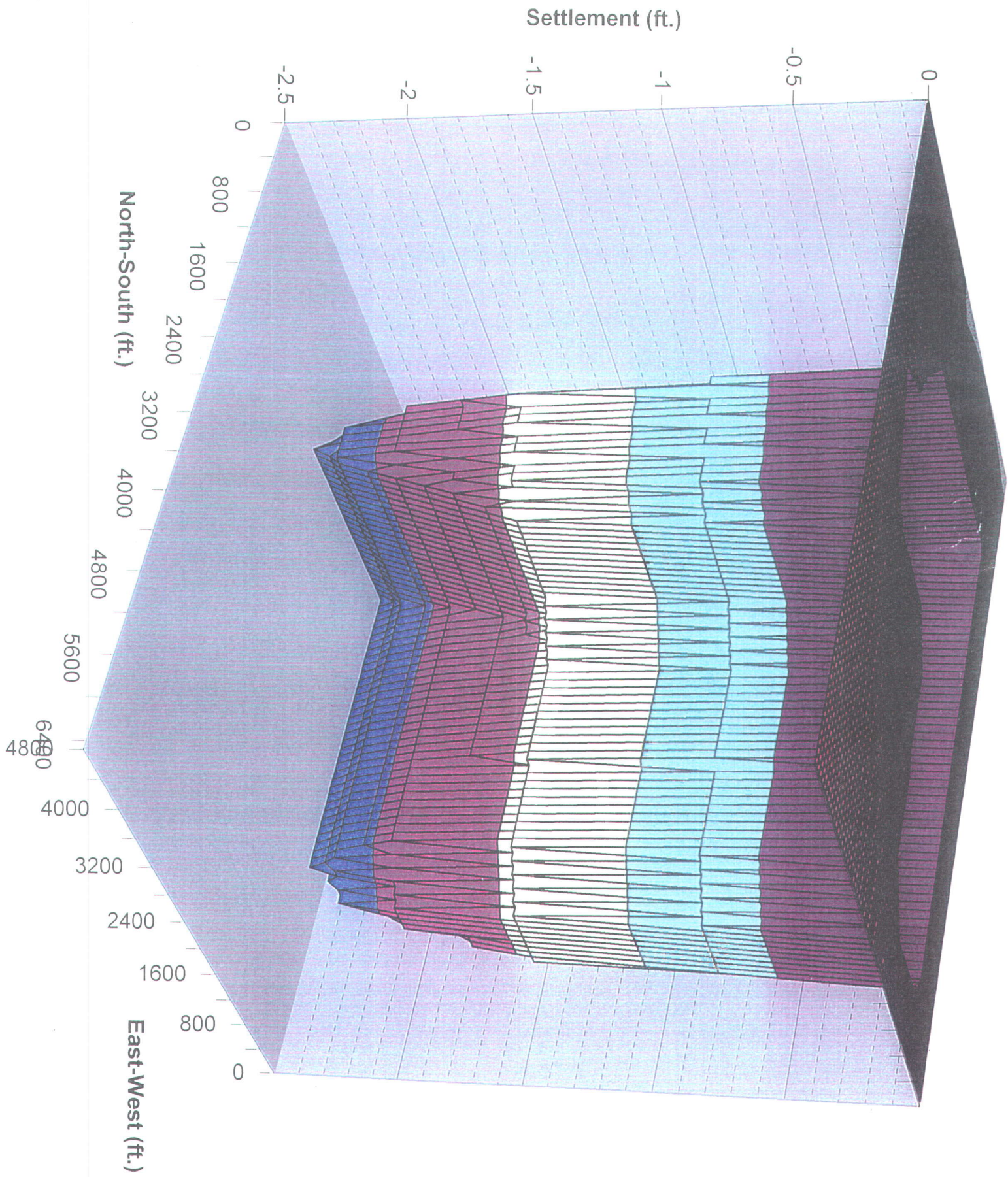
From: Gary L Pickett [garpick1@juno.com]
Sent: Sunday, December 16, 2001 10:01 AM
To: Bradner, James; LeRoux, Bret; Beverlee_Reilly@fws.gov
Subject: Permitt applications

As an citizen of east Osceola County, that will be effected by the Oak Hammock landfill if it is approved, I wish to be made aware of any applications filed for by Omni Waste, in reference to said landfill. Also the dates and locations of any public hearings on the matter.

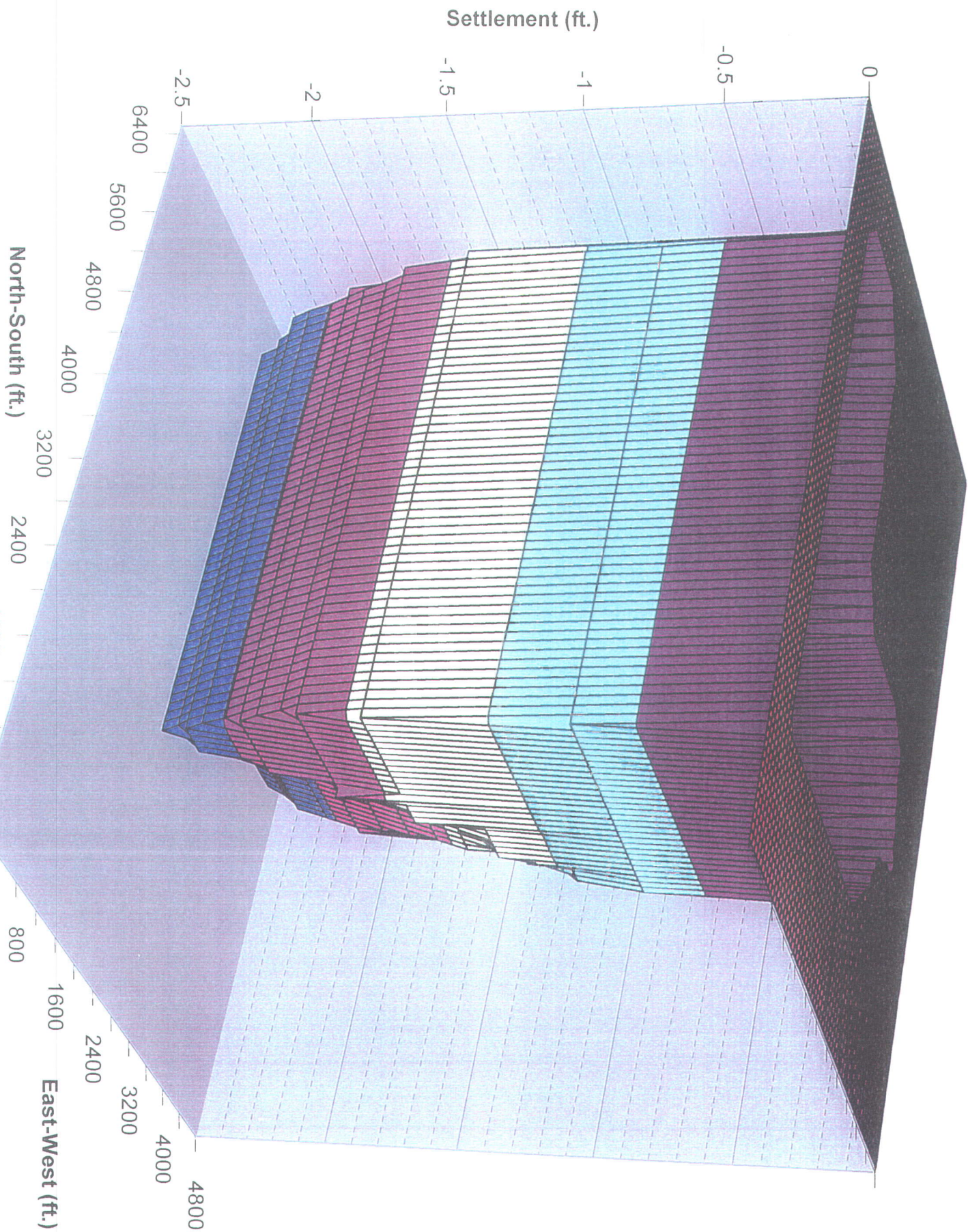
V/R Gary Pickett
9495 Concord Rd.
St. Cloud, Fl. 34774-9652



Copy of N6A if and
when application received.



Elastic Modulus Constant with Depth at 600 ksf



Settlement (ft.)

■ -0.5-0

■ -1--0.5

□ -1.5--1

■ -2--1.5

■ -2.5--2

6400

5600

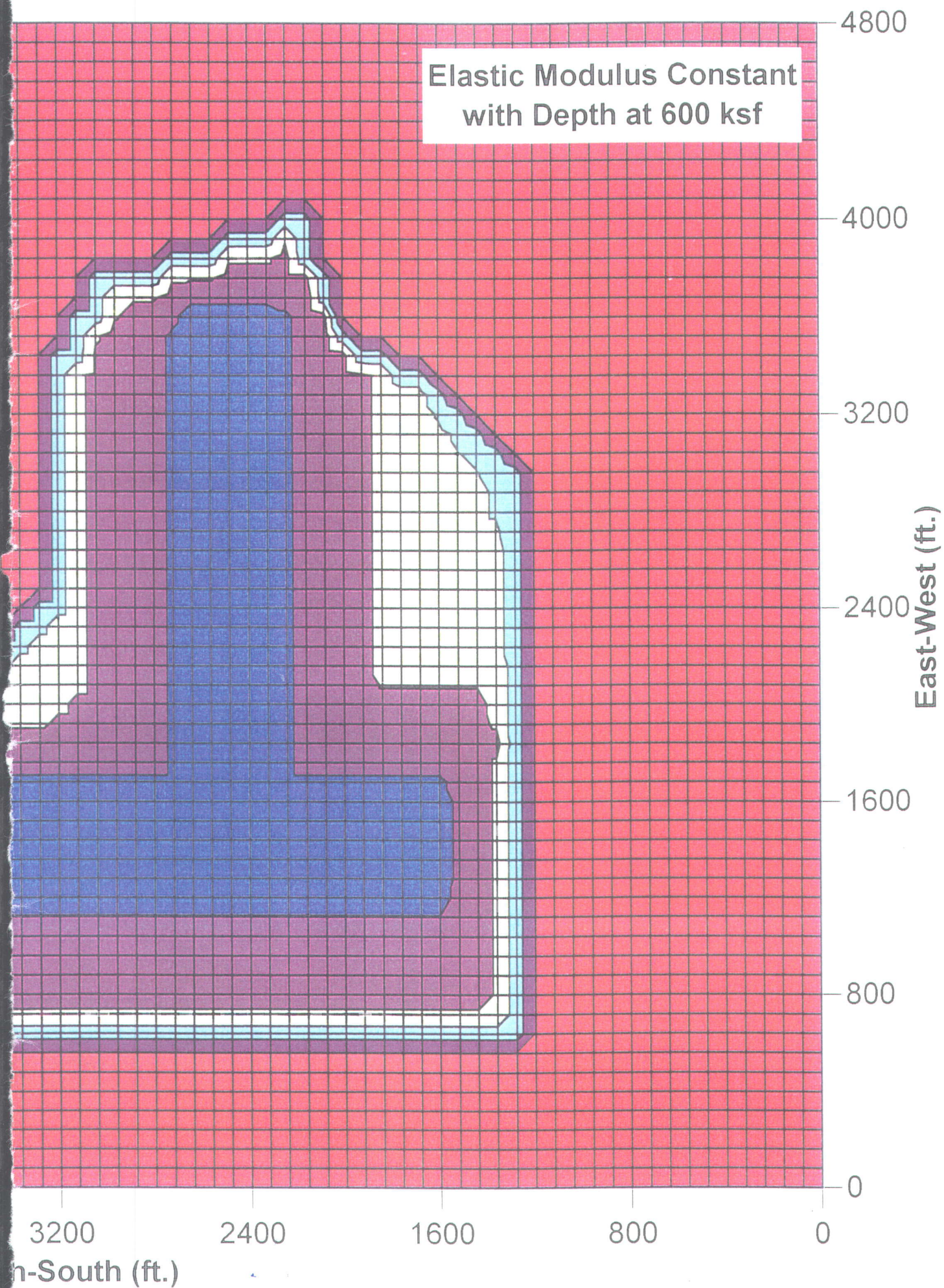
4800

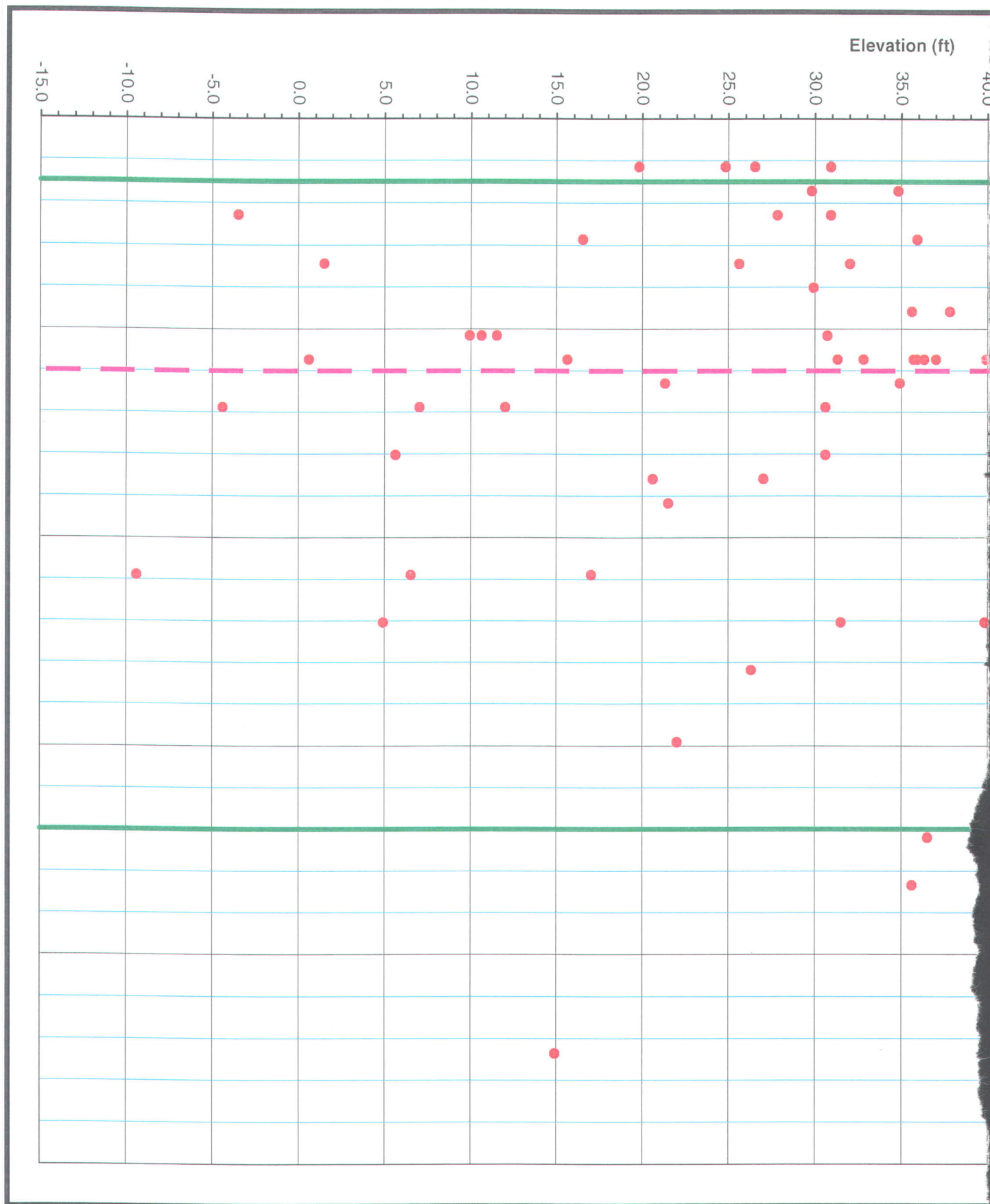
4000

North

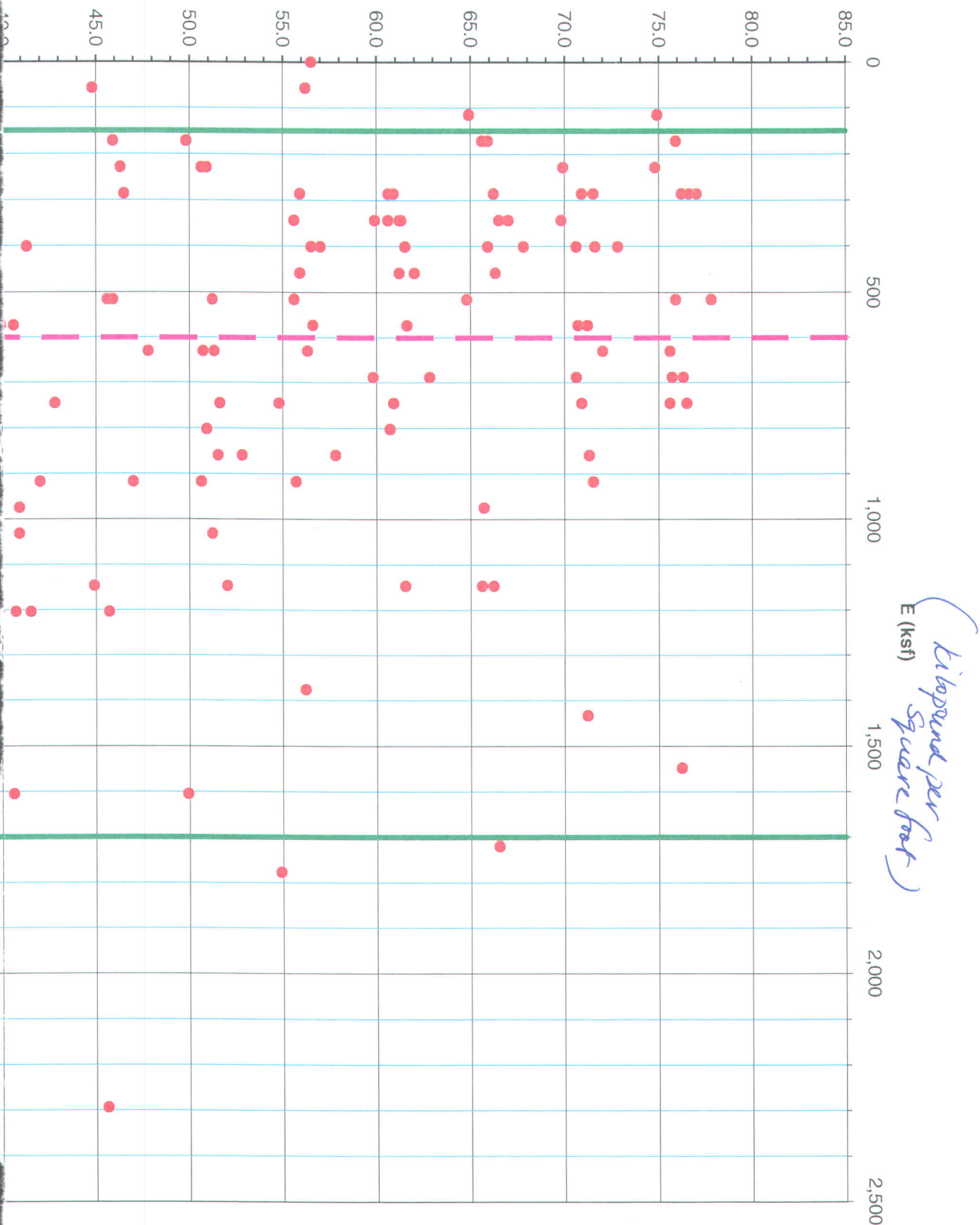
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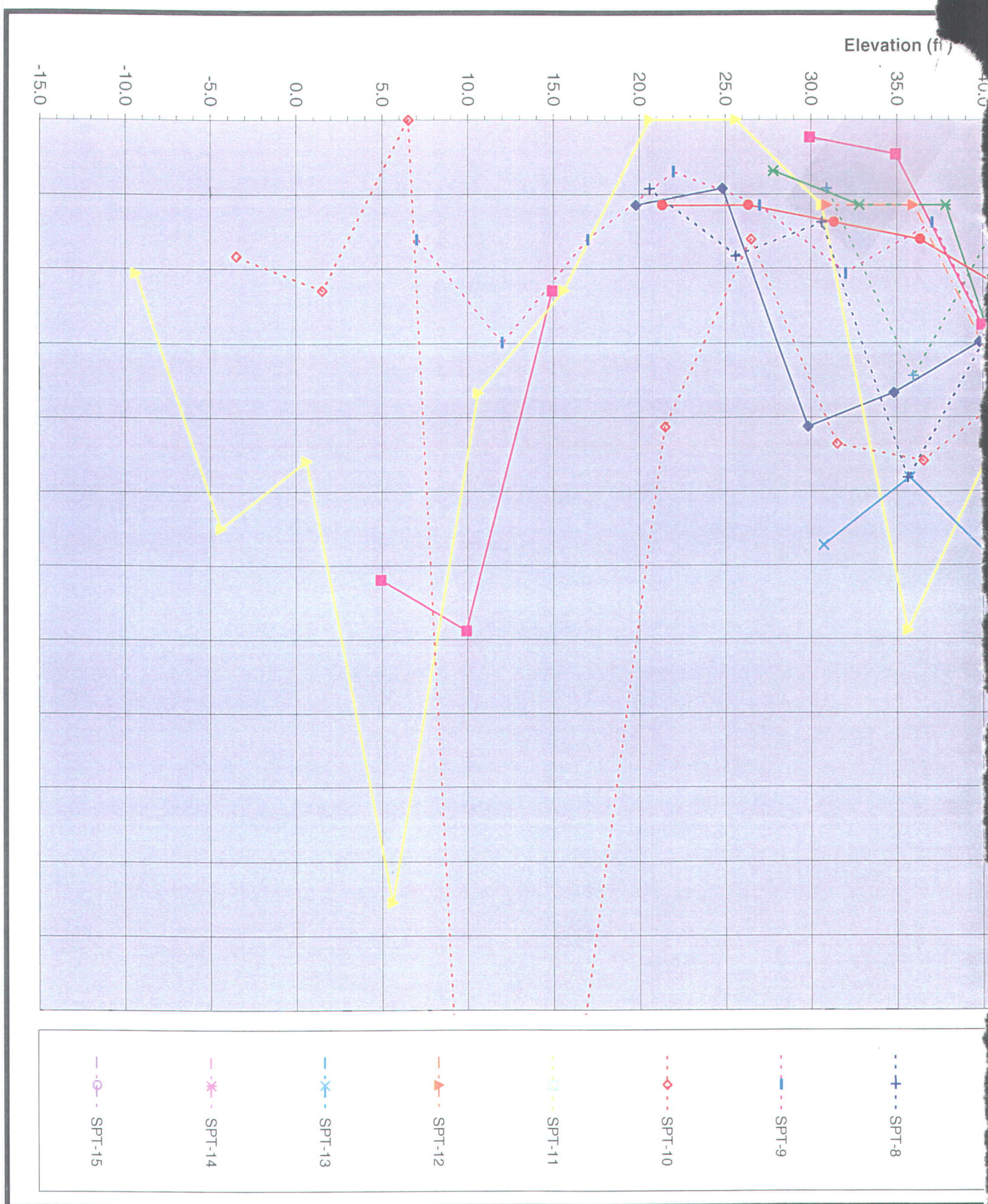
Elastic Modulus Constant
with Depth at 600 ksf



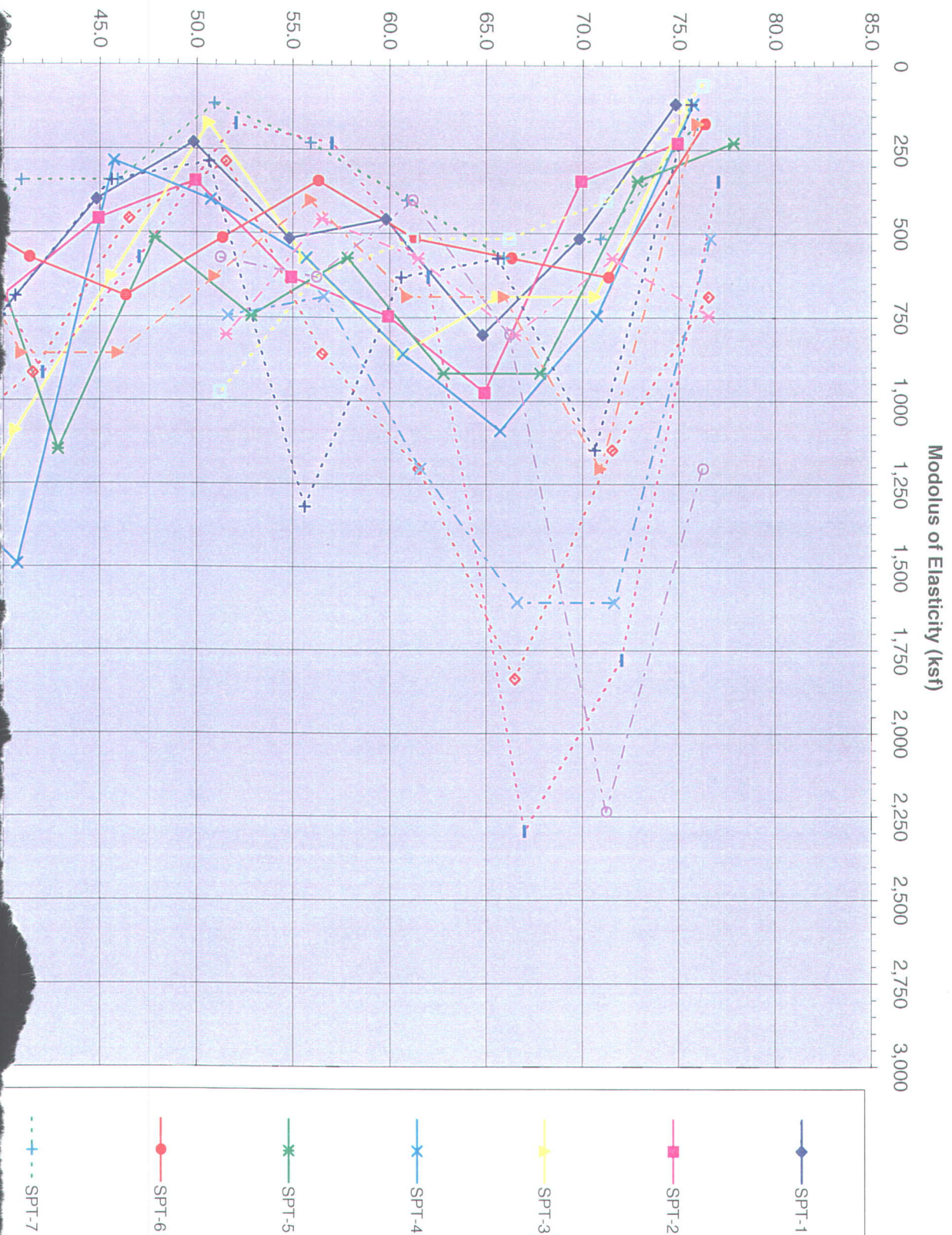


Variation of Modulus of Elasticity

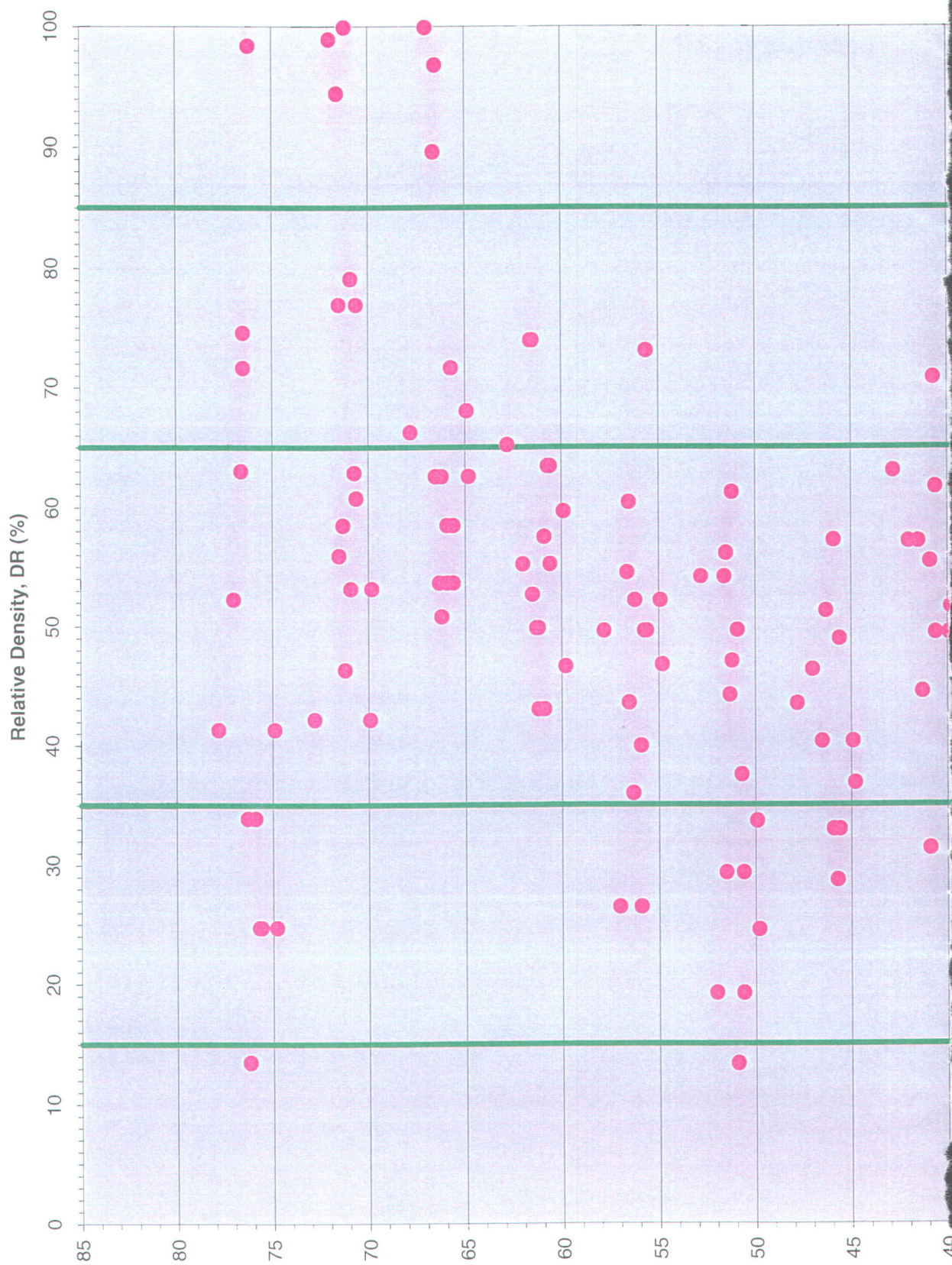


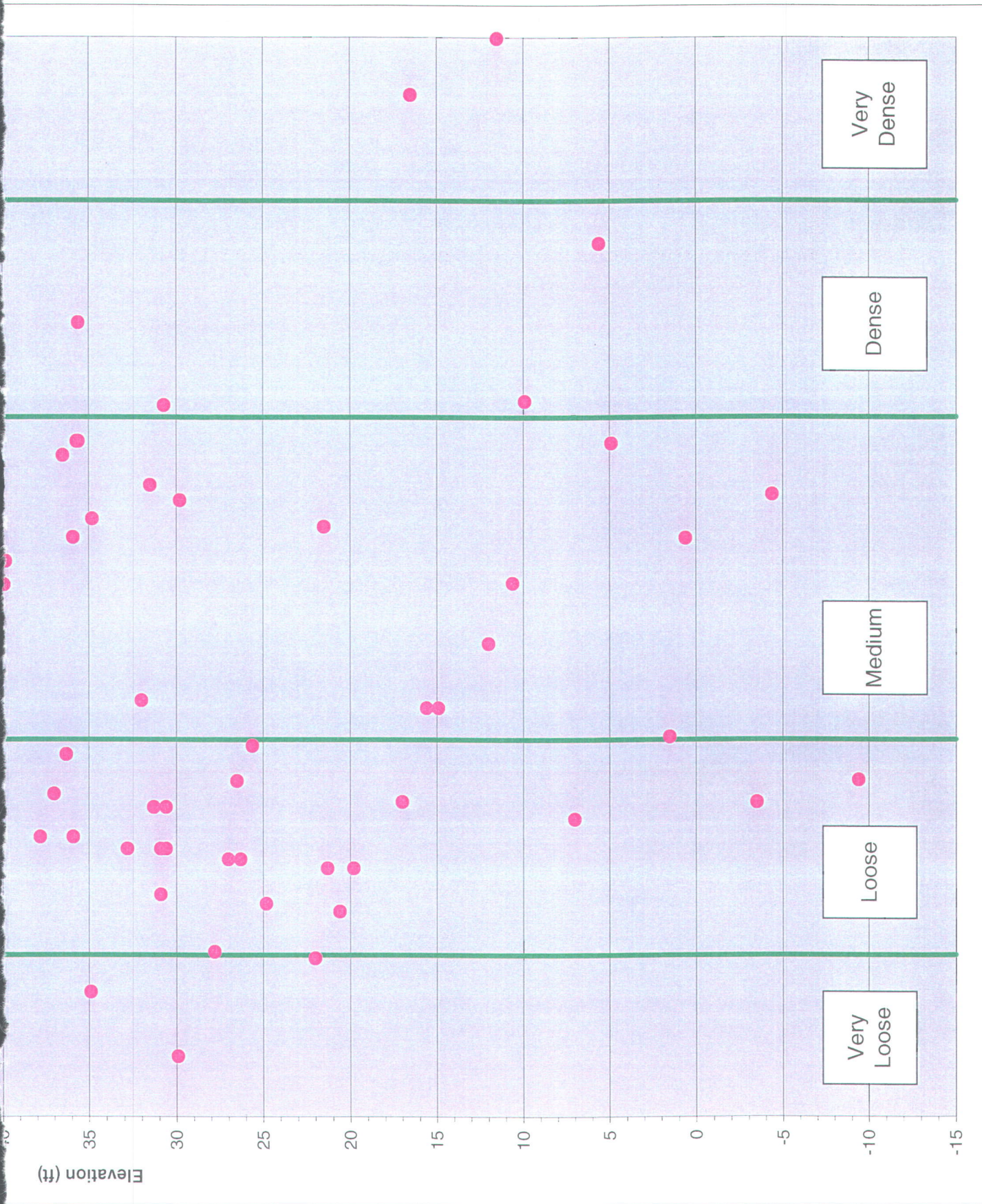


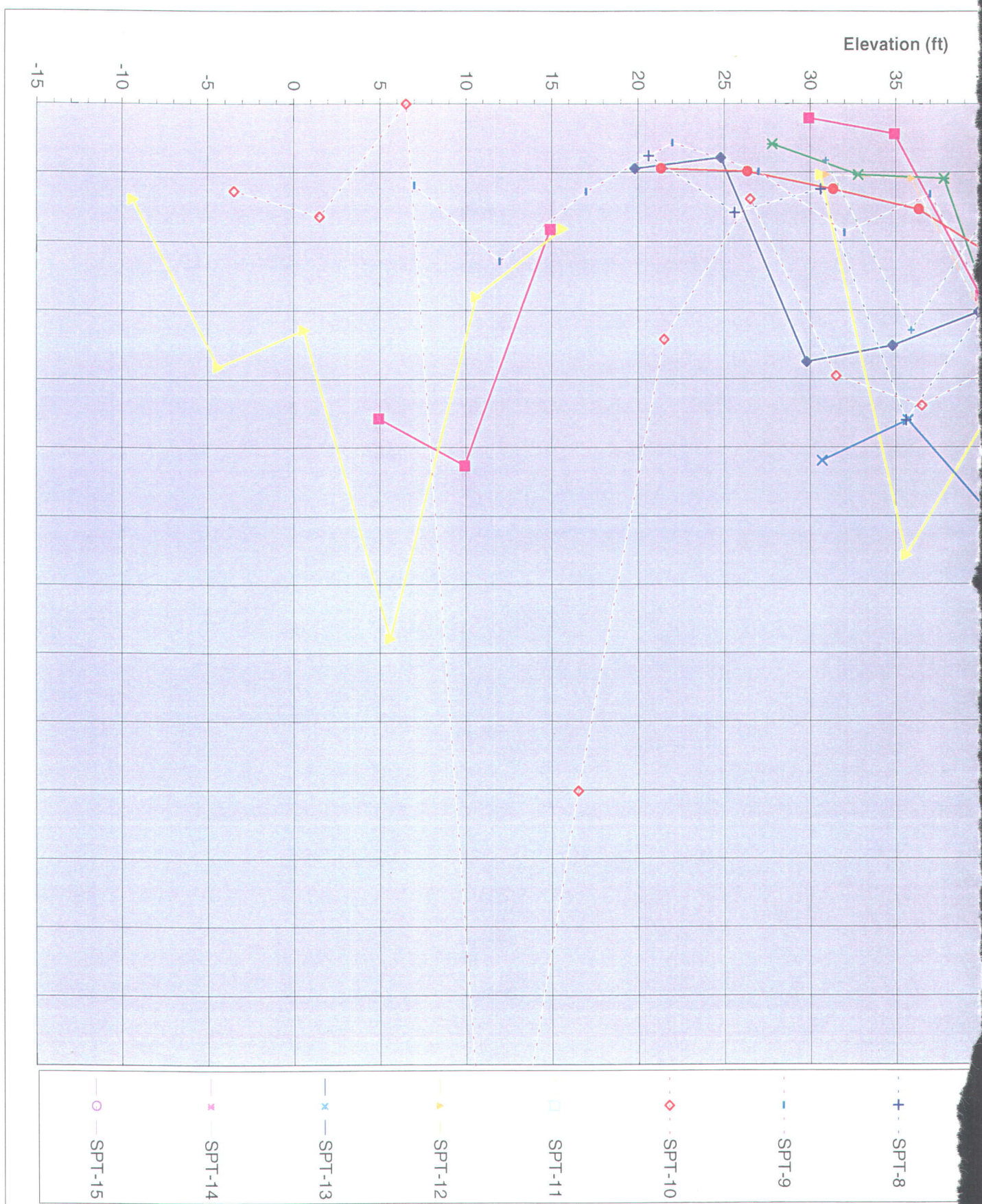
Variation of Modulus of Elasticity



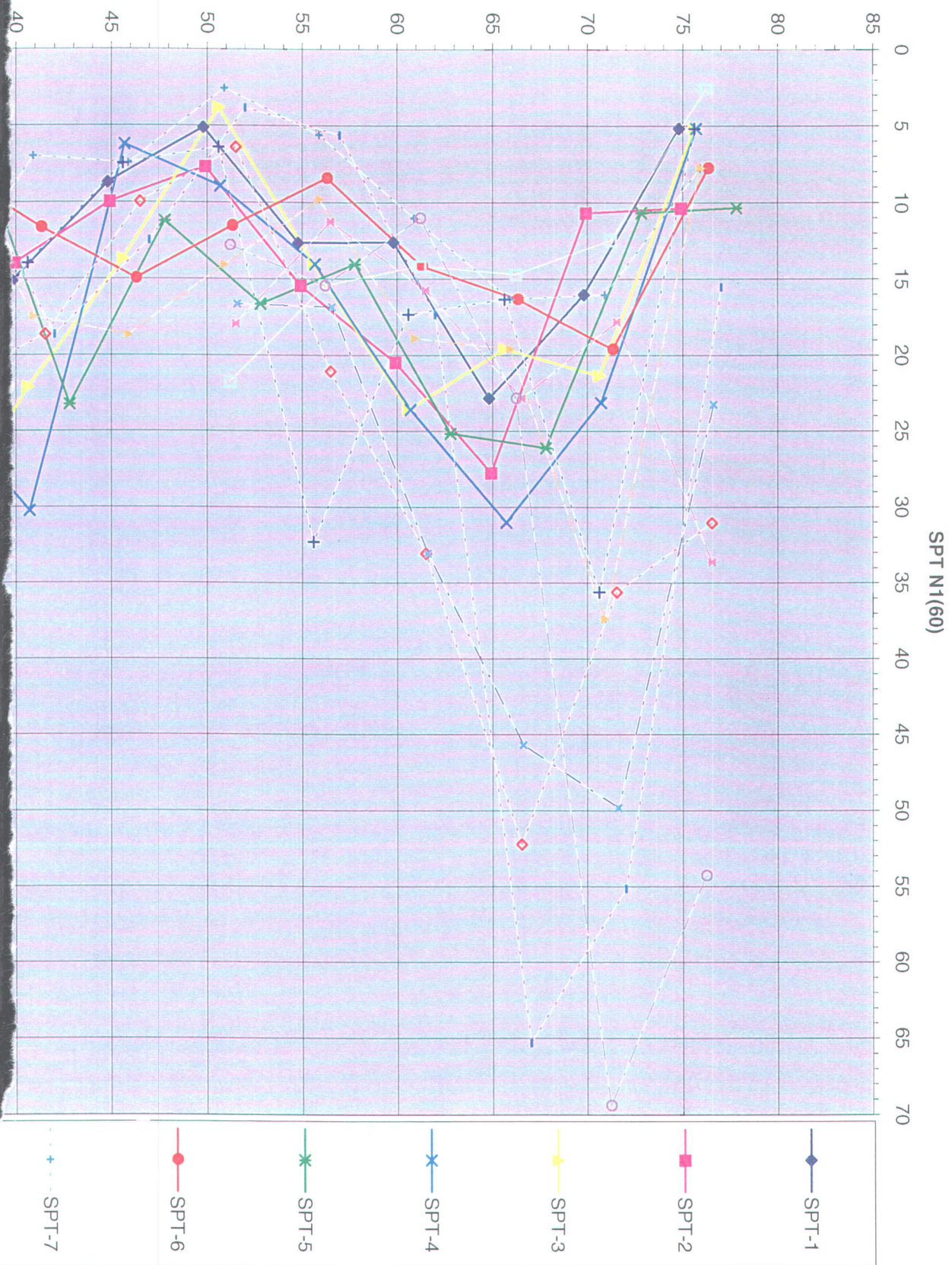
A scatter plot showing the relationship between an unlabeled x-axis (ranging from 85 to 40) and Relative Density, DR (%) on the y-axis (ranging from 0 to 100). The plot features numerous red circular data points. Four horizontal green lines are drawn across the plot at approximately 15%, 35%, 65%, and 85% DR, likely representing reference or threshold values. The data points are widely distributed, with a notable concentration between 45 and 55 on the x-axis and 30 to 60 on the y-axis.

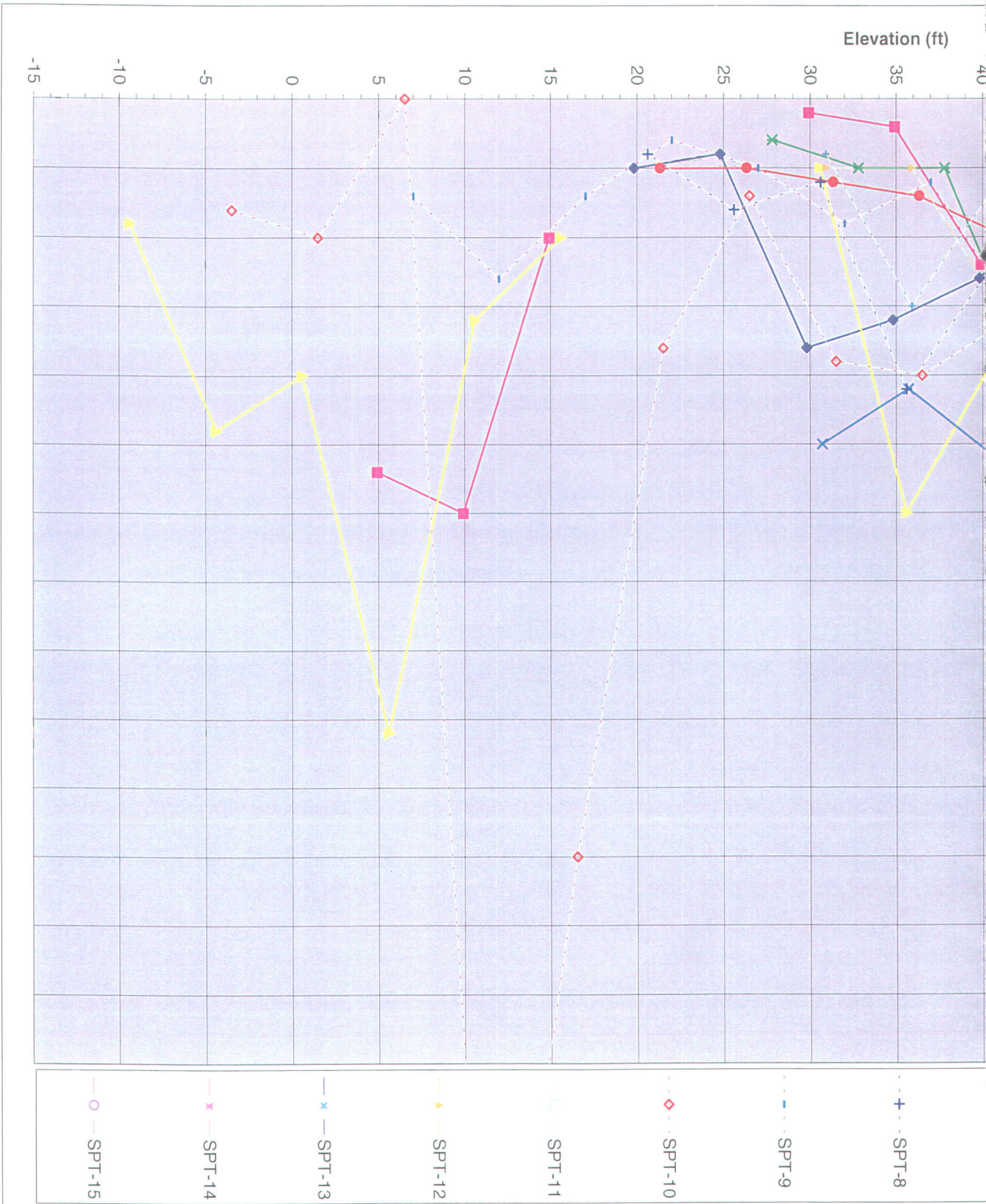




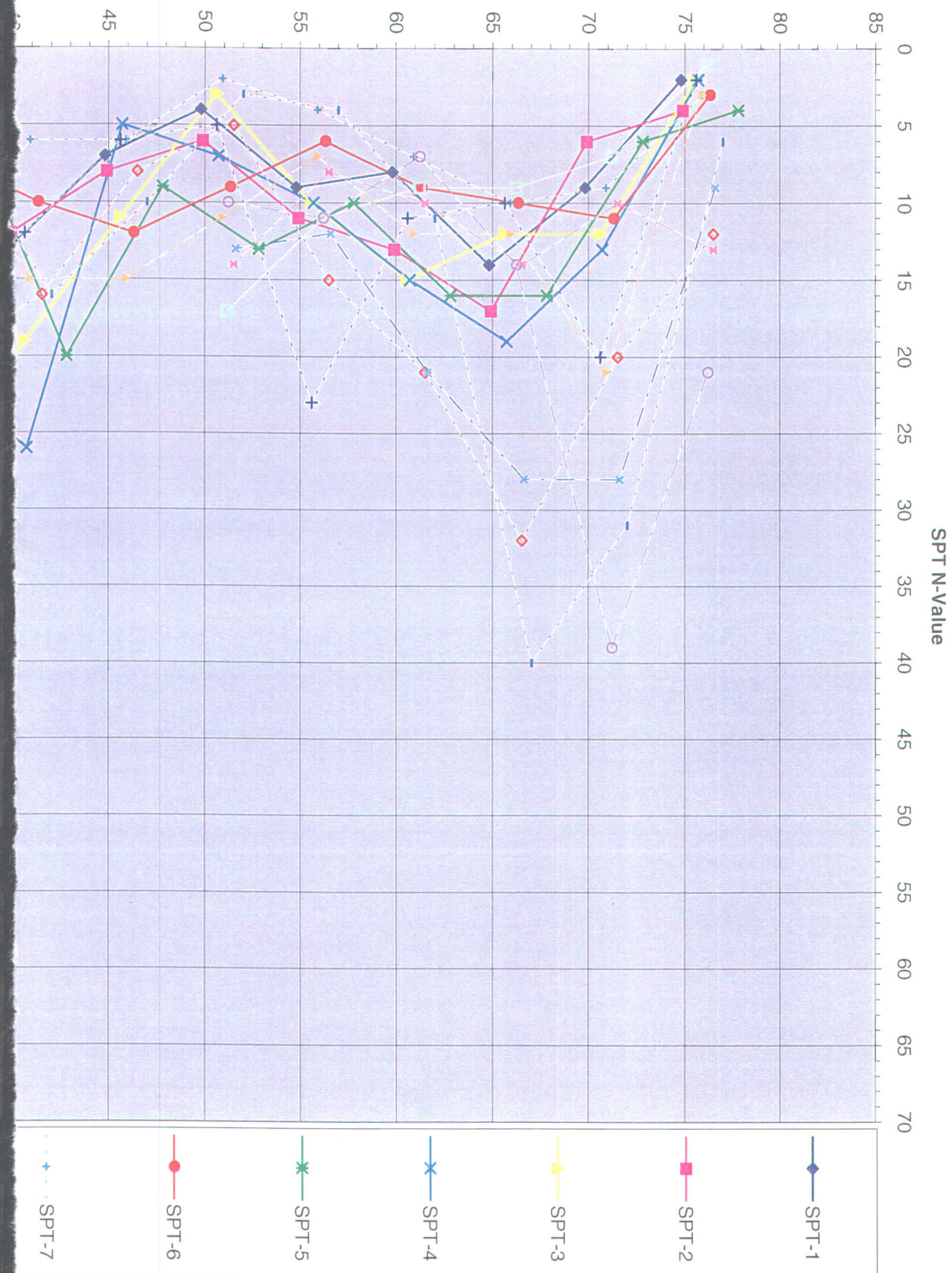


Variation of Corrected SPT N1(60) with Elevation





Variation of SPT N-Value with Elevation





Website

TENAX[®] Corp.4800 East Monument Street
Baltimore, MD 21205
1-800-356-8495

TENDRAIN 570-2

DOUBLE-SIDED GEOCOMPOSITE

The drainage geocomposite is comprised of a tri-planar geonet structure consisting of thick supporting ribs with diagonally placed top and bottom ribs and with a thermally bonded, non-woven geotextile on both sides. The product is capable of providing high Transmissivity in a soil environment under high normal loads and will have properties conforming with the values and test methods listed below:

PROPERTIES	TEST METHOD	UNIT	VALUE	QUALIFIER
GEONET CORE				
Tensile Strength - MD	ASTM D4595	lb/ft (kN/m)	900 (13.0)	c, Note 1, 4
Compressive Behavior (% Retained thickness)				
@40,000 psf (short term)	ASTM D1621	%	50	a, Note 2, 4
@25,000 psf (10,000 hours)		%	65	a, Note 4
Density	ASTM D1505	g/cm ³	0.94	c, Note 4
Melt Flow Index	ASTM D1238	g/10 min.	1.0	d, Note 4
Carbon Black Content	ASTM D4218	%	2.0	a, Note 4
Thickness	ASTM D5199	mils (mm)	275 (7.0)	c, Note 3, 4
GEOTEXTILE				
Apparent Opening Size (AOS)	ASTM D4751	US Sieve (mm)	70 (0.21)	b, Note 4
Weight	ASTM D3776	oz/yd ² (g/m ²)	6 (203)	b, Note 4
Water Flow Rate	ASTM D4491	gal/min/ft ² (lpm/m ²)	110 (4483)	b, Note 4
Permeability	ASTM D4491	cm/sec	0.2	b, Note 4
Permittivity	ASTM D4491	sec ⁻¹	1.3	b, Note 4
Puncture Strength	ASTM D4833	lbs (N)	90 (400)	b, Note 4
Trapezoid Tear	ASTM D4533	lbs (N)	65 (290)	b, Note 4
Grab Tensile Strength	ASTM D4632	lbs (N)	160 (712)	b, Note 4
Grab Elongation	ASTM D4632	%	50	b, Note 4
Mullen Burst	ASTM D3786	psi (kPa)	325 (2241)	b, Note 4
UV Resistance @500 Hours	ASTM D4355	%	70	b, Note 4
GEOCOMPOSITE				
Roll Width		ft (m)	6.7 (2.0)	a, Note 5
Roll Length		ft (m)	200 (61)	a, Note 5
Ply Adhesion	ASTM F904 (modified)	lb/in (N/m)	1.0 (175)	c, Note 6
HYDRAULIC BEHAVIOR OF GEOCOMPOSITE				
Transmissivity - MD				c, Notes 7
Gradient/Load:			10,000 psf (480 kPa) +	
0.1	ASTM D 4716	m ² /sec	1.5x10 ⁻³	

Qualifiers: a = Typical Value b = Minimum Average Roll Value (MARV)
c = Minimum Value d = Maximum Value

NOTES:

1. Tensile properties tested by manufacturer every 50,000 square feet of product per ASTM D4595 with a specimen width of 8.0 in. and cross-head speed of 0.4 in/min
2. Short term compressive behavior tested by manufacturer every 50,000 square feet of product per ASTM D1621 with a 4 in.x4 in. specimen and a constant rate of strain of 0.04 in./min.
3. Thickness measured by manufacturer every 50,000 square feet of product per ASTM D5199 with a 2.22 in. diameter presser foot and 2.9 psi pressure.
4. Geotextile and geonet properties listed are prior to lamination. Geotextile is tested at the industry standard frequency.
5. Roll dimensions are measured at the time of manufacture.
6. Ply Adhesion is tested by the manufacturer every 100,000 sf of production per modified ASTM F904, with a 2 inch wide (5 longitudinal ribs) by 10 inch long strip. The geotextile bonded to either side of the geonet is pulled apart at a peeling rate of 12 in/min., for at least 4 inches of peeling distance. The reported value for each laminated side is the average of the "peak" values from 5 tested samples. The 5 samples are cut evenly distributed along the roll width with a 1 foot margin from both edges of the roll.
7. Geocomposite transmissivity measured by manufacturer every 200,000 square feet of product as per ASTM D4716-99 with testing boundary conditions as follows: steel plate / uniform sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours.

TENDRAIN 5100-2

DOUBLE-SIDED GEOCOMPOSITE

The drainage geocomposite is comprised of a tri-planar geonet structure consisting of thick supporting ribs with diagonally placed top and bottom ribs and with a thermally bonded, non-woven geotextile on both sides. The product is capable of providing high Transmissivity in a soil environment under high normal loads and will have properties conforming with the values and test methods listed below:

PROPERTIES	TEST METHOD	UNIT	VALUE	QUALIFIER
GEONET CORE				
Tensile Strength - MD	ASTM D4595	lb/ft (kN/m)	900 (13.0)	c, Note 1, 4
Compressive Behavior (% Retained thickness)				
@40,000 psf (short term)	ASTM D1621	%	50	c, Note 2, 4
@25,000 psf (10,000 hours)		%	65	Note 4
Density	ASTM D1505	g/cm ³	0.94	c, Note 4
Melt Flow Index	ASTM D1238	g/10 min.	1.0	d, note 4
Carbon Black Content	ASTM D4218	%	2.0	a, Note 4
Thickness	ASTM D5199	mils (mm)	275 (7.0)	c, Note 3, 4

GEOTEXTILE

Apparent Opening Size (AOS)	ASTM D4751	US Sieve (mm)	80 (0.18)	b, Note 4
Weight	ASTM D3776	oz/yd ² (g/m ²)	8 (271)	b, Note 4
Water Flow Rate	ASTM D4491	gal/min/ft ² (lpm/m ²)	100 (4075)	b, Note 4
Permeability	ASTM D4491	cm/sec	0.2	b, Note 4
Permittivity	ASTM D4491	sec ⁻¹	1.26	b, Note 4
Puncture Strength	ASTM D4833	lbs (N)	130 (580)	b, Note 4
Trapezoid Tear	ASTM D4533	lbs (N)	80 (356)	b, Note 4
Grab Tensile Strength	ASTM D4632	lbs (N)	203 (900)	b, Note 4
Grab Elongation	ASTM D4632	%	50	b, Note 4
Mullen Burst	ASTM D3786	psi (kPa)	400 (2750)	b, Note 4
UV Resistance @500 Hours	ASTM D4355	%	70	b, Note 4

GEOCOMPOSITE

Roll Width		ft (m)	6.7 (2.0)	a, Note 5
Roll Length		ft (m)	200 (61)	a, Note 5
Ply Adhesion	ASTM F904 (modified)	lb/in (N/m)	1.0 (175)	c, Note 6

HYDRAULIC BEHAVIOR OF GEOCOMPOSITE

Transmissivity - MD				c, Notes 7
<u>Gradient/Load:</u>			<u>10,000 psf (480 kPa)</u>	
0.1	ASTM D 4716	m ² /sec	1.5x10 ⁻³	

Qualifiers: a = Typical Value b = Minimum Average Roll Value (MARV)
c = Minimum Value d = Maximum Value

NOTES:

1. Tensile properties tested by manufacturer every 50,000 square feet of product per ASTM D4595 with a specimen width of 8.0 in. and cross-head speed of 0.4 in/min
2. Short term compressive behavior tested by manufacturer every 50,000 square feet of product per ASTM D1621 with a 4 in.x4 in. specimen and a constant rate of strain of 0.04 in./min.
3. Thickness measured by manufacturer every 50,000 square feet of product per ASTM D5199 with a 2.22 in. diameter presser foot and 2.9 psi pressure.
4. Geotextile and geonet properties listed are prior to lamination. Geotextile is tested at the industry standard frequency.
5. Roll dimensions are measured at the time of manufacture.
6. Ply Adhesion is tested by the manufacturer every 100,000 sf of production per modified ASTM F904, with a 2 inch wide (5 longitudinal ribs) by 10 inch long strip. The geotextile bonded to either side of the geonet is pulled apart at a peeling rate of 12 in/min., for at least 4 inches of peeling distance. The reported value for each laminated side is the average of the "peak" values from 5 tested samples. The 5 samples are cut evenly distributed along the roll width with a 1 foot margin from both edges of the roll.
7. Geocomposite transmissivity measured by manufacturer every 200,000 square feet of product as per ASTM D4716 with testing boundary conditions as follows: steel plate / uniform sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours.

TENDRAIN 770-2

DOUBLE-SIDED GEOCOMPOSITE

The drainage geocomposite is comprised of a tri-planar geonet structure consisting of thick supporting ribs with diagonally placed top and bottom ribs and with a thermally bonded, non-woven geotextile on both sides. The product is capable of providing high Transmissivity in a soil environment under high normal loads and will have properties conforming with the values and test methods listed below:

PROPERTIES	TEST METHOD	UNIT	VALUE	QUALIFIER
GEONET CORE				
Tensile Strength - MD	ASTM D4595	lb/ft (kN/m)	1000 (14.6)	c, Note 1, 4
Compressive Behavior (% Retained thickness)				
@50,000 psf (short term)	ASTM D1621	%	50	a, Note 2, 4
@25,000 psf (10,000 hours)		%	65	a, Note 4
Density	ASTM D1505	g/cm ³	0.94	c, Note 4
Melt Flow Index	ASTM D1238	g/10 min.	1.0	d, note 4
Carbon Black Content	ASTM D4218	%	2.0	a, Note 4
Thickness	ASTM D5199	mils (mm)	300 (7.6)	c, Note 3, 4
GEOTEXTILE				
Apparent Opening Size (AOS)	ASTM D4751	US Sieve (mm)	70 (0.21)	b, Note 4
Weight	ASTM D3776	oz/yd ² (g/m ²)	6 (203)	b, Note 4
Water Flow Rate	ASTM D4491	gal/min/ft ² (lpm/m ²)	110 (4483)	b, Note 4
Permeability	ASTM D4491	cm/sec	0.2	b, Note 4
Permittivity	ASTM D4491	sec ⁻¹	1.3	b, Note 4
Puncture Strength	ASTM D4833	lbs (N)	90 (400)	b, Note 4
Trapezoid Tear	ASTM D4533	lbs (N)	65 (290)	b, Note 4
Grab Tensile Strength	ASTM D4632	lbs (N)	160 (712)	b, Note 4
Grab Elongation	ASTM D4632	%	50	b, Note 4
Mullen Burst	ASTM D3786	psi (kPa)	325 (2241)	b, Note 4
UV Resistance @500 Hours	ASTM D4355	%	70	b, Note 4
GEOCOMPOSITE				
Roll Width		ft (m)	6.7 (2.0)	a, Note 5
Roll Length		ft (m)	200 (61)	a, Note 5
Ply Adhesion	ASTM F904 (modified)	lb/in (N/m)	1.0 (175)	c, Note 6
HYDRAULIC BEHAVIOR OF GEOCOMPOSITE				
Transmissivity - MD, ASTM D 4716-99 (m ² /sec)				c, Notes 7
<u>Gradient/Load:</u>				
0.1		15,000 psf (720 kPa) 1.8x10 ⁻³	25,000 psf (1200 kPa) 1.0x10 ⁻³	

Qualifiers: a = Typical Value b = Minimum Average Roll Value (MARV)
 c = Minimum Value d = Maximum Value

NOTES:

1. Tensile properties tested by manufacturer every 50,000 square feet of product per ASTM D4595 with a specimen width of 8.0 in. and cross-head speed of 0.4 in/min
2. Short term compressive behavior tested by manufacturer every 50,000 square feet of product per ASTM D1621 with a 4 in.x 4 in. specimen and a constant rate of strain of 0.04 in./min.
3. Thickness measured by manufacturer every 50,000 square feet of product per ASTM D5199 with a 2.22 in. diameter presser foot and 2.9 psi pressure.
4. Geotextile and geonet properties listed are prior to lamination. Geotextile is tested at the industry standard frequency.
5. Roll dimensions are measured at the time of manufacture.
6. Ply Adhesion is tested by the manufacturer every 100,000 sf of production per modified ASTM F904, with a 2 inch wide (5 longitudinal ribs) by 10 inch long strip. The geotextile bonded to either side of the geonet is pulled apart at a peeling rate of 12 in/min., for at least 4 inches of peeling distance. The reported value for each laminated side is the average of the "peak" values from 5 tested samples. The 5 samples are cut evenly distributed along the roll width with a 1 foot margin from both edges of the roll.
7. Geocomposite transmissivity measured by manufacturer every 200,000 square feet of product as per ASTM D4716-99 with testing boundary conditions as follows: steel plate / uniform sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours.

1. Tensile properties tested by manufacturer every 50,000 square feet of product per ASTM D4595 with a specimen width of 8.0 in. and cross-head speed of 0.4 in/min
2. Short term compressive behavior tested by manufacturer every 50,000 square feet of product per ASTM D1621 with a 4 in.x 4 in. specimen and a constant rate of strain of 0.04 in./min.
3. Thickness measured by manufacturer every 50,000 square feet of product per ASTM D5199 with a 2.22 in. diameter presser foot and 2.9 psi pressure.
4. Geotextile and geonet properties listed are prior to lamination. Geotextile is tested at the industry standard frequency.
5. Roll dimensions are measured at the time of manufacture.
6. Ply Adhesion is tested by the manufacturer every 100,000 sf of production per modified ASTM F904, with a 2 inch wide (5 longitudinal ribs) by 10 inch long strip. The geotextile bonded to either side of the geonet is pulled apart at a peeling rate of 12 in/min., for at least 4 inches of peeling distance. The reported value for each laminated side is the average of the "peak" values from 5 tested samples. The 5 samples are cut evenly distributed along the roll width with a 1 foot margin from both edges of the roll.
7. Geocomposite transmissivity measured by manufacturer every 200,000 square feet of product as per ASTM D4716 with testing boundary conditions as follows: steel plate / uniform sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours.

TENDRAIN 970-2

DOUBLE-SIDED GEOCOMPOSITE

The drainage geocomposite is comprised of a tri-planar geonet structure consisting of thick supporting ribs with diagonally placed top and bottom ribs and with a thermally bonded, non-woven geotextile on both sides. The product is capable of providing high Transmissivity in a soil environment under high normal loads and will have properties conforming with the values and test methods listed below:

PROPERTIES	TEST METHOD	UNIT	VALUE	QUALIFIER
GEONET CORE				
Tensile Strength - MD	ASTM D4595	lb/ft (kN/m)	1200 (17.0)	c, Note 1, 4
Compressive Behavior (% Retained thickness)				
@50,000 psf (short term)	ASTM D1621	%	55	a, Note 2, 4
@25,000 psf (10,000 hours)		%	65	a, Note 4
Density	ASTM D1505	g/cm ³	0.94	c, Note 4
Melt Flow Index	ASTM D1238	g/10 min.	1.0	d, note 4
Carbon Black Content	ASTM D4218	%	2.0	a, Note 4
Thickness	ASTM D5199	mils (mm)	310 (7.8)	c, Note 3, 4
GEOTEXTILE				
Apparent Opening Size (AOS)	ASTM D4751	US Sieve (mm)	70 (0.21)	b, Note 4
Weight	ASTM D3776	oz/yd ² (g/m ²)	6 (203)	b, Note 4
Water Flow Rate	ASTM D4491	gal/min/ft ² (lpm/m ²)	110 (4483)	b, Note 4
Permeability	ASTM D4491	cm/sec	0.2	b, Note 4
Permittivity	ASTM D4491	sec ⁻¹	1.3	b, Note 4
Puncture Strength	ASTM D4833	lbs (N)	90 (400)	b, Note 4
Trapezoid Tear	ASTM D4533	lbs (N)	65 (290)	b, Note 4
Grab Tensile Strength	ASTM D4632	lbs (N)	160 (712)	b, Note 4
Grab Elongation	ASTM D4632	%	50	b, Note 4
Mullen Burst	ASTM D3786	psi (kPa)	325 (2241)	b, Note 4
UV Resistance @500 Hours	ASTM D4355	%	70	b, Note 4
GEOCOMPOSITE				
Roll Width		ft (m)	6.7 (2.0)	a, Note 5
Roll Length		ft (m)	200 (61)	a, Note 5
Ply Adhesion	ASTM F904 (modified)	lb/in (N/m)	1.0 (175)	c, Note 6

HYDRAULIC BEHAVIOR OF GEOCOMPOSITE

Transmissivity - MD c, Notes 7

Gradient/Load:		45,000 psf (2160 kPa)
0.1	ASTM D 4716-99	3.5x10 ⁻⁴

Qualifiers: a = Typical Value b = Minimum Average Roll Value (MARV)
 c = Minimum Value d = Maximum Value

NOTES:

1. Tensile properties tested by manufacturer every 50,000 square feet of product per ASTM D4595 with a specimen width of 8.0 in. and cross-head speed of 0.4 in/min
2. Short term compressive behavior tested by manufacturer every 50,000 square feet of product per ASTM D1621 with a 4 in.x4 in. specimen and a constant rate of strain of 0.04 in./min.
3. Thickness measured by manufacturer every 50,000 square feet of product per ASTM D5199 with a 2.22 in. diameter presser foot and 2.9 psi pressure.
4. Geotextile and geonet properties listed are prior to lamination. Geotextile is tested at the industry standard frequency.
5. Roll dimensions are measured at the time of manufacture.
6. Ply Adhesion is tested by the manufacturer every 100,000 sf of production per modified ASTM F904, with a 2 inch wide (5 longitudinal ribs) by 10 inch long strip. The geotextile bonded to either side of the geonet is pulled apart at a peeling rate of 12 in/min., for at least 4 inches of peeling distance. The reported value for each laminated side is the average of the "peak" values from 5 tested samples. The 5 samples are cut evenly distributed along the roll width with a 1 foot margin from both edges of the roll.
7. Geocomposite transmissivity measured by manufacturer every 200,000 square feet of product as per ASTM D4716-99 with testing boundary conditions as follows: steel plate / uniform sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours.

TENDRAIN 9100-2

DOUBLE-SIDED GEOCOMPOSITE

The drainage geocomposite is comprised of a tri-planar geonet structure consisting of thick supporting ribs with diagonally placed top and bottom ribs and with a thermally bonded, non-woven geotextile on both sides. The product is capable of providing high Transmissivity in a soil environment under high normal loads and will have properties conforming with the values and test methods listed below:

PROPERTIES	TEST METHOD	UNIT	VALUE	QUALIFIER
GEONET CORE				
Tensile Strength - MD	ASTM D4595	lb/ft (kN/m)	1200 (17.0)	c, Note 1, 4
Compressive Behavior (% Retained thickness)				
@50,000 psf (short term)	ASTM D1621	%	55	c, Note 2, 4
@25,000 psf (10,000 hours)		%	65	Note 4
Density	ASTM D1505	g/cm ³	0.94	c, Note 4
Melt Flow Index	ASTM D1238	g/10 min.	1.0	d, note 4
Carbon Black Content	ASTM D4218	%	2.0	a, Note 4
Thickness	ASTM D5199	mils (mm)	310 (7.8)	c, Note 3, 4
GEOTEXTILE				
Apparent Opening Size (AOS)	ASTM D4751	US Sieve (mm)	80 (0.18)	b, Note 4
Weight	ASTM D3776	oz/yd ² (g/m ²)	8 (271)	b, Note 4
Water Flow Rate	ASTM D4491	gal/min/ft ² (lpm/m ²)	100 (4075)	b, Note 4
Permeability	ASTM D4491	cm/sec	0.2	b, Note 4
Permittivity	ASTM D4491	sec ⁻¹	1.26	b, Note 4
Puncture Strength	ASTM D4833	lbs (N)	130 (580)	b, Note 4
Trapezoid Tear	ASTM D4533	lbs (N)	80 (356)	b, Note 4
Grab Tensile Strength	ASTM D4632	lbs (N)	203 (900)	b, Note 4
Grab Elongation	ASTM D4632	%	50	b, Note 4
Mullen Burst	ASTM D3786	psi (kPa)	400 (2750)	b, Note 4
UV Resistance @500 Hours	ASTM D4355	%	70	b, Note 4
GEOCOMPOSITE				
Roll Width		ft (m)	6.7 (2.0)	a, Note 5
Roll Length		ft (m)	200 (61)	a, Note 5
Ply Adhesion	ASTM F904 (modified)	lb/in (N/m)	1.0 (175)	c, Note 6

HYDRAULIC BEHAVIOR OF GEOCOMPOSITE

Transmissivity - MD				c, Notes 7
Gradient/Load:			45,000 psf (2160 kPa)	
0.1	ASTM D 4716-99	m ² /sec	3.5x10 ⁻⁴	

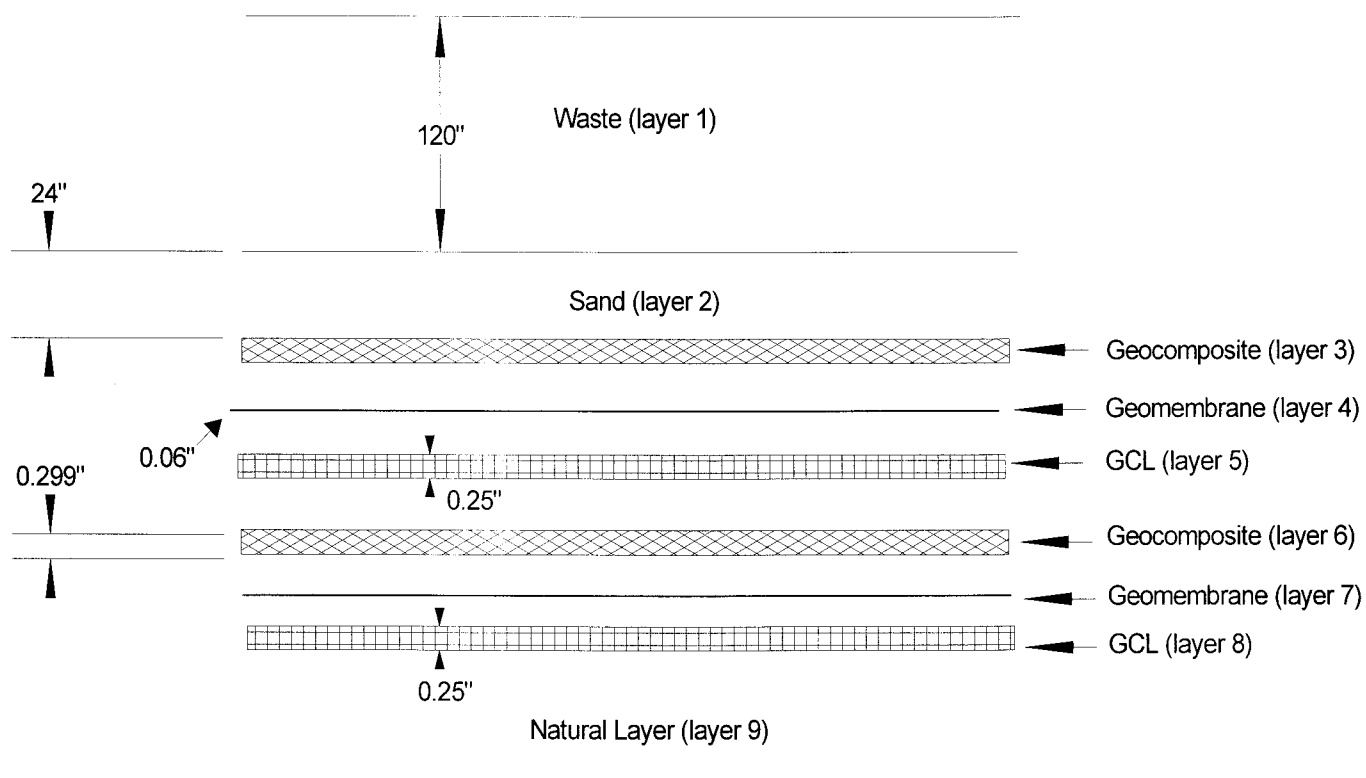
Qualifiers: a = Typical Value b = Minimum Average Roll Value (MARV)
 c = Minimum Value d = Maximum Value

NOTES:

1. Tensile properties tested by manufacturer every 50,000 square feet of product per ASTM D4595 with a specimen width of 8.0 in. and cross-head speed of 0.4 in/min
2. Short term compressive behavior tested by manufacturer every 50,000 square feet of product per ASTM D1621 with a 4 in.x4 in. specimen and a constant rate of strain of 0.04 in./min.
3. Thickness measured by manufacturer every 50,000 square feet of product per ASTM D5199 with a 2.22 in. diameter presser foot and 2.9 psi pressure.
4. Geotextile and geonet properties listed are prior to lamination. Geotextile is tested at the industry standard frequency.
5. Roll dimensions are measured at the time of manufacture.
6. Ply Adhesion is tested by the manufacturer every 100,000 sf of production per modified ASTM F904, with a 2 inch wide (5 longitudinal ribs) by 10 inch long strip. The geotextile bonded to either side of the geonet is pulled apart at a peeling rate of 12 in/min., for at least 4 inches of peeling distance. The reported value for each laminated side is the average of the "peak" values from 5 tested samples. The 5 samples are cut evenly distributed along the roll width with a 1 foot margin from both edges of the roll.
7. Geocomposite transmissivity measured by manufacturer every 200,000 square feet of product as per ASTM D4716 with testing boundary conditions as follows: steel plate / uniform sand / geocomposite / 60 mil HDPE geomembrane / steel plate, and seating period of 100 hours.

Liner System Case 1 (Base Case)

No scale



LINER SYSTEM **CASE 1 (Base Case)**

Dec/17/01
FW0400/03

WEATHER DATA AND SOIL LAYERS PROPERTIES

A. Evapotranspiration data		
Data	Value	Units
Nearby city	Orlando	
State	Florida	
Latitude	27.8	
Evaporative zone depth	12	in
bare	10	
fair	22	
excellent	40	
Maximum leaf area index	0	
bare ground	1	
poor stand of grass	2	
fair stand of grass	3.5	
good stand of grass	5	
excellent stand of grass	0	
Growing season start day	367	
Growing season end day		
Average wind speed	8.6	mph
First quarter relative humidity	72	%
Second quarter relative humidity	72	%
Third quarter relative humidity	80	%
Fourth quarter relative humidity	76	%

B. Precipitation		
Data	Value	
Nearby city	Tampa	
State	Florida	
Years for data generatic	25	
Normal mean monthly precipitation (in)		
January	2.17	7.35
February	3.04	7.64
March	3.46	6.23
April	1.82	2.34
May	3.38	1.87
June	5.29	2.14
		46.73
		in

C. Temperature		
Data	Value	
Nearby city	Orlando	
State	Florida	
Years for data generation	25	
Normal mean monthly temperature (°F)		
January	60.5	82.4
February	61.5	82.5
March	66.8	81.1
April	72	74.9
May	77.3	67.5
June	80.9	62
D. Solar Radiation		
Data	Value	
Nearby city	Orlando	
State	Florida	
Years for data generation	25	
E. Geomembrane and Area		
Placement of geomembrane	good	
Pinhole (# of defects/area)	2	
Defect density per acre	2	
Area assumed in program (acre)	1	
Total area (acre)	195	

Runoff curve number		
Slope	5	%
Slope length	1000	ft
Soil texture	18	waste type
Vegetation	1	bare ground
Runoff curve number	79	
Area of runoff	0	%

F. Properties of soil layers File: OMNIB

Layer	Type	Description	Thickness in	Texture number	Porosity vol/vol	Field cap. vol/vol	Wilting point vol/vol	Conductivity cm/sec	Length Drain ft	Slope %
1	1	Vertical percolation	120	18	0.168	0.073	0.019	0.001		
2	1	Vertical percolation	24	1	0.417	0.045	0.018	0.010		
3	2	Lateral drainage	0.299		0.85	0.01	0.005	13.16	1000	2
4	4	Geomembrane liner	0.060	35				2E-13		
5	3	GCL	0.250	17	0.750	0.747	0.400	3.00E-09		
6	2	Lateral drainage	0.299		0.850	0.010	0.005	13.16	1000	2
7	4	Geomembrane liner	0.060	35				2E-13		
8	3	GCL	0.250	17	0.750	0.747	0.400	3.00E-09		
9	1	Vertical percolation	120.000	5	0.457	0.131	0.058	0.001		

FILE: OMNIB1

PARAMETRIC STUDY (A. DEPTH OF WASTE)

Dec/17/01
FW0400/03

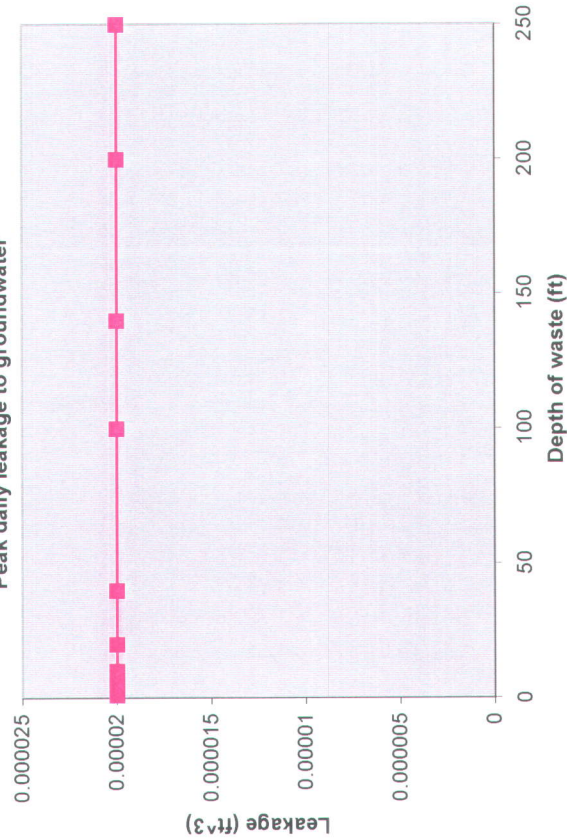
Geocomposite

Manufacturer:	TENAX
Code:	Tendrain 770-2/7100-2
Gradient:	0.1
Stress:	25000 psf
	1197.006 kPa
Transmissivity:	1.00E-04 m ² /sec
Thickness:	7.6 mm
Conductivity:	1.32 cm/sec
Cover soils	daily
Area:	1 acre

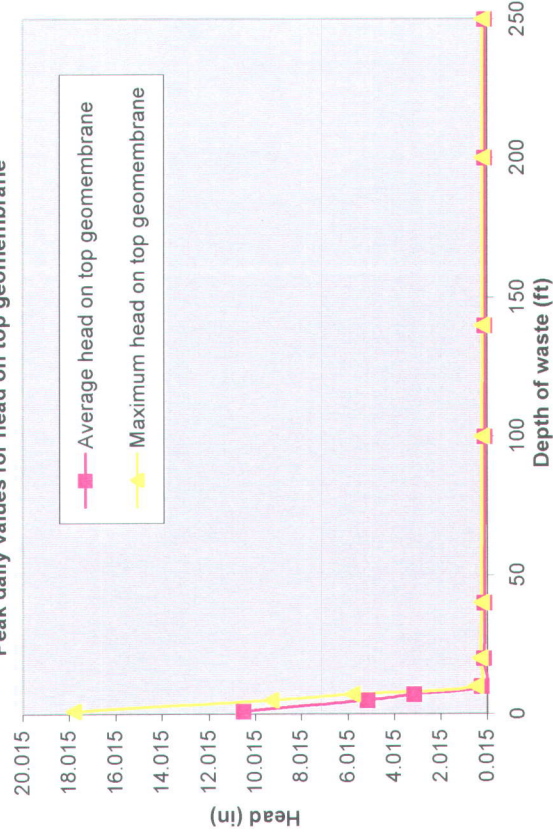
Base Case

Waste Thickness (ft)	Peak Daily Leakage to Groundwater (ft ³)	Peak Daily Leakage to Groundwater (in)	Average Annual Total Leakage to Groundwater (ft ³)	Average Annual Total Leakage to Groundwater (in)	Peak Day Max Head (in)	Peak Day Average Head (in)	Average Annual Head on Top Layer 4 (in)
1	0.00002	0.000000	0.009	0.00000	17.830	10.531	0.074
5	0.00002	0.000000	0.009	0.00000	9.335	5.187	0.022
7	0.00002	0.000000	0.009	0.00000	5.832	3.175	0.017
10	0.00002	0.000000	0.009	0.00000	0.523	0.264	0.016
20	0.00002	0.000000	0.009	0.00000	0.321	0.162	0.016
40	0.00002	0.000000	0.009	0.00000	0.270	0.136	0.016
100	0.00002	0.000000	0.009	0.00000	0.236	0.118	0.016
140	0.00002	0.000000	0.009	0.00000	0.229	0.115	0.016
200	0.00002	0.000000	0.009	0.00000	0.221	0.112	0.016
250	0.00002	0.000000	0.009	0.00000	0.220	0.110	0.016

Depth of waste
Peak daily leakage to groundwater



Depth of waste
Peak daily values for head on top geomembrane



PARAMETRIC STUDY (B. LENGTH OF DRAINAGE)

FILE: OMNIB2

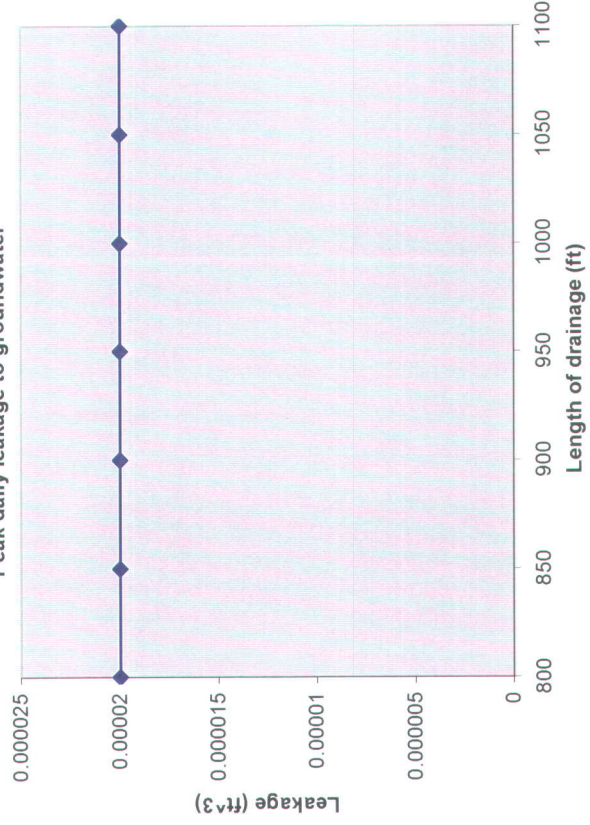
Geocomposite

Manufacturer:	TENAX
Code:	Tendrain 770-2/7100-2
Gradient:	0.1
Stress:	25000 psf
	1197.006 kPa
Transmissivity:	1.00E-03 m ² /sec
Thickness:	7.6 mm
Conductivity:	13.16 cm/sec
Cover soils	daily
Area:	1 acre

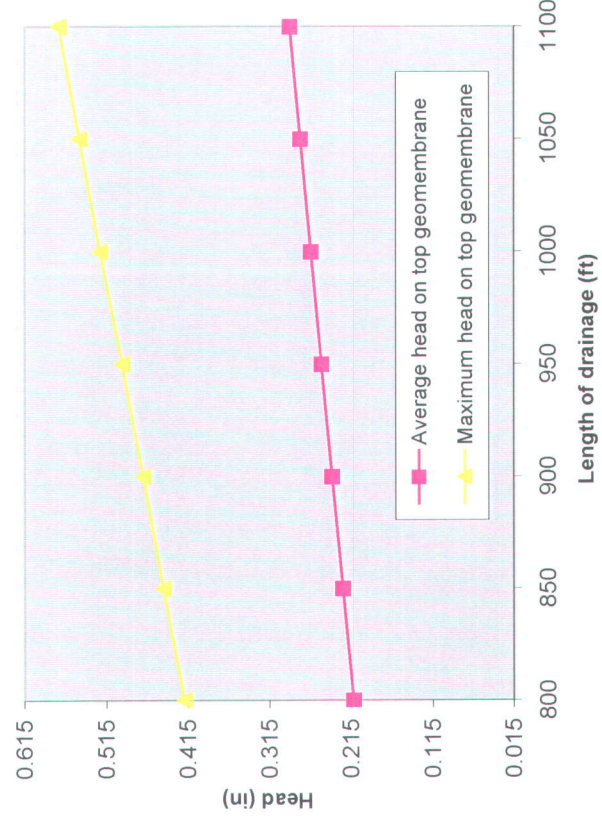
Length of Drainage (ft)	Peak Daily Leakage to Groundwater (ft ³)	Peak Daily Leakage to Groundwater (in)	Average Annual Total Leakage to Groundwater (ft ³)	Average Annual Total Leakage to Groundwater (in)	Peak Day Max Head (in)	Peak Day Average Head (in)	Average Annual Total Head on Top Layer 4 (in)
800	0.00002	0.000000	0.009	0.00000	0.419	0.212	0.013
850	0.00002	0.000000	0.009	0.00000	0.445	0.225	0.014
900	0.00002	0.000000	0.009	0.00000	0.470	0.238	0.015
950	0.00002	0.000000	0.009	0.00000	0.496	0.251	0.016
1000	0.00002	0.000000	0.009	0.00000	0.523	0.264	0.016
1050	0.00002	0.000000	0.009	0.00000	0.548	0.277	0.017
1100	0.00002	0.000000	0.009	0.00000	0.573	0.290	0.018

Base Case

Length of drainage
Peak daily leakage to groundwater



Length of drainage
Peak daily values for head on top geomembrane



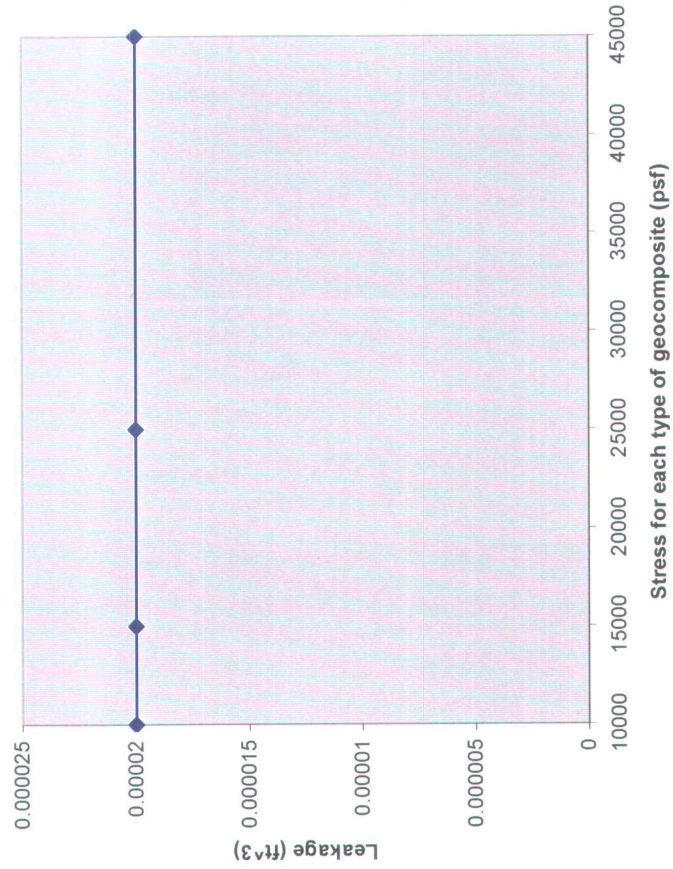
PARAMETRIC STUDY (C. TYPE OF GEOCOMPOSITE)

FILE: OMNIB3

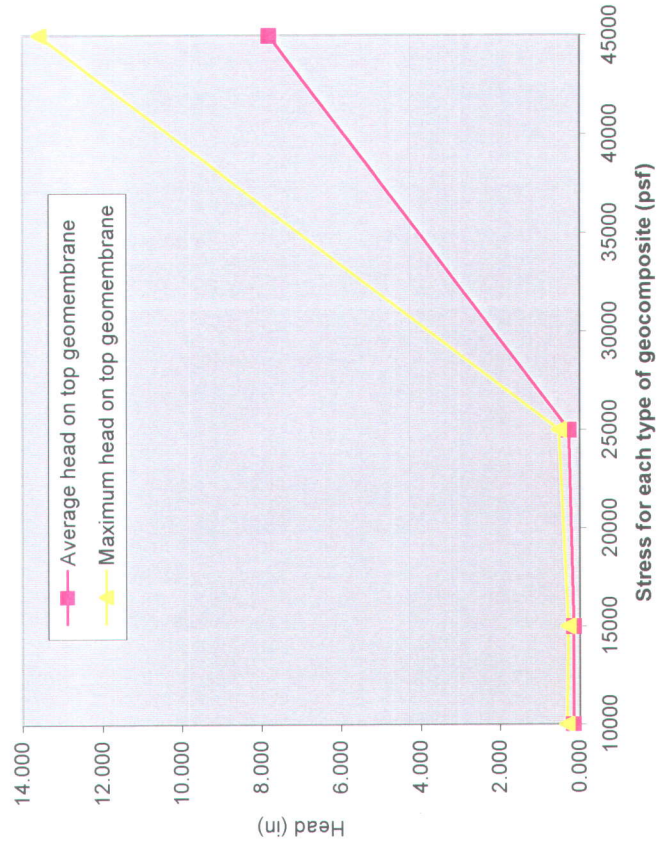
Tendrain	Gradient	Stress (psf)	Stress (kPa)	Transmissivity m ² /sec	Thickness (mm)	Conductivity (cm/sec)	Waste Thickness (ft)	Peak Daily Leakage to Groundwater (ft ³ /3)	Average Annual Total Leakage to Groundwater (ft ³ /3)	Peak Day Max Head (in)	Peak Day Average Head (in)	Average Annual Total Head on Top Layer 4 (in)
570-2/5100-2	0.1	10000	478.803	1.50E-03	7.0	21.43	10	0.00002	0.009	0.321	0.162	0.010
770-2/7100-2	0.1	15000	718.204	1.80E-03	7.6	23.68	10	0.00002	0.009	0.291	0.146	0.009
770-2/7100-2	0.1	25000	1197.006	1.00E-03	7.6	13.16	10	0.00002	0.009	0.523	0.264	0.016
970-2/9100-2	0.1	45000	2154.612	3.50E-04	7.8	4.49	10	0.00002	0.009	13.591	7.800	0.173

Base Case

Type of geocomposite
Peak daily leakage to groundwater



Type of geocomposite
Peak daily values for head on top geomembrane



PARAMETRIC STUDY (D. BOTTOM SLOPE)

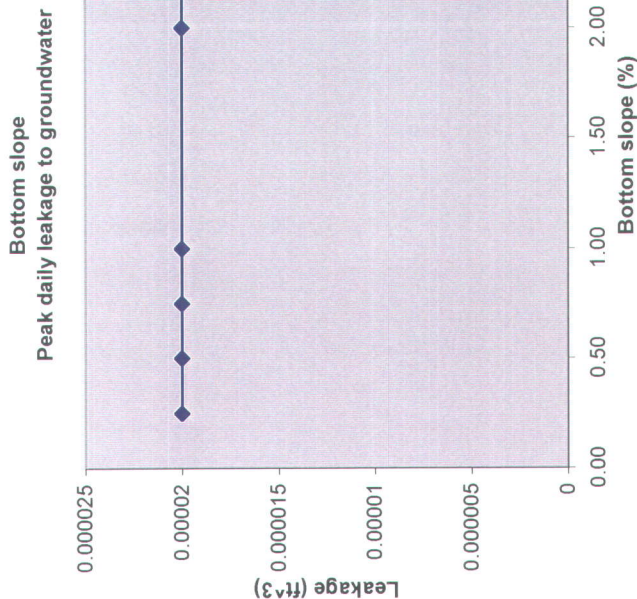
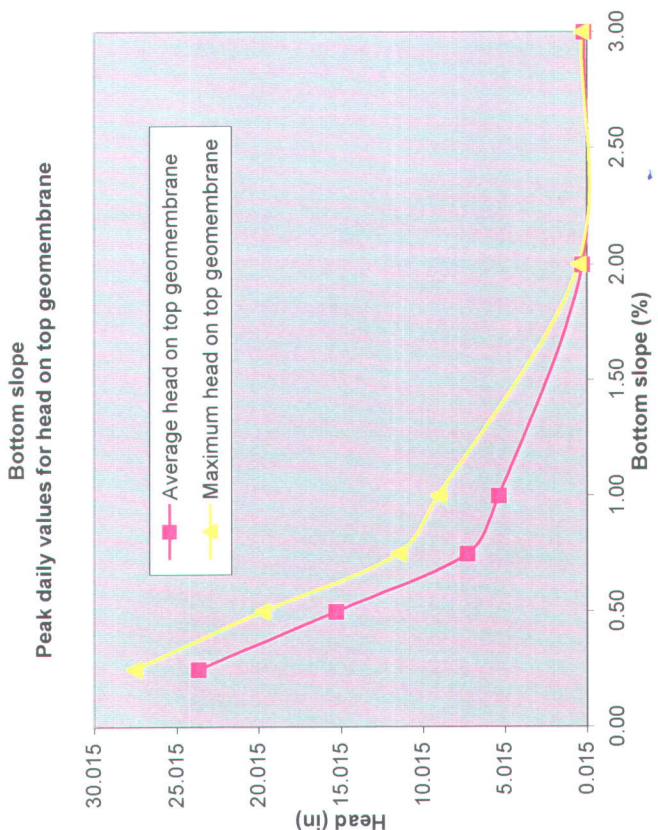
FILE: OMNIB4

Bottom slope (%)	Peak Daily Leakage to Groundwater (ft ³)	Peak Daily Leakage to Groundwater (in)	Average Annual Total Leakage to Groundwater (ft ³)	Average Annual Total Leakage to Groundwater (in)	Peak Day Max Head (in)	Peak Day Average Head (in)	Average Annual Total Head on Top Layer 4 (in)
0.25	0.000002	0.000000	0.009	0.00000	27.606	23.653	2.176
0.50	0.000002	0.000000	0.009	0.00000	19.760	15.293	0.546
0.75	0.000002	0.000000	0.009	0.00000	11.474	7.299	0.145
1	0.000002	0.000000	0.009	0.00000	9.094	5.384	0.053
2	0.000002	0.000000	0.009	0.00000	0.523	0.264	0.016
3	0.000002	0.000000	0.009	0.00000	0.351	0.176	0.011

Base Case

Geocomposite

Manufacturer:	TENAX
Code:	Tendrain 770-2/7100-2
Gradient:	0.1
Stress:	25000 psf
Transmissivity:	1197.006 kPa
Thickness:	1.00E-03 m ² /sec
Conductivity:	7.6 mm
Cover soils:	13.16 cm/sec
Area:	1 acre



1% slope
max 1 ft head
2% head
leakage is very massive
Stays the same because

PARAMETRIC STUDY (E. PERMEABILITY OF SAND)

FILE: OMNIB5

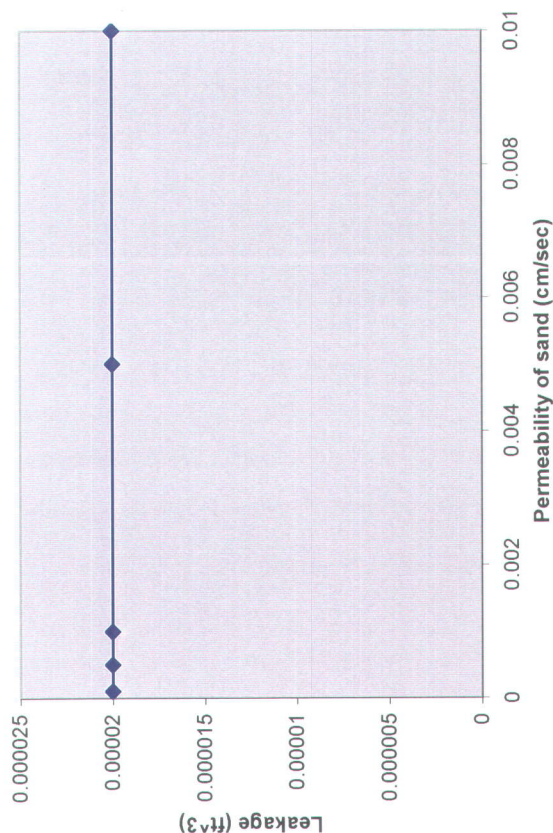
Geocomposite

Manufacturer:	TENAX
Code:	Tendrain 770-2/7100-2
Gradient:	0.1
Stress:	25000 psf
	1197.006 kPa
Transmissivity:	1.00E-03 m ² /sec
Thickness:	7.6 mm
Conductivity:	13.16 cm/sec
Cover soils	daily
Area:	1 acre

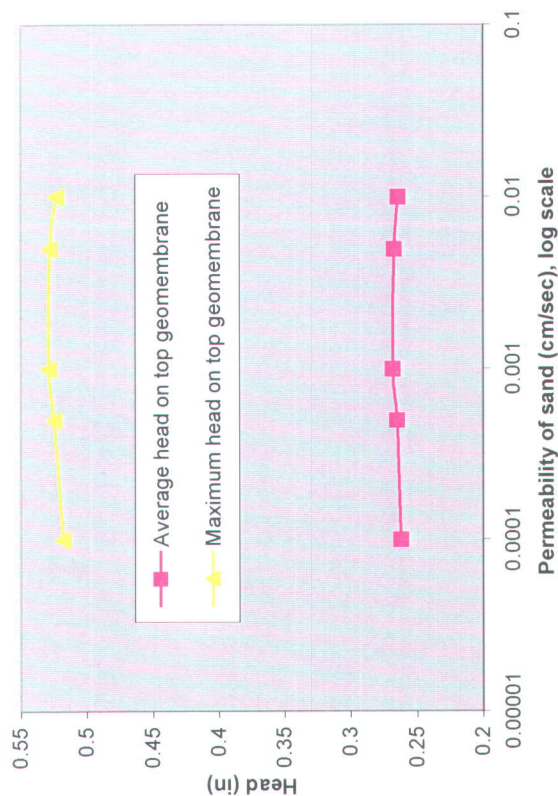
Permeability of sand (cm/sec)	Peak Daily Leakage to Groundwater (ft ³)	Peak Daily Leakage to Groundwater (in)	Average Annual Total Leakage to Groundwater (ft ³)	Average Annual Total Leakage to Groundwater (in)	Peak Day Max Head (in)	Peak Day Average Head (in)	Average Annual Total Head on Top Layer 4 (in)
0.0001	0.00002	0.000000	0.009	0.00000	0.5180	0.262	0.016
0.0005	0.00002	0.000000	0.009	0.00000	0.5250	0.265	0.016
0.001	0.00002	0.000000	0.009	0.00000	0.5290	0.268	0.016
0.005	0.00002	0.000000	0.009	0.00000	0.5280	0.267	0.016
0.01	0.00002	0.000000	0.009	0.00000	0.5230	0.264	0.016

Base Case

Permeability of sand
Peak daily leakage to groundwater



Permeability of sand
Peak daily values for head on top geomembrane



DIFFERENT DESIGNS FOR THE LINER SYSTEM

Dec/17/01
FW0400/03

Design 1 (Base case, OMNIB)

Layer	Description	Thickness (in)	Texture number	Porosity (vol/vol)	Field cap. (vol/vol)	Wilting point (vol/vol)	Conductivity (cm/sec)
1	Vertical percolation	120	18	0.168	0.073	0.019	0.001
2	Vertical percolation	24	1	0.417	0.045	0.018	0.010
3	Lateral drainage	0.299		0.85	0.01	0.005	13.16
4	Geomembrane liner	0.060	35				2E-13
5	GCL	0.250	17	0.750	0.747	0.400	3.00E-09
6	Lateral drainage	0.299		0.850	0.010	0.005	13.16
7	Geomembrane liner	0.060	35				2E-13
8	GCL	0.250	17	0.750	0.747	0.400	3.00E-09
9	Vertical percolation	120.000	5	0.457	0.131	0.058	0.001

Design 2 (Take out top GCL, OMNIC)

Layer	Description
1	Vertical percolation
2	Vertical percolation
3	Lateral drainage
4	Geomembrane liner
5	take out
6	Lateral drainage
7	Geomembrane liner
8	GCL
	Vertical percolation

Design 3 (Take out bottom GCL, OMNID)

Layer	Description
1	Vertical percolation
2	Vertical percolation
3	Lateral drainage
4	Geomembrane liner
5	GCL
6	Lateral drainage
7	Geomembrane liner
8	take out
	Vertical percolation

Design 4 (Replace bottom GCL with soil, OMNIE)

Layer	Description	Thickness in	Texture number	Porosity vol/vol	Field cap. vol/vol	Wilting point vol/vol	Conductivity cm/sec
1	Vertical percolation	120	18	0.168	0.073	0.019	0.001
2	Vertical percolation	24	1	0.417	0.045	0.018	0.010
3	Lateral drainage	0.299		0.85	0.01	0.005	13.16
4	Geomembrane liner	0.060	35				2E-13
5	take out						
6	Lateral drainage	0.299		0.850	0.010	0.005	13.16
7	Geomembrane liner	0.060	35				2E-13
8	Barrier soil liner	6.000		0.475	0.378	0.265	1.00E-05
	Vertical percolation	120.000	5	0.457	0.131	0.058	0.001

RESULTS

Design	Peak Daily Leakage to groundwater (ft ³)	Average Annual Total Leakage to groundwater (ft ³)	Peak Day Max Head (in)	Average Head (in)	Peak Day
1	0.00002	0.009	0.523	0.264	0.264
2	0.00004	0.010	0.475	0.240	0.240
3	0.00003	0.009	0.523	0.264	0.264
4	0.00703	0.474	0.475	0.240	0.240
5	0.00028	0.014	0.523	0.264	0.264

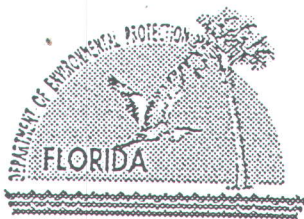
Design #1 (double composite)
#3 gravel layer

Design 5 (One liner system, OMNIF)

Layer	Description
1	Vertical percolation
2	Vertical percolation
3	Lateral drainage
4	Geomembrane liner
5	GCL
6	take out
	take out
	Vertical percolation

**PROPOSED PROCEDURE FOR ESTIMATING THE
BASE FLOOD ELEVATION (BFE)
FOR THE FLOODPLAIN COMPENSATION ANALYSIS
OMNI WASTE, OAK HAMMOCK LANDFILL**

1. Measure area of FEMA floodplain from approximate \bar{C} of stream between two reference boundaries.
2. Apply a factor of safety of 1.1 to floodplain area (area from Step 1 times 1.1) to obtain target floodplain area.
3. Use the following iterative procedure to find the BFE:
 - draw an assumed floodplain limit at an existing ground contour;
 - measure the area of this assumed floodplain using the same stream centerline and reference boundaries used in Step 1; and
 - compare the area of the assumed floodplain to the target floodplain area and adjust the elevation of the assumed floodplain limit as needed to converge on the target floodplain area.
4. Conclusion: The iterative process of Step 3 will result in a modified floodplain limit 10 percent larger in area than the FEMA floodplain and drawn to match the recent topographic map.



Osceola County SW
Ouk Hammock Landfill

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

MEETING ATTENDANCE RECORD

Purpose: OMNI WASTE / St Cloud

Date: Nov. 1, 2001

Name (please print)

Affiliation

GEORGE CHERYAN

DEP

Saadia Qureshi

FDEP / SW

Deborah Helle

FDEP

Jim Bradner

FDEP

WILLIAM J. KOZUH

OMNI

Joe Miller

PBS&J

RAY TOSBY

CITY OF ST. CLOUD

Ken Cargill

GeoSyntec Consultants

HARRY TOMLINSON

GEOSYNTEC CONSULTANTS

JERRY KUBAL

KUBAL - FURR & ASSOCIATES - TAMPA

David Dee

Landers + Parsons - Tallahassee

Steve Godde

BRA - Tampa

John Bailey

" "

Bret LeRoux

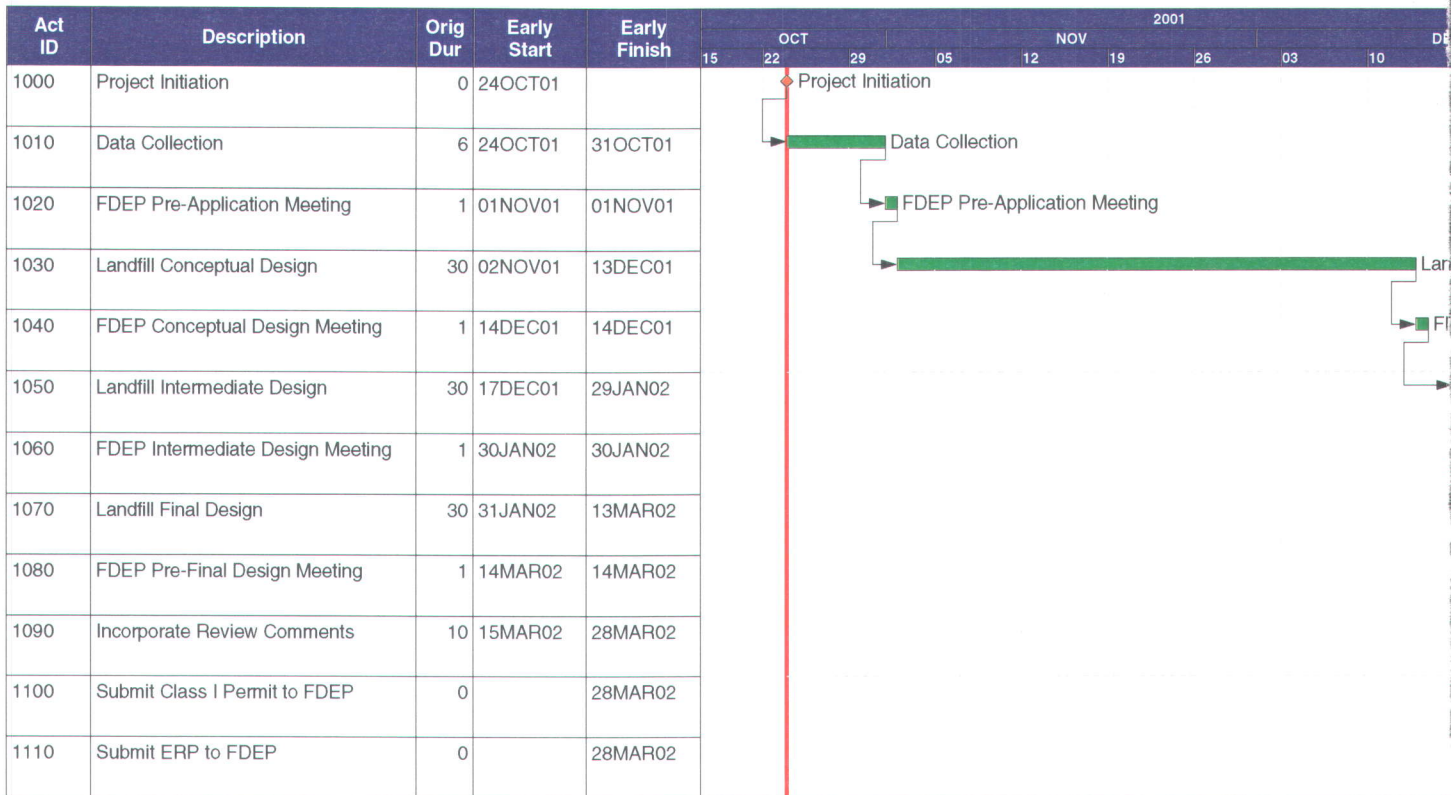
FDEP

Vivian Garfein

FDEP DIRECTOR OF DISTRICT MANAGEMENT

MEETING ATTENDANCE RECORD

Continued on reverse side



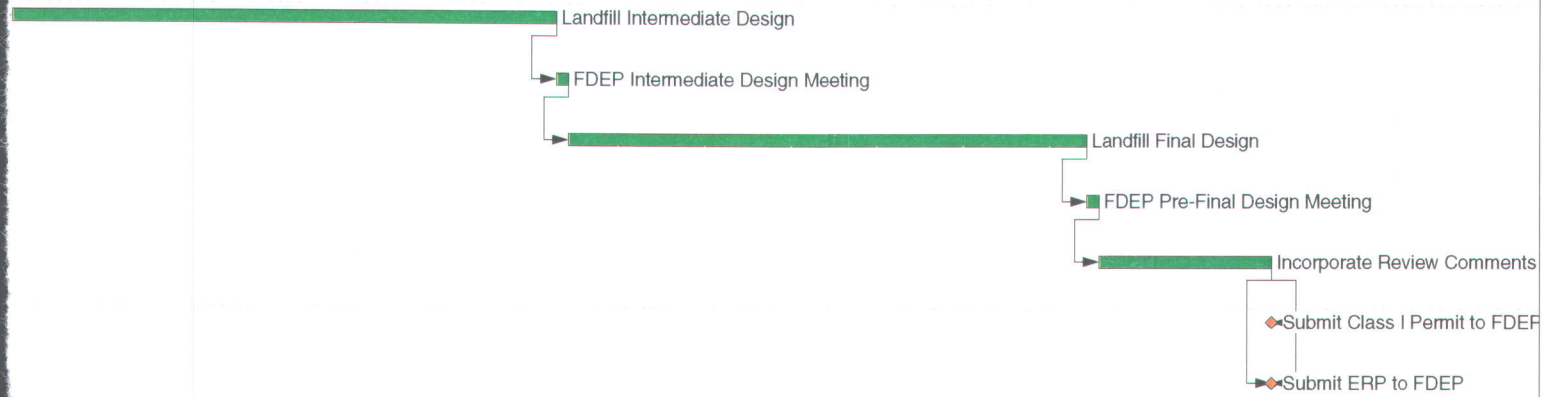
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On
Oak Hammock



Landfill Conceptual Design

FDEP Conceptual Design Meeting



Waste
Land Disposal Facility

- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Osceola County SW

Oak Hammock LF (Proposed)

Cheryan, George

From: Gary L Pickett [garpick1@juno.com]
Sent: Wednesday, September 19, 2001 6:34 PM
To: Bostwick, William; Cheryan, George; Burns, Richard; Arif, Syed; johnson.haynes@epa.gov; harvey.richard@epa.gov
Subject: Omni Waste

I as a resident of East Osceola County wish to be made aware on an ongoing basis of any and all Permits applied for and acquired by Omni Waste of Osceola Co, Especially those in reference to The Oak Hammock Landfill located approximately 5 miles south of Holapaw. I also wish to be made aware of any and all public hearings held on the matter.

<< J. BRADNER

I responded on 9/20
(see your e-mail)

Osceola County 500
Oak Hammock
Omni Waste
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Osceola Residents Don't Want Landfill

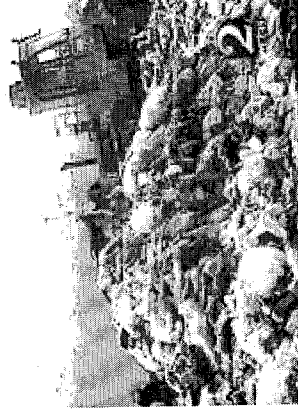
Trash From Other Counties Might Be Brought In

HOLOPAW, Fla., 10:02 p.m. EDT May 3, 2001 --
Some residents fear that a proposed landfill in Osceola County will threaten their water supply, and their way of life.

But Omni Waste, the company proposing the new facility which would be located east of State Road 441 and south of State Road 192, said that the new landfill will be absolutely safe, and no threat to the neighbors.

The old landfill is near capacity and must close.

Pat Pickett is one of 31 Holopaw residents who have filed a lawsuit to keep the landfill out of their



area.

"I don't want the environment damaged by this place," Pickett said.

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HOTLINES

Take The 'Real'

Osceola County already said no to a landfill, but Omni Waste has sued them. To settle the suit, the issue has come up again.

A local attorney said that the landfill could send run-off into nearby tributaries of Brevard County's Lake Washington, which is the primary drinking water source for Melbourne.

"We are going to be a great environmental neighbor. There's nothing wrong with what we're going to do," Tim Salopek of Omni Waste said.

The company said that the issues against it are fiction, being manufactured by Waste Management, a company that owns a regional landfill in Okeechobee, Fla. Omni Waste claims that Waste Management wants to scare people so they send their trash to the Okeechobee landfill for a price.

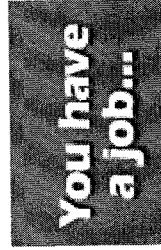
Attorney Tom Cloud admits that most of his fees are being paid by Waste Management, but he believes that taking the trash out of the county is the right thing environmentally. Cloud also said that Omni would have to bring in trash to make its proposal work.

Some people who are against the landfill said that if the landfill is built it is just the beginning of economic development. They point to Orange County where the landfill used to be in the middle of nowhere, but its approval made it easier for a power plant and other development to be approved.

The issue was to be decided by Osceola County Commissioners in May, but the decision may be rescheduled for June.

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Department of Environmental Protection

Central District
3319 Maguire Blvd, Ste 232
Orlando FL 32803

MEETING ATTENDANCE RECORD

Purpose:

Oak Hammock LF

Date:

5/3/01

Name (Please Print):

Affiliation & Phone Number

(Include Area Code)

Bret LeRoux

FDET

Deborah Helle

FDEP

BILL BOSTWICK

DEP.

JIM FURR

Kubal-Furr & Associates

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Company in lawsuit could get garbage deal

By April Hunt
of the Sentinel Staff

Published in The Orlando Sentinel on November 11, 2000

KISSIMMEE -- Osceola County could soon begin negotiating for waste disposal with the company suing it over the rejection of a landfill earlier this year.

The county's Solid Waste Committee has recommended the County Commission begin what could be several years of negotiations with both Omni Waste and Waste Management to handle the 600 tons of trash produced here daily.

The commission winnowed the two companies from 10 applicants.

Omni has filed suit in state Circuit Court, alleging the county let politics override fact in its denial of a new landfill near Holopaw. A hearing on the lawsuit is slated for January. Still, the litigation should not affect the pursuit of a new solution for the disposal of garbage in the county when its landfill hits capacity in 2004, said Commissioner Ken Shipley. He was among the two votes for the landfill and is the sole elected official on the otherwise volunteer solid-waste committee.

"If Omni wins, we could end up with a regional landfill here," Shipley said. "There are a lot of factors like those that we must consider when we sit down to negotiate."

Omni President Tim Salopek said his company would like to settle the lawsuit out of court and company officials think its proposal is a step in that direction.

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Omni's plan would be to have the 195-acre landfill up and running in three years.

Waste Management's proposal calls for hauling the waste to an existing regional landfill in Okeechobee County. The company also expressed interest in bidding to build transfer stations if the county decides it needs them.

Waste Management, which has operated in the county for about 30 years, could begin hauling "literally in a couple weeks" once notice is given, said company spokesman Warren Wright.

The solid-waste committee's recommendation to the commission is open-ended about who exactly would negotiate for the county.

The commission then would decide not only whether to accept the recommendations but also whether it, staff members or another special committee would oversee the negotiations.

Although the recommendations will go before the commission in the next week, the window for negotiations is at least 18 months. A decision or contract could be reached as late as two years from now.

"They've got plenty of time," Salopek said.
"They're in a good position, and we appreciate the fair chance to negotiate."

Posted Nov 10 2000 6:30PM

The logo for the Orlando Sentinel, featuring the word "orlando" in a stylized font above the word "sentinel".A dark rectangular banner with the text "Home of" in a large, white, serif font. The background of the banner appears to be a textured, possibly stone or brick, surface.

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Omni sues county over landfill

By Tyler Gray
of The Sentinel Staff

Published in The Orlando Sentinel on July 26, 2000

KISSIMMEE -- A company has sued Osceola County, saying it let politics overcome the facts when it voted down a landfill near Holopaw.

Omni Waste of Ohio filed the suit and a foot-thick stack of supporting documents in Circuit Court last week in an attempt to force the county to reconsider its denial of the 195-acre Oak Hammock landfill five miles south of the rural community.

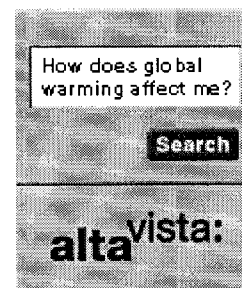
Residents and an attorney for Omni opponents argued against the project since it was first pitched in May 1999. At every step of the way, planning commissioners and county commissioners denied the project, even though Omni representatives and attorneys argued that the landfill would meet every county standard on the books.

In the end, county commissioners said the landfill just did not fit in the county's rural outskirts. Now Omni is asking a judge to intervene.

"Omni contends that the county's denial of Omni's application was not based on competent substantial evidence and departed from the essential requirements of law," wrote Omni attorney Tom Pelham of Tallahassee. Pelham is a former secretary of the Florida Department of Community Affairs, the state's land planning agency.

"This case is a classic example of an arbitrary and politically expedient decision-making by a local government," Pelham wrote in the suit. He went on to accuse the commission of ignoring the

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Trash trail

May 17, 1999 -- Omni files an application with the Osceola County Planning Department for the Oak Hammock Landfill.

July 16, 1999 -- Omni revises its application and resubmits.

Oct. 28, 1999 -- Planning commission votes to recommend denial of the project. Omni pulls its application.

recommendation of its own planning department and testimony from experts.

Among the various claims in the suit, Omni states that attorney Gordon H. "Stumpy" Harris had no standing in the case between Omni and the county since he represented Waste Management, an Omni competitor. And Holopaw residents whom Harris claimed to represent were not named at the quasi-judicial hearing before the County Commission on June 26.

During the hearing, Pelham and Omni attorney David Dee of Tallahassee objected to the participation of Harris. The commission denied the objection and almost every other raised by Omni attorneys.

Osceola County Attorney Jo Thacker said she had not had a chance to read the lawsuit this week, but said generally of the commissioners' decision, "They worked within their rights."

In describing the character of the commission decision on the landfill, Omni attorneys name specifically County Commissioner Chuck Dunnick, whose district includes the 2,250 acres where Omni wanted to put the Oak Hammock facility.

"Throughout the hearing, this commissioner evinced hostility toward Omni's proposal, its witnesses and its counsel," the suit states. "He angrily interrupted Omni's attorney during his cross-examination of a witness and asked the board chairman if he could stop this 'cat and mouse' game."

Thacker replied to Dunnick's statement in the June meeting by explaining that cross-examination was within Omni's right in the court-like setting.

Dunnick, too, said he had not seen the suit.

Despite the sharp language in the lawsuit, Omni president Tim Salopek said he would rather work out a deal with the county. Salopek said his offers for amenities for Holopaw residents are still on the table.

He said the company would provide 25 cents per

March 20, 2000 --

Omni revises its application, adding more buffer, shrinking size of actual landfill.

June 8, 2000 --

Planning commission votes again to recommend denial.

June 26, 2000 --

Osceola County Commission votes down the project.

July 21, 2000 --

Omni files suit against the county.

ton of garbage collected for improvements in Holopaw, and he has offered to pay residents' county trash collection fees. Omni has also promised to accept only trash from adjacent counties, rather than accepting garbage regionwide.

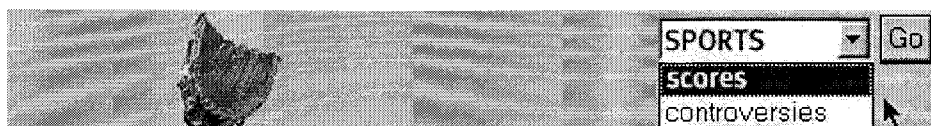
Salopek has also submitted another proposal for the Oak Hammock landfill in response to a county search for waste disposal options. The county's landfill is expected to hit capacity by 2003. So far, the county has not decided what to do with trash after that.

Omni's proposal was among those with the lowest price per ton of trash, though county officials say price will be only one of the factors considered in their choice for a waste-disposal option.

Salopek said most of the landfill deals he has done have gone to court, regardless of whether he has won approval at local levels.

The company, Salopek said, has never lost a pitch for a landfill once it got to the state level.

Posted Jul 25 2000 7:40PM



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FDEP - CENTRAL DISTRICT
SOLID WASTE

PROPOSED WILDLIFE ASSESSMENT METHODOLOGY FOR THE PROPOSED OAK HAMMOCK LANDFILL SITE

Omni Waste is committed to a Team Permitting approach for its proposed Oak Hammock landfill site. Because of the perceived net environmental benefit of the project, Florida Department of Environmental Protection (FDEP) officials have recommended that Omni Waste employ a Team Permitting approach. This will involve a coordinated team effort with all the regulatory agencies (FDEP, U.S. Army Corps of Engineers [COE], South Florida Water Management District [SFWMD], St. Johns River Water Management District ([SJRWMD], FFWCC, U.S. Fish and Wildlife Service [USFWS]), Osceola County, conservation organizations and the public to develop a landfill that minimizes environmental and social impacts, and provides a net environmental benefit to Osceola County and its Public Conservation Areas.

The proposed sampling methodology which follows is based on the 1988 "Wildlife Methodology Guidelines"¹ recommended by the Florida Fish and Wildlife Conservation Commission (FFWCC) for large scale development projects in Florida.

1.0 Site

The Oak Hammock Site (see attached map) is located in central Osceola County, approximately three miles south of the town of Holopaw on U.S. Hwy 441 (Sections 11, 13 and 14, Township 28S, Range 32E as well as Sections 17 and 18, Township 28S, Range 33E). It is west of U.S. 441. The total site occupies approximately 3 1/2 sections of land. Of this, the landfill would be located in the northwestern portion of the tract on a former sod farm which is currently used as pasture. Except for the haul road, the entire eastern portion of the tract is proposed as conservation easement.

2.0 Determination of Potential Habitat

A list of species for which surveys should be conducted will be obtained from a combination of literature review and known locations of habitat (2.1), analysis of habitats on the site (2.2), and observations of species observed on the site during environmental work that has been conducted to date. From these, a list of species and the appropriate survey methodologies for each will be developed. Table 1 provides a list of species for which there is currently believed to be reasonable expectation of suitable habitat and potential occurrence on-site or in the immediate vicinity.

¹Florida Game and Fresh Water Fish Commission. 1988. Wildlife Methodology Guidelines. Florida Game and Fresh Water Fish Commission, Office of Environmental Services, Tallahassee.

2.1 Literature Review

Locations of known occurrences of species considered Endangered, Threatened or of Special Concern by the FFWCC or the USFWS within 15 miles of the proposed Oak Hammock landfill site will be obtained. These locations will be determined through contact with the agencies, existing maps produced by the agencies showing locations where individuals of these species have been sighted, and available literature on species ranges.

2.2 Habitat Mapping and Descriptions

A land use/land cover map of the site using the most current version of the Florida Land Use, Cover and Forms Classification System (FLUCFCS)² will be developed. Each identified land use or cover will be described as to its land use, and for undeveloped areas, the vegetative cover will be described. Each area will be evaluated as to its potential to support listed wildlife species. Such species will be added to the list for which specific surveys will be designed.

2.3 Previous On-Site Environmental Work

Some environmental work, including investigations of wetlands within and adjacent to the footprint of the landfill, has been conducted on the site. The intent of this work was not wildlife, however, the biologists made note of species which they encountered during this work. These lists will be reviewed, and any listed species will be added to the list for which specific surveys will be designed.

3.0 Survey Methods

3.1 Intensity

Two levels of listed wildlife surveys are proposed for the Oak Hammock landfill site:

- a. Detailed surveys for listed species within the development footprint (i.e., landfill site, borrow/stormwater ponds and haul road) will be performed in accordance with the "Wildlife Methodology Guidelines."¹
- b. More general listed species surveys will be conducted on the ± 1400 acres proposed for conservation. The purpose of these surveys is to document the value of these lands as wildlife habitat worthy of preservation.

3.2 Surveys Within the Development Footprint

With the exception of the gopher tortoise and gopher frog, all species anticipated to occur within the development footprint are most appropriately surveyed by pedestrian transect. Transects will be placed

²Florida Department of Transportation (FDOT). 1985. Florida Land Use, Cover and Forms Classification System.

randomly within each type of habitat and varied daily to increase coverage of the site. Based on the "Wildlife Methodology Guidelines,"¹ each wildlife will need to be walked twice daily, in the morning and evening, for five days in those uplands and wetlands on the site that are proposed to be developed. The biologist will search along the transect, looking for any species listed as Endangered, Threatened, or of Special Concern by the FFWCC or USFWS.

Surveys for gopher tortoises will be conducted in accordance with the recommended methodologies of the FFWCC (i.e., 15-20% of the potential habitat within the development footprint will be surveyed in strip transects). Transect width will vary depending on visibility. Locations of observed burrows will be marked on a map of the site, and each burrow will be classified as "active," "inactive," or "abandoned" according to the criteria of Auffenberg and Franz.³ Locations of transects will be mapped.

Biologists will search for gopher frogs by peering into gopher tortoise burrows in the early morning to see if the frogs are present in the mouths of the burrows. This inspection will be done during the transect surveys and during any gopher tortoise burrow surveys that occur at appropriate times of the day.

The proposed development footprint avoids wetland to the greatest extent possible. Wetlands within the footprint consist exclusively of roadway crossings for the haul roads. Surveys for wetland wildlife will be conducted by a combination of spot surveys and pedestrian transect. Spot surveys will be used for open wetlands where the entire wetland can be observed from on point. Transect surveys will be used for larger, forested wetlands. Each wetland within the development footprint will be inspected daily for five days.

Based on ecological work that has been conducted to date, it is believed to be unlikely that Florida mice or other listed small mammals occur on this site. Small mammal trapping is therefore not proposed. Based on the existing ecological work, it is unlikely that there are adequate gopher tortoises within the development footprint to justify herpetofaunal surveys.

During the surveys, biologists will record all observed species, observed, listed or otherwise. This will provide a list of species that actually use the development site. This will provide, among other things, information on resident species which could become management concerns for the landfill (for instance, occurrence of wild hogs).

3.3 Surveys Within the 1,400-acre Conservation Area

A lesser level of survey intensity is proposed within the 1,400-acre conservation area as this area will not be impacted. The purpose of these surveys is to document the value of these lands as wildlife habitat worthy of preservation. The surveys will consist of visits to each major habitat area, and a general walk-through evaluation of those areas together with compilation of a list of species observed. These surveys will occur over the 5-day time period in which the more intensive surveys of the development footprint are being conducted.

³ Auffenberg and Franz. 1982. The status and distribution of the gopher tortoise (*Gopherus polyphemus*). Pp. 95-126 In North American tortoises: conservation and ecology. Wildlife Research Report 12. U.S. Fish and Wildlife Service, Washington, D.C.

4.0 Wildlife Assessment Report

On the basis of Sections 1-3 above and the previous work performed on the Oak Hammock site, BRA will prepare a detailed wildlife report summarizing both the regional context of the proposed landfill and the site specific information developed above. This report will address the concerns previously raised by citizens/organizations opposed to the landfill, as well as specific requests by the agencies that are raised during initial Team Permitting meetings.

Table 1. Listed Species with a Reasonable Expectation of Occurrence on the Oak Hammock Landfill Site

Common Name	Scientific Name	Preferred Habitat	Sampling Method
gopher tortoise	<i>Gopherus polyphemus</i>	Sandhills, xeric oak scrub, sand pine scrub, scrubby flatwoods	15-20% Burrow survey
eastern indigo snake	<i>Drymarchon corais couperi</i>	gopher tortoise habitat	Pedestrian Transects
gopher frog	<i>Rana areolata</i>	xeric oak scrub, sand pine scrub, breed in shallow grassy ponds or ditches, use tortoise burrows	Pedestrian Transects, inspection of burrow entrances
Florida sandhill crane	<i>Grus canadensis pratensis</i>	breed in emergent palustrine wetlands; forage in pastures	Pedestrian Transects
Sherman's fox squirrel	<i>Sciurus niger shermani</i>	sandhills w/some pine, mesic flatwoods w/low ground cover	Pedestrian Transects
burrowing owl	<i>Athene cunicularia</i>	sandhills, ruderal communities, dry prairies	Pedestrian Transects
bald eagle	<i>Haliaeetus leucocephalus</i>	nest in tall trees along coasts, rivers and lakes	Pedestrian Transects
limkin	<i>Aramus guarauna</i>	nest in a variety of ground and tree locations, uses streams, swamps, and marshes with apple snails	Pedestrian Transects
Florida grasshopper sparrow	<i>Ammodramus savannarum floridanus</i>	open prairies and rangeland	Pedestrian Transects
Red-cockaded woodpecker	<i>Picoides brealis</i>	mature longleaf or slash pine	Pedestrian Transects
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	open prairies and rangeland	Pedestrian Transects
southeastern American kestrel	<i>Falco sparverius paulus</i>	sandhill, nest in natural cavities of dead trees and abandoned woodpecker nests.	Pedestrian Transects
wood stork	<i>Mycteria americana</i>	estuarine or freshwater wetlands; nest in tops of trees in cypress or mangrove swamps	Pedestrian Transects
little blue heron	<i>Egretta caerulea</i>	breeding: marshes, swamps, ponds, estuaries, rivers; nest in shrubs and small trees	Pedestrian Transects
snowy egret	<i>Egretta thula</i>	breeding: marshes, swamps, ponds, estuaries, rivers; nest in shrubs and small trees	Pedestrian Transects
tricolored heron	<i>Egretta tricolor</i>	breeding: marshes, swamps, ponds, estuaries, rivers; nest in shrubs and small trees	Pedestrian Transects



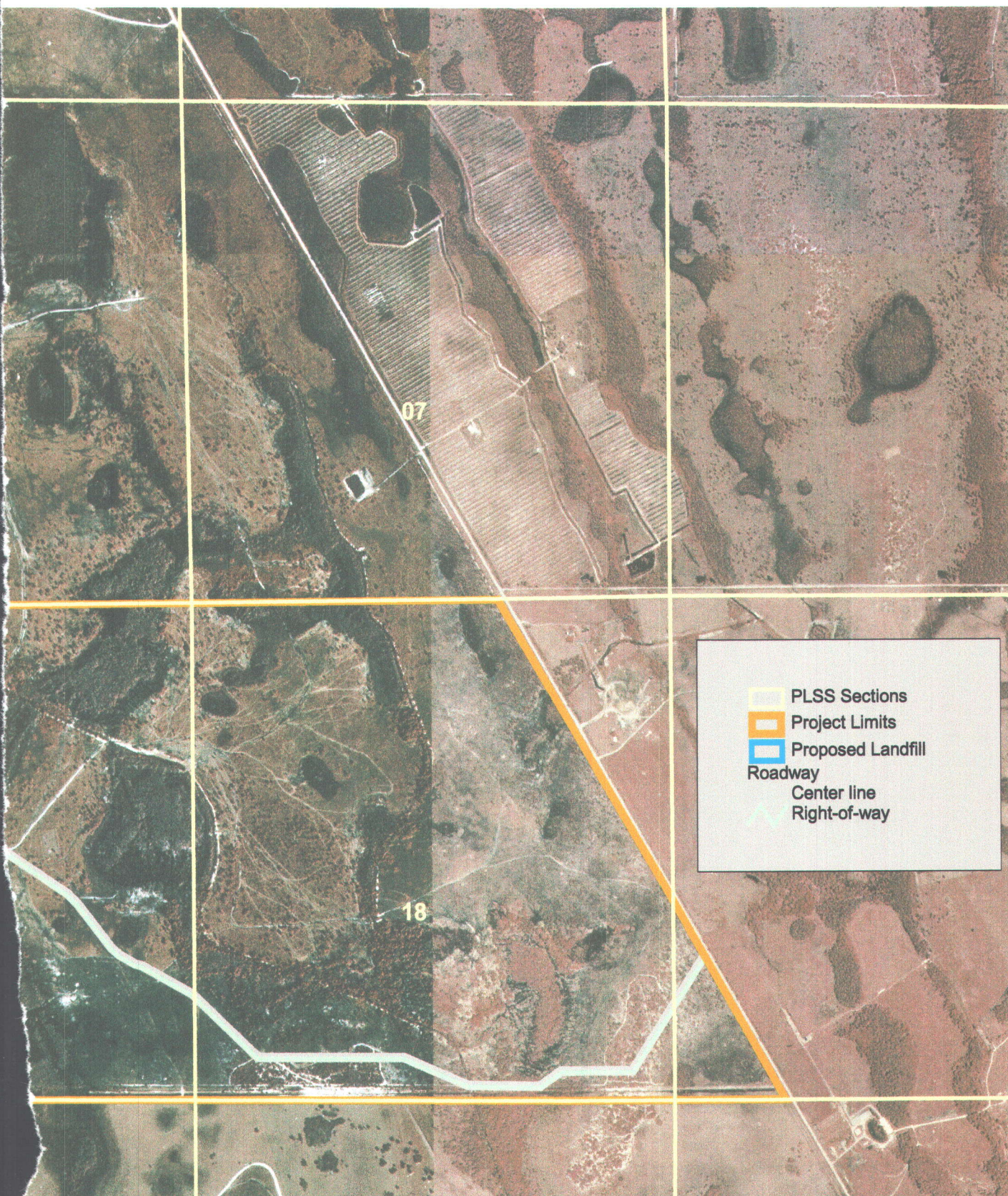
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LAYOUT NAME: aak2march00.apr:cir_srd_tabloid.ps5



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Oak Hammock Landfill



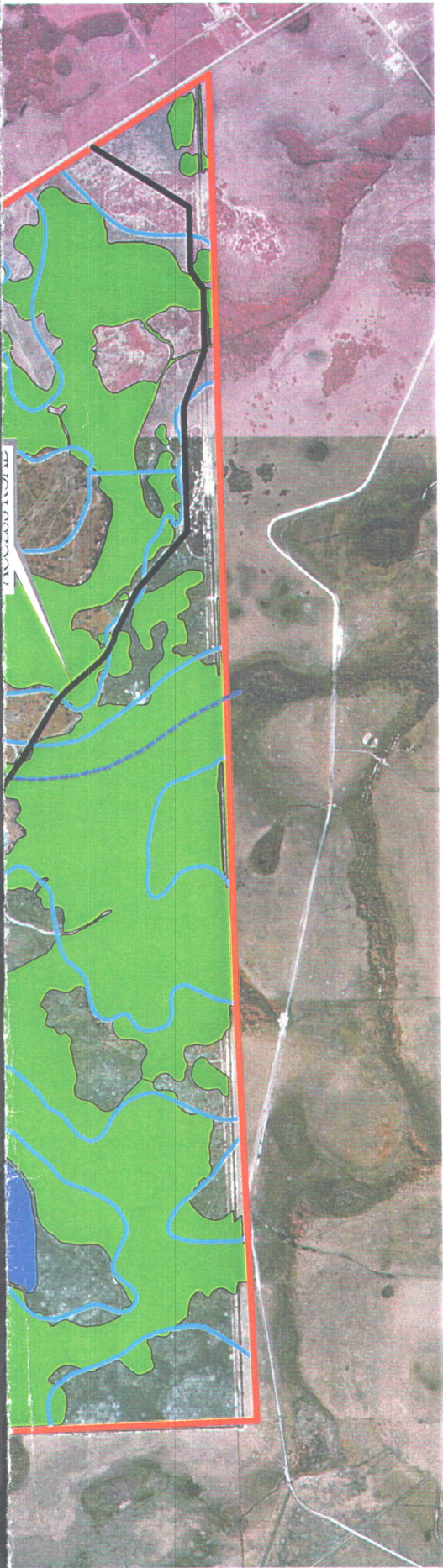
3000 4500 Feet

Image Data: USGS Digital Ortho Quad -
Holopaw SE, 1995










- Osceola County, FL

DESIGNED BY:	AAK	PROJECT #	3972-003-B72
DRAWN BY:	AAK	DATE:	7 March 2000
CHECKED BY:	SRD	REVISION DATE:	





LEGEND

-  Proposed Access Road
-  Tributary
-  Creek
-  Proposed Landfill
-  FEMA 100 Yr. Flood
-  Proposed Borrow Pit
-  Oak Hammock
-  Gannarelli Parcel
-  BRA Wetland

RECEIVED

MAR 08 2000

FDEP-CENTRAL FLORIDA
SOLID WASTE



North

0.25 0 0.25 Mi.

Site Development Plan

OAK HAMMOCK SITE



Omni Waste, LLC

March 2000

**OPTIONS FOR PUBLIC PARTICIPATION IN THE
OAK HAMMOCK LANDFILL
TEAM PERMITTING REVIEW PROCESS**

Initial Process Design Questions

- What will be the principal stages and characteristics of this team permitting process?
- What degree of public involvement is appropriate?
- What formats are appropriate for that involvement?
- Who, if anyone, should designate participants?
- What next steps are needed to further develop the approach to public involvement?

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MAR 08 2000
FDEP - CENTRAL DISTRICT
SOLID WASTE

Options for Degree of Public Involvement (Not Mutually Exclusive)

- Engage a broad spectrum of the community.
- Identify issues of concern to the community.
- Identify NEBs of interest to the community.
- Provide input to agencies and applicant during planning and application review.
- Agree as a group on recommendations to the agencies and applicant during planning and application review.
- Work directly with agency and applicant representatives to help develop agency recommendations or permit actions.
- Reach informal or formal agreement with applicant and agencies on the desired outcomes of permitting decisions.

Options for Structure and Format of Public Involvement (Not Mutually Exclusive)

- Input is solicited from the community at large in open meetings, attended by whoever wishes to.
- Workgroup established, with participation by anyone who wishes.
- Workgroup established, with participation by invitation only, and with observation by anyone who wishes.
- Public involvement occurs principally at public or public workgroup-only meetings.
- Public involvement occurs at agency meetings (through representative or through participation of any public workgroup members who want to attend.)
- Public involvement occurs at joint agency and public workgroup meetings.

Next Steps

- | | |
|------------|---|
| 3/1- 3/7 | Development of options for public involvement approaches for agencies to consider at team meeting. |
| 3/8 | Review, refinement, and approval of public involvement approach by agencies at team meeting. |
| 3/21- 4/7 | Assessment interviews to identify and invite essential participants in public involvement process, tentatively identify issues, and develop more detailed process design. |
| 4/7 - 4/17 | Review and refinement of draft design for public involvement by agencies. |
| 4/17 - 28 | Initial public workgroup meeting or public involvement event. (Timing may be changed to coordinate with agency meeting dates.) |
| 5/1 - 5/3 | Second public workgroup meeting or public involvement event? (Timing may be changed to coordinate with agency meeting dates.) |

Oak Hammock Landfill

DEP interests (potential)

Solid Waste
Waste Clean-up
Environmental Resource Permitting
Surface Water Monitoring
Air Resources (if an incinerator is proposed)
Industrial Waste
Groundwater
Tanks/Petroleum Clean-up
Division of State Lands - CARL Program (state-owned lands possibly nearby)
Bureau of Invasive Species Management
Intergovernmental Programs
Recreation & Parks

Other Governmental Entities

South Florida Water Management District
St. Johns River Water Management District
Osceola County Planning Department
Osceola County Zoning Department
Department of Community Affairs (comp plan amendment needed?)
East Central Florida Regional Planning Council
US Army Corps of Engineers
Environmental Protection Agency
Flood Control District – if there IS one in this area, does anyone have a contact?
Dept. of State – Division of Archives
Florida Fish & Wildlife Conservation Commission
Florida Dept. of Transportation
US Geological Survey (not as a regulatory entity but as an interested party)
US Fish & Wildlife Service

Possible Issues

Garbage & trash
Groundwater
Wetlands/dependent Species
Stormwater runoff
Surface water quality
Proximity of state-owned lands
Comprehensive Plan amendment
Drinking water quality
Proximity to lands on CARL purchase list
Proximity to wellfields
Truck traffic & noise
Odors
Incinerators
Truck washing facilities

403.075 Legislative findings.—In addition to the declarations contained in s. 403.021, the Legislature finds that:

(1) Ecosystem management is a concept that includes coordinating the planning activities of state and other governmental units, land management, environmental permitting and regulatory programs, and voluntary programs, together with the needs of the business community, private landowners, and the public, as partners in a streamlined and effective program for the protection of the environment. It is particularly in the interest of persons residing and doing business within the boundaries of a particular ecosystem to share in the responsibility of ecosystem restoration or maintenance. The proper stewardship of an ecosystem by its affected residents will, in general, enhance the economic and social welfare of all Floridians by maintaining the natural beauty and functions of that ecosystem, which will, in turn, contribute to the beauty and function of larger inclusive ecosystems and add immeasurably to the quality of life and the economy of all Florida counties dependent on those ecosystems, thus serving a public purpose.

(2) Most ecosystems are subject to multiple governmental jurisdictions. Therefore, there is a need for a unified and stable mechanism to plan for restoration and continued long-term maintenance of ecosystems.

(3) It is in the public interest and serves a public purpose that the Department of Environmental Protection take a leading role among the agencies of the state in developing and implementing comprehensive ecosystem management solutions, in cooperation with both public and private regulated entities, which improves the integration between land use planning and regulation, and which achieves positive environmental results in an efficient and cost-effective manner.

History.—s. 26, ch. 97-164.

403.0752 Ecosystem management agreements.—

(1) Upon the request of an applicant, the secretary of the department is authorized to enter into an ecosystem management agreement regarding any environmental impacts with regulated entities to better coordinate the legal requirements and timelines applicable to a regulated activity, which may include permit processing, project construction, operations monitoring, enforcement actions, proprietary approvals, and compliance with development orders and regional and local comprehensive plans. Entering into an ecosystem management agreement shall be voluntary for both the regulated entity and the department.

(2) An ecosystem management agreement may be entered into by the department and regulated entities when the department determines that:

(a) Implementation of such agreement meets all applicable standards and criteria so that there is a net ecosystem benefit to the subject ecosystem more favorable than operation under applicable rules;

(b) Entry into such agreement will not interfere with the department's obligations under any federally delegated or approved program;

(c) Implementation of the agreement will result in a reduction in overall risks to human health and the environment compared to activities conducted in the absence of the agreement; and

(d) Each regulated entity has certified to the department that it has in place internal environmental management systems or alternative internal controls sufficient to implement the agreement.

(3)(a) An ecosystem management agreement shall include provision for the department to terminate the agreement by written notice to all other parties to the agreement when the department demonstrates that:

1. There has been a material change in conditions from the original agreement such that the intended net ecosystem benefit is not being, and may not reasonably be expected to be, achieved through continuation of the agreement;
2. Continuation of the agreement will result in economic hardship or competitive disadvantage; or
3. A party has violated the terms of the agreement.

(b) Termination of an ecosystem management agreement by the department shall be subject to the requirements of ss. 120.569 and 120.57.

(c) The applicant for an ecosystem management agreement may terminate such agreement at any time. Governmental parties, other than the department, may withdraw in accordance with the terms of the agreement at any time, but may not terminate the agreement.

(4) An ecosystem management agreement may include incentives for participation and implementation by a regulated entity, including, but not limited to, any or all of the following:

- (a) Coordinated regulatory contact per facility.
- (b) Permitting process flexibility.
- (c) Expedited permit processing.
- (d) Alternative monitoring and reporting requirements.
- (e) Coordinated permitting and inspections.
- (f) Cooperative inspections that provide opportunity for informal resolution of compliance issues before enforcement action is initiated.

(g) Alternative means of environmental protection which provide for equivalent or reduced overall risk to human health and the environment and which are available under existing law such as variances, waivers, or other relief mechanisms.

(5) The Secretary of Community Affairs, the Secretary of Transportation, the Commissioner of Agriculture, the Executive Director of the Fish and Wildlife Conservation Commission, and the executive directors of the water management districts are authorized to participate in the development of ecosystem management agreements with regulated entities and other governmental agencies as necessary to effectuate the provisions of this section. Local governments are encouraged to participate in ecosystem management agreements.

(6) The secretary of the department may form ecosystem management advisory teams for consultation and participation in the preparation of an ecosystem management agreement. The secretary shall request the participation of at least the state and regional and local government entities having regulatory authority over the activities to be subject to the ecosystem management agreement. Such teams may also include representatives of other participating or advisory government agencies, which may include regional planning councils, private landowners, public landowners and managers, public and private utilities, corporations, and environmental interests. Team members shall be selected in a manner that ensures adequate representation of the diverse interests and perspectives within the designated ecosystem. Participation by any department of state government is at the discretion of that agency.

- (7) An application for a binding ecosystem management agreement shall include:
- (a) The name and address of the applicant;
 - (b) The location and a description of the project; and
 - (c) All application materials required for any requested permit, license, approval, variance, or waiver under all applicable statutes and rules.

(8)(a) An applicant for a binding ecosystem management agreement shall, at the applicant's own expense, publish a notice of its request to enter into the agreement in a newspaper of general circulation in the county in which the activity that is the subject of the agreement will be located or take place. Proof of publication shall be provided to the department by the applicant. Actual mailed notice of the application shall also be provided to owners of property adjacent to the activity that is the subject of the agreement and to any other person whose interest is known to the department or the applicant.

(b) A binding ecosystem management agreement is subject to the following requirements:

1. Notice of intent to enter into the agreement shall be published by the regulated entity in a newspaper of general circulation in each county where the ecosystem management area is located. The notice shall specifically identify any standards, rules, or other legal or regulatory requirements proposed to be subject to variance or waiver under the agreement and any permit, license, or approval to be granted. The notice shall include the opportunity to request a hearing on the agreement under the provisions of ss. 120.569 and 120.57.

2. Substantially affected persons may challenge the terms of the agreement and the proposed issuance of any permit, license, approval, variance, or waiver contained in the agreement pursuant to ss. 120.569 and 120.57.

3. A substantially affected person may challenge the subsequent issuance of any permit, license, approval, variance, or waiver pursuant to the agreement, but which is not contained in the agreement, pursuant to ss. 120.569 and 120.57. In any such proceeding, any relevant and material elements of the agreement shall be admissible.

4. Any substantial modification or amendment to the agreement shall be subject to the same processes as the original agreement.

(c) The parties to an ecosystem management agreement may elect to enter into a nonbinding agreement that does not constitute agency action. Such agreements shall be considered advisory in nature and are not binding on any party to the agreement. If such election is made, any permit, license, approval, waiver, or variance subsequently issued by an agency shall be subject to the provisions of chapter 120.

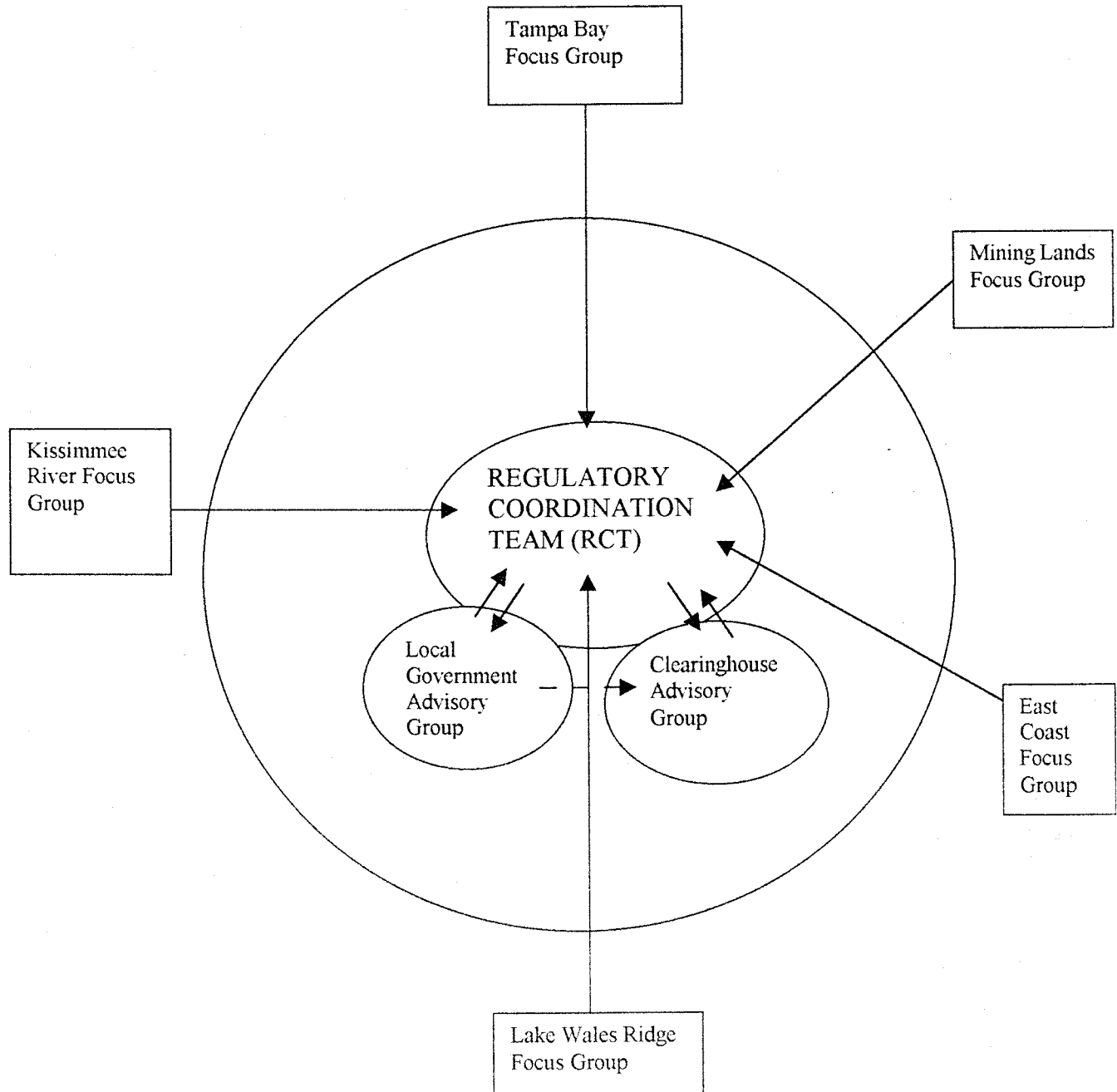
(d) Waivers and variances available under applicable statutes and rules may be granted as a part of a binding ecosystem management agreement.

(e) A person who requests a binding ecosystem management agreement and as a part of that request seeks a permit, license, approval, variance, or waiver that is subject to a statutory application review time limit waives her or his right to a default permit, license, approval, variance, or waiver.

(9) Implementation of this section by the department must be consistent with federally delegated programs and federal law.

History.—s. 27, ch. 97-164; s. 15, ch. 99-7; s. 203, ch. 99-245.

Gulfstream Natural Gas System
Team Permitting Organizational Chart
January 20, 2000



Team Permitting in the Southwest District

Ecosystem Management

Integrated, flexible approach to management of Florida's biological and physical environments; designed to maintain, protect and improve the state's natural, managed, and human communities.

What is Team Permitting?

- *EMIS based*
- *Multi-Media*
- *Multi-Agency*
- *Strong Public Involvement*
- *Innovative*
- *Flexible*
- *Driven by 403.075, Florida Statutes*

Legislation FS 403.075

- *Must meet all standards and criteria*
- *Must provide a Net Ecosystem Benefit*
- *Will not interfere with federal obligations as a result of delegation*
- *Reduction in overall risks to human health or the environment*
- *Applicant guarantees sufficient resources to complete all project requirements*
- *Binding Vs Non-binding Ecosystem Management Agreements*

Features of Team Permitting

- *Interested, involved stakeholders*
- *Early education about their ecosystem*
- *Recognition of the need for good science and good foundations*
- *Equal standing of all the participants*
- *Strong leadership and expert facilitation*
- *Adequate multi-agency support*
- *Holistic approach to Net Ecosystem Benefit*

Net Ecosystem Benefit (NEB)

An advantage that accrues to ecosystems from using holistic planning and management, innovative engineering and design, or other strategies to produce a better environmental outcome than would have been achieved through the traditional regulatory process.

Team Permit Incentives

- Savings in time, cost and certainty
- Process flexibility (esp. TWRRP)
- Streamlined process
- Alternative monitoring and reporting requirements
- Regulatory agency coordination for permitting and inspections
- Early public involvement
- EIS can be concurrent

Permitting Traditional vs. Team

- | | |
|---|--|
| ■ Data collection and analysis (multiple efforts) | ■ Data collection and analysis (integrated approach) |
| ■ Application (separate) | ■ Application (consolidated) |
| ■ Meets regulatory standards | ■ Meets or exceeds regulatory standards |

Permitting Traditional vs. Team

- | | |
|---|--|
| ■ Public input (limited and "after the fact") | ■ Public input (extensive and "up front") |
| ■ Environmental issues (individually addressed) | ■ Environmental issues (holistic approach) |
| ■ Permitting process (required) | ■ Permitting process (voluntary) |

Completed Team Permits

- CF Industries Gypsum Stack Expansion
- Tampa Water Resource Recovery Project (TWRRP)
- Lake Hollingsworth Restoration

CFI Partners

EPA
FDEP
SWFWMD
WCRWSA
ACOE
HCEPC
CFI
FGFC
DCA
Hillsborough Co
TBRPC



TWRRP Partners

- | | |
|-----------------|--------|
| ■ EPA | ■ EPC |
| ■ FDEP | ■ ACOE |
| ■ City of Tampa | ■ DOH |
| ■ WCRWSA | |
| ■ SWFWMD | |

Observations (continued)

- *Intensive citizen participation*
- *Not suitable for small projects*
- *Each project is unique*
- *Misunderstanding of the process*

