APPENDIX D1

AS-BUILT DRAWING

TOP OF WASTE (EXISITNG CONDITIONS)

APPENDIX D2

AS-BUILT DRAWING

TOP OF INTERMEDIATE COVER

APPENDIX D3

AS-BUILT DRAWING

TOP OF PROTECTIVE COVER

APPENDIX D4

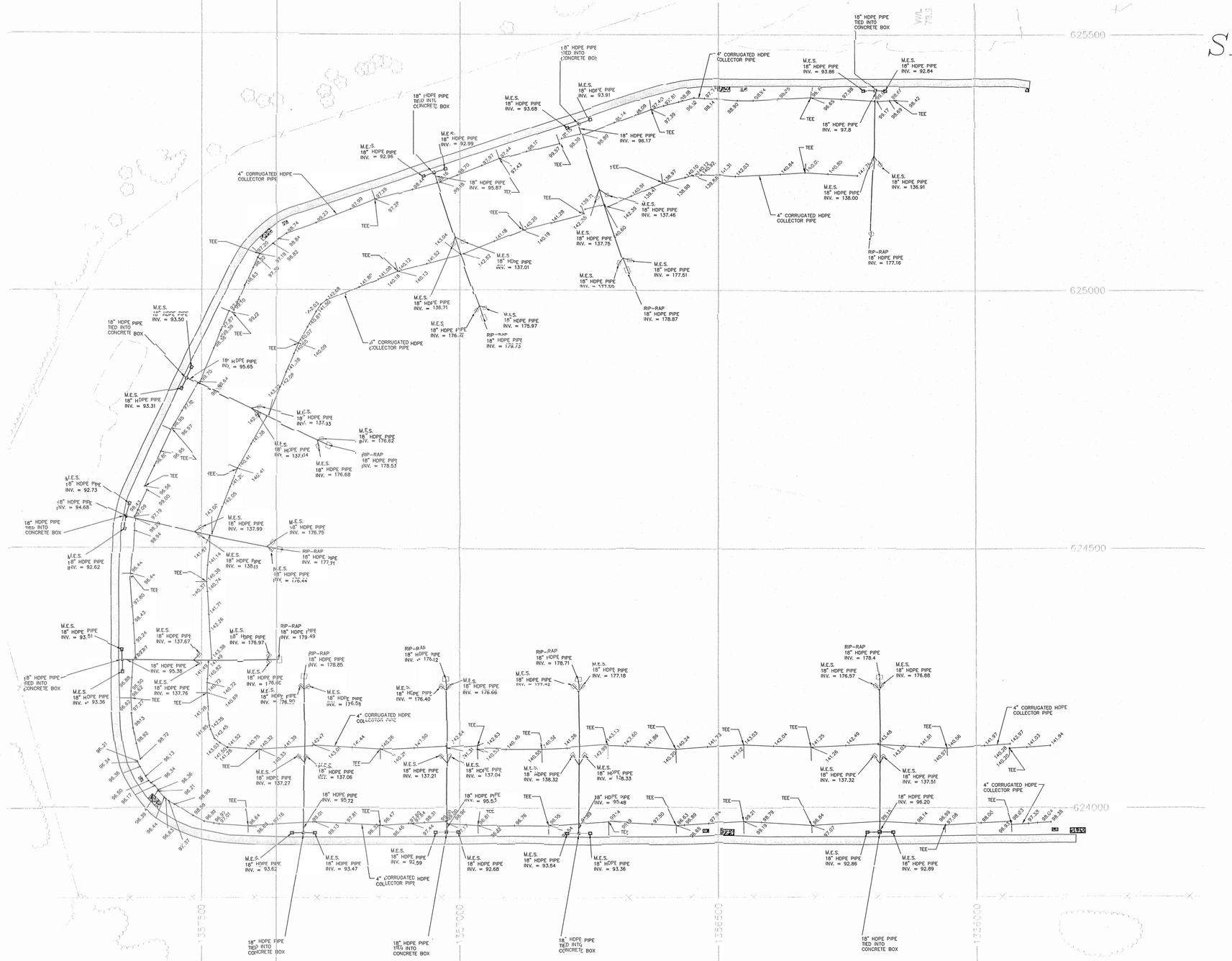
AS-BUILT DRAWING

TOP OF VEGETATIVE SOIL

APPENDIX D5

AS-BUILT DRAWING

STORM WATER MANAGEMENT FEATURES



THE MAP OF

SPECIFIC PURPOSE SURVEY

PHASE 1 PARTIAL CLOSURE OF THE J.E.D. SOLID WASTE MANAGEMENT FACILITY
LOCATED IN ST. CLOUD, FLORIDA
AS OF SEPTEMBER 14, 2009

STORM WATER MANAGEMENT DETAILS

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

N

LEGEND

	LIMITS OF WETLAND
	DIRT ROAD
MES	MITERED END SECTION
	FENCE LINE
91.3	SPOT ELEVATION BY SURVEYOR
	TREE LINE
	MITERED END SECTION
TEE	COLLECTOR DRAIN OUTLET PIPES

SURVEYOR'S NOTES:

1. This is a Specific purpose survey of topography as delineated hereon.
2. Horizontal and vertical datum information was based from information as provided by Geosyntec Consultants as noted on the design engineer's plans.
3. Field data obtained by John B. Webb & Associates, Inc. is annotated to insure clarity and consistency with the projects conformed construction plans and the annotations are the type and elevation obtained from direct field measurements.
4. The professional surveyor has made no investigation or independent search for easements, recorded or un-recorded, encumbrances, restrictive covenants, ownership title evidence, or any other facts that an accurate and current title search may disclose.
5. Last field date on this survey was on 9/14/09.
6. The word "certify" or "certification" as shown and used herein, means an expression or professional opinion regarding the facts of the survey and does not constitute a warranty or guarantee, expressed or implied

DRAWN BY:	CAD	DATE:	09/17/09
CHECKED BY:	BE	DRAWING NO.:	LANDFILL UTILITY.dwg
FIELD DATE:	09/14/09	FIELD BOOK:	—
JOB NO.:	H26-06	SHEET	1 OF 1

REVISIONS:	DESCRIPTION:

William F. Grizzell
PROFESSIONAL SURVEYOR AND MAPPER #5975
STATE OF FLORIDA

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

PREPARED FOR:

HEWITT CONTRACTING COMPANY, INC.

LAND SURVEYING DIVISION OF
John B. Webb & Associates, Inc.
CIVIL & ENVIRONMENTAL CONSULTING ENGINEERS
925 S. DENNING DRIVE
WINTER PARK, FLORIDA 32789
PH: (407) 622-9322 FAX: (407) 622-9325
EMAIL: WEBBENGR@AOL.COM

THE MAP OF

SPECIFIC PURPOSE SURVEY

PHASE 1 PARTIAL CLOSURE OF THE J.E.D. SOLID WASTE MANAGEMENT FACILITY
LOCATED IN ST. CLOUD, FLORIDA
AS OF AUGUST 18, 2009

TOP OF FINAL VEGETATIVE LAYER

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

NORTH

LEGEND

- LIMITS OF WETLAND
- DIRT ROAD
- 80 — CONTOUR AND ELEVATIONS
- FENCE LINE
- 99.3 SPOT ELEVATION BY SURVEYOR
- TREE LINE
- 3001 POINT NUMBER BY ENGINEER
- WOODEN LIMIT POST

SURVEYOR'S NOTES:

1. This is a Specific Purpose survey of topography as delineated hereon.
2. Horizontal and vertical datum information was based from information as provided by Geosyntec Consultants as noted on the design engineer's plans.
3. Field data obtained by John B. Webb & Associates, Inc. is annotated to insure clarity and consistency with the projects conformed construction plans and the annotations are the type and Elevation obtained from direct field measurements.
4. The professional surveyor has made no investigation or independent search for easements, recorded or un-recorded, encumbrances, restrictive covenants, ownership title evidence, or any other facts that an accurate and current title search may disclose.
5. Last field date of this survey was 08/18/09.
6. The word "Certification" as shown and used hereon, means an expression or professional opinion regarding the facts of the survey and does not constitute a warranty or guarantee, expressed or implied

DRAWN BY:	CAD
CHECKED BY:	BE
FIELD DATE:	08/18/09
JOB NO.:	H26-06
DATE:	08/18/09
DRAWING NO.:	LANDFILL VEG. COVER.dwg
FIELD BOOK:	—
SHEET	1 OF 1

REVISIONS:	DESCRIPTION:
9/17/09	REMOVED CONTOURS AND MADE SHOTS BIGGER

William F. Grizzell 10/26/09
William F. Grizzell
PROFESSIONAL SURVEYOR AND MAPPER #5975
STATE OF FLORIDA

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

PREPARED FOR:

HEWITT CONTRACTING COMPANY, INC.

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925 S. DENNING DRIVE
WINTER PARK, FLORIDA 32789
PH: (407) 622-9322 FAX: (407) 622-9325
EMAIL: WEBBENGR@AOL.COM

THE MAP OF

SPECIFIC PURPOSE SURVEY

PHASE 1 PARTIAL CLOSURE OF THE J.E.D. SOLID WASTE MANAGEMENT FACILITY
LOCATED IN ST. CLOUD, FLORIDA
AS OF AUGUST 18, 2009

TOP OF PROTECTIVE COVER

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

NORTH

LEGEND

	LIMITS OF WETLAND
	DIRT ROAD
301	CONTOUR AND ELEVATIONS
	FENCE LINE
813	SPOT ELEVATION BY SURVEYOR
	TREE LINE
3301	POINT NUMBER BY ENGINEER

SURVEYOR'S REMARKS:

1. This is a Specific Purpose survey of topography as delineated hereon.
2. Horizontal and vertical datum information was based from information as provided by Tetra Tech Geosynetec Consultants as noted on the design engineer's plans.
3. Field data obtained by John B. Webb & Associates, Inc. is annotated to insure clarity of consistency with the projects conformed construction plans and the annotations are the type and Elevation obtained from direct field measurements.
4. The professional surveyor has made no investigation or independent search for easements, recorded or unrecorded, encumbrances, restrictive covenants, ownership title evidence, or any other facts that an accurate and current title search may disclose.
5. Last field date of this survey was 08/18/09.
6. The word's "certify" or "certification" as shown and used hereon, means an expression or professional opinion regarding the facts of the survey and does not constitute a warranty or guarantee, expressed or implied.

DRAWN BY:	CAD
CHECKED BY:	BE
FIELD DATE:	08/18/09
JOB NO.:	H26-06
DATE:	08/18/09
DRAWING NO.:	LANDFILL VEG COVER.dwg
FIELD BOOK:	--
SHEET	1 OF 1

REVISIONS:	DESCRIPTION:
9/17/09	REMOVED CONTOURS, AND MADE SHOTS BIGGER

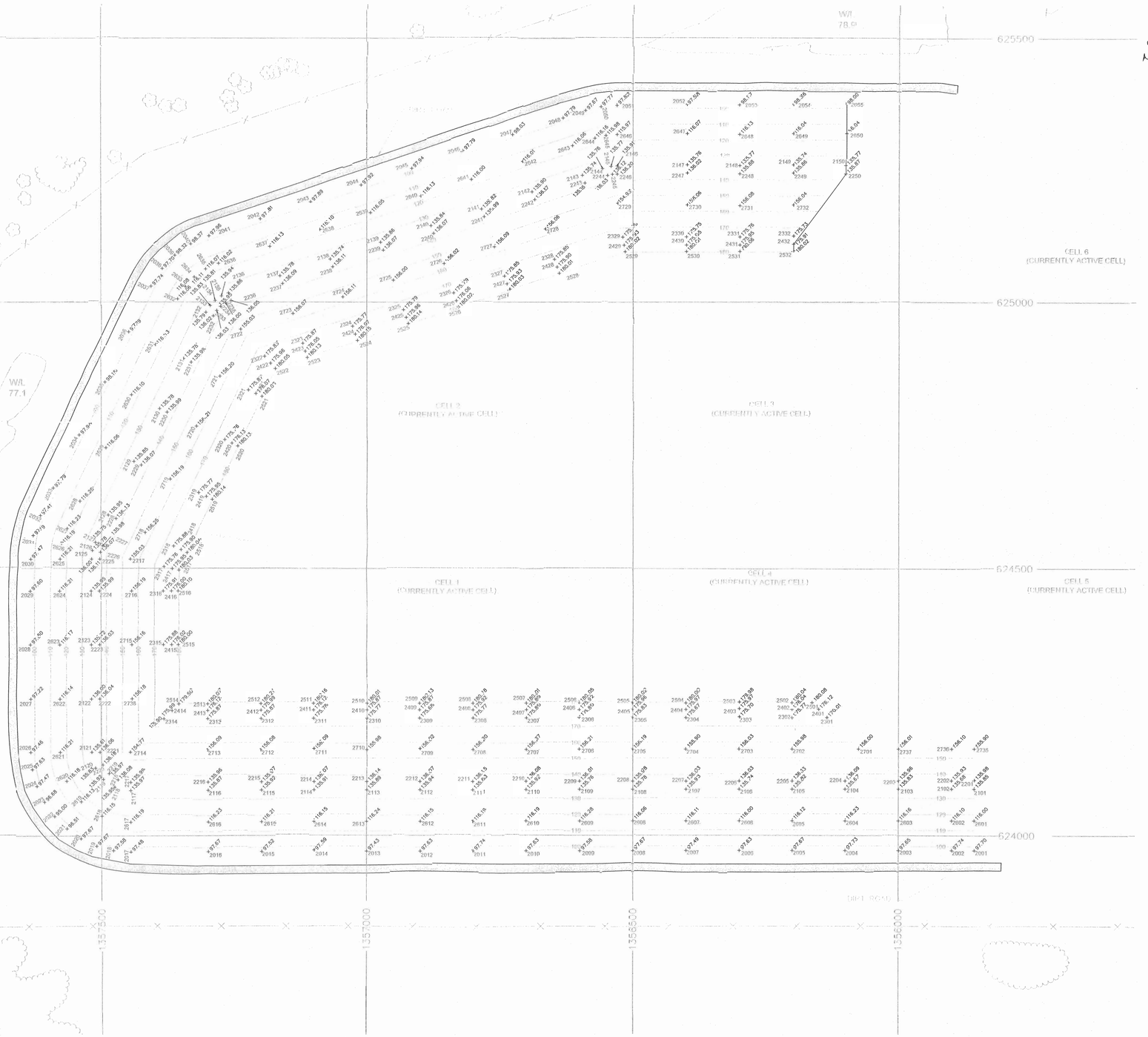
William F. Grizzell 10/26/09
WILLIAM F. GRIZZELL
PROFESSIONAL SURVEYOR AND MAPPER #5975
STATE OF FLORIDA

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

PREPARED FOR:

HEWITT CONTRACTING COMPANY, INC.

LAND SURVEYING DIVISION OF
John B. Webb & Associates, Inc.
CIVIL & ENVIRONMENTAL CONSULTING ENGINEERS
925 S. DENNING DRIVE
WINTER PARK, FLORIDA 32789
PH: (407) 622-9322 FAX: (407) 622-9325
EMAIL: WEBBENGR@AOL.COM



THE MAP OF

SPECIFIC PURPOSE SURVEY

PHASE 1 PARTIAL CLOSURE OF THE J.E.D. SOLID WASTE MANAGEMENT FACILITY
LOCATED IN ST. CLOUD, FLORIDA
AS OF AUGUST 18, 2009

TOP OF INTERMEDIATE FILL

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

MINOR

LEGEND

———	LIMITS OF WETLAND
= = = = = = = =	DIRT ROAD
——602——	CONTOUR AND ELEVATIONS
——x——x——	FENCE LINE
x 113	SPOT ELEVATION BY SURVEYOR
~~	TREE LINE
3001	POINT NUMBER BY ENGINEER

SURVEYOR'S NOTES:

1. This is a Specific Purpose survey of topography as delineated hereon.
2. Horizontal and vertical datum information was based from information as provided by Geosyntec Consultants as noted on the design engineer's plans.
3. Field data obtained by John B. Webb & Associates, Inc. is annotated to insure clarity and consistency with the projects conformed construction plans and the annotations are the type and Elevation obtained from direct field measurements.
4. The professional surveyor has made no investigation or independent search for easements, recorded or un-recorded, encumbrances, restrictive covenants, ownership title evidence, or any other facts that an accurate and current title search may disclose.
5. Last field date of this survey was 08/18/09.
6. The word "certify" or "certification" as shown and used hereon, means an expression or professional opinion regarding the facts of the survey and does not constitute a warranty or guarantee, expressed or implied

DRAWN BY:	CAD	DATE:	8/18/09
CHECKED BY:	BE	DRAWING NO.:	LANDFILL INTERMEDIATE FILL.dwg
FIELD DATE:	8/18/09	FIELD BOOK:	—
JOB NO.:	H26-06	SHEET	1 of 1

REVISIONS:	DESCRIPTION:
9/17/09	REMOVED CONTOURS AND MADE SHOTS BIGGER

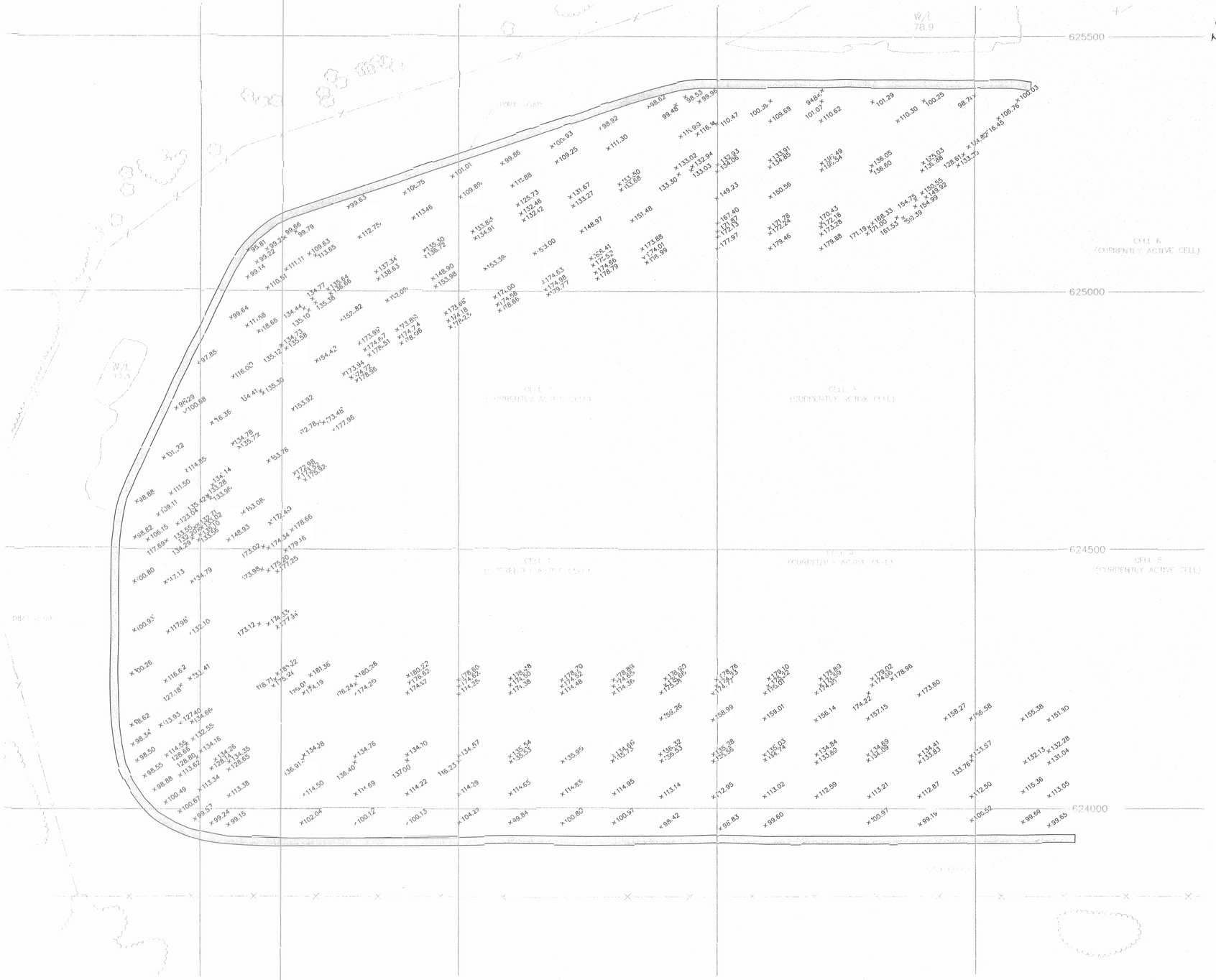
William F. Grizzel
PROFESSIONAL SURVEYOR AND MAPPER #5675
STATE OF FLORIDA

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

PREPARED FOR:

HEWITT CONTRACTING COMPANY, INC.

LAND SURVEYING DIVISION OF
John B. Webb & Associates, Inc.
CIVIL & ENVIRONMENTAL CONSULTING ENGINEERS
925 S. DENNING DRIVE
WINTER PARK, FLORIDA 32789
PH: (407) 622-9322 FAX: (407) 622-9325
EMAIL: WEBBENGR@AOL.COM



THE MAP OF

SPECIFIC PURPOSE SURVEY

PHASE 1 PARTIAL CLOSURE OF THE J.E.D. SOLID WASTE MANAGEMENT FACILITY
LOCATED IN ST. CLOUD, FLORIDA
AS OF MARCH 10, 2009

EXISTING CONDITIONS

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LEGEND

- LIMITS OF WETLAND
- DIRT ROAD
- FENCE LINE
- 84.3 SPOT ELEVATION BY SURVEYOR
- TREE LINE

SURVEYOR'S NOTES:
GENERAL NOTES:
1. This is a Specific Purpose survey of topography as delineated hereon.
2. Horizontal and vertical datum information was based from information as provided by Geosyntec Consultants as noted on the design engineer's plans.
3. Field data obtained by John B. Webb & Associates, Inc. is annotated to insure clarity and consistency with the projects conformed construction plans and the annotations are the type and Elevation obtained from direct field measurements.
4. The professional surveyor has made no investigation or independent search for easements, recorded or un-recorded, encumbrances, restrictive covenants, ownership title evidence, or any other facts that an accurate and current title search may disclose.
5. Last field date of this survey was 03/09/09.
6. The word "certify" or "certification" as shown and used hereon, means an expression or professional opinion regarding the facts of the survey and does not constitute a warranty or guarantee, expressed or implied

DRAWN BY:	CAD	DATE:	03/09/09
CHECKED BY:	BE	DRAWING NO.:	LANDFILL B 3-09-09
FIELD DATE:	03/09/09	FIELD BOOK:	--
JOB NO.:	H26-06	SHEET	1 OF 1

REVISIONS:	DESCRIPTION:
9/8/09	ADDED MISSING ELEVATIONS
9/17/09	REMOVED CONTOURS AND MADE SHOTS BIGGER

William F. Grizzell 10/26/09
William F. Grizzell
PROFESSIONAL SURVEYOR AND MAPPER #5975
STATE OF FLORIDA

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

PREPARED FOR:

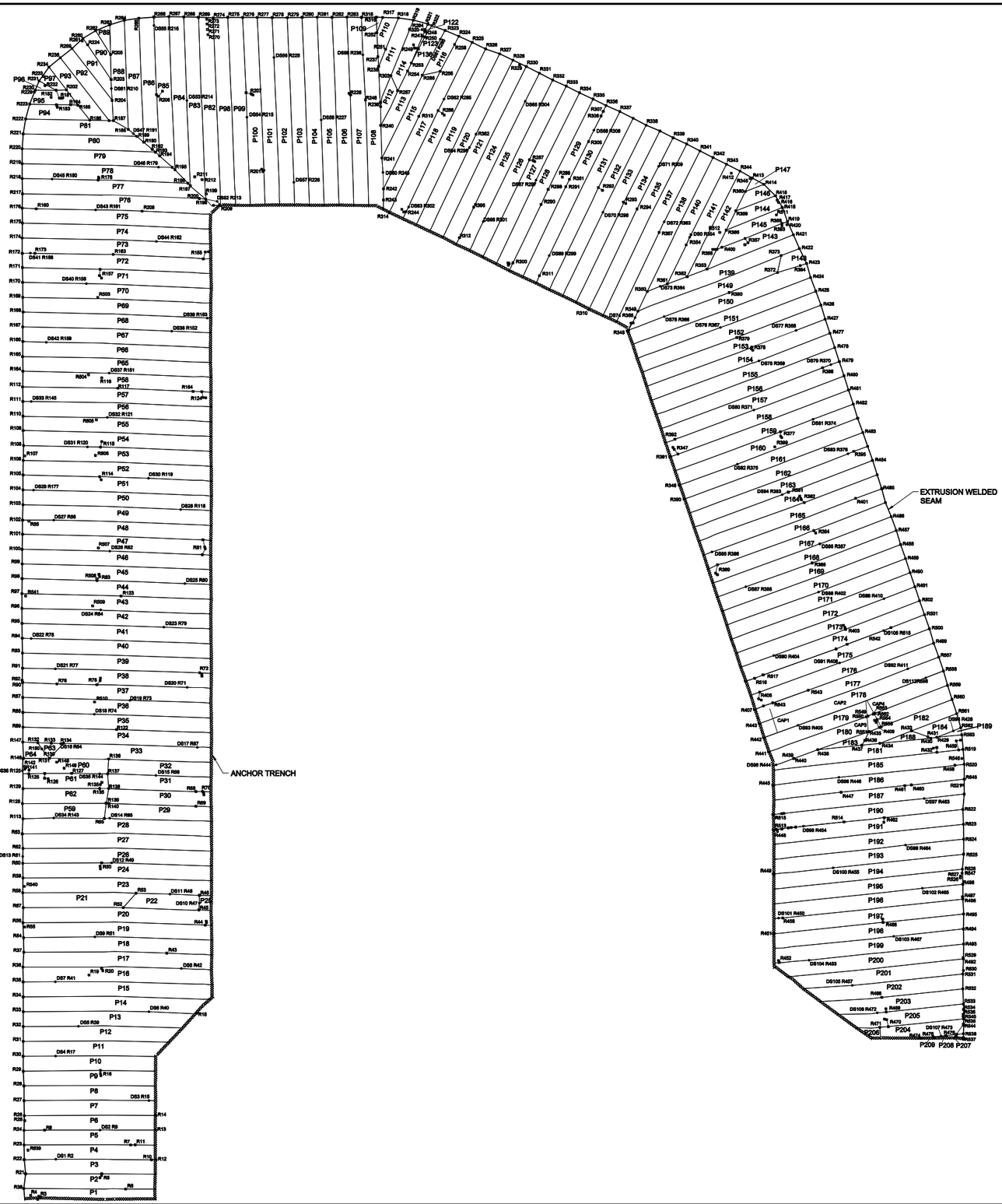
HEWITT CONTRACTING COMPANY, INC.

LAND SURVEYING DIVISION OF
John B. Webb & Associates, Inc.
CIVIL & ENVIRONMENTAL CONSULTING ENGINEERS
925 S. DENNING DRIVE
WINTER PARK, FLORIDA 32789
PH: (407) 622-9322 FAX: (407) 622-9325
EMAIL: WEBBENGR@AOL.COM

APPENDIX D6

AS-BUILT DRAWING

GEOMEMBRANE PANEL LAYOUT RECORD DRAWING (GEOSYNTEC)



LEGEND

P169	SECONDARY / PRIMARY GEOMEMBRANE PANEL NUMBER
	ANCHOR TRENCH
	CAPPED SEAM (FUSION)
*DS87 R388	DESTRUCTIVE SAMPLE (DS) LOCATION
* R378	PATCH REPAIR LOCATION (EXTRUSION)

JED LANDFILL
PARTIAL CLOSURE AS-BUILT

Geosyntec consultants — TAMPA, FL

DATE:	OCTOBER 2009	FILE NO.	FQ1672.01P01
PROJECT NO.	FQ1672	FIGURE NO.	-

G:\CAD\PROJECTS\JED LANDFILL\CONSTRUCTION\AS-BUILT PDMS\2009\FQ1672P01P02\DWG\[Octobar 2009 - 1200 Plot.dwg]Sheet1

APPENDIX E

GENERAL FILL TEST RESULTS

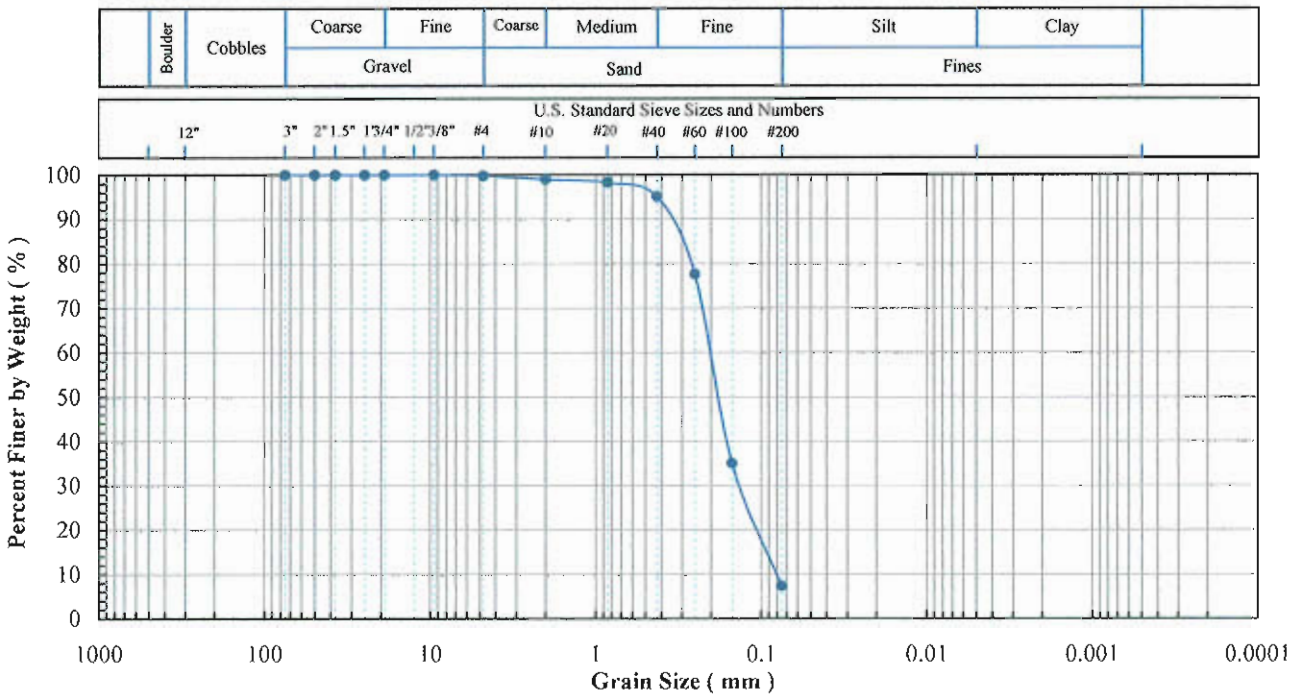
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-01
Lab Sample No:	C099

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Atterberg Limits, Eng. Classification



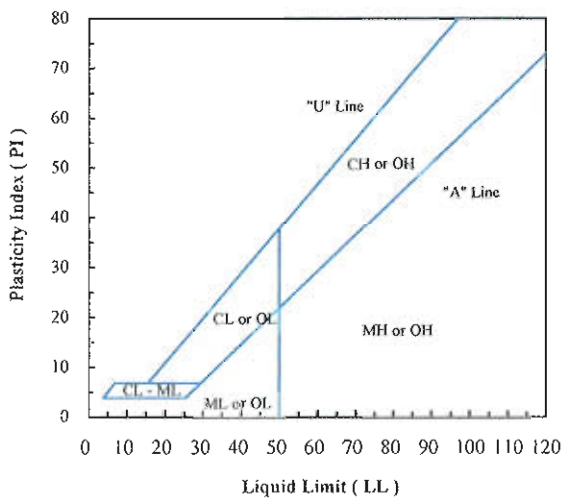
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.8
#10	2.00	99.0
#20	0.850	98.3
#40	0.425	95.1
#60	0.250	77.7
#100	0.150	35.0
#200	0.075	7.4

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.2
Sand (%):	92.4
Fines (%):	7.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.5
Coeff. Curv. (Cc):	1.2



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GF-01	C099	3.1	7.4				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

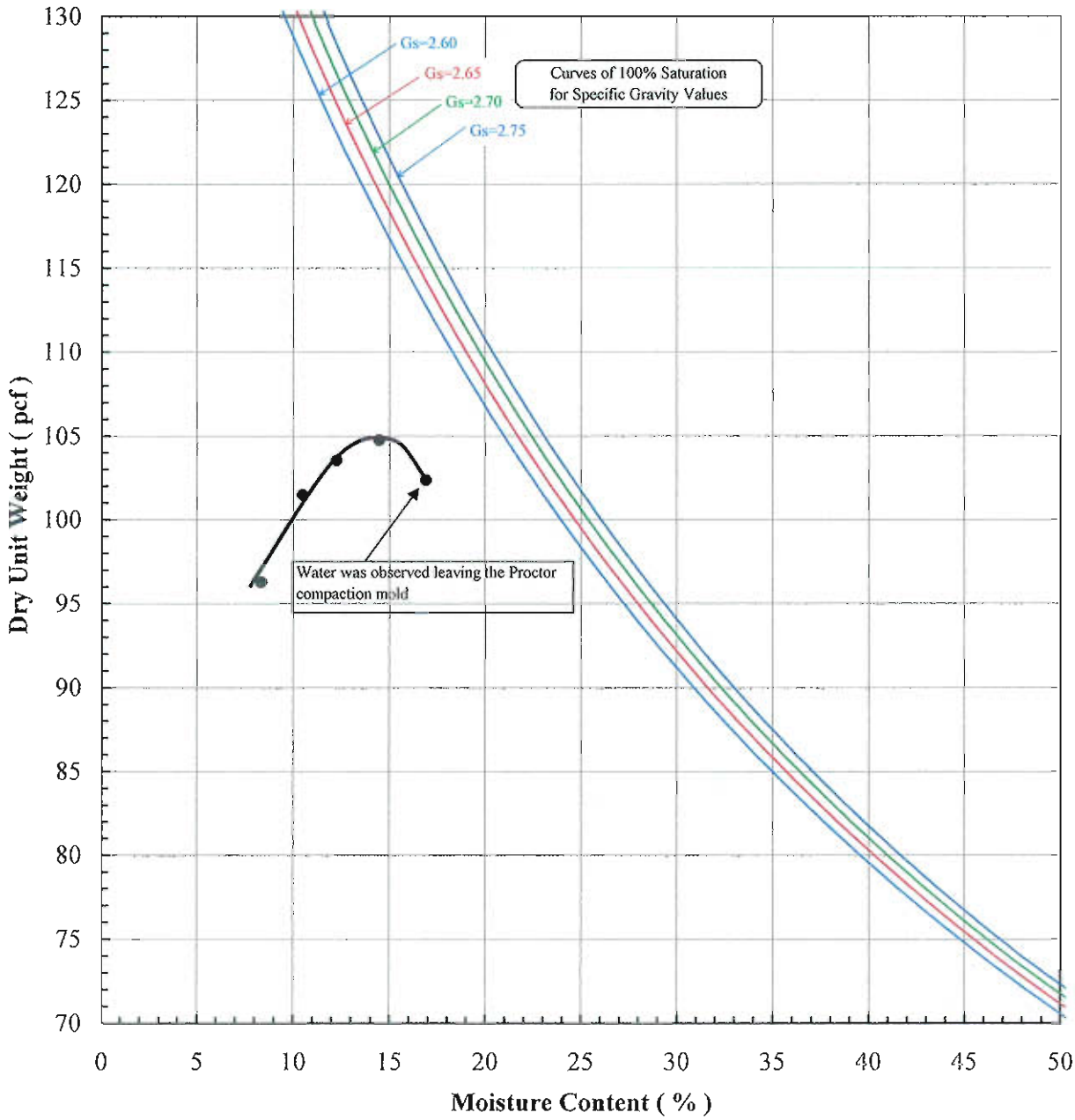
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID	GF-01
Lab Sample No:	C099

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
GF-01	C099	105.0	14.5	

Note(s):

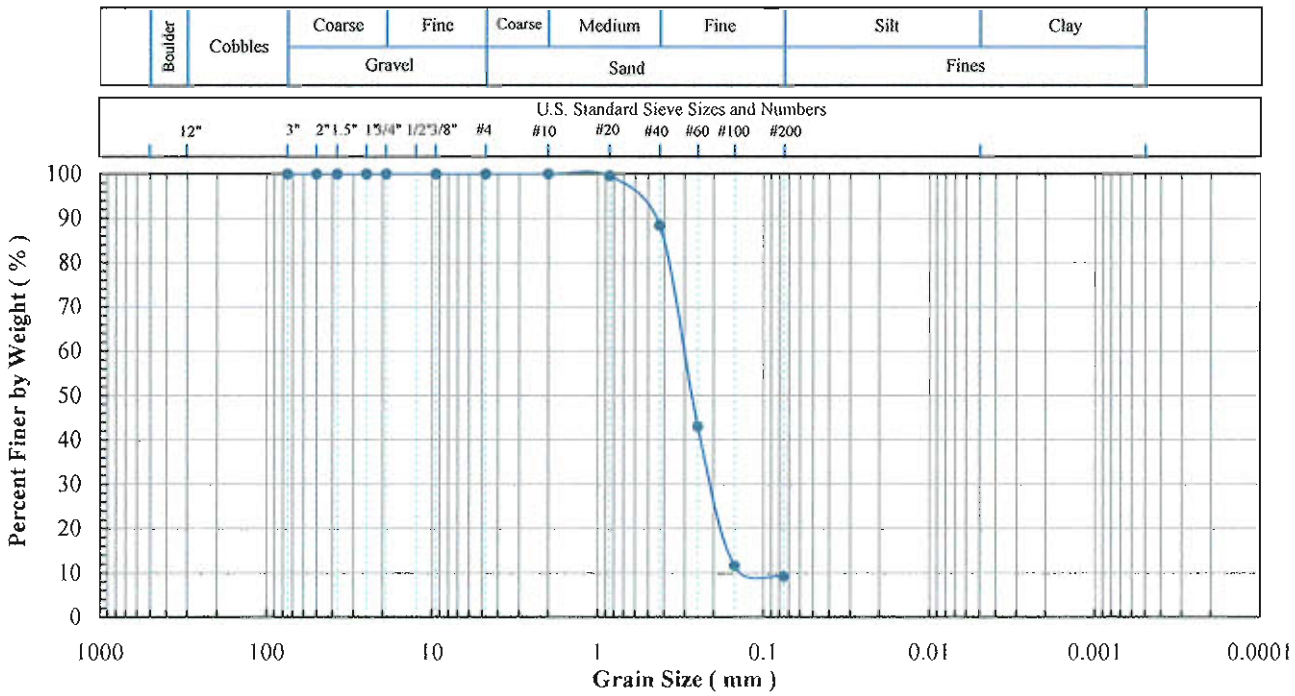
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-02
Lab Sample No:	C100

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



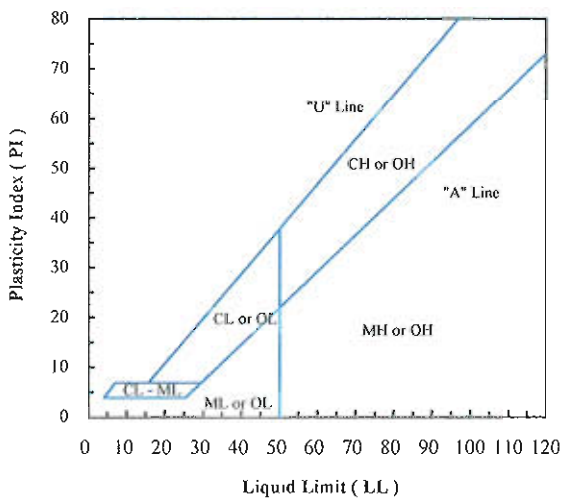
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.6
#40	0.425	88.4
#60	0.250	43.0
#100	0.150	11.6
#200	0.075	9.2

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	90.8
Fines (%):	9.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.1
Coeff. Curv. (Cc):	1.0



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-02	C100	16.7	9.2				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

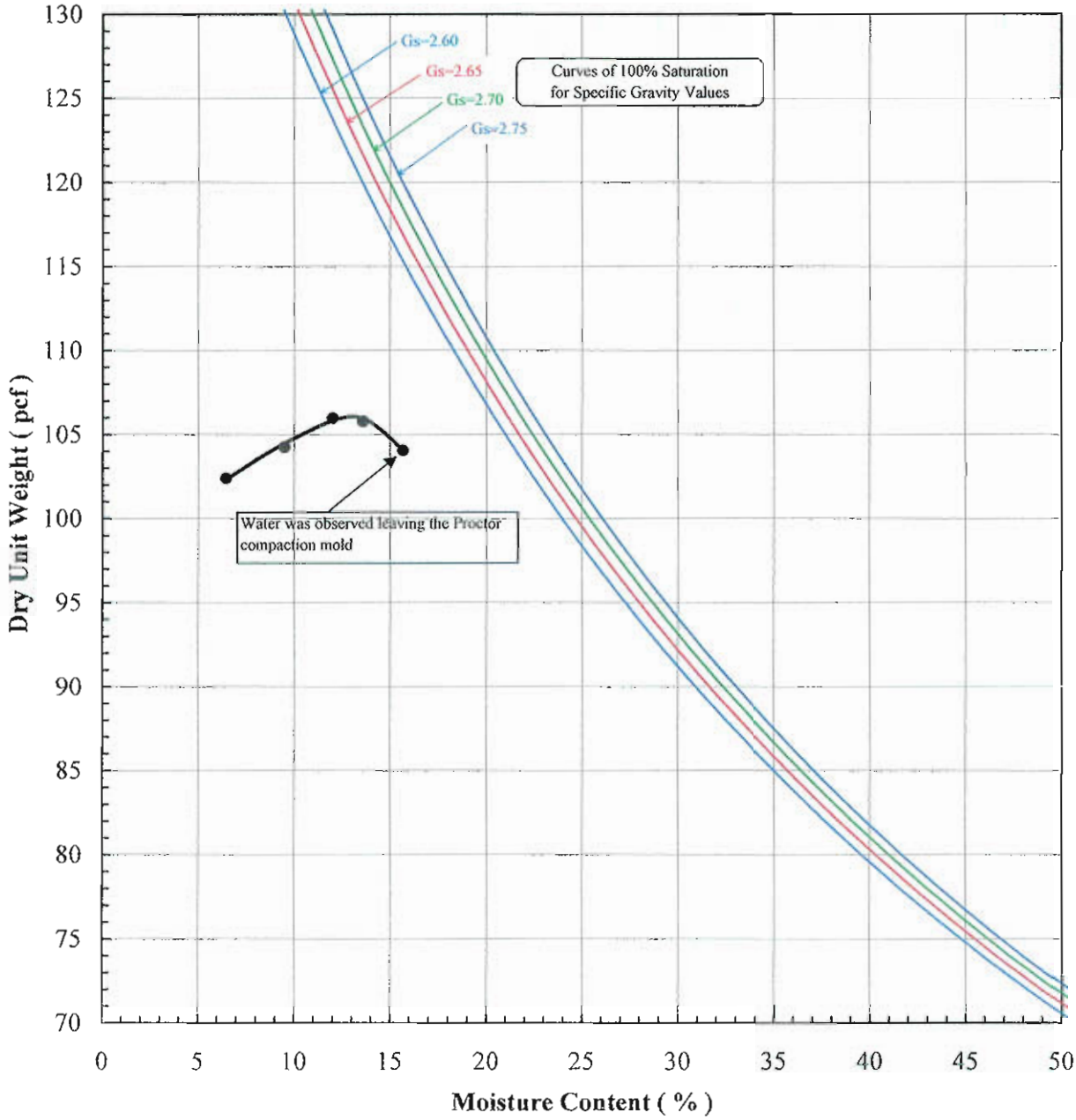
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID	GF-02
Lab Sample No:	C100

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
GF-02	C100	105.1	13.0	

Note(s):

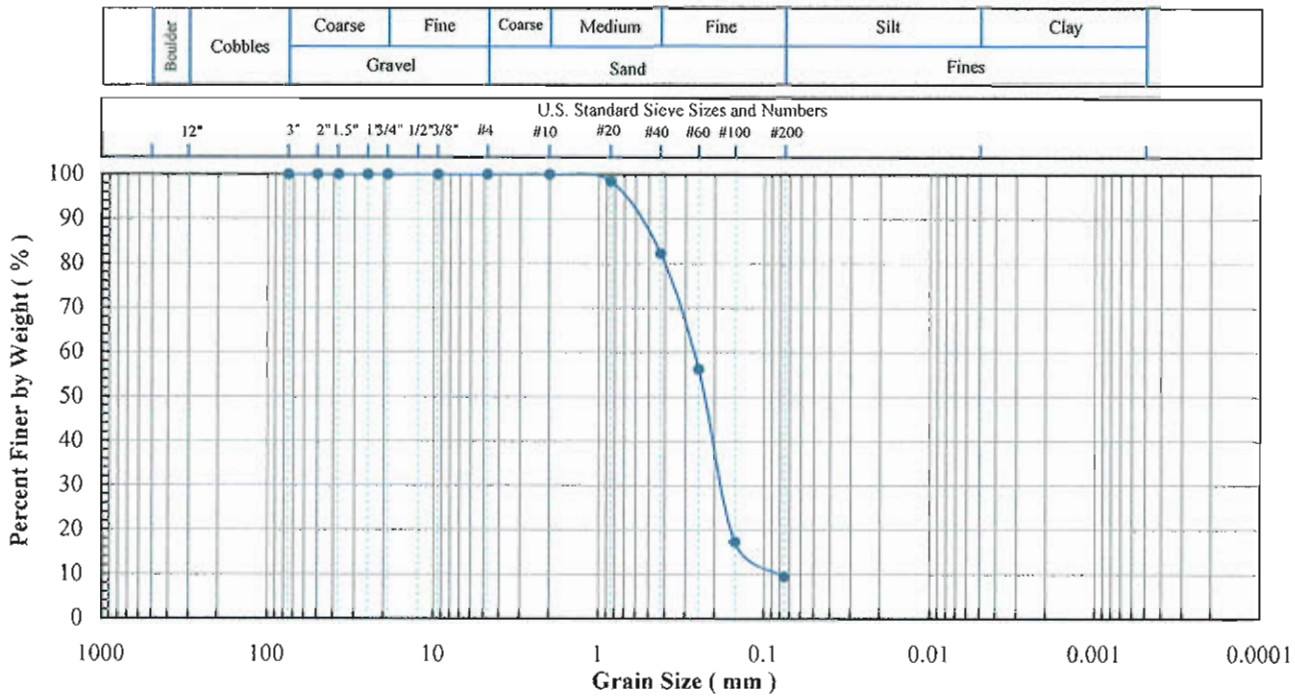
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-03
Lab Sample No:	C101

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



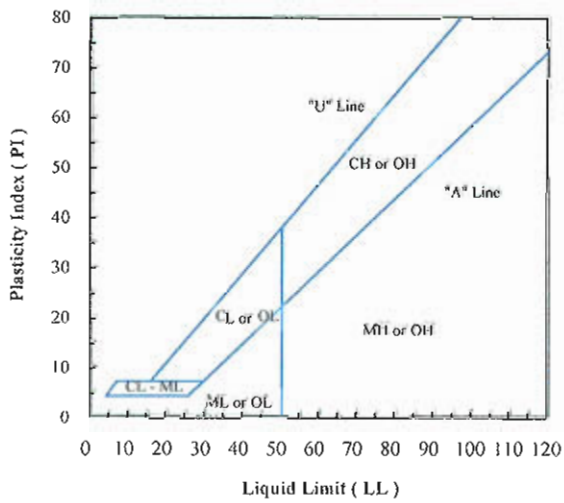
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	98.4
#40	0.425	82.3
#60	0.250	56.2
#100	0.150	17.3
#200	0.075	9.5

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	90.5
Fines (%):	9.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	3.3
Coeff. Curv. (Cc):	1.6



Client Sample ID.	Lab Sample No.	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-03	C101	10.4	9.5				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

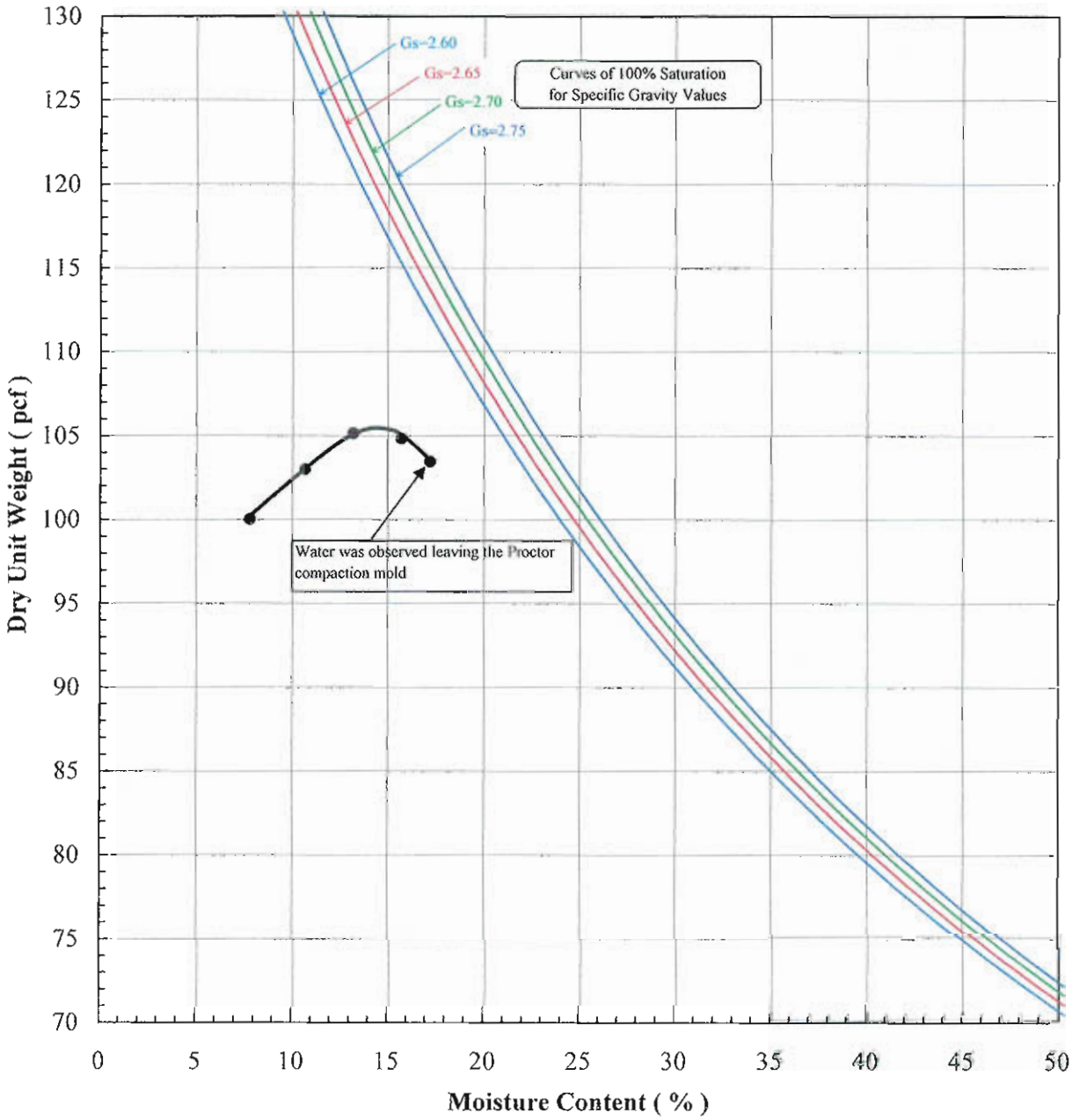
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID	GF-03
Lab Sample No:	C101

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
GF-03	C101	105.4	14.6	

Note(s):

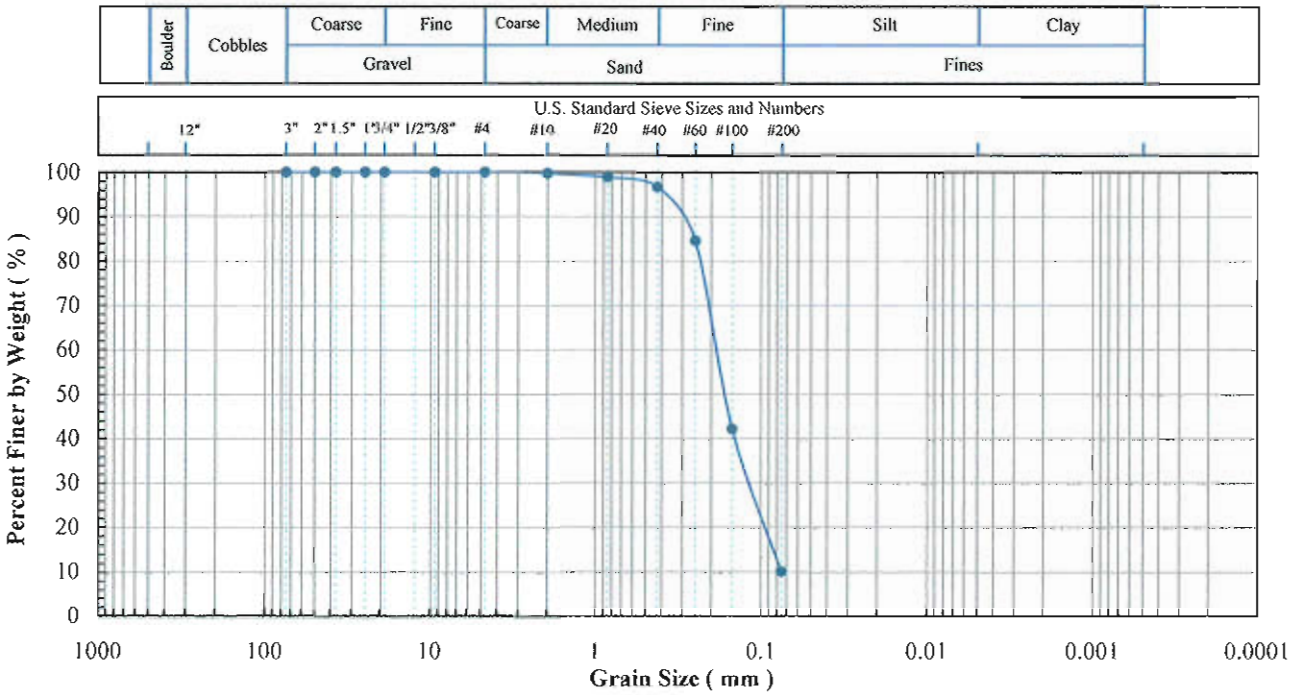
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	GF-04
Lab Sample No:	C102

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



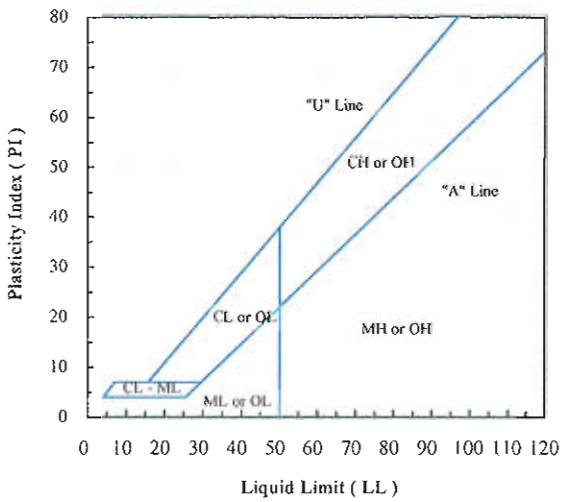
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.7
#20	0.850	98.9
#40	0.425	96.7
#60	0.250	84.6
#100	0.150	42.2
#200	0.075	10.1

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	89.9
Fines (%):	10.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.4
Coeff. Curv. (Cc):	1.0



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-04	C102	4.8	10.1				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

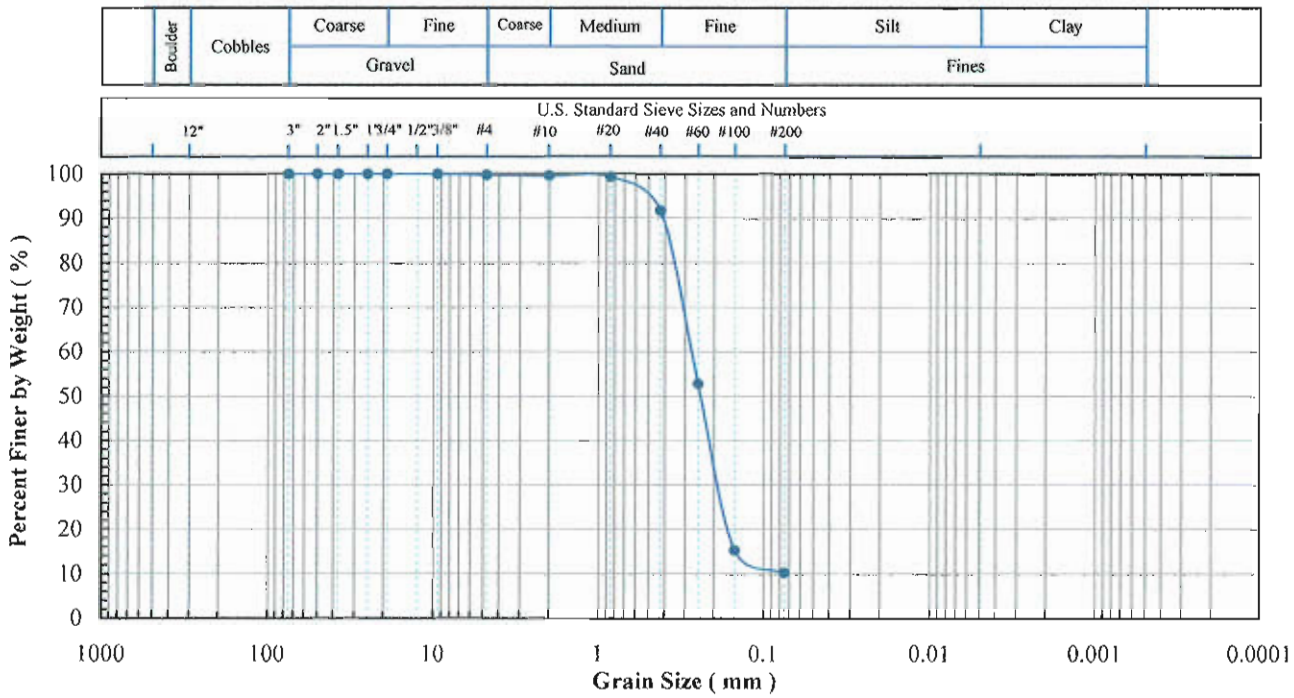
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-05
Lab Sample No:	C103

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



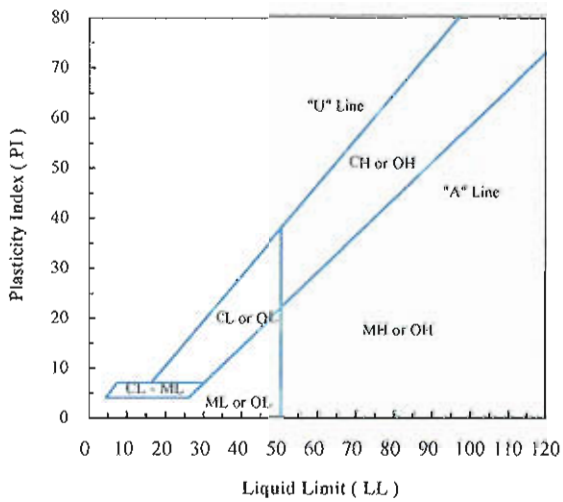
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.8
#10	2.00	99.6
#20	0.850	99.3
#40	0.425	91.7
#60	0.250	52.7
#100	0.150	15.3
#200	0.075	10.3

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.2
Sand (%):	89.5
Fines (%):	10.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	4.0
Coeff. Curv. (Cc):	1.8



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-05	C103	19.1	10.3				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Excel Geotechnical Testing, Inc.
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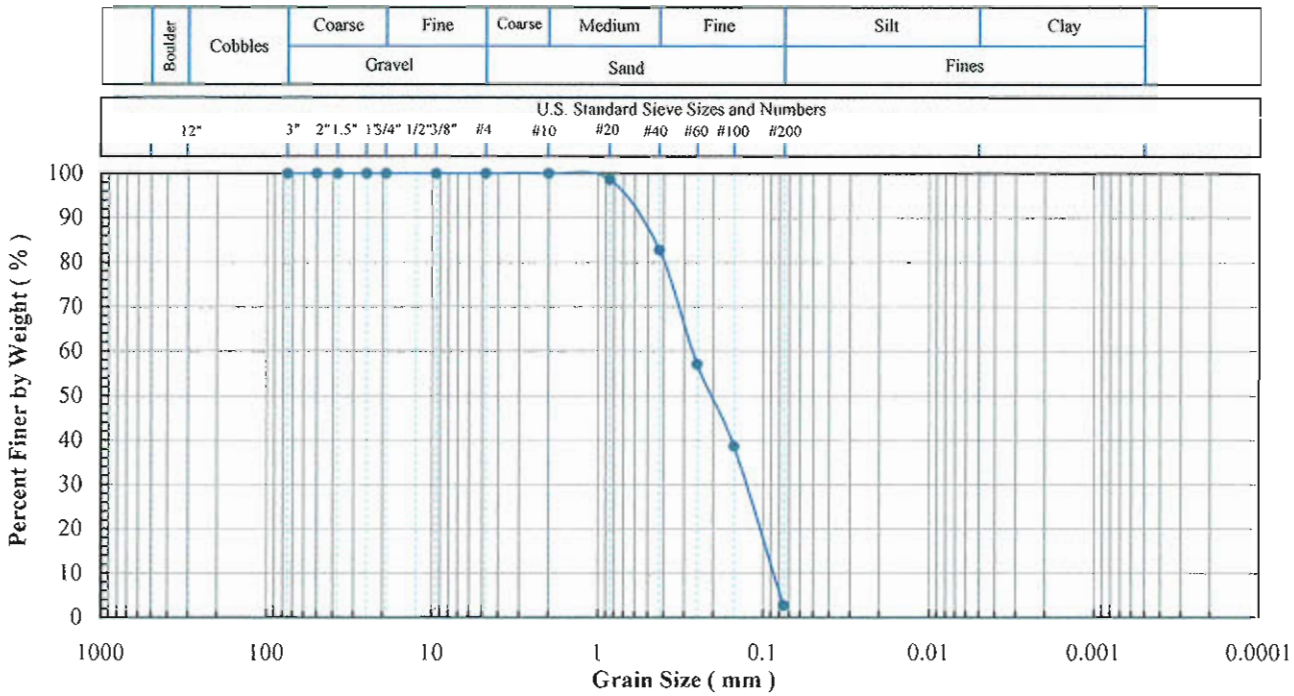
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	GF-06
Lab Sample No:	C104

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



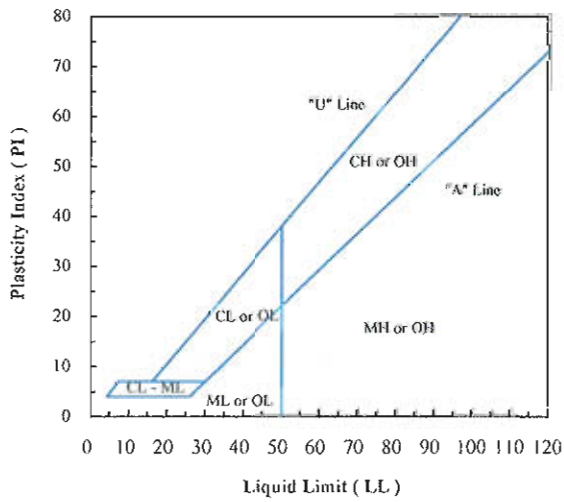
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	98.6
#40	0.425	82.8
#60	0.250	57.1
#100	0.150	38.6
#200	0.075	2.7

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.3
Fines (%):	2.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.7



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-06	C104	10.4	2.7				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH

Excel Geotechnical Testing, Inc.
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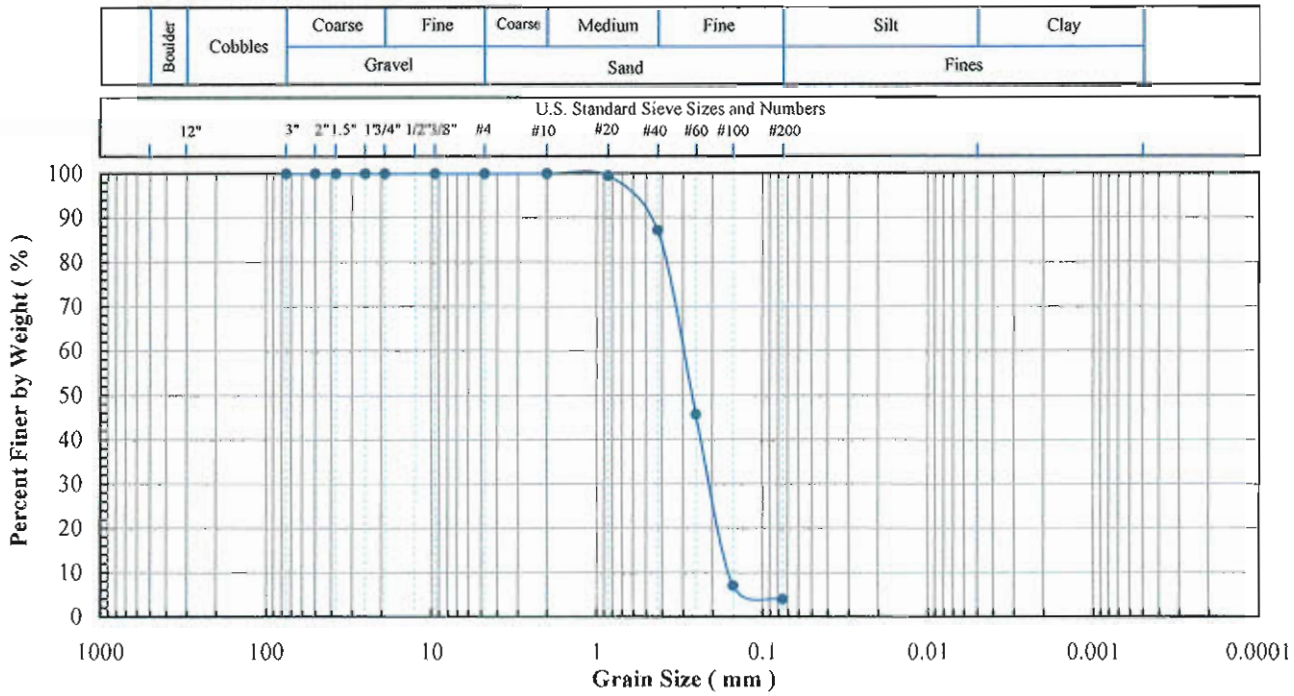
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-07
Lab Sample No:	C148

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



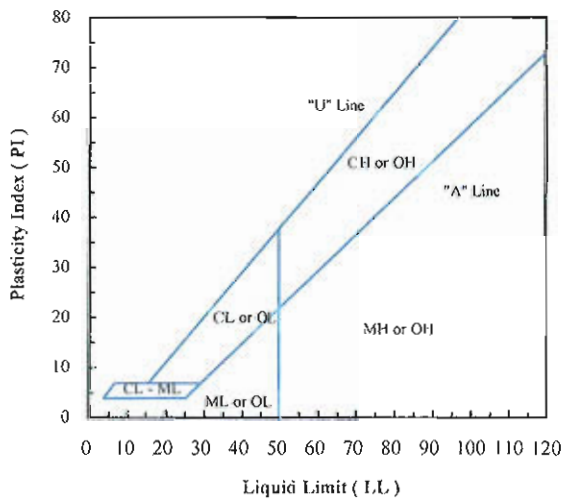
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.5
#40	0.425	87.2
#60	0.250	45.7
#100	0.150	7.1
#200	0.075	4.0

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.0
Fines (%):	4.0
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.9
Coeff. Curv. (Cc):	0.9



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-07	C148	9.6	4.0				SP - Poorly graded sand

Note(s):

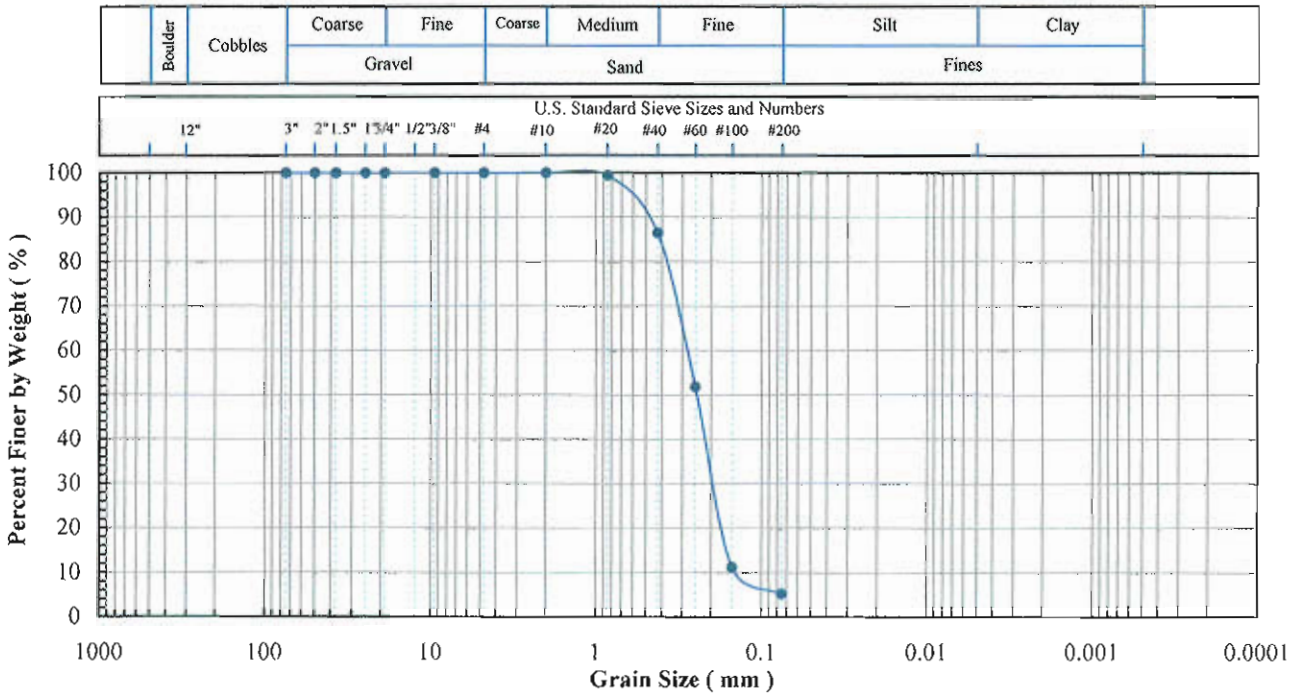
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	GF-08
Lab Sample No:	C149

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



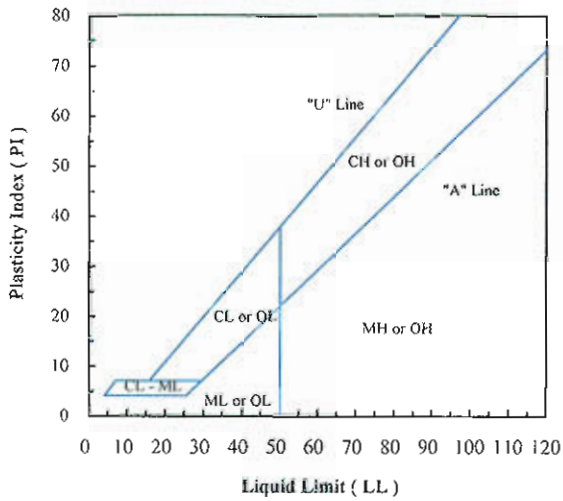
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.4
#40	0.425	86.5
#60	0.250	51.8
#100	0.150	11.3
#200	0.075	5.3

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	94.7
Fines (%):	5.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.9
Coeff. Curv. (Cc):	0.9



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-08	C149	8.8	5.3				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Excel Geotechnical Testing, Inc.
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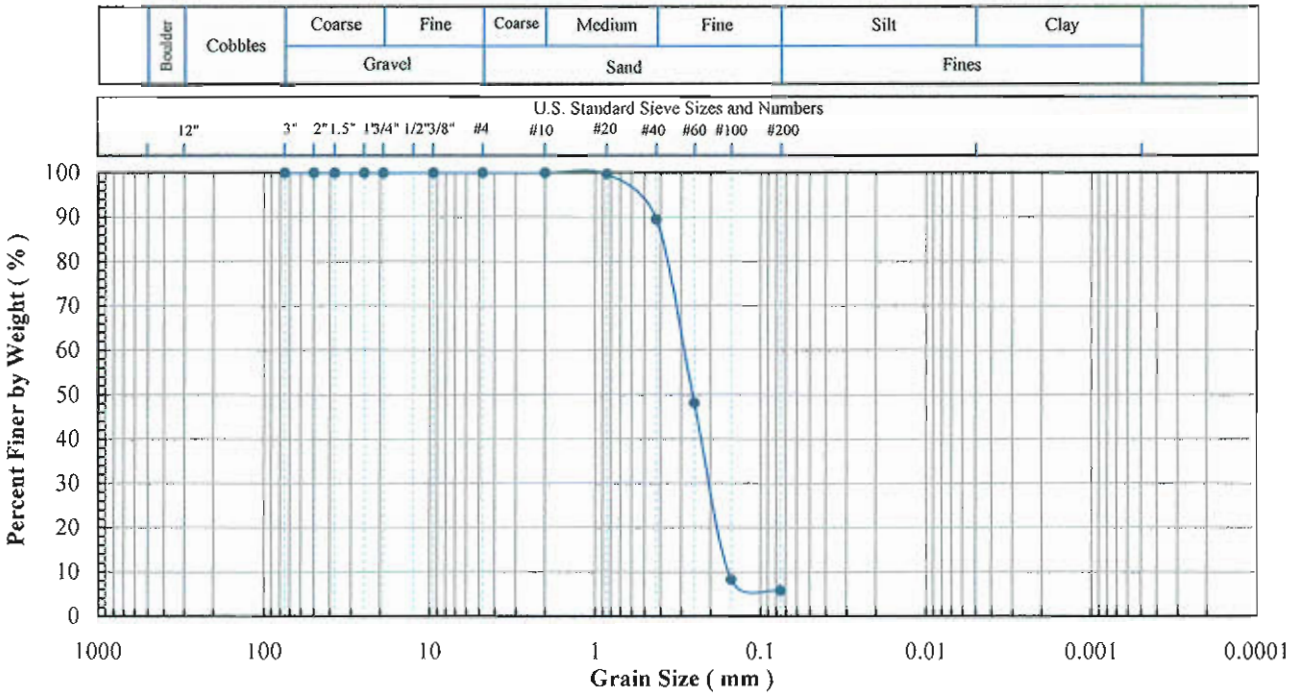
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-09
Lab Sample No:	C150

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



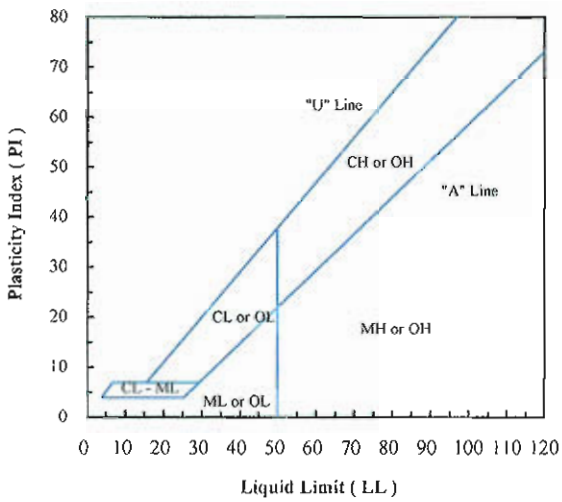
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.7
#40	0.425	89.5
#60	0.250	48.2
#100	0.150	8.3
#200	0.075	5.8

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	94.2
Fines (%):	5.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	0.9



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-09	C150	8.0	5.8				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Excel Geotechnical Testing, Inc.
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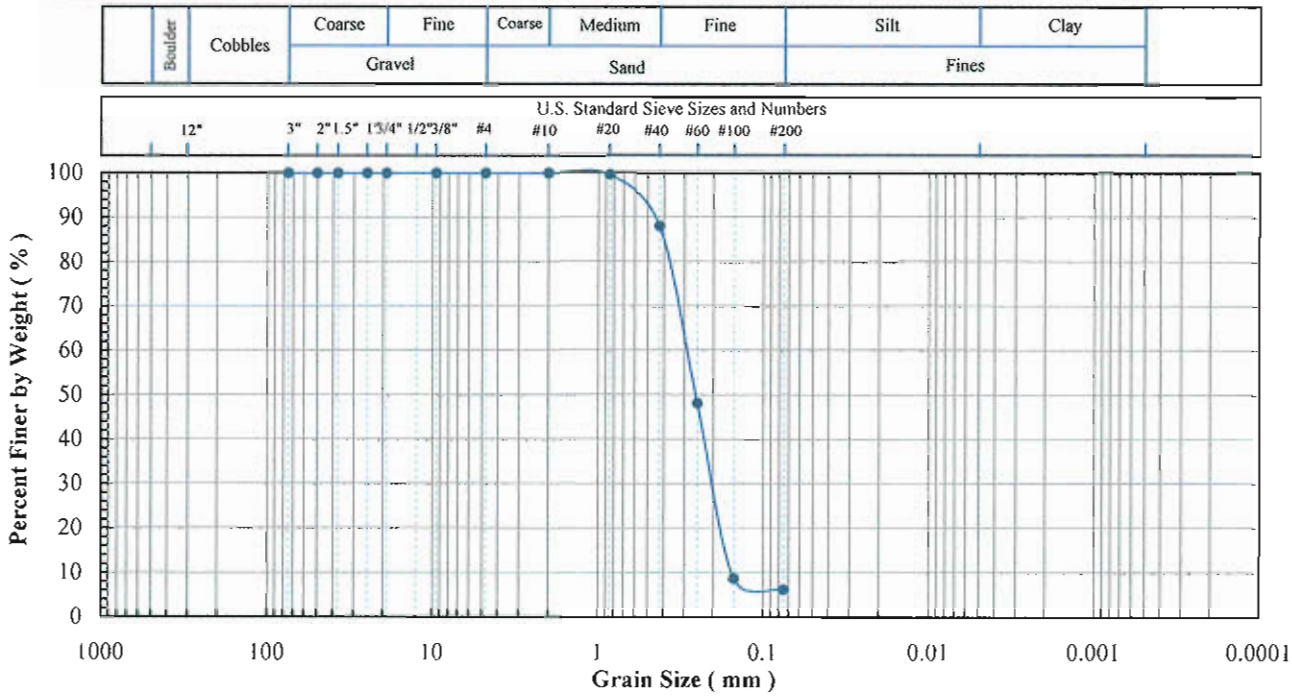
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-10
Lab Sample No:	C151

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



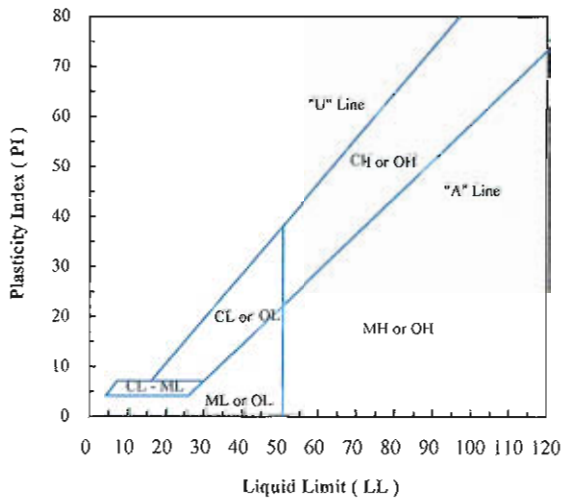
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.6
#40	0.425	88.0
#60	0.250	48.1
#100	0.150	8.7
#200	0.075	6.2

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.8
Fines (%):	6.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.9
Coeff. Curv. (Cc):	0.9



Clicnt Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-10	C151	9.4	6.2				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Excel Geotechnical Testing, Inc.
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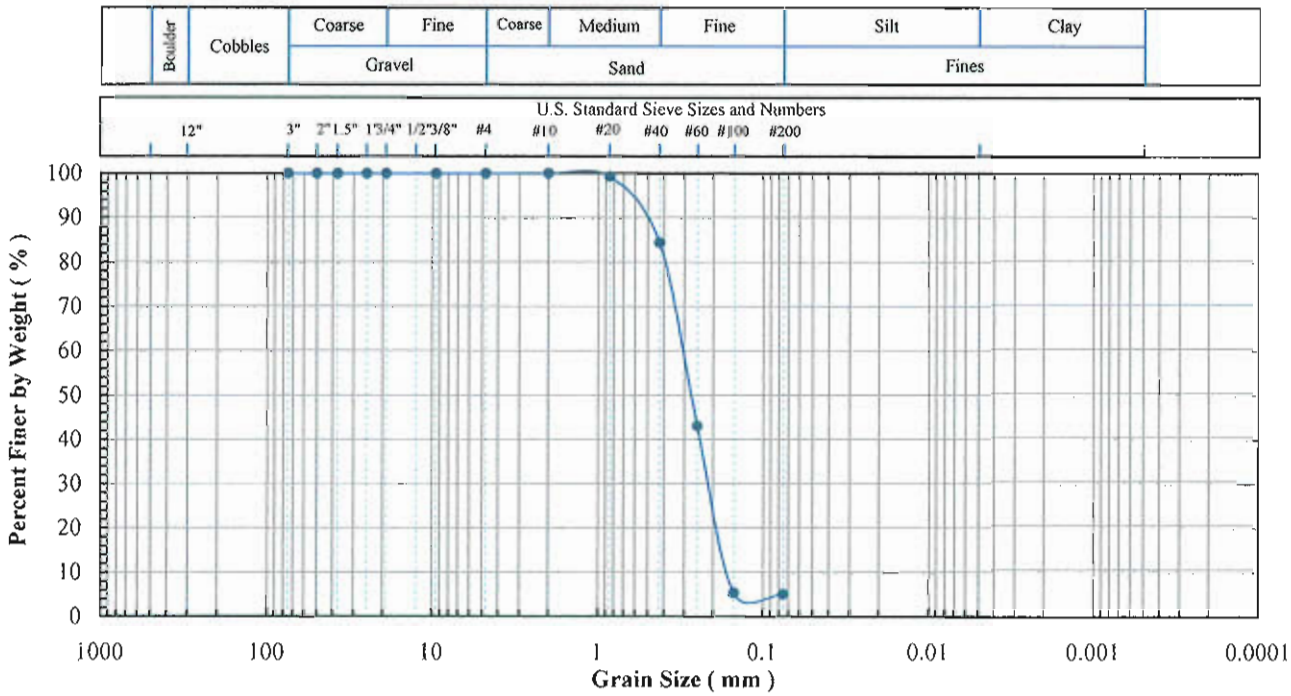
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-11
Lab Sample No:	C152

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



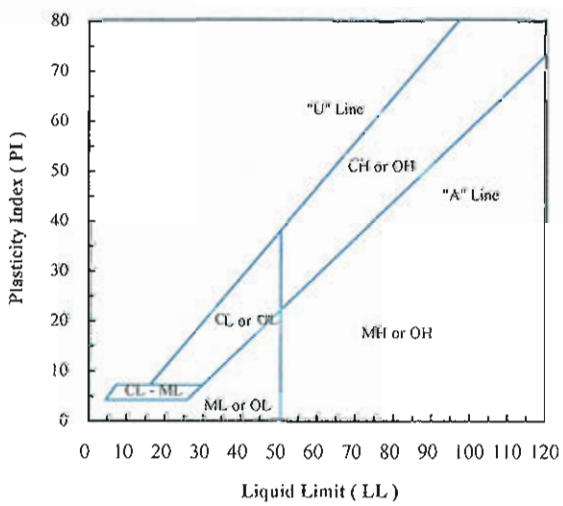
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.3
#40	0.425	84.4
#60	0.250	43.1
#100	0.150	5.4
#200	0.075	5.1

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	94.9
Fines (%):	5.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.7



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-11	C152	13.6	5.1				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Excel Geotechnical Testing, Inc.
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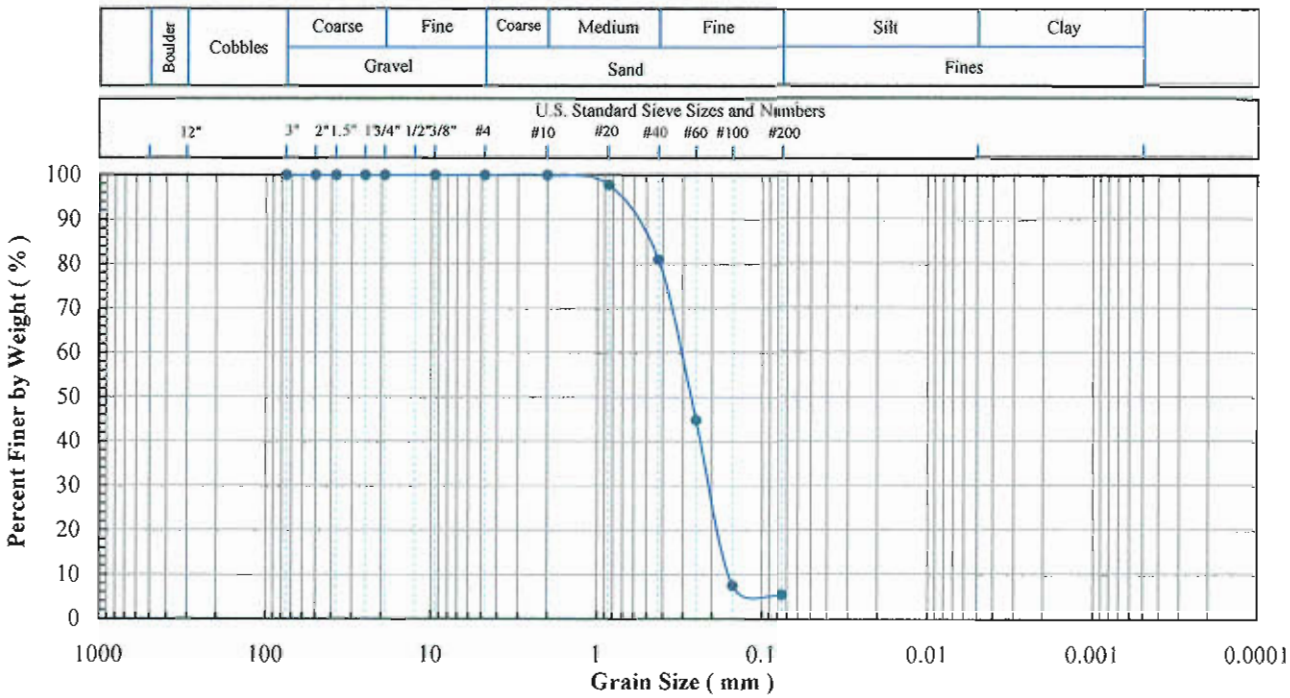
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	GF-12
Lab Sample No:	C153

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



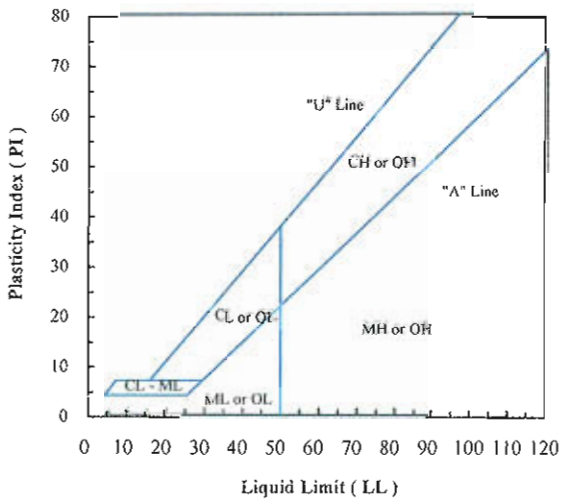
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	97.8
#40	0.425	81.0
#60	0.250	44.8
#100	0.150	7.6
#200	0.075	5.4

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	94.6
Fines (%):	5.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.0
Coeff. Curv. (Cc):	0.9



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-12	C153	12.7	5.4				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

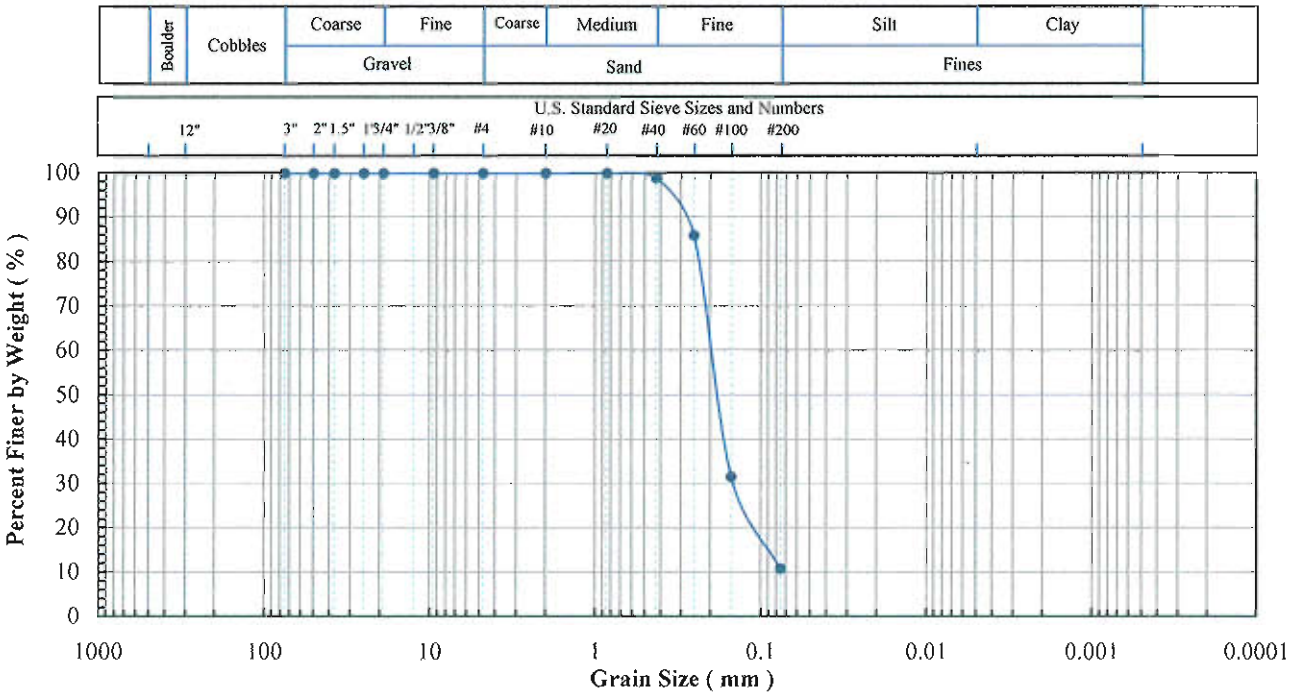
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	GF-13
Lab Sample No:	C164

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



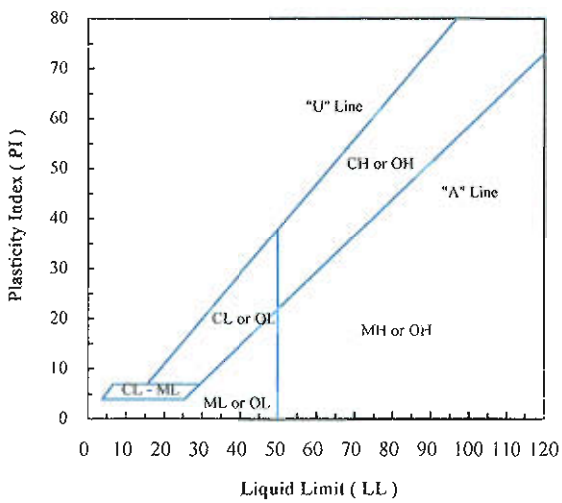
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.7
#60	0.250	85.8
#100	0.150	31.5
#200	0.075	10.8

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	89.2
Fines (%):	10.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.8
Coeff. Curv. (Cc):	1.6



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GF-13	C164	25.0	10.8				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

APPENDIX F

GENERAL FILL FIELD NUCLEAR MOISTURE DENSITY LOGS

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: TASK NO.:

DESCRIPTION: Partial Closure-Phase 1 DATE: 13 Day March Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID RH

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	1	N28*03.883 W081*05.981	8	SB	GF-01	14.5	105.0	9.8	110.1	100.3	95.5%	PASS				
GF	2	N28*03.851 W081*05.973	8	SB	GF-01	14.5	105.0	15.0	114.1	99.2	94.5%	PASS				
GF	3	N28*03.863 W081*05.974	8	SB	GF-01	14.5	105.0	14.8	112.1	97.6	93.0%	PASS				
GF	4	N28*03.880 W081*05.972	8	SB	GF-01	14.5	105.0	14.0	109.3	95.9	91.3%	PASS				
GF	5	N28*03.896 W081*05.971	8	SB	GF-01	14.5	105.0	14.5	117.6	102.7	97.8%	PASS				
GF	6	N28*03.901 W081*05.983	8	SB	GF-01	14.5	105.0	17.1	110.0	93.9	89.5%	PASS				
GF	7	N28*03.889 W081*05.983	8	SB	GF-01	14.5	105.0	10.7	108.9	98.4	93.7%	PASS				
GF	8	N28*03.875 W081*05.982	8	SB	GF-01	14.5	105.0	11.4	109.2	98.0	93.4%	PASS				
GF	9	N28*03.858 W081*05.980	8	SB	GF-01	14.5	105.0	13.1	113.2	100.1	95.3%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") This is labeled as the sub base for the geoembrane liner system

Geosyntec consultants

WSI Waste Services Of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: TASK NO.:

DESCRIPTION: Partial Closure-Phase 1 DATE: 18 Day March Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID RH

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	10	N28*03.902 W081*05.984	8	SB	GF-01	14.5	105.0	9.9	98.4	89.5	85.3%	PASS				
GF	11	N28*03.923 W081*05.982	8	SB	GF-01	14.5	105.0	9.9	98.4	89.5	85.3%	PASS				
GF	12	N28*03.902 W081*05.984	8	SB	GF-01	14.5	105.0	14.5	113.3	99.0	94.2%	PASS				
GF	13	N28*03.935 W081*05.983	8	SB	GF-01	14.5	105.0	18.7	117.6	99.1	94.4%	PASS				
GF	14	N28*03.953 W081*05.982	8	SB	GF-01	14.5	105.0	17.1	112.7	96.2	91.7%	PASS				
GF	15	N28*03.955 W081*05.969	8	SB	GF-01	14.5	105.0	18.8	115.4	97.1	92.5%	PASS				
GF	16	N28*03.943 W081*05.975	8	SB	GF-01	14.5	105.0	14.1	110.8	97.1	92.5%	PASS				
GF	17	N28*03.932 W081*05.973	8	SB	GF-01	14.5	105.0	14.5	112.8	98.5	93.8%	PASS				
GF	18	N28*03.917 W081*05.972	8	SB	GF-01	14.5	105.0	9.8	111.7	101.7	96.9%	PASS				
GF	19	N28*03.895 W081*05.963	8	SB	GF-01	14.5	105.0	10.9	115.6	104.2	99.3%	PASS				
GF	20	N28*03.873 W081*05.962	8	SB	GF-01	14.5	105.0	8.9	109.3	100.4	95.6%	PASS				
GF	21	N28*03.865 W081*05.960	8	SB	GF-01	14.5	105.0	10.0	106.9	97.2	92.6%	PASS				
GF	22	N28*03.866 W081*05.950	8	SB	GF-01	14.5	105.0	11.3	104.6	94.0	89.5%	PASS				
GF	23	N28*03.876 W081*05.949	8	SB	GF-01	14.5	105.0	8.9	109.7	100.7	95.9%	PASS				
GF	24	N28*03.894 W081*05.897	8	SB	GF-01	14.5	105.0	10.3	106.0	96.1	91.5%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") western upper and lower slopes.

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ-1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 24 Day March Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID RH

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	28	N28*03.965 W081*05.973	8	SB	GF-01	14.5	105.0	8.5	109.4	100.8	96.0%	PASS				
GF	29	N28*03.955 W081*05.961	8	SB	GF-01	14.5	105.0	10.8	105.4	95.1	90.6%	PASS				
GF	30	N28*03.960 W081*05.966	8	SB	GF-01	14.5	105.0	10.2	112.0	101.6	96.8%	PASS				
GF	31	N28*03.959 W081*05.950	8	SB	GF-01	14.5	105.0	12.5	113.4	100.8	96.0%	PASS				
GF	32	N28*03.973 W081*05.950	8	SB	GF-01	14.5	105.0	8.3	107.9	99.6	94.9%	PASS				
GF	33	N28*03.990 W081*05.950	8	SB	GF-01	14.5	105.0	9.0	112.7	103.4	98.5%	PASS				
GF	34	N28*03.993 W081*05.961	8	SB	GF-01	14.5	105.0	15.0	111.7	97.1	92.5%	PASS				
GF	35	N28*03.971 W081*05.970	8	SB	GF-01	14.5	105.0	10.9	111.8	100.8	96.0%	PASS				
GF	36	N28*03.977 W081*05.976	8	SB	GF-01	14.5	105.0	13.2	112.9	99.7	95.0%	PASS				
GF	37	N28*03.995 W081*05.972	8	SB	GF-01	14.5	105.0	11.6	117.0	104.8	99.8%	PASS				
GF	38	N28*04.010 W081*05.971	8	SB	GF-01	14.5	105.0	9.4	104.6	95.6	91.1%	PASS				
GF	39	N28*04.033 W081*05.972	8	SB	GF-01	14.5	105.0	11.7	110.1	98.5	93.9%	PASS				
GF	40	N28*04.040 W081*05.987	8	SB	GF-01	14.5	105.0	11.2	110.0	98.9	94.2%	PASS				
GF	41	N28*04.023 W081*05.902	8	SB	GF-01	14.5	105.0	9.3	104.6	95.7	91.1%	PASS				
GF	42	N28*03.990 W081*05.985	8	SB	GF-01	14.5	105.0	7.6	105.9	98.4	93.7%	PASS				
GF	43	N28*04.010 W081*05.971	8	SB	GF-01	14.5	105.0	12.0	111.7	99.7	95.0%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the lower and upper northwestern slopes in cell 1

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1
LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1
DESCRIPTION: Partial Closure-Phase 1 DATE: 3 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: W.Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID RH

TEST NO		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	43	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	13.1	114.5	101.2	96.4%	PASS				
GF	44	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	12.2	112.1	99.9	95.2%	PASS				
GF	45	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	14.1	111.3	97.5	92.9%	PASS				
GF	46	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	12.6	111.7	99.2	94.5%	PASS				
GF	47	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	10.8	108.3	97.7	93.1%	PASS				
GF	48	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	12.2	111.3	99.2	94.5%	PASS				
GF	49	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	11.7	110.0	98.5	93.8%	PASS				
GF	50	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	10.3	108.7	98.5	93.9%	PASS				
GF	51	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	13.4	111.5	98.3	93.6%	PASS				
GF	52	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	13.0	113.7	100.6	95.8%	PASS				
GF	53	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	12.1	111.1	99.1	94.4%	PASS				
GF	54	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	11.7	109.2	97.8	93.1%	PASS				
GF	55	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	11.4	109.0	97.8	93.2%	PASS				
GF	56	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	13.9	112.3	98.6	93.9%	PASS				
GF	57	N28*04.041 W081* 05.985	8	SB	GF-01	14.5	105.0	13.4	111.7	98.5	93.8%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12")
Density tests were taken on the northwest corner of cell 1
Drive Cylinder (DR-2) was collected , tested and passed on GF-50

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 3 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: W.Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUCE TYPE 3440 GAUGE SERIAL 15334 QA ID RH

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	58	N28*04.058 W081* 05.986	8	SB	GF-01	14.5	105.0	14.2	112.5	98.5	93.8%	PASS				
GF	59	N28*04.052 W081* 05.983	8	SB	GF-01	14.5	105.0	12.0	110.1	98.3	93.6%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12")

Density tests were taken on the northwest corner of cell 1

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1
LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1
DESCRIPTION: Partial Closure-Phase 1 DATE: 14 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	60	N28*04.085 W081* 05975	8	1	GF-2	13.0	105.1	8.9	109.9	100.9	96.0%	PASS				
GF	61	N28*04.105 W081* 05949	8	1	GF-2	13.0	105.1	5.6	99.1	93.8	89.3%	PASS				
GF	62	N28*04.107 W081* 05932	8	1	GF-2	13.0	105.1	5.6	101.8	96.4	91.7%	PASS				
GF	63	N28*04.109 W081* 05909	8	1	GF-2	13.0	105.1	7.1	106.8	99.7	94.9%	PASS				
GF	64	N28*04.106 W081* 05885	8	1	GF-2	13.0	105.1	5.9	104.0	98.2	93.4%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper northern slope.

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1
LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1
DESCRIPTION: Partial Closure-Phase 1 DATE: 14 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	65	N28*04.096 W081* 05892	8	1	GF-2	13.0	105.1	10.0	109.9	99.9	95.1%	PASS				
GF	66	N28*04.100 W081* 05927	8	1	GF-2	13.0	105.1	12.9	113.6	100.6	95.7%	PASS				
GF	67	N28*04.098W081* 05932953	8	1	GF-2	13.0	105.1	9.9	101.5	92.4	87.9%	PASS				
GF	68	N28*04.082W081* 05909997	8	1	GF-2	13.0	105.1	10.8	106.6	96.2	91.5%	PASS				
GF	69	N28*04.088 W081* 05959	8	1	GF-2	13.0	105.1	8.7	105.4	97.0	92.3%	PASS				
GF	70	N28*04.085 W081* 05936	8	1	GF-2	13.0	105.1	9.2	108.9	99.7	94.9%	PASS				
GF	71	N28*04.090 W081* 05915	8	1	GF-2	13.0	105.1	10.5	112.6	101.9	97.0%	PASS				
GF	72	N28*04.064W081* 05909	8	1	GF-2	13.0	105.1	9.7	102.7	93.6	89.1%	PASS				
GF	73	N28*04.076 W081* 05891	8	1	GF-2	13.0	105.1	8.6	103.1	94.9	90.3%	PASS				
GF	74	N28*04.075W081* 05923	8	1	GF-2	13.0	105.1	10.2	113.5	103.0	98.0%	PASS				
GF	75	N28*04.076 W081* 05947	8	1	GF-2	13.0	105.1	10.8	106.9	96.5	91.8%	PASS				
GF	76	N28*04.066 W081* 05885934	8	1	GF-2	13.0	105.1	9.3	103.9	95.1	90.4%	PASS				
GF	77	N28*04.061W081* 05913	8	1	GF-2	13.0	105.1	10.2	111.0	100.7	95.8%	PASS				
GF	78	N28*04.064 W081* 05890	8	1	GF-2	13.0	105.1	10.0	108.9	99.0	94.2%	PASS				
GF	79	N28*04.056W081* 05867	8	1	GF-2	13.0	105.1	8.2	108.0	99.8	95.0%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper northern slope.

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 15 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	95	N28*04.061 W081* 05802	8	1	GF-2	13.0	105.1	10.9	110.6	99.7	94.9%	PASS				
GF	96	N28*04.071 W081* 05822	8	1	GF-2	13.0	105.1	11.5	114.4	102.6	97.6%	PASS				
GF	97	N28*04.082 W081* 05847	8	1	GF-2	13.0	105.1	8.8	116.4	107.0	101.8%	PASS				
GF	98	N28*04.093 W081* 05871	8	1	GF-2	13.0	105.1	10.2	110.8	100.5	95.7%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper and lower northern slope.

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1
LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1
DESCRIPTION: Partial Closure-Phase 1-Intermedite Cover Fill DATE: 22 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID RH

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	95	N28*04.051 W081* 05.785	8	1	GF-3	14.6	105.4	7.2	105.9	98.8	93.7%	PASS				
GF	96	N28*04.034 W081* 05.774	8	1	GF-3	14.6	105.4	5.5	107.2	101.6	96.4%	PASS				
GF	97	N28*04.029 W081* 05.774	8	1	GF-3	14.6	105.4	5.6	102.4	97.0	92.0%	PASS				
GF	98	N28*03.974W081* 05.751	8	1	GF-3	14.6	105.4	6.1	108.0	101.8	96.6%	PASS				
GF	99	N28*03.957 W081* 05.745	8	1	GF-3	14.6	105.4	11.8	111.5	99.7	94.6%	PASS				
GF	100	N28*03.936 W081* 05.739	8	1	GF-3	14.6	105.4	8.7	111.6	102.7	97.4%	PASS				
GF	101	N28*03.944 W081* 05.749	8	1	GF-3	14.6	105.4	7.4	106.0	98.7	93.6%	PASS				
GF	102	N28*03.974W081* 05.751	8	1	GF-3	14.6	105.4	9.1	113.0	103.6	98.3%	PASS				
GF	103	N28*03.965 W081* 05.753	8	1	GF-3	14.6	105.4	6.2	105.6	99.4	94.3%	PASS				
GF	104	N28*03.996 W081* 05.768	8	1	GF-3	14.6	105.4	9.1	109.7	100.5	95.4%	PASS				
GF	105	N28*04.009 W081* 05.774	8	1	GF-3	14.6	105.4	5.8	108.1	102.2	96.9%	PASS				
GF	106	N28*04.024 W081* 05.778	8	1	GF-3	14.6	105.4	6.7	111.0	104.0	98.7%	PASS				
GF	107	N28*04.048 W081* 05.795	8	1	GF-3	14.6	105.4	8.0	108.6	100.6	95.4%	PASS				
GF	108	N28*04.049 W081* 05.797	8	1	GF-3	14.6	105.4	8.4	107.5	99.2	94.1%	PASS				
GF	109	N28*04.056 W081* 05.775	8	1	GF-3	14.6	105.4	7.8	105.0	97.4	92.4%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper and lower northeastern slopes.
Drive cylinder DR-4 was collected and tested for comparison on GF-100.

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1-Intermedite Cover Fill DATE: 27 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	110	N28*04.035 W081* 05.797	8	1	GF-3	14.6	105.4	8.8	109.1	100.3	95.1%	PASS				
GF	111	N28*04.018 W081* 05.792	8	1	GF-3	14.6	105.4	8.9	109.6	100.6	95.5%	PASS				
GF	112	N28*04.029 W081* 05.774	8	1	GF-3	14.6	105.4	9.6	110.1	100.5	95.3%	PASS				
GF	113	N28*04.002 W081* 05.782	8	1	GF-3	14.6	105.4	6.7	110.5	103.6	98.3%	PASS				
GF	114	N28*03.979 W081* 05.778	8	1	GF-3	14.6	105.4	9.0	110.4	101.3	96.1%	PASS				
GF	115	N28*03.958 W081* 05.771	8	1	GF-3	14.6	105.4	6.7	108.1	101.3	96.1%	PASS				
GF	116	N28*03.935 W081* 05.763	8	1	GF-3	14.6	105.4	8.1	106.1	98.1	93.1%	PASS				
GF	117	N28*03.938 W081* 05.771	8	1	GF-3	14.6	105.4	6.5	96.3	90.4	85.8%	PASS				
GF	118	N28*03.956 W081* 05.782	8	1	GF-3	14.6	105.4	7.7	108.7	100.9	95.8%	PASS				
GF	119	N28*03.996 W081* 05.796	8	1	GF-3	14.6	105.4	10.4	109.0	98.7	93.7%	PASS				
GF	120	N28*04.018 W081* 05.804	8	1	GF-3	14.6	105.4	6.2	105.8	99.6	94.5%	PASS				
GF	121	N28*04.041 W081* 05.817	8	1	GF-3	14.6	105.4	8.1	102.6	94.9	90.0%	PASS				
GF	122	N28*04.048 W081* 05.795	8	1	GF-3	14.6	105.4	8.4	99.1	91.4	86.7%	PASS				
GF	123	N28*04.069 W081* 05.937	8	1	GF-3	14.6	105.4	6.2	94.6	89.1	84.5%	PASS				
GF	124	N28*04.066 W081* 05.915	8	1	GF-3	14.6	105.4	5.5	94.2	89.3	84.7%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper and lower northern slopes in Cell 1.

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1-Intermedite Cover Fill DATE: 27 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	125	N28*04.051 W081* 05.850	8	1	GF-3	14.6	105.4	6.6	106.7	100.1	95.0%	PASS				
GF	126	N28*04.040 W081* 05.824	8	1	GF-3	14.6	105.4	9.5	106.6	97.4	92.4%	PASS				
GF	127	N28*04.026 W081* 05.816	8	1	GF-3	14.6	105.4	6.6	106.4	99.8	94.7%	PASS				
GF	128	N28*04.033 W081* 05.808	8	1	GF-3	14.6	105.4	7.0	106.8	99.8	94.7%	PASS				
GF	129	N28*03.985 W081* 05.804	8	1	GF-3	14.6	105.4	7.6	102.4	95.2	90.3%	PASS				
GF	130	N28*03.966 W081* 05.794	8	1	GF-3	14.6	105.4	8.3	105.3	97.2	92.2%	PASS				
GF	131	N28*03.936 W081* 05.782	8	1	GF-3	14.6	105.4	5.7	100.2	94.8	89.9%	PASS				
GF	132	N28*03.932 W081* 05.771	8	1	GF-3	14.6	105.4	5.6	101.8	96.4	91.5%	PASS				
GF	133	N28*03.947 W081* 05.777	8	1	GF-3	14.6	105.4	5.0	94.6	90.1	85.5%	PASS				
GF	134	N28*03.976 W081* 05.791	8	1	GF-3	14.6	105.4	6.9	105.3	98.5	93.5%	PASS				
GF	135	N28*04.008 W081* 05.801	8	1	GF-3	14.6	105.4	10.0	110.0	100.0	94.9%	PASS				
GF	136	N28*04.037 W081* 05.812	8	1	GF-3	14.6	105.4	7.7	110.7	102.8	97.5%	PASS				
GF	137	N28*04.046 W081* 05.803	8	1	GF-3	14.6	105.4	6.0	99.1	100.4	95.3%	PASS				
GF	138	N28*04.021 W081* 05.793	8	1	GF-3	14.6	105.4	4.2	98.5	94.5	89.7%	PASS				
GF	139	N28*03.999 W081* 05.985	8	1	GF-3	14.6	105.4	5.6	99.9	94.6	89.8%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper and lower eastern slopes in Cells 1 and 2.

Drive Cylinder DR-5 collected and tested for comparison on GF-125.

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1-Intermedite Cover Fill DATE: 27 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.	TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF 140	N28*03.973 W081* 05.774	8	1	GF-3	14.6	105.4	5.8	100.4	94.9	90.0%	PASS				
GF 141	N28*03.956 W081* 05.768	8	1	GF-3	14.6	105.4	4.2	98.5	94.5	89.7%	PASS				
GF 142	N28*03.934 W081* 05.761	8	1	GF-3	14.6	105.4	5.5	99.9	94.7	89.8%	PASS				
GF 143	N28*03.944 W081* 05.736	8	1	GF-3	14.6	105.4	6.8	102.3	95.8	90.9%	PASS				
GF 144	N28*03.963 W081* 05.744	8	1	GF-3	14.6	105.4	5.2	99.6	94.7	89.8%	PASS				
GF 145	N28*03.986 W081* 05.755	8	1	GF-3	14.6	105.4	8.5	109.0	100.5	95.3%	PASS				
GF 146	N28*03.865 W081* 05.746	8	1	GF-3	14.6	105.4	7.4	104.4	97.2	92.2%	PASS				
GF 147	N28*03.887 W081* 05.746	8	1	GF-3	14.6	105.4	5.1	102.3	97.3	92.3%	PASS				
GF 148	N28*03.915 W081* 05.749	8	1	GF-3	14.6	105.4	7.5	105.6	98.2	93.2%	PASS				
GF 149	N28*03.928 W081* 05.748	8	1	GF-3	14.6	105.4	5.4	100.0	94.9	90.0%	PASS				
GF 150	N28*03.927 W081* 05.741	8	1	GF-3	14.6	105.4	5.5	98.5	93.4	88.6%	PASS				
GF 151	N28*03.903 W081* 05.734	8	1	GF-3	14.6	105.4	9.7	103.8	94 6	89.8%	PASS				
GF 152	N28*03.879 W081* 05.737	8	1	GF-3	14.6	105.4	7.4	103.3	100.4	95.3%	PASS				
GF 153	N28*03.856 W081* 05.737	8	1	GF-3	14.6	105.4	7.1	102.4	95.6	90.7%	PASS				
GF 154	N28*03.929 W081* 05.958	8	1	GF-3	14.6	105.4	7.1	100.9	94.2	89.4%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper and lower eastern slopes in Cell 3.
Drive Cylinder DR-6 collected and tested for comparison on GF-150.

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1-Intermedite Cover Fill DATE: 27 Day April Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 12 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
GF	155	N28*03.913 W081* 05.758	8	1	GF-3	14.6	105.4	8.0	104.3	96.6	91.6%	PASS				
GF	156	N28*03.888 W081* 05.756	8	1	GF-3	14.6	105.4	7.0	103.4	96.6	91.7%	PASS				
GF	157	N28*03.867 W081* 05.755	8	1	GF-3	14.6	105.4	5.7	104.9	99.2	94.2%	PASS				
GF	158	N28*03.872 W081* 05.767	8	1	GF-3	14.6	105.4	6.6	101.1	94.8	90.0%	PASS				
GF	159	N28*03.888 W081* 05.765	8	1	GF-3	14.6	105.4	5.8	104.0	98.3	93.3%	PASS				
GF	160	N28*03.904 W081* 05.767	8	1	GF-3	14.6	105.4	6.8	108.4	101.5	96.3%	PASS				
GF	161	N28*03.922 W081* 05.767	8	1	GF-3	14.6	105.4	6.4	105.0	98.7	93.6%	PASS				
GF	162	N28*03.925 W081* 05.778	8	1	GF-3	14.6	105.4	4.7	102.5	97.9	92.9%	PASS				
GF	163	N28*03.911 W081* 05.779	8	1	GF-3	14.6	105.4	9.1	108.4	99.4	94.3%	PASS				
GF	164	N28*03.895 W081* 05.779	8	1	GF-3	14.6	105.4	5.4	95.6	90.7	86.1%	PASS				
GF	165	N28*03.880 W081* 05.780	8	1	GF-3	14.6	105.4	11.2	111.2	100.0	94.9%	PASS				
GF	166	N28*03.853 W081* 05.739	8	1	GF-3	14.6	105.4	7.8	103.1	95.6	90.7%	PASS				
GF	167	N28*03.869 W081* 05.740	8	1	GF-3	14.6	105.4	7.9	107.9	100.4	95.3%	PASS				
GF	168	N28*03.891 W081* 05.739	8	1	GF-3	14.6	105.4	6.2	96.6	91.0	86.3%	PASS				
GF	169	N28*03.906 W081* 05.739	8	1	GF-3	14.6	105.4	9.2	107.7	98.6	93.6%	PASS				

COMMENTS: Density testing occurs on the intermeadite cover placed (12") on the upper and lower eastern slopes in Cell 3.

APPENDIX G

CAP PROTECTIVE COVER SOIL TEST RESULTS

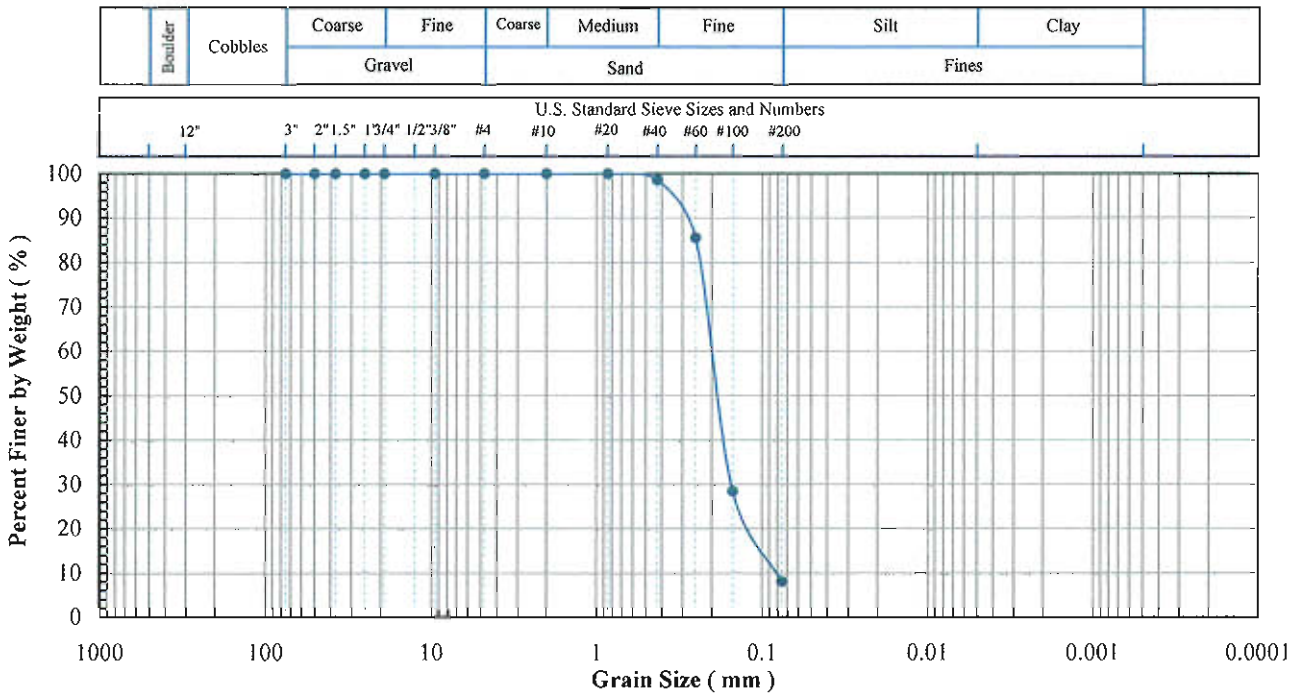
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	PC-01
Lab Sample No:	C159

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



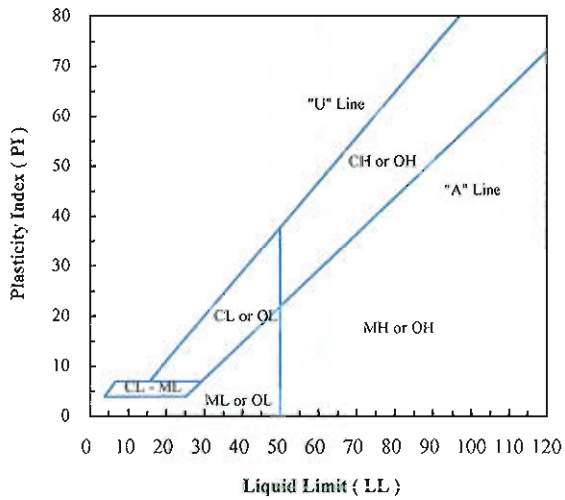
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.6
#60	0.250	85.6
#100	0.150	28.6
#200	0.075	8.2

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	91.8
Fines (%):	8.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.5
Coeff. Curv. (Cc):	1.5



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-01	C159	12.6	8.2	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

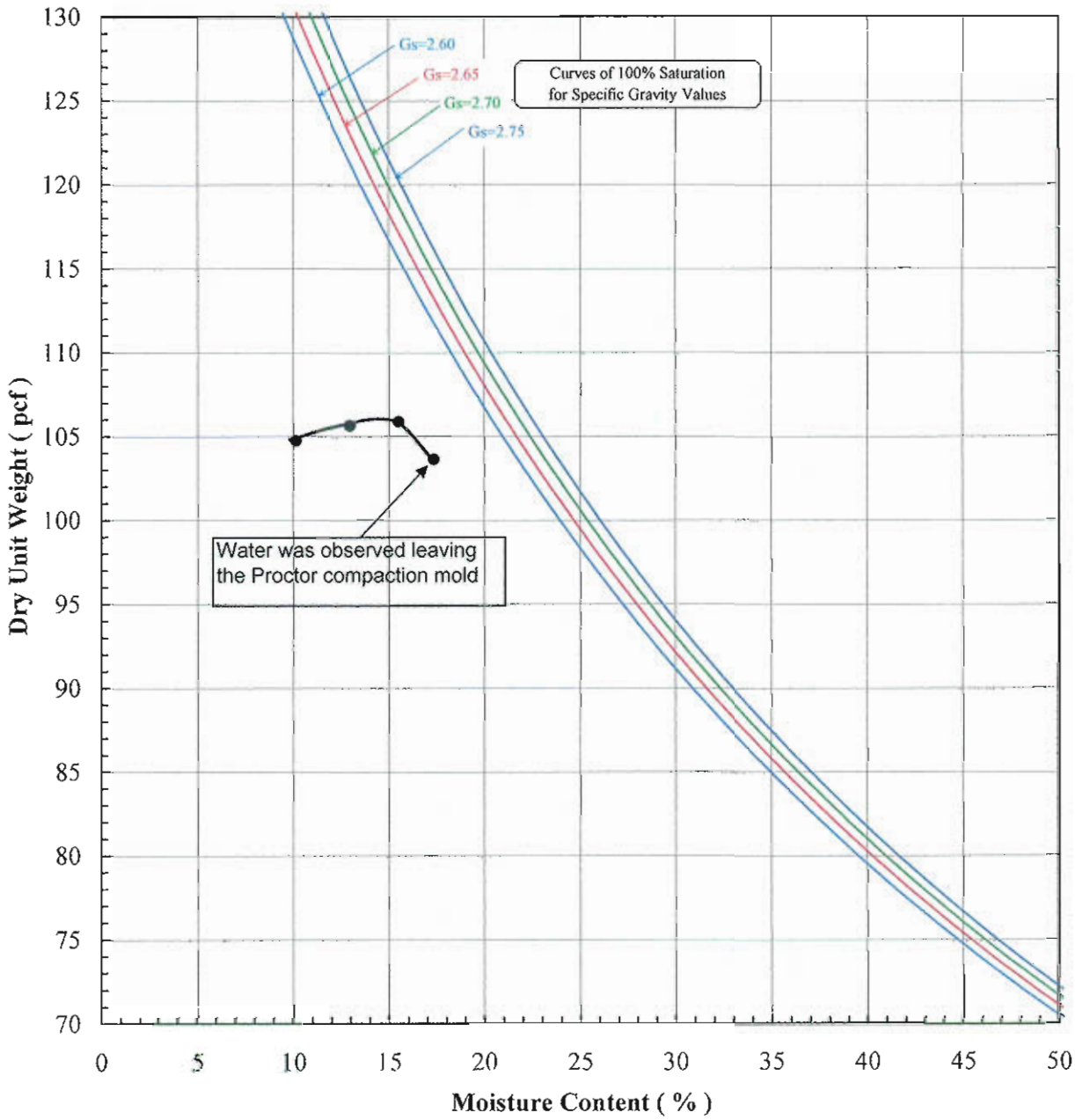
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID	PC-01
Lab Sample No:	C159

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
PC-01	C159	105.2	14.6	

Note(s):

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

RIGID WALL PERMEABILITY TEST [1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-01
Lab Sample Number:	C159
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/30/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content [3] (%)		(-)	(cm/s)
1	R	13.8	7.6	103.4	0.0	TW	0.34 - 0.96	4.0E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

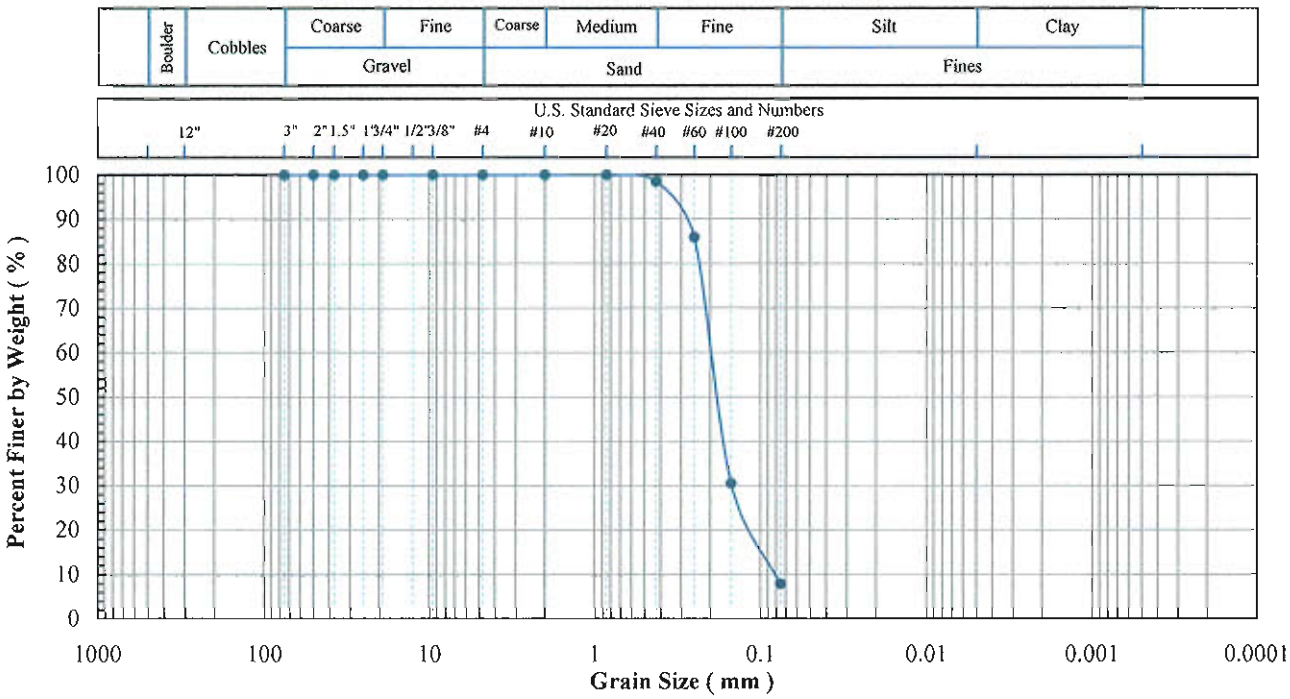
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	PC-02
Lab Sample No:	C160

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Atterberg Limits



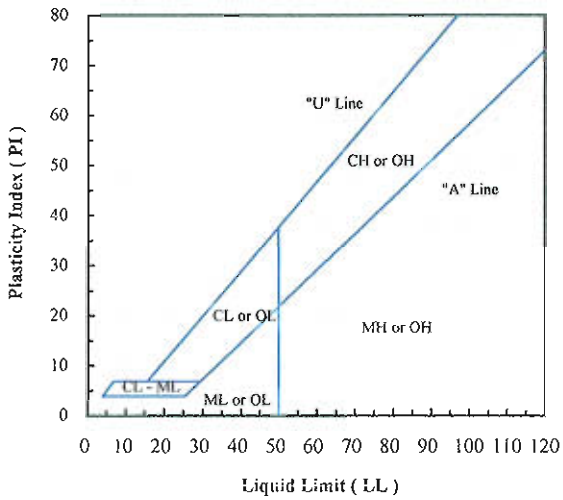
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.5
#60	0.250	86.0
#100	0.150	30.6
#200	0.075	8.0

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	92.0
Fines (%):	8.0
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.5
Coeff. Curv. (Cc):	1.5



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-02	C160	16.3	8.0	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

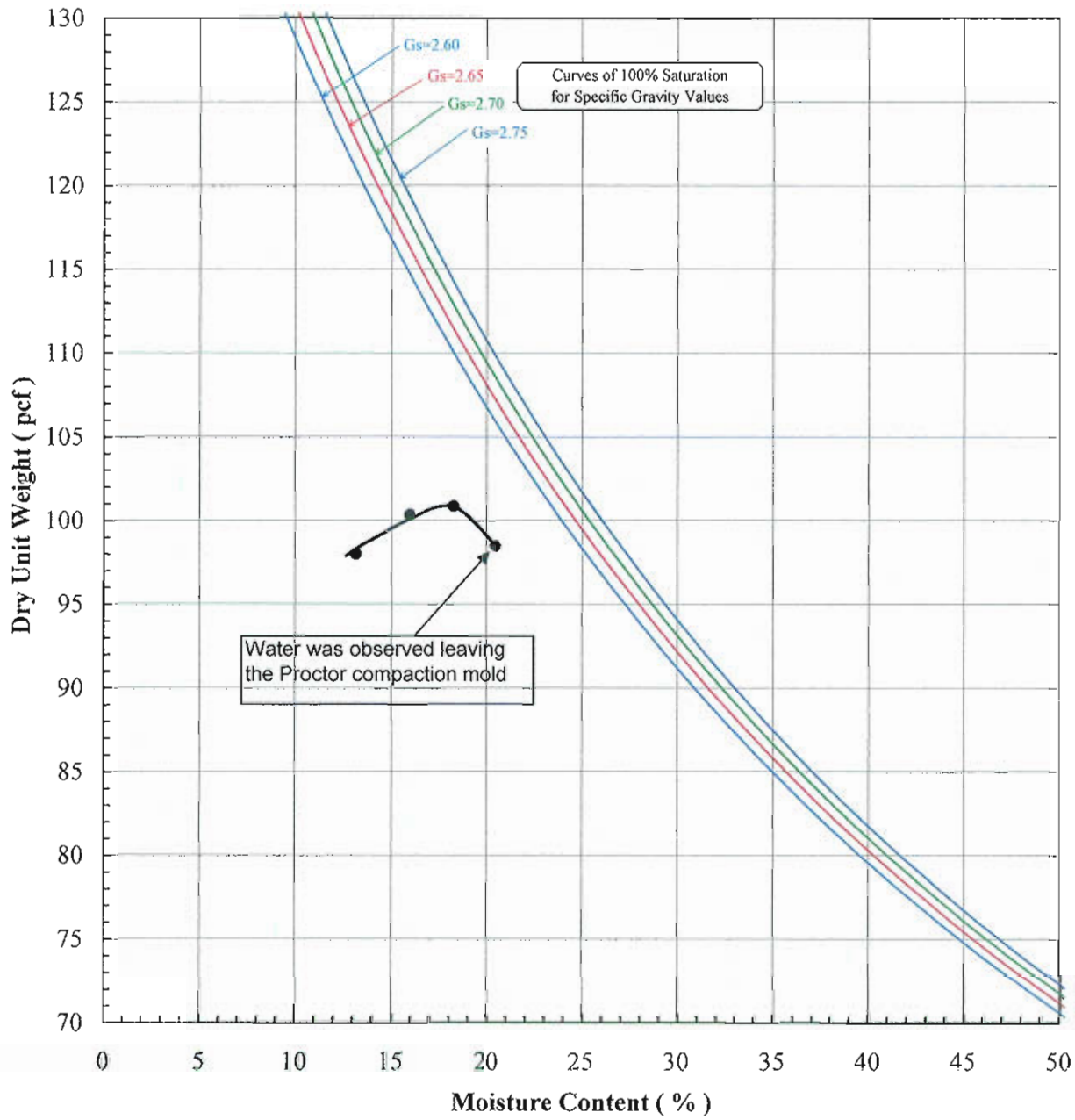
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID	PC-02
Lab Sample No:	C160

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
PC-02	C160	101.1	18.0	

Note(s):

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

RIGID WALL PERMEABILITY TEST (1)

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-02
Lab Sample Number:	C160
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/30/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid (4)	Gradient Range	Hydraulic Conductivity
	Spec. Prep. (2) (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (3) (%)		(-)	(cm/s)
1	R	14.2	7.6	95.3	0.0	TW	0.25 - 0.81	2.6E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

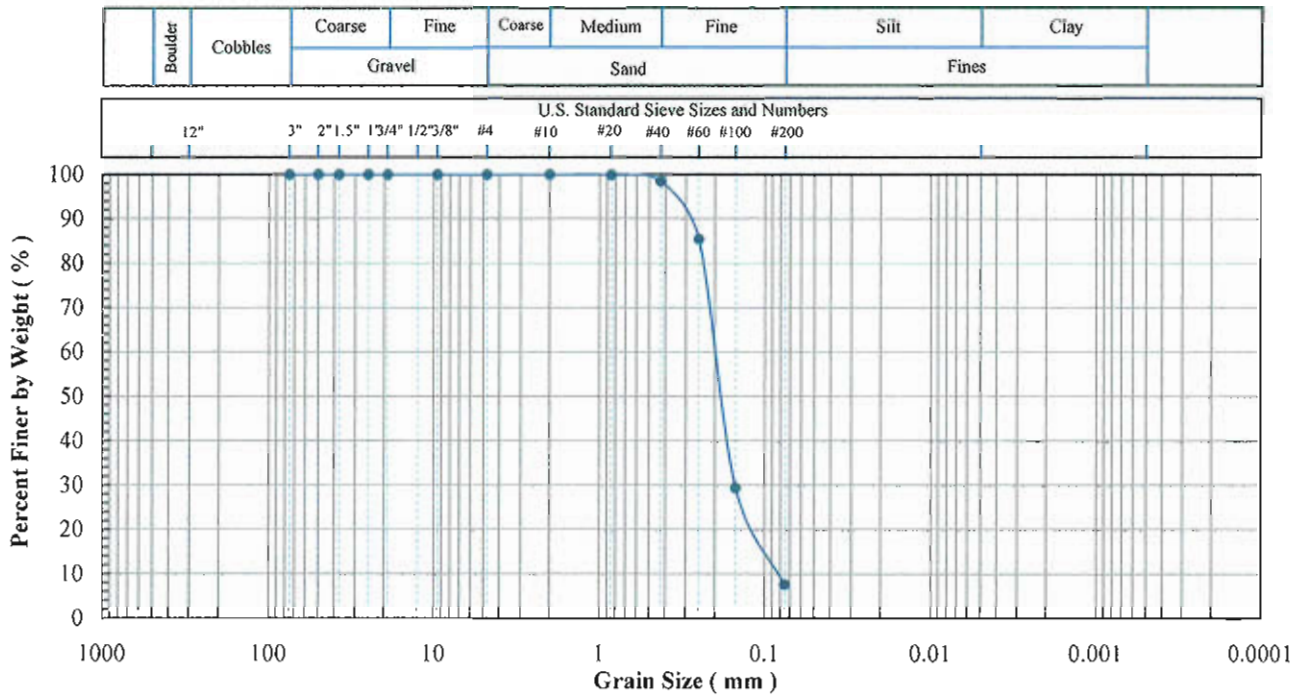
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	PC-03
Lab Sample No:	C161

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



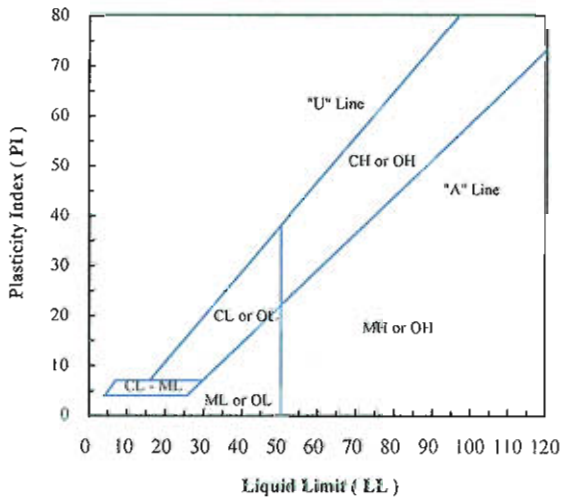
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.5
#60	0.250	85.4
#100	0.150	29.4
#200	0.075	7.6

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	92.4
Fines (%):	7.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.5
Coeff. Curv. (Cc):	1.4



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-03	C161	13.7	7.6	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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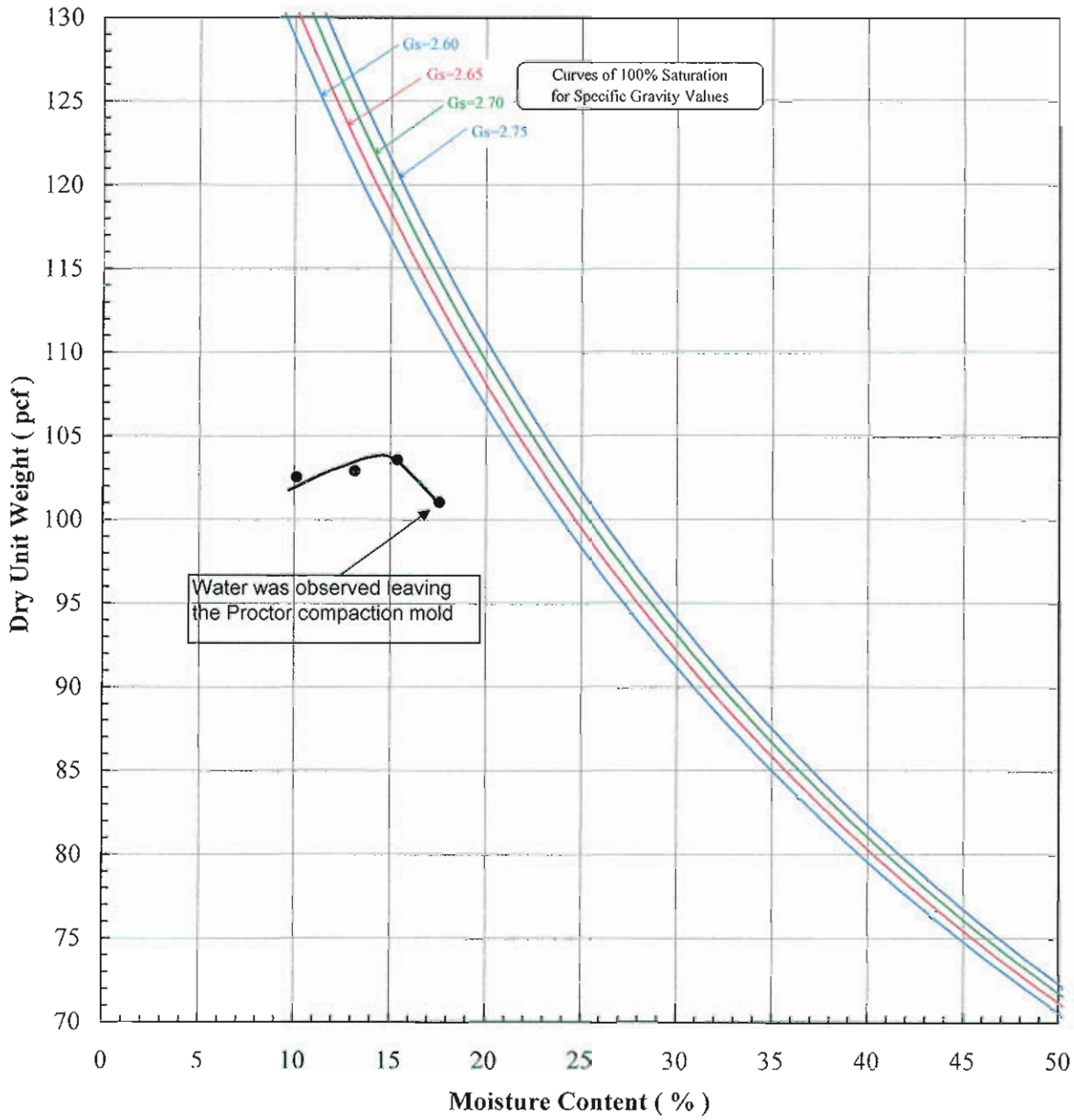
Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID	PC-03
Lab Sample No:	C161

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
PC-03	C161	104.0	14.7	

Note(s):

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RIGID WALL PERMEABILITY TEST [1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-03
Lab Sample Number:	C161
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/30/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content [3] (%)		(-)	(cm/s)
1	R	14.4	7.6	94.0	0.0	TW	0.25 - 0.81	3.1E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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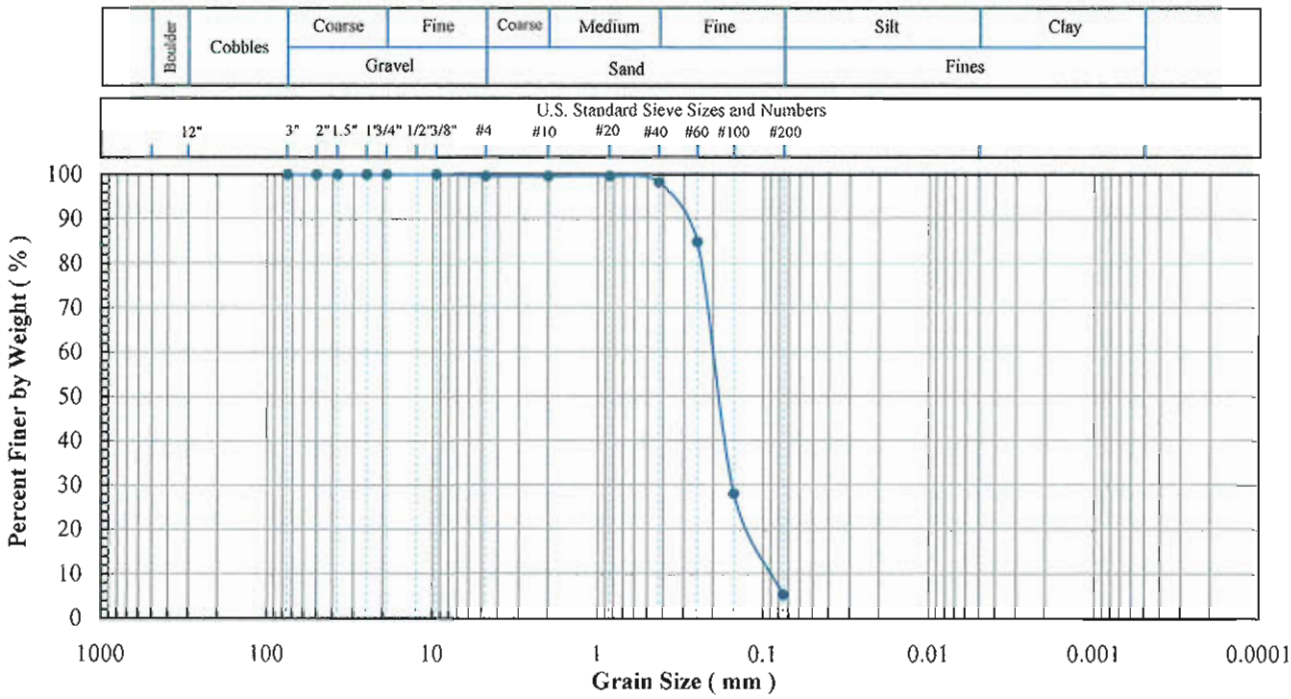
Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	PC-04
Lab Sample No:	C162

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



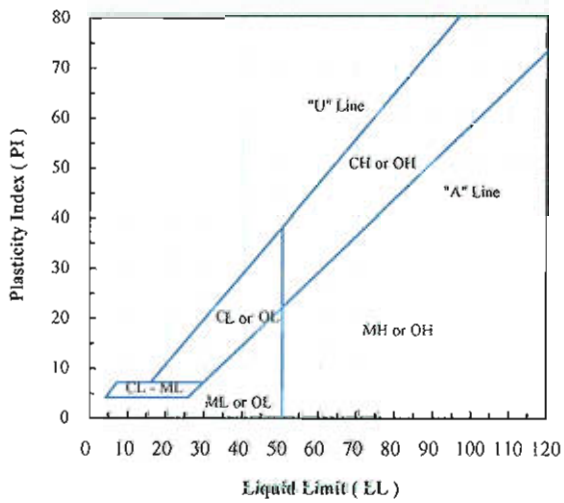
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.6
#10	2.00	99.6
#20	0.850	99.6
#40	0.425	98.2
#60	0.250	84.8
#100	0.150	28.1
#200	0.075	5.3

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.4
Sand (%):	94.3
Fines (%):	5.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.2
Coeff. Curv. (Cc):	1.3



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-04	C162	4.6	5.3	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-04
Lab Sample Number:	C162
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/15/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.4	7.6	102.4	0.0	TW	0.17 - 0.43	8.6E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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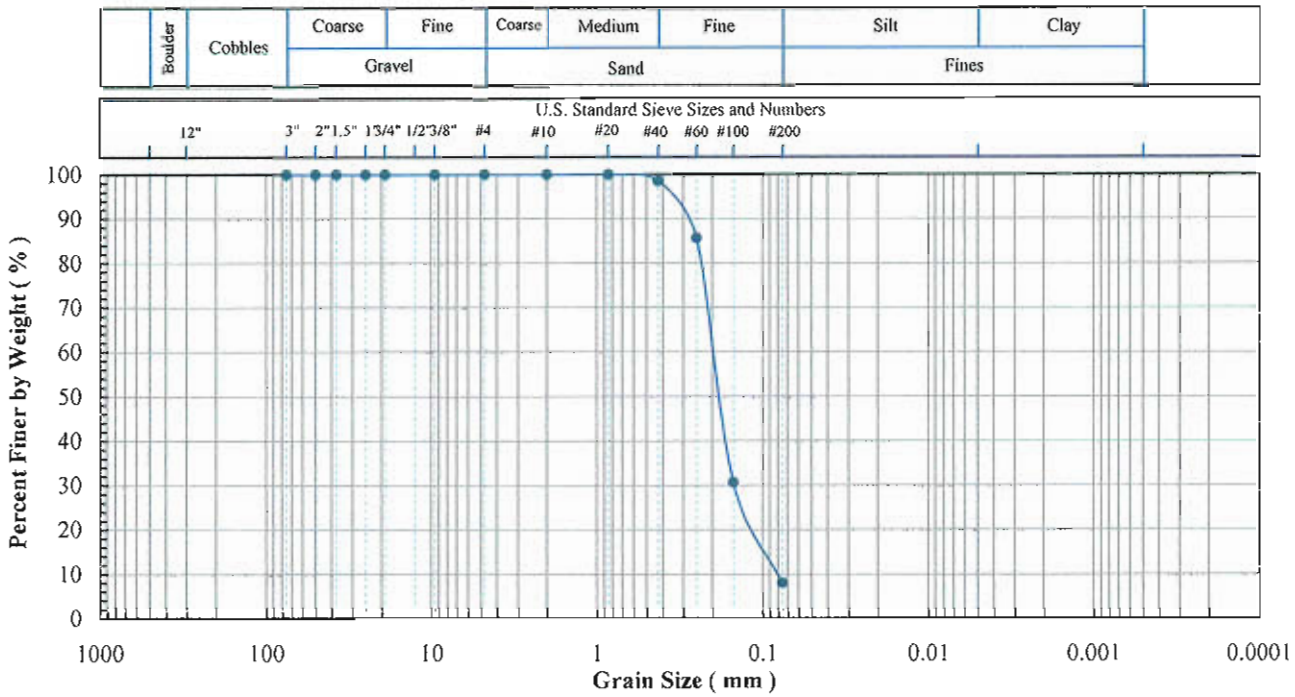
Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	PC-05
Lab Sample No:	C163

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



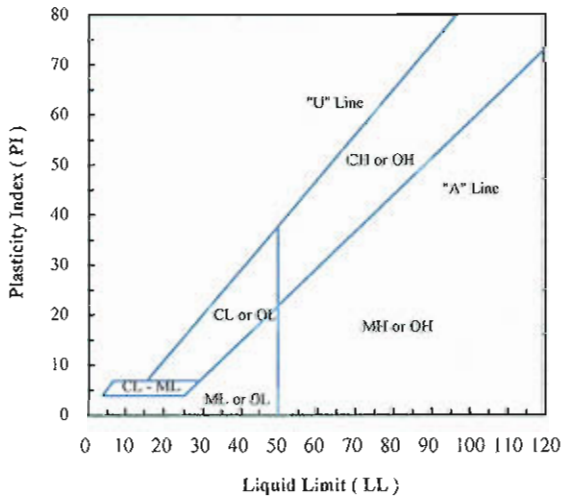
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.6
#60	0.250	85.7
#100	0.150	30.7
#200	0.075	8.1

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	91.9
Fines (%):	8.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.4
Coeff. Curv. (Cc):	1.4



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-05	C163	10.3	8.1	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-05
Lab Sample Number:	C163
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/16/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.4	7.6	95.6	0.0	TW	0.22 - 0.54	8.4E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22 ±3 °C.

Test specimen final conditions are not presented.

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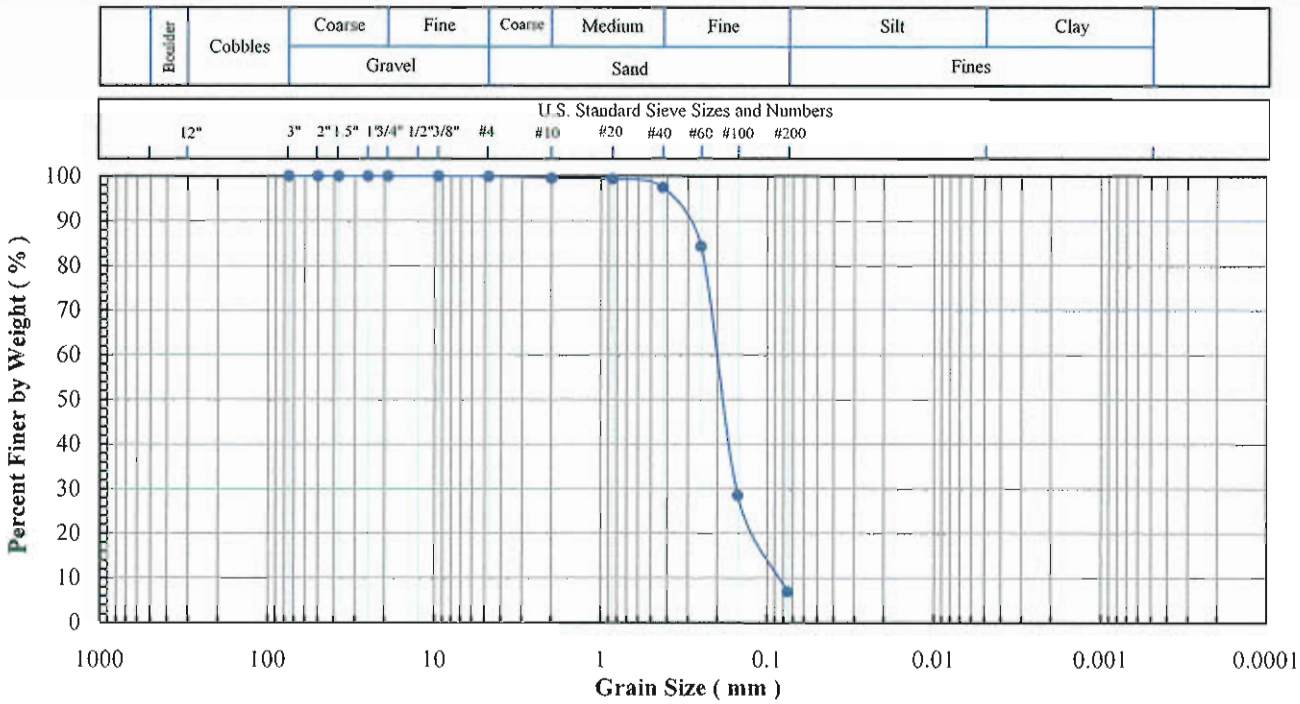
Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	PC-06
Lab Sample No:	E283

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



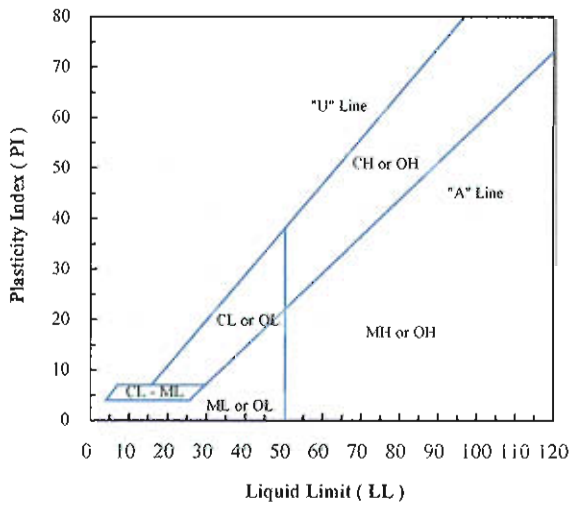
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.9
#10	2.00	99.6
#20	0.850	99.3
#40	0.425	97.4
#60	0.250	84.2
#100	0.150	28.5
#200	0.075	6.9

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.1
Sand (%):	93.0
Fines (%):	6.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.3
Coeff. Curv. (Cc):	1.3



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-06	E283	21.7	6.9				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase I
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-06
Lab Sample Number:	E283
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/16/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.3	7.6	92.7	0.0	TW	0.16 - 0.45	4.5E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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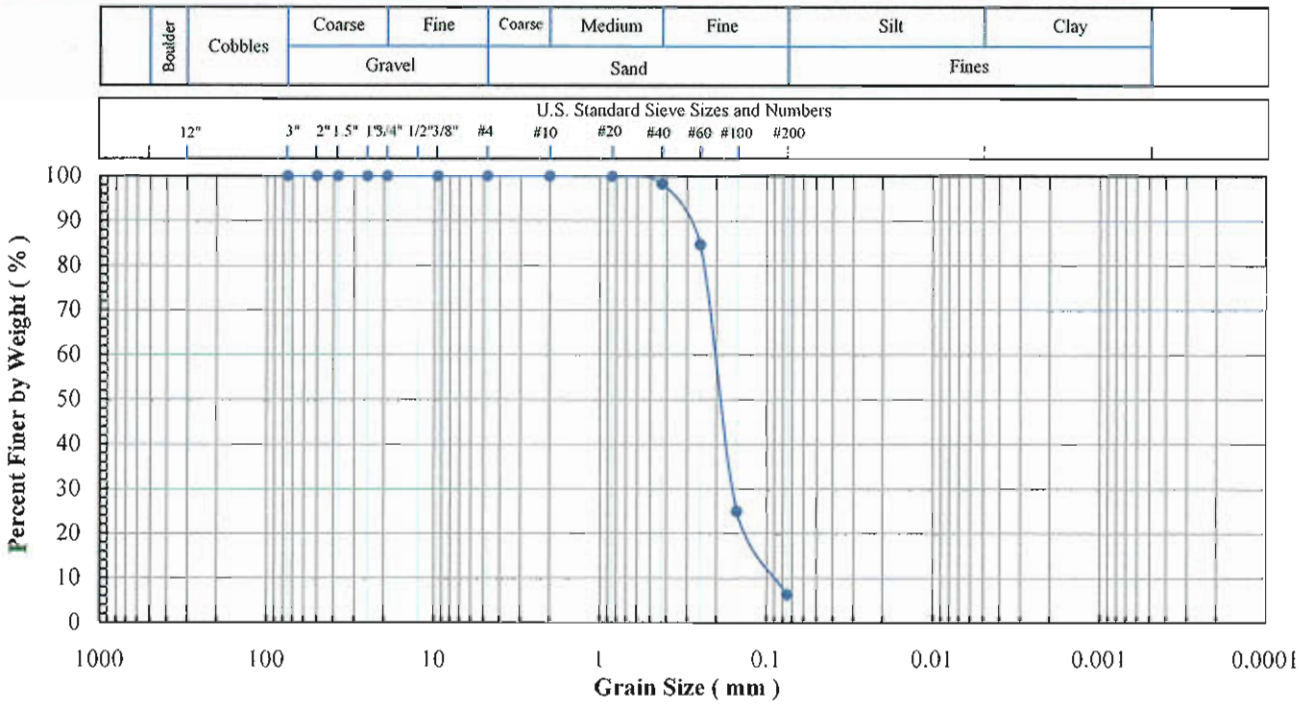
Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	PC-07
Lab Sample No:	E284

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



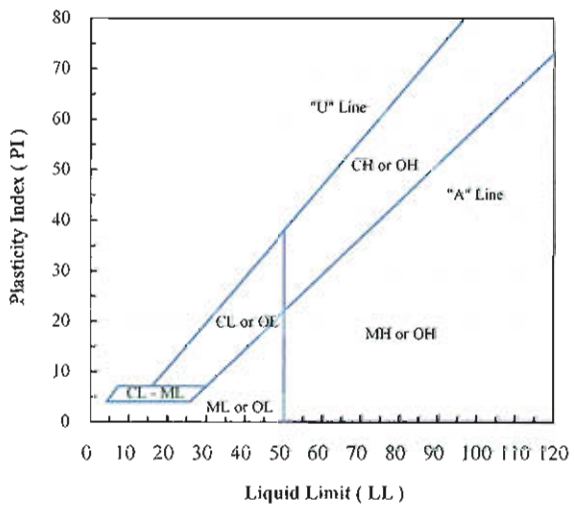
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.2
#60	0.250	84.6
#100	0.150	25.0
#200	0.075	6.3

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.7
Fines (%):	6.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.3
Coeff. Curv. (Cc):	1.4



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-07	E284	20.3	6.3	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-07
Lab Sample Number:	E284
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/17/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.3	7.6	93.2	0.0	TW	0.17 - 0.41	4.7E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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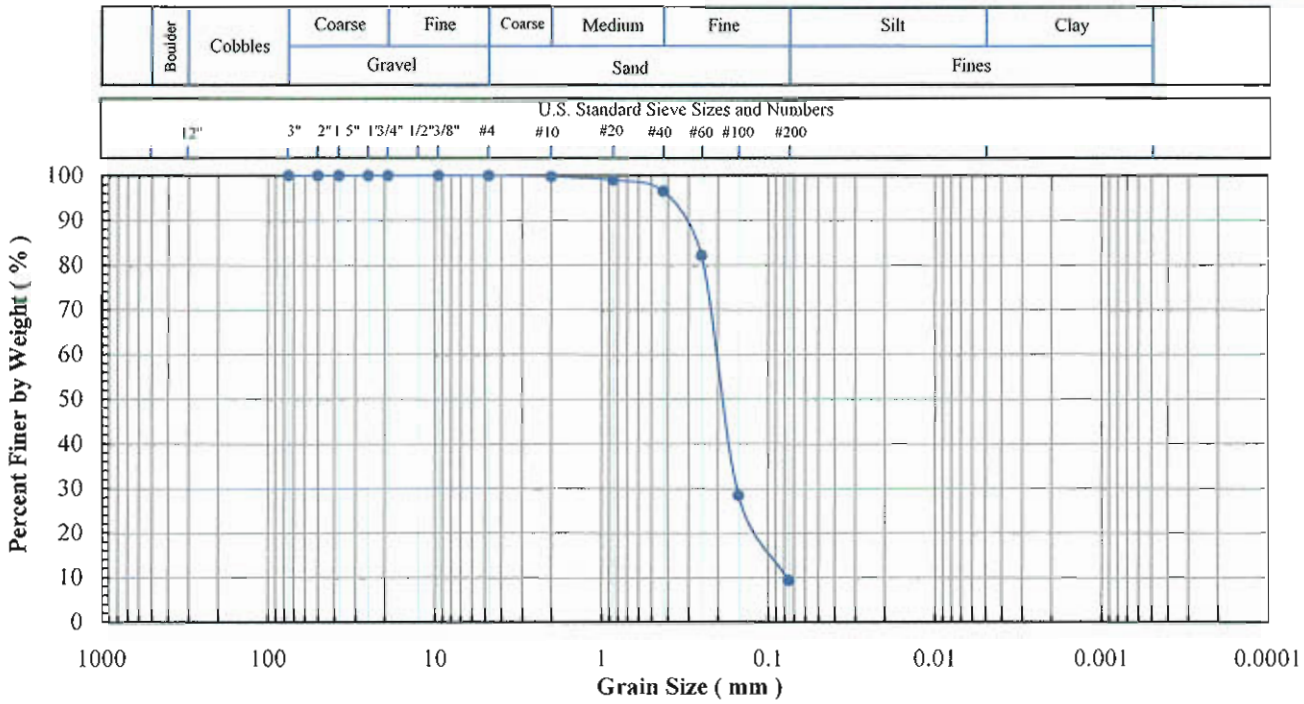
Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	PC-08
Lab Sample No:	E285

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



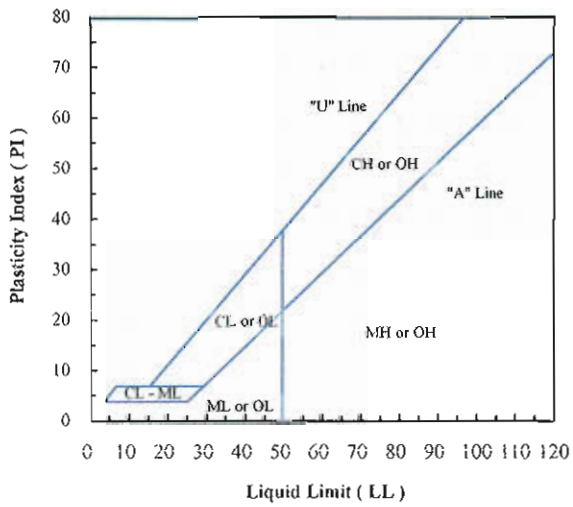
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.8
#20	0.850	99.0
#40	0.425	96.5
#60	0.250	82.1
#100	0.150	28.5
#200	0 075	9.4

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	90.6
Fines (%):	9.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.7
Coeff. Curv. (Cc):	1.6



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PC-08	E285	5.1	9.4				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-08
Lab Sample Number:	E285
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/17/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.6	7.6	94.9	0.0	TW	0.14 - 0.38	7.1E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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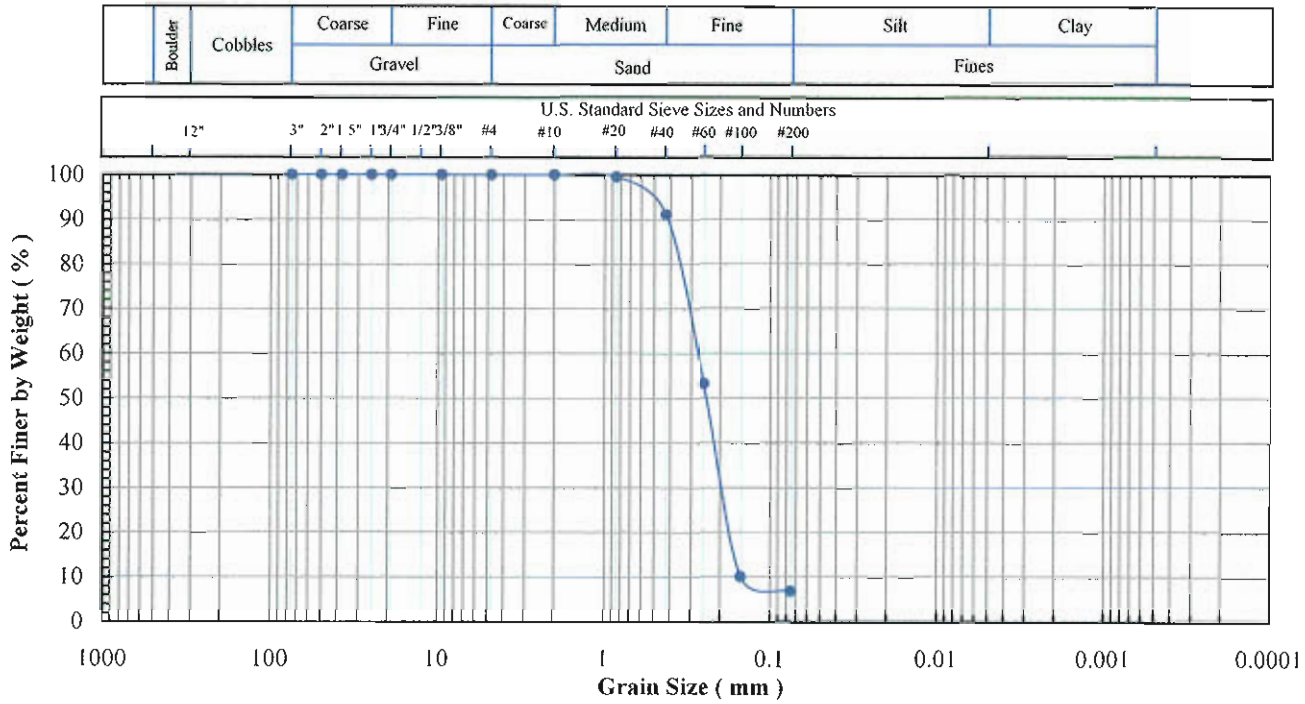
Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	PC-09
Lab Sample No:	E286

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D-4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



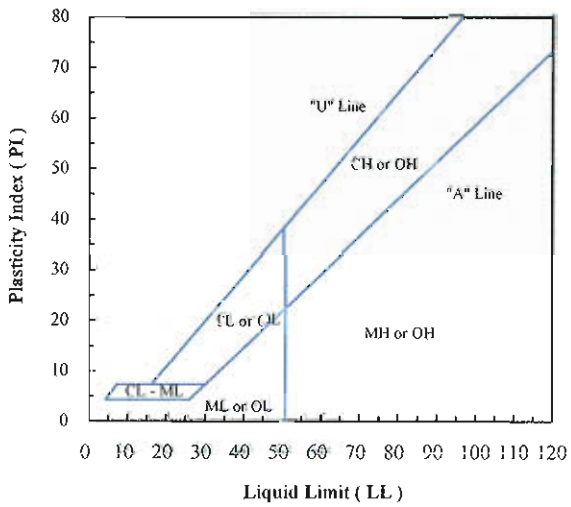
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.6
#40	0.425	91.1
#60	0.250	53.2
#100	0.150	10.0
#200	0.075	6.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.3
Fines (%):	6.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.0

Specific Gravity (-):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-09	E286	10.2	6.7				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-09
Lab Sample Number:	E286
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/18/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.3	7.6	97.8	0.0	TW	0.12 - 0.63	3.3E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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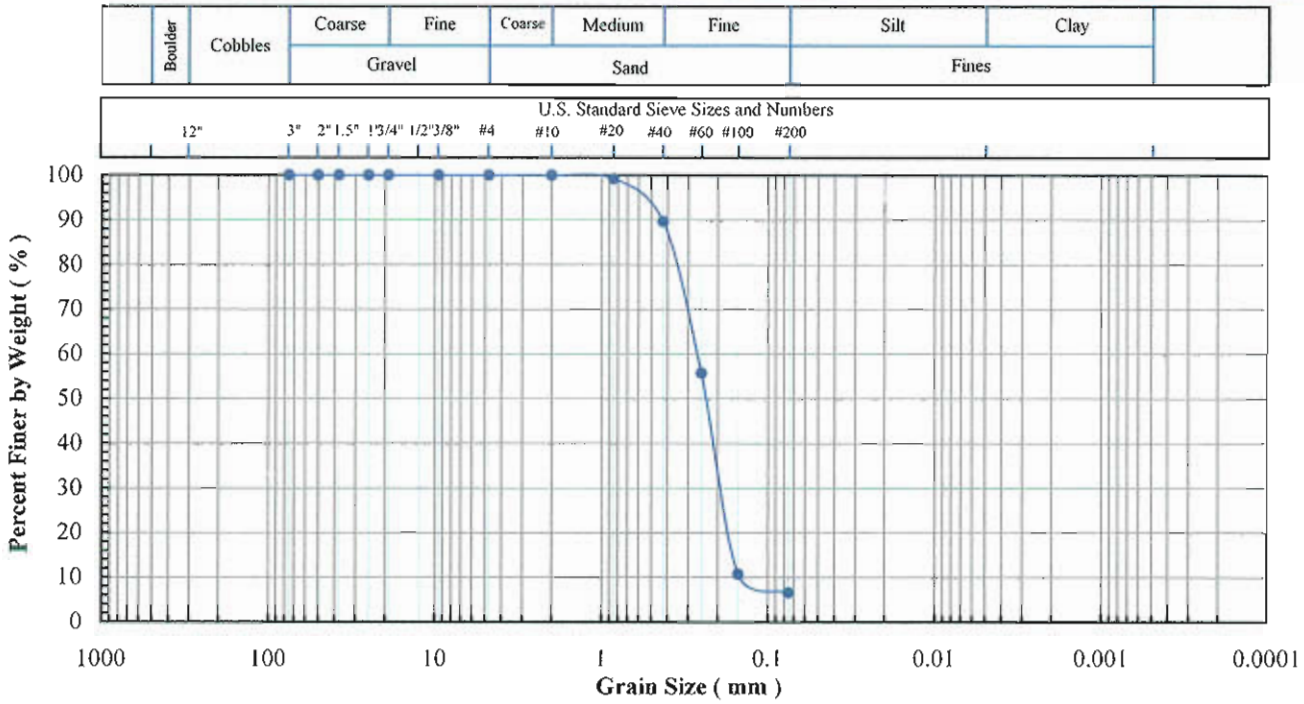
Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	PC-10
Lab Sample No:	E287

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



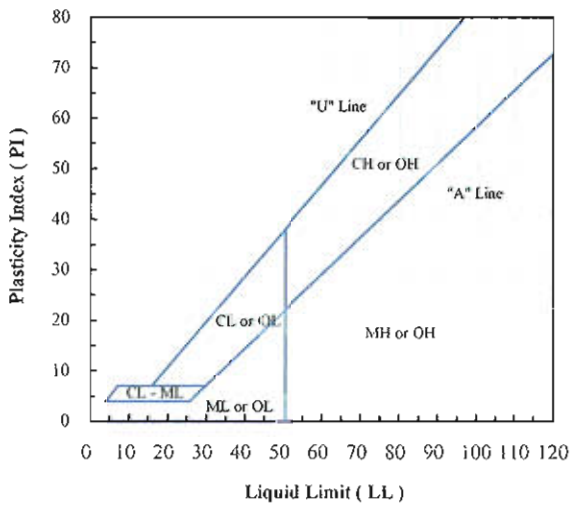
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.2
#40	0.425	89.6
#60	0.250	55.7
#100	0.150	10.7
#200	0.075	6.6

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.4
Fines (%):	6.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.0



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PC-10	E287	13.3	6.6				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase I
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-10
Lab Sample Number:	E287
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/18/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
I	R	14.6	7.6	95.9	0.0	TW	0.17 - 0.46	3.9E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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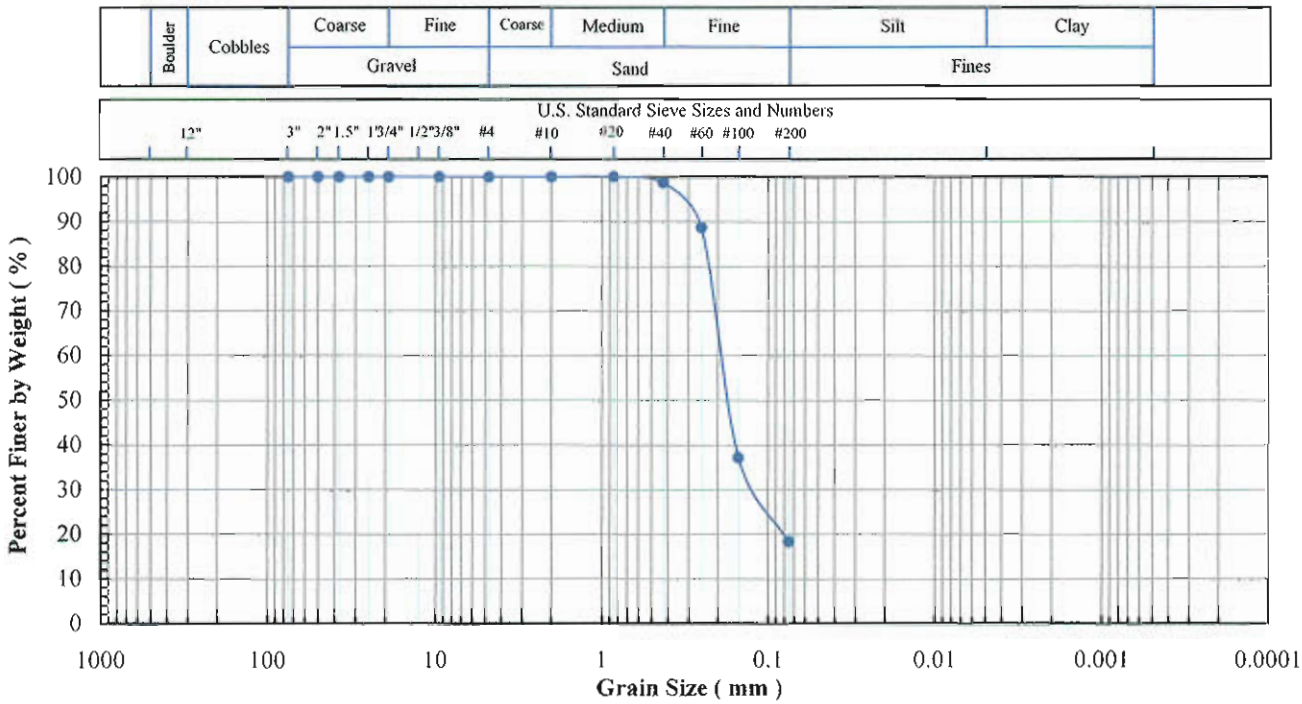
Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	PC-11
Lab Sample No:	F097

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



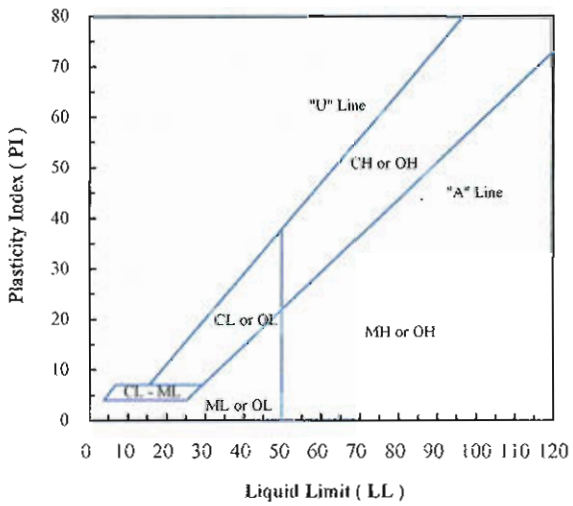
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.7
#60	0.250	88.7
#100	0.150	37.2
#200	0.075	18.4

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	81.6
Fines (%):	18.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PC-11	F097	7.0	18.4	NP	NP	NP	SM - Silty sand

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase I
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-11
Lab Sample Number:	F097
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/20/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.2	7.6	103.0	0.0	TW	0.12 - 0.43	5.5E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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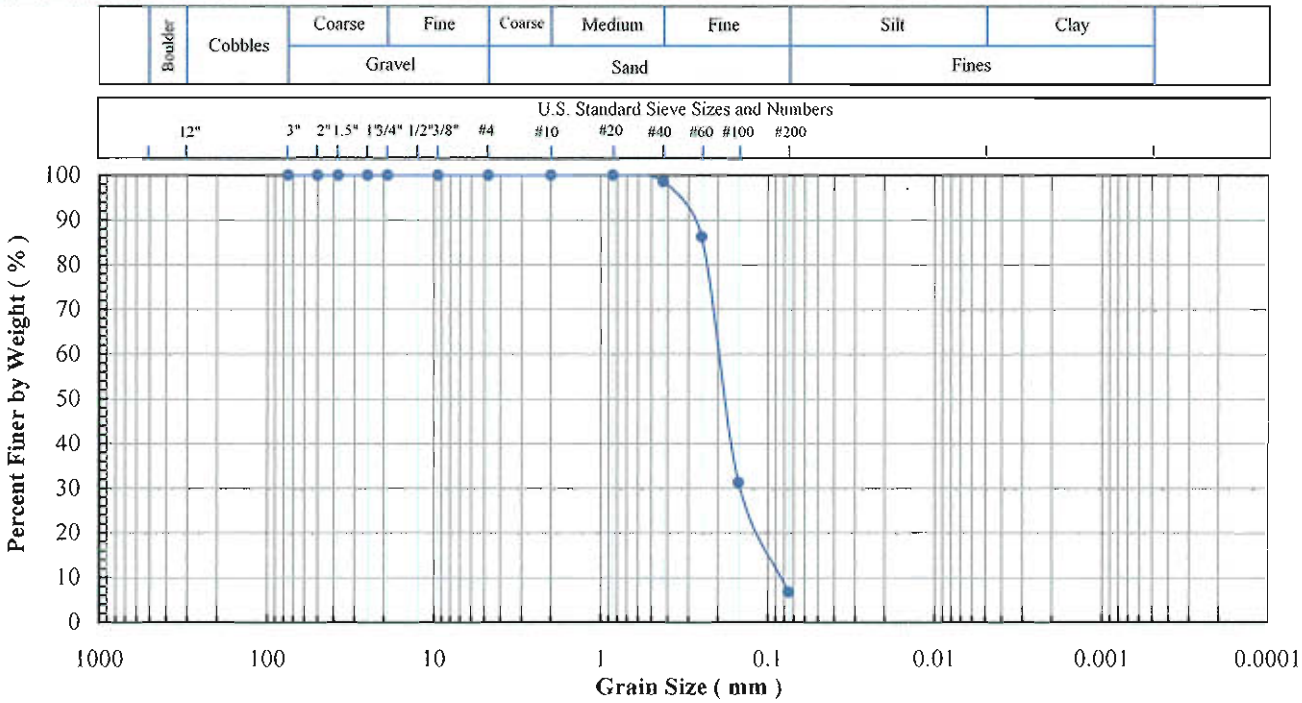
Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	PC-12
Lab Sample No:	F098

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



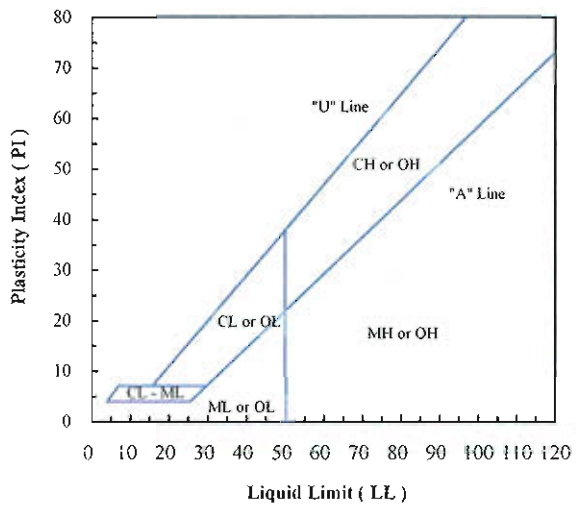
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.6
#60	0.250	86.3
#100	0.150	31.3
#200	0.075	6.8

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.2
Fines (%):	6.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.4
Coeff. Curv. (Cc):	1.3



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PC-12	F098	9.7	6.8				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-12
Lab Sample Number:	F098
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/20/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.2	7.6	98.5	0.0	TW	0.16 - 0.41	5.4E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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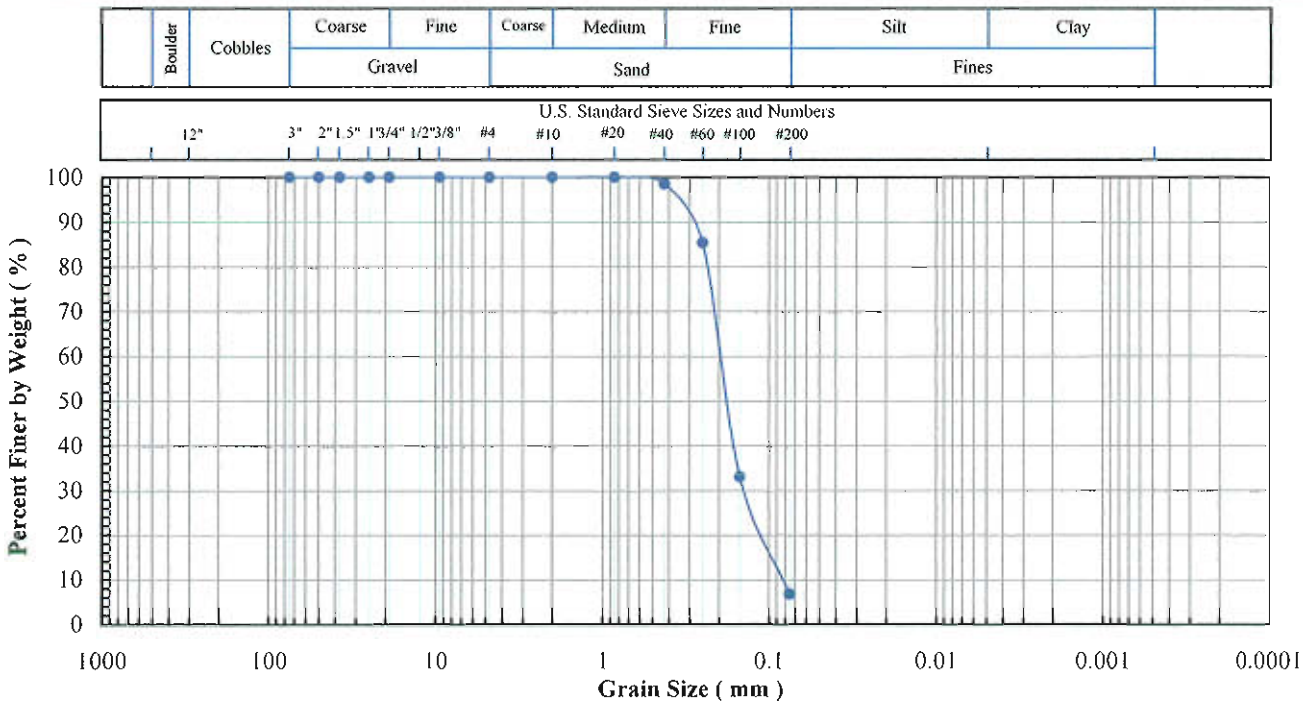
Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	PC-13
Lab Sample No:	F099

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Atterberg Limits, Eng. Classification



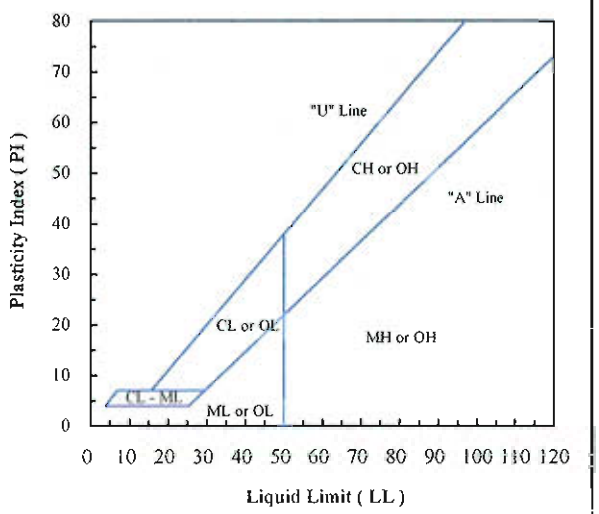
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.5
#60	0.250	85.4
#100	0.150	33.1
#200	0.075	6.9

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.1
Fines (%):	6.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.3
Coeff. Curv. (Cc):	1.3



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PC-13	F099	6.1	6.9	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-13
Lab Sample Number:	F099
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/21/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.4	7.6	99.2	0.0	TW	0.22 - 0.55	6.2E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

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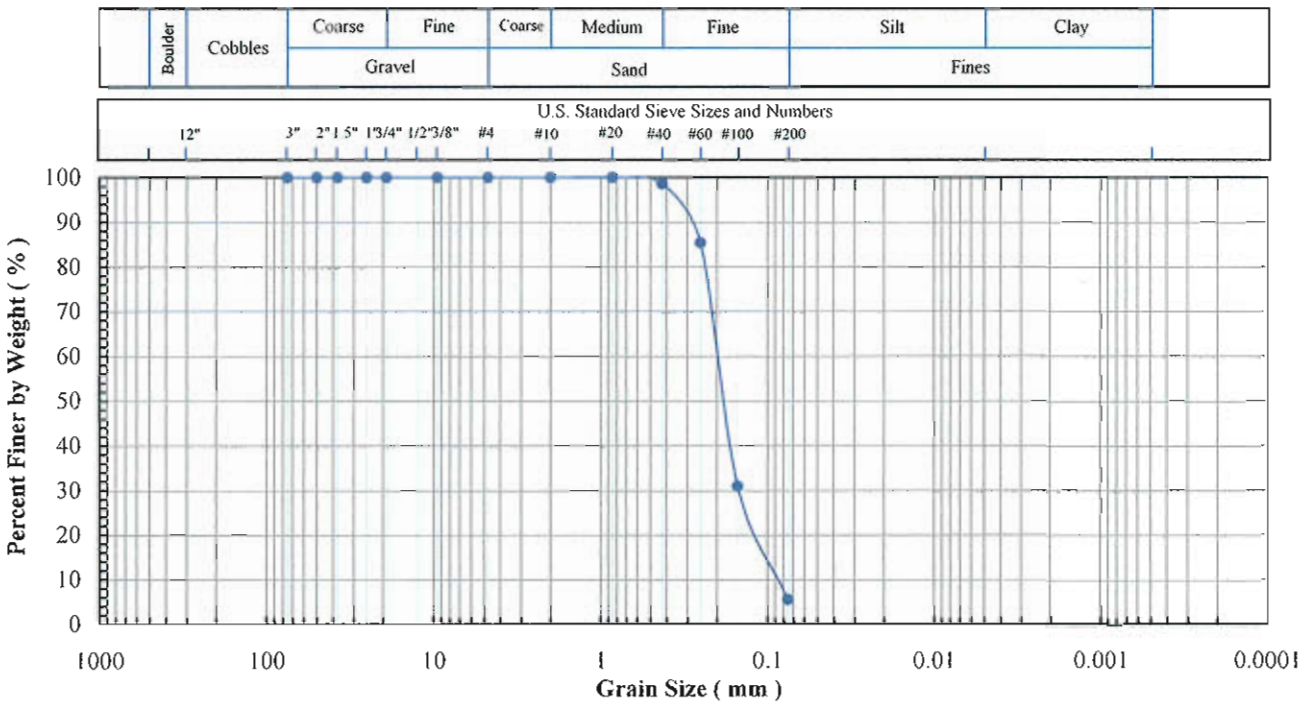
Project Name:	J.E.D. Partial Closure - Phase I
Project No:	352
Client Sample ID:	PC-14
Lab Sample No:	F100

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



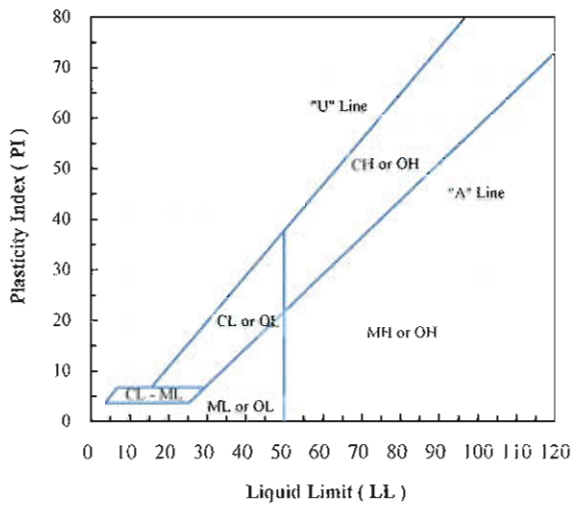
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.6
#60	0.250	85.4
#100	0.150	31.0
#200	0.075	5.6

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	94.4
Fines (%):	5.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.2
Coeff. Curv. (Cc):	1.3



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PC-14	F100	6.8	5.6				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

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RIGID WALL PERMEABILITY TEST[1]

ASTM D2434 *

Project Name:	J.E.D. Partial Closure - Phase 1
Project Number:	352
Client Name:	Geosyntec Consultants
Site Sample ID:	PC-14
Lab Sample Number:	F100
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	7/21/2009

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)		(-)	(cm/s)
1	R	14.3	7.6	99.8	0.0	TW	0.17 - 0.50	6.4E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

APPENDIX H

CAP PROTECTIVE COVER FIELD NUCLEAR MOISTURE DENSITY LOGS

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WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1-Protective Cover Material DATE: 11 Day May Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	1	N28*03.826 W081* 05.986	8	1	PC-01	14.6	105.2	8.9	107.7	98.9	94.0%	PASS				
PC	2	N28*03.837 W081* 05.986	8	1	PC-01	14.6	105.2	10.1	106.6	96.8	92.0%	PASS				
PC	3	N28*03.856 W081* 05.986	8	1	PC-01	14.6	105.2	11.2	108.1	97.2	92.4%	PASS				
PC	4	N28*03.878 W081* 05.985	8	1	PC-01	14.6	105.2	10.1	105.3	95.6	90.9%	PASS				
PC	5	N28*03.905 W081* 05.988	8	1	PC-01	14.6	105.2	8.9	105.5	96.9	92.1%	PASS				
PC	6	N28*03.923 W081* 05.984	8	1	PC-01	14.6	105.2	8.0	103.8	96.1	91.4%	PASS				
PC	7	N28*03.921W081* 05.976	8	1	PC-01	14.6	105.2	11.4	108.9	97.8	92.9%	PASS				
PC	8	N28*03.911 W081* 05.972	8	1	PC-01	14.6	105.2	12.2	110.4	98.4	93.5%	PASS				
PC	9	N28*03.892 W081* 05.972	8	1	PC-01	14.6	105.2	8.1	108.4	100.3	95.3%	PASS				
PC	10	N28*03.870 W081* 05.973	8	1	PC-01	14.6	105.2	7.4	106.2	98.9	94.0%	PASS				
PC	11	N28*03.822 W081* 05.771	8	1	PC-01	14.6	105.2	11.2	111.2	100.0	95.1%	PASS				
PC	12	N28*03.820 W081* 05.963	8	1	PC-01	14.6	105.2	7.8	104.0	96.5	91.7%	PASS				
PC	13	N28*03.831W081* 05.958	8	1	PC-01	14.6	105.2	8.9	107.9	100.4	95.4%	PASS				
PC	14	N28*03.846 W081* 05.962	8	1	PC-01	14.6	105.2	8.9	96.6	88.7	84.3%	PASS				
PC	15	N28*03.860 W081* 05.961	8	1	PC-01	14.6	105.2	10.0	111.1	101.0	96.0%	PASS				

COMMENTS: Density testing occurs on the Protective Cover (PC) placed (18") on the upper and lower western slopes in Cell 4.

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FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1-Protective Cover Material DATE: 13 Day May Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in.

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Brwn Fine Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 15334 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	16	N28*03.965 W081* 05.973	8	1	PC-01	14.6	105.2	8.5	109.4	100.8	95.8%	PASS				
PC	17	N28*03.955 W081* 05.961	8	1	PC-01	14.6	105.2	10.8	105.4	95.1	90.4%	PASS				
PC	18	N28*03.959 W081* 05.950	8	1	PC-01	14.6	105.2	10.2	112.0	101.6	96.6%	PASS				
PC	19	N28*03.973 W081* 05.952	8	1	PC-01	14.6	105.2	12.5	113.4	100.8	95.8%	PASS				
PC	20	N28*03.991 W081* 05.950	8	1	PC-01	14.6	105.2	8.3	107.9	99.6	94.7%	PASS				
PC	21	N28*03.993 W081* 05.961	8	1	PC-01	14.6	105.2	9.0	112.7	103.4	98.3%	PASS				
PC	22	N28*03.971W081* 05.970	8	1	PC-01	14.6	105.2	15.0	111.7	97.1	92.3%	PASS				
PC	23	N28*03.977 W081* 05.976	8	1	PC-01	14.6	105.2	10.9	111.8	100.8	95.8%	PASS				
PC	24	N28*03.995 W081* 05.972	8	1	PC-01	14.6	105.2	13.2	112.9	99.7	94.8%	PASS				
PC	25	N28*04.010 W081* 05.971	8	1	PC-01	14.6	105.2	14.6	118.8	103.7	98.5%	PASS				
PC	26	N28*04.033 W081* 05.972	8	1	PC-01	14.6	105.2	11.9	115.6	103.3	98.2%	PASS				
PC	27	N28*04.040 W081* 05.987	8	1	PC-01	14.6	105.2	9.4	104.6	95.6	90.9%	PASS				
PC	28	N28*04.023 W081* 05.984	8	1	PC-01	14.6	105.2	11.7	110.1	100.4	95.4%	PASS				
PC	29	N28*04.006 W081* 05.902	8	1	PC-01	14.6	105.2	11.2	110.0	98.9	94.0%	PASS				
PC	30	N28*03.975 W081* 05.985	8	1	PC-01	14.6	105.2	9.3	104.6	95.7	91.0%	PASS				

COMMENTS: Density testing occurs on the Protective Cover (PC) placed (18") on the upper and lower western slopes in Cell 1.

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 8 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	31	N28.03.964 W081.05.086	8	1	PC01	14.6	105.2	28.8	115.9	90.0	85.5%	PASS				
PC	32	N28.03.943 W081.05986	8	1	PC01	14.6	105.2	30.0	100.3	89 2	84.8%	PASS				
PC	33	N28.03.946 W081.05.980	8	1	PC01	14.6	105.2	17.6	121.5	103.3	98.2%	PASS				
PC	34	N28.03.940 W081.05.972	8	1	PC01	14.6	105.2	24.8	108.9	87.3	82.9%	PASS				
PC	35	N28.03.960 W081.05.971	8	1	PC01	14.6	105.2	24.9	110.1	88.2	83.8%	PASS				
PC	36	N28.03.975 W081.05.960	8	1	PC01	14.6	105.2	15.2	112.5	97.7	92.8%	PASS				
PC	37	N28.03.985 W081.05.959	8	1	PC01	14.6	105.2	10.5	113.8	103.0	97.9%	PASS				
PC	38	N28.03.990 W081.05.959	8	1	PC01	14.6	105.2	9.6	112.3	102.5	97.4%	PASS				
PC	39	N28.03.998 W081.05.960	8	1	PC01	14.6	105.2	12.2	118.0	105.2	100.0%	PASS				
PC	40	N28.04.007 W081.05.955	8	1	PC01	14.6	105.2	10.3	110.4	100.1	95.1%	PASS				
PC	41	N28.04.000 W081.05.955	8	1	PC01	14.6	105.2	6.8	101.6	95.1	90.4%	PASS				
PC	42	N28.03.993 W081.05.955	8	1	PC01	14.6	105.2	8.4	108.6	100.2	95.2%	PASS				
PC	43	N28.03.978 W081.05.954	8	1	PC01	14.6	105.2	8.4	108.6	100.2	95.2%	PASS				
PC	44	N28.03.979 W081.05.947	8	1	PC01	14.6	105.2	9.0	113.1	103.8	98.6%	PASS				
PC	45	N28.03.985 W081.05.942	8	1	PC01	14.6	105.2	6.9	108.2	101.2	96.2%	PASS				

COMMENTS:

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 8 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	46	N28.03.992 W081.05.948	8	1	PC01	14.6	105.2	8.3	109.5	101.1	96.1%	PASS				
PC	47	N28.04.008 W081.05.950	8	1	PC01	14.6	105.2	8.0	103.5	95.8	91.1%	PASS				
PC	48	N28.04.009 W081.05.942	8	1	PC01	14.6	105.2	14.0	113.8	99.8	94.9%	PASS				
PC	49	N28.03.996 W081.05.940	8	1	PC01	14.6	105.2	11.9	112.5	100.5	95.6%	PASS				
PC	50	N28.03.982 W081.05.940	8	1	PC01	14.6	105.2	11.6	111.3	99.7	94.8%	PASS				
PC	51	N28.03.978 W081.05.969	8	1	PC01	14.6	105.2	8.0	104.7	96.9	92.2%	PASS				
PC	52	N28.03.987 W081.05.970	8	1	PC01	14.6	105.2	10.4	113.2	102.5	97.5%	PASS				
PC	53	N28.03.999 W081.05971	8	1	PC01	14.6	105.2	9.0	108.9	99.9	95.0%	PASS				
PC	54	N28.04.008 W081.05.971	8	1	PC01	14.6	105.2	11.3	113.9	102.3	97.3%	PASS				
PC	55	N28.04.011 W081.05.976	8	1	PC01	14.6	105.2	14.3	113.0	98.9	94.0%	PASS				
PC	56	N28.04.000 W081.05.978	8	1	PC01	14.6	105.2	12.0	116.1	103.7	98.5%	PASS				
PC	57	N28.03.988 W081.05.982	8	1	PC01	14.6	105.2	10.2	112.3	101.9	96.9%	PASS				
PC	58	N28.03.976 W081.05.978	8	1	PC01	14.6	105.2	14.0	117.4	103.0	97.9%	PASS				
PC	59	N28.03.973 W081.05.987	8	1	PC01	14.6	105.2	11.9	117.7	105.2	100.0%	PASS				
PC	60	N28.03.981 W081.05.985	8	1	PC01	14.6	105.2	14.5	118.2	103.2	98.1%	PASS				

COMMENTS:

Geosyntec consultants

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FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 8 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	61	N28.03.986 W081.05.985	8	1	PC01	14.6	105.2	12.4	113.8	101.2	96.2%	PASS				
PC	62	N28.04.003 W081.05.986	8	1	PC01	14.6	105.2	15.8	118.9	102.7	97.6%	PASS				

COMMENTS:

Geosyntec consultants

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FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 9 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	63	N28.04.018 W081.05.988	8	1	PC01	14.6	105.2	13.8	115.7	101.7	96.7%	PASS				
PC	64	N28.04.032 W081.05.986	8	1	PC01	14.6	105.2	12.1	119.4	106.5	101.2%	PASS				
PC	65	N28.04.041 W081.05.990	8	1	PC01	14.6	105.2	16.3	123.5	106.2	100.9%	PASS				
PC	66	N28.04.055 W081.05.987	8	1	PC01	14.6	105.2	10.3	139.5	126.5	120.2%	PASS				
PC	67	N28.04.054 W081.05.981	8	1	PC01	14.6	105.2	14.9	115.1	100.2	95.2%	PASS				
PC	68	N28.04.043 W081.05.983	8	1	PC01	14.6	105.2	9.6	112.3	102.5	97.4%	PASS				
PC	69	N28.04.030 W081.05.981	8	1	PC01	14.6	105.2	13.6	114.7	101.0	96.0%	PASS				
PC	70	N28.04.012 W081.05.986	8	1	PC01	14.6	105.2	9.7	112.3	102.4	97.3%	PASS				
PC	71	N28.04.020 W081.05.975	8	1	PC01	14.6	105.2	11.6	115.6	103.6	98.5%	PASS				
PC	72	N28.04.027 W081.05.974	8	1	PC01	14.6	105.2	11.4	115.1	103.3	98.2%	PASS				
PC	73	N28.04.044 W081.05.973	8	1	PC01	14.6	105.2	11.0	112.9	101.7	96.7%	PASS				
PC	74	N28.04.058 W081.05.976	8	1	PC01	14.6	105.2	12.5	118.2	105.1	99.9%	PASS				
PC	75	N28.04.055 W081.05.962	8	1	PC01	14.6	105.2	10.8	107.9	97.4	92.6%	PASS				
PC	76	N28.04.043 W081.05.963	8	1	PC01	14.6	105.2	14.2	116.4	101.9	96.9%	PASS				
PC	77	N28.04.031 W081.05.963	8	1	PC01	14.6	105.2	9.5	111.3	101.6	96.6%	PASS				

COMMENTS:

Geosyntec consultants

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FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION Partial Closure-Phase 1 DATE: 9 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUCE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	78	N28.04.014 W081.05.963	8	1	PC01	14.6	105.2	9.5	109.2	99.7	94.8%	PASS				
PC	79	N28.04.016 W081.05.956	8	1	PC01	14.6	105.2	8.1	108.9	100.7	95.8%	PASS				
PC	80	N28.04.022 W081.05.951	8	1	PC01	14.6	105.2	8.1	105.7	97.8	92.9%	PASS				
PC	81	N28.04.033 W081.05.952	8	1	PC01	14.6	105.2	10.3	109.9	99.6	94.7%	PASS				
PC	82	N28.04.054 W081.05.953	8	1	PC01	14.6	105.2	6.8	106.3	99.5	94.6%	PASS				
PC	83	N28.04.055 W081.05.947	8	1	PC01	14.6	105.2	9.1	107.3	98.4	93.5%	PASS				
PC	84	N28.04.044 W081.05.948	8	1	PC01	14.6	105.2	8.5	109.7	101.1	96.1%	PASS				
PC	85	N28.04.034 W081.05.945	8	1	PC01	14.6	105.2	7.4	101.3	94.3	89.7%	PASS				
PC	86	N28.04.015 W081.05.947	8	1	PC01	14.6	105.2	7.3	104.0	96.9	92.1%	PASS				
PC	87	N28.04.018 W081.05.941	8	1	PC01	14.6	105.2	8.2	108.4	100.2	95.2%	PASS				
PC	88	N28.04.025 W081.05.939	8	1	PC01	14.6	105.2	7.3	103.6	96.6	91.8%	PASS				
PC	89	N28.04.037 W081.05.939	8	1	PC01	14.6	105.2	17.5	116.6	99.2	94.3%	PASS				
PC	90	N28.04.052 W081.05.941	8	1	PC01	14.6	105.2	9.3	100.4	91.9	87.3%	PASS				
PC	91	N28.04.049 W081.05934	8	1	PC01	14.6	105.2	8.3	99.5	91.9	87.3%	PASS				
PC	92	N28.04.038 W081.05.934	8	1	PC01	14.6	105.2	10.2	109.6	99.5	94.5%	PASS				

COMMENTS:

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG

(ASTM D 3017 AND ASTM D 2922)

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida — PROJECT NO.: FQ1672 — TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 — DATE: 9 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION — MOISTURE RANGE NA — LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 — MATERIAL TYPE Lt.Brwn Silty Sand — CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 — GAUGE SERIAL 22295 — QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	93	N28.04.028 W081.05.933	8	1	PC01	14.6	105.2	14.4	116.4	101.7	96.7%	PASS				
PC	94	N28.04.019 W081.05.933	8	1	PC01	14.6	105.2	8.6	106.2	97.8	93.0%	PASS				
PC	95	N28.04.077 W081.05.936	8	1	PC01	14.6	105.2	11.9	117.3	104.8	99.6%	PASS				
PC	96	N28.03.996 W081.05.934	8	1	PC01	14.6	105.2	11.1	108.4	97.6	92.7%	PASS				
PC	97	N28.03.980 W081.05.939	8	1	PC01	14.6	105.2	6.5	101.6	95.4	90.7%	PASS				
PC	98	N28.03.969 W081.05.969	8	1	PC01	14.6	105.2	11.4	109.0	97.8	93.0%	PASS				
PC	99	N28.03.955 W081.05.932	8	1	PC01	14.6	105.2	17.9	112.6	95.5	90.8%	PASS				
PC	100	N28.03.942 W081.05.935	8	1	PC01	14.6	105.2	18.1	110.5	93.6	88.9%	PASS				

COMMENTS:

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 11 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CCRRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	101	N28.04.062 W081.05.988	8	1	PC01	14.6	105.2	14.0	118.5	103.9	98.8%	PASS				
PC	102	N28.04.063 W081.05.981	8	1	PC01	14.6	105.2	9.2	112.5	103.0	97.9%	PASS				
PC	103	N28.04.059 W081.05.973	8	1	PC01	14.6	105.2	14.2	116.7	102.2	97.1%	PASS				
PC	104	N28.04.074 W081.05.970	8	1	PC01	14.6	105.2	5.9	99.0	93.5	88.9%	PASS				
PC	105	N28.04.087 W081.05.981	8	1	PC01	14.6	105.2	8.3	101.5	93.7	89.1%	PASS				
PC	106	N28.04.086 W081.05.973	8	1	PC01	14.6	105.2	6.0	101.2	95.5	90.8%	PASS				
PC	107	N28.04.072 W081.05.977	8	1	PC01	14.6	105.2	6.7	104.4	97.8	93.0%	PASS				
PC	108	N28.04.069 W081.05.963	8	1	PC01	14.6	105.2	9.1	106.0	97.2	92.4%	PASS				
PC	109	N28.04.071 W081.05.964	8	1	PC01	14.6	105.2	5.8	97.9	92.5	88.0%	PASS				
PC	110	N28.04.082 W081.05.963	8	1	PC01	14.6	105.2	9.8	100.9	91.9	87.4%	PASS				
PC	111	N28.04.080 W081.05.957	8	1	PC01	14.6	105.2	9.9	105.6	96 1	91.3%	PASS				
PC	112	N28.04.072 W081.05.957	8	1	PC01	14.6	105.2	11.2	109.4	98.4	93.5%	PASS				
PC	113	N28.04.064 W081.05.957	8	1	PC01	14.6	105.2	10.2	106.5	96.6	91.9%	PASS				
PC	114	N28.04.061 W081.05.945	8	1	PC01	14.6	105.2	7.5	104.0	96.7	92.0%	PASS				
PC	115	N28.04.070 W081.05.946	8	1	PC01	14.6	105.2	11.8	103.4	92.5	87.9%	PASS				

COMMENTS:

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 11 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT	LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	116	N28.04.076	W081.05.989	8	1	PC01	14.6	105.2	10.7	106.9	96.6	91.8%	PASS				
PC	117	N28.04.088	w081.05.988	8	1	PC01	14.6	105.2	7.4	97.3	90.6	86.1%	PASS				

COMMENTS:

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION Partial Closure-Phase 1 DATE: 13 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	118	N28.04.094 W081.05.982	8	1	PC01	14.6	105.2	8.2	106.1	98.1	93.2%	PASS				
PC	119	N28.04.104 W081.05.971	8	1	PC01	14.6	105.2	8.3	104.5	96.5	91.7%	PASS				
PC	120	N28.04.113 W081.05.955	8	1	PC01	14.6	105.2	8.9	109.0	100.1	95.1%	PASS				
PC	121	N28.04.109W081.05.934	8	1	PC01	14.6	105.2	9.3	105.9	96.9	92.1%	PASS				
PC	122	N28.04.105 W081.05.936	8	1	PC01	14.6	105.2	7.5	100.8	93.8	89.1%	PASS				
PC	123	N28.04.099 W081.05.946	8	1	PC01	14.6	105.2	7.6	103.6	96.3	91.5%	PASS				
PC	124	N28.04.103 W081.05.965	8	1	PC01	14.6	105.2	7.6	101.2	94.1	89.4%	PASS				
PC	125	N28.04.092 W081.05.975	8	1	PC01	14.6	105.2	8.2	109.8	101.5	96.5%	PASS				
PC	126	N28.04.068 W081.05.967	8	1	PC01	14.6	105.2	6.1	101.1	95 3	90.6%	PASS				
PC	127	N28.04.094WC81.05.958	8	1	PC01	14.6	105.2	8.7	105.2	96 8	92.0%	PASS				
PC	128	N28.04.095 W081.05.948	8	1	PC01	14.6	105.2	9.4	103.3	94 4	89.8%	PASS				
PC	129	N28.04.095 W081.05.934	8	1	PC01	14.6	105.2	7.4	98.5	91.7	87.2%	PASS				
PC	130	N28.04.089 W081.05.936	8	1	PC01	14.6	105.2	9.2	100.6	92 1	87.6%	PASS				
PC	131	N28.04.080 W081.05.962	8	1	PC01	14.6	105.2	8.4	104.5	96 4	91.6%	PASS				
PC	132	N28.04.083 W081.05.969	8	1	PC01	14.6	105.2	9.2	103.2	94.5	89.8%	PASS				

COMMENTS:

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: Day Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID TW

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	133	N28.04.081 W081.05.951	8	1	PC01	14.6	105.2	7.1	103.7	96.8	92.0%	PASS				
PC	134	N28.04.081 W081.05.937	8	1	PC01	14.6	105.2	9.5	105.6	96.4	91.7%	PASS				
PC	135	N28.04.082 W081.05.926	8	1	PC01	14.6	105.2	10.3	107.9	97.8	93.0%	PASS				
PC	136	N28.04.075 W081.05.925	8	1	PC01	14.6	105.2	8.8	100.4	92.3	87.7%	PASS				
PC	137	N28.04.074 W081.05.937	8	1	PC01	14.6	105.2	9.8	105.8	96.4	91.6%	PASS				
PC	138	N28.04.071 W081.05.945	8	1	PC01	14.6	105.2	8.3	104.5	96.5	91.7%	PASS				
PC	139	N28.04.057 W081.05.939	8	1	PC01	14.6	105.2	7.2	106.7	99.5	94.6%	PASS				
PC	140	N28.04.067 W081.05.939	8	1	PC01	14.6	105.2	6.5	106.4	99.9	95.0%	PASS				
PC	141	N28.04.044 W081.05.935	8	1	PC01	14.6	105.2	8.0	101.0	93.5	88.9%	PASS				
PC	142	N28.04.058 W081.05.937	8	1	PC01	14.6	105.2	11.6	113.4	101.6	96.6%	PASS				
PC	143	N28.04.052 W081.05.933	8	1	PC01	14.6	105.2	10.0	107.5	97.8	93.0%	PASS				
PC	144	N28.04.042 W081.05.035	8	1	PC01	14.6	105.2	10.6	113.5	102.6	97.5%	PASS				
PC	145	N28.04.063 W081.05.936	8	1	PC01	14.6	105.2	7.1	112.3	104.9	99.7%	PASS				

COMMENTS:

Geosyntec consultants

WSI Waste Services Of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT J. E.D. Partial Closure -Phase 1
LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1
DESCRIPTION: Partial Closure-Phase 1 DATE: 16 Day June Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3430 GAUGE SERIAL 22295 QA ID DWH/BB

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	146	N2804110 W08105912	8	1	PC01	14.6	105.2	7.4	104.4	97.5	92.5	PASS				
PC	147	N2804104 W08105903	8	1	PC01	14.6	105.2	8.2	105.4	97.4	92.6	PASS				
PC	148	N2804090 W08105915	8	1	PC01	14.6	105.2	9.2	108.7	99.5	94.6	PASS				
PC	149	N2804094 W08105914	8	1	PC01	14.6	105.2	10.6	105.2	95.1	90.4	PASS				
PC	150	N2804079 W08105923	8	1	PC01	14.6	105.2	8.0	107.0	99.1	94.2	PASS				

COMMENTS:

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: 14 Day July Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID RKD

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	151	N28*04.102 W081*05.870	8	1	PC-01	14.6	105.2	25.9	113.4	90.1	85.6%	PASS				
PC	152	N28*04.096 W081*05.859	8	1	PC-01	14.6	105.2	17.4	115.6	98.5	93.6%	PASS				
PC	153	N28*04.086 W081*05.842	8	1	PC-01	14.6	105.2	15.2	112.7	97.8	93.0%	PASS				
PC	154	N28*04.076 W081*05.864	8	1	PC-01	14.6	105.2	17.5	109.5	93.2	88.6%	PASS				
PC	155	N28*04.088 W081*05.869	8	1	PC-01	14.6	105.2	21.0	112.2	92.7	88.1%	PASS				
PC	156	N28*04.085 W081*05.866	8	1	PC-01	14.6	105.2	21.5	112.8	92.8	88.3%	PASS				
PC	157	N28*04.064 W081*05.793	8	1	PC-01	14.6	105.2	16.4	110.4	94.8	90.2%	PASS				
PC	158	N28*04.073 W081*05.806	8	1	PC-01	14.6	105.2	17.6	111.4	94.7	90.0%	PASS				
PC	159	N28*04.071 W081*05.815	8	1	PC-01	14.6	105.2	17.1	108.7	92.8	88.2%	PASS				
PC	160	N28*04.075 W081*05.829	8	1	PC-01	14.6	105.2	10.6	103.4	93.5	88.9%	PASS				
PC	161	N28*04.073 W081*05.841	8	1	PC-01	14.6	105.2	18.4	112.4	94.9	90.2%	PASS				
PC	162	N28*04.064 W081*05.824	8	1	PC-01	14.6	105.2	16.3	109.1	93.8	89.2%	PASS				
PC	163	N28*04.061 W081*05.822	8	1	PC-01	14.6	105.2	15.4	111.4	96.5	91.8%	PASS				
PC	164	N28*04.054 W081*05.830	8	1	PC-01	14.6	105.2	14.3	106.8	93.4	88.8%	PASS				
PC	165	N28*04.055 W081*05.816	8	1	PC-01	14.6	105.2	17.4	111.0	94.5	89.9%	PASS				

COMMENTS: Density testing occurs on the easterm slope of cell 2 and cell 3

Geosyntec consultants

WSI Waste Services of Florida, Inc.

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT: J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION: Partial Closure-Phase 1 DATE: July Day 21 Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3440 GAUGE SERIAL 22295 QA ID RKD

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	166	N28° 04.046 W081°05.831	8	1	PC-01	14.6	105.2	15.4	112.6	97.6	92.8%					
PC	167	N28° 04.048 W081°05.813	8	1	PC-01	14.6	105.2	14.1	110.8	97.1	92.3%					
PC	168	N28° 04.045 W081°05.806	8	1	PC-01	14.6	105.2	13.6	109.4	96.3	91.5%					
PC	169	N28° 04.054 W081°05.811	8	1	PC-01	14.6	105.2	12.4	110.1	98.0	93.1%					
PC	170	N28° 04.061 W081°05.806	8	1	PC-01	14.6	105.2	13.6	109.5	96.4	91.6%					
PC	171	N28° 04.040 W081°05.801	8	1	PC-01	14.6	105.2	10.6	113.5	102.6	97.5%					
PC	172	N28° 04.037 W081°05.796	8	1	PC-01	14.6	105.2	14.0	118.5	103.9	98.8%					
PC	173	N28° 04.055 W081°05.799	8	1	PC-01	14.6	105.2	13.8	115.7	101.7	96.6%					
PC	174	N28° 04.034 W081°05.800	8	1	PC-01	14.6	105.2	14.2	116.4	101.9	96.9%					
PC	175	N28° 04.024 W081°05.791	8	1	PC-01	14.6	105.2	14.3	113.9	99.7	94.7%					

COMMENTS: Density testing occurs on the eastern side slope of cell 3

Geosyntec consultants

WSI

FIELD NUCLEAR MOISTURE/DENSITY TEST LOG **(ASTM D 3017 AND ASTM D 2922)**

PROJECT J. E.D. Partial Closure -Phase 1

LOCATION: St. Cloud , Florida PROJECT NO.: FQ1672 TASK NO.: 1

DESCRIPTION Partial Closure-Phase 1 DATE: 31 Day July Month 2009 Year

SPECIFICATION REQUIRMENTS: ASTM D 698 85% COMPACTION MOISTURE RANGE NA LIFT THICKNESS COMPACTED 18 in

MATERIAL SOURCE: Borrow Area-B2 MATERIAL TYPE Lt.Brwn Silty Sand CORRECTION FACTOR Y = N/A

NUCLEAR GAUGE TYPE 3430 GAUGE SERIAL 22295 QA ID RD

TEST NO.		TEST LOCATION LATT LONG	PROBE DEPTH	LIFT NO.	LAB RESULTS SAMPLE NO.	OMC (%)	MAX DRY UNIT WT (PCF)	FILED TEST RESULTS FMC (%)	WET UNIT WT (PCF)	DRY UNIT WT (PCF)	PERCENT COMPACT	PASS	FAIL	RETEST NO.	RETEST PASS	RETEST FAIL
PC	176	N28 06.584 W081 09.559	8	1	PC01	14.6	105.2	8.8	111.5	102.5	91.7	PASS				
PC	177	N28 06.562 W081 09.584	8	1	PC01	14.6	105.2	12.4	113.5	101.0	90.4	PASS				
PC	178	N28 06.571 W081 09.616	8	1	PC01	14.6	105.2	9.3	110.5	101.2	90.5	PASS				
PC	179	N28 06.536 W081 09.616	8	1	PC01	14.6	105.2	18.3	116.5	98.2	87.9	PASS				
PC	180	N28 06.540 W081 09.567	8	1	PC01	14.6	105.2	13.2	115.9	102.4	91.6	PASS				

COMMENTS:

APPENDIX I

DRIVE CYLINDER TEST RESULTS

Geosyntec consultants

WSI Waste Services of Florida, Inc.

DETERMINATION OF DENSITY (DRIVE CYLINDER) **(ASTM D 2937)**

PROJECT: JED Solid Waste Facility Partial Closure Phase I

LOCATION: St. Cloud, Florida PROJECT NO.: FQ1672 TASK NO.: 01

DESCRIPTION: Partial Closure DATE: 13 day May month 2009 year

SOURCE: On Site Borrow Materia.

SPECIFICATION REQUIREMENTS:

MATERIAL TYPE: FILL [ ] SUBGRADE [ ] SUBBASE [ ] CLAY [ ] OTHER: P.Cover

% COMPACTION: 85% MOISTURE CONTENT RANGE:

TEST LOCATION: N 28* 04.010 E 081* 05.971 TEST NO. **DC-1/PC-25**

FIELD TEST DATA -- ASTM D2937 QA ID: RH

CYL HT 1 (IN): CYL HT 2 (IN): CYL DIA 1 (IN): CYL DIA 2 (IN):

A	CYLINDER NO.: VOLUME [1]	(cf)	0.033	E	WET UNIT WEIGHT = D/A	(lbs)	118.3
B	WEIGHT OF SAMPLE & CYLINDER	(lbs)	5.31	F	DRY UNIT WEIGHT = E/(1 + (T/100)	(pcf)	103.9
C	WEIGHT OF CYLINDER	(lbs)	1.37	G	PERCENT COMPACTION = F/L	(%)	99.0
D	WEIGHT OF WET SAMPLE = B - C	(lbs)	3.94	H	PASS/FAIL		P

NOTE 1. CYLINDER VOLUME IS OBTAINED BY MEASURING THE HEIGHT AND DIAMETER, OF FOUR EQUALLY SPACED POINTS, TO AN ACCURACY OF 0.01-IN., AND CALCULATING THE VOLUME USING AVERAGE HEIGHT AND DIAMETER

FIELD MOISTURE CONTENT -- ASTM D2216 QA ID: RH

O	WT. OF TARE NO.	(gm)	45.1	R	WT. OF WATER = P - Q	(lbs)	37.3
P	WT. OF WET SOIL & TARE	(gm)	351.6	S	WT OF DRY SOIL = Q - O	(pcf)	269.2
Q	WT. OF DRY SOIL & TARE	(gm)	314.3	T	MOISTURE CONTENT = (R/S)X100		13.8

PROCTOR TEST DATA [L] MAXIMUM DRY UNIT WT. (pcf) 105 (M) OPT. MOIST. CONTENT (%) 14.5

COMPARISION WITH NUCLEAR GAUGE - ASTM D 6938 QA ID: RH

U	DELTA MOISTURE CONTENT = T - X		-0.2	X	FDT MOISTURE CONTENT	(%)	14.0
V	FDT WET UNIT WT.	(pcf)	118.8	Y	FDT DRY UNIT WT.	(pcf)	103.7
W	DELTA DRY UNIT WT. = F - Y		0.2				

COMMENTS

Geosyntec consultants

WSI Waste Services of Florida, Inc.

DETERMINATION OF DENSITY (DRIVE CYLINDER) **(ASTM D 2937)**

PROJECT: JED Solid Waste Facility Partial Closure Phase I

LOCATION: St. Cloud, Florida PROJECT NO.: FQ1672 TASK NO.: 01

DESCRIPTION: Partial Closure DATE: 8 day June month 2009 year

SOURCE: On Site Borrow Materia.

SPECIFICATION REQUIREMENTS:

MATERIAL TYPE: FILL [ ] SUBGRADE [ ] SUBBASE [ ] CLAY [ ] OTHER: P.Cover

% COMPACTION: 85% MOISTURE CONTENT RANGE: na

TEST LOCATION: N 28* 03.982 E 081* 05.940 TEST NO. **DR-2/PC-50**

FIELD TEST DATA -- ASTM D2937 QA ID: TW

CYL HT 1 (IN): CYL HT 2 (IN): CYL DIA 1 (IN): CYL DIA 2 (IN):

A	CYLINDER NO.: VOLUME [1]	(cf)	0.033	E	WET UNIT WEIGHT = D/A	(lbs)	112.0
B	WEIGHT OF SAMPLE & CYLINDER	(lbs)	5.10	F	DRY UNIT WEIGHT = E/(1 + (T/100)	(pcf)	100.6
C	WEIGHT OF CYLINDER	(lbs)	1.37	G	PERCENT COMPACTION = F/L	(%)	95.8
D	WEIGHT OF WET SAMPLE = B - C	(lbs)	3.73	H	PASS/FAIL		P

NOTE 1. CYLINDER VOLUME IS OBTAINED BY MEASURING THE HEIGHT AND DIAMETER, OF FOUR EQUALLY SPACED POINTS, TO AN ACCURACY OF 0.01-IN., AND CALCULATING THE VOLUME USING AVERAGE HEIGHT AND DIAMETER

FIELD MOISTURE CONTENT -- ASTM D2216 QA ID: TW

O	WT. OF TARE NO.	(gm)	44.4	R	WT. OF WATER = P - Q	(lbs)	33.7
P	WT. OF WET SOIL & TARE	(gm)	373.8	S	WT OF DRY SOIL = Q - O	(pcf)	295.7
Q	WT. OF DRY SOIL & TARE	(gm)	340.1	T	MOISTURE CONTENT = (R/S)X100		11.4

PROCTOR TEST DATA [L] MAXIMUM DRY UNIT WT. (pcf) 105 (M) OPT. MOIST. CONTENT (%) 14.5

COMPARISION WITH NUCLEAR GAUGE - ASTM D 6938 QA ID: TW

U	DELTA MOISTURE CONTENT = T - X		-0.2	X	FDT MOISTURE CONTENT	(%)	11.6
V	FDT WET UNIT WT.	(pcf)	111.3	Y	FDT DRY UNIT WT.	(pcf)	99.7
W	DELTA DRY UNIT WT. = F - Y		0.9				

COMMENTS

Geosyntec consultants

WSI

DETERMINATION OF DENSITY (DRIVE CYLINDER) **(ASTM D 2937)**

PROJECT: JED Solid Waste Facility Partial Closure Phase I

LOCATION: St. Cloud, Florida PROJECT NO.: FQ1672 TASK NO.: 01

DESCRIPTION: Partial Closure DATE: 9 day June month 2009 year

SOURCE: On Site Borrow Materia.

SPECIFICATION REQUIREMENTS:

MATERIAL TYPE: FILL [ ] SUBGRADE [ ] SUBBASE [ ] CLAY [ ] OTHER: P.Cover

% COMPACTION: 85% MOISTURE CONTENT RANGE:

TEST LOCATION: N 28* 04.055 E 081* 05.962 TEST NO. **DR-3/ PC-75**

FIELD TEST DATA -- ASTM D2937 QA ID: TW

CYL HT 1 (IN): CYL HT 2 (IN): CYL DIA 1 (IN): CYL DIA 2 (IN):

A	CYLINDER NO.: VOLUME [1]	(cf)	0.033	E	WET UNIT WEIGHT = D/A	(lbs)	109.3
B	WEIGHT OF SAMPLE & CYLINDER	(lbs)	5.01	F	DRY UNIT WEIGHT = E/(1 + (T/100)	(pcf)	97.9
C	WEIGHT OF CYLINDER	(lbs)	1.37	G	PERCENT COMPACTION = F/L	(%)	93.3
D	WEIGHT OF WET SAMPLE = B - C	(lbs)	3.64	H	PASS/FAIL		P

NOTE 1. CYLINDER VOLUME IS OBTAINED BY MEASURING THE HEIGHT AND DIAMETER, OF FOUR EQUALLY SPACED POINTS, TO AN ACCURACY OF 0.01-IN., AND CALCULATING THE VOLUME USING AVERAGE HEIGHT AND DIAMETER

FIELD MOISTURE CONTENT -- ASTM D2216 QA ID: TW

O	WT. OF TARE NO.	(gm)	44.4	R	WT. OF WATER = P - Q	(lbs)	32.3
P	WT. OF WET SOIL & TARE	(gm)	355.1	S	WT OF DRY SOIL = Q - O	(pcf)	278.4
Q	WT. OF DRY SOIL & TARE	(gm)	322.8	T	MOISTURE CONTENT = (R/S)X100		11.6

PROCTOR TEST DATA [L] MAXIMUM DRY UNIT WT. (pcf) 105 (M) OPT. MOIST. CONTENT (%) 14.5

COMPARISION WITH NUCLEAR GAUGE - ASTM D 6938 QA ID: TW

U	DELTA MOISTURE CONTENT = T - X		0.8	X	FDT MOISTURE CONTENT	(%)	10.8
V	FDT WET UNIT WT.	(pcf)	107.9	Y	FDT DRY UNIT WT.	(pcf)	97.4
W	DELTA DRY UNIT WT. = F - Y		0.5				

COMMENTS

Geosyntec consultants

WSI Waste Services of Florida, Inc.

DETERMINATION OF DENSITY (DRIVE CYLINDER) **(ASTM D 2937)**

PROJECT: JED Solid Waste Facility Partial Closure Phase I

LOCATION: St. Cloud, Florida PROJECT NO.: FQ1672 TASK NO.: 01

DESCRIPTION: Partial Closure DATE: 9 day June month 2009 year

SOURCE: On Site Borrow Material

SPECIFICATION REQUIREMENTS:

MATERIAL TYPE: FILL [ ] SUBGRADE [ ] SUBBASE [ ] CLAY [ ] OTHER: P.Cover

% COMPACTION: 85% MOISTURE CONTENT RANGE:

TEST LOCATION: N 28* 03.942 E 081* 05.935 TEST NO. **DC-4/PC-100**

FIELD TEST DATA -- ASTM D2937 QA ID: SIL

CYL HT 1 (IN): CYL HT 2 (IN): CYL DIA 1 (IN): CYL DIA 2 (IN):

A	CYLINDER NO.: VOLUME [1]	(cf)	0.033	E	WET UNIT WEIGHT = D/A	(lbs)	112.0
B	WEIGHT OF SAMPLE & CYLINDER	(lbs)	5.10	F	DRY UNIT WEIGHT = E/(1 + (T/100)	(pcf)	94.1
C	WEIGHT OF CYLINDER	(lbs)	1.37	G	PERCENT COMPACTION = F/L	(%)	89.6
D	WEIGHT OF WET SAMPLE = B - C	(lbs)	3.73	H	PASS/FAIL		P

NOTE 1. CYLINDER VOLUME IS OBTAINED BY MEASURING THE HEIGHT AND DIAMETER, OF FOUR EQUALLY SPACED POINTS, TO AN ACCURACY OF 0.01-IN., AND CALCULATING THE VOLUME USING AVERAGE HEIGHT AND DIAMETER

FIELD MOISTURE CONTENT -- ASTM D2216 QA ID: SIL

O	WT. OF TARE NO.	(gm)	45.3	R	WT. OF WATER = P - Q	(lbs)	49.0
P	WT. OF WET SOIL & TARE	(gm)	351.8	S	WT OF DRY SOIL = Q - O	(pcf)	257.5
Q	WT. OF DRY SOIL & TARE	(gm)	302.8	T	MOISTURE CONTENT = (R/S)X100		19.0

PROCTOR TEST DATA [L] MAXIMUM DRY UNIT WT. (pcf) 105 (M) OPT. MOIST. CONTENT (%) 14.5

COMPARISION WITH NUCLEAR GAUGE - ASTM D 6938 QA ID: SIL

U	DELTA MOISTURE CONTENT = T - X		0.9	X	FDT MOISTURE CONTENT	(%)	18.1
V	FDT WET UNIT WT.	(pcf)	110.5	Y	FDT DRY UNIT WT.	(pcf)	93.6
W	DELTA DRY UNIT WT. = F - Y		0.5				

COMMENTS

Geosyntec consultants

WSI Waste Services of Florida, Inc.

DETERMINATION OF DENSITY (DRIVE CYLINDER) **(ASTM D 2937)**

PROJECT: JED Solid Waste Facility Partial Closure Phase I

LOCATION: St. Cloud, Florida PROJECT NO.: FQ1672 TASK NO.: 01

DESCRIPTION: Partial Closure DATE: 13 day June month 2009 year

SOURCE: On Site Borrow Materia.

SPECIFICATION REQUIREMENTS:

MATERIAL TYPE: FILL [ ] SUBGRADE [ ] SUBBASE [ ] CLAY [ ] OTHER: P.Cover

% COMPACTION: 85% MOISTURE CONTENT RANGE:

TEST LOCATION: N 28* 04.092 E 081* 05.975 TEST NO. **DC-5/PC-125**

FIELD TEST DATA -- ASTM D2937 QA ID: TW

CYL HT 1 (IN): CYL HT 2 (IN): CYL DIA 1 (IN): CYL DIA 2 (IN):

A	CYLINDER NO.: VOLUME [1]	(cf)	0.033	E	WET UNIT WEIGHT = D/A	(lbs)	109.3
B	WEIGHT OF SAMPLE & CYLINDER	(lbs)	5.01	F	DRY UNIT WEIGHT = E/(1 + (T/100)	(pcf)	101.4
C	WEIGHT OF CYLINDER	(lbs)	1.37	G	PERCENT COMPACTION = F/L	(%)	96.6
D	WEIGHT OF WET SAMPLE = B - C	(lbs)	3.64	H	PASS/FAIL		P

NOTE 1. CYLINDER VOLUME IS OBTAINED BY MEASURING THE HEIGHT AND DIAMETER, OF FOUR EQUALLY SPACED POINTS, TO AN ACCURACY OF 0.01-IN., AND CALCULATING THE VOLUME USING AVERAGE HEIGHT AND DIAMETER

FIELD MOISTURE CONTENT -- ASTM D2216 QA ID: TW

O	WT. OF TARE NO.	(gm)	45.1	R	WT. OF WATER = P - Q	(lbs)	21.4
P	WT. OF WET SOIL & TARE	(gm)	340.2	S	WT OF DRY SOIL = Q - O	(pcf)	273.7
Q	WT. OF DRY SOIL & TARE	(gm)	318.8	T	MOISTURE CONTENT = (R/S)X100		7.8

PROCTOR TEST DATA [L] MAXIMUM DRY UNIT WT. (pcf) 105 (M) OPT. MOIST. CONTENT (%) 14.5

COMPARISION WITH NUCLEAR GAUGE - ASTM D 6938 QA ID: TW

U	DELTA MOISTURE CONTENT = T - X		-0.4	X	FDT MOISTURE CONTENT	(%)	8.2
V	FDT WET UNIT WT.	(pcf)	109.8	Y	FDT DRY UNIT WT.	(pcf)	101.5
W	DELTA DRY UNIT WT. = F - Y		-0.1				

COMMENTS

Geosyntec consultants

WSI Waste Services of Florida, Inc.

DETERMINATION OF DENSITY (DRIVE CYLINDER) **(ASTM D 2937)**

PROJECT: JED Solid Waste Facility Partial Closure Phase I

LOCATION: St. Cloud, Florida PROJECT NO.: FQ1672 TASK NO.: 01

DESCRIPTION: Partial Closure DATE: 16 day June month 2009 year

SOURCE: On Site Borrow Materia.

SPECIFICATION REQUIREMENTS:

MATERIAL TYPE: FILL [ ] SUBGRADE [ ] SUBBASE [ ] CLAY [ ] OTHER: P.Cover

% COMPACTION: 85% MOISTURE CONTENT RANGE:

TEST LOCATION: N 28* 04.079 E 081* 05.923 TEST NO. **DC-6/PC-150**

FIELD TEST DATA -- ASTM D2937 QA ID: SIL

CYL HT 1 (IN): CYL HT 2 (IN): CYL DIA 1 (IN): CYL DIA 2 (IN):

A	CYLINDER NO.: VOLUME [1]	(cf)	0.033	E	WET UNIT WEIGHT = D/A	(lbs)	106.9
B	WEIGHT OF SAMPLE & CYLINDER	(lbs)	4.93	F	DRY UNIT WEIGHT = E/(1 + (T/100)	(pcf)	99.5
C	WEIGHT OF CYLINDER	(lbs)	1.37	G	PERCENT COMPACTION = F/L	(%)	94.8
D	WEIGHT OF WET SAMPLE = B - C	(lbs)	3.56	H	PASS/FAIL		P

NOTE 1. CYLINDER VOLUME IS OBTAINED BY MEASURING THE HEIGHT AND DIAMETER, OF FOUR EQUALLY SPACED POINTS, TO AN ACCURACY OF 0.01-IN., AND CALCULATING THE VOLUME USING AVERAGE HEIGHT AND DIAMETER

FIELD MOISTURE CONTENT -- ASTM D2216 QA ID: SIL

O	WT. OF TARE NO.	(gm)	45.1	R	WT. OF WATER = P - Q	(lbs)	21.3
P	WT. OF WET SOIL & TARE	(gm)	351.6	S	WT OF DRY SOIL = Q - O	(pcf)	285.2
Q	WT. OF DRY SOIL & TARE	(gm)	330.3	T	MOISTURE CONTENT = (R/S)X100		7.5

PROCTOR TEST DATA [L] MAXIMUM DRY UNIT WT. (pcf) 105 (M) OPT. MOIST. CONTENT (%) 14.5

COMPARISION WITH NUCLEAR GAUGE - ASTM D 6938 QA ID: SIL

U	DELTA MOISTURE CONTENT = T - X		-0.5	X	FDT MOISTURE CONTENT	(%)	8.0
V	FDT WET UNIT WT.	(pcf)	107.0	Y	FDT DRY UNIT WT.	(pcf)	99.1
W	DELTA DRY UNIT WT. = F - Y		0.4				

COMMENTS

Geosyntec consultants

WSI Waste Services of Florida, Inc.

DETERMINATION OF DENSITY (DRIVE CYLINDER) **(ASTM D 2937)**

PROJECT: JED Solid Waste Facility Partial Closure Phase I

LOCATION: St. Cloud, Florida PROJECT NO.: FQ1672 TASK NO.: 01

DESCRIPTION: Partial Closure DATE: 31 day July month 2009 year

SOURCE: On Site Borrow Material.

SPECIFICATION REQUIREMENTS:

MATERIAL TYPE: FILL [ ] SUBGRADE [ ] SUBBASE [ ] CLAY [ ] OTHER: Cover

% COMPACTION: 85% MOISTURE CONTENT RANGE:

TEST LOCATION: N 28.06.540° W 81.09.567° TEST NO. **DC-8/PC-180**

FIELD TEST DATA -- ASTM D2937 QA ID: RKD

CYL HT 1 (IN): CYL HT 2 (IN): CYL DIA 1 (IN): CYL DIA 2 (IN):

A	CYLINDER NO.: VOLUME [1]	(cf)	0.034	E	WET UNIT WEIGHT = D/A	(lbs)	116.8
B	WEIGHT OF SAMPLE & CYLINDER	(lbs)	5.30	F	DRY UNIT WEIGHT = E/(1 + (T/100)	(pcf)	103.3
C	WEIGHT OF CYLINDER	(lbs)	1.33	G	PERCENT COMPACTION = F/L	(%)	92.4
D	WEIGHT OF WET SAMPLE = B - C	(lbs)	3.97	H	PASS/FAIL		P

NOTE 1. CYLINDER VOLUME IS OBTAINED BY MEASURING THE HEIGHT AND DIAMETER, OF FOUR EQUALLY SPACED POINTS, TO AN ACCURACY OF 0.01-IN., AND CALCULATING THE VOLUME USING AVERAGE HEIGHT AND DIAMETER

FIELD MOISTURE CONTENT -- ASTM D2216 QA ID: SIL

O	WT. OF TARE NO.	(gm)	46.9	R	WT. OF WATER = P - Q	(lbs)	9.9
P	WT. OF WET SOIL & TARE	(gm)	132.5	S	WT OF DRY SOIL = Q - O	(pcf)	75.7
Q	WT. OF DRY SOIL & TARE	(gm)	122.6	T	MOISTURE CONTENT = (R/S)X100		13.1

PROCTOR TEST DATA [L] MAXIMUM DRY UNIT WT. (pcf) 111.8 (M) OPT. MOIST. CONTENT (%) 10.1

COMPARISION WITH NUCLEAR GAUGE - ASTM D 6938 QA ID: SIL

U	DELTA MOISTURE CONTENT = T - X		-0.1	X	FDT MOISTURE CONTENT	(%)	13.2
V	FDT WET UNIT WT.	(pcf)	115.9	Y	FDT DRY UNIT WT.	(pcf)	102.4
W	DELTA DRY UNIT WT. = F - Y		0.9				

COMMENTS

APPENDIX J

VEGETATIVE SOIL TEST RESULTS

UF UNIVERSITY of FLORIDA IFAS

UF/IFAS Analytical Services Laboratories
Extension Soil Testing Laboratory
Wallace Building 631 PO Box 110740 Gainesville, FL 32611-0740
Email: soilslab@mail.ifas.ufl.edu Web: soilslab.ifas.ufl.edu Phone #:352-392-1950

Producer Bahia Test

TO: Kaiser, Mike
1501 Omni Way
St Cloud, FL 34773
Tel: 904-673-0446

For further information contact:
Bateman, C. Randy
Osceola County Coop Extn Service
1921 Kissimmee Valley Ln Ste A
Kissimmee, FL 34744-8947
Tel: 321-697-3000
Email:crbateman@ufl.edu

Client Identification: closure 1 Set Number: E4898 Lab Number: E34841

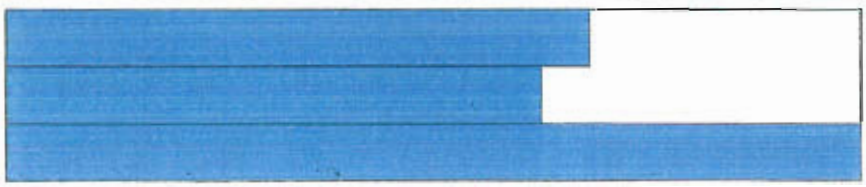
Crop: Bahiagrass Report Date: 8-May-09

These interpretations and recommendations are based upon soil test results and research/experience with the specified crop under Florida's growing conditions. We do not test soil for N as there is no meaningful soil test for predicting N availability. Thus, the N recommendation was developed from research that measured response of the indicated crop to applied N fertilizer. If you expect significant nutrient release from organic sources such as crop residues or organic amendments, estimate the amount mineralized and subtract that amount from the fertilizer recommendations given below to arrive at crop needs.

SOIL TEST RESULTS AND THEIR INTERPRETATIONS

Target pH:		5.5
pH (1:2 Sample:Water)		6.6
A-E Buffer Value:		N/A

MEHLICH-1 EXTRACTABLE			V LOW	LOW	MED	HIGH	V HIGH
PHOSPHORUS	(ppm P)	42					
POTASSIUM	(ppm K)	68					
MAGNESIUM	(ppm Mg)	78					
CALCIUM	(ppm Ca)	> 2204					



UF UNIVERSITY of FLORIDA IFAS

UF/IFAS Analytical Services Laboratories
Extension Soil Testing Laboratory
Wallace Building 631 PO Box 110740 Gainesville, FL 32611-0740
Email: soilslab@mail.ifas.ufl.edu Web: soilslab.ifas.ufl.edu Phone #:352-392-1950

Producer Bahia Test

TO: Kaiser, Mike
1501 Omni Way
St Cloud, FL 34773
Tel: 904-673-0446

For further information contact:
Bateman, C. Randy
Osceola County Coop Extn Service
1921 Kissimmee Valley Ln Ste A
Kissimmee, FL 34744-8947
Tel: 321-697-3000
Email:crbateman@ufl.edu

LIME AND FERTILIZER RECOMMENDATIONS

Crop:	Bahiagrass	
Lime:	0.0	lbs per acre (1 Ton = 2000 Lbs)
Nitrogen:	50	lbs per acre
Phosphorus: (P_2O_5)	Since the soil has high-P, there is no P recommendation	
Potassium: (K_2O)	0	lbs per acre
Magnesium: (Mg)	0	lbs per acre

Footnotes are printed wherever applicable. These footnotes are an integral part of fertilization recommendations.
Please read them carefully.

See Footnote(s): 1 124 131

UF UNIVERSITY of FLORIDA IFAS

UF/IFAS Analytical Services Laboratories
Extension Soil Testing Laboratory
Wallace Building 631 PO Box 110740 Gainesville, FL 32611-0740
Email: soilslab@mail.ifas.ufl.edu Web: soilslab.ifas.ufl.edu Phone #:352-392-1950

Producer Bahia Test

TO: Kaiser, Mike
1501 Omni Way
St Cloud, FL 34773
Tel: 904-673-0446

For further information contact:
Bateman, C. Randy
Osceola County Coop Extn Service
1921 Kissimmee Valley Ln Ste A
Kissimmee, FL 34744-8947
Tel: 321-697-3000
Email:crbateman@ufl.edu

Client Identification: closure 2 Set Number: E4898 Lab Number: E34842

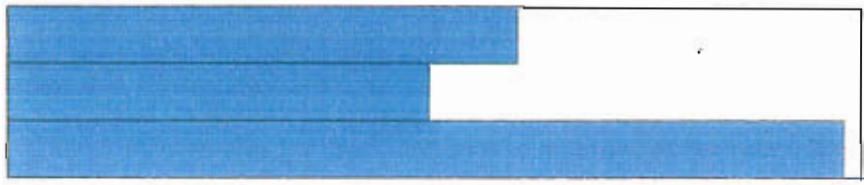
Crop: Bahiagrass Report Date: 8-May-09

These interpretations and recommendations are based upon soil test results and research/experience with the specified crop under Florida's growing conditions. We do not test soil for N as there is no meaningful soil test for predicting N availability. Thus, the N recommendation was developed from research that measured response of the indicated crop to applied N fertilizer. If you expect significant nutrient release from organic sources such as crop residues or organic amendments, estimate the amount mineralized and subtract that amount from the fertilizer recommendations given below to arrive at crop needs.

SOIL TEST RESULTS AND THEIR INTERPRETATIONS

Target pH:	5.5
pH (1:2 Sample:Water)	7.1
A-E Buffer Value:	N/A

MEHLICH-1 EXTRACTABLE			V LOW	LOW	MED	HIGH	V HIGH
PHOSPHORUS	(ppm P)	29					
POTASSIUM	(ppm K)	46					
MAGNESIUM	(ppm Mg)	68					
CALCIUM	(ppm Ca)	> 1877					



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Wallace Building 631 PO Box 110740 Gainesville, FL 32611-0740
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Producer Bahia Test

TO: Kaiser, Mike
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1921 Kissimmee Valley Ln Ste A
Kissimmee, FL 34744-8947
Tel: 321-697-3000
Email:crbateman@ufl.edu

LIME AND FERTILIZER RECOMMENDATIONS

Crop:	Bahiagrass	
Lime:	0.0	lbs per acre (1 Ton = 2000 Lbs)
Nitrogen:	50	lbs per acre
Phosphorus: (P_2O_5)	Since the soil has medium-P, there is no P recommendation	
Potassium: (K_2O)	40	lbs per acre
Magnesium: (Mg)	0	lbs per acre

Footnotes are printed wherever applicable These footnotes are an integral part of fertilization recommendations.
Please read them carefully.

See Footnote(s): 1 124 131

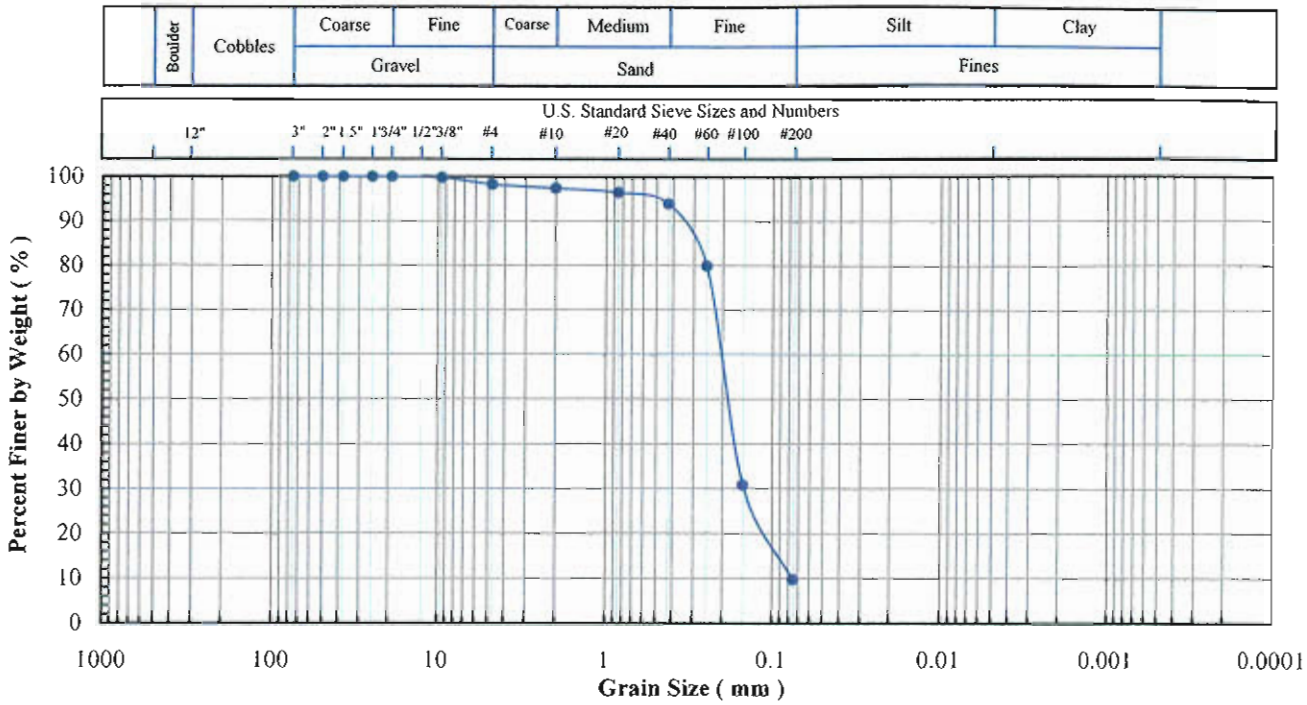
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	VC-01
Lab Sample No:	E282

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



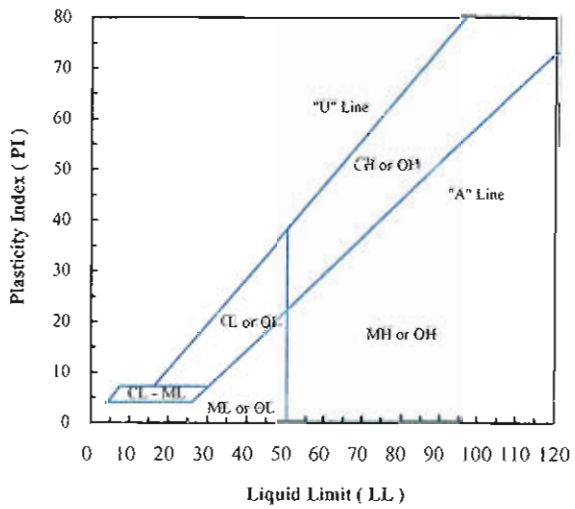
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	99.8
#4	4.75	98.3
#10	2.00	97.4
#20	0.850	96.5
#40	0.425	94.0
#60	0.250	80.0
#100	0.150	30.9
#200	0.075	9.8

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	1.7
Sand (%):	88.5
Fines (%):	9.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.7
Coeff. Curv. (Cc):	1.5



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
VC-01	E282	13.7	9.8				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Organic Content (ASTM D 2974): 5.4%

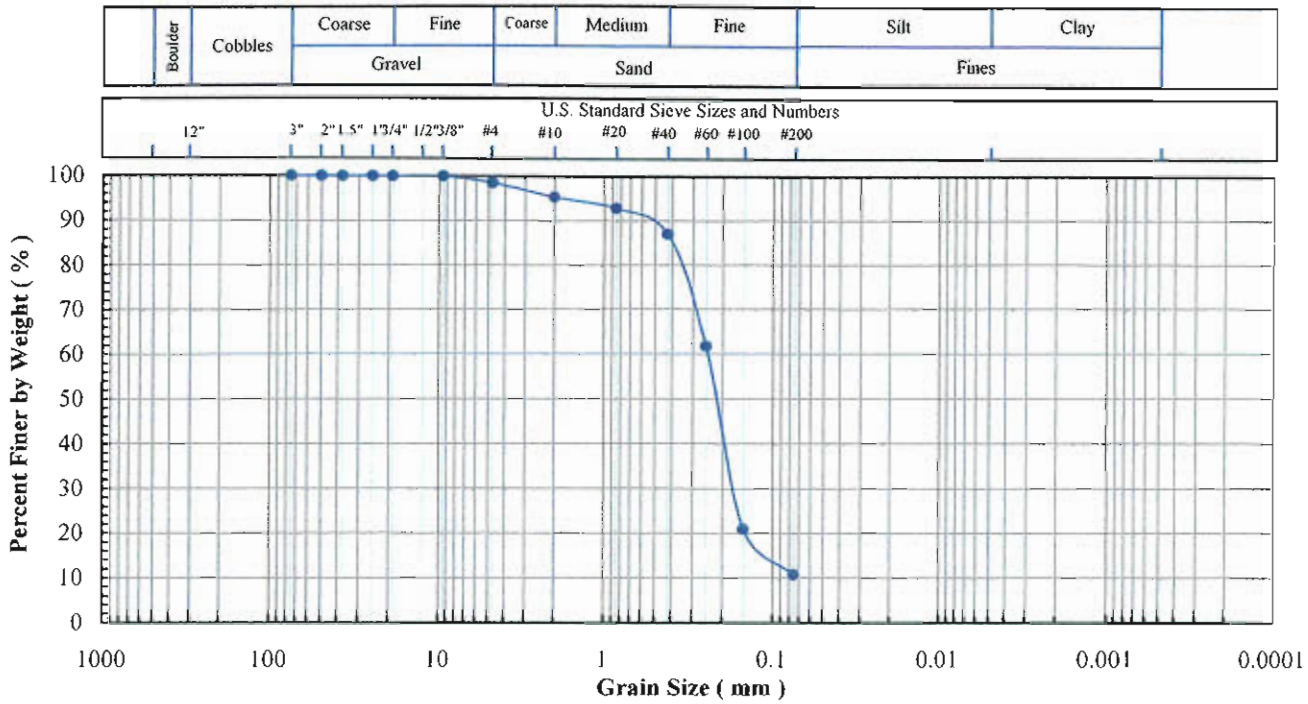
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	VC-02
Lab Sample No:	F093

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



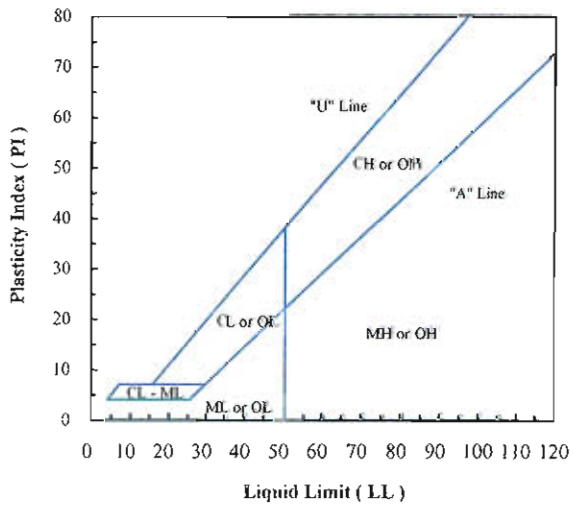
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	98.6
#10	2.00	95.4
#20	0.850	92.9
#40	0.425	87.1
#60	0.250	61.8
#100	0.150	21.0
#200	0.075	10.9

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	1.4
Sand (%):	87.7
Fines (%):	10.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	3.4
Coeff. Curv. (Cc):	1.5



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
VC-02	F093	30.6	10.9				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Organic Content (ASTM D 2974): 7.3%

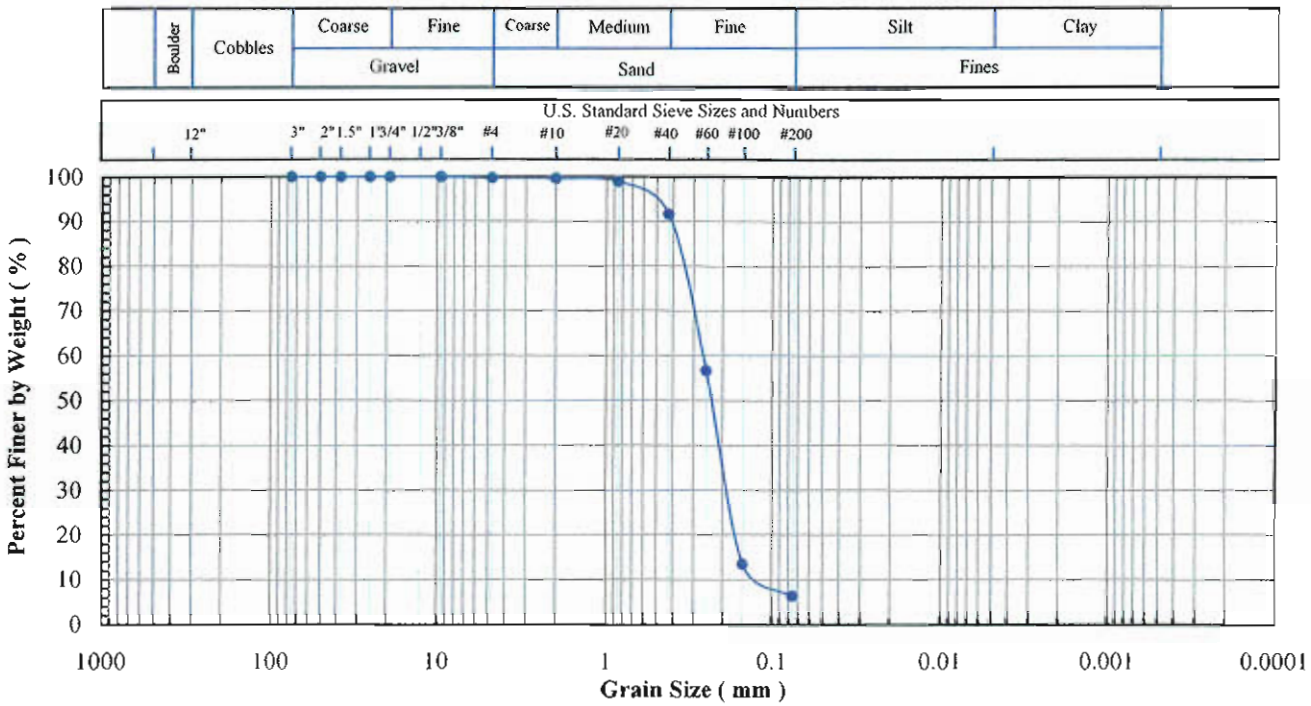
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	VC-03
Lab Sample No:	F094

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



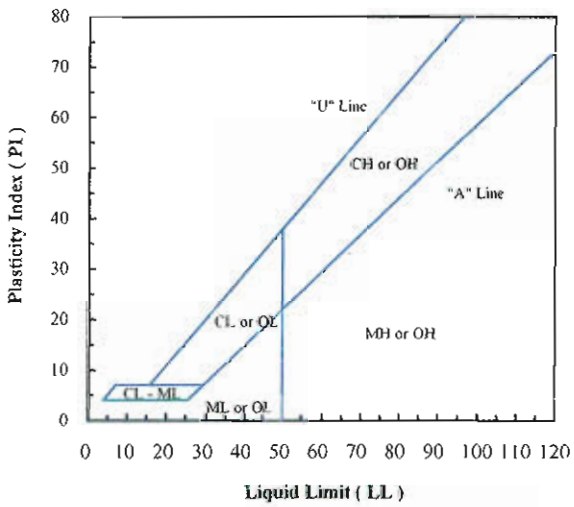
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.8
#10	2.00	99.7
#20	0.850	99.0
#40	0.425	91.7
#60	0.250	56.7
#100	0.150	13.5
#200	0.075	6.4

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.2
Sand (%):	93.4
Fines (%):	6.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.9
Coeff. Curv. (Cc):	1.0



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
VC-03	F094	18.0	6.4	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Organic Content (ASTM D 2974): 6.7%

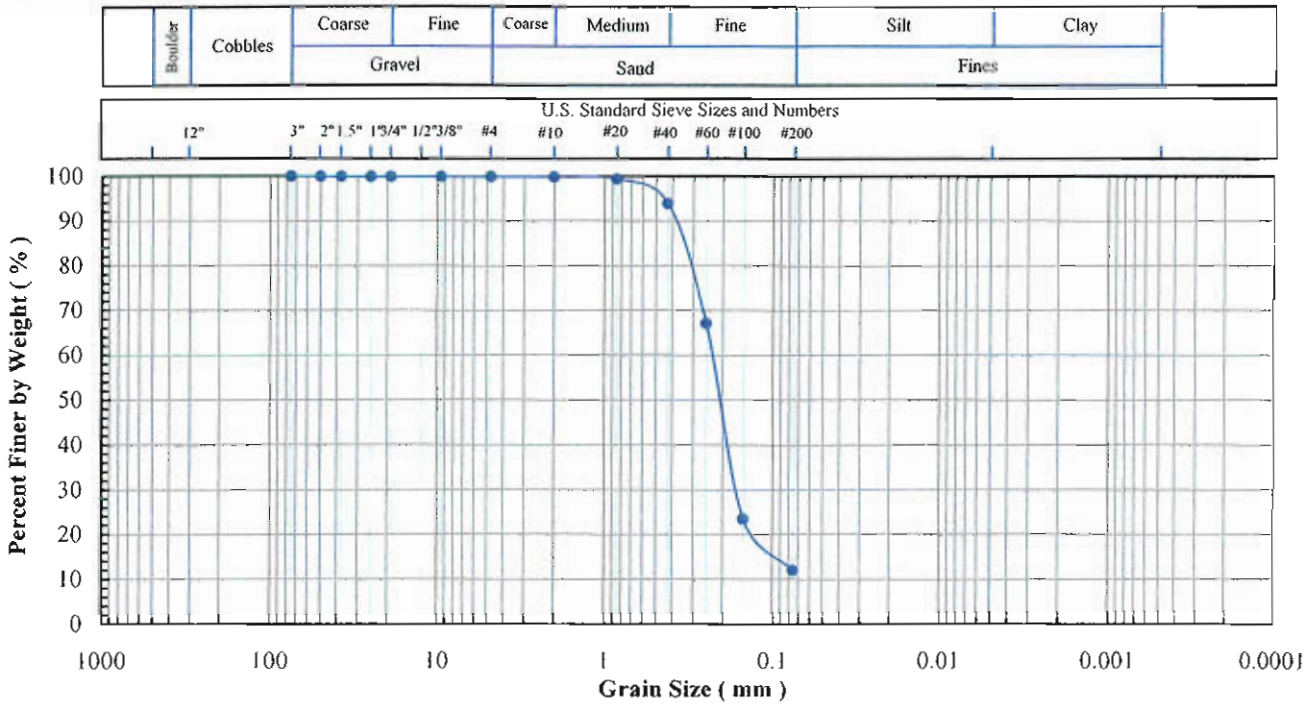
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	VC-04
Lab Sample No:	F095

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



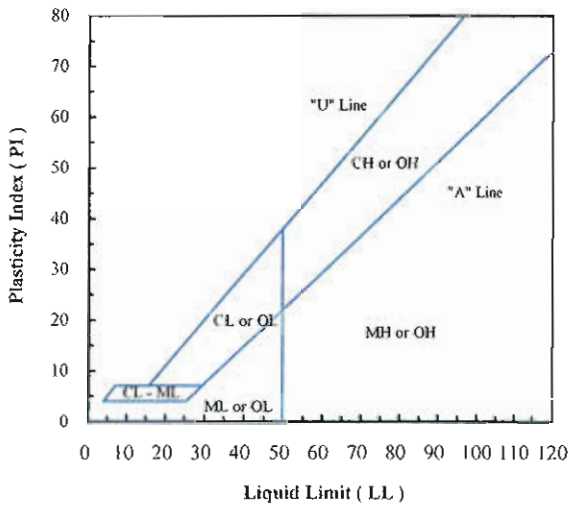
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.9
#20	0.850	99.4
#40	0.425	93.9
#60	0.250	67.2
#100	0.150	23.5
#200	0.075	12.0

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	88.0
Fines (%):	12.0
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	3.7
Coeff. Curv. (Cc):	1.9



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
VC-04	F095	13.3	12.0				SP-SM - Poorly graded sand with silt

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Organic Content (ASTM D 2974): 7.2%

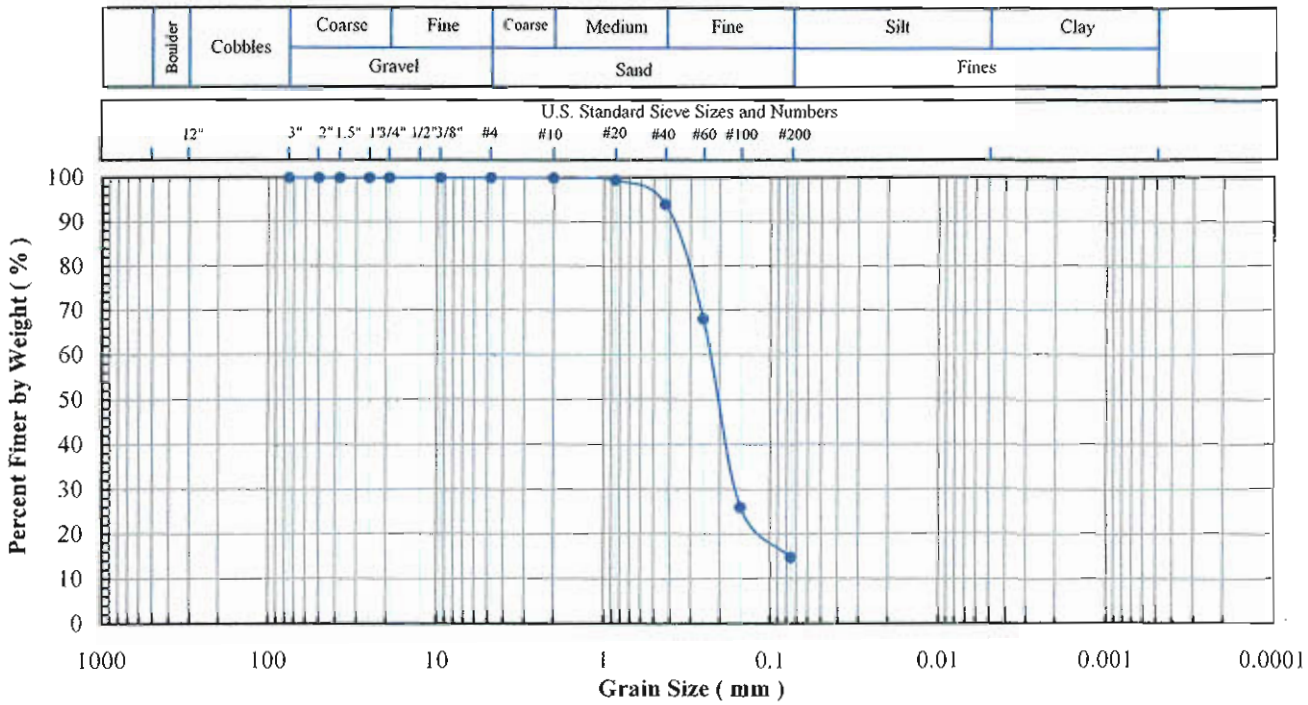
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	J.E.D. Partial Closure - Phase 1
Project No:	352
Client Sample ID:	VC-05
Lab Sample No:	F096

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



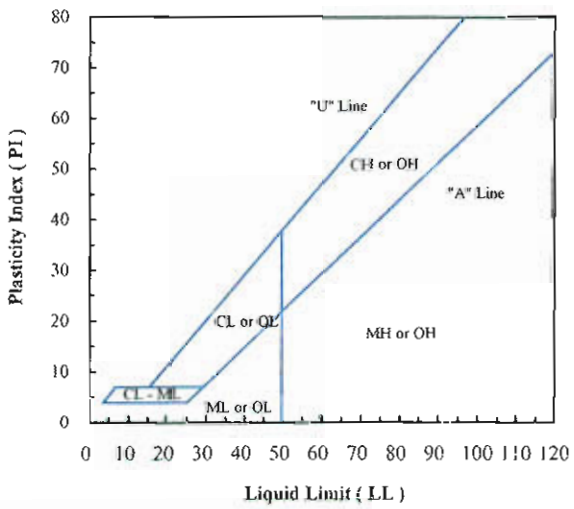
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.9
#20	0.850	99.4
#40	0.425	93.9
#60	0.250	68.0
#100	0.150	25.9
#200	0.075	14.7

Specific Gravity (-):	

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	85.3
Fines (%):	14.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
VC-05	F096	12.5	14.7	NP	NP	NP	SM - Silty sand

Note(s):

Engineering classification is based on the assumption that the fines are either ML or MH.

Organic Content (ASTM D 2974): 6.1%

APPENDIX K

GEOMEMBRANE MQC CERTIFICATES AND TEST RESULTS

microspike liner				Waste Services Inc. JED SWMF doc 11789			PO#	2009 Partial CI
LLDPE				St Cloud, FL				
40 mil	DIMENSIONS			4 rolls 40 LL micro (for cutting into 21pcs)		21pcs		left
	appx			87 LONG rolls 40 LL micro		87		left
roll #	width	length	area			wgt		lot
THE 4 ROLLS BELOW SHOULD BE 18 PIECES AT 3FT 10" WIDE, AND 1 PIECE APPX 15 FT 4" WIDE								
ALL PIECES MUST SHIP TO SITE - including the leftover big piece								
(C)310115 .09	7	182.9	1280.3	40LL micro Roll to be cut into pieces	4TOT 1	3588		CXF810160
(C)310116 .09	7	182.9	1280.3	40LL micro Roll to be cut into pieces	4TOT 2	3690		CXF810160
(C)310217 .09	7	182.9	1280.3	40LL micro Roll to be cut into pieces	4TOT 3	3688		CXF810160
(C)310218 .09	7	182.9	1280.3	40LL micro Roll to be cut into pieces	4TOT 4	3664		CXF810160
(C)310219 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	1	3764	sqs + 3ft	CXF810160
(C)310220 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	2	3744		CXF810160
(C)310221 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	3	3735		CXF810160
(C)310222 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	4	3666		CXF810160
(C)310223 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	5	3670		CXF810160
(C)310224 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	6	3666		CXF810160
(C)310225 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	7	3666	sqs	CXF810160
(C)310226 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	8	3662		CXF810160
(C)310328 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	9	3668		CXF810160
(C)310329 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	10	3668		CXF810160
(C)310330 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	11	3668		CXF810170
(C)310331 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	12	3666		CXF810170
(C)310332 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	13	3658		CXF810170
(C)310333 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	14	3652	sqs	CXF810170
(C)310334 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	15	3654		CXF810170
(C)310335 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	16	3644		CXF810170
(C)310336 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	17	3650		CXF810170
(C)310337 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	18	3648		CXF810170
(C)310338 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	19	3652		CXF810170
(C)310339 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	20	3656		CXF810170
(C)310440 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	21	3648	stage	CXF810170
(C)310441 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	22	3652		CXF810170
(C)310442 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	23	3654		CXF810170
(C)310443 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	24	3656		CXF810170
(C)310444 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	25	3646		CXF810170
(C)310445 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	26	3644		CXF810170
(C)310446 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	27	3650		CXF810170
(C)310447 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	28	3646	stage	CXF810170
(C)310448 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	29	3654		CXF810170
(C)310449 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	30	3646		CXF810170
(C)310450 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	31	3642		CXF810170
(C)310451 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	32	3640		CXF810170
(C)310552 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	33	3642		CXF810170
(C)310553 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	34	3634		CXF810170
(C)310554 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	35	3636	stage	CXF810170
(C)310555 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	36	3638		CXF810170
(C)312116 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	37	3502		CXF810170
(C)312117 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	38	3510		CXF810170
(C)312118 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	39	3514		CXF810170
(C)312119 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	40	3516		CXF810170
(C)312220 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	41			CXF810170
(C)312221 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	42		stage	CXF810170
(C)312222 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	43			CXF810170

microspike liner				Waste Services inc. JED SWMF doc 11789		PO#	2009 Partial CI
LLDPE				St Cloud, FL			
40 mil		DIMENSIONS		4 rolls 40 LL micro (for cutting into 21pcs)	21pcs		left
		appx		87 LONG rolls 40 LL micro	87		left
roll #	width	length	area		wgt		lot
(C)312223 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot 44			CXF810170

Chevron Phillips Chemical Company LP

CoA Date: 06/05/2008

Certificate of Analysis

Shipped To: AGRU AMERICA INC
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

CPC Delivery #: 87668533
PO #: 004793
Weight: 183700 LB
Ship Date: 06/05/2008
Package: BULK
Mode: Hopper Car
Car #: CEFX053957
Seal No: 477508

Product: PE 7104 BULK

Cust # .

Lot Number: CXF810160

Property	Test Method	Value	Unit
Melt Index	ST-103	0.35	g/10mi
HLMI	ST-122	14.76	g/10mi
Pellet Count	ST-905	40	pel/g
Production date		20080604	
Density	ST-292	0.918	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

Kay F. Donaldson
Quality Control Supervisor

For CoA questions contact Tom Scheirman at 832-813-4637

Chevron Phillips Chemical Company LP

CoA Date: 06/05/2008

Certificate of Analysis

Shipped To: AGRU AMERICA INC
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

CPC Delivery #: 87668534
PO #: 004793
Weight: 183100 LB
Ship Date: 06/05/2008
Package: BULK
Mode: Hopper Car
Car #: PSPX002440
Seal No: 477514

Product: PE 7104 BULK

Cust # .

Lot Number: CXF810170

Property	Test Method	Value	Unit
Melt Index	ST-103	0.35	g/10mi
HLMI	ST-122	15.33	g/10mi
Pellet Count	ST-905	40	pel/g
Production date		20080604	
Density	ST-292	0.918	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

Kay F. Donaldson
Quality Control Supervisor

For CoA questions contact Tom Scheirman at 832-813-4637

Chevron Phillips Chemical Company LP

CoA Date: 06/05/2008

Certificate of Analysis

Shipped To: AGRU AMERICA INC
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

CPC Delivery #: 87668535
PO #: 004793
Weight: 184300 LB
Ship Date: 06/05/2008
Package: BULK
Mode: Hopper Car
Car #: PSPX006976
Seal No: 477517

Product: PE 7104 BULK

Cust # .

Lot Number: CXF810180

Property	Test Method	Value	Unit
Melt Index	ST-103	0.35	g/10mi
HLMI	ST-122	16.13	g/10mi
ellet Count	ST-905	41	pel/g
Production date		20080604	
Density	ST-292	0.918	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

Kay F. Donaldson
Quality Control Supervisor

For CoA questions contact Tom Scheirman at 832-813-4637

Chevron Phillips Chemical Company LP

CoA Date: 02/27/2009

Certificate of Analysis

Shipped To: AGRU AMERICA INC
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

CPC Delivery #: 87820173
PO #: 4982
Weight: 180600 LB
Ship Date: 02/27/2009
Package: BULK
Mode: Hopper Car
Car #: CHVX890139
Seal No: 484949

Product: PE 7104 BULK

Cust # .

Lot Number: CYB811210

Property	Test Method	Value	Unit
Melt Index	ST-103	0.36	g/10mi
HLMI	ST-122	14.19	g/10mi
ellet Count	ST-905	41	pel/g
Production date		20090218	
Density	ST-292	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

Kevin Ayres
Quality Control Supervisor

For CoA questions contact Customer Service Representative at +1-832-813-4637

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ROLL # **310115-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.09	mm	43	mil
	MAX:	1.35	mm	53	mil
	AVE:	1.20	mm	47	mil

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	182.9	m	600.1 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 164

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.33
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	28 N/mm	162 ppi	3,423 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		520.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7 N		42.206 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9 N		85.415 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3 N		94.722 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09
Signature:
Quality Control Department

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ROLL # **310116-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.08	mm	43	mil
Asperity GRI GM12: 34 mil	AVE:	1.06	mm	42	mil

ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm		40 mil
Length.....	182.9 m		600.1 feet
Width.....	7.00 m;		23.0 feet
OIT(Standard) ASTM D3895	minutes	164	

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.935	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.35	
Carbon Black Content ASTM D4218	Range		%			2.33	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	143	ppi	3,423	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			520.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			-0.66	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7	N			42.206	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9	N			85.415	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3	N			94.722	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: Waste Services, Inc.
PO: 2009 Partial CL. Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-2-09

Signature: [signature]

Quality Control Department

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ROLL # **310217-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.14	mm	45	mil
	MAX:	1.29	mm	51	mil
Asperity GRI GM12: 35 mil	AVE:	1.21	mm	48	mil

ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm	40 mil	
Length.....	182.9 m	600.1	feet
Width.....	7.00 m;	23.0	feet

OIT(Standard) ASTM D3895 minutes 164

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.935	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.33	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	29	N/mm	163 ppi	3,423	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			520.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.66	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7	N		42.206	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9	N		85.415	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3	N		94.722	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09
Signature:
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ROLL # **310218-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)	METRIC	ENGLISH
MIN:	1.13 mm	44 mil
MAX:	1.27 mm	50 mil
AVE:	1.21 mm	48 mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm	40 mil
Length.....	182.9 m	600.1 feet
Width.....	7.00 m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 164

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.33
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	29 N/mm	163 ppi	3,423 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		520.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7 N		42.206 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9 N		85.415 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3 N		94.722 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09
Signature:
Quality Control Department

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quality certificate

ROLL # **310219-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.07	mm	42	mil
	MAX:	1.31	mm	52	mil
Asperity GRI GM12: 34 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.18	mm	46	mil

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes **164**

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.33
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	28	N/mm	159 ppi	3,423 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			520.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7	N		42.206 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9	N		85.415 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3	N		94.722 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-2-09

Signature: [signature]

Quality Control Department

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12/23/05

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ROLL # **310220-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.21	mm	48	mil
Asperity GRI GM12: 36 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.12	mm	44	mil

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet
OIT(Standard) ASTM D3895	minutes	164	

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.935	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.35	
Carbon Black Content ASTM D4218	Range		%			2.33	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	151	ppi	3,423	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			520.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			-0.66	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7	N			42.206	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9	N			85.415	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3	N			94.722	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-2-09

Signature:

Quality Control Department

40LLmic.FRM
REV 02
12/23/05

agru america
quality control dept

quality certificate

ROLL # **310221-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.35	mm	53	mil
	AVE:	1.16	mm	46	mil

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet
OIT(Standard) ASTM D3895	minutes	164	

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.935	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.33	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	156 ppi	3,423	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			520.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.66	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7	N		42.206	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9	N		85.415	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3	N		94.722	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09
Signature:
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ROLL # **310222-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.05	mm	41	mil
	MAX:	1.25	mm	49	mil
	AVE:	1.13	mm	44	mil

Thickness.....	1.0	mm	40	mil
Length.....	192.1	m	630.2	feet
Width.....	7.00	m;	23.0	feet

Asperity GRI GM12: 30 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 164

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.935	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.33	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	152 ppi	3,423	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			520.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.66	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7	N		42.206	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9	N		85.415	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3	N		94.722	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09

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ROLL # **310223-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.23	mm	48	mil
Asperity GRI GM12: 36 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.15	mm	45	mil

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet
OIT(Standard) ASTM D3895	minutes	164	

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.935	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.35	
Carbon Black Content ASTM D4218	Range		%			2.34	
Carbon Black Dispersion ASTM D5596	Category					10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	155	ppi	3,423	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			520.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			-0.66	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7	N			42.206	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9	N			85.415	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3	N			94.722	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-2-09

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ROLL # **310224-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	1.06	mm	42	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.29	mm	51	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 34 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.16	mm	46	mil	OIT(Standard) ASTM D3895 minutes 164		

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.34
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27 N/mm	156 ppi	3,423 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		520.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	187.7 N		42.206 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	379.9 N		85.415 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	421.3 N		94.722 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09

Signature: H Holmes

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ROLL # **310225-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.29	mm	51	mil
	AVE:	1.15	mm	45	mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 164

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.17
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	30 N/mm	171 ppi	3,779 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		509.4
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9 N		42.459 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5 N		84.651 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7 N		99.759 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09
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ROLL # **310226-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.08	mm	43	mil
	AVE:	1.05	mm	41	mil

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 164

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.17
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	156 ppi	3,779 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			509.4
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9	N		42.459 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5	N		84.651 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7	N		99.759 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-2-09

Signature: H Holme

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ROLL # **310328-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.10	mm	43	mil
	AVE:	1.07	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 29 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 164

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.17
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	28	N/mm	159 ppi	3,779 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			509.4
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9	N		42.459 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5	N		84.651 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7	N		99.759 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-3-09
Signature:
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ROLL # **310329-09** Lot #: **CXF810160** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.08	mm	43	mil
	AVE:	1.06	mm	42	mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm	40 mil	
Length.....	192.1 m	630.2	feet
Width.....	7.00 m;	23.0	feet

OIT(Standard) ASTM D3895 minutes 164

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.17
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	28	N/mm	158 ppi	3,779 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			509.4
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.66
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9	N		42.459 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5	N		84.651 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7	N		99.759 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09

Signature.....

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ROLL # **310330-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.23	mm	48	mil
Asperity GRI GM12: 30 mil	AVE:	1.12	mm	44	mil

ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.28	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	31	N/mm	175 ppi	3,958	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			520.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9	N		42.459	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5	N		84.651	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7	N		99.759	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09
Signature:
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ROLL # **310331-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.06	mm	42	mil
	MAX:	1.22	mm	48	mil
	AVE:	1.13	mm	44	mil

Thickness.....	1.0	mm	40	mil
Length.....	192.1	m	630.2	feet
Width.....	7.00	m;	23.0	feet

Asperity GRI GM12: 30 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

							TEST RESULTS	
Specific Gravity ASTM D792	Density			g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g			g/10 min			.35	
Carbon Black Content ASTM D4218	Range			%			2.28	
Carbon Black Dispersion ASTM D5596	Category						10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	31	N/mm	176	ppi	3,958	psi	
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break			%			520.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change			%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9	N			42.459	lbs	
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5	N			84.651	lbs	
Puncture Resistance ASTM D4833 (Modified)	Load	443.7	N			99.759	lbs	
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED		

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-3-09

Signature: [signature]

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ROLL # **310332-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.28	mm	50	mil
	AVE:	1.14	mm	45	mil

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.26	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	31	N/mm	178 ppi	3,958	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			520.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9	N		42.459	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5	N		84.651	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7	N		99.759	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09

Signature:

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ROLL # **310333-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.10	mm	43	mil
	MAX:	1.23	mm	48	mil
	AVE:	1.15	mm	45	mil

Asperity GRI GM12: 27 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.26
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	31 N/mm	179 ppi	3,958 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		520.3
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9 N		42.459 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5 N		84.651 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7 N		99.759 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09

Signature:

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ROLL # **310334-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.27	mm	50	mil
	AVE:	1.15	mm	45	mil

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN # : BOTTOM

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.26	
Carbon Black Dispersion ASTM D5596	Category				10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	31	N/mm	179 ppi	3,958	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			520.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	188.9	N		42.459	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	376.5	N		84.651	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	443.7	N		99.759	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09
Signature:
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ROLL # **310335-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.23	mm	48	mil
	AVE:	1.12	mm	44	mil

Asperity GRI GM12: 34 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.38
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	141 ppi	3,209 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			497.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N		42.616 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N		84.910 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N		102.50 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09

Signature: H Holmes

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ROLL # **310336-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.05	mm	41	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.13	mm	44	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.38
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	143 ppi	3,209 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			497.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N		42.616 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N		84.910 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N		102.50 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09
Signature:
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ROLL # **310337-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.23	mm	48	mil
	AVE:	1.11	mm	44	mil

Thickness.....	1.0	mm	40	mil
Length.....	192.1	m	630.2	feet
Width.....	7.00	m;	23.0	feet

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.38	
Carbon Black Dispersion ASTM D5596	Category				10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	140 ppi	3,209	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			497.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N		42.616	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N		84.910	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N		102.50	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs		CERTIFIED	

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-3-09

Signature: _____

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ROLL # **310338-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.14	mm	45	mil

Asperity GRI GM12: 34 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc				.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35
Carbon Black Content ASTM D4218	Range	%				2.28
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	144	ppi	3,209 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				497.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N			42.616 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N			84.910 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N			102.50 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs				CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09

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ROLL # **310339-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.23	mm	48	mil
Asperity GRI GM12: 36 mil	AVE:	1.15	mm	45	mil

ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm	40 mil	
Length.....	192.1 m	630.2 feet	
Width.....	7.00 m;	23.0 feet	
OIT(Standard) ASTM D3895	minutes	166	

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.28	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	145	ppi	3,209	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				497.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N			42.616	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N			84.910	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N			102.50	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs				CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-3-09

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ROLL # **310440-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.07	mm	42	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.13	mm	44	mil

Asperity GRI GM12: 27 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet
OIT(Standard) ASTM D3895	minutes	166	

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.35	
Carbon Black Content ASTM D4218	Range		%			2.20	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	153	ppi	3,448	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			502.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N			42.616	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N			84.910	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N			102.50	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09
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ROLL # **310441-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.06	mm	42	mil
	MAX:	1.36	mm	54	mil
	AVE:	1.17	mm	46	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.20	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	28	N/mm	159	ppi	3,448	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				502.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N			42.616	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N			84.910	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N			102.50	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: Waste Services, inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-4-09
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ROLL # **310442-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.07	mm	42	mil
	MAX:	1.22	mm	48	mil
	AVE:	1.15	mm	45	mil

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.20	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	156	ppi	3,448	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				502.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N			42.616	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N			84.910	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N			102.50	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-4-09
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ROLL # **310443-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.00	mm	39	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.10	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 38 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.20	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	149	ppi	3,448	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				502.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6	N			42.616	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7	N			84.910	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9	N			102.50	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09
Signature
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ROLL # **310444-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.16	mm	46	mil
	AVE:	1.07	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.20
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25 N/mm	145 ppi	3,448 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		502.1
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	189.6 N		42.616 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	377.7 N		84.910 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	455.9 N		102.50 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09
Signature:
Quality Control Department

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ROLL # **310445-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.17	mm	46	mil
	AVE:	1.10	mm	43	mil

Thickness.....	1.0	mm	40	mil
Length.....	192.1	m	630.2	feet
Width.....	7.00	m;	23.0	feet

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.35	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	150	ppi	3,469	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				508.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1	N			42.730	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7	N			86.049	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8	N			100.89	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination: **St. Cloud, FL**

Date: 3-4-09

Signature: H Holmes

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ROLL # **310446-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.98	mm	39	mil
	MAX:	1.10	mm	43	mil
Asperity GRI GM12: 36 mil	AVE:	1.04	mm	41	mil

ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet

OIT(Standard) ASTM D3895 minutes 166

		TEST RESULTS
Specific Gravity ASTM D792	Density g/cc	.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g g/10 min	.35
Carbon Black Content ASTM D4218	Range %	2.35
Carbon Black Dispersion ASTM D5596	Category	10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25 N/mm 142 ppi 3,469 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break %	508.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change %	-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1 N 42.730 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7 N 86.049 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8 N 100.89 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs CERTIFIED

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09

Signature: [signature]

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ROLL # **310447-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.97	mm	38	mil
	MAX:	1.27	mm	50	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.27
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	150 ppi	3,469 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			508.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1	N		42.730 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7	N		86.049 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8	N		100.89 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09

Signature.....

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ROLL # **310448-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.16	mm	46	mil
Asperity GRI GM12: 39 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.06	mm	42	mil

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.35	
Carbon Black Content ASTM D4218	Range		%			2.27	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	145	ppi	3,469	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			508.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1	N			42.730	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7	N			86.049	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8	N			100.89	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09

Signature: H Holmes

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ROLL # **310449-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.97	mm	38	mil
	MAX:	1.16	mm	46	mil
	AVE:	1.07	mm	42	mil

Asperity GRI GM12: 37 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

		TEST RESULTS
Specific Gravity ASTM D792	Density g/cc	.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g g/10 min	.35
Carbon Black Content ASTM D4218	Range %	2.27
Carbon Black Dispersion ASTM D5596	Category	10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26 N/mm 146 ppi 3,469 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break %	508.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change %	-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1 N 42.730 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7 N 86.049 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8 N 100.89 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures 1500 hrs	CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09

Signature:

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ROLL # **310450-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 34 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm	40 mil
Length.....	192.1 m	630.2 feet
Width.....	7.00 m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.25
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24 N/mm	138 ppi	3,194	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		521.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1 N		42.730	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7 N		86.049	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8 N		100.89	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09

Signature:

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ROLL # **310451-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.09	mm	43	mil
	AVE:	1.05	mm	41	mil

Asperity GRI GM12: 30 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.25	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23	N/mm	132 ppi	3,194	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			521.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1	N		42.730	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7	N		86.049	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8	N		100.89	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-4-09
Signature:
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ROLL # **310552-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.12	mm	44	mil
	AVE:	1.06	mm	42	mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.25	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23	N/mm	133 ppi	3,194	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			521.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1	N		42.730	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7	N		86.049	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8	N		100.89	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-5-09

Signature: [signature]

Quality Control Department

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ROLL # **310553-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.13	mm	44	mil
	AVE:	1.06	mm	42	mil

Asperity GRI GM12: 30 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.933	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.36	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23	N/mm	133	ppi	3,194	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				521.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1	N			42.730	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7	N			86.049	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8	N			100.89	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-5-09

Signature.....

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ROLL # **310554-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.08	mm	43	mil
	AVE:	1.06	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 166

						TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc				.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35
Carbon Black Content ASTM D4218	Range	%				2.36
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23	N/mm	133	ppi	3,194 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				521.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	190.1	N			42.730 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	382.7	N			86.049 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	448.8	N			100.89 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-5-09

Signature.....

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ROLL # **310555-09** Lot #: **CXF810170** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.08	mm	43	mil
	AVE:	1.06	mm	42	mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 166

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.933
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.31
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	29	N/mm	164 ppi	3,936 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			504.7
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.70
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.6	N		40.600 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	399.9	N		89.899 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	442.0	N		99.380 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-5-09

Signature:

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microspike liner				Waste Services inc. JED SWMF doc 11789			PO#	2009 Partial CI
LLDPE				St Cloud, FL				
40 mil	DIMENSIONS			4 rolls 40 LL micro (for cutting into 21pcs)		21pcs		left
	appx			87 LONG rolls 40 LL micro		87		left
roll #	width	length	area			wgt		lot
(C)312116 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	37	3502		CXF810180
(C)312117 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	38	3510		CXF810180
(C)312118 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	39	3514		CXF810180
(C)312119 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	40	3516		CXF810180
(C)312220 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	41	3516		CXF810180
(C)312221 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	42	3515	stage	CXF810180
(C)312222 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	43	3514		CXF810180
(C)312223 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	44	3518		CXF810180
(C)312224 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	45	3514		CXF810180
(C)312225 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	46	3512		CXF810180
(C)312226 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	47	3494		CXF810180
(C)312227 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	48	3478		CXF810180
(C)312228 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	49	3486	stage	CYB811210
(C)312229 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	50	3482		CYB811210
(C)312230 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	51	3478		CYB811210
(C)312231 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	52	3476		CYB811210
(C)312332 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	53	3480		CYB811210
(C)312333 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	54	3476		CYB811210
(C)312334 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	55	3486		CYB811210
(C)312335 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	56	3482	stage	CYB811210
(C)312336 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	57	3474		CYB811210
(C)312337 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	58	3460		CYB811210
(C)312339 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	59	3458		CYB811210
(C)312340 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	60	3462		CYB811210
(C)312343 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	61	3464		CYB811210
(C)312344 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	62	3460		CYB811210
(C)312445 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	63	3464	stage	CYB811210
(C)312446 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	64	3470		CYB811210
(C)312447 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	65	3460		CYB811210
(C)312448 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	66	3470		CYB811210
(C)312449 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	67	3480		CYB811210
(C)312450 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	68	3484		CYB811210
(C)312451 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	69	3498		CYB811210
(C)312452 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	70	3498	stage	CYB811210
(C)312453 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	71	3500		CYB811210
(C)312454 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	72	3494		CYB811210
(C)312455 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	73	3478		CYB811210
(C)312456 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	74	3478		CYB811210
(C)312557 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	75	3476		CYB811210
(C)312558 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	76	3486	stage	CYB811210
(C)312559 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	77	3492		CYB811210
(C)312560 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	78	3490		CYB811210
(C)312561 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	79	3488		CYB811210
(C)312562 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	80	3490		CYB811210
(C)312563 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	81	3498		CYB811210
(C)312564 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	82	3498		CYB811210
(C)312565 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	83	3500	stage	CYB811210
(C)312566 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	84	3496		CYB811210
(C)312567 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	85	3496		CYB811210
(C)312568 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	86	3492		CYB811210
(C)312569 .09	7	192.1	1344.7	JED LF St Cloud, FL 40ave / 38 MIN 87tot	87	3518		CYB811210

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ROLL # **312116-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.14	mm	45	mil
	AVE:	1.07	mm	42	mil

Asperity GRI GM12: **33** mil
ODD #: TOP EVEN #: BOTTOM

Thickness.....	1.0 mm	40 mil	
Length.....	192.1 m	630.2 feet	
Width.....	7.00 m;	23.0 feet	
OIT(Standard) ASTM D3895	minutes 165		

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.937	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.26	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	150	ppi	3,559	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				493.8	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				.06	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9	N			39.543	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9	N			82.717	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3	N			98.534	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs				CERTIFIED	

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09

Signature: H Holmes

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ROLL # **312117-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.18	mm	46	mil
	AVE:	1.11	mm	44	mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40	mil
Length.....	192.1	m	630.2	feet
Width.....	7.00	m;	23.0	feet

OIT(Standard) ASTM D3895 minutes 165

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.937	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.26	
Carbon Black Dispersion ASTM D5596	Category				10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	156 ppi	3,559	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			493.8	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			.06	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9	N		39.543	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9	N		82.717	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3	N		98.534	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
Signature:
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ROLL # **312118-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.05	mm	41	mil
	MAX:	1.20	mm	47	mil
	AVE:	1.11	mm	44	mil

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

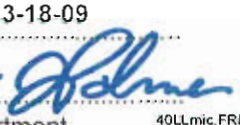
Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 165

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.937
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.26
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27 N/mm	156 ppi	3,559 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		493.8
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		.06
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9 N		39.543 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9 N		82.717 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3 N		98.534 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09

Signature: 

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ROLL # **312119-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	1.00	mm	39	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.20	mm	47	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 34 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.08	mm	43	mil	OIT(Standard) ASTM D3895 minutes	165	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.937
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.35
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26 N/mm	151 ppi	3,559 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		493.8
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		.06
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9 N		39.543 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9 N		82.717 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3 N		98.534 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
Signature:
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ROLL # **312220-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.05	mm	41	mil
	MAX:	1.22	mm	48	mil
	AVE:	1.13	mm	44	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 165

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.937
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.35
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	28 N/mm	158 ppi	3,559 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		493.8
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		.06
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9 N		39.543 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9 N		82.717 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3 N		98.534 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
Signature:
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ROLL # **312221-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.20	mm	47	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 165

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.937	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.35	
Carbon Black Content ASTM D4218	Range		%			2.30	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	150	ppi	3,462	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			510.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			.06	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9	N			39.543	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9	N			82.717	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3	N			98.534	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09

Signature: [signature]

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ROLL # **312222-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.06	mm	42	mil
	MAX:	1.20	mm	47	mil
	AVE:	1.10	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 165

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.937
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.30
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26 N/mm	150 ppi	3,462 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		510.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		.06
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9 N		39.543 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9 N		82.717 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3 N		98.534 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
Signature.....
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ROLL # **312223-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.26	mm	50	mil
	AVE:	1.11	mm	44	mil

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 165

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.937	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.35	
Carbon Black Content ASTM D4218	Range	%				2.30	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	151	ppi	3,462	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				510.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				.06	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9	N			39.543	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9	N			82.717	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3	N			98.534	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs				CERTIFIED	

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-18-09

Signature: [signature]

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ROLL # **312224-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.20	mm	47	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: **35** mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes **165**

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.937	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g		g/10 min			.35	
Carbon Black Content ASTM D4218	Range		%			2.38	
Carbon Black Dispersion ASTM D5596	Category					10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	150	ppi	3,462	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			510.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			.06	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9	N			39.543	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9	N			82.717	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3	N			98.534	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
Signature:
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ROLL # **312225-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.13	mm	44	mil
	AVE:	1.05	mm	41	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 34 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 165

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.937
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.38
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	143 ppi	3,462 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			510.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			.06
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	175.9	N		39.543 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	367.9	N		82.717 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	438.3	N		98.534 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
Signature:
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ROLL # **312226-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.14	mm	45	mil
	AVE:	1.05	mm	41	mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 165

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.937	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35	
Carbon Black Content ASTM D4218	Range	%			2.35	
Carbon Black Dispersion ASTM D5596	Category				10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	147 ppi	3,560	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			496.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			.06	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1	N		40.936	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2	N		82.095	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9	N		92.163	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09

Signature: St Holmes

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ROLL # **312227-09** Lot #: **CXF810180** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	0.99	mm	39	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.17	mm	46	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 32 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.06	mm	42	mil	OIT(Standard) ASTM D3895	minutes 165	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.937
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.35
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26 N/mm	149 ppi	3,560 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		496.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		.06
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1 N		40.936 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2 N		82.095 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9 N		92.163 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-18-09

Signature: [signature]

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ROLL # **312228-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.98	mm	39	mil
	MAX:	1.18	mm	46	mil
	AVE:	1.09	mm	43	mil

Asperity GRI GM12: 30 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.35
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27 N/mm	153 ppi	3,560 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		496.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1 N		40.936 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2 N		82.095 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9 N		92.163 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination: **St. Cloud, FL**

Date: 3-18-09

Signature: *H Holmes*

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ROLL # **312229-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.07	mm	42	mil
	MAX:	1.28	mm	50	mil
	AVE:	1.12	mm	44	mil

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.36	
Carbon Black Content ASTM D4218	Range		%			2.35	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	157	ppi	3,560	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			496.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1	N			40.936	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2	N			82.095	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9	N			92.163	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09

Signature.....

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ROLL # **312230-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.24	mm	49	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.35
Carbon Black Dispersion ASTM D5596	Category			10 in Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27 N/mm	154 ppi	3,560 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		496.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1 N		40.936 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2 N		82.095 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9 N		92.163 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-18-09

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ROLL # **312231-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.05	mm	41	mil
	MAX:	1.13	mm	44	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.40	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	154 ppi	3,565	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			506.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1	N		40.936	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2	N		82.095	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9	N		92.163	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
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ROLL # **312332-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.17	mm	46	mil
	AVE:	1.10	mm	43	mil

Thickness.....	1.0 mm		40 mil
Length.....	192.1 m		630.2 feet
Width.....	7.00 m;		23.0 feet

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.40	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	154 ppi	3,565	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			506.2	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1	N		40.936	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2	N		82.095	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9	N		92.163	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09

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ROLL # **312333-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.23	mm	48	mil
	AVE:	1.12	mm	44	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36
Carbon Black Content ASTM D4218	Range	%			2.40
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	28	N/mm	157 ppi	3,565 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			506.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1	N		40.936 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2	N		82.095 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9	N		92.163 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: **3-18-09**
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ROLL # **312334-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.11	mm	44	mil

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36
Carbon Black Content ASTM D4218	Range	%			2.40
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27	N/mm	156 ppi	3,565 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			506.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1	N		40.936 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2	N		82.095 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9	N		92.163 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
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ROLL # **312335-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.11	mm	44	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

		TEST RESULTS
Specific Gravity ASTM D792	Density g/cc	.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g g/10 min	.36
Carbon Black Content ASTM D4218	Range %	2.40
Carbon Black Dispersion ASTM D5596	Category	10 in Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	27 N/mm 156 ppi 3,565 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break %	506.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change %	-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.1 N 40.936 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	365.2 N 82.095 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	409.9 N 92.163 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures 1500 hrs	CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
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ROLL # **312336-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.24	mm	49	mil
	AVE:	1.09	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc				.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.36
Carbon Black Content ASTM D4218	Range	%				2.47
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	145	ppi	3,388 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				503.4
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	179.3	N			40.312 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	373.4	N			83.957 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	390.8	N			87.859 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
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ROLL # **312337-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.97	mm	38	mil
	MAX:	1.16	mm	46	mil
	AVE:	1.07	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.47
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25 N/mm	143 ppi	3,388 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		503.4
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	179.3 N		40.312 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	373.4 N		83.957 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	390.8 N		87.859 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
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ROLL # **312339-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.19	mm	47	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.47	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	147 ppi	3,388	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			503.4	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	179.3	N		40.312	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	373.4	N		83.957	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	390.8	N		87.859	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09

Signature: [signature]

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ROLL # **312340-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.19	mm	47	mil
	AVE:	1.09	mm	43	mil

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.47	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	145 ppi	3,388	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			503.4	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	179.3	N		40.312	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	373.4	N		83.957	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	390.8	N		87.859	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, Fl.**

Date: 3-18-09
Signature:
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ROLL # **312343-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.18	mm	46	mil
	AVE:	1.08	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.43
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24 N/mm	135 ppi	3,178 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		519.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	179.3 N		40.312 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	373.4 N		83.957 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	390.8 N		87.859 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-18-09

Signature

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ROLL # **312344-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.21	mm	48	mil
	AVE:	1.07	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36
Carbon Black Content ASTM D4218	Range	%			2.43
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23	N/mm	134 ppi	3,178 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			519.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	179.3	N		40.312 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	373.4	N		83.957 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	390.8	N		87.859 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-18-09
Signature
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ROLL # **312445-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.01	mm	40	mil
	MAX:	1.17	mm	46	mil
	AVE:	1.08	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m: 23.0 feet

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.43
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24 N/mm	135 ppi	3,178 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		519.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	179.3 N		40.312 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	373.4 N		83.957 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	390.8 N		87.859 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09
Signature.....
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ROLL # **312446-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.00	mm	39	mil
	MAX:	1.19	mm	47	mil
	AVE:	1.10	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.27
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25 N/mm	141 ppi	3,256 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		522.6
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4 N		41.010 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4 N		96.093 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3 N		95.398 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-19-09
Signature:
Quality Control Department

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ROLL # **312447-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.04	mm	41	mil
	MAX:	1.25	mm	49	mil
	AVE:	1.11	mm	44	mil

Asperity GRI GM12: 31 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.36	
Carbon Black Content ASTM D4218	Range	%				2.27	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	142	ppi	3,256	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				522.6	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4	N			41.010	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4	N			96.093	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3	N			95.398	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs				CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09
Signature
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ROLL # **312448-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	0.99	mm	39	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.17	mm	46	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 36 mil ODD #: TOP EVEN #: BOTTOM	AVE:	1.10	mm	43	mil	OIT(Standard) ASTM D3895 minutes 160		

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.27
Carbon Black Dispersion ASTM D5596	Category			10 in Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25 N/mm	141 ppi	3,256 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		522.6
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4 N		41.010 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4 N		96.093 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3 N		95.398 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-19-09

Signature: [signature]

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ROLL # **312449-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.95	mm	37	mil
	MAX:	1.18	mm	46	mil
	AVE:	1.06	mm	42	mil

Asperity GRI GM12: 33 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36
Carbon Black Content ASTM D4218	Range	%			2.44
Carbon Black Dispersion ASTM D5596	Category				10 in Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24	N/mm	136 ppi	3,256 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			522.6
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4	N		41.010 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4	N		96.093 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3	N		95.398 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-19-09

Signature: [signature]

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ROLL # **312450-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.98	mm	39	mil
	MAX:	1.12	mm	44	mil
	AVE:	1.06	mm	42	mil

Thickness.....	1.0	mm	40	mil
Length.....	192.1	m	630.2	feet
Width.....	7.00	m;	23.0	feet

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.44	
Carbon Black Dispersion ASTM D5596	Category				10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24	N/mm	136 ppi	3,256	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			522.6	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4	N		41.010	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4	N		96.093	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3	N		95.398	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09

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ROLL # **312451-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.96	mm	38	mil
	MAX:	1.26	mm	50	mil
	AVE:	1.08	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 35 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.25
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24 N/mm	140 ppi	3,281 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		498.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4 N		41.010 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4 N		96.093 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3 N		95.398 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09
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ROLL # **312452-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.25	mm	49	mil
Asperity GRI GM12: 36 mil ODD #: TOP EVEN #: BOTTOM	AVE:	1.12	mm	44	mil

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.25	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	145 ppi	3,281	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			498.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4	N		41.010	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4	N		96.093	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3	N		95.398	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09

Signature: _____

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ROLL # **312453-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	0.99	mm	39	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.25	mm	49	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 36 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.10	mm	43	mil	OIT(Standard) ASTM D3895 minutes 160		

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36
Carbon Black Content ASTM D4218	Range	%			2.25
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	142 ppi	3,281 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			498.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4	N		41.010 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4	N		96.093 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3	N		95.398 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09
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ROLL # **312454-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.98	mm	39	mil
	MAX:	1.17	mm	46	mil
	AVE:	1.06	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 34 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.25
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24 N/mm	137 ppi	3,281 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		498.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4 N		41.010 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4 N		96.093 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3 N		95.398 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09
Signature
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ROLL # **312455-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	0.97	mm	38	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.19	mm	47	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 38 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.07	mm	42	mil	OIT(Standard) ASTM D3895 minutes	160	

				TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc		.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36	
Carbon Black Content ASTM D4218	Range	%		2.25	
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24 N/mm	138 ppi	3,281	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		498.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	182.4 N		41.010	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	427.4 N		96.093	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	424.3 N		95.398	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09

Signature: H Holmes

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ROLL # **312456-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.18	mm	46	mil
Asperity GRI GM12: 38 mil	AVE:	1.09	mm	43	mil

ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0 mm	40 mil	
Length.....	192.1 m	630.2 feet	
Width.....	7.00 m;	23.0 feet	
OIT(Standard) ASTM D3895	minutes	160	

					TEST RESULTS	
Specific Gravity ASTM D792	Donsity	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.55	
Carbon Black Dispersion ASTM D5596	Category				10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	141 ppi	3,278	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			491.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8	N		40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0	N		78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8	N		96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-19-09

Signature.....

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ROLL # **312557-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.06	mm	42	mil
	MAX:	1.23	mm	48	mil
	AVE:	1.11	mm	44	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 34 mil
ODD #: TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36
Carbon Black Content ASTM D4218	Range	%			2.55
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25 N/mm	143 ppi	3,278	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		491.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8 N		40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0 N		78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**428.8** N		96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
Signature: [signature]
Quality Control Department

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ROLL # **312558-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.18	mm	46	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 30 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g		g/10 min			.36	
Carbon Black Content ASTM D4218	Range		%			2.55	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	142	ppi	3,278	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			491.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8	N			40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0	N			78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8	N			96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: Waste Services, Inc.
PO: 2009 Partial CL Jed Solid Waste Facility
Destination St. Cloud, FL

Date: 3-20-09

Signature: [signature]
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ROLL # **312559-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)

	METRIC		ENGLISH	
MIN:	0.98	mm	39	mil
MAX:	1.16	mm	46	mil
AVE:	1.07	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 38 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.39	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24	N/mm	138 ppi	3,278	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			491.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8	N		40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0	N		78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8	N		96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
Signature:
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ROLL # **312560-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.05	mm	41	mil
	MAX:	1.15	mm	45	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 38 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.39	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25 N/mm		142 ppi	3,278	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			491.3	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8	N		40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0	N		78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8	N		96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09

Signature: [signature]

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ROLL # **312561-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.05	mm	41	mil
	MAX:	1.19	mm	47	mil
	AVE:	1.08	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.39
Carbon Black Dispersion ASTM D5596	Category			10 in Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26 N/mm	146 ppi	3,433 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		475.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8 N		40.641 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0 N		78.920 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8 N		96.397 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
Signature: [signature]
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ROLL # **312562-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.96	mm	38	mil
	MAX:	1.15	mm	45	mil
	AVE:	1.06	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 34 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.36	
Carbon Black Content ASTM D4218	Range	%				2.39	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	143	ppi	3,433	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				475.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8	N			40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0	N			78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8	N			96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs				CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
Signature: [signature]
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ROLL # **312563-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.99	mm	39	mil
	MAX:	1.26	mm	50	mil
	AVE:	1.08	mm	43	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 36 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.36	
Carbon Black Content ASTM D4218	Range	%				2.39	
Carbon Black Dispersion ASTM D5596	Category					10 in Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26	N/mm	146	ppi	3,433	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				475.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8	N			40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0	N			78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8	N			96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
Signature:
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ROLL # **312564-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.98	mm	39	mil
	MAX:	1.16	mm	46	mil
	AVE:	1.06	mm	42	mil

Asperity GRI GM12: 37 mil
ODD # . TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.36	
Carbon Black Content ASTM D4218	Range	%				2.29	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	25	N/mm	143	ppi	3,433	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				475.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8	N			40.641	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0	N			78.920	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8	N			96.397	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
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ROLL # **312565-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	1.04	mm	41	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.18	mm	46	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 36 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.10	mm	43	mil	OIT(Standard) ASTM D3895 minutes 160		

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.29
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	26 N/mm	149 ppi	3,433 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		475.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	180.8 N		40.641 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	351.0 N		78.920 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	428.8 N		96.397 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09

Signature.....

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ROLL # **312566-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	0.97	mm	38	mil
	MAX:	1.20	mm	47	mil
	AVE:	1.07	mm	42	mil

Thickness..... 1.0 mm 40 mil
Length..... 192.1 m 630.2 feet
Width..... 7.00 m; 23.0 feet

Asperity GRI GM12: 37 mil
ODD # : TOP EVEN #: BOTTOM

OIT(Standard) ASTM D3895 minutes 160

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.12
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23 N/mm	134 ppi	3,181 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		501.6
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	171.3 N		38.507 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	381.8 N		85.832 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	384.5 N		86.434 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
Signature:
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ROLL # **312567-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.00	mm	39	mil
	MAX:	1.20	mm	47	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min				.36	
Carbon Black Content ASTM D4218	Range	%				2.12	
Carbon Black Dispersion ASTM D5596	Category					10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24	N/mm	138	ppi	3,181	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				501.6	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	171.3	N			38.507	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	381.8	N			85.832	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	384.5	N			86.434	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09
Signature: H Holmes
Quality Control Department

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ROLL # **312568-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	0.99	mm	39	mil	Length.....	192.1 m	630.2 feet
	MAX:	1.19	mm	47	mil	Width.....	7.00 m;	23.0 feet
Asperity GRI GM12: 33 mil ODD # : TOP EVEN #: BOTTOM	AVE:	1.08	mm	43	mil	OIT(Standard) ASTM D3895 minutes	160	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.934
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.36
Carbon Black Content ASTM D4218	Range	%		2.12
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24 N/mm	135 ppi	3,181 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		501.6
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-.48
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	171.3 N		38.507 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	381.8 N		85.832 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	384.5 N		86.434 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09

Signature: [signature]

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ROLL # **312569-09** Lot #: **CYB811210** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.02	mm	40	mil
	MAX:	1.19	mm	47	mil
	AVE:	1.10	mm	43	mil

Asperity GRI GM12: 32 mil
ODD # : TOP EVEN #: BOTTOM

Thickness.....	1.0	mm	40 mil
Length.....	192.1	m	630.2 feet
Width.....	7.00	m;	23.0 feet

OIT(Standard) ASTM D3895 minutes 160

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.934	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.36	
Carbon Black Content ASTM D4218	Range	%			2.12	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24	N/mm	138 ppi	3,181	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			501.6	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-.48	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	171.3	N		38.507	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	381.8	N		85.832	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	384.5	N		86.434	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **Waste Services, Inc.**
PO: **2009 Partial CL Jed Solid Waste Facility**
Destination **St. Cloud, FL**

Date: 3-20-09

Signature: H Holmes

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APPENDIX L

GEOMEMBRANE MATERIAL INVENTORY LOG

Geosyntec consultants

Material Inventory

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type: gml : 1 *Manufacturer:* Agru *Product Type:* LLPE texured

Inventory					*Q.A. Conformance*				*Q.C. Documents*			
Inv Date	*Batch-Roll*	*Width* (ft.)	*Length* (ft.)	*QA ID*	*Date*	*Samp No*	*Result*	*QAID*	*Date Rec*	*Date Ckk*	*Result*	*QAID*
Accepted Rolls												
4/8/2009	310115	23	600	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	310116	23	600	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	310217	23	600	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	310218	23	600	RH	3/17/2008		P	KW	3/17/2008	3/17/2008	P	KW
3/24/2009	310219	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310220	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310221	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310222	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310223	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310224	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310225	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310226	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
4/8/2009	310229	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
3/24/2009	310328	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310329	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310330	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310331	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310332	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310333	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310334	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310335	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310336	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310337	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310338	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310339	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310440	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310441	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310442	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310443	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW

Geosyntec consultants

Material Inventory

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type: gml : 1 *Manufacturer:* Agru *Product Type:* LLPE texured

Inventory					Q.A. Conformance				Q.C. Documents			
Inv Date	*Batch-Roll*	*Width* (ft.)	*Length* (ft.)	*QA ID*	*Date*	*Samp No*	*Result*	*QAID*	*Date Rec*	*Date Ckk*	*Result*	*QAID*
3/24/2009	310444	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310445	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310446	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310447	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310448	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310449	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310450	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310451	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310552	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310553	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310554	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
3/24/2009	310555	23	630	RH	3/17/2009		P	KW	3/17/2009	3/17/2009	P	KW
4/8/2009	312116	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312117	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	RH
4/8/2009	312118	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312119	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312220	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312221	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312222	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312223	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312224	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312225	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312226	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312227	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312228	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312229	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312230	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312231	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312332	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312333	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW

Geosyntec
consultants

Material Inventory

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type: gml : 1 *Manufacturer:* Agru *Product Type:* LLPE texured

Inventory					*Q.A. Conformance*				*Q.C. Documents*			
Inv Date	*Batch-Roll*	*Width* (ft.)	*Length* (ft.)	*QA ID*	*Date*	*Samp No*	*Result*	*QAID*	*Date Rec*	*Date Ckk*	*Result*	*QAID*
4/8/2009	312334	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312335	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312336	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312337	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312340	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312343	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312344	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312445	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312446	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312447	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312448	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312449	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312450	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312451	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312452	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312453	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312454	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312455	23	630	RH	3/31/2009		P	RH	3/31/2009	3/31/2009	P	RH
4/8/2009	312456	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312557	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312558	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312559	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312560	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312561	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312562	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312563	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312564	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312565	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312566	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312567	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW

Geosyntec
consultants

Material Inventory

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type: gml : 1 *Manufacturer:* Agru *Product Type:* LLPE textured

Inventory					Q.A. Conformance				Q.C. Documents			
Inv Date	*Batch-Roll*	*Width* (ft.)	*Length* (ft.)	*QA ID*	*Date*	*Samp No*	*Result*	*QAID*	*Date Rec*	*Date Ckk*	*Result*	*QAID*
4/8/2009	312568	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW
4/8/2009	312569	23	630	RH	3/31/2009		P	KW	3/31/2009	3/31/2009	P	KW

Average Roll Width(ft.): 23 *Average Roll Length(ft.): 629*

Total Number of Rolls: 91 *Cumulative Area(sq.ft.): 1315830*

Total Number of Conformance Tests: 0

Comments: 310115:ROLLS WERE CUT FOR DRAIN; 310116:ROLLS WERE CUT FOR DRAIN; 310217:ROLLS WERE CUT FOR DRAIN; 310218:ROLLS WERE CUT FOR DRAIN

APPENDIX M

GEOMEMBRANE CONFORMANCE TEST RESULTS (TRI)

March 11, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-73-03
Material(s) Tested:	1 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 310219.09
TRI Log #: E2324-73-03

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	43	43	43	44	49	49	51	49	45	45	46	3	40 avg
											43	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.936	0.936	0.936								0.936	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.46	2.51									2.49	0.04	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	85	85	93	99	87						90	6	84 min
TD Yield Strength (ppi)	89	88	103	104	89						95	8	84 min
MD Break Strength (ppi)	180	158	188	174	152						170	15	60 min
TD Break Strength (ppi)	121	142	146	151	143						141	12	60 min
MD Yield Elongation (%)	20	20	20	20	20						20	0	12 min
TD Yield Elongation (%)	18	18	18	18	18						18	0	12 min
MD Break Elongation (%)	498	521	474	488	515						499	20	250 min
TD Break Elongation (%)	495	553	536	533	561						536	26	250 min

MD Machine Direction TD Transverse Direction NA Not Available

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

March 11, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-75-08
Material(s) Tested:	1 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 310225.09
TRI Log #: E2324-75-08

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	43	45	40	41	45	47	43	41	42	44	43	2	40 avg
											40	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.937	0.937	0.937								0.937	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.34	2.30									2.32	0.03	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	86	80	89	84	84						85	3	84 min
TD Yield Strength (ppi)	88	81	94	82	83						86	5	84 min
MD Break Strength (ppi)	149	140	159	168	142						156	20	60 min
TD Break Strength (ppi)	140	114	147	120	128						130	14	60 min
MD Yield Elongation (%)	20	31	20	30	29						26	6	12 min
TD Yield Elongation (%)	19	19	19	19	19						19	0	12 min
MD Break Elongation (%)	480	494	483	479	481						483	6	250 min
TD Break Elongation (%)	538	468	549	501	511						513	32	250 min

MD Machine Direction TD Transverse Direction NA Not Available

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

TRI / Environmental, Inc.
A Texas Research International Company

March 13, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

E-mail: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-77-06
Material(s) Tested:	2 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 310333.09
TRI Log #: E2324-77-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	45	40	49	47	48	44	46	48	43	42	45 40	3 << min	40 avg 36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.936	0.936	0.936								0.936	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.48	2.48									2.48	0.00	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	81	95	85	91	82						87	6	
TD Yield Strength (ppi)	78	89	80	88	80						83	5	
MD Break Strength (ppi)	163	160	146	175	145						158	13	60 min
TD Break Strength (ppi)	124	154	119	125	114						127	16	60 min
MD Yield Elongation (%)	22	22	22	22	22						22	0	12 min
TD Yield Elongation (%)	20	20	20	20	20						20	0	12 min
MD Break Elongation (%)	545	485	504	501	516						510	22	250 min
TD Break Elongation (%)	516	570	485	503	470						509	38	250 min

MD Machine Direction TD Transverse Direction NA Not Available

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 310440.09
TRI Log #: E2324-77-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	46	45	48	47	45	44	49	47	44	47	46	2	40 avg
											44	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.936	0.936	0.936								0.936	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.43	2.41									2.42	0.01	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	2	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	73	75	84	88	81						80	6	
TD Yield Strength (ppi)	92	90	83	86	78						86	6	
MD Break Strength (ppi)	147	138	167	177	160						158	16	60 min
TD Break Strength (ppi)	154	139	129	109	144						135	17	60 min
MD Yield Elongation (%)	19	19	19	19	19						19	0	12 min
TD Yield Elongation (%)	19	19	19	19	19						19	0	12 min
MD Break Elongation (%)	553	444	484	475	548						501	48	250 min
TD Break Elongation (%)	570	514	526	424	604						528	68	250 min

MD Machine Direction TD Transverse Direction NA Not Available

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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March 13, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

E-mail: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-79-02
Material(s) Tested:	2 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 310447.09
TRI Log #: E2324-79-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	44	48	47	43	42	45	46	48	44	46	45	2	40 avg
											42	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.935	0.935	0.935								0.935	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.43	2.42									2.43	0.01	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	80	81	73	77	92						81	7	84 min
TD Yield Strength (ppi)	82	79	71	78	92						80	8	84 min
MD Break Strength (ppi)	153	149	124	134	166						145	16	60 min
TD Break Strength (ppi)	135	124	116	124	142						128	10	60 min
MD Yield Elongation (%)	20	20	20	20	20						20	0	12 min
TD Yield Elongation (%)	16	16	16	16	16						16	0	12 min
MD Break Elongation (%)	476	499	498	481	481						487	10	250 min
TD Break Elongation (%)	524	481	513	516	504						508	16	250 min

MD Machine Direction TD Transverse Direction NA Not Available

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 310554.09
TRI Log #: E2324-79-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	44	47	48	42	40	43	47	46	43	40	44	3	40 avg
											40	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.935	0.935	0.935								0.935	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.51	2.54									2.53	0.02	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	2	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	83	79	80	72	93						81	8	84 min
TD Yield Strength (ppi)	83	78	81	92	71						81	8	84 min
MD Break Strength (ppi)	113	117	132	114	126						120	8	60 min
TD Break Strength (ppi)	172	145	145	166	113						148	23	60 min
MD Yield Elongation (%)	17	17	17	17	17						17	0	12 min
TD Yield Elongation (%)	19	19	19	19	19						19	0	12 min
MD Break Elongation (%)	439	445	541	501	461						478	43	250 min
TD Break Elongation (%)	493	498	475	496	480						488	10	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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March 25, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

E-mail: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-92-09
Material(s) Tested:	1 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Sam R. Allen

Sam Allen
Vice President
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 312221.09
TRI Log #: E2324-92-09

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	46	41	40	48	43	45	45	38	49	42	44	4	40 avg
											38	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.931	0.931	0.931								0.931	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.44	2.44									2.44	0.00	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	72	74	71	82	84						77	6	
TD Yield Strength (ppi)	72	80	76	90	87						81	7	
MD Break Strength (ppi)	142	138	147	190	163						156	21	60 min
TD Break Strength (ppi)	125	130	125	130	138						130	5	60 min
MD Yield Elongation (%)	21	21	21	21	21						21	0	12 min
TD Yield Elongation (%)	18	18	18	18	18						18	0	12 min
MD Break Elongation (%)	510	483	505	519	504						504	13	250 min
TD Break Elongation (%)	536	541	550	513	540						536	14	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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March 27, 2009

Mail To:

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Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

E-mail: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-93-05
Material(s) Tested:	2 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 312228.09
TRI Log #: E2324-93-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	49	46	44	47	42	43	41	48	47	42	45 41	3 << min	40 avg 36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.931	0.931	0.931								0.931	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.44	2.42									2.43	0.01	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	2	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	77	75	83	74	73						76	4	
TD Yield Strength (ppi)	72	76	84	74	74						76	5	
MD Break Strength (ppi)	145	131	158	137	155						145	11	60 min
TD Break Strength (ppi)	121	120	136	122	116						123	8	60 min
MD Yield Elongation (%)	21	21	21	21	21						21	0	12 min
TD Yield Elongation (%)	17	17	17	17	17						17	0	12 min
MD Break Elongation (%)	480	451	491	529	446						480	33	250 min
TD Break Elongation (%)	510	494	526	516	518						513	12	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 312335.09
TRI Log #: E2324-93-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	42	46	48	45	45	40	41	46	43	44	44	2	40 avg
											40	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.931	0.931	0.931								0.931	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.45	2.47									2.46	0.01	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	2	1	2	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	70	79	78	86	75						78	6	
TD Yield Strength (ppi)	79	77	89	89	81						83	6	
MD Break Strength (ppi)	118	129	137	144	146						135	12	60 min
TD Break Strength (ppi)	121	123	126	125	124						124	2	60 min
MD Yield Elongation (%)	22	22	22	22	22						22	0	12 min
TD Yield Elongation (%)	21	24	21	21	21						22	1	12 min
MD Break Elongation (%)	449	396	466	459	471						448	30	250 min
TD Break Elongation (%)	483	525	480	476	533						499	27	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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March 27, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

E-mail: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-95-09
Material(s) Tested:	1 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 312445.09
TRI Log #: E2324-95-09

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	48	41	40	39	42	40	47	48	45	42	43	3	40 avg
											39	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.935	0.935	0.935								0.935	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.38	2.36									2.37	0.01	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	75	79	83	74	73						77	4	
TD Yield Strength (ppi)	79	84	86	79	75						81	4	
MD Break Strength (ppi)	153	148	143	133	133						142	9	60 min
TD Break Strength (ppi)	130	127	133	126	115						126	7	60 min
MD Yield Elongation (%)	20	20	20	20	20						20	0	12 min
TD Yield Elongation (%)	18	18	18	18	18						18	0	12 min
MD Break Elongation (%)	485	473	456	471	494						476	14	250 min
TD Break Elongation (%)	525	478	521	543	504						514	25	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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March 30, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

E-mail: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-97-03
Material(s) Tested:	2 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 312452.09
TRI Log #: E2324-97-03

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	41	43	46	41	39	39	43	45	41	39	42	2	40 avg
											39	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.935	0.935	0.935								0.935	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.49	2.50									2.50	0.01	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	2	1	1	2	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	2	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	79	77	82	89	81						82	5	
TD Yield Strength (ppi)	92	85	92	81	75						85	7	
MD Break Strength (ppi)	124	117	134	146	152						135	15	60 min
TD Break Strength (ppi)	141	131	116	108	126						124	13	60 min
MD Yield Elongation (%)	22	22	22	22	22						22	0	12 min
TD Yield Elongation (%)	19	19	19	19	19						19	0	12 min
MD Break Elongation (%)	413	411	435	443	486						438	31	250 min
TD Break Elongation (%)	521	510	414	438	528						482	53	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 312558.09
TRI Log #: E2324-97-03

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	42	43	44	40	38	43	42	42	41	39	41	2	40 avg
											38	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.935	0.935	0.935								0.935	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.53	2.50									2.52	0.02	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	2	1	2	1								9 Cat 1, 2
Rating - 2nd field view	1	2	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	79	81	86	73	79						80	5	
TD Yield Strength (ppi)	96	81	76	81	87						84	8	
MD Break Strength (ppi)	143	131	144	128	164						142	14	60 min
TD Break Strength (ppi)	122	123	106	130	128						122	9	60 min
MD Yield Elongation (%)	20	20	20	20	20						20	0	12 min
TD Yield Elongation (%)	17	19	19	19	19						19	1	12 min
MD Break Elongation (%)	459	439	454	516	465						467	29	250 min
TD Break Elongation (%)	471	506	471	541	493						497	29	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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GeosyntheticTesting.com
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TRI / Environmental, Inc.
A Texas Research International Company

March 30, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

E-mail: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-99-02
Material(s) Tested:	1 Agru 40 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 4218) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 312565.09
TRI Log #: E2324-99-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	41	44	47	42	40	43	45	45	42	39	43	2	40 avg
											39	<< min	36 min
Density (ASTM D 1505)													
Density (g/cm3)	0.934	0.934	0.934								0.934	0.000	NA
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.40	2.34									2.37	0.04	2 - 3%
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	2	1								9 Cat 1, 2
Rating - 2nd field view	1	1	1	1	1								1 Cat 3
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	77	83	74	76	79						78	3	
TD Yield Strength (ppi)	80	75	79	89	87						82	6	
MD Break Strength (ppi)	165	139	135	102	134						135	22	60 min
TD Break Strength (ppi)	117	121	116	131	128						123	7	60 min
MD Yield Elongation (%)	20	20	20	20	20						20	0	12 min
TD Yield Elongation (%)	19	19	19	17	18						18	1	12 min
MD Break Elongation (%)	444	439	440	374	480						435	38	250 min
TD Break Elongation (%)	480	525	508	511	499						505	17	250 min

MD Machine Direction TD Transverse Direction NA Not Available

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APPENDIX N

GEOMEMBRANE PANEL PLACEMENT LOG

Geosyntec
consultants

Panel Placement Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: EQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Primary / Secondary: Primary Series: 1 Material Type: gml

Panel	*Batch-Roll*	*Date*	*Time*	*Placement/Location/Comments*	*Width (ft.)*	*Length (ft.)*	*QA ID*
1	310553	4/14/2009	8:50	SW C4	22.5	219	RH
2	310553	4/14/2009	9:12	SW C4	22.5	214	RH
3	310443	4/14/2009	10:06	SW C4	22.5	214	RH
4	310443	4/14/2009	10:20	SW C4	22.5	212	RH
5	310225	4/15/2009	8:00	SW C4	22.5	214	RH
6	310225	4/15/2009	8:30	SW C4	22.5	215	RH
7	310219	4/15/2009	9:00	SW C4	22.5	214	RH
8	310219	4/15/2009	9:19	SW C4	22.5	210	RH
9	310451	4/15/2009	9:30	SW C4	22.5	210	RH
10	310451	4/15/2009	10:00	SW C4	22.5	210	RH
11	310447	4/15/2009	10:30	SW C 4	22.5	210	RH
12	310447	4/15/2009	11:17	SW C4	22.5	254	RH
13	310449	4/15/2009	12:30	SW C4	22.5	276	RH
14	310449	4/15/2009	13:00	SW C4	22.5	286	RH
15	310442	4/15/2009	14:48	SW C4	22.5	300	RH
16	310442	4/15/2009	14:43	C4	22.5	300	RH
17	310328	4/15/2009	15:30	C4	22.5	300	RH
18	310328	4/15/2009	16:30	C4	22.5	298	RH
19	310444	4/16/2009	7:50	C4	22.5	300	RH
20	310444	4/16/2009	8:33	C4	22.5	297	RH
21	310219	4/16/2009	9:12	C4	22.5	154	RH
22	310447	4/16/2009	9:30	C4	22.5	145	RH
23	310552	4/16/2009	9:45	C4	22.5	297	RH
24	310552	4/16/2009	10:16	N C4	22.5	297	RH
25	310449	4/16/2009	10:00	C4	22.5	20	RH
26	310332	4/16/2009	11:02	N C4	22.5	297	RH
27	310332	4/16/2009	11:08	N C4	22.5	297	RH
28	310336	4/16/2009	11:41	N C4	22.5	297	RH
29	310336	4/21/2009	10:00	to lower terrace-N C4	22.5	163	RH
30	310336	4/21/2009	10:10	N C4	22.5	164	RH
31	310334	4/21/2009	10:24	to loer terrace NC 4	22.5	164	RH

Geosyntec consultants

Panel Placement Log

Project: I.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Primary / Secondary: Primary Series: 1 Material Type: gml

Panel	Batch-Roll	Date	Time	Placement/Location/Comments	Width (ft.)	Length (ft.)	QA ID
32	310334	4/21/2009	10:41	to center of lower terrace NC4	22.5	164	RH
33	310334	4/21/2009	11:01	S C1	22.5	248	RH
34	310445	4/21/2009	11:17	S C1	22.5	297	RH
35	310445	4/21/2009	11:37	S C 1	22.5	298	RH
36	310226	4/21/2009	12:40	S C 1	22.5	298	RH
37	310226	4/21/2009	12:52	S C 1	22.5	298	RH
38	310441	4/21/2009	13:27	S C1	22.5	298	RH
39	310441	4/21/2009	13:39	S C 1	22.5	298	RH
40	310224	4/21/2009	13:45	S C 1	22.5	306	RH
41	310224	4/21/2009	14:00	S C 1	22.5	306	RH
42	310450	4/21/2009	14:30	S C 1	22.5	306	RH
43	310450	4/21/2009	14:47	S C 1	22.5	307	RH
44	310330	4/21/2009	15:04	S C 1	22.5	307	RH
45	310330	4/21/2009	15:15	S C 1	22.5	307	RH
46	310221	4/21/2009	15:34	C1	22.5	300	RH
47	310221	4/21/2009	15:48	C 1	22.5	300	RH
48	310446	4/21/2009	16:00	C 1	22.5	300	RH
49	310446	4/21/2009	16:34	C1	22.5	300	RH
50	310229	4/22/2009	7:42	C 1	22.5	300	RH
51	310229	4/22/2009	8:01	C 1	22.5	300	RH
52	310335	4/22/2009	8:17	C 1	22.5	300	RH
53	310335	4/22/2009	8:30	C 1	22.5	300	RH
54	310331	4/22/2009	9:05	C 1	22.5	300	RH
55	310331	4/22/2009	10:03	C1	22.5	300	RH
56	310440	4/22/2009	10:12	C 1	22.5	300	RH
57	310440	4/22/2009	10:22	C 1	22.5	300	RH
58	310554	4/22/2009	10:42	C 1	22.5	300	RH
59	310553	4/24/2009	10:45	C 4	22.5	134	RH
60	310443	4/24/2009	10:59	C 4	22.5	134	RH
61	310451	4/24/2009	11:08	C 4	22.5	133	RH
62	310225	4/24/2009	11:16	C 4	22.5	133	RH

Geosyntec consultants

Panel Placement Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Primary / Secondary: Primary Series: 1 Material Type: gml

Panel	Batch-Roll	Date	Time	Placement/Location/Comments	Width (ft.)	Length (ft.)	QA ID
63	310225	4/24/2009	11:19	44 X 2 X 29 X 27	22.5	22	63
64	310225	4/24/2009	11:30	37 X 22	22.5	30	RH
65	310554	4/27/2009	10:00	C 1	22.5	300	RH
66	310220	4/27/2009	10:10	C 1	22.5	300	RH
67	310220	4/27/2009	10:30	C 1	22.5	300	RH
68	310333	4/28/2009	7:30	NWC1	22.5	300	RH
69	310333	4/28/2009	7:40	NW C1	22.5	300	RH
70	310223	4/28/2009	8:00	NW C1	22.5	300	RH
71	310223	4/28/2009	8:17	NW C1	22.5	300	RH
72	310338	4/28/2009	8:30	NW C1	22.5	300	RH
73	310338	4/28/2009	9:00	NW C1	22.5	300	RH
74	310448	4/28/2009	9:18	NW C1	22.5	297	RH
75	310448	4/28/2009	10:00	NW C1	22.5	296	RH
76	310337	4/28/2009	10:30	NW C1	22.5	296	RH
77	310337	4/29/2009	8:45	NWC C1 285 x 260 x 22.5	22.5	285	RH
78	310555	4/29/2009	9:32	NWC C1 260 x 240 x 22.5	22.5	250	RH
79	310555	4/29/2009	9:48	NWC C1 240 x 215 x 22.5	22.5	228	RH
80	312119	4/29/2009	10:35	NWC C1 215 x 200 x 22.5	22.5	208	RH
81	312119	4/29/2009	11:23	NW C1	22.5	185	RH
82	310339	4/29/2009	12:30	N C 1 296 x 290 x 22.5	22.5	293	RH
83	310339	4/29/2009	13:47	N C 1 290 x 270 x 22.5	22.5	280	RH
84	312224	4/29/2009	14:51	N C 1 270 x 255 x 22.5	22.5	262	RH
85	312224	4/30/2009	8:05	NWC C1 255 x 240 x 22.5	22.5	227	RH
86	310222	4/30/2009	8:16	NWC C1	22.5	260	RH
87	310222	4/30/2009	8:30	NWC C1	22.5	230	RH
88	310222	4/30/2009	8:42	138 x 160 x 22.5	22.5	149	RH
89	312119	4/30/2009	8:49	NWC C1 triangle 46 x 42 x 22.5	22.5	44	RH
90	312558	4/30/2009	9:00	NWC C1 42 x 79 x 22.5	22.5	61	RH
91	312558	4/30/2009	9:30	NWC C1 79 x 105 x 22.5	22.5	92	RH
92	312558	4/30/2009	10:31	NWC C1 105 x 138 x 22.5	22.5	122	RH
93	312558	4/30/2009	10:47	NWC C1 128 x 90 x 22.5	22.5	109	RH

Geosyntec consultants

Panel Placement Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Primary / Secondary: Primary Series: 1 Material Type: gml

Panel	Batch-Roll	Date	Time	Placement/Location/Comments	Width (ft.)	Length (ft.)	QA ID
94	312558	4/30/2009	11:01	NWC C1 90 x 78 x 22.5	22.5	84	RH
95	312558	4/30/2009	16:42	NWC C1 78 x 48 x 22.5	22.5	63	95
96	312224	4/30/2009	11:05	triangle 48 x 29 x 12	12	38	RH
97	310339	4/30/2009	11:10	46 x 29 x 22.5	22.5	37	RH
98	312336	4/30/2009	12:00	N C 1	22.5	300	RH
99	312336	4/30/2009	12:30	N C1	22.5	300	RH
100	312335	4/30/2009	12:47	N C 1	22.5	300	RH
101	312335	4/30/2009	13:15	N C1	22.5	300	RH
102	312445	5/4/2009	9:20	N C 1	22.5	300	RH
103	312445	5/4/2009	9:40	N C 1	22.5	300	RH
104	312332	5/4/2009	10:00	N C 1	22.5	300	RH
105	312332	5/4/2009	10:17	N C 1	22.5	300	RH
106	312567	5/4/2009	10:28	N C 1	22.5	300	RH
107	312567	5/4/2009	10:51	NE C 1	22.5	300	RH
108	312453	5/4/2009	11:11	NE C 1	22.5	300	RH
109	312453	5/5/2009	7:30	NE C 1 TRAINAGLE 27 X 25 X 11	11	26	RH
110	312453	5/5/2009	7:40	NE C 1	22.5	0	RH
111	312119	5/5/2009	8:00	NE C 1	22.5	138	RH
112	312119	5/5/2009	8:16	NE C 1	22.5	64	RH
113	312453	5/5/2009	8:30	NE C 1	22.5	80	RH
114	312343	5/5/2009	8:37	NE C 1	22.5	113	RH
115	312343	5/5/2009	8:45	NE C 1	22.5	224	RH
116	312224	5/5/2009	8:56	NE C 1	22.5	76	RH
117	312343	5/5/2009	9:11	NE C 1	22.5	300	RH
118	312337	5/5/2009	9:23	NE C 1	22.5	300	RH
119	312337	5/5/2009	9:30	NE C 1	22.5	300	RH
120	312569	5/5/2009	9:42	NE C 1	22.5	300	RH
121	312569	5/5/2009	9:56	NE C 1	22.5	300	RH
122	312453	5/5/2009	8:23	NE C 1	5	20	RH
123	312343	5/5/2009	8:25	NE C 1	6	20	RH
124	312227	5/5/2009	10:20	NE C 1	22.5	300	RH

Geosyntec consultants

Panel Placement Log

Project: I.F.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Primary / Secondary: Primary Series: 1 Material Type: gml

Panel	*Batch-Roll*	*Date*	*Time*	*Placement/Location/Comments*	*Width (ft.)*	*Length (ft.)*	*QA ID*
125	312227	5/5/2009	10:31	NE C 1	22.5	300	RH
126	312339	5/5/2009	10:48	NE C 1	22.5	300	RH
127	312339	5/5/2009	11:16	NE C 1	22.5	300	RH
128	312228	5/5/2009	12:30	NE C 1	22.5	300	RH
129	312228	5/5/2009	12:49	NW C 2	22.5	300	RH
130	312116	5/5/2009	13:21	NW C 2	22.5	300	RH
131	312116	5/5/2009	13:55	NW C 2	22.5	300	RH
132	312446	5/5/2009	14:12	NEC C 2	22.5	300	RH
133	312446	5/5/2009	14:26	NEC C2	22.5	300	RH
134	312568	5/5/2009	14:35	NEC C 2	22.5	300	RH
135	312568	5/5/2009	14:40	NEC C2	22.5	300	RH
136	312339	5/5/2009	9:34	NE C 1	4	24	RH
137	312447	5/7/2009	9:50	NEC C 2	22.5	305	RH
138	312447	5/7/2009	10:09	NEC C 2	22.5	305	RH
139	312221	5/7/2009	10:38	NEC C2	22.5	270	RH
140	312221	5/7/2009	12:00	NEC C2	22.5	247	RH
141	312340	5/7/2009	12:30	NEC C2 209 x 183 x 22.5	22.5	196	RH
142	312340	5/7/2009	12:42	NEC C 2 183 x 159 x 22.5	22.5	171	RH
143	312340	5/7/2009	13:00	NEC C 2 159 X 126 X 22.5	22.5	143	RH
144	312340	5/7/2009	13:11	NEC C2 99 X 65 X 22.5	22.5	82	RH
145	312225	5/7/2009	13:20	NEC C2 126 X 99 X 22.5	22.5	113	RH
146	312221	5/7/2009	13:30	NEC C2 65 X 28 X 22.5	22.5	47	RH
147	312221	5/7/2009	13:37	NEC C2 28 X 22 X 17	17	22.5	RH
148	312221	5/7/2009	13:45	NEC C2 43 X 28 X 22.5	22.5	35	RH
149	312225	5/7/2009	13:50	E C2 262 X 243 X 22.5	22.5	253	RH
150	312562	5/7/2009	14:00	E C2	22.5	305	RH
151	312562	5/7/2009	14:21	E C2	22.5	305	RH
152	312564	5/7/2009	14:30	E C2	22.5	305	RH
153	312564	5/7/2009	14:48	E C2	22.5	305	RH
154	312450	5/8/2009	8:20	E C2	22.5	305	RH
155	312450	5/8/2009	8:34	E C2	22.5	306	RH

Geosyntec consultants

Panel Placement Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: EQ-1672
TaskNo: 01

Primary / Secondary: Primary | Series: 1 | Material Type: gml

Panel	Batch-Roll	Date	Time	Placement/Location/Comments	Width (ft.)	Length (ft.)	QA ID
156	312557	5/8/2009	8:48	E C2	22.5	306	RH
157	312557	5/8/2009	9:00	E C2	22.5	306	RH
158	312456	5/8/2009	9:23	E C2	22.5	306	RH
159	312456	5/8/2009	9:30	E C2	22.5	306	RH
160	312229	5/8/2009	9:40	E C2	22.5	306	RH
161	312229	5/8/2009	9:53	E C2	22.5	307	RH
162	312333	5/8/2009	10:11	E C2	22.5	306	RH
163	312333	5/8/2009	10:24	E C2	22.5	306	RH
164	312563	5/8/2009	10:36	E C2	22.5	306	RH
165	312563	5/8/2009	10:45	E C2	22.5	306	RH
166	312566	5/8/2009	11:11	E C2	22.5	306	RH
167	312566	5/8/2009	11:30	E C2	22.5	306	RH
168	312334	5/8/2009	13:12	E C2	22.5	306	RH
169	312334	5/8/2009	13:34	E C2	22.5	306	RH
170	312565	5/14/2009	8:00	S C2	22.5	297	RH
171	312565	5/14/2009	8:15	S C2	22.5	297	RH
172	312561	5/14/2009	8:30	S C2	22.5	297	RH
173	312561	5/14/2009	9:11	S C2	22.5		RH
174	312452	5/14/2009	9:18	S C2	22.5	297	RH
175	312452	5/14/2009	9:23	S C2	22.5	297	RH
176	312449	5/14/2009	9:45	S C2	22.5	297	RH
177	312449	5/14/2009	9:55	S C2	22.5	297	RH
178	312230	5/14/2009	10:10	S C2	22.5	297	RH
179	312230	5/14/2009	10:33	S C2	22.5	297	RH
180	312559	5/14/2009	10:41	S C2	22.5	304	RH
181	312559	5/14/2009	11:11	S C2	22.5	323	RH
182	312225	5/14/2009	11:30	S C2	22.5	149	RH
183	312559	5/14/2009	11:44	55 x 38 x 22.5	22.5	46	RH
184	312225	5/14/2009	14:30	S C2	22.5	80	RH
185	312118	5/14/2009	12:30	S C2	22.5	305	RH
186	312118	5/14/2009	12:38	N C3	22.5	305	RH

Geosyntec consultants

Panel Placement Log

Project: J.E.D. Partial Closure-Phase I
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Primary / Secondary: Primary Series: 1 Material Type: gml

Panel	*Batch-Roll*	*Date*	*Time*	*Placement/Location/Comments*	*Width (ft.)*	*Length (ft.)*	*QA ID*
187	312560	5/14/2009	13:00	N C3	22.5	305	RH
188	312560	5/14/2009	13:33	86 x 52 x 6	6	86	RH
189	312560	5/14/2009	13:42	43 x 40 x 15	15	43	RH
190	312231	5/15/2009	8:14	S C3	22.5	307	RH
191	312231	5/15/2009	8:15	S C3	22.5	306	RH
192	312454	5/15/2009	8:44	S C3	22.5	307	RH
193	312454	5/15/2009	8:50	S C3	22.5	306	RH
194	312117	5/15/2009	9:18	S C3	22.5	306	RH
195	312117	5/15/2009	9:30	S C3	22.5	305	RH
196	312455	5/15/2009	10:00	S C3	22.5	306	RH
197	312455	5/15/2009	10:10	S C3	22.5	305	RH
198	312223	5/15/2009	10:20	S C3	22.5	305	RH
199	312223	5/15/2009	11:00	S C3	22.5	305	RH
200	312448	5/15/2009	11:14	S C3	22.5	305	RH
201	312448	5/15/2009	11:30	S C3 273 x 256 x 22.5	22.5	264	201
202	312451	5/15/2009	12:30	S C3 255 x 237 x 22.5	22.5	246	202
203	312451	5/15/2009	12:45	S C3 237 x 221 x 22.5	22.5	229	203
204	312451	5/15/2009	13:30	S C3 135 x 22.5	22.5	135	206
205	312560	5/15/2009	13:09	S C3 221 x 176 x 22.5	22.5	198	204
206	312448	5/15/2009	13:44	S C3 37 x 21 x 22. 5	22.5	29	RH
207	312451	5/15/2009	14:35	S C3	7	27	RH
208	312451	5/15/2009	14:37	S C3	7	27	RH
209	312451	5/15/2009	14:20	S C3	7	27	RH

Number of Panels: 209 Approx. Area (sq. ft). 1109313.5

APPENDIX O

SUBGRADE ACCEPTANCE FORMS

CERTIFICATE OF ACCEPTANCE
SUBGRADE SURFACE

INSTALLER		PROJECT	
NAME:	**Comanco Environmental Corporation**	NAME:	**JED Partial Closure-Phase 1**
ADDRESS:	**4301 Sterling Commerce Drive**		
	Plant City, Florida 33566	LOCATIO	**1501 Omni Way**
			St. Cloud Florida
INSTALLER AUTHORIZED REPRESENTAT	**Luis Espinal**	OWNER:	**Waste Services Inc.of Florida**

The undersigned, duly authorized representative **Comanco Environmental Corporation** do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contr shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: [X] SECONDARY: [ ] OTHER: _____

DATE	PANEL NOS.	SIGNATURE
4/14/2009	Panel 1 to 4 (Cell 4-West side)	
4/15/2009	Panel 5 to Panel 18 (Cell 4-West side)	
4/16/2009	Panel 19 to Panel 28 (Cell 4 -West side)	

CERTIFICATE OF ACCEPTANCE
SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: **Comanco Environmental Corporation**	NAME: **JED Partial Closure-Phase 1**
ADDRESS: **4301 Sterling Commerce Drive**	
Plant City, Florida 33566	LOCATIO **1501 Omni Way**
	St. Cloud Florida
INSTALLER AUTHORIZED REPRESENTAT **Luis Espinal**	OWNER: **Waste Services Inc.of Florida**

The undersigned, duly authorized representative **Comanco Environmental Corporation** do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contr shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: [X] SECONDARY: [ ] OTHER: _____

DATE	PANEL NOS.	SIGNATURE
4/16/2009	Panel19 to Panel 28 (west Cell 4)	
4/21/2009	Panel 29 to Panel 49 (west Cell 1)	
4/22/2009	Panel 50 to Panel 58 (west Cell 1)	

CERTIFICATE OF ACCEPTANCE
SUBGRADE SURFACE

INSTALLER		PROJECT	
NAME:	**Comanco Environmental Corporation**	NAME:	**JED Partial Closure-Phase 1**
ADDRESS:	**4301 Sterling Commerce Drive**		
	Plant City, Florida 33566	LOCATIO	**1501 Omni Way**
			St. Cloud Florida
INSTALLER AUTHORIZED REPRESENTAT	**Luis Espinal**	OWNER:	**Waste Services Inc.of Florida**

The undersigned, duly authorized representative **Comanco Environmental Corporation** do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contr shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: [X] SECONDARY: [ ] OTHER: _____

DATE	PANEL NOS.	SIGNATURE
4/24/2009	Panel 59 to Panel 64 (Cell 1)	L. Esp
4/27/2009	Panel 65 to Panel 67 (Cell 1)	L. Esp
4/28/2009	Panel 68 to Panel 76 (NW Cell 1)	L. Esp
4/29/2009	Panel 77 to Panel 84 (N Cell 1)	L. Esp
4/30/2009	Panel 85 to Panel 101 (N Cell 1)	L. Esp
5/4/2009	Panel 102 to Panel 108 (N Cell 1)	L. Esp
5/5/2009	Panel 109 to Panel 136 (NE Cell 1)	L. Esp
5/7/2009	Panel 137 to Panel 153 (Cell 2)	L. Esp
5/8/2009	Panel 154 to Panel 169 (Cell 2)	L. Esp

CERTIFICATE OF ACCEPTANCE
SUBGRADE SURFACE

INSTALLER		PROJECT	
NAME:	**Comanco Environmental Corporation**	NAME:	**JED Partial Closure-Phase 1**
ADDRESS:	**4301 Sterling Commerce Drive**		
	Plant City, Florida 33566	LOCATIO	**1501 Omni Way**
			St. Cloud Florida
INSTALLER AUTHORIZED REPRESENTAT	**Luis Espinal**	OWNER:	**Waste Services Inc.of Florida**

The undersigned, duly authorized representative **Comanco Environmental Corporation** do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contr shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: [X] SECONDARY: [ ] OTHER: _____

DATE	PANEL NOS.	SIGNATURE
5/14/2009	P-170 to P-188 (Cell 2-south)	
5/15/2009	P-188 to Panel 209 (Cell 3)	

APPENDIX P

GEOMEMBRANE TRIAL SEAM LOGS (FUSION & EXTRUSION)

Geosyntec consultants

Trial Seam Log - Fusion

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01
Description: Partial Closure

Tensiometer Description: acrulite 7210

Material Type gml : 1 Peel Inside: 78 ppi Shear: 120 ppi
Peel Outside: 78 ppi

Trial Seam No	Date	Time	Mach ID	Oper ID	Mat Desc	Fusion		Test Results					QA ID
						Wedge ° Celsius	Speed ft./Min	Peel In	Peel Out	Shear	Unit ppi/psi	Result	
1-0001a	4/14/2009	8:36	7515	CG	S/S	740	45	82	97	107	PPI	P	RH
1-0001b	4/14/2009	8:40	7515	CG	S/S	740	45	92	92	99	PPI	P	RH
1-0002a	4/14/2009	8:44	7533	MS	S/S	765	55	88	90	107	PPI	P	RH
1-0002b	4/14/2009	8:46	7533	MS	S/S	765	55	85	75	107	PPI	P	RH
1-0003a	4/14/2009	8:49	7544	FG	S/S	700	50	99	97	108	PPI	P	RH
1-0003b	4/14/2009	8:49	7544	FG	S/S	700	50	92	91	105	PPI	P	RH
1-0004a	4/15/2009	8:11	7533	MS	S/S	770	50	95	102	106	PPI	P	RH
1-0004b	4/15/2009	8:11	7533	MS	S/S	770	50	88	100	102	PPI	P	RH
1-0005a	4/15/2009	8:47	7544	FG	S/S	715	55	92	99	101	PPI	P	RH
1-0005b	4/15/2009	8:47	7544	FG	S/S	715	55	91	95	102	PPI	P	RH
1-0006a	4/15/2009	12:48	7544	FG	S/S	715	60	81	86	100	PPI	P	RH
1-0006b	4/15/2009	12:48	7544	FG	S/S	715	60	70	80	102	PPI	P	RH
1-0007a	4/15/2009	13:14	7533	MS	S/S	770	55	75	70	92	PPI	P	RH
1-0007b	4/15/2009	13:14	7533	MS	S/S	770	55	81	75	95	PPI	P	RH
1-0008a	4/16/2009	8:12	7533	MS	S/S	770	55	102	96	125	PPI	P	RH
1-0008b	4/16/2009	8:12	7533	MS	S/S	770	55	100	108	127	PPI	P	RH
1-0009a	4/16/2009	8:19	7544	FG	S/S	690	60	112	111	119	PPI	P	RH
1-0009b	4/16/2009	8:19	7544	FG	S/S	690	60	113	101	116	PPI	P	RH
1-0010a	4/16/2009	8:32	7544	FG	S/S	690	60	95	96	117	PPI	P	RH
1-0010b	4/16/2009	8:32	7544	FG	S/S	690	60	100	111	92	PPI	P	RH
1-0011a	4/21/2009	9:27	7533	MS	S/S	770	50	93	94	102	PPI	P	RH
1-0011b	4/21/2009	9:27	7533	MS	S/S	770	50	93	93	108	PPI	P	RH
1-0012a	4/21/2009	9:36	7544	FG	S/S	670	65	90	91	105	PPI	P	RH
1-0012b	4/21/2009	9:36	7544	FG	S/S	670	65	93	95	106	PPI	P	RH
1-0013a	4/21/2009	9:36	75407	CG	S/S	650	55	83	85	95	PPI	P	RH
1-0013b	4/21/2009	9:36	75407	CG	S/S	650	55	82	88	99	PPI	P	RH
1-0014a	4/22/2009	8:32	7533	MS	S/S	770	50	97	97	110	PPI	P	RH
1-0014b	4/22/2009	8:32	7533	MS	S/S	770	50	96	99	109	PPI	P	RH
1-0015a	4/22/2009	8:39	7544	FG	S/S	670	65	82	86	107	PPI	P	RH
1-0015b	4/22/2009	8:39	7544	FG	S/S	670	65	93	95	109	PPI	P	RH
1-0016a	4/24/2009	9:30	7533	MS	S/S	770	50	86	85	100	PPI	P	RH
1-0016b	4/24/2009	9:30	7533	MS	S/S	770	50	86	89	104	PPI	P	RH
1-0017a	4/24/2009	12:00	7533	MS	T/T	770	50	98	92	105	PPI	P	RH
1-0017b	4/27/2009	10:59	7544	FG	T/T	770	65	90	88	102	PPI	P	RH

Geosyntec consultants

Trial Seam Log - Fusion

Project: I.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01
Description: Partial Closure

Tensiometer Description: acrulite 7210

Material Type gml : 1 Peel Inside: 78 ppi Shear: 120 ppi
Peel Outside: 78 ppi

Trial Seam No	Date	Time	Mach ID	Oper ID	Mat Desc	Fusion		Test Results					QA ID
						Wedge °Celsius	Speed ft./Min	Peel In	Peel Out	Shear	Unit ppi/psi	Result	
1-0018a	4/28/2009	8:47	7544	FG	S/S	670	65	90	87	110	PPI	P	RH
1-0018b	4/28/2009	8:47	7544	FG	S/S	670	65	96	92	118	PPI	P	RH
1-0019a	4/28/2009	8:52	75407	CG	S/S	650	16	99	93	120	PPI	P	RH
1-0019b	4/28/2009	8:52	75407	CG	S/S	650	16	106	100	128	PPI	P	RH
1-0020a	4/29/2009	8:44	7544	FG	S/S	670	65	100	90	110	ppi	P	RH
1-0020b	4/29/2009	8:44	7544	FG	S/S	670	65	98	102	120	ppi	P	RH
1-0021a	4/29/2009	8:55	75407	MS	S/S	680	16	81	79	105	ppi	P	RH
1-0021b	4/29/2009	8:54	75407	MS	S/S	680	16	104	91	104	ppi	P	RH
1-0022a	4/29/2009	9:04	75200017	CG	S/S	750	60	93	91	108	ppi	P	RH
1-0022b	4/29/2009	9:04	75200017	CG	S/S	750	60	89	94	100	ppi	P	RH
1-0023a	4/30/2009	8:03	75200017	CG	S/S	750	60	92	90	109	ppi	P	RH
1-0023b	4/30/2009	8:03	75200017	CG	T/T	750	60	91	93	101	ppi	P	RH
1-0024a	4/30/2009	8:15	7544	FG	S/S	670	65	93	91	105	ppi	P	RH
1-0024b	4/30/2009	8:15	7544	FG	S/S	670	65	86	94	100	ppi	P	RH
1-0025a	4/30/2009	8:23	7544	FG	T/T	670	65	85	89	100	ppi	P	RH
1-0025b	4/30/2009	8:23	7544	FG	T/T	670	65	82	90	101	ppi	P	RH
1-0026a	4/30/2009	8:30	75200017	MS	S/S	680	15	92	90	108	ppi	P	RH
1-0026b	4/30/2009	8:30	75200017	MS	S/S	680	15	92	91	109	ppi	P	RH
1-0027a	4/30/2009	12:43	75407	MS	S/S	680	15	95	88	105	ppi	P	RH
1-0027b	4/30/2009	12:43	75407	MS	S/S	680	15	83	88	106	ppi	P	RH
1-0028a	4/30/2009	12:53	7544	FG	S/S	670	65	68	70	112	ppi	P	RH
1-0028b	4/30/2009	12:53	7544	FG	S/S	670	65	74	72	99	ppi	P	RH
1-0029a	5/4/2009	8:10	75407	MS	S/S	680	15	96	93	112	ppi	P	RH
1-0029b	5/4/2009	8:10	75407	MS	S/S	680	15	94	93	108	ppi	P	RH
1-0030a	5/4/2009	8:17	7544	FG	S/S	670	65	95	94	107	ppi	P	RH
1-0030b	5/4/2009	8:17	7544	FG	S/S	670	65	84	94	103	ppi	P	RH
1-0031a	5/4/2009	8:26	75200017	CG	S/S	750	60	97	92	109	ppi	P	RH
1-0031b	5/4/2009	8:26	75200017	CG	S/S	750	60	90	96	104	ppi	P	RH
1-0032a	5/5/2009	8:00	75200017	CG	S/S	750	60	101	113	128	ppi	P	RH
1-0032b	5/5/2009	8:00	75200017	CG	S/S	750	60	103	103	130	ppi	P	RH
1-0033a	5/5/2009	8:10	75407	MS	S/S	680	15	91	86	100	ppi	P	RH
1-0033b	5/5/2009	8:10	75407	MS	S/S	680	15	92	88	93	ppi	P	RH
1-0034a	5/5/2009	8:20	7544	FG	S/S	670	65	80	81	108	ppi	P	RH
1-0034b	5/5/2009	8:20	7544	FG	S/S	670	65	78	83	102	ppi	P	RH

Geosyntec consultants

Trial Seam Log - Fusion

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01
Description: Partial Closure

Tensiometer Description: acrulite 7210

Material Type gml : 1 Peel Inside: 78 ppi Shear: 120 ppi
Peel Outside: 78 ppi

Trial Seam No	Date	Time	Mach ID	Oper ID	Mat Desc	Fusion		Test Results					QA ID
						Wedge ° Celsius	Speed ft./Min	Peel In	Peel Out	Shear	Unit ppi/psi	Result	
1-0035a	5/5/2009	12:30	75200017	CG	S/S	750	60	98	100	102	ppi	P	RH
1-0035b	5/5/2009	12:30	75200017	CG	S/S	750	60	78	87	100	ppi	P	RH
1-0036a	5/5/2009	12:40	75407	MS	S/S	680	15	81	83	89	ppi	P	RH
1-0036b	5/5/2009	12:40	75407	MS	S/S	680	15	86	87	90	ppi	P	RH
1-0037a	5/5/2009	12:50	7544	FG	S/S	670	65	80	78	89	ppi	P	RH
1-0037b	5/5/2009	12:50	7544	FG	S/S	670	65	81	79	90	ppi	P	RH
1-0038a	5/5/2009	10:00	7544	FG	T/T	670	65	86	88	85	ppi	P	RH
1-0038b	5/5/2009	10:00	7544	FG	T/T	670	65	82	83	89	ppi	P	RH
1-0039a	5/5/2009	10:15	7544	FG	S/T	670	65	100	97	103	ppi	P	RH
1-0039b	5/5/2009	10:15	7544	FG	S/T	670	65	98	99	100	ppi	P	RH
1-0040a	5/6/2009	10:00	75200017	CG	S/S	750	60	93	90	108	ppi	P	RH
1-0040b	5/6/2009	10:00	75200017	CG	S/S	680	15	89	97	102	ppi	P	RH
1-0041a	5/7/2009	10:10	75407	MS	S/S	680	15	81	83	96	ppi	P	RH
1-0041b	5/7/2009	10:10	75407	MS	S/S	680	15	88	83	95	ppi	P	RH
1-0042a	5/7/2009	10:20	7544	FG	S/S	670	65	88	89	102	ppi	P	RH
1-0042b	5/7/2009	10:20	7544	FG	S/S	670	65	89	90	120	ppi	P	RH
1-0043a	5/7/2009	10:28	7544	FG	S/T	670	65	93	94	123	ppi	P	RH
1-0044a	5/7/2009	10:39	7544	FG	T/T	670	65	88	82	98	ppi	P	RH
1-0044b	5/7/2009	12:38	7409	ES	T/T	300	440	77	78	113	ppi	P	RH
1-0045a	5/8/2009	8:10	75407	MS	S/S	680	15	74	70	88	ppi	P	RH
1-0045b	5/8/2009	8:10	75407	MS	S/S	680	15	80	83	92	ppi	P	RH
1-0046a	5/8/2009	8:20	7544	FG	S/S	670	65	87	83	99	ppi	P	RH
1-0047a	5/8/2009	8:10	75407	MS	S/T			100	97	112	ppi	P	RH
1-0048a	5/8/2009	8:20	92	FG	S/S	670	65	82	83	108	PPI	P	RH
1-0048b	5/8/2009	8:20	7544	FG	S/S	670	65	84	87	108	PPI	P	RH
1-0049a	5/14/2009	8:10	75200017	CG	S/S	750	60	94	89	110	PPI	P	RH
1-0049b	5/14/2009	8:10	75200017	CG	S/S	750	60	93	96	113	PPI	P	RH
1-0050a	5/14/2009	8:25	75200017	CG	S/T	750	60	93	92	110	115	P	RH
1-0050b	5/14/2009	8:25	75200017	CG	S/T	750	60	99	96	115	PPI	P	RH
1-0051a	5/14/2009	8:42	7544	FG	S/S	520	65	90	93	99	PPI	P	RH
1-0051b	5/14/2009	8:45	7544	FG	S/S	520	65	89	89	93	PPI	P	RH
1-0052a	5/14/2009	8:50	75407	MS	S/S	680	15	95	93	93	PPI	P	RH
1-0052b	5/14/2009	8:50	75407	MS	S/S	680	15	96	96	99	PPI	P	RH

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Trial Seam Log - Extrusion

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01
Description: Partial Closure

Tensiometer Description: acrulite 7210

Material Type gml : 1 *Peel:* 52 ppi *Shear:* 90 ppi

Trial Seam No	*Date*	*Time*	*Mach ID*	*Oper ID*	*Mat Desc*	*Extrusion*		*Test Results*				*Retest No*	*QA ID*
						Pre heat ° Celsius	*Barrel ° Celsius*	*Peel*	*Shear*	*Unit ppi/psi*	*Result P/F*		
1-0001	4/15/2009	8:20	7434	JG	T/T	30	440	106,102	84,89	PPI	P		RH
1-0002	4/15/2009	8:29	7409	LM	T/T	320	440	86,89	92,99	PPI	P		RH
1-0003	4/15/2009	8:07	7427	JG	T/T	313	440	84,80	92,96	PPI	P		RH
1-0004	4/15/2009	12:56	7427	JG	T/T	317	440	68,69	120,108	PPI	P		RH
1-0005	4/15/2009	13:03	7434	CG	T/T	370	440	85,88	98,92	PPI	P		RH
1-0006	4/16/2009	8:04	7434	CG	T/T	370	440	123,119	100,101	PPI	P		RH
1-0007	4/16/2009	8:34	7427	JG	T/T	355	450	109,110	120,118	PPI	P		RH
1-0008	4/16/2009	12:51	7427	JG	T/T	310	449	88,92	100,92	PPI	P		RH
1-0009	4/16/2009	13:00	7434	CG	T/T	370	440	95,92	98,91	PPI	P		RH
1-0010	4/16/2009	14:00	7409	LM	T/T	250	440	86,85	100,102	PPI	P		RH
1-0011	4/21/2009	8:15	7434	CG	T/T	440	310	103,104	108,110	PPI	P		RH
1-0012	4/22/2009	9:15	7409	JG	T/T	250	450	106,92	109,112	PPI	P		RH
1-0013	4/23/2009	8:10	7427	LM	T/T	240	440	92,82	96,99	PPI	P		RH
1-0014	4/23/2009	8:19	7409	JG	T/T	213	440	99,106	110,115	PPI	P		RH
1-0015	4/23/2009	8:28	7434	CG	T/T	410	440	95,98	110,112	PPI	P		RH
1-0016	4/23/2009	12:15	7434	CG	T/T	310	440	93,95	108,110	PPI	P		RH
1-0017	4/23/2009	12:25	7427	LM	T/T	200	440	90,89	100,99	PPI	P		RH
1-0018	4/23/2009	12:32	7409	JG	T/T	213	440	85,92	110,112	PPI	P		RH
1-0019	4/24/2009	8:10	7409	JG	T/T	219	440	85,89	99,99	PPI	P		RH
1-0020	4/24/2009	11:58	7409	JG	T/T	219	440	75,82	100,109	PPI	P		RH
1-0021	4/27/2009	8:15	7409	JG	T/T	219	440	89,88	100,102	PPI	P		RH
1-0022	4/27/2009	11:59	7409	JG	T/T	219	440	82,93	97,100	PPI	P		RH
1-0023	4/28/2009	8:38	7409	JG	T/T	219	440	86,88	112,118	PPI	P		RH
1-0024	4/28/2009	7:52	7434	CG	T/T	310	440	91,95	120,101	ppi	P		RH
1-0025	4/28/2009	11:57	7409	JG	T/T	219	440	90,92	100,101	ppi	P		RH
1-0026	4/29/2009	7:40	7409	JG	T/T	219	440	98,94	119,100	ppi	P		RH
1-0027	4/29/2009	8:14	7409	JG	T/T	219	440	88,94	98,99	ppi	P		RH
1-0028	4/30/2009	8:09	7409	JG	T/T	319	440	98,92	109,102	ppi	P		RH
1-0029	4/30/2009	13:03	7409	JG	T/T	319	440	91,85	109,95	ppi	P		RH
1-0030	4/30/2009	13:12	7434	CG	T/T	200	440	90,80	109,108	ppi	P		RH
1-0031	5/1/2009	8:15	7434	CG	T/T	200	400	83,85	101,108	ppi	P		RH
1-0032	5/1/2009	8:25	7409	JG	T/T	219	440	73,77	103,104	ppi	P		RH
1-0033	5/4/2009	8:36	7409	ES	T/T	315	440	77,88	98,98	ppi	P		RH
1-0034	5/4/2009	12:39	7409	ES	T/T	315	440	88,87	118,120	ppi	P		RH
1-0035	5/5/2009	7:50	7409	ES	T/T	315	440	92,90	96,93	ppi	P		RH
1-0036	5/6/2009	8:00	7434	JG	T/T	300	440	99,93	100,103	ppi	P		RH

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Trial Seam Log - Extrusion

Project: L.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01
Description: Partial Closure

Tensiometer Description: acrulite 7210

Material Type gml : 1 *Peel:* 52 ppi *Shear:* 90 ppi

Trial Seam No	*Date*	*Time*	*Mach ID*	*Oper ID*	*Mat Desc*	*Extrusion*		*Test Results*				*Retest No*	*QA ID*
						Pre heat Celsius	*Barrel Celsius*	*Peel*	*Shear*	*Unit ppi/psi*	*Result P/F*		
1-0037	5/5/2009	12:30	7434	JG	T/T	300	440	98,92	100,97	ppi	P		RH
1-0038	5/6/2009	7:20	7409	ES	T/T	319	440	95,96	100,108	ppi	P		RH
1-0039	5/6/2009	12:30	7409	ES	T/T	300	440	99,101	100,105	ppi	P		RH
1-0040	5/6/2009	7:55	7434	JG	T/T	300	440	98,93	93,99	ppi	P		RH
1-0041	5/6/2009	12:34	7434	JG	T/T	300	440	90,94	98,104	ppi	P		RH
1-0042	5/6/2009	0:31	7409	ES	T/T	315	440	78,81	93,96	ppi	P		RH
1-0043	5/7/2009	8:00	7409	ES	T/T	315	440	89,95	100,92	ppi	P		RH
1-0044	5/7/2009	12:34	7409	ES	T/T	315	440	89,95	99,103	ppi	P		RH
1-0045	5/8/2009	8:20	7409	ES	T/T	200	440	65,75	101,99	ppi	P		RH
1-0046	5/8/2009	8:25	7434	JG	T/T	220	440	71,77	96,98	ppi	P		RH
1-0047	5/8/2009	8:10	7434	CG	T/T	220	440	81,85	108,100	ppi	P		RH
1-0048	5/11/2009	9:15	7427	ES	T/T	300	440	85,86	108,109	ppi	P		RH
1-0049	5/11/2009	12:30	7434	CG	T/T	350	440	83,89	103,100	PPI	P		RH
1-0050	5/11/2009	12:40	7409	ES	T/T	300	440	92,90	105,103	PPI	P		RH
1-0051	5/12/2009	8:00	74312	ES	T/T	300	440	78,82	100,95	PPI	P		RH
1-0052	5/12/2009	8:10	7434	CG	T/T	300	440	85,87	97,93	PPI	P		RH
1-0053	5/12/2009	8:30	7430	JG	T/T	300	440	89,87	99,102	PPI	P		RH
1-0054	5/12/2009	12:39	74312	ES	T/T	300	440	89,93	99,97	PPI	P		RH
1-0055	5/13/2009	12:39	7434	CG	T/T	300	440	85,83	93,99	PPI	P		RH
1-0056	5/13/2009	12:43	7430	JG	T/T	300	440	86,81	85,89	PPI	P		RH
1-0057	5/13/2009	8:00	74312	ES	T/T	200	440	84,81	86,89	PPI	P		RH
1-0058	5/13/2009	8:10	7430	JG	T/T	300	440	82,79	85,90	PPI	P		RH
1-0059	5/13/2009	8:17	7434	CG	T/T	300	440	83,89	93,92	PPI	P		RH
1-0060	5/13/2009	12:30	7434	CG	T/T	300	440	86,88	95,94	PPI	P		RH
1-0061	5/13/2009	12:37	7430	JG	T/T	212	440	90,89	95,102	PPI	P		RH
1-0062	5/13/2009	12:40	74312	ES	T/T	200	440	85,83	90,93	PPI	P		RH
1-0063	5/14/2009	8:10	7430	JG	T/T	212	440	89,92	115,116	PPI	P		RH
1-0064	5/14/2009	8:18	74312	ES	T/T	200	440	92,89	103,106	PPI	P		RH

APPENDIX Q

GEOMEMBRANE PRODUCTION SEAM LOGS

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/7/2008	10:23	75200017	CG	F	1-0138-0149-271-305	34	RH	271-305	AT	JL	P	ATOK	RH
4/14/2009	9:14	7515	CG	F	1-0001-0002-0-154	154	RH	0-154	AT	JL	P	ATOK	RH
4/14/2009	9:30	7533	MS	F	1-0004-0005-0-167	167	RH	0-167	AT	JL	P	ATOK	RH
4/14/2009	10:05	7533	MS	F	1-0002-0003-0-121	121	RH	0-121	AT	JL	P	ATOK	RH
4/14/2009	10:29	7533	MS	F	1-0002-0003-121-214	93	RH	121-214	AT	JL	P	ATOK	RH
4/14/2009	10:35	7533	MS	F	1-0001-0002-154-217	63	RH	154-217	AT	JL	P	ATOK	RH
4/15/2009	8:54	7544	FG	F	1-0004-0005-0-214	214	RH	0-214	AT	JL	P	ATOK	RH
4/15/2009	9:10	7533	MS	F	1-0005-0006-0-214	214	RH	0-214	AT	JL	P	ATOK	RH
4/15/2009	9:25	7544	FG	F	1-0006-0007-0-212	212	RH	0-212	AT	JL	P	ATOK	RH
4/15/2009	9:35	7533	MS	F	1-0003-0004-0-214	214	RH	0-214	AT	JL	P	ATOK	RH
4/15/2009	9:44	7533	MS	F	1-0007-0008-0-212	212	RH	0-212	AT	JL	P	ATOK	RH
4/15/2009	9:54	7533	MS	F	1-0004-0005-167-214	47	RH	167-214	AT	JL	P	ATOK	RH
4/15/2009	10:05	7544	FG	F	1-0008-0009-0-212	212	RH	0-212	AT	JL	P	ATOK	RH
4/15/2009	10:40	7533	MS	F	1-0009-0010-0-121	121	RH	0-121	AT	JL	P	ATOK	RH
4/15/2009	11:04	7533	MS	F	1-0009-0010-121-212	91	RH	121-212	AT	JL	P	ATOK	RH
4/15/2009	11:12	7544	FG	F	1-0010-0011-0-211	211	RH	0-211	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase I
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Began-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/15/2009	11:12	7544	FG	F	1-0010-0011-0-212	212	RH	0-212	AT	JL	P	ATOK	RH
4/15/2009	11:36	7533	MS	F	1-0011-0012-0-211	211	RH	0-211	AT	JL	P	ATOK	RH
4/15/2009	11:44	7427	JG	E	1-0002-T-23-45	22	RH	22-45	VT	JL	P	VTOK	RH
4/15/2009	11:45	7427	JG	E	1-0001-T-0-23	23	RH	0-23	VT	JL	P	VTOK	RH
4/15/2009	13:17	7427	JG	E	1-0003-T-45-67	22	RH	45-67	VT	JL	P	VTOK	RH
4/15/2009	13:42	7544	FG	F	1-0012-0013-0-254	254	RH	0-254	AT	JL	P	ATOK	RH
4/15/2009	14:05	7533	MS	F	1-0013-0014-0-276	276	RH	0-276	AT	JL	P	ATOK	RH
4/15/2009	14:17	7427	JG	E	1-0005-0006-89-111	22	RH	89-111	VT	JL	P	VTOK	RH
4/15/2009	14:30	7544	FG	F	1-0014-0015-0-286	286	RH	0-286	AT	JL	P	ATOK	RH
4/15/2009	14:48	7427	JG	E	1-0004-T-67-89	22	RH	67-89	VT	JL	P	VTOK	RH
4/15/2009	15:05	7533	MS	F	1-0015-0016-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/15/2009	15:30	7427	JG	E	1-0007-T-134-157	23	RH	134-157	VT	JL	P	VTOK	RH
4/15/2009	15:48	7427	JG	E	1-0008-0009-157-180	23	RH	157-180	VT	JL	P	VTOK	RH
4/15/2009	15:58	7544	FG	F	1-0016-0017-0-131	131	RH	0-131	AT	JL	P	ATOK	RH
4/15/2009	16:16	7427	JG	E	1-0006-T-111-134	23	RH	111-134	VT	JL	P	VTOK	RH
4/15/2009	16:20	7533	MS	F	1-0017-0018-0-300	300	RH	0-300	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/15/2009	16:24	7544	FG	F	1-0016-0017-131-300	169	RH	131-300	AT	JL	P	ATOK	RH
4/15/2009	16:43	7427	JG	E	1-0011-T-225-248	23	RH	225-248	VT	JL	P	VTOK	RH
4/16/2009	8:37	7427	JG	E	1-0010-T-203-225	22	RH	203-225	VT	JL	P	VTOK	RH
4/16/2009	8:45	7544	FG	F	1-0019-0020-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
4/16/2009	8:50	7427	JG	E	1-0009-T-180-203	23	RH	180-203	VT	JL	P	VTOK	RH
4/16/2009	9:03	7427	JG	E	1-0008-T-157-180	23	RH	157-180	VT	JL	P	VTOK	RH
4/16/2009	9:09	7533	MS	F	1-0020-0022-0-277	277	RH	0-277	AT	JL	P	ATOK	RH
4/16/2009	9:11	7544	FG	F	1-0022-0023-0-277	277	RH	0-277	AT	JL	P	ATOK	RH
4/16/2009	9:25	7533	MS	F	1-0021-0022-0-23	23	RH	0-23	AT	JL	P	ATOK	RH
4/16/2009	9:33	7427	JG	E	1-0014-T-293-315	22	RH	293-315	VT	JL	P	VTOK	RH
4/16/2009	9:40	7533	MS	F	1-0020-0021-0-146	146	RH	0-146	AT	JL	P	ATOK	RH
4/16/2009	9:45	7427	JG	E	1-0013-T-271-293	22	RH	271-293	VT	JL	P	VTOK	RH
4/16/2009	9:55	7427	JG	E	1-0012-T-248-271	23	RH	248-271	VT	JL	P	VTOK	RH
4/16/2009	9:55	7533	MS	F	1-0020-0022-146-277	131	RH	146-277	AT	JL	P	ATOK	RH
4/16/2009	10:13	7533	MS	F	1-0022-0023-154-277	123	RH	154-277	AT	JL	P	ATOK	RH
4/16/2009	10:18	7427	JG	E	1-0017-T-361-383	22	RH	361-383	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud . Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location				Nondestructive Test				
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/16/2009	10:25	7533	MS	F	1-0023-0024-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
4/16/2009	10:32	7544	FG	F	1-0022-0025-0-22.5	22.5	RH	0-22.5	AT	JL	P	ATOK	RH
4/16/2009	10:36	7544	FG	F	1-0023-0025-277-297	20	RH	277-297	AT	JL	P	ATOK	RH
4/16/2009	10:42	7544	FG	F	1-0020-0025-277-297	20	RH	277-297	AT	JL	P	ATOK	RH
4/16/2009	10:43	7427	JG	E	1-0016-T-338-361	23	RH	338-361	VT	JL	P	VTOK	RH
4/16/2009	10:55	7427	JG	E	1-0015-T-315-338	23	RH	315-338	VT	JL	P	VTOK	RH
4/16/2009	11:05	7544	FG	F	1-0024-0026-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
4/16/2009	11:15	7533	MS	F	1-0026-0027-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
4/16/2009	11:25	7427	JG	E	1-0018-T-383-405	22	RH	383-405	VT	JL	P	VTOK	RH
4/16/2009	12:31	7544	FG	F	1-0027-0028-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
4/16/2009	13:03	7427	JG	E	1-0021-T-449-472	23	RH	449-472	VT	JL	P	VTOK	RH
4/16/2009	13:15	7427	JG	E	1-0020-T-427-449	22	RH	427-449	VT	JL	P	VTOK	RH
4/16/2009	13:26	7427	JG	E	1-0019-T-405-427	22	RH	405-427	VT	JL	P	VTOK	RH
4/16/2009	15:03	7544	FG	F	1-0021-0023-0-154	154	RH	0-154	AT	JL	P	ATOK	RH
4/16/2009	15:23	7427	JG	E	1-0028-T-563-581	18	RH	563-581	VT	JL	P	VTOK	RH
4/16/2009	15:32	7427	JG	E	1-0027-T-540-563	23	RH	540-563	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location				Nondestructive Test				
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/16/2009	15:40	7427	JG	E	1-0026-T-517-528	11	RH	517-528	VT	JL	P	VTOK	RH
4/16/2009	15:45	7427	JG	E	1-0026-T-528-540	12	RH	528-540	VT	JL	P	VTOK	RH
4/16/2009	16:20	7427	JG	E	1-0023-T-472-494	22	RH	472-494	VT	JL	P	VTOK	RH
4/16/2009	16:30	7427	JG	E	1-0024-T-494-517	23	RH	494-517	VT	JL	P	VTOK	RH
4/21/2009	10:52	7544	FG	F	1-0028-0029-134-297	163	RH	134-297	AT	JL	P	ATOK	RH
4/21/2009	10:52	7533	MS	F	1-0029-0030-133-297	164	RH	133-297	AT	JL	P	ATOK	RH
4/21/2009	11:15	7544	FG	F	1-0030-0031-133-297	164	RH	133-297	AT	JL	P	ATOK	RH
4/21/2009	11:42	75407	CG	F	1-0033-0034-50-297	247	RH	50-297	AT	JL	P	ATOK	RH
4/21/2009	11:50	7544	FG	F	1-0034-0035-0-298	298	RH	0-298	AT	JL	P	ATOK	RH
4/21/2009	13:03	7544	FG	F	1-0035-0036-0-298	298	RH	0-298	AT	JL	P	ATOK	RH
4/21/2009	13:10	7533	MS	F	1-0036-0037-0-298	298	RH	0-298	AT	JL	P	ATOK	RH
4/21/2009	13:31	75407	CG	F	1-0037-0038-0-53	53	RH	0-53	AT	JL	P	ATOK	RH
4/21/2009	13:40	75407	CG	F	1-0037-0038-53-307	254	RH	53-307	AT	JL	P	ATOK	RH
4/21/2009	13:56	7544	FG	F	1-0038-0039-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
4/21/2009	14:12	7533	MS	F	1-0039-0040-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
4/21/2009	14:21	75407	CG	F	1-0040-0041-0-306	306	RH	0-306	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase I
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/21/2009	14:43	7544	FG	F	1-0041-0042-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
4/21/2009	14:55	7533	MS	F	1-0042-0043-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
4/21/2009	15:00	75407	CG	F	1-0043-0044-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
4/21/2009	15:27	7544	FG	F	1-0044-0045-0-117	117	RH	0-117	AT	JL	P	ATOK	RH
4/21/2009	15:45	7533	MS	F	1-0045-0046-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
4/21/2009	15:49	7544	FG	F	1-0044-0045-117-307	190	RH	117-307	AT	JL	P	ATOK	RH
4/21/2009	15:53	75407	CG	F	1-0046-0047-0-289	289	RH	0-289	AT	JL	P	ATOK	RH
4/21/2009	16:30	7544	FG	F	1-0047-0048-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/21/2009	16:32	75407	CG	F	1-0046-0047-289-300	11	RH	289-300	AT	JL	P	ATOK	RH
4/21/2009	16:37	7533	MS	F	1-0048-0049-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/22/2009	8:45	7544	FG	F	1-0050-0051-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/22/2009	9:26	7544	FG	F	1-0051-0052-0-117	117	RH	0-117	AT	JL	P	ATOK	RH
4/22/2009	9:35	7533	MS	F	1-0052-0053-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/22/2009	9:46	7544	FG	F	1-0051-0052-117-300	183	RH	117-300	AT	JL	P	ATOK	RH
4/22/2009	10:00	7409	JG	E	1-0037-T-788-766	22	RH	788-766	VT	JL	P	ATOK	RH
4/22/2009	10:25	7533	MS	F	1-0053-0054-0-121	121	RH	0-121	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/22/2009	10:26	7544	FG	F	1-0054-0055-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/22/2009	10:30	7409	JG	E	1-0036-T-766-743	23	RH	766-743	VT	JL	P	VTOK	RH
4/22/2009	10:36	7409	JG	E	1-0035-T-743-721	22	RH	743-721	VT	JL	P	VTOK	RH
4/22/2009	10:46	7533	MS	F	1-0053-0054-121-300	179	RH	121-300	AT	JL	P	ATOK	RH
4/22/2009	10:57	7409	JG	E	1-0034-T-721-698	23	RH	721-698	VT	JL	P	VTOK	RH
4/22/2009	11:10	7533	MS	F	1-0055-0056-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/22/2009	11:14	7544	FG	F	1-0056-0057-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/22/2009	11:43	7533	MS	F	1-0057-0058-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/22/2009	13:25	7409	JG	E	1-0038-T-788-811	23	RH	788-811	VT	JL	P	VTOK	RH
4/22/2009	13:49	7409	JG	E	1-0040-T-833-855	22	RH	833-855	VT	JL	P	VTOK	RH
4/22/2009	13:55	7409	JG	E	1-0039-T-811-833	22	RH	811-833	VT	JL	P	VTOK	RH
4/22/2009	14:45	7409	JG	E	1-0043-T-900-923	23	RH	900-923	VT	JL	P	VTOK	RH
4/22/2009	14:56	7409	JG	E	1-0042-T-878-900	22	RH	878-900	VT	JL	P	ATOK	RH
4/22/2009	15:13	7409	JG	E	1-0041-T-855-878	23	RH	855-878	VT	JL	P	VTOK	RH
4/22/2009	15:26	7409	JG	E	1-0046-T-967-990	23	RH	967-990	VT	JL	P	VTOK	RH
4/22/2009	15:57	7409	JG	E	1-0045-T-945-967	22	RH	945-967	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Began-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/22/2009	16:30	7409	JG	E	1-0044-T-923-945	22	RH	923-945	VT	JL	P	VTOK	RH
4/23/2009	9:17	7409	JG	E	1-0052-T-1126-1103	23	RH	1126-1103	VT	JL	P	VTOK	RH
4/23/2009	9:35	7409	JG	E	1-0051-T-1081-1103	22	RH	1081-1103	VT	JL	P	VTOK	RH
4/23/2009	9:56	7409	JG	E	1-0050-T-1058-1081	23	RH	1058-1081	VT	JL	P	VTOK	RH
4/23/2009	10:00	7409	JG	E	1-0052-T-1103-1126	23	RH	1103-1126	VT	JL	P	VTOK	RH
4/23/2009	10:19	7409	JG	E	1-0048-T-1012-1035	23	RH	1012-1035	VT	JL	P	VTOK	RH
4/23/2009	10:37	7409	JG	E	1-0047-T-990-1012	22	RH	990-1012	VT	JL	P	VTOK	RH
4/23/2009	13:07	7409	JG	E	1-0049-T-1035-1058	23	RH	1035-1058	VT	JL	P	VTOK	RH
4/24/2009	5:08	7533	MS	F	1-0063-C1-0-46	46	RH	0-46	AT	JL	P	ATOK	RH
4/24/2009	8:04	7409	JG	E	1-0058-T-1237-1259	22	RH	1237-1259	VT	JL	P	VTOK	RH
4/24/2009	8:05	7409	JG	E	1-0054-T-1148-1170	22	RH	1148-1170	VT	JL	P	VTOK	RH
4/24/2009	8:17	7409	JG	E	1-0057-T-1215-1237	22	RH	1215-1237	VT	JL	P	VTOK	RH
4/24/2009	8:28	7409	JG	E	1-0056-T-1193-1215	22	RH	1193-1215	VT	JL	P	VTOK	RH
4/24/2009	8:34	7409	JG	E	1-0055-T-1170-1193	23	RH	1170-1193	VT	JL	P	VTOK	RH
4/24/2009	8:57	7409	JG	E	1-0053-T-1126-1148	22	RH	1126-1148	VT	JL	P	VTOK	RH
4/24/2009	11:17	7533	MS	F	1-0033-0060-50-133	83	RH	50-133	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/24/2009	11:27	7533	MS	F	1-0061-0062-0-133	133	RH	0-133	AT	JL	P	ATOK	RH
4/24/2009	11:45	7533	MS	F	1-0059-0062-0-133	133	RH	0-133	AT	JL	P	ATOK	RH
4/24/2009	12:55	7533	MS	F	1-0028-0059-0-133	133	RH	0-133	AT	JL	P	ATOK	RH
4/24/2009	13:00	7533	MS	F	1-0064-0034-0-22	22	RH	0-22	AT	JL	P	ATOK	RH
4/24/2009	13:04	7533	MS	F	1-0063-0034-22-44	22	RH	22-44	AT	JL	P	ATOK	RH
4/24/2009	13:07	7533	MS	F	1-0063-0034-44-67	23	RH	44-67	AT	JL	P	ATOK	RH
4/24/2009	13:18	7409	JG	E	1-0062-T-615-638	23	RH	615-638	VT	JL	P	VTOK	RH
4/24/2009	13:20	7533	MS	F	1-0029-0059-0-23	23	RH	0-23	AT	JL	P	ATOK	RH
4/24/2009	13:23	7409	JG	F	1-0030-0061-0-22	22	RH	0-22	AT	JL	P	ATOK	RH
4/24/2009	13:25	7409	JG	E	1-0061-T-638-660	22	RH	638-660	VT	JL	P	VTOK	RH
4/24/2009	13:26	7533	MS	F	1-0031-0062-0-22	22	RH	0-22	AT	JL	P	ATOK	RH
4/24/2009	13:28	7409	JG	E	1-0059-T-593-615	22	RH	593-615	VT	JL	P	VTOK	RH
4/24/2009	13:29	7533	MS	F	1-0060-0060-0-23	23	RH	0-23	AT	JL	P	ATOK	RH
4/24/2009	13:58	7409	JG	E	1-0028-T-581-593	12	RH	581-593	VT	JL	P	VTOK	RH
4/24/2009	14:25	7533	MS	F	1-0063-0064-0-12	12	RH	0-12	AT	JL	P	ATOK	RH
4/24/2009	14:27	7533	MS	F	1-0063-0064-12-27	15	RH	12-27	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: I.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/24/2009	15:11	7533	MS	F	1-0033-0063-0-29	29	RH	0-29	AT	JL	P	ATOK	RH
4/24/2009	17:13	7533	MS	F	1-0060-C1-0-46	46	RH	0-46	AT	JL	P	ATOK	RH
4/27/2009	11:29	7544	FG	F	1-0058-0065-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/27/2009	12:48	7544	FG	F	1-0065-0066-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/27/2009	13:40	7544	FG	F	1-0066-0067-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/28/2009	8:25	75407	CG	F	1-0068-0069-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/28/2009	8:40	7409	JG	E	1-0065-T-1259-1282	23	RH	1259-1282	VT	JL	P	VTOK	RH
4/28/2009	8:41	7544	FG	F	1-0067-0068-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/28/2009	9:00	75407	CG	F	1-0069-0070-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/28/2009	9:13	7544	FG	F	1-0070-0071-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/28/2009	9:52	7544	FG	F	1-0071-0072-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/28/2009	9:52	75407	CG	F	1-0072-0073-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/28/2009	10:54	75407	CG	F	1-0074-0075-0-296	296	RH	0-296	AT	JL	P	ATOK	RH
4/28/2009	11:00	7544	FG	F	1-0073-0074-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
4/28/2009	11:15	7409	JG	E	1-0064-T-698-674	22	RH	698-674	VT	JL	P	VTOK	RH
4/28/2009	11:29	7409	JG	F	1-C1-T-676-674	2	RH	676-674	VT	JL	P	VTOK	RH

Geosyntec
consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/28/2009	11:39	7409	JG	E	1-0060-T-660-674	14	RH	660-674	VT	JL	P	VTOK	RH
4/28/2009	15:00	7409	JG	E	1-0071-T-1394-1417	23	RH	1394-1417	VT	JL	P	VTOK	RH
4/28/2009	15:27	7409	JG	E	1-0070-T-1372-1394	22	RH	1372-1394	VT	JL	P	VTOK	RH
4/28/2009	15:37	7409	JG	E	1-0069-T-1350-1372	23	RH	1350-1372	VT	JL	P	VTOK	RH
4/28/2009	15:47	7409	JG	E	1-0068-T-1327-1350	23	RH	1327-1350	VT	JL	P	VTOK	RH
4/29/2009	9:21	7544	FG	F	1-0076-0077-0-260	260	RH	0-260	AT	JL	P	ATOK	RH
4/29/2009	9:52	75407	MS	F	1-0077-0078-0-240	240	RH	0-240	AT	JL	P	ATOK	RH
4/29/2009	10:31	75200017	CG	F	1-0078-0079-0-215	215	RH	0-215	AT	JL	P	ATOK	RH
4/29/2009	10:55	75407	CG	F	1-0075-0076-0-296	296	RH	0-296	AT	JL	P	ATOK	RH
4/29/2009	11:07	7544	FG	F	1-0079-0080-0-200	200	RH	0-200	AT	JL	P	ATOK	RH
4/29/2009	11:40	75407	MS	F	1-0080-0081-0-185	185	RH	0-185	AT	JL	P	ATOK	RH
4/29/2009	14:00	75200017	CG	F	1-0082-0083-0-296	296	RH	0-296	AT	JL	P	ATOK	RH
4/29/2009	15:00	75200017	CG	F	1-0083-0084-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
4/29/2009	15:59	7515	CG	F	1-0077-0083-323-293	30	RH	323-293	AT	JL	P	ATOK	RH
4/29/2009	16:06	7409	JG	E	1-0067-T-1305-1327	22	RH	1305-1327	VT	JL	P	VTOK	RH
4/29/2009	16:10	7409	JG	E	1-0066-T-1282-1305	23	RH	1282-1305	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/29/2009	16:12	75200017	CG	F	1-0078-0085-256-251	5	RH	256-251	AT	JL	P	ATOK	RH
4/29/2009	16:15	75200017	CG	F	1-0078-0084-286-256	30	RH	286-256	AT	JL	P	ATOK	RH
4/30/2009	9:00	7544	FG	F	1-0084-0085-0-255	255	RH	0-255	AT	JL	P	ATOK	RH
4/30/2009	9:10	7544	FG	F	1-0085-0086-0-121	200	RH	0-121	AT	JL	P	ATOK	RH
4/30/2009	9:21	7544	FG	F	1-0085-0086-121-240	119	RH	121-240	AT	JL	P	ATOK	RH
4/30/2009	9:28	75200017	CG	F	1-0079-0085-251-223	28	RH	251-223	AT	JL	p	ATOK	RH
4/30/2009	9:30	7409	JG	E	1-0077-T-1530-1553	23	RH	1530-1553	VT	JL	P	VTOK	RH
4/30/2009	9:34	7409	JG	E	1-0072-T-1440-1417	23	RH	1440-1417	VT	JL	P	VTOK	RH
4/30/2009	9:34	7544	FG	F	1-0086-0087-0-225	225	RH	0-225	AT	JL	P	ATOK	RH
4/30/2009	9:46	75200017	CG	F	1-0080-0087-192-177	15	RH	192-177	AT	JL	P	ATOK	RH
4/30/2009	9:49	75200017	CG	F	1-0080-0086-216-192	24	RH	216-192	AT	JL	P	ATOK	RH
4/30/2009	9:50	7409	JG	E	1-0076-T-1507-1530	23	RH	1507-1530	VT	JL	P	VTOK	RH
4/30/2009	9:57	7544	FG	F	1-0087-0088-0-205	205	RH	0-205	AT	JL	P	ATOK	RH
4/30/2009	10:06	7409	JG	E	1-0075-T-1485-1507	22	RH	1485-1507	VT	JL	P	VTOK	RH
4/30/2009	10:13	75200017	CG	F	1-0081-0087-177-160	17	RH	177-160	AT	JL	P	ATOK	RH
4/30/2009	10:19	7409	JG	E	1-0074-T-1462-1485	23	RH	1462-1485	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672

Location: St. Cloud , Florida TaskNo: 01

Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/30/2009	10:21	7544	FG	F	1-0089-0090-0-42	42	RH	0-42	AT	JL	P	ATOK	RH
4/30/2009	10:33	75200017	CG	F	1-0091-0092-0-105	105	RH	0-105	AT	JL	P	ATOK	RH
4/30/2009	10:34	7409	JG	E	1-0073-T-1462-1440	23	RH	1462-1485	VT	JL	P	VTOK	RH
4/30/2009	10:37	7544	FG	F	1-0090-0091-0-79	79	RH	0-79	AT	JL	P	ATOK	RH
4/30/2009	10:50	7544	FG	F	1-0088-0089-0-46	46	RH	0-46	AT	JL	P	ATOK	RH
4/30/2009	10:59	7544	FG	F	1-0088-0090-86-46	40	RH	86-46	AT	JL	P	ATOK	RH
4/30/2009	11:04	7544	FG	F	1-0088-0091-119-86	33	RH	119-86	AT	JL	P	ATOK	RH
4/30/2009	11:06	75200017	CG	F	1-0094-0095-0-78	78	RH	0-78	AT	JL	P	ATOK	RH
4/30/2009	11:26	7544	FG	F	1-0088-0092-117-148	31	RH	117-148	AT	JL	P	ATOK	RH
4/30/2009	11:26	7544	FG	F	1-0088-0092-148-119	29	RH	148-119	AT	JL	P	ATOK	RH
4/30/2009	11:30	75200017	CG	F	1-0081-0094-0-99	99	RH	0-99	AT	JL	P	ATOK	RH
4/30/2009	11:33	7544	FG	F	1-0093-0094-78-99	21	RH	78-99	AT	JL	P	ATOK	RH
4/30/2009	11:43	75200017	CG	F	1-0081-0093-99-128	29	RH	99-128	AT	JL	P	ATOK	RH
4/30/2009	11:52	75200017	CG	F	1-0076-0082-0-18	18	RH	0-18	AT	JL	P	ATOK	RH
4/30/2009	11:52	7544	FG	F	1-0093-0095-46-78	32	RH	46-78	AT	JL	P	ATOK	RH
4/30/2009	12:00	7544	FG	F	1-0093-0097-0-46	46	RH	0-46	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus;*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
4/30/2009	12:04	75200017	CG	F	1-0095-0096-0-31	31	RH	0-31	AT	JL	P	ATOK	RH
4/30/2009	13:01	75200017	CG	F	1-0081-0088-160-133	27	RH	160-133	AT	JL	P	ATOK	RH
4/30/2009	13:30	7544	FG	F	1-0092-0093-0-120	120	RH	0-120	AT	JL	P	ATOK	RH
4/30/2009	13:42	7434	CG	E	1-0081-0092-133-128	5	RH	133-128	AT	JL	P	ATOK	RH
4/30/2009	13:45	75200017	CG	F	1-0098-0099-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
4/30/2009	14:50	7409	JG	E	1-0095-T-1665-1680	15	RH	1665-1680	VT	JL	P	VTOK	RH
4/30/2009	14:52	7544	FG	F	1-0099-0100-121-300	179	RH	121-300	AT	JL	P	ATOK	RH
4/30/2009	15:15	7544	FG	F	1-0099-0100-0-121	121	RH	0-121	AT	JL	P	ATOK	RH
4/30/2009	15:17	75407	MS	F	1-0100-0101-0-246	246	RH	0-246	AT	JL	P	ATOK	RH
4/30/2009	15:24	7409	JG	E	1-0094-T-1643-1665	22	RH	1643-1665	VT	JL	P	VTOK	RH
4/30/2009	15:30	7409	JG	E	1-0081-T-1620-1643	23	RH	1620-1643	VT	JL	P	VTOK	RH
4/30/2009	15:49	7409	JG	E	1-0080-T-1598-1620	22	RH	1598-1620	VT	JL	P	VTOK	RH
4/30/2009	15:56	75200017	CG	F	1-0077-0084-293-286	7	RH	293-286	AT	JL	P	ATOK	RH
4/30/2009	16:05	7409	JG	E	1-0079-T-1575-1598	23	RH	1575-1598	VT	JL	P	VTOK	RH
4/30/2009	16:30	7544	FG	F	1-0088-0097-46-86	40	RH	46-86	AT	JL	P	ATOK	RH
5/1/2009	9:17	7409	JG	E	1-0078-T-1553-1575	22	RH	1553-1575	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase I
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/1/2009	12:14	75200017	CG	F	1-0096-0097-0-29	29	RH	0-29	AT	JL	P	ATOK	RH
5/1/2009	13:25	7544	FG	F	1-0082-0098-0-296	296	RH	0-296	AT	JL	P	ATOK	RH
5/1/2009	15:50	75407	MS	F	1-0100-0101-246-300	54	RH	246-300	AT	JL	P	ATOK	RH
5/4/2009	9:44	75200017	CG	F	1-0101-0102-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/4/2009	9:52	75407	MS	F	1-0102-0103-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/4/2009	10:06	7544	FG	F	1-0103-0104-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/4/2009	10:30	75200017	CG	F	1-0104-0105-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/4/2009	10:41	75407	MS	F	1-0105-0106-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/4/2009	10:51	7544	FG	F	1-0106-0107-0-124	124	RH	0-124	AT	JL	P	ATOK	RH
5/4/2009	11:16	7544	FG	F	1-0106-0107-124-300	176	RH	124-300	AT	JL	P	ATOK	RH
5/4/2009	14:03	7409	ES	E	1-0095-T-1680-1684	4	RH	1680-1684	VT	JL	P	VTOK	RH
5/4/2009	14:05	7409	ES	E	1-0096-T-1687-1704	17	RH	1687-1704	VT	JL	P	VTOK	RH
5/4/2009	14:05	7409	ES	E	1-0097-T-1704-1726	22	RH	1704-1726	VT	JL	P	VTOK	RH
5/4/2009	15:17	7409	ES	E	1-0093-T-1726-1749	23	RH	1726-1749	VT	JL	P	VTOK	RH
5/4/2009	15:23	7544	FG	F	1-0107-0108-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/4/2009	15:32	7409	ES	E	1-0092-T-1749-1771	22	RH	1749-1771	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: I.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/5/2009	8:20	7409	ES	E	1-0088-T-1838-1860	22	RH	1838-1860	VT	JL	P	VTOK	RH
5/5/2009	8:33	7409	ES	E	1-0089-T-1816-1838	22	RH	1816-1838	VT	JL	P	VTOK	RH
5/5/2009	8:34	7544	FG	F	1-0109-0110-0-27	27	RH	0-27	AT	JL	P	ATOK	RH
5/5/2009	8:39	7544	FG	F	1-0108-0109-0-25	25	RH	0-25	AT	JL	P	ATOK	RH
5/5/2009	8:41	75200017	CG	F	1-0112-0113-113-177	64	RH	113-117	AT	JL	P	ATOK	RH
5/5/2009	8:43	7544	FG	F	1-0110-0111-0-53	53	RH	0-53	AT	JL	P	ATOK	RH
5/5/2009	8:52	7544	FG	F	1-0110-0111-53-83	30	RH	53-83	AT	JL	P	ATOK	RH
5/5/2009	9:03	7544	FG	F	1-0115-0117-59-203	144	RH	59-203	AT	JL	P	ATOK	RH
5/5/2009	9:08	7544	FG	F	1-0108-0110-0-65	65	RH	0-65	AT	JL	P	ATOK	RH
5/5/2009	9:10	75200017	CG	F	1-0111-0112-0-23	23	RH	0-23	AT	JL	P	ATOK	RH
5/5/2009	9:18	7544	FG	F	1-0108-0110-65-82	17	RH	65-82	AT	JL	P	ATOK	RH
5/5/2009	9:22	7544	FG	F	1-0108-0110-82-138	50	RH	82-138	AT	JL	P	ATOK	RH
5/5/2009	9:25	75407	MS	F	1-0113-0115-80-224	144	RH	80-224	AT	JL	P	ATOK	RH
5/5/2009	9:30	75200017	CG	F	1-0136-0114-37-61	24	RH	37-61	AT	JL	P	ATOK	RH
5/5/2009	9:32	7409	ES	E	1-0091-T-1771-1793	22	RH	1771-1793	VT	JL	P	VTOK	RH
5/5/2009	9:34	75200017	CG	F	1-0113-0136-37-61	24	RH	37-61	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Began-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/5/2009	9:38	7409	ES	E	1-0090-T-1793-1816	23	RH	1793-1816	VT	JL	P	VTOK	RH
5/5/2009	9:45	75200017	CG	F	1-0122-0123-0-4	4	RH	0-4	AT	JL	P	ATOK	RH
5/5/2009	9:47	7544	FG	F	1-0108-0113-175-227	50	RH	175-227	AT	JL	P	ATOK	RH
5/5/2009	9:50	7409	ES	E	1-0083-T-1951-1973	22	RH	1951-1973	VT	JL	P	VTOK	RH
5/5/2009	9:51	7544	FG	F	1-0108-0112-138-175	37	RH	138-175	AT	JL	P	ATOK	RH
5/5/2009	10:00	7409	ES	E	1-0084-T-1928-1951	23	RH	1928-1951	VT	JL	P	VTOK	RH
5/5/2009	10:05	75200017	CG	F	1-0114-0123-0-20	20	RH	0-20	AT	JL	P	ATOK	RH
5/5/2009	10:17	75200017	CG	F	1-0113-0123-0-20	20	RH	0-20	AT	JL	P	ATOK	RH
5/5/2009	10:20	75407	MS	F	1-0117-0118-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	10:30	7409	ES	E	1-0085-T-1906-1928	22	RH	1906-1928	VT	JL	P	VTOK	RH
5/5/2009	10:32	75200017	CG	F	1-0114-0116-61-113	52	RH	61-113	AT	JL	P	ATOK	RH
5/5/2009	10:37	75200017	CG	F	1-0118-0119-283-300	17	RH	283-300	AT	JL	P	ATOK	RH
5/5/2009	10:40	7544	FG	F	1-0115-0116-0-23	23	RH	0-23	AT	JL	P	ATOK	RH
5/5/2009	10:40	7544	FG	F	1-0115-0116-0-27	27	RH	0-27	AT	JL	P	ATOK	RH
5/5/2009	10:43	75200017	CG	F	1-0118-0119-124-283	159	RH	124-283	AT	JL	P	ATOK	RH
5/5/2009	10:48	7544	fg	F	1-0116-0117-12-59	37	RH	12-59	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/5/2009	10:57	7544	FG	F	1-0116-0117-0-12	12	RH	0-12	AT	JL	P	ATOK	RH
5/5/2009	11:06	75200017	CG	F	1-0118-0119-0-124	124	RH	0-124	AT	JL	P	ATOK	RH
5/5/2009	11:14	7409	ES	E	1-0087-T-1860-1883	23	RH	1860-1883	VT	JL	P	VTOK	RH
5/5/2009	11:16	7544	FG	F	1-0119-0120-0-300	300	rh	0-300	AT	JL	P	ATOK	RH
5/5/2009	11:20	75407	MS	F	1-0120-0121-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	11:21	75200017	CG	F	1-0121-0124-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	11:23	7409	ES	E	1-0086-T-1883-1906	23	RH	1883-1906	VT	JL	P	VTOK	RH
5/5/2009	12:47	7544	FG	F	1-0124-0125-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	12:49	7409	ES	E	1-0099-T-2018-2041	23	RH	2018-2041	VT	JL	P	VTOK	RH
5/5/2009	13:00	75407	MS	F	1-0125-0126-0300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	13:06	7409	ES	E	1-0100-T-2041-2063	22	RH	2041-2063	VT	JL	P	VTOK	RH
5/5/2009	13:15	7409	ES	E	1-0101-T-2063-2086	23	RH	2063-2086	VT	JL	P	VTOK	RH
5/5/2009	13:17	75200017	CG	F	1-0126-0127-0-124	124	RH	0-124	AT	JL	P	ATOK	RH
5/5/2009	13:32	7409	ES	E	1-0098-T-1996-2018	22	RH	1996-2018	VT	JL	P	VTOK	RH
5/5/2009	13:35	7544	FG	F	1-0127-0128-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	13:37	75200017	CG	F	1-0126-0127-124-300	176	RH	124-300	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location				Nondestructive Test				
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/5/2009	13:44	7409	ES	E	1-0082-T-1973-1996	23	RH	1973-1996	VT	JL	P	VTOK	RH
5/5/2009	13:50	75407	MS	F	1-0128-0129-0-283	283	RH	0-283	AT	JL	P	ATOK	RH
5/5/2009	14:05	7409	ES	E	1-0102-T-2086-2109	23	RH	2086-2109	VT	JL	P	VTOK	RH
5/5/2009	14:08	75200017	CG	F	1-0129-0130-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	14:16	7409	ES	E	1-0103-T-2109-2131	22	RH	2109-2131	VT	JL	P	VTOK	RH
5/5/2009	14:27	7544	FG	F	1-0128-0129-283-300	17	RH	283-300	AT	JL	P	ATOK	RH
5/5/2009	14:30	7409	ES	E	1-0104-T-2131-2154	23	RH	2131-2154	VT	JL	P	VTOK	RH
5/5/2009	14:30	7544	FG	F	1-0130-0131-0-300	300	RH	0-300	AT	JL	P	ATOK	RH
5/5/2009	14:42	7409	ES	E	1-0105-T-2154-2176	22	RH	2154-2176	VT	JL	P	VTOK	RH
5/5/2009	14:56	7409	ES	E	1-0106-T-2176-2199	23	RH	2176-2199	VT	JL	P	VTOK	RH
5/5/2009	15:05	75407	MS	F	1-0131-0132-0-121	121	RH	0-121	AT	JL	P	ATOK	RH
5/5/2009	15:25	75407	MS	F	1-0131-0132-121-300	179	RH	121-300	AT	JL	P	ATOK	RH
5/6/2009	9:50	7409	ES	E	1-0118-T-2395-2417	22	RH	2395-2417	VT	JL	P	VTOK	RH
5/6/2009	10:00	7409	ES	E	1-0117-T-2372-2395	23	RH	2372-2395	VT	JL	P	VTOK	RH
5/6/2009	10:15	7409	ES	E	1-0116-T-2350-2372	22	RH	2350-2372	VT	JL	P	VTOK	RH
5/6/2009	10:20	7409	ES	E	1-0113-T-2327-2350	23	RH	2327-2350	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/6/2009	10:26	7409	ES	E	1-0114-T-2298-2321	23	RH	2298-2321	VT	JL	P	VTOK	RH
5/6/2009	10:30	7409	ES	E	1-0123-T-2321-2327	6	RH	2321-2327	VT	JL	P	VTOK	RH
5/6/2009	10:50	7409	ES	E	1-0111-T-2275-2298	23	RH	2275-2298	VT	JL	P	VTOK	RH
5/6/2009	11:30	7409	ES	E	1-0107-T-2199-2221	22	RH	2199-2221	VT	JL	P	VTOK	RH
5/6/2009	11:30	7409	ES	E	1-0110-T-2253-2275	22	RH	2253-2275	VT	JL	P	VTOK	RH
5/6/2009	13:50	7409	ES	E	1-0109-T-2244-2253	9	RH	2244-2253	VT	JL	P	VTOK	RH
5/6/2009	13:57	7409	ES	E	1-0108-T-2221-2244	23	RH	2221-2244	VT	JL	P	VTOK	RH
5/7/2009	8:04	7409	ES	E	1-0119-T-2417-2440	23	RH	2417-2440	VT	JL	P	VTOK	RH
5/7/2009	8:16	7409	ES	E	1-0120-T-2440-2462	22	RH	2440-2462	VT	JL	P	VTOK	RH
5/7/2009	10:20	7409	ES	E	1-0135-T-2733-2755	22	RH	2733-2755	VT	JL	P	VTOK	RH
5/7/2009	10:22	75200017	CG	F	1-0135-0137-0-305	305	RH	0-305	AT	JL	P	ATOK	RH
5/7/2009	10:30	75407	MS	F	1-0137-0138-0-305	305	RH	0-305	AT	JL	P	ATOK	RH
5/7/2009	10:39	75407	MS	F	1-0140-0141-0-206	206	RH	0-206	AT	JL	P	ATOK	RH
5/7/2009	11:28	7544	FG	F	1-0139-0138-236-271	35	RH	236-271	AT	JL	P	ATOK	RH
5/7/2009	11:44	7544	FG	F	1-0139-0140-0-31	31	RH	0-31	ATOK	JL	P	ATOK	RH
5/7/2009	11:47	7409	ES	E	1-0134-T-2710-2733	23	RH	2710-2733	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus.*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/7/2009	12:45	7544	FG	F	1-0138-0140-0-236	236	RH	0-236	AT	JL	P	ATOK	RH
5/7/2009	13:08	75200017	CG	F	1-0141-0140-0-32	32	RH	0-32	AT	JL	P	ATOK	RH
5/7/2009	13:10	7409	ES	E	1-0133-T-2688-2710	22	RH	2688-2710	VT	JL	P	VTOK	RH
5/7/2009	13:20	7409	ES	E	1-0132-T-2666-2688	22	RH	2666-2688	VT	JL	P	VTOK	RH
5/7/2009	13:40	7409	ES	E	1-0131-T-2643-2666	23	RH	2643-2666	VT	JL	P	VTOK	RH
5/7/2009	13:40	75407	MS	F	1-0141-0142-0-183	183	RH	0-183	AT	JL	P	ATOK	RH
5/7/2009	13:51	7544	FG	F	1-0139-0142-0-34	34	RH	0-34	AT	JL	P	ATOK	RH
5/7/2009	13:58	7544	FG	F	1-0142-0143-126-159	33	RH	126-159	AT	JL	P	ATOK	RH
5/7/2009	13:58	7544	FG	F	1-0142-0147-126-159	33	RH	126-159	AT	JL	P	ATOK	RH
5/7/2009	14:11	7409	ES	E	1-0130-T-2620-2643	23	RH	2620-2643	VT	JL	P	VTOK	RH
5/7/2009	14:15	7544	FG	F	1-0139-0143-0-159	159	RH	0-159	AT	JL	P	ATOK	RH
5/7/2009	14:25	7409	ES	E	1-0128-T-2575-2598	23	RH	2575-2598	VT	JL	P	VTOK	RH
5/7/2009	14:25	7409	ES	E	1-0129-T-2598-2620	22	RH	2598-2620	VT	JL	P	VTOK	RH
5/7/2009	14:40	75407	MS	F	1-0143-0145-83-126	53	RH	83-126	AT	JL	P	ATOK	RH
5/7/2009	14:41	75200017	CG	F	1-0144-0145-0-99	99	RH	0-99	AT	JL	P	ATOK	RH
5/7/2009	14:41	7544	FG	F	1-0144-0146-0-65	65	RH	0-65	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gmi : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/7/2009	14:42	7409	ES	E	1-0127-T-2552-2575	23	RH	2552-2575	VT	JL	P	VTOK	RH
5/7/2009	14:48	75407	MS	F	1-0143-0145-0-83	83	RH	0-83	AT	JL	P	ATOK	RH
5/7/2009	14:55	7409	ES	E	1-0126-T-2530-2552	22	RH	2530-2552	VT	JL	P	VTOK	RH
5/7/2009	14:59	75200017	CG	F	1-0146-0147-0-28	28	RH	0-28	AT	JL	P	ATOK	RH
5/7/2009	15:08	7544	FG	F	1-0142-0145-91-126	35	RH	91-126	AT	JL	P	ATOK	RH
5/7/2009	15:11	7544	FG	F	1-0142-0144-91-57	34	RH	91-57	AT	JL	P	ATOK	RH
5/7/2009	15:14	7409	ES	E	1-0125-T-2507-2530	23	RH	2507-2530	VT	JL	P	VTOK	RH
5/7/2009	15:14	7544	FG	F	1-0142-0147-0-22	22	RH	0-22	AT	JL	P	ATOK	RH
5/7/2009	15:17	75407	MS	F	1-0139-0149-0-271	271	RH	0-271	AT	JL	P	ATOK	RH
5/7/2009	15:18	7544	FG	F	1-0142-0146-57-22	35	RH	57-22	AT	JL	P	ATOK	RH
5/7/2009	15:27	7409	ES	E	1-0124-T-2485-2507	22	RH	2485-2507	VT	JL	P	VTOK	RH
5/7/2009	15:31	7544	FG	F	1-0139-0149-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/7/2009	15:39	7409	ES	E	1-0121-T-2462-2485	23	RH	2462-2485	VT	JL	P	VTOK	RH
5/7/2009	15:52	7544	FG	F	1-0150-0151-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/7/2009	15:55	7544	FG	F	1-0148-0149-0-29	29	RH	0-29	AT	JL	P	ATOK	RH
5/7/2009	16:10	75407	MS	F	1-0151-0152-0-306	306	RH	0-306	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/7/2009	16:17	75200017	CG	F	1-0148-0150-0-9	9	RH	0-9	AT	JL	P	ATOK	RH
5/7/2009	16:17	75200017	CG	F	1-0148-0150-43-305	262	RH	43-305	AT	JL	P	ATOK	RH
5/7/2009	16:23	75407	MS	F	1-0139-0148-0-28	28	RH	0-28	AT	JL	P	ATOK	RH
5/7/2009	16:45	75200017	CG	F	1-0152-0153-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/8/2009	8:11	75200017	CG	F	1-0153-0154-0-124	124	RH	0-124	AT	JL	P	ATOK	RH
5/8/2009	8:40	75407	MS	F	1-0154-0155-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/8/2009	8:47	75200017	CG	F	1-0153-0154-124-306	182	RH	124-306	AT	JL	P	ATOK	RH
5/8/2009	9:02	7544	FG	F	1-0155-0156-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/8/2009	9:04	7409	ES	E	1-0142-T-2845-2868	23	RH	2845-2868	VT	JL	P	VTOK	RH
5/8/2009	9:15	75200017	CG	F	1-0156-0157-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/8/2009	9:17	7409	ES	E	1-0141-0142-0-3	3	RH	0-3	VT	JL	P	VTOK	RH
5/8/2009	9:17	7409	ES	E	1-0141-T-2823-2845	22	RH	2823-2845	VT	JL	P	VTOK	RH
5/8/2009	9:37	7409	ES	E	1-0140-0141-0-3	3	RH	0-3	VT	JL	P	VTOK	RH
5/8/2009	9:37	7409	ES	E	1-0140-T-2801-2823	22	RH	2801-22823	AT	JL	P	ATOK	RH
5/8/2009	9:45	75407	MS	F	1-0158-0159-283-306	23	RH	283-306	AT	JL	P	ATOK	RH
5/8/2009	9:50	75407	MS	F	1-0157-0158-0-306	306	RH	0-306	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase I
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml ; 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/8/2009	9:57	7409	ES	E	1-0138-T-2778-2801	23	RH	2778-2801	VT	JL	P	VTOK	RH
5/8/2009	9:59	7544	FG	F	1-0158-0159-0-283	283	RH	0-283	AT	JL	P	ATOK	RH
5/8/2009	10:11	7409	ES	E	1-0137-T-2755-2778	23	RH	2755-2758	VT	JL	P	VTOK	RH
5/8/2009	10:12	75200017	CG	F	1-0159-0160-0-124	124	RH	0-124	AT	JL	P	ATOK	RH
5/8/2009	10:34	75200017	CG	F	1-0159-0160-124-306	182	RH	124-306	AT	JL	P	ATOK	RH
5/8/2009	10:35	75407	MS	F	1-0160-0161-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/8/2009	10:55	7544	FG	F	1-0161-0162-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/8/2009	11:05	75200017	CG	F	1-0162-0163-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/8/2009	11:25	75407	MS	F	1-0163-0164-0-138	138	RH	0-138	AT	JL	P	ATOK	RH
5/8/2009	11:25	75407	MS	F	1-0163-0164-138-305	167	RH	138-305	AT	JL	P	ATOK	RH
5/8/2009	11:38	7544	FG	F	1-0164-0165-0-124	124	RH	0-124	AT	JL	P	ATOK	RH
5/8/2009	11:56	7544	FG	F	1-0164-0165-124-306	182	RH	124-306	AT	JL	P	ATOK	RH
5/8/2009	12:58	75407	MS	F	1-0165-0166-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
5/8/2009	13:10	7544	FG	F	1-0166-0167-0-124	124	RH	0-124	AT	JL	P	ATOK	RH
5/8/2009	13:32	7544	FG	F	1-0166-0167-124-283	159	RH	124-283	AT	JL	P	ATOK	RH
5/8/2009	13:32	75407	MS	F	1-0168-0169-0-135	135	RH	0-135	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
Description: Partial Closure

ProjNo: FQ-1672
TaskNo: 01

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/8/2009	13:52	75407	MS	F	1-0168-0169-135-305	170	RH	135-305	AT	JL	P	ATOK	RH
5/8/2009	13:54	7544	FG	F	1-0166-0167-283-307	24	RH	283-307	AT	JL	P	ATOK	RH
5/8/2009	13:55	75200017	CG	F	1-0167-0168-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
5/14/2009	8:36	75200017	CG	F	1-0169-0170-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	8:45	75407	MS	F	1-0170-0171-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	8:57	7544	FG	F	1-0171-0172-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	9:18	75200017	CG	F	1-0172-0173-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	9:25	75407	MS	F	1-0173-0174-0-127	127	RH	0-127	AT	JL	P	ATOK	RH
5/14/2009	9:35	7544	FG	F	1-0174-0175-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	9:40	74312	ES	E	1-0147-T-2868-2886	18	RH	2868-2886	VT	JL	P	VTOK	RH
5/14/2009	9:43	75407	MS	F	1-0173-0174-127-297	170	RH	127-297	AT	JL	P	ATOK	RH
5/14/2009	9:58	74312	ES	E	1-0146-T-2886-2911	25	RH	2886-2911	VT	JL	P	VTOK	RH
5/14/2009	9:59	75200017	CG	F	1-0175-0176-0-283	283	RH	0-283	AT	JL	P	ATOK	RH
5/14/2009	10:10	75407	MS	F	1-0176-0177-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	10:13	74312	ES	E	1-0144-T-2911-2933	22	RH	2911-2933	VT	JL	P	VTOK	RH
5/14/2009	10:27	75200017	CG	F	1-0175-0176-283-297	14	RH	283-297	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud . Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/14/2009	10:30	74312	ES	E	1-0145-T-2933-2956	23	RH	2933-2956	VT	JL	P	VTOK	RH
5/14/2009	10:31	7544	FG	F	1-0177-0178-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	10:40	75200017	CG	F	1-0178-0179-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	10:55	75407	MS	F	1-0179-0180-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	11:13	74312	ES	E	1-0143-T-2956-2978	22	RH	2956-2978	VT	JL	P	VTOK	RH
5/14/2009	11:37	74312	ES	E	1-0139-T-2978-3001	23	RH	2978-3001	VT	JL	P	VTOK	RH
5/14/2009	11:40	7544	FG	F	1-0180-0181-297-200	97	RH	200-297	AT	JL	P	ATOK	RH
5/14/2009	11:50	74312	ES	E	1-0148-T-3001-3023	22	RH	3001-3023	VT	JL	P	VTOK	RH
5/14/2009	11:50	74312	ES	E	1-0150-T-3023-3046	23	RH	3023-3046	VT	JL	P	VTOK	RH
5/14/2009	12:50	75200017	CG	F	1-0183-0181-146-200	54	RH	146-200	AT	JL	P	ATOK	RH
5/14/2009	13:04	7544	FG	F	1-0183-0180-200-138	62	RH	200-138	AT	JL	P	ATOK	RH
5/14/2009	13:11	7544	FG	F	1-0182-0180-0-127	127	RH	0-127	AT	JL	P	ATOK	RH
5/14/2009	13:12	75200017	CG	F	1-0182-0183-0-27	27	RH	0-27	AT	JL	P	ATOK	RH
5/14/2009	13:15	74312	ES	E	1-0151-T-3046-3068	22	RH	3046-3068	VT	JL	P	VTOK	RH
5/14/2009	13:16	7544	FG	F	1-0184-0182-0-84	84	RH	0-84	AT	JL	P	ATOK	RH
5/14/2009	13:25	75200017	CG	F	1-0181-0182-133-146	13	RH	133-146	AT	JL	P	ATOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/14/2009	13:25	7544	FG	F	1-0182-0180-127-138	11	RH	127-138	AT	JL	P	ATOK	RH
5/14/2009	13:35	75407	MS	F	1-0181-0185-0-297	297	RH	0-297	AT	JL	P	ATOK	RH
5/14/2009	13:50	7544	FG	F	1-0186-0187-0-305	305	RH	0-305	AT	JL	P	ATOK	RH
5/14/2009	14:18	75200017	CG	F	1-0185-0186-0-305	305	RH	0-305	AT	JL	P	ATOK	RH
5/14/2009	14:50	74312	ES	E	1-0153-T-3091-3113	22	RH	3091-3113	VT	JL	P	VTOK	RH
5/14/2009	14:55	74312	ES	E	1-0154-T-3113-3136	23	RH	3113-3136	VT	JL	P	VTOK	RH
5/15/2009	8:09	75200017	CG	F	1-0190-0187-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/15/2009	8:20	75407	MS	F	1-0190-0191-0-128	128	RH	0-128	AT	JL	P	ATOK	RH
5/15/2009	8:41	75407	MS	F	1-0190-0191-128-307	179	RH	128-307	AT	JL	P	ATOK	RH
5/15/2009	8:50	74312	ES	E	1-0166-T-3383-3405	22	RH	3383-3405	VT	JL	P	VTOK	RH
5/15/2009	8:53	7544	FG	F	1-0192-0191-0-307	306	RH	0-307	AT	JL	P	ATOK	RH
5/15/2009	9:06	75200017	CG	F	1-0192-0193-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/15/2009	9:25	75407	MS	F	1-0193-0194-0-306	306	RH	0-306	AT	JL	P	ATOK	RH
5/15/2009	9:37	74312	ES	E	1-0164-T-3338-3360	22	RH	3338-3360	VT	JL	P	VTOK	RH
5/15/2009	9:37	7544	FG	F	1-0194-0195-0-307	307	RH	0-307	AT	JL	P	ATOK	RH
5/15/2009	10:04	74312	ES	E	1-0156-T-3158-3180	22	RH	3158-3180	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud . Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location				Nondestructive Test				
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/15/2009	10:10	75200017	CG	F	1-0195-0196-0-305	305	RH	0-305	AT	JL	P	ATOK	RH
5/15/2009	10:18	74312	ES	E	1-0157-T-3180-3203	23	RH	3180-3203	VT	JL	P	VTOK	RH
5/15/2009	10:25	75407	MS	F	1-0196-0197-0-283	283	RH	0-283	AT	JL	P	ATOK	RH
5/15/2009	10:27	74312	ES	E	1-0159-T-3225-3248	23	RH	3225-3248	VT	JL	P	VTOK	RH
5/15/2009	10:43	74312	ES	E	1-0158-T-3203-3225	22	RH	3203-3225	VT	JL	P	VTOK	RH
5/15/2009	10:45	7544	FG	F	1-0197-0198-0-128	128	RH	0-128	AT	JL	P	ATOK	RH
5/15/2009	10:52	75407	MS	F	1-0196-0197-283-300	17	RH	283-300	AT	JL	P	ATOK	RH
5/15/2009	11:05	7544	FG	F	1-0197-0198-128-305	177	RH	128-305	AT	JL	P	ATOK	RH
5/15/2009	11:15	75200017	CG	F	1-0198-0199-0-305	305	RH	0-305	AT	JL	P	ATOK	RH
5/15/2009	11:29	74312	ES	E	1-0160-T-3248-3271	23	RH	3248-3271	VT	JL	P	VTOK	RH
5/15/2009	11:30	75407	MS	F	1-0199-0200-0-287	287	RH	0-287	AT	JL	P	ATOK	RH
5/15/2009	11:54	75407	MS	F	1-0196-0197-300-302	2	RH	300-302	AT	JL	P	ATOK	RH
5/15/2009	12:06	75407	MS	F	1-0199-0200-287-305	16	RH	287-305	AT	JL	P	ATOK	RH
5/15/2009	13:02	7544	FG	F	1-0200-0201-0-273	273	RH	0-273	AT	JL	P	ATOK	RH
5/15/2009	13:22	75407	MS	F	1-0201-0202-0-255	255	RH	0-255	AT	JL	P	ATOK	RH
5/15/2009	13:27	74312	ES	E	1-0161-T-3271-3293	22	RH	3271-3293	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/15/2009	13:35	7544	FG	F	1-0204-0205-0-135	135	RH	0-135	AT	JL	P	ATOK	RH
5/15/2009	13:39	74312	ES	E	1-0162-T-3293-3316	23	RH	3293-3316	VT	JL	P	VTOK	RH
5/15/2009	14:06	7544	FG	F	1-0203-0205-0-127	127	RH	0-127	AT	JL	P	ATOK	RH
5/15/2009	14:16	74312	ES	E	1-0163-T-3316-3338	22	RH	3316-3338	VT	JL	P	VTOK	RH
5/15/2009	14:28	7544	FG	F	1-0203-0205-127-221	94	RH	127-221	AT	JL	P	ATOK	RH
5/15/2009	14:33	7544	FG	F	1-0204-0206-0-23	23	RH	0-23	AT	JL	P	ATOK	RH
5/15/2009	14:40	7544	FG	F	1-0205-0206-136-173	37	RH	136-173	AT	JL	P	ATOK	RH
5/15/2009	14:44	75200017	CG	F	1-0207-0208-0-7	7	RH	0-7	AT	JL	P	ATOK	RH
5/15/2009	14:50	75200017	CG	F	1-0208-0209-0-7	7	RH	0-7	AT	JL	P	ATOK	RH
5/15/2009	14:55	75200017	CG	F	1-0204-0209-54-81	27	RH	54-81	AT	JL	P	ATOK	RH
5/15/2009	15:01	75200017	CG	F	1-0204-0208-27-54	27	RH	27-54	AT	JL	P	ATOK	RH
5/15/2009	15:07	75200017	CG	F	1-0204-0207-0-27	27	RH	0-27	AT	JL	P	ATOK	RH
5/18/2009	9:37	74312	ES	E	1-0165-T-3360-3383	23	RH	3360-3383	VT	JL	P	VTOK	RH
5/18/2009	9:55	74312	ES	E	1-0167-T-3405-3428	23	RH	3405-3428	VT	JL	P	VTOK	RH
5/18/2009	9:55	74312	ES	E	1-0168-T-3428-3450	22	RH	3428-3450	VT	JL	P	VTOK	RH
5/18/2009	10:11	74312	ES	F	1-0155-T-3136-3156	23	RH	3136-3156	VT	JL	P	VTOK	RH

Geosyntec consultants

Production Seam Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Material Type gml : 1 Specifications: Seam Pressure: 25-30 5 mins Vacuum Box: 8-10 20 secs

Primary / Secondary: Primary Series: 1

Production Seam					Location			Nondestructive Test					
Date	*Time*	*Mach. ID*	*Oper. ID*	*Ext/ Fus:*	*SeamNo* Series-Seam1-Seam2-Begin-End	*Length* (ft.)	*QA ID*	*Location*	*Detail*	*Oper.*	*Result*	*Action*	*QA ID*
5/18/2009	10:30	74312	ES	E	1-0169-T-3450-3473	23	RH	3450-3473	VT	JL	P	VTOK	RH
5/18/2009	10:40	74312	ES	E	1-0170-T-3473-3496	23	RH	3473-3496	VT	JL	P	VTOK	RH
5/18/2009	10:55	74312	ES	E	1-0171-T-3496-3518	22	RH	3496-3518	VT	JL	P	VTOK	RH
5/18/2009	10:55	74312	ES	E	1-0172-T-3518-3541	23	RH	3518-3541	VT	JL	P	VTOK	RH

Total Length Fusion: 49099.5 Total Length Extrusion: 3573

Comments: 1-0001-0002-0-154:SW C4; 1-0001-0002-154-217:burn out; 1-0002-0003-0-121:SW C; 1-0002-0003-121-214:SW C4; 1-0004-0005-0-167:burn out; 1-0004-0005-0-214:SW C4; 1-0004-0005-167-214:burn out; 1-0028-0029-134-297:to center of lower terrace N C4; 1-0028-0059-0-133:C 4; 1-0029-0030-133-297:to center of lower terrace C4; 1-0030-0031-133-297:to center of lower terrace C4; 1-0033-0034-50-297:S C1; 1-0033-0060-50-133:C 4; 1-0034-0035-0-298:S C1; 1-0035-0036-0-298:S C1; 1-0036-0037-0-298:S C1; 1-0037-0038-0-53:burn out; 1-0037-T-788-766:tie in; 1-0046-0047-0-289:C 1; 1-0047-0048-0-300:C1; 1-0048-0049-0-300: C 1; 1-0061-0062-0-133:C 4; 1-0063-C1-0-46:cap strip; 1-0076-0082-0-18:NWC C1; 1-0082-0083-0-296:C 1 N; 1-0089-0090-0-42:[; 1-0116-0117-0-12:burnout; 1-0141-0142-0-3:loss of overlap

APPENDIX R

INSTALLER'S TENSIOMETER CALIBRATION CERTIFCIATE

DEMTECH Services Inc.

Thermoplastic welding and testing equipment for the geosynthetics industry

CALIBRATION CERTIFICATE

		110 Volt	X
Customer Name:	Comanco Environmental Corp.	220 Volt	
Unit Make & Model Number:	Accura-Lite	Lbs.	X
Unit Number Unit #72100001	NAL 0204	Kg.	

Device Calibrated:	S-Type load cell	Calibration Apparatus:			
Range:	0 - 500 lbs. Tension	Dead Weight system w/			
Model No:	M2300-500	Fluke Model 187 Multimeter			
Serial No:	224905				
		W1		R1	
Readout Model No:	DPM-3	W2		R2	
Readout Serial No:	197580	W3		R3	
Channel No:	N/A				

Indicator reading with no load: 0

Applied Force lbs.	Output (mv):	Display reading:	Deviation Error:
2	-0.184	2	0.00
52	1.842	52	0.00
102	3.866	102	0.00
152	5.893	152	0.00
202	7.916	202	0.00
252	9.943	252	0.00
302	11.97	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F

Exitation Voltage: 10 V DC

Scale Factor (1):		Offset (1):	N/A
Scale Factor (2):		Offset (2):	N/A
Brake point:		Calibration Check #	277

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: Readout and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated readouts and load cells are not interchangeable.

Calibrated by: Matt Roy Date: 03/10/09

Matt Roy

Toll Free: (888) 324-9353 • Office: (530) 621-3200 • Fax: (530) 621-0150
P.O. Box 2165, Placerville, CA 95667 • 6414 Capitol Ave., Diamond Springs, CA 95619
www.demtech.com

APPENDIX S

GEOMEMBRANE FIELD DESTRUCITVE TEST LOG

Geosyntec consultants

Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data								
			Location						Peel		Shear	Unit	Result	QA	Re test	Re test
Samp No	Weld Type	Track Type	Seam	Dist. (ft.)	Mach ID	Oper ID	Date Samp		Inside	Outside		ppi/psi	(P/F)	ID	1	2
1-0001	F	D	3/4	50	7533	MS	4/15/2009	Lab	105	105	117	PPI	P	RH	-	-
								Field	89	96	99	PPI	P	RH		
								Field	100	97	102	PPI	P	RH		
1-0002	F	D	5-6	121	7544	FG	4/15/2009	Lab	89	90	131	ppi	P	RH	-	-
								Field	105	101	107	PPI	P	RH		
								Field	100	100	109	PPI	P	RH		
1-0003	F	D	7-8	197	7533	MS	4/15/2009	Lab	107	97	125	ppi	P	RH	-	-
								Field	98	104	108	PPI	P	RH		
								Field	87	92	98	PPI	P	RH		
1-0004	F	D	10-11	50	7544	FG	4/15/2009	Lab	109	103	121	ppi	P	RH	-	-
								Field	111	105	112	PPI	P	RH		
								Field	98	97	106	PPI	P	RH		
1-0005	F	D	12-13	84	7544	FG	4/15/2009	Lab	103	106	123	ppi	P	RH	-	-
								Field	106	102	105	PPI	P	RH		
								Field	97	89	109	PPI	P	RH		
1-0006	F	D	13-14	191	7533	MS	4/15/2009	Lab	105	104	123	ppi	P	RH	-	-
								Field	101	107	110	PPI	P	RH		
								Field	87	88	100	PPI	P	RH		
1-0007	F	D	15-16	50	7533	MS	4/16/2009	Lab	103	89	121	ppi	P	RH	-	-
								Field	94	96	99	PPI	P	RH		
								Field	85	79	97	PPI	P	RH		
1-0008	F	D	16-17	250	7544	FG	4/16/2009	Lab	104	103	123	ppi	P	RH	-	-
								Field	88	95	99	PPI	P	RH		
								Field	102	99	109	PPI	P	RH		

Geosyntec
consultants

Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data							
Samp No	Weld Type	Track Type	Location Seam	Location Dist. (ft.)	Mach ID	Oper ID	Date Samp		Peel Inside	Peel Outside	Shear	Unit ppi/psi	Result (P/F)	QA ID	Re test 1	Re test 2
1-0009	F	D	18-19	156	7533	MS	4/16/2009	Lab	100	103	123	ppi	P	RH	-	-
								Field	87	93	101	PPI	P	RH		
								Field	90	80	97	PPI	P	RH		
1-0010	F	D	22-25	277	7544	FG	4/16/2009	Lab	104	104	117	ppi	P	RH	-	-
								Field	89	89	100	PPI	P	RH		
								Field	79	86	94	PPI	P	RH		
1-0011	F	D	22-23	234	7544	FG	4/16/2009	Lab	104	103	126	ppi	P	RH	-	-
								Field	98	102	109	PPI	P	RH		
								Field	89	96	99	PPI	P	RH		
1-0012	F	D	24-26	140	7544	FG	4/16/2009	Lab	109	104	124	ppi	P	RH	-	-
								Field	101	103	107	PPI	P	RH		
								Field	93	98	102	PPI	P	RH		
1-0013	E	S	T	228	7427	JG	4/17/2009	Lab	118	NA	125	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0014	F	D	28-29	138	7544	FG	4/21/2009	Lab	114	99	124	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0015	F	D	31-32	222	7544	FG	4/21/2009	Lab	107	110	119	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0016	F	D	33-34	72	75407	CG	4/21/2009	Lab	106	110	120	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0017	F	D	33-34	283	75407	CG	4/21/2009	Lab	112	107	120	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: I.J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data							
Samp No	Weld Type	Track Type	Location Seam	Location Dist. (ft.)	Mach ID	Oper ID	Date Samp		Peel Inside	Peel Outside	Shear	Unit ppi/psi	Result (P/F)	QA ID	Re test 1	Re test 2
1-0018	F	D	35-36	112	7544	FG	4/21/2009	Lab	106	109	124	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0019	F	D	36-37	170	7533	MS	4/21/2009	Lab	106	86	122	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0020	F	D	37-38	264	75407	CG	4/21/2009	Lab	112	97	124	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0021	F	D	38-39	53	7544	FG	4/21/2009	Lab	111	111	126	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0022	F	D	40-41	30	75407	CG	4/21/2009	Lab	111	103	124	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0023	F	D	42-43	225	7533	MS	4/21/2009	Lab	110	104	125	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0024	F	D	42-43	125	7533	MS	4/21/2009	Lab	114	105	121	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0025	F	D	44-45	260	7544	FG	4/21/2009	Lab	102	106	123	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0026	F	D	46-47	140	75407	CG	4/21/2009	Lab	108	100	122	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0027	F	D	48-49	50	7533	MS	4/21/2009	Lab	108	115	124	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0028	F	D	49-50	250	7533	MS	4/22/2009	Lab	94	96	126	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data							
Samp No	Weld Type	Track Type	Location Seam	Location Dist. (ft.)	Mach ID	Oper ID	Date Samp		Peel Inside	Peel Outside	Shear	Unit ppi/psi	Result (P/F)	QA ID	Re test 1	Re test 2
1-0029	F	D	50-51	18	7544	FG	4/22/2009	Lab	100	98	123	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0030	F	D	51-52	200	7544	FG	4/22/2009	Lab	108	93	126	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0031	F	D	53-54	100	7533	MS	4/22/2009	Lab	102	99	123	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0032	F	D	55-56	134	7533	MS	4/22/2009	Lab	108	93	121	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0033	F	D	56-57	MS	7533	JG	4/29/2009	Lab	111	109	123	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0034	F	D	28-59	50	7533	MS	4/27/2009	Lab	98	94	125	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0035	F	D	60-61	121	7533	MS	4/27/2009	Lab	108	107	121	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0036	E	S	60-T	668	7409	JG	4/28/2009	Lab	96	na	106	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0037	F	D	58-65	136	7544	FG	4/28/2009	Lab	111	111	124	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0038	F	D	67-68	237	7544	FG	4/28/2009	Lab	105	98	127	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0039	F	D	68-69	293	7544	FG	4/28/2009	Lab	104	107	127	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data								
Samp No	Weld Type	Track Type	Location Seam	Location Dist. (ft.)	Mach ID	Oper ID	Date Samp		Peel Inside	Peel Outside	Shear	Unit ppi/psi	Result (P/F)	QA ID	Re test 1	Re test 2
1-0040	F	D	70-71	100	7544	FG	4/28/2009	Lab	108	91	124	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0041	F	D	72-73	13	75407	CG	4/28/2009	Lab	97	100	119	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0042	F	D	66-67	37	7544	FG	4/28/2009	Lab	114	108	128	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0043	F	D	75-76	113	75407	CG	4/28/2009	Lab	99	96	121	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0044	F	D	73-74	213	7544	FG	4/28/2009	Lab	103	104	122	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0045	F	D	77-78	50	75407	MS	4/29/2009	Lab	98	93	118	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0046	F	D	78-79	220	75200017	CG	4/29/2009	Lab	100	95	120	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0047	F	D	81-87	172	75200017	CG	4/30/2009	Lab	83	84	91	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0048	E	S	NA	1000	7409	JG	5/1/2009	Lab	106	NA	99	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0049	E	S	NA	1500	7409	JG	5/1/2009	Lab	109	NA	100	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0050	E	S	NA	2000	7409	JG	5/1/2009	Lab	110	NA	103	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data							
			Location						Peel		Shear	Unit	Result	QA	Re test	Re test
Samp No	Weld Type	Track Type	Seam	Dist. (ft.)	Mach ID	Oper ID	Date Samp		Inside	Outside		ppi/psi	(P/F)	ID	1	2
1-0051	F	D	88-91	97	7544	FG	5/1/2009	Lab	98	94	102	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0052	E	S	82-R-209	296	7434	CG	5/1/2009	Lab	95	NA	99	ppi	-	RH	-	-
								Field	-	-	-	-	-	-		
1-0053	F	D	83-84	132	75200017	CG	5/1/2009	Lab	105	92	116	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0054	F	D	99-100	163	7544	FG	5/1/2009	Lab	105	101	114	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0055	F	D	85-86	15	7544	FG	5/1/2009	Lab	102	88	119	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0056	F	D	101-102	65	75200017	CG	5/4/2009	Lab	105	93	119	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0057	F	D	102-103	265	75407	MS	5/4/2009	Lab	95	99	115	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0058	F	D	104-105	165	7544	FG	5/4/2009	Lab	105	88	116	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0059	F	D	107-108	65	7544	FG	5/5/2009	Lab	104	94	119	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0060	F	D	108-115	249	7544	FG	5/5/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0061	F	D	113-116	15	75407	MS	5/6/2009	Lab	95	96	117	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data								
Samp No	Weld Type	Track Type	Location Seam	Location Dist. (ft.)	Mach ID	Oper ID	Date Samp		Peel Inside	Peel Outside	Shear	Unit ppi/psi	Result (P/F)	QA ID	Re test 1	Re test 2
1-0062	F	D	117-118	100	75407	MS	5/6/2009	Lab	98	97	116	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0063	F	D	118-119	276	75200017	CG	5/6/2009	Lab	106	88	115	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0064	F	D	120-121	150	75407	MS	5/6/2009	Lab	100	104	117	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0065	F	D	124-125	50	7544	FG	5/6/2009	Lab	109	103	117	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0066	F	S	125-126	250	75407	MS	5/6/2009	Lab	100	96	112	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0067	F	D	127-128	150	7544	FG	5/6/2009	Lab	105	102	117	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0068	F	D	129-130	44	75200017	CG	5/6/2009	Lab	97	95	111	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0069	F	D	130-131	250	7544	FG	5/6/2009	Lab	104	99	121	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0070	F	D	132-133	150	75200017	CG	5/6/2009	Lab	106	95	111	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0071	F	D	134-135	50	75200017	CG	5/6/2009	Lab	103	98	116	ppi	P	RH	-	-
								Field	-	-	-	-	-	-		
1-0072	F	D	137-138	122	75407	MS	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: I.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data							
Samp No	Weld Type	Track Type	Location Seam	Location Dist. (ft.)	Mach ID	Oper ID	Date Samp		Peel Inside	Peel Outside	Shear	Unit ppi/psi	Result (P/F)	QA ID	Re test 1	Re test 2
1-0073	F	D	139-140	15	7544	FG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0074	F	D	139-149	276	75200017	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0075	F	D	149-150	250	75200017	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0076	F	D	151-152	150	75407	MS	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0077	F	D	153-154	50	75200017	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0078	F	D	154-155	120	75407	MS	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0079	F	D	156-157	15	75200017	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0080	F	D	157-158	150	75200017	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0081	F	D	159-160	68	75200017	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0082	F	D	160-161	200	75407	MS	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0083	F	D	162-163	25	75200017	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data								
			Location						Peel		Shear	Unit	Result	QA	Re test	Re test
Samp No	Weld Type	Track Type	Seam	Dist. (ft.)	Mach ID	Oper ID	Date Samp		Inside	Outside		ppi/psi	(P/F)	ID	1	2
1-0084	F	D	163-164	150	75407	MS	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0085	F	D	165-166	250	75407	MS	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0086	F	D	167-168	121	7520001?	CG	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0087	F	D	168-169	250	75407	MS	5/11/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0088	F	D	170-171	150	75407	MS	5/14/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0089	F	D	172-173	50	7520001?	CG	5/14/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0090	F	D	173-174	250	75407	MS	5/14/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0091	F	D	175-176	150	7520001?	CG	5/14/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0092	F	D	175-176	50	7520001?	CG	5/14/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0093	F	D	178-179	250	7520001?	CG	5/14/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0094	F	D	184-189	15	7544	FG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: EQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data								
			Location						Peel		Shear	Unit	Result	QA	Re test	Re test
Samp No	Weld Type	Track Type	Seam	Dist. (ft.)	Mach ID	Oper ID	Date Samp		Inside	Outside		ppi/psi	(P/F)	ID	1	2
1-0095	F	D	180-181	285	7544	FG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0096	F	D	185-186	200	96		5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0097	F	D	187-190	50	75200017	CG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0098	F	D	190-191	250	75407	MS	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0099	F	D	192-193	83	75200017	CG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0100	F	D	193-194	200	75407	MS	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0101	F	D	196-197	290	75407	MS	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0102	F	D	195-196	50	75200017	CG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0103	F	D	198-199	100	75200017	CG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0104	F	D	199-200	251	75407	MS	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0105	F	D	201-202	177	75407	MS	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		

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Destructive Test Log

Project: J.E.D. Partial Closure-Phase 1 ProjNo: FQ-1672
Location: St. Cloud , Florida TaskNo: 01
Description: Partial Closure

Test Reqs: Fusion: Peel Inside: 78 Peel Outside: 78 Shear: 120
Extrusion: Peel: 52 Shear: 90

Primary / Secondary: Primary Series: 1 MaterialType: 1

Sample Data									Test Data								
			Location						Peel						Re test	Re test
Samp No	Weld Type	Track Type	Seam	Dist. (ft.)	Mach ID	Oper ID	Date Samp		Inside	Outside	Shear	Unit ppi/psi	Result (P/F)	QA ID	1	2
1-0106	F	D	203-205	140	7544	FG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		
1-0107	F	D	204-208	38	75200017	CG	5/15/2009	Lab	-	-	-	-	-	-	-	-
								Field	-	-	-	-	-	-		

Comments: 1-0001:seam was replaced; 1-0048:DP-48 WELDED DURING TRIAL SEAM FOR EXTRUSION WELD; 1-0049:DP-49 WELDED IN FIELD FOR EXISTING TIE IN; 1-0050:DP-50 WELDED IN FIELD FOR EXISTING TIE IN

Table 5-3A

FIELD DESTRUCTIVE SEAM TEST RESULTS FOR PRIMARY LINER INSTALLED IN THE J.E.D. PARTIAL CLOSURE PHASE 1

Sample No.	Panel No.	Weld Type [1]	Peel Strength [2] (lb/in)										Shear Strength [3] (lb/in)					Failure Type [4]	Pass/Fail (P/F)
			Bottom Peel (inside)					Top Peel (outside)											
DP-1	P3/P4	F	109	102	106	105	101	104	104	102	108	105	119	118	117	117	115	FTB	P
DP-2	P5/P6	F	89	90	87	92	89	88	89	89	92	91	132	130	133	134	126	FTB	P
DP-3	P7/P8	F	108	107	104	106	111	99	96	96	98	98	124	125	125	127	125	FTB	P
DP-4	P10/P11	F	109	105	112	108	110	105	100	112	87	112	113	125	124	125	116	FTB	P
DP-5	P12/P13	F	105	100	97	109	103	108	105	104	107	104	124	122	122	124	125	FTB	P
DP-6	P13/P14	F	108	109	107	108	94	102	104	104	104	105	102	104	104	104	105	FTB	P
DP-7	P15/P16	F	101	106	103	100	104	88	89	86	90	91	121	120	123	120	122	FTB	P
DP-8	P16/P17	F	102	98	106	107	107	104	107	99	100	103	121	124	122	126	123	FTB	P
DP-9	P18/P19	F	98	100	100	100	101	103	103	109	104	98	119	122	124	124	124	FTB	P
DP-10	P22/P25	F	106	101	104	105	103	104	104	104	104	103	116	110	123	119	119	FTB	P
DP-11	P22/P23	F	107	105	104	103	101	101	105	104	105	98	127	127	126	126	123	FTB	P
DP-12	P24/P26	F	109	108	109	108	109	107	105	107	95	104	125	124	126	126	118	FTB	P
DP-13	TIE IN	E	117	113	134	100	125	N/A	N/A	N/A	N/A	N/A	135	126	123	113	128	FTB	P
DP-14	P28/P29	F	110	113	113	114	119	103	100	102	90	101	128	124	122	125	121	FTB	P
DP-15	P31/P32	F	108	108	109	105	105	110	113	103	111	112	117	118	119	120	122	FTB	P
DP-16	P33/P34	F	111	101	106	101	110	105	108	116	113	110	118	120	117	121	122	FTB	P
DP-17	P33/P34	F	111	118	112	110	111	109	111	107	104	102	118	120	120	120	122	FTB	P
DP-18	P35/P36	F	110	102	105	111	104	109	107	107	109	111	124	123	122	123	129	FTB	P
DP-19	P36/P37	F	112	104	104	105	104	88	86	85	86	87	122	122	121	126	120	FTB	P
DP-20	P37/P38	F	112	116	113	110	108	89	93	98	104	101	122	123	125	124	124	FTB	P
DP-21	P38/P39	F	115	102	111	113	116	103	116	107	114	115	129	125	129	126	123	FTB	P
DP-22	P40/P41	F	95	98	96	94	99	95	99	88	83	90	120	117	117	117	118	FTB	P
DP-23	P42/P43	F	97	99	95	93	90	100	88	84	89	93	114	117	119	113	115	FTB	P
DP-24	P42/P43	F	102	99	100	97	92	93	92	90	89	90	115	115	116	118	114	FTB	P
DP-25	P44/P45	F	100	102	100	94	98	95	99	100	104	94	110	109	116	114	102	FTB	P

Notes:

1 "F" is fusion and "E" is extrusion weld.

2 Specified peel strength: 50 lb/in for fusion and 44 lb/in for extrusion(LLDPE)

3 Specified shear strength: 60 lb/in for fusion and 60 lb/in for extrusion(LLDPE)

4 "FTB" is Film Tear Bond (with maximum 10 percent seam separation).

5.N/A is Not Applicable

Table 5-3A (continued)

FIELD DESTRUCTIVE SEAM TEST RESULTS FOR PRIMARY LINER INSTALLED IN J.E.D. PARTIAL CLOSURE PHASE 1

Sample No.	Panel No.	Weld Type [1]	Peel Strength [2] (lb/in)										Shear Strength [3] (lb/in)					Failure Type [4]	Pass/Fail (P/F)
			Bottom Peel (inside)					Top Peel (outside)											
DP-26	P46/P47	F	97	107	117	106	115	95	102	101	98	106	122	122	122	126	120	FTB	P
DP-27	P48/P49	F	110	107	107	107	108	117	114	116	114	112	123	126	122	128	120	FTB	P
DP-28	P49/P50	F	99	93	93	95	91	99	95	96	93	96	118	128	131	122	129	FTB	P
DP-29	P50/P51	F	97	102	106	98	99	99	102	93	91	107	123	122	125	122	121	FTB	P
DP-30	P51/P52	F	104	106	114	111	106	93	94	95	94	89	127	128	124	125	124	FTB	P
DP-31	P53/P54	F	99	101	105	105	100	101	104	95	99	95	122	123	126	124	121	FTB	P
DP-32	P55/P56	F	105	108	108	112	106	92	90	96	95	92	120	121	125	121	120	FTB	P
DP-33	P56/P57	F	110	111	107	109	116	105	106	109	110	116	124	126	123	121	121	FTB	P
DP-34	P28/P59	F	95	97	99	104	94	94	96	96	94	91	129	124	124	122	124	FTB	P
DP-35	P60/P61	F	110	109	102	109	112	110	109	109	100	107	122	121	119	118	124	FTB	P
DP-36	TIE IN	E	99	95	92	94	102	N/A	N/A	N/A	N/A	N/A	105	103	100	117	105	FTB	P
DP-37	P58/P65	F	114	110	110	113	110	114	112	109	109	110	122	127	123	122	124	FTB	P
DP-38	P67/P68	F	106	94	109	106	106	98	98	96	98	99	131	128	126	127	125	FTB	P
DP-39	P68/P69	F	105	94	109	106	106	107	103	109	109	107	127	123	125	131	124	FTB	P
DP-40	P70/P71	F	109	108	110	107	108	94	92	89	91	89	123	126	123	124	122	FTB	P
DP-41	P72/P73	F	95	97	99	102	91	101	97	102	101	98	121	118	118	117	119	FTB	P
DP-42	P66/P67	E	116	113	113	113	116	116	101	112	99	113	130	126	128	126	131	FTB	P
DP-43	P75/P76	F	104	89	94	107	101	94	97	91	99	101	122	125	119	119	119	FTB	P
DP-44	P73/ P74	F	110	99	105	100	100	107	101	106	106	102	107	101	106	106	102	FTB	P
DP-45	P77/P78	F	93	103	100	99	97	93	91	93	93	97	117	119	118	118	118	FTB	P
DP-46	P78/P79	F	96	104	99	102	99	103	94	96	95	89	117	121	119	121	121	FTB	P
DP-47	P81/P87	F	84	85	84	84	80	85	84	81	84	86	96	88	91	89	90	FTB	P
DP-48	TIE IN	E	105	106	107	105	108	N/A	N/A	N/A	N/A	N/A	99	98	95	110	92	FTB	P
DP-49	TIE IN	E	114	109	111	110	99	N/A	N/A	N/A	N/A	N/A	101	101	97	104	96	FTB	P
DP-50	TIE IN	E	111	109	113	107	108	N/A	N/A	N/A	N/A	N/A	104	106	103	97	103	FTB	P
DP-51	P88/P91	F	95	98	99	100	96	96	94	93	94	94	100	104	101	104	101	FTB	P
DP-52	P82/R-209	E	98	95	93	95	94	N/A	N/A	N/A	N/A	N/A	99	97	98	99	100	FTB	P
DP-53	P83/P84	F	104	102	106	105	108	85	91	97	96	89	118	117	115	113	116	FTB	P

Notes:

1 "F" is fusion and "E" is extrusion weld.

2 Specified peel strength: 50 lb/in for fusion and 44 lb/in for extrusion(LLDPE)

3 Specified shear strength: 60 lb/in for fusion and 60 lb/in for extrusion(LLDPE)

4 "FTB" is Film Tear Bond (with maximum 10 percent seam separation).

5.N/A is Not Applicable

Table 5-3A(continued)

DESTRUCTIVE SEAM TEST RESULTS FOR PRIMARY LINER INSTALLED IN JED PARTIAL CLOSURE PHASE 1

Sample No.	Panel No.	Weld Type [1]	Peel Strength [2] (lb/in)										Shear Strength [3] (lb/in)					Failure Type [4]	Pass/Fail (P/F)
			Bottom Peel (inside)					Top Peel (outside)											
DP-54	P99-P100	F	104	104	106	104	105	103	104	97	101	98	1114	114	97	101	98	FTB	P
DP-55	P85-P86	F	103	99	105	101	103	89	87	87	85	90	121	117	121	117	120	FTB	P
DP-56	P101-P102	F	104	106	106	107	101	97	91	91	91	93	119	120	118	119	119	FTB	P
DP-57	P102-P103	F	94	93	95	95	96	101	99	96	98	100	116	115	116	115	115	FTB	P
DP-58	P104-P105	F	107	103	106	104	105	90	87	87	88	90	115	117	115	118	117	FTB	P
DP-59	P107-P108	F	107	109	104	103	99	100	84	100	91	99	117	119	118	119	120	FTB	P
DP-60	P108-P115	F	93	95	93	97	95	96	95	91	92	91	105	95	96	102	95	FTB	P
DP-61	P113-P116	F	95	100	94	93	92	94	96	98	97	117	121	116	118	115	117	FTB	P
DP-62	P117-P118	F	101	88	100	96	103	103	93	99	93	97	114	119	118	114	114	FTB	P
DP-63	P118-P119	F	106	110	101	105	107	90	95	85	90	82	117	116	119	109	116	FTB	P
DP-64	P120-P121	F	103	96	97	95	110	103	104	106	104	105	119	115	120	115	117	FTB	P
DP-65	P124-P125	F	115	108	108	103	110	113	107	92	98	107	120	117	116	118	115	FTB	P
DP-66	P125-P126	F	101	100	96	106	98	109	94	93	95	87	116	110	111	113	111	FTB	P
DP-67	P127-P128	F	102	98	106	112	109	91	95	103	111	111	118	117	116	117	118	FTB	P
DP-68	P129-P130	F	95	96	99	93	104	101	87	101	91	95	114	107	116	114	106	FTB	P
DP-69	P130-P131	F	106	104	106	105	100	104	101	101	94	97	121	120	125	119	120	FTB	P
DP-70	P132-P133	F	104	106	110	106	105	93	92	94	99	96	114	109	111	112	109	FTB	P
DP-71	P134-P135	F	103	105	102	105	100	97	94	100	101	98	119	112	117	115	118	FTB	P
DP-72	P137-P138	F	98	100	100	96	97	97	98	95	98	99	109	112	106	112	106	FTB	P
DP-73	P139-P140	F	108	108	101	105	106	103	101	103	94	95	104	103	104	101	106	FTB	P
DP-74	P139-P149	F	90	93	92	92	90	86	88	90	94	91	104	108	98	92	89	FTB	P
DP-75	P149-P150	F	103	101	104	103	106	99	96	98	95	100	115	117	116	117	111	FTB	P
DP-76	P151-P152	E	101	96	93	92	94	91	92	95	101	97	122	119	124	118	120	FTB	P
DP-77	P153-P154	F	106	104	103	102	101	97	98	90	94	93	112	112	113	112	111	FTB	P
DP-78	P154-P155	F	99	96	97	98	98	95	102	95	96	92	111	112	112	112	111	FTB	P
DP-79	P156-P157	F	105	108	110	107	107	92	98	90	96	94	119	120	120	119	116	FTB	P
DP-80	P157-P158	F	111	101	110	102	103	105	101	104	103	101	116	116	117	115	117	FTB	P

Notes:

[1] "F" is fusion and "E" is extrusion weld.

[2] Specified peel strength: 50 lb/in for fusion and 44 lb/in for extrusion(LLDPE)

[3] Specified shear strength: 60 lb/in for fusion and 60 lb/in for extrusion(LLDPE)

[4] "FTB" is Film Tear Bond (with maximum 10 percent seam separation).

5.N/A is Not Applicable

Table 5-3A (continued)

DESTRUCTIVE SEAM TEST RESULTS FOR PRIMARY LINER INSTALLED IN JED PARTIAL CLOSURE PHASE 1

Sample No.	Panel No.	Weld Type [1]	Peel Strength [2] (lb/in)										Shear Strength [3] (lb/in)					Failure Type [4]	Pass/Fail (P/F)
			Bottom Peel (inside)					Top Peel (outside)											
DP-81	159-160	F	127	142	141	132	136	133	134	128	127	127	193	188	189	190	192	FTB	P
DP-82	160-161	F	126	142	141	135	136	133	134	128	127	127	193	188	189	190	192	FTB	P
DP-83	162-163	F	137	138	136	135	139	139	145	143	135	126	195	188	190	190	189	FTB	P
DP-84	163-164	E	121	126	133	140	137	N/A	N/A	N/A	N/A	N/A	166	164	163	168	159	FTB	P
DP-85	165-166	F	148	146	142	147	146	144	139	144	151	135	162	163	162	160	160	FTB	P
DP-86	167-168	F	131	126	126	127	125	149	142	141	138	141	191	187	189	189	185	FTB	P
DP-87	168-169	F	128	121	123	125	125	133	148	139	136	138	193	190	185	189	186	FTB	P
DP-88	170-171	F	133	129	133	132	131	127	128	125	124	123	191	190	190	188	189	FTB	P
DP-89	172-173	F	142	142	139	142	138	143	142	140	130	121	197	194	197	197	195	FTB	P
DP-90	173-174	F	126	124	135	125	127	157	137	131	134	129	190	185	186	186	185	FTB	P
DP-91	175-176	F	150	143	127	140	130	138	129	120	120	117	181	182	181	181	179	FTB	P
DP-92	175-176	F	151	151	156	157	158	150	148	148	152	151	164	160	164	168	159	FTB	P
DP-93	178-179	F	126	131	127	125	123	132	122	126	131	128	191	185	188	188	181	FTB	P
DP-94	184-189	F	123	124	133	124	147	123	139	131	145	136	191	186	186	191	188	FTB	P
DP-95	180-181	F	136	137	147	132	138	132	129	134	134	130	159	158	159	160	162	FTB	P
DP-96	185-186	F	136	139	136	131	134	134	133	129	141	138	183	181	181	183	180	FTB	P
DP-97	187-190	F	141	140	147	143	139	134	146	138	139	133	159	156	159	157	156	FTB	P
DP-98	190-191	F	145	146	150	145	153	114	110	113	113	111	184	183	183	187	184	FTB	P
DP-99	192-193	F	136	148	138	143	153	130	148	143	143	142	187	182	185	185	184	FTB	P
DP-100	193-194	F	145	143	136	137	138	140	139	136	139	135	153	148	151	149	148	FTB	P
DP-101	196-197	F	127	129	127	128	125	129	136	129	135	128	183	184	184	186	183	FTB	P
DP-102	195-196	F	132	133	154	136	139	121	131	123	142	125	184	183	181	186	183	FTB	P
DP-103	198-199	F	150	144	151	154	154	127	126	128	131	134	185	185	185	190	185	FTB	P
DP-104	199-200	E	115	139	198	110	110	N/A	N/A	N/A	N/A	N/A	159	152	160	155	156	FTB	P
DP-105	201-202	E	104	132	158	123	153	N/A	N/A	N/A	N/A	N/A	159	162	161	166	163	FTB	P

Notes:

[1] "F" is fusion and "E" is extrusion weld.

[2] Specified peel strength: 78 lb/in for fusion and 70 lb/in for extrusion

[3] Specified shear strength: 120 lb/in for fusion and 108 lb/in for extrusion

[4] "FTB" is Film Tear Bond (with maximum 10 percent seam separation).

5.N/A is Not Applicable

Table 5-3A(continued)

DESTRUCTIVE SEAM TEST RESULTS FOR PRIMARY LINER INSTALLED IN JED PARTIAL CLOSURE PHASE 1

Sample No.	Panel No.	Weld Type [1]	Peel Strength [2] (lb/in)										Shear Strength [3] (lb/in)					Failure Type [4]	Pass/Fail (P/F)
			Bottom Peel (inside)					Top Peel (outside)											
DP-106	P203-P205	F	104	106	106	101	102	108	108	93	99	98	121	120	121	122	119	FTB	P
DP-107	P204-P208	F	94	91	113	97	98	96	92	92	89	94	103	104	104	104	103	FTB	P
DP-108	P174-P175	E	110	130	139	121	105	N/A	N/A	N/A	N/A	N/A	107	108	106	110	106	FTB	P
DP-109	TIE IN	E	111	110	107	106	110	N/A	N/A	N/A	N/A	N/A	105	103	102	102	103	FTB	P
DP-110	TIE IN	E	106	108	109	108	109	N/A	N/A	N/A	N/A	N/A	97	102	99	99	101	FTB	P
DP-111	TIE IN	E	115	117	120	116	126	N/A	N/A	N/A	N/A	N/A	123	103	103	109	108	FTB	P
DP-112	186-187	F	94	89	89	92	92	94	94	95	94	93	99	98	100	94	95	FTB	P

Notes:

1 "F" is fusion and "E" is extrusion weld.

2 Specified peel strength: 50 lb/in for fusion and 44 lb/in for extrusion(LLDPE)

3 Specified shear strength: 60 lb/in for fusion and 60 lb/in for extrusion(LLDPE)

4 "FTB" is Film Tear Bond (with maximum 10 percent seam separation).

5.N/A is Not Applicable

APPENDIX T

GEOMEMBRANE LABORATORY DESTRUCTIVE SEAM TEST RESULTS (TRI)

April 17, 2009
April 20, 2009 Revised project name, specifications

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: dhamilton@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-28-07
Material(s) Tested:	12 Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-28-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-1**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	109	102	106	105	101	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	104	104	102	108	105	105	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	119	118	117	117	115	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-2**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	89	90	87	92	89	89	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	88	89	89	92	91	90	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	132	130	133	134	126	131	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-28-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-3**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	108	107	104	106	111	107	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	99	96	96	98	98	97	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	124	125	125	127	125	125	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-4**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	109	105	112	108	110	109	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	105	100	112	87	112	103	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	113	125	124	125	116	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-28-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-5**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	105	100	97	109	103	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	108	105	104	107	104	106	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	124	122	122	124	125	123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-6**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	108	109	107	108	94	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	102	104	104	104	105	104	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	123	122	123	123	122	123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-28-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-7**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	101	106	103	100	104	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	88	89	86	90	91	89	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	120	123	120	122	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-8**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	102	98	106	107	107	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	104	107	99	100	103	103	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	124	122	126	123	123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-28-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-9**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	98	100	100	100	101	100	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	103	109	104	98	103	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	119	122	124	124	124	123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-10**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	106	101	104	105	103	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	104	104	104	104	103	104	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	110	123	119	119	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-28-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-11**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	107	105	104	103	101	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	101	105	104	105	98	103	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	127	127	126	126	123	126	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-12**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	109	108	109	108	109	109	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	107	105	107	95	104	104	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	125	124	126	126	118	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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April 23, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: dhamilton@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-35-02
Material(s) Tested:	20 Heat Fusion Weld Seam(s) 1 Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-14**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	113	113	114	119	114	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	100	102	90	101	99	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	128	124	122	125	121	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-15**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	108	108	109	105	105	107	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	110	113	103	111	112	110	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	118	119	120	122	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-16**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	111	101	106	101	110	106	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	105	108	116	113	110	110	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	118	120	117	121	122	120	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-17**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	111	118	112	110	111	112	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	109	111	107	104	102	107	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	118	120	120	120	122	120	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	DP-18							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	110	102	105	111	104	106	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	109	107	107	109	111	109	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	124	123	122	123	129	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	DP-19							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	112	104	104	105	104	106	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	88	86	85	86	87	86	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	122	121	126	120	122	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-20**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	112	116	113	110	108	112	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	89	93	98	104	101	97	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	123	125	124	124	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-21**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	115	102	111	113	116	111	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	116	107	114	115	111	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	129	125	129	126	123	126	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-22**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	108	107	112	111	118	111	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	110	104	106	103	93	103	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	123	127	125	123	123	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-23**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	109	115	107	109	110	110	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	102	111	100	106	103	104	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	128	123	124	123	125	125	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-24**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	115	116	116	110	112	114	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	108	97	107	104	108	105	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	121	119	124	119	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-25**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	105	99	98	109	98	102	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	107	103	105	114	103	106	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	126	122	123	122	122	123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-26**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	97	107	117	106	115	108	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	95	102	101	98	106	100	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	122	122	126	120	122	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-27**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	107	107	107	108	108	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	117	114	116	114	112	115	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	123	126	122	128	120	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
	Sample ID: DP-28							
	Weld: Heat Fusion							
Side A	Peel Strength (ppi)	99	93	93	95	91	Peel A 94	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
Side B	Peel Strength (ppi)	99	95	96	93	96	Peel B 96	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
	Shear Strength (ppi)	118	128	131	122	129	Shear 126	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
	Sample ID: DP-29							
	Weld: Heat Fusion							
Side A	Peel Strength (ppi)	97	102	106	96	99	Peel A 100	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
Side B	Peel Strength (ppi)	102	93	91	107	99	Peel B 98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
	Shear Strength (ppi)	123	125	122	121	122	Shear 123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-30**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	106	114	111	106	108	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	93	94	95	94	89	93	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	127	128	124	125	124	126	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-31**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	99	101	105	105	100	102	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	101	104	95	99	95	99	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	123	126	124	121	123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-32**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	105	108	108	112	106	108	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	92	90	96	95	92	93	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	120	121	125	121	120	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-33**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	111	107	109	116	111	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	105	106	109	110	116	109	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	124	126	123	121	121	123	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-35-02

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DT-13**							
Weld:	**Single Extrusion**							
							Peel	
Peel Strength (ppi)		117	113	134	100	125	118	44 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		135	126	123	113	128	125	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		

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April 29, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: rhastie@geosyntec.com
CC E-mail: dhamilton@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-43-09
Material(s) Tested:	9 Heat Fusion Weld Seam(s) 1 Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-43-09

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-34**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	95	97	99	97	104	98	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	94	96	96	94	91	94	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	129	124	124	122	124	125	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-35**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	109	102	109	112	108	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	110	109	109	100	107	107	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	121	119	118	124	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-43-09

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-36**							
Weld:	**Single Extrusion**							
							Peel	
Peel Strength (ppi)		99	95	92	94	102	96	44 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		105	103	100	117	105	106	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		
Sample ID:	**DP-37**							
Weld:	**Heat Fusion**							
							Peel A	
Side A: Peel Strength (ppi)		114	110	110	113	110	111	50 min
Side A: Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side A: Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side A: Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B: Peel Strength (ppi)		114	112	109	109	110	111	50 min
Side B: Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side B: Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side B: Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		122	127	123	122	124	124	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-43-09

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-38**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	106	105	107	103	104	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	98	98	96	98	99	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	131	126	128	127	125	127	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-39**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	105	94	109	106	106	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	107	103	109	109	107	107	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	127	123	125	131	124	126	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-43-09

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-41**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	95	97	99	102	91	97	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	101	97	102	101	98	100	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	118	118	117	119	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-42**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	116	113	113	113	116	114	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	116	101	112	99	113	108	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	130	126	128	126	131	128	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-43-09

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-43**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	89	94	107	101	99	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	94	97	91	99	101	96	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	125	119	119	119	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-44**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	99	105	100	100	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	107	101	106	106	102	104	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	128	121	123	116	122	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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May 5, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: rhastie@geosyntec.com
CC E-mail: dhamilton@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-53-04
Material(s) Tested:	11 Heat Fusion Weld Seam(s) 4 Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-40**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	109	108	110	107	108	108	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	94	92	89	91	89	91	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	123	126	123	124	122	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-45**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	93	103	100	99	97	98	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	93	91	93	93	97	93	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	119	118	118	118	118	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-46**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	96	104	99	102	99	100	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	94	96	95	89	95	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	121	119	121	121	120	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-47**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	84	85	84	84	80	83	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	85	84	81	84	86	84	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	96	88	91	89	90	91	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-48**							
Weld:	**Single Extrusion**							
							Peel	
Peel Strength (ppi)		105	106	107	105	108	106	50 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		99	98	95	110	92	99	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		
Sample ID:	**DP-49**							
Weld:	**Single Extrusion**							
							Peel	
Peel Strength (ppi)		114	109	111	110	99	109	50 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		101	101	97	104	96	100	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-50**							
Weld:	**Single Extrusion**							
							Peel	
Peel Strength (ppi)		111	109	113	107	108	110	50 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		104	106	103	97	103	103	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		
Sample ID:	**DP-51**							
Weld:	**Heat Fusion**							
							Peel A	
Side A: Peel Strength (ppi)		95	98	99	100	96	98	50 min
Side A: Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side A: Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side A: Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B: Peel Strength (ppi)		96	94	93	94	94	94	50 min
Side B: Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side B: Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side B: Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		100	104	101	104	101	102	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-52**							
Weld:	**Single Extrusion**							
							Peel	
	Peel Strength (ppi)	98	95	93	95	94	95	50 min
	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	99	97	98	99	100	99	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-53**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	102	106	105	108	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	85	91	97	96	89	92	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	118	117	115	113	116	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-54**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	104	106	104	105	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	104	97	101	98	101	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	114	114	113	114	113	114	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-55**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	103	99	105	101	103	102	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	89	87	87	85	90	88	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	117	121	117	120	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-56**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	105	106	107	101	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	97	91	91	91	93	93	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	119	120	118	119	119	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-57**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	94	93	95	95	96	95	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	101	99	96	98	100	99	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	115	116	115	115	115	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-53-04

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
	Sample ID: DP-58							
	Weld: Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	107	103	106	104	105	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	90	87	87	88	90	88	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	115	117	115	118	117	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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May 8, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: rhastie@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-58-05
Material(s) Tested:	12 Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-58-05

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	DP-59							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	107	109	104	103	99	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	100	84	100	91	99s	94	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	119	118	119	120	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	DP-61							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	95	100	94	93	92	95	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	94	96	93	98	97	96	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	121	116	118	115	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-58-05

	PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
	Sample ID:	DP-62							
	Weld:	Heat Fusion							
								Peel A	
Side A	Peel Strength (ppi)		101	88	100	96	103	98	50 min
Side A	Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
								Peel B	
Side B	Peel Strength (ppi)		103	93	99	93	97	97	50 min
Side B	Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
								Shear	
	Shear Strength (ppi)		114	119	118	114	114	116	60 min
	Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		
	Sample ID:	DP-63							
	Weld:	Heat Fusion							
								Peel A	
Side A	Peel Strength (ppi)		106	110	101	105	107	106	50 min
Side A	Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
								Peel B	
Side B	Peel Strength (ppi)		90	95	85	90	82	88	50 min
Side B	Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
								Shear	
	Shear Strength (ppi)		117	116	119	109	116	115	60 min
	Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-58-05

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	DP-64							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	103	96	97	95	110	100	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	104	106	104	105	104	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	119	115	120	115	117	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	DP-65							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	115	108	108	103	110	109	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	113	107	92	98	107	103	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	120	117	116	118	115	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-58-05

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	DP-66							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	101	100	96	106	98	100	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	109	94	93	95	87	96	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	110	111	113	111	112	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	DP-67							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	102	98	106	112	109	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	91	95	103	111	111	102	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	118	117	116	117	118	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-58-05

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	DP-68							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	95	96	99	93	104	97	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	101	87	101	91	95	95	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	114	107	116	114	106	111	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	DP-69							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	106	104	106	105	100	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	104	101	101	94	97	99	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	120	125	119	120	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-58-05

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	DP-70							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	104	106	110	106	105	106	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	93	92	94	99	96	95	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	114	109	111	112	109	111	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	DP-71							
Weld:	Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	103	105	102	105	100	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	97	94	100	101	98	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	119	112	117	115	118	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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May 12, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

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CC E-mail: rhastie@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-61-07
Material(s) Tested:	15 Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
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9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-60**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	93	95	93	97	95	95	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	96	95	91	92	91	93	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	105	95	96	102	95	99	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-72**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	98	100	100	96	97	98	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	97	98	95	98	99	97	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	109	112	106	112	106	109	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-74**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	90	93	92	92	90	91	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	86	88	90	94	91	90	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	104	108	98	92	89	98	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-75**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	103	101	104	103	106	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	99	96	98	95	100	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	115	117	116	117	111	115	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-76**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	101	96	93	92	94	95	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	91	92	95	101	97	95	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	119	124	118	120	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-77**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	106	104	103	102	101	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	97	98	90	94	93	94	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	112	112	113	112	111	112	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-78**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	99	96	97	98	98	98	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	95	102	95	96	92	96	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	111	112	112	112	111	112	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-79**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	105	108	110	107	107	107	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	92	98	90	96	94	94	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	119	120	120	119	116	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-80**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	111	101	110	102	103	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	105	101	104	103	101	103	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	116	117	115	117	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-81**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	103	103	107	106	107	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	107	110	107	109	108	108	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	125	120	120	120	119	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-82**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	101	101	97	101	95	99	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	96	101	98	99	98	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	115	117	117	115	114	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-83**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	102	103	104	103	105	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	104	105	104	94	105	102	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	117	115	116	115	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-84**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	101	103	103	101	102	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	98	88	99	87	103	95	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	117	117	115	113	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-85**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	91	101	102	99	97	98	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	97	99	93	98	98	97	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	113	117	118	118	117	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-61-07

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
	Sample ID: DP-86							
	Weld: Heat Fusion							
							Peel A	
Side A	Peel Strength (ppi)	101	102	105	103	103	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	92	89	91	91	94	91	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	116	117	117	116	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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May 21, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: rhastie@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-78-03
Material(s) Tested:	20 Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-88**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	100	108	95	104	107	103	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	108	108	104	104	101	105	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	117	117	116	115	118	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-89**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	111	110	105	106	107	108	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	97	97	91	96	94	95	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	115	113	114	113	114	114	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-90**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	102	95	92	89	102	96	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	98	98	99	98	96	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	113	117	116	114	113	115	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-91**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	106	106	97	102	96	101	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	96	96	92	94	93	94	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	114	116	115	115	116	115	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-92**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	108	103	99	95	96	100	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	109	113	102	103	104	106	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	117	115	115	117	116	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-93**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	103	104	99	104	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	106	102	91	97	92	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	114	114	113	112	116	114	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-94**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	100	103	92	107	91	99	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	96	107	108	91	100	100	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	115	114	116	115	117	115	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-95**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	97	98	98	98	94	97	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	95	94	101	98	86	95	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	106	107	106	109	107	107	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-96**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	109	110	110	106	109	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	94	95	90	84	90	91	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	118	117	118	119	118	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-97**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	113	94	105	94	104	102	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	106	104	106	102	105	105	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	124	123	122	125	125	124	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-98**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	99	91	97	93	92	94	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	104	96	93	98	99	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	120	120	122	121	123	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-99**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	110	110	108	107	92	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	92	94	98	92	94	94	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	120	118	117	118	121	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-100**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	96	105	93	107	93	99	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	97	97	95	97	102	98	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	121	118	114	120	118	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-101**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	103	99	102	100	100	101	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	104	103	108	105	102	104	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	122	121	120	121	120	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-102**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	106	96	106	98	102	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	90	88	92	93	89	90	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	118	118	116	117	118	117	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-103**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	105	107	107	107	98	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	105	107	111	105	106	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	118	116	117	118	120	118	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-104**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	108	105	108	111	93	105	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	98	99	100	105	102	101	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	116	114	114	116	117	115	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-105**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	105	95	107	106	98	102	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	99	101	101	94	91	97	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	119	119	118	120	120	119	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-78-03

		TEST REPLICATE NUMBER						
PARAMETER		1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-106**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	104	106	106	101	102	104	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	108	106	93	99	98	101	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	121	120	121	122	119	121	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-107**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	94	91	113	97	98	99	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	96	92	92	89	94	93	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	103	104	104	104	103	104	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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June 3, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: rhastie@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2326-96-02
Material(s) Tested:	1 Heat Fusion Weld Seam(s) 4 Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-96-02

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-73**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	108	108	101	105	106	106	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	103	101	103	94	95	99	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	104	103	104	101	106	104	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID:	**DP-108**							
Weld:	**Single Extrusion**							
							Peel	
	Peel Strength (ppi)	110	130	139	121	105	121	50 min
	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	107	108	106	110	106	107	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-96-02

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-109**							
Weld:	**Singie Extrusion**							
							Peel	
Peel Strength (ppi)		111	110	107	106	110	109	50 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		105	103	102	102	103	103	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		
Sample ID:	**DP-110**							
Weld:	**Single Extrusion**							
							Peel	
Peel Strength (ppi)		106	108	109	108	109	108	50 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		97	102	99	99	101	100	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2326-96-02

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-111**							
Weld:	**Single Extrusion**							
							Peel	
Peel Strength (ppi)		115	117	120	116	126	119	50 min
Peel Incursion (%)		<10	<10	<10	<10	<10		10 max
Peel Locus of Failure Code		SE	SE	SE	SE	SE		FTB
Peel NSF Failure Code		FTB	FTB	FTB	FTB	FTB		
							Shear	
Shear Strength (ppi)		123	103	103	109	108	109	60 min
Shear Elongation @ Break (%)		>50	>50	>50	>50	>50		

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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July 3, 2009

Mail To:

Attn: Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Dr., Ste. 300
Tampa, FL 33637

E-mail: kwills@geosyntec.com
CC E-mail: rhastie@geosyntec.com
CC E-mail: dhamilton@geosyntec.com
Fax: 813-558-9726 - Attn: Kirk Wills
Site Fax: 407-891-3730

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Facility**
TRI Job Reference Number:	E2330-49-09
Material(s) Tested:	1 Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jarrett A. Nelson

Jarrett A. Nelson
Special Projects Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: JED Solid Waste Landfill (Oak Hammock)

Material: 40 mil LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-49-09

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID:	**DP-112**							
Weld:	**Heat Fusion**							
							Peel A	
Side A	Peel Strength (ppi)	94	89	89	92	92	91	50 min
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Peel B	
Side B	Peel Strength (ppi)	94	94	95	94	93	94	50 min
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10		10 max
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE		FTB
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
							Shear	
	Shear Strength (ppi)	99	98	100	94	95	97	60 min
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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APPENDIX U

GEOMEMBRANE REPAIR SUMMARY LOG

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/15/2009	1-0001		P		1	24	5	7	5		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/15/2009	1-0002	1-0001	P	3-4		50		8	2		7409	LM	RH	4/16/2009	JL	P	VTOK	RH
4/15/2009	1-0003		P		1	28	4	2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/15/2009	1-0004		P		1	12	6	2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/15/2009	1-0005		P	2-3	2	121	1			8	7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0006		P	1-2		154		4	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0007		P	4-5		167		4	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0008		P	5-6		38		5	2		7409	LM	RH	4/16/2009	JL	P	VTOK	RH
4/15/2009	1-0009	1-0002	P	5-6		121		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0010		P	3-4		201		2	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0011		P	4-5		175		3	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0012		P	3-4		213		2	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0013		P	5-6		212		2	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0014		P	6-7		212		2	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0015	1-0003	P	7-8		197		8	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0016		P		9	121	4			8	7434	CG	RH	4/15/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/15/2009	1-0017	1-0004	P	10-11		50		8	2		7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0018		P	13-14		AT		4	2		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0019		P		16	103	15	15	3		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0020		P		16	126	5	7	3		7434	CG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0021		P	2-3-T		45		3	32		7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0022		P	3-4-T		67		3	2		7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0023		P	4-5-T		89		3	2		7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0024		P	5-6-T		111		3	2		7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0025		P		6	125	9			3	7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0026		P	6-7-T		134		2	2		7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/15/2009	1-0027		P	7-8-T		157				3	7427	JG	RH	4/15/2009	JL	P	VTOK	RH
4/16/2009	1-0028		P	8-9-T		180		3	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0029		P	9-10-T		203		2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/15/2009	1-0030		P	10-11-T		225		2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0031		P	11-12-T		248		2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0032		P	12-13-T		271		2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/16/2009	1-0033		P	13-14-T		293		2	2		7427	JG	RH	4/16/2009	JL	F	VTOK	RH
4/16/2009	1-0034		P	14-15-T		315		2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0035		P	15-16-T		338		2	3		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0036		P	16-17-T		361		4	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0037		P	17-18-T		383		3	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/15/2009	1-0038		P	1-2-T		23		2	2		7427	JG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0039	1-0005	P	12-13		84		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0040	1-0006	P	13-14		191		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0041	1-0007	P	15-16		50		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0042	1-0008	P	16-17		250		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0043		P	17-18		227		3	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0044		P	20		285	5			5	7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0045		P	20 22-25		277		2	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0046		P	22-23-25		277		3	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0047	1-0010	P	22-25		277	10	8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	1-0048	1-0011	P	22-23		234		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase I

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/16/2009	I-0049	I-0012	P	24-26		140		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	I-0050		P		24	121	5			5	7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	I-0051	I-0009	P	18-19		154		8	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	I-0052		P	20-21-22		146		2	2		7434	CG	RH	4/16/2009	JL	P	VTOK	RH
4/16/2009	I-0053		P	21-22-23		154		2	2		7434	CG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0054		P	18-19-T		3		3	2		7427	JG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0055		P	19-20-T		3				2	7427	CG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0056		P	19-20-T		0		3	2		7427	CG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0057		P	20-21-T		2		2	2		7427	JG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0058		P	21-23-T		3		3	2		7427	JG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0059		P	23-24-T		3		3	2		7427	JG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0060		P	24-26-T		2		2	2	2	7409	JG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0061		P	26-T		528		6	2		7427	JG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0062		P	26-27-T		540		2	3		7427	JG	RH	4/17/2009	JL	P	VTOK	RH
4/16/2009	I-0063		P	27-28-T		563				2	7427	JG	RH	4/17/2009	JL	P	VTOK	RH
4/22/2009	I-0064	I-0016	P	33-34		72		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/22/2009	1-0065	1-0014	P	28-29		138		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0066	1-0015	P	31-32		222		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0067	1-0017	P	33-34		283		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0068		P	30-31		282		2	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0069		P	29-30		283		4	2		7434	CG	RH	4/23/2009	JL	P	VTOK	RH
4/22/2009	1-0070		P		30	292	1	8	4		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0071	1-0020	P	37-38		264		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0072		P		38	291	1	8	4		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0073	1-0019	P	36-37		170		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0074	1-0018	P	35-36		112		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0075		P		38	121	12	8	4		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0076		P	37-38		53		2	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0077	1-0021	P	38-39		53		8	3		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0078	1-0022	P	40-41		28		8	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0079	1-0023	P	42-43		225		12	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0080	1-0025	P	44-45		260		8	3		7434	CG	RH	4/22/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/22/2009	1-0081		P		47	289	10	13	4		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0082	1-0026	P	46-47		140		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/23/2009	1-0083		P	44-45		117		12	4		7434	CG	RH	4/23/2009	JL	P	VTOK	RH
4/23/2009	1-0084	1-0024	P	42-43		125		8	2		7434	CG	RH	4/23/2009	JL	P	VTOK	RH
4/23/2009	1-0085		P		48	9	2	2	2		7434	CG	RH	4/23/2009	JL	P	VTOK	RH
4/23/2009	1-0086	1-0027	P	48-49		50		8	2		7434	CG	RH	4/23/2009	JL	P	VTOK	RH
4/22/2009	1-0087		P	36-37-T		766		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0088		P	35-36-T		743		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0089		P	34-35-T		721		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0090		P	37-38-T		788		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0091		P	38-39-T		811		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0092		P		38	2	5			3	7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0093		P	39-40-T		833		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0094		P	40-41-T		855		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0095		P	41-42-T		878		3	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0096		P	42-43-T		900		3	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/22/2009	1-0097		P	43-44-T		923		3	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0098		P	44-45-T		945		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0099		P	45-46-T		967		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0100		P	46-47-T		990		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0101		P	47-48-T		1012		2	3		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0102		P	48-49-T		1035		2	3		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0103		P	49-50-T		1058		2	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0104		P	50-51-T		1081		3	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/23/2009	1-0105		P	51-52-T		1103				2	7409	JG	RH	4/23/2009	JL	P	VTOK	RH
4/22/2009	1-0106		P	52-53-T		1126				2	7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0107		P		53	1132	8	4	3		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0108		P	53-54-T		1148		2	3		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0109		P	54-55-T		1170		3	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0110		P	55-56-T		1193		3	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0111		P	56-57-T		1215				2	7409	JG	RH	4/22/2009	JL	P	VTOK	RH
4/24/2009	1-0112		P	57-58-T		1237		3	2		7409	JG	RH	4/22/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/24/2009	1-0113		P	28-59-T		593		3	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/22/2009	1-0114		P		51	121	5	8	4		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0115		P		54	125	8	10	4		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0116		P		58	121		8	4		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0117		P	57-58		149		2	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0118	1-0028	P	49-50		250		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0119	1-0030	P	51-52		200		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0120	1-0031	P	53-54		100		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/22/2009	1-0121	1-0032	P	55-56		134		8	2		7434	CG	RH	4/22/2009	JL	P	VTOK	RH
4/24/2009	1-0122		P	34-35		145		2	2		7434	CG	RH	4/24/2009	JL	P	VTOK	RH
4/23/2009	1-0123		P	43-44		154		2	2		7434	CG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0124		P		58	291	6	8	4		7434	CG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0125	1-0036	P		60	12		14	6		7409	JG	RH	4/27/2009	JL	P	VTOK	RH
4/24/2009	1-0126		P		61	41	5	7	13		7409	JG	RH	4/27/2009	JL	P	VTOK	RH
4/24/2009	1-0127		P	60-61		48		2	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0128		P	59-62-T		615		3	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/24/2009	1-0129		P	61-62-T		638		2	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/27/2009	1-0130		P	33-63-60-64		46		10	3		7409	JG	RH	4/27/2009	JL	P	VTOK	RH
4/24/2009	1-0131		C1	60-64		46		46	2		7533	MS	RH	4/24/2009	JL	P	ATOK	RH
4/24/2009	1-0132		P	34-63-64		22		3	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0133		P	63-34		44		2	3		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0134		P	33-34-63		63		4	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0135		P		61	121	10	8	4		7434	CG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0136		P	34-33-60		133		4	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0137		P	30-31-60-61		133				3	7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0138		P	31-32-61-62		133		4	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0139		P	29-30-59-61		133		6	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0140		P	59-61		127		2	2		7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/24/2009	1-0141		P	60-T		666				3	7409	JG	RH	4/25/2009	JL	P	VTOK	RH
4/24/2009	1-0142		P	60-T		169				3	7409	JG	RH	4/24/2009	JL	P	VTOK	RH
4/27/2009	1-0143	1-0034	P	28-59		50		8	3		7409	JG	RH	4/27/2009	JL	P	VTOK	RH
4/27/2009	1-0144	1-0035	P	60-61		121		8	2		7409	JG	RH	4/27/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase I

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/24/2009	I-0145	I-0033	P	56-57		10		8	2		7409	JG	RH	4/27/2009	JL	P	VTOK	RH
4/28/2009	I-0146		P	C I-60-64-T		676		4	3		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0147		P	34-64-T		698		2	3		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0148		P	60-60	60	57		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0149		P		60	64		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/27/2009	I-0150		P	63-64		26	12	2	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0151	I-0037	P	58-65		136		7	2		7434	CG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0152	I-0038	P	67-68		237		8	2		7434	CG	RH	4/28/2009	JL	p	VTOK	RH
4/28/2009	I-0153	I-0039	P	68-69		293		8	2		7434	CG	RH	4/28/2009	JL	P	VTOK	RH
4/23/2009	I-0154		P	57-58		274		8	2		7434	CG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0155		P		73	290	10	12	4		7434	CG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0156	I-0040	P	70-71		100		8	2		7434	CG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0157		P		71	125	10	13	4		7434	CG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0158	I-0041	P	72-73		13		10	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0159	I-0042	P	66-67		37		8	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	I-0160		P	75-76		20		2	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/28/2009	1-0161	1-0043	P	75-76		113		8	2		7434	CG	RH	4/29/2009	JL	P	VTOK	RH
4/28/2009	1-0162	1-0044	P	73-74		213		8	2		7434	CG	RH	4/29/2009	JL	P	VTOK	RH
4/28/2009	1-0163		P	72-73		143		4	2		7434	CG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0164		P	58-65-T		1259		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0165		P	65-66-T		1282		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0166		P	66-67-T		1305		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0167		P	67-68-T		1327		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0168		P	68-69-T		1350		2	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0169		P	69-70-T		1372		2	3		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0170		P	70-71-T		1394		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0171		P	71-72-T		1417		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0172		P	72-73-T		1440		7	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0173		P	72-73		20		4	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0174		P	73-74		1462		2	3		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0175		P	74-75		1485		3	2		7409	JG	RH	4/28/2009	JL	P	VTOK	RH
4/28/2009	1-0176		C2	75-76		7		9	2		7409	JG	RH	4/29/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/24/2009	I-0177	I-0029	P	50-51		18		8	2		7409	JG	RH	4/27/2009	JL	P	VTOK	RH
4/29/2009	I-0178		P	77-78		121	4	8	4		7434	CG	RH	4/29/2009	JL	P	VTOK	RH
4/29/2009	I-0179	I-0046	P	78-79		220		8	2		7434	CG	RH	4/29/2009	JL	F	VTOK	RH
4/29/2009	I-0180	I-0045	P	77-78		50		8	2		7409	JG	RH	4/29/2009	JL	P	VTOK	RH
4/30/2009	I-0181		P	95-96-97		31		7	2		7409	JG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0182		P		95	38	12	14	4		7409	JG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0183		P	94-95		40		6	4		7409	JG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0184		P	94-95		67		3	2		7409	JG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0185		P	93-95-94		78				6	7409	JG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0186		P	93-94-81		78		4	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0187		P	92-93-81		128		7	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0188		P	81-87-88		160		3	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0189		P	80-81-87		160		4	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0190		P	87-86-80		192		4	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0191	I-0047	P	81-87		172		8	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	I-0192		P	80-86		211				2	7434	CG	RH	4/30/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/30/2009	1-0193		P	79-86		216		2	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0194		P	79-80-86		223		4	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0195		P	78-79-84-85		256		7	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0196		P	77-78-84		286		3		3	7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0197		P	77-83-84		293		3	4		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0198		P	76-77-83-82		323		5	3		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0199		P		82	277				2	7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0200		P		76	283	1	2	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0201		P	100-101		246		5	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0202		P	93-97-95		48		2	3		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0203		P	88-90-91		79		2	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0204		P	88-91-92		105		3	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0205		P	88-89-90		42		3	2		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0206		P	85		121	8	10	4		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0207		P		100	121	10	12	4		7434	CG	RH	4/30/2009	JL	P	VTOK	RH
4/30/2009	1-0208		P	77-78		220		2	2		7434	CG	RH	5/1/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
4/30/2009	1-0209		P	76-82-98		296		10	6		7434	CG	RH	5/1/2009	JL	P	VTOK	RH
5/1/2009	1-0210	1-0051	P	91-88		97		8	2		7434	CG	RH	5/1/2009	JL	P	VTOK	RH
5/1/2009	1-0211		P		83	246	6	5	2		7434	CG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0212		P		83	253				2	7434	CG	RH	5/1/2009	JL	P	VTOK	RH
5/1/2009	1-0213	1-0052	P	82-R209		296		8	2		7434	CG	RH	5/1/2009	JL	P	VTOK	RH
5/1/2009	1-0214	1-0053	P	83-84		132		8	2		7434	CG	RH	5/1/2009	JL	P	VTOK	RH
5/1/2009	1-0215	1-0054	P	99-100		163		8	2		7434	CG	RH	5/1/2009	JL	P	VTOK	RH
5/1/2009	1-0216	1-0055	P	85-86		15		8	2		7434	CG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0217		P	76-77-T		1530		3	2		7409	JG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0218		P	77-78-T		1553				2	7409	JG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0219		P	78-79-T		1575		3	2		7409	JG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0220		P	79-80-T		1598				2	7409	JG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0221		P	80-81-T		1620		3	2		7409	JG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0222		P	81-94-T		1643		3	2		7409	JG	RH	5/1/2009	JL	P	VTOK	RH
4/30/2009	1-0223		P	94-95-T		1665		3	2		7409	JG	RH	5/1/2009	JL	P	VTOK	RH
5/1/2009	1-0224		P	90-91		14				2	7409	JG	RH	5/1/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/4/2009	1-0225	1-0056	P	101-102		65		8	2	0	7409	ES	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0226	1-0057	P	102-103		265		8	2	0	7434	CG	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0227	1-0058	P	104-105		165		8	2	0	7434	CG	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0228		P		107	123	1	7	4	0	7434	CG	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0229		P	95-T		1684		2	3	0	7409	ES	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0230		P	95-96-T		1687		2	3	0	7409	RH	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0231		P	96-97-T		1704		3	2	0	7409	ES	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0232		P		96	12	1	2	2	0	7409	ES	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0233		P	97-T		1713		0	0	3	7409	ES	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0234		P	93-97-T		1726		0	0	3	7409	ES	RH	5/4/2009	JL	P	VTOK	RH
5/4/2009	1-0235		P	92-93-T		1749		0	0	2	7409	ES	RH	5/4/2009	JL	P	VTOK	RH
5/5/2009	1-0236	1-0059	P	107-108		65		8	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0237		P	108-110		65		3	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0238		P	110-108-111		82		3	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0239		P	108-111-112		138		5	3	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0240		P	108-112-113		175		3	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida

ProjNo: FQ-1672

TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary

Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/6/2009	1-0241		P	108-113-115		259		3	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0242		P	108-115-117		259		19	4	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0243		P	108-117		280		0	0	3	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0244		P		118	283	5	8	4	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0245	1-0060	P	108-115		249		8	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0246		P	107-108		137		3	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0247		P	114-122-123		20		2	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0248		P	114-123		20		2	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0249		P		114	35	3	5	3	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0250		P	122-123-113		28		3	2	0	7409	ES	RH	5/6/2009		P	VTOK	RH
5/6/2009	1-0251		P	110-111		53		0	0	3	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0252		P	108-109-110		25		2	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0253		P	113-114-136		37		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0254		P	113-114		82		4	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0255		P	113-115-116		78		3	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0256		P	116-117-115		78		5	4	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/6/2009	1-0257		P	116-112-113		113		2	2	0	7434	CG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0258		P	116-117		12		2	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0259		P	91-92-T		1771		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0260		P	90-91-T		1793		0	0	2	7409	ES	RH	5/5/2009	JL	P	VTOK	RH
5/5/2009	1-0261		P	91-T		1791		0	0	3	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0262		P	89-90-T		1816		0	0	3	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0263		P	88-89-T		1838		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0264		P	86-87-T		1860		4	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0265		P	86-87-T		1883		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0266		P	85-86-T		1906		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0267		P	84-85-T		1928		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0268		P	83-84-T		1951		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0269		P	82-83-T		1973		0	0	3	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0270		P		82	30	11	5	3	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0271		P		82	24	11	0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0272		P		82	15	11	0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/5/2009	1-0273		P		82	3	11	0	0	2	7409	ES	RH	5/5/2009	JL	P	VTOK	RH
5/5/2009	1-0274		P	82-98-T		1996		4	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0275		P	98-99-T		2018		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0276		P	99-100-T		2041		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0277		P	100-101-T		2063		4	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0278		P	101-102-T		2086		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0279		P	102-103-T		2109		0	0	3	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/5/2009	1-0280		P	103-104-T		2131		3	2	0	7409	ES	RH	5/9/2009	JL	P	VTOK	RH
5/5/2009	1-0281		P	104-105-T		2154		4	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0282		P	105-106-T		2176		0	0	2	7409	RH	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0283		P	106-107-T		2199		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0284		P		114	10	5	6	4	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0285		P	113-116		15		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0286		P		118	121	11	12	4	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0287		P		127	124	9	11	4	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0288		P		129	132	11	0	0	3	7434	JG	RH	5/6/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/6/2009	1-0289		P	128/129		152		5	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0290		P	129/130		145		5	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0291		P	129-130		145		5	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0292		P		132	121	11	12	4	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0293		P	133-134		124	2	7	4	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0294		P	134-135		121		2	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0295	1-0062	P	117-118		100		8	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0296	1-0064	P	120-121		150		8	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0297	1-0067	P	127-128		150		8	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0298	1-0070	P	132-133		150		8	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0299	1-0069	P	130-131		250		8	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0300		P		128	283	6	8	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0301	1-0066	P	125-126		250		8	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0302	1-0063	P	118-119		276		8	3	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0303		P	111-112-114		90		5	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0304	1-0065	P	124-125		50		8	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/6/2009	1-0305		P	129-130		62		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0306		P	129-130		62		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0307		P	129-130		56		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0308	1-0068	P	129-130		44		8	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0309	1-0071	P	134-135		50		8	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0310		P	134-135		300		2	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0311		P	130-131		297		2	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0312		P	124-125		297		2	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0313		P	115-117		150		2	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0314		P	117-118		300		2	2	0	7434	JG	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0315		P	107-108-T		2221		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0316		P	108-109-T		2244		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0317		P	109-110-T		2253		2	3	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0318		P	110-111-T		2253		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0319		P	111-114-T		2298		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0320		P	114-T		2298		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/6/2009	1-0321		P	114-123-T		2321		2	3	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0322		P	113-114-T		2321		2	3	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0323		P	113-116-T		2350		2	3	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0324		P	116-117-T		2372		3	2	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0325		P	117-118-T		2395		13	3	0	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/6/2009	1-0326		P	118-119-T		2417		0	0	2	7409	ES	RH	5/6/2009	JL	P	VTOK	RH
5/7/2009	1-0327		P	119-120-T		2440		2	3		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0328		P	120-121-T		2462		6	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0329		P	121-T		2473				3	7409	ES	RH	5/12/2009	JL	P	VTOK	RH
5/7/2009	1-0330		P	121-124-T		2485		3	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0331		P	124-125-T		2507		3	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0332		P	125-126-T		2530				3	7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0333		P	126-127-T		2552		3	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0334		P	127-128-T		2575		2	3		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0335		P	128-129-T		2598		3	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0336		P	129-130-T		2620			2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/11/2009	1-0337		P		158	283	10	12	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0338		C	131-132-133-T		2666		46	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0339		P	134-135-T		2733		3	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0340		P	135-137-T		2755		2	3		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0341		P	137-138-T		2778		4	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0342		P	138-140-T		2801		2	3		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0343		P	140-141		3				3	7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0344		P	141-142		3				3	7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0345		P	142-T		2860				3	7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0346		P	159-160		298		2	3		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0347		P		158	283	10	12	4		7434	CG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0348		P	138-149		283		6	4		7434	ES	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0349		P	138-139-149		271		5	2		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0350		P	138-140-139		236		7	3		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0351		P	138-139-141		209		4	3		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/7/2009	1-0352		P	139-141-142		183		5	3		7434	JG	RH	5/11/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/12/2009	1-0353		P	139-142-143		159		3	2		7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0354		C	140-141		117-146		29	2		7434	CG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0355		P		143	126	5	7	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0356		P	142-145-144		91		4	2		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0357		P		143	78	5	5	7	4	7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0358		P		143-145	121		6	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0359		P	140-141-146		57		4	3		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0360		P	146-147-142		27		3	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/8/2009	1-0361		P	120-121		124				2	7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/6/2009	1-0362		P	120-121		124		2	3		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/12/2009	1-0363	1-0072	P	137-138		122		8	3		7434	CG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0364	1-0073	P	139-140		15		8	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0365	1-0074	P	139-149		276		8	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0366	1-0075	P	149-150		250		9	3		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/12/2009	1-0367	1-0076	P	151-152		150		20	3		7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0368	1-0077	P	153-154		50		8	2		7434	JG	RH	5/11/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1
Location: St. Cloud , Florida
ProjNo: FQ-1672
TaskNo: 01
Description: Partial Closure
Installer: Comanco Environemntal Services

Primary / Secondary: Primary
Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/12/2009	1-0369	1-0078	P	154-155		120		8	2		7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0370	1-0079	P	156-157		15		8	2		7434	ES	RH	5/11/2009	JL	P	VTOK	RH
5/12/2009	1-0371	1-0080	P	157-158		150		8	3		7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0372		P	148-149-150		43		8	2		74312	ES	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0373		P	139-148-149		28		3	2		74312	ES	RH	5/11/2009	JL	P	VTOK	RH
5/12/2009	1-0374	1-0081	P	159-160		68		8	4		7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0375	1-0082	P	160-161		200		8	2		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0376	1-0083	P	162-163		25		8	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0377		P		160	121	8	27	6		7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0378		P		154	121	2	6	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/12/2009	1-0379		P	152-153		142				2	7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0380		P	149-150		127				2	7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0381		P	163-164		138				2	7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0382		P		164	124	11	13	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0383	1-0084	P	163-164		50		8	2		7409	ES	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0384		P		167	121	2	6	4		7434	JG	RH	5/11/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/11/2009	1-0385		P	168-169		135		3	2		7434	JG	RH	5/11/2009	JL	P	VTOK	RH
5/11/2009	1-0386	1-0085	P	165-166		250		8	2		7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0387	1-0086	P	167-168		121		8	2		7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0388	1-0087	P	168-169		250		8	3		7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0389		P		167	283	10	12	4		7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0390		P	161-162		305		2	2		7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0391		P	158-159		305		2	2		7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0392		P	157-158		277				2	7434	JG	RH	5/12/2009	JL	P	VTOK	RH
5/11/2009	1-0393		P	143-145		8		8	4		7409	ES	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0394		P	148-150		9				2	74312	ES	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0395		P	162-163		18				2	74312	ES	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0396		P	124-125		270		2	2		7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0397		P	137-138		135		2	3		7430	JG	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0398		P	156-157		24				2	74312	ES	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0399		P		160	130	2			2	74312	ES	RH	5/12/2009	JL	P	VTOK	RH
5/12/2009	1-0400		P		145	100	5			3	7430	JG	RH	5/12/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/13/2009	1-0401		P	165-166		52		14	3		74312	ES	RH	5/13/2009	JL	P	VTOK	RH
5/14/2009	1-0402	1-0088	P	170-171		150		8	3		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0403		P		173	127	7	9	4		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0404	1-0090	P	173-174		250		8	2		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0405	1-0093	P	178-179		250		8	2		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0406		P		176	286	11	13	4		7434	JG	RH	5/14/2009	JL	P	VTOK	
5/14/2009	1-0407		P	176-177		294				2	7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0408	1-0091	P	175-176		150		8	2		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0409		P		180	127	10	12	4		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0410	1-0089	P	172-173		50		8	2		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0411	1-0092	P	175-176		50		8	2		7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/13/2009	1-0412		P		141	9	9			3	7434	JG	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0413		P	142-147-T		2868		3	2		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0414		P	146-147-T		2886		8	2		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0415		P	144-146-T		2911				2	74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0416		P		144	3	10			2	74312	ES	RH	5/14/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/14/2009	1-0417		P		144	2	12			2	74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0418		P	144-145-T		2933				2	74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0419		P	143-145-T		2956		3	2		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0420		P	143-T		2961		4	2		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0421		P	143-139-T		2978		2	3		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0422		P	139-148-T		3001				2	74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0423		P	148-150-T		3023		3	2		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0424		P	150-151-T		3046		3	2		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0425		P	151-T		3068		18	2		74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/14/2009	1-0426		P	152-153-T		3091		2	2		74312	ES	RH	5/14/2009	JL	P	VTOK	1
5/14/2009	1-0427		P	153-154-T		3113				2	74312	ES	RH	5/14/2009	JL	P	VTOK	RH
5/18/2009	1-0428		C	184-189		15		17	2		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0429		P	184-181-189		27		5	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0430		P	181-184-188		36				3	7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0431		P	184-188		39	3			2	7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0432		P		181	38		15	8		7430	JG	RH	5/18/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: I.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/15/2009	1-0433		P	184-188-182		66				3	7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0434		P	181-182-188		133				3	7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0435		P	182-183-180		140				2	7430	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0436		P	182-183		146	5	3	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0437		P	181-182-183		155				3	7430	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0438		P	180-181-183		247		3	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0439		P	180-181		2273		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0440		P	181-180		282		4	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0441		P	179-180		302		2	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0442		P	178-179		302		2	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0443		P	177-178		302		5	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0444	1-0095	P	180-181		285		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0445		P	185-186		302		5	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0446	1-0096	P	185-186		200		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0447		P	186-187		198				3	7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0448		P	190-191		290		6	5		7430	JG	RH	5/18/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase I

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/18/2009	1-0449		P	193-194		303		5	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0450		P	196-197		287		4	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0451		P	197-198		303		4	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0452		P	199-200		288		5	5		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0453	1-0104	P	199-200		251		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0454	1-0098	P	190-191		250		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0455	1-0100	P	193-194		200		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0456	1-0101	P	196-197		290		12	3		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0457	1-0105	P	201-202		177		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0458		P	185-186		17		4	2		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0459		P		181	10	12			4	74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0460		P	186-187		74		3	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0461		P	185-186		86				3	7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0462		P		191	127	10	12	5		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0463	1-0097	P	187-190		53		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0464	1-0099	P	192-193		83		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/18/2009	1-0465	1-0102	P	195-196		54		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0466		P		197	127	5	7	5		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0467	1-0103	P	198-199		103		8	2		7430	JG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0468		P	202-203		133				2	7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0469		P		203	127		8	4		7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0470		P		205	127	8	10	4		7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0471		P	204-205-206		135				3	7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0472	1-0106	P	203-205		140		8	2		7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0473	1-0107	P	204-208		38		8	2		7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0474		P	204-209-		81		6	2		7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0475		P	208-209-204		54				2	7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0476		P	207-208-204		27				2	7434	CG	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0477		P	154-155-T		3336				2	74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0478		P	155-156-T		3158.				2	74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0479		P	156-157-T		3180		2	3		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0480		P	157-158-T		3203		3	2		74312	ES	RH	5/18/2009	JL	P	VTOK	RH

Geosyntec consultants

Repair Summary Log

Project: J.E.D. Partial Closure-Phase 1

Location: St. Cloud , Florida ProjNo: FQ-1672 TaskNo: 01

Description: Partial Closure

Installer: Comanco Environemntal Services

Primary / Secondary: Primary Series: 1

Repair Date	Repair ID	DS No	Repair Type	Location				Size			Welder I.D.		QA ID	Non-Destructive Testing				
				Seam	Panel	Distance (ft.)	Offset (ft.)	Length (ft.)	Width (ft.)	Dia. (ft.)	Mach ID	Oper ID		Date	Oper ID	Result (p/f)	Action	QA ID
5/18/2009	1-0481		P	158-159-T		3225				3	74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0482		P	159-160-T		3248		3	2		74312	ES	RH	5/15/2009	JL	P	VTOK	RH
5/15/2009	1-0483		C	160-T		3271		67	3		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0484		P	163-164-T		3338		3	2		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/15/2009	1-0485		P	165-T-164-166		3260-3263		25	3		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0486		P	167-168-T		3428		2	2		74312		RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0487		P	168-169-T		3450				2	74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0488		P	169-170-T		3473		3	2		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0489		P	170-171-T		3496		2	3		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0490		P	171-172-T		3518		2	3		74312	ES	RH	5/18/2009	JL	P	VTOK	RH
5/18/2009	1-0491		P	172-173-T		3564				2	74312	ES	RH	5/18/2009	JL	P	VTOK	RH

APPENDIX V

DRAINAGE GEOCOMPOSITE MQC CERTIFICATES AND TEST RESULTS

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2009 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11813

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Quality Control Manager

agru america
quality control dept

Type: 8E-220-BE

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite *Transmissivity Conditions: 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 LL micro	Geonet Component **Transmissivity Conditions: 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec	Resin Lot #		
1.	510575 .09	14.5	200	2900	A	1010170713	B	1010170709	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		conf / mqc
2.	510576 .09	14.5	200	2900	A	1010170713	B	1010170709	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
3.	510577 .09	14.5	200	2900	A	1010170713	B	1010170709	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
4.	510678 .09	14.5	200	2900	A	1010170713	B	1010170709	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
5.	510679 .09	14.5	200	2900	A	1010170810	B	1010170708	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
6.	510680 .09	14.5	200	2900	A	1010170810	B	1010170708	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
7.	510681 .09	14.5	200	2900	A	1010170810	B	1010170708	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
8.	510682 .09	14.5	200	2900	A	1010170703	B	1010170845	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
9.	510683 .09	14.5	200	2900	A	1010170703	B	1010170845	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
10.	510684 .09	14.5	200	2900	A	1010170703	B	1010170845	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
11.	510685 .09	14.5	200	2900	A	1010170703	B	1010170845	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
12.	510686 .09	14.5	200	2900	A	1010170862	B	1010170710	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
13.	510687 .09	14.5	200	2900	A	1010170862	B	1010170710	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
14.	510688 .09	14.5	200	2900	A	1010170862	B	1010170710	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
15.	510689 .09	14.5	200	2900	A	1010170719	B	1010170765	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
16.	510690 .09	14.5	200	2900	A	1010170719	B	1010170765	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
17.	510691 .09	14.5	200	2900	A	1010170719	B	1010170765	4.75	5.58	6.77 x E-4	284	295	288	2.75	0.958	87.5	0.26	1.09x 10-2	97646		
18.	510692 .09	14.5	200	2900	A	1010170719	B	1010170765	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
19.	510697 .09	14.5	200	2900	A	1010170701	B	1010170711	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
20.	510698 .09	14.5	200	2900	A	1010170701	B	1010170711	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
21.	510699 .09	14.5	200	2900	A	1010170701	B	1010170711	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
22.	510600 .09	14.5	200	2900	A	1010172880	B	1010172879	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
23.	510601 .09	14.5	200	2900	A	1010172880	B	1010172879	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
24.	510602 .09	14.5	200	2900	A	1010172880	B	1010172879	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
25.	510603 .09	14.5	200	2900	A	1010172880	B	1010172879	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
26.	510604 .09	14.5	200	2900	A	1010172866	B	1010172869	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
27.	510605 .09	14.5	200	2900	A	1010172866	B	1010172869	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
28.	510608 .09	14.5	200	2900	A	1010172866	B	1010172869	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
29.	510609 .09	14.5	200	2900	A	1010172828	B	1010172973	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
30.	510610 .09	14.5	200	2900	A	1010172828	B	1010172973	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
31.	510611 .09	14.5	200	2900	A	1010172828	B	1010172973	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
32.	510612 .09	14.5	200	2900	A	1010172828	B	1010172973	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
33.	510613 .09	14.5	200	2900	A	1010170720	B	1010172864	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
34.	510614 .09	14.5	200	2900	A	1010170720	B	1010172864	5.25	4.58	6.77 x E-4	281	290	285	2.74	0.954	97.1	0.25	1.09x 10-2	97646		
35.	510615 .09	14.5	200	2900	A	1010170720	B	1010172864	7.38	6.44	7.01 x E-4	291	312	298	2.47	0.955	113.5	0.28	1.09x 10-2	97646		mqc
36.	510720 .09	14.5	200	2900	A	1010172946	B	1010172950	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
37.	510721 .09	14.5	200	2900	A	1010172946	B	1010172950	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
38.	510722 .09	14.5	200	2900	A	1010172946	B	1010172950	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
39.	510723 .09	14.5	200	2900	A	1010172946	B	1010172950	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
40.	510724 .09	14.5	200	2900	A	1010172955	B	1010172959	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
41.	510725 .09	14.5	200	2900	A	1010172955	B	1010172959	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
42.	510726 .09	14.5	200	2900	A	1010172955	B	1010172959	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
43.	510727 .09	14.5	200	2900	A	1010172881	B	1010172870	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
44.	510728 .09	14.5	200	2900	A	1010172881	B	1010172870	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
45.	510729 .09	14.5	200	2900	A	1010172881	B	1010172870	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
46.	510730 .09	14.5	200	2900	A	1010172881	B	1010172870	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
47.	510731 .09	14.5	200	2900	A	1010172890	B	1010172953	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
48.	510732 .09	14.5	200	2900	A	1010172890	B	1010172953	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
49.	510733 .09	14.5	200	2900	A	1010172890	B	1010172953	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
50.	510734 .09	14.5	200	2900	A	1010172952	B	1010172954	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
51.	510735 .09	14.5	200	2900	A	1010172952	B	1010172954	7.38	6.44	7.01 x E-4	282	300	290	2.47	0.955	113.5	0.28	1.09x 10-2	97646		
52.	511101 .09	14.5	200	2900	A	1010172952	B	1010172954	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
53.	511102 .09	14.5	200	2900	A	1010172952	B	1010172954	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
54.	511103 .09	14.5	200	2900	A	1010172951	B	1010172949	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
55.	511104 .09	14.5	200	2900	A	1010172951	B	1010172949	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2009 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11813

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Quality Control Manager

agru america
quality control dept

Type: 8E-250-8E

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite *Transmissivity Conditions: 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 Lt micro	Geonet Component **Transmissivity Conditions: 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec	Resin Lot #		
56.	511105 .09	14.5	200	2900	A	1010172951	B	1010172949	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
57.	511106 .09	14.5	200	2900	A	1010172965	B	1010172863	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
58.	511107 .09	14.5	200	2900	A	1010172965	B	1010172863	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
59.	511108 .09	14.5	200	2900	A	1010172965	B	1010172863	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
60.	511109 .09	14.5	200	2900	A	1010172965	B	1010172863	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
61.	511110 .09	14.5	200	2900	A	1010172965	B	1010172964	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
62.	511111 .09	14.5	200	2900	A	1010172965	B	1010172964	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
63.	511112 .09	14.5	200	2900	A	1010172965	B	1010172964	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
64.	511113 .09	14.5	200	2900	A	1010172885	B	1010172875	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
65.	511114 .09	14.5	200	2900	A	1010172885	B	1010172875	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
66.	511115 .09	14.5	200	2900	A	1010172885	B	1010172875	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
67.	511116 .09	14.5	200	2900	A	1010172885	B	1010172875	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
68.	511117 .09	14.5	200	2900	A	1010172961	B	1010172957	5.07	6.35	7.01 x E-4	285	306	295	2.56	0.958	95.4	0.28	1.09x 10-2	97646		
69.	511123 .09	14.5	200	2900	A	1010172977	B	1010172978	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		cont/mqc
70.	511124 .09	14.5	200	2900	A	1010172977	B	1010172978	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
71.	511125 .09	14.5	200	2900	A	1010172977	B	1010172978	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
72.	511126 .09	14.5	200	2900	A	1010172977	B	1010172978	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
73.	511127 .09	14.5	200	2900	A	1010172974	B	1010172971	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
74.	511128 .09	14.5	200	2900	A	1010172974	B	1010172971	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
75.	511129 .09	14.5	200	2900	A	1010172974	B	1010172971	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
76.	511130 .09	14.5	200	2900	A	1010172985	B	1010172983	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
77.	511131 .09	14.5	200	2900	A	1010172985	B	1010172983	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
78.	511132 .09	14.5	200	2900	A	1010172985	B	1010172983	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
79.	511133 .09	14.5	200	2900	A	1010172985	B	1010172983	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
80.	511134 .09	14.5	200	2900	A	1010172995	B	1010172992	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
81.	511135 .09	14.5	200	2900	A	1010172995	B	1010172992	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
82.	511136 .09	14.5	200	2900	A	1010172995	B	1010172992	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
83.	511137 .09	14.5	200	2900	A	1010172877	B	1010172990	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
84.	511138 .09	14.5	200	2900	A	1010172877	B	1010172990	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
85.	511139 .09	14.5	200	2900	A	1010172877	B	1010172990	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
86.	511140 .09	14.5	200	2900	A	1010172877	B	1010172990	2.39	2.25	8.86 x E-4	284	308	293	2.90	0.957	110.8	0.30	1.09x 10-2	97646		
87.	511145 .09	14.5	200	2900	A	1010172966	B	1010172997	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
88.	511146 .09	14.5	200	2900	A	1010172966	B	1010172997	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
89.	511147 .09	14.5	200	2900	A	1010172966	B	1010172997	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
90.	511148 .09	14.5	200	2900	A	1010172970	B	1010172975	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
91.	511149 .09	14.5	200	2900	A	1010172970	B	1010172975	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
92.	511150 .09	14.5	200	2900	A	1010172970	B	1010172975	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
93.	511151 .09	14.5	200	2900	A	1010172970	B	1010172975	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
94.	511152 .09	14.5	200	2900	A	1010172976	B	1010172984	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
95.	511153 .09	14.5	200	2900	A	1010172976	B	1010172984	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
96.	511154 .09	14.5	200	2900	A	1010172976	B	1010172984	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
97.	511155 .09	14.5	200	2900	A	1010172987	B	1010172986	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
98.	511156 .09	14.5	200	2900	A	1010172987	B	1010172986	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
99.	511157 .09	14.5	200	2900	A	1010172987	B	1010172986	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
100.	511158 .09	14.5	200	2900	A	1010172987	B	1010172986	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
101.	511159 .09	14.5	200	2900	A	1010172988	B	1010172987	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
102.	511160 .09	14.5	200	2900	A	1010172988	B	1010172987	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
103.	511261 .09	14.5	200	2900	A	1010172988	B	1010172987	4.43	3.97	8.86 x E-4	288	309	297	2.55	0.954	94.6	0.27	1.09x 10-2	97646		
104.	511262 .09	14.5	200	2900	A	1010172996	B	1010172998	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97646		mqc
105.	511268 .09	14.5	200	2900	A	1010172996	B	1010172998	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97646		
106.	511269 .09	14.5	200	2900	A	1010172996	B	1010172998	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97646		
107.	511270 .09	14.5	200	2900	A	1010172996	B	1010172998	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97646		
108.	511271 .09	14.5	200	2900	A	1010172980	B	1010172916	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97646		
109.	511272 .09	14.5	200	2900	A	1010172980	B	1010172916	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97646		
110.	511273 .09	14.5	200	2900	A	1010172980	B	1010172916	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97603		

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2009 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11813

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Quality Control Manager

agru america
quality control dept

Type: 8E-250-8E

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite **Transmissivity Conditions:** 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 LL micro	Geonet Component **Transmissivity Conditions:** 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec	Resin Lot #		
111.	511274 .09	14.5	200	2900	A	101017300914	B	101017300941	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97603		
112.	511275 .09	14.5	200	2900	A	101017300914	B	101017300941	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97603		
113.	511276 .09	14.5	200	2900	A	101017300914	B	101017300941	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97603		
114.	511277 .09	14.5	200	2900	A	101017300914	B	101017300941	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97603		
115.	511278 .09	14.5	200	2900	A	101017300916	B	101017300915	6.32	6.25	6.62 x E-4	290	301	294	2.64	0.955	107.0	0.27	1.09x 10-2	97603		
116.	511289 .09	14.5	200	2900	A	101017300940	B	101017300943	6.32	6.25	6.62 x E-4	290	301	294	2.72	0.955	107.0	0.27	1.09x 10-2	97603		
117.	511290 .09	14.5	200	2900	A	101017300940	B	101017300943	6.32	6.25	6.62 x E-4	290	301	294	2.72	0.955	107.0	0.27	1.09x 10-2	97603		
118.	511291 .09	14.5	200	2900	A	101017300947	B	101017300944	6.32	6.25	6.62 x E-4	290	301	294	2.72	0.955	107.0	0.27	1.09x 10-2	97603		
119.	511292 .09	14.5	200	2900	A	101017300947	B	101017300944	6.32	6.25	6.62 x E-4	290	301	294	2.72	0.955	107.0	0.27	1.09x 10-2	97603		
120.	511293 .09	14.5	200	2900	A	101017300947	B	101017300944	6.32	6.25	6.62 x E-4	290	301	294	2.72	0.955	107.0	0.27	1.09x 10-2	97603		
121.	511294 .09	14.5	200	2900	A	101017300947	B	101017300944	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
122.	511295 .09	14.5	200	2900	A	101017300948	B	101017300945	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
123.	511296 .09	14.5	200	2900	A	101017300948	B	101017300945	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.23	1.09x 10-2	97603		
124.	511297 .09	14.5	200	2900	A	101017300948	B	101017300945	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
125.	511298 .09	14.5	200	2900	A	101017300946	B	101017300949	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
126.	511299 .09	14.5	200	2900	A	101017300946	B	101017300949	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
127.	511200 .09	14.5	200	2900	A	101017300946	B	101017300949	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
128.	511201 .09	14.5	200	2900	A	101017300946	B	101017300949	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
129.	511202 .09	14.5	200	2900	A	101017300955	B	101017300951	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
130.	511203 .09	14.5	200	2900	A	101017300955	B	101017300951	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
131.	511204 .09	14.5	200	2900	A	101017300955	B	101017300951	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
132.	511205 .09	14.5	200	2900	A	101017300953	B	101017300954	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
133.	511206 .09	14.5	200	2900	A	101017300953	B	101017300954	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
134.	511207 .09	14.5	200	2900	A	101017300953	B	101017300954	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
135.	511208 .09	14.5	200	2900	A	101017300953	B	101017300954	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
136.	511209 .09	14.5	200	2900	A	101017300952	B	101017300922	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
137.	511210 .09	14.5	200	2900	A	101017300952	B	101017300922	6.82	6.29	6.62 x E-4	281	302	290	2.72	0.957	99.0	0.26	1.09x 10-2	97603		
138.	511317 .09	14.5	200	2900	A	101017300952	B	101017300922	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603	conf + mqc	
139.	511318 .09	14.5	200	2900	A	101017300957	B	101017300958	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
140.	511319 .09	14.5	200	2900	A	101017300957	B	101017300958	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
141.	511320 .09	14.5	200	2900	A	101017300957	B	101017300958	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
142.	511321 .09	14.5	200	2900	A	101017300957	B	101017300958	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
143.	511322 .09	14.5	200	2900	A	101017300921	B	101017300919	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
144.	511323 .09	14.5	200	2900	A	101017300921	B	101017300919	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
145.	511324 .09	14.5	200	2900	A	101017300921	B	101017300919	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
146.	511325 .09	14.5	200	2900	A	101017300917	B	101017300923	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
147.	511326 .09	14.5	200	2900	A	101017300917	B	101017300923	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
148.	511328 .09	14.5	200	2900	A	101017300917	B	101017300923	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
149.	511329 .09	14.5	200	2900	A	101017300970	B	101017300960	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
150.	511330 .09	14.5	200	2900	A	101017300970	B	101017300960	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
151.	511331 .09	14.5	200	2900	A	101017300982	B	101017301019	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
152.	511332 .09	14.5	200	2900	A	101017300982	B	101017301019	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
153.	511333 .09	14.5	200	2900	A	101017300982	B	101017301019	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
154.	511334 .09	14.5	200	2900	A	101017300982	B	101017301019	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
155.	511335 .09	14.5	200	2900	A	101017300984	B	101017301014	5.49	5.60	9.47 x E-4	292	315	303	2.45	0.955	111.4	0.28	1.09x 10-2	97603		
156.	511338 .09	14.5	200	2900	A	101017300984	B	101017301014	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
157.	511339 .09	14.5	200	2900	A	101017300984	B	101017301014	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
158.	511340 .09	14.5	200	2900	A	101017301016	B	101017301018	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
159.	511341 .09	14.5	200	2900	A	101017301016	B	101017301018	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
160.	511342 .09	14.5	200	2900	A	101017301016	B	101017301018	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
161.	511343 .09	14.5	200	2900	A	101017301016	B	101017301018	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
162.	511344 .09	14.5	200	2900	A	101017301009	B	101017301010	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
163.	511345 .09	14.5	200	2900	A	101017301009	B	101017301010	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
164.	511346 .09	14.5	200	2900	A	101017301009	B	101017301010	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
165.	511347 .09	14.5	200	2900	A	101017301007	B	101017300933	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2009 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11813

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Quality Control Manager

agru america
quality control dept

Type: 8E-250-8E

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite *Transmissivity Conditions: 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 LL micro Resin Lot #	Geonet Component **Transmissivity Conditions: 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec			
166.	511348 .09	14.5	200	2900	A	101017301007	B	101017300933	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
167.	511349 .09	14.5	200	2900	A	101017301007	B	101017300933	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
168.	511350 .09	14.5	200	2900	A	101017301007	B	101017300933	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
169.	511351 .09	14.5	200	2900	A	1010172972	B	101017300983	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
170.	511352 .09	14.5	200	2900	A	1010172972	B	101017300983	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
171.	511353 .09	14.5	200	2900	A	1010172972	B	101017300983	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
172.	511354 .09	14.5	200	2900	A	101017300985	B	101017301015	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
173.	511355 .09	14.5	200	2900	A	101017300985	B	101017301015	7.64	5.08	9.47 x E-4	281	298	289	2.47	0.955	97.1	0.27	1.09x 10-2	97603		
174.	511356 .09	14.5	200	2900	A	101017300985	B	101017301015	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		mqc
175.	511361 .09	14.5	200	2900	A	101017300985	B	101017301015	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
176.	511462 .09	14.5	200	2900	A	101017301011	B	101017301013	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
177.	511463 .09	14.5	200	2900	A	101017301011	B	101017301013	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
178.	511464 .09	14.5	200	2900	A	101017301011	B	101017301013	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
179.	511465 .09	14.5	200	2900	A	101017301008	B	101017300962	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
180.	511466 .09	14.5	200	2900	A	101017301008	B	101017300962	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
181.	511467 .09	14.5	200	2900	A	101017301008	B	101017300962	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
182.	511468 .09	14.5	200	2900	A	101017301008	B	101017300962	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
183.	511469 .09	14.5	200	2900	A	101017300913	B	1010172979	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
184.	511470 .09	14.5	200	2900	A	101017300913	B	1010172979	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
185.	511471 .09	14.5	200	2900	A	101017300913	B	1010172979	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
186.	511472 .09	14.5	200	2900	A	1010172911	B	1010172912	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
187.	511473 .09	14.5	200	2900	A	1010172911	B	1010172912	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
188.	511474 .09	14.5	200	2900	A	1010172911	B	1010172912	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
189.	511475 .09	14.5	200	2900	A	1010172911	B	1010172912	4.28	3.75	9.16 x E-4	287	309	297	2.40	0.956	96.3	0.27	1.27x 10-2	97603		
190.	511481 .09	14.5	200	2900	A	1010172915	B	1010172920	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
191.	511482 .09	14.5	200	2900	A	1010172915	B	1010172920	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
192.	511483 .09	14.5	200	2900	A	1010172915	B	1010172920	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
193.	511484 .09	14.5	200	2900	A	1010172926	B	1010172867	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
194.	511485 .09	14.5	200	2900	A	1010172926	B	1010172867	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
195.	511486 .09	14.5	200	2900	A	1010172926	B	1010172867	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
196.	511487 .09	14.5	200	2900	A	1010172926	B	1010172867	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
197.	511488 .09	14.5	200	2900	A	1010172872	B	1010172891	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
198.	511489 .09	14.5	200	2900	A	1010172872	B	1010172891	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
199.	511490 .09	14.5	200	2900	A	1010172872	B	1010172891	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
200.	511492 .09	14.5	200	2900	A	1010172888	B	1010172892	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
201.	511493 .09	14.5	200	2900	A	1010172888	B	1010172892	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
202.	511494 .09	14.5	200	2900	A	1010172888	B	1010172892	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
203.	511495 .09	14.5	200	2900	A	1010172888	B	1010172892	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
204.	511496 .09	14.5	200	2900	A	1010172994	B	1010172913	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
205.	511497 .09	14.5	200	2900	A	1010172994	B	1010172913	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		
206.	511498 .09	14.5	200	2900	A	1010172994	B	1010172913	5.50	5.68	9.16 x E-4	293	311	299	2.78	0.958	94.3	0.29	1.27x 10-2	97603		certs sent
207.	511403 .09	14.5	200	2900	A	1010172889	B	1010172922	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		CONF+MQC
208.	511404 .09	14.5	200	2900	A	1010172889	B	1010172922	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
209.	511405 .09	14.5	200	2900	A	1010172889	B	1010172922	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
210.	511406 .09	14.5	200	2900	A	1010172889	B	1010172922	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
211.	511407 .09	14.5	200	2900	A	1010172914	B	1010172993	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
212.	511408 .09	14.5	200	2900	A	1010172914	B	1010172993	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
213.	511409 .09	14.5	200	2900	A	1010172914	B	1010172993	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
214.	511410 .09	14.5	200	2900	A	1010172982	B	1010172909	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
215.	511411 .09	14.5	200	2900	A	1010172982	B	1010172909	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
216.	511412 .09	14.5	200	2900	A	1010172982	B	1010172909	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
217.	511413 .09	14.5	200	2900	A	1010172982	B	1010172909	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
218.	511414 .09	14.5	200	2900	A	1010173912	B	1010172882	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
219.	511415 .09	14.5	200	2900	A	1010173912	B	1010172882	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
220.	511416 .09	14.5	200	2900	A	1010173912	B	1010172882	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2008 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11813

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0500

Quality Control Manager

agru america
quality control dept

Type: 8E-250-8E

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite *Transmissivity Conditions: 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 LL micro	Geonet Component **Transmissivity Conditions: 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec	Resin Lot #		
221.	511517 .09	14.5	200	2900	A	101017300961	B	101017300918	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
222.	511518 .09	14.5	200	2900	A	101017300961	B	101017300918	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
223.	511519 .09	14.5	200	2900	A	101017300961	B	101017300918	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
224.	511520 .09	14.5	200	2900	A	101017300961	B	101017300918	6.79	7.29	1.19 x E-3	284	303	297	2.21	0.954	97.9	0.27	1.27x 10-2	97603		
225.	511525 .09	14.5	200	2900	A	101017300963	B	101017300968	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
226.	511526 .09	14.5	200	2900	A	101017300963	B	101017300968	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
227.	511527 .09	14.5	200	2900	A	101017300963	B	101017300968	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
228.	511528 .09	14.5	200	2900	A	101017300969	B	101017300965	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
229.	511529 .09	14.5	200	2900	A	101017300969	B	101017300965	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
230.	511530 .09	14.5	200	2900	A	101017300969	B	101017300965	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
231.	511531 .09	14.5	200	2900	A	101017300969	B	101017300965	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
232.	511532 .09	14.5	200	2900	A	101017300971	B	101017300974	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
233.	511533 .09	14.5	200	2900	A	101017300971	B	101017300974	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
234.	511534 .09	14.5	200	2900	A	101017300971	B	101017300974	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
235.	511535 .09	14.5	200	2900	A	101017300976	B	101017300979	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
236.	511536 .09	14.5	200	2900	A	101017300976	B	101017300979	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
237.	511537 .09	14.5	200	2900	A	101017300976	B	101017300979	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
238.	511538 .09	14.5	200	2900	A	101017300976	B	101017300979	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
239.	511539 .09	14.5	200	2900	A	1010172910	B	1010172901	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
240.	511544 .09	14.5	200	2900	A	1010172910	B	1010172901	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
241.	511545 .09	14.5	200	2900	A	1010172910	B	1010172901	4.60	5.14	1.19 x E-3	280	305	296	2.71	0.956	104.2	0.27	1.27x 10-2	97603		
242.	511546 .09	14.5	200	2900	A	1010172931	B	1010172900	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		2fl mqc
243.	511547 .09	14.5	200	2900	A	1010172931	B	1010172900	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
244.	511548 .09	14.5	200	2900	A	1010172931	B	1010172900	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
245.	511549 .09	14.5	200	2900	A	1010172931	B	1010172900	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
246.	511550 .09	14.5	200	2900	A	1010173002	B	1010172883	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
247.	511551 .09	14.5	200	2900	A	1010173002	B	1010172883	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
248.	511552 .09	14.5	200	2900	A	1010173002	B	1010172883	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
249.	511553 .09	14.5	200	2900	A	101017300935	B	101017301003	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
250.	511554 .09	14.5	200	2900	A	101017300935	B	101017301003	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
251.	511555 .09	14.5	200	2900	A	101017300935	B	101017301003	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
252.	511556 .09	14.5	200	2900	A	101017300935	B	101017301003	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
253.	511557 .09	14.5	200	2900	A	101017301006	B	101017301001	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
254.	511558 .09	14.5	200	2900	A	101017301006	B	101017301001	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
255.	511559 .09	14.5	200	2900	A	101017301006	B	101017301001	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
256.	511560 .09	14.5	200	2900	A	101017301004	B	101017300993	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
257.	511561 .09	14.5	200	2900	A	101017301004	B	101017300993	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
258.	511562 .09	14.5	200	2900	A	101017301004	B	101017300993	6.42	6.74	1.11 x E-3	285	300	292	2.66	0.956	92.2	0.26	1.27x 10-2	97603		
259.	511572 .09	14.5	200	2900	A	101017301004	B	101017300993	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
260.	511573 .09	14.5	200	2900	A	101017300994	B	101017300920	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
261.	511574 .09	14.5	200	2900	A	101017300994	B	101017300920	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
262.	511575 .09	14.5	200	2900	A	101017300994	B	101017300920	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
263.	511576 .09	14.5	200	2900	A	101017300980	B	1010172917	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
264.	511677 .09	14.5	200	2900	A	101017300980	B	1010172917	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
265.	511678 .09	14.5	200	2900	A	101017300980	B	1010172917	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
266.	511679 .09	14.5	200	2900	A	101017300980	B	1010172917	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
267.	511680 .09	14.5	200	2900	A	101017300973	B	101017300978	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
268.	511681 .09	14.5	200	2900	A	101017300973	B	101017300978	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
269.	511682 .09	14.5	200	2900	A	101017300973	B	101017300978	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
270.	511683 .09	14.5	200	2900	A	101017300932	B	101017300934	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
271.	511684 .09	14.5	200	2900	A	101017300932	B	101017300934	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
272.	511685 .09	14.5	200	2900	A	101017300932	B	101017300934	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
273.	511686 .09	14.5	200	2900	A	101017300932	B	101017300934	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
274.	511687 .09	14.5	200	2900	A	101017301005	B	101017300937	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		
275.	511688 .09	14.5	200	2900	A	101017301005	B	101017300937	8.88	7.62	1.11 x E-3	288	304	297	2.76	0.957	107.7	0.27	1.27x 10-2	97603		certs sent

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2009 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11813

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Quality Control Manager

agru america quality control dept

Type: BE-250-8E

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite *Transmissivity Conditions: 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 LL micro	Geonet Component **Transmissivity Conditions: 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec	Resin Lot #		
276.	511693 .09	14.5	200	2900	A	1010173301005	B	1010173300937	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		CONF+MQC
277.	511694 .09	14.5	200	2900	A	1010173300977	B	1010173300996	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
278.	511695 .09	14.5	200	2900	A	1010173300977	B	1010173300996	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
279.	511696 .09	14.5	200	2900	A	1010173300977	B	1010173300996	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
280.	511697 .09	14.5	200	2900	A	1010173300977	B	1010173300996	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
281.	511698 .09	14.5	200	2900	A	1010172969	B	1010173300992	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
282.	511699 .09	14.5	200	2900	A	1010172969	B	1010173300992	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
283.	511600 .09	14.5	200	2900	A	1010172969	B	1010173300992	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
284.	511601 .09	14.5	200	2900	A	1010173300925	B	1010173300926	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
285.	511602 .09	14.5	200	2900	A	1010173300925	B	1010173300926	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
286.	511603 .09	14.5	200	2900	A	1010173300925	B	1010173300926	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
287.	511604 .09	14.5	200	2900	A	1010173300925	B	1010173300926	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
288.	511605 .09	14.5	200	2900	A	1010173300989	B	1010173300930	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
289.	511606 .09	14.5	200	2900	A	1010173300989	B	1010173300930	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
290.	511607 .09	14.5	200	2900	A	1010173300989	B	1010173300930	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
291.	511608 .09	14.5	200	2900	A	1010170712	B	1010173300936	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
292.	511609 .09	14.5	200	2900	A	1010170712	B	1010173300936	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
293.	511610 .09	14.5	200	2900	A	1010170712	B	1010173300936	6.44	6.81	1.55 x E-3	283	305	298	2.53	0.956	110.1	0.29	1.27x 10-2	97603		
294.	511614 .09	14.5	200	2900	A	1010170712	B	1010173300936	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
295.	511615 .09	14.5	200	2900	A	1010173300927	B	1010173300928	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
296.	511616 .09	14.5	200	2900	A	1010173300927	B	1010173300928	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
297.	511617 .09	14.5	200	2900	A	1010173300927	B	1010173300928	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
298.	511618 .09	14.5	200	2900	A	1010173300990	B	1010173300929	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
299.	511619 .09	14.5	200	2900	A	1010173300990	B	1010173300929	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
300.	511620 .09	14.5	200	2900	A	1010173300990	B	1010173300929	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
301.	511621 .09	14.5	200	2900	A	1010173300990	B	1010173300929	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
302.	511622 .09	14.5	200	2900	A	1010173300931	B	1010172948	5.52	6.98	1.55 x E-3	281	299	292	2.65	0.957	103.8	0.27	1.27x 10-2	97603		
303.	513104 .09	14.5	200	2900	A	1010173300931	B	1010172948	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
304.	513105 .09	14.5	200	2900	A	1010173300931	B	1010172948	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
305.	513106 .09	14.5	200	2900	A	1010173300975	B	1010173300967	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
306.	513107 .09	14.5	200	2900	A	1010173300975	B	1010173300967	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
307.	513108 .09	14.5	200	2900	A	1010173300975	B	1010173300967	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
308.	513109 .09	14.5	200	2900	A	1010173300975	B	1010173300967	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
309.	513110 .09	14.5	200	2900	A	1010172893	B	1010172918	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
310.	513111 .09	14.5	200	2900	A	1010172893	B	1010172918	4.21	5.45	1.55 x E-3	292	317	305	2.61	0.955	101.8	0.27	1.27x 10-2	97603		
311.	513112 .09	14.5	200	2900	A	1010172893	B	1010172918	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	97603		2ft mqc
312.	513117 .09	14.5	200	2900	A	1010173300986	B	1010173300928	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
313.	513218 .09	14.5	200	2900	A	1010173300986	B	1010173300928	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
314.	513219 .09	14.5	200	2900	A	1010173300986	B	1010173300928	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
315.	513220 .09	14.5	200	2900	A	1010173300986	B	1010173300928	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
316.	513221 .09	14.5	200	2900	A	1010170932	B	1010172899	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
317.	513222 .09	14.5	200	2900	A	1010170932	B	1010172899	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
318.	513223 .09	14.5	200	2900	A	1010170932	B	1010172899	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
319.	513224 .09	14.5	200	2900	A	1010172962	B	1010173300987	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
320.	513225 .09	14.5	200	2900	A	1010172962	B	1010173300987	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
321.	513226 .09	14.5	200	2900	A	1010172962	B	1010173300987	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
322.	513227 .09	14.5	200	2900	A	1010172962	B	1010173300987	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
323.	513228 .09	14.5	200	2900	A	1010173003	B	1010172925	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
324.	513229 .09	14.5	200	2900	A	1010173003	B	1010172925	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
325.	513230 .09	14.5	200	2900	A	1010173003	B	1010172925	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
326.	513331 .09	14.5	200	2900	A	1010173000	B	1010172894	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
327.	513332 .09	14.5	200	2900	A	1010173000	B	1010172894	6.24	4.08	9.89 x E-4	286	297	291	2.29	0.955	104.3	0.27	1.27x 10-2	08L1099		
328.	513337 .09	14.5	200	2900	A	1010173000	B	1010172894	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
329.	513338 .09	14.5	200	2900	A	1010173000	B	1010172894	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
330.	513339 .09	14.5	200	2900	A	1010172873	B	1010173300998	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2009 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11813

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Quality Control Manager

agru america quality control dept

Type: 9E-250-8E

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite *Transmissivity Conditions: 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 LL micro Resin Lot #	Geonet Component **Transmissivity Conditions: 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec			
331.	513340 .09	14.5	200	2900	A	1010172873	B	101017300998	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
332.	513341 .09	14.5	200	2900	A	1010172873	B	101017300998	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
333.	513342 .09	14.5	200	2900	A	101017300924	B	1010172896	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
334.	513343 .09	14.5	200	2900	A	101017300924	B	1010172896	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
335.	513344 .09	14.5	200	2900	A	101017300924	B	1010172896	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
336.	513345 .09	14.5	200	2900	A	101017300924	B	1010172896	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
337.	513346 .09	14.5	200	2900	A	101017300997	B	1010170897	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
338.	513347 .09	14.5	200	2900	A	101017300997	B	1010170897	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
339.	513348 .09	14.5	200	2900	A	101017300997	B	1010170897	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
340.	513349 .09	14.5	200	2900	A	101017300988	B	1010172898	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
341.	513350 .09	14.5	200	2900	A	101017300988	B	1010172898	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
342.	513351 .09	14.5	200	2900	A	101017300988	B	1010172898	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
343.	513352 .09	14.5	200	2900	A	101017300988	B	1010172898	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
344.	513353 .09	14.5	200	2900	A	1010172887	B	1010172903	5.65	4.85	9.89 x E-4	281	299	289	2.52	0.955	110.2	0.29	1.27x 10-2	08L1099		
345.	513354 .09	14.5	200	2900	A	1010172887	B	1010172903	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		CONF+MQC
346.	513355 .09	14.5	200	2900	A	1010172887	B	1010172903	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
347.	513356 .09	14.5	200	2900	A	101017300995	B	1010172878	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
348.	513357 .09	14.5	200	2900	A	101017300995	B	1010172878	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
349.	513358 .09	14.5	200	2900	A	101017300995	B	1010172878	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
350.	513359 .09	14.5	200	2900	A	101017300995	B	1010172878	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
351.	513360 .09	14.5	200	2900	A	1010172904	B	1010172956	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
352.	513361 .09	14.5	200	2900	A	1010172904	B	1010172956	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
353.	513362 .09	14.5	200	2900	A	1010172904	B	1010172956	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
354.	513363 .09	14.5	200	2900	A	1010172963	B	10101730099	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
355.	513364 .09	14.5	200	2900	A	1010172963	B	10101730099	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
356.	513365 .09	14.5	200	2900	A	1010172963	B	10101730099	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
357.	513366 .09	14.5	200	2900	A	1010172963	B	10101730099	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
358.	513367 .09	14.5	200	2900	A	1010175545	B	1010175558	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
359.	513368 .09	14.5	200	2900	A	1010175545	B	1010175558	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
360.	513369 .09	14.5	200	2900	A	1010175545	B	1010175558	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
361.	513370 .09	14.5	200	2900	A	1010175565	B	1010175555	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
362.	513371 .09	14.5	200	2900	A	1010175565	B	1010175555	3.09	2.69	1.06 x E-3	295	301	298	2.38	0.952	99.6	0.28	9.94x 10-3	08L1099		
363.	513377 .09	14.5	200	2900	A	1010175565	B	1010175555	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
364.	513378 .09	14.5	200	2900	A	10101730099	B	1010175551	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
365.	513379 .09	14.5	200	2900	A	10101730099	B	1010175551	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
366.	513380 .09	14.5	200	2900	A	10101730099	B	1010175551	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
367.	513381 .09	14.5	200	2900	A	1010175562	B	1010175559	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
368.	513382 .09	14.5	200	2900	A	1010175562	B	1010175559	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
369.	513383 .09	14.5	200	2900	A	1010175562	B	1010175559	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
370.	513384 .09	14.5	200	2900	A	1010175562	B	1010175559	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
371.	513385 .09	14.5	200	2900	A	1010175564	B	1010175561	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
372.	513386 .09	14.5	200	2900	A	1010175564	B	1010175561	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
373.	513387 .09	14.5	200	2900	A	1010175564	B	1010175561	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
374.	513388 .09	14.5	200	2900	A	1010175547	B	1010175550	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
375.	513489 .09	14.5	200	2900	A	1010175547	B	1010175550	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
376.	513490 .09	14.5	200	2900	A	1010175547	B	1010175550	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
377.	513491 .09	14.5	200	2900	A	1010175547	B	1010175550	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
378.	513492 .09	14.5	200	2900	A	1010175553	B	1010175549	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
379.	513493 .09	14.5	200	2900	A	1010175553	B	1010175549	6.21	6.08	1.06 x E-3	286	315	304	2.75	0.956	114.7	0.28	9.94x 10-3	08L1099		
380.	513497 .09	14.5	200	2900	A	1010175553	B	1010175549	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		2ft mqc
381.	513498 .09	14.5	200	2900	A	1010175556	B	1010175557	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
382.	513499 .09	14.5	200	2900	A	1010175556	B	1010175557	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
383.	513400 .09	14.5	200	2900	A	1010175556	B	1010175557	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
384.	513401 .09	14.5	200	2900	A	1010175556	B	1010175557	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
385.	513402 .09	14.5	200	2900	A	1010175548	B	1010175546	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		

Geocomposite Quality Certification

Customer: Waste Services
PO#: 2009 PARTIAL CL JED SWF
Destination: St. Cloud, FL
doc #: 11815

Agru America certifies the following results for the above project:

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Quality Control Manager

agru america quality control dept

Type: 8E-250-SE

	roll #	wid	len	area	SIDE	TEX. ROLL #	SIDE	TEX. ROLL #	COMP ASTM D7005 PLY-A	COMP ASTM D7005 PLY-B	COMP ASTM D4716 Trans*	NET ASTM D5199 lo	NET ASTM D5199 hi	NET ASTM D5199 ave	NET ASTM D4218 Car	NET ASTM D792 Den	NET ASTM D5035 Ten	NET ASTM D5261 M/U	NET ASTM D4716 Trans**	Geocomposite *Transmissivity Conditions: 0.33 gradient, 500 psf, 24 hr seat site soil / comp / 40 LL micro	Geonet Component **Transmissivity Conditions: 0.1 gradient, 10,000 psf 15 minute seating time	
		ft	ft	sqft					lb/in	lb/in	m²/sec	mil	mil	mil	%	g/cc	lb/in	lb/ft²	m²/sec	Resin Lot #		
386.	513403 .09	14.5	200	2900	A	1010175546	B	1010175546	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
387.	513404 .09	14.5	200	2900	A	1010175546	B	1010175546	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
388.	513405 .09	14.5	200	2900	A	1010175554	B	1010175560	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
389.	513406 .09	14.5	200	2900	A	1010175554	B	1010175560	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
390.	513407 .09	14.5	200	2900	A	1010175554	B	1010175560	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
391.	513408 .09	14.5	200	2900	A	1010175554	B	1010175560	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
392.	513409 .09	14.5	200	2900	A	1010175570	B	1010175563	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
393.	513410 .09	14.5	200	2900	A	1010175570	B	1010175563	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
394.	513411 .09	14.5	200	2900	A	1010175570	B	1010175563	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
395.	513412 .09	14.5	200	2900	A	1010175552	B	1010172897	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
396.	513413 .09	14.5	200	2900	A	1010175552	B	1010172897	6.73	5.86	6.89 x E-4	285	307	298	2.42	0.955	111.7	0.28	9.94x 10-3	08L1099		
397.	513417 .09	14.5	200	2900	A	1010175552	B	1010172897	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
398.	513418 .09	14.5	200	2900	A	1010175552	B	1010172897	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
399.	513419 .09	14.5	200	2900	A	1010172907	B	1010172908	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
400.	513420 .09	14.5	200	2900	A	1010172907	B	1010172908	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
401.	513421 .09	14.5	200	2900	A	1010172907	B	1010172908	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
402.	513422 .09	14.5	200	2900	A	1010172919	B	1010172927	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
403.	513423 .09	14.5	200	2900	A	1010172919	B	1010172927	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
404.	513424 .09	14.5	200	2900	A	1010172919	B	1010172927	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
405.	513425 .09	14.5	200	2900	A	1010172919	B	1010172927	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
406.	513426 .09	14.5	200	2900	A	1010172941	B	101017300999	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
407.	513427 .09	14.5	200	2900	A	1010172941	B	101017300999	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
408.	513428 .09	14.5	200	2900	A	1010172941	B	101017300999	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
409.	513429 .09	14.5	200	2900	A	1010172905	B	1010172906	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
410.	513430 .09	14.5	200	2900	A	1010172905	B	1010172906	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
411.	513431 .09	14.5	200	2900	A	1010172905	B	1010172906	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
412.	513432 .09	14.5	200	2900	A	1010172905	B	1010172906	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
413.	513433 .09	14.5	200	2900	A	1010172921	B	1010172923	4.99	6.07	6.89 x E-4	293	311	300	2.54	0.955	97.6	0.27	9.94x 10-3	08L1099		
414.	513439 .09	14.5	200	2900	A	1010172921	B	1010172923	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		CONF+MQC
415.	513440 .09	14.5	200	2900	A	1010172921	B	1010172923	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
416.	513441 .09	14.5	200	2900	A	1010172930	B	1010172932	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
417.	513442 .09	14.5	200	2900	A	1010172930	B	1010172932	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
418.	513443 .09	14.5	200	2900	A	1010172930	B	1010172932	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
419.	513444 .09	14.5	200	2900	A	1010172930	B	1010172932	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
420.	513445 .09	14.5	200	2900	A	1010172942	B	101017301002	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
421.	513446 .09	14.5	200	2900	A	1010172942	B	101017301002	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
422.	513447 .09	14.5	200	2900	A	1010172942	B	101017301002	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
423.	513448 .09	14.5	200	2900	A	101017301020	B	101017301000	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
424.	513549 .09	14.5	200	2900	A	101017301020	B	101017301000	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
425.	513550 .09	14.5	200	2900	A	101017301020	B	101017301000	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
426.	513551 .09	14.5	200	2900	A	101017301020	B	101017301000	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
427.	513552 .09	14.5	200	2900	A	101017301001	B	1010172862	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
428.	513553 .09	14.5	200	2900	A	101017301001	B	1010172862	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
429.	513554 .09	14.5	200	2900	A	101017301001	B	1010172862	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
430.	513555 .09	14.5	200	2900	A	1010172868	B	1010172871	6.06	6.86	1.15 x E-03	284	316	301	2.40	0.954	101.2	0.28	9.94x 10-3	08L1099		
431.	513556 .09	14.5	200	2900	A	1010172868	B	1010172871	6.13	5.92	1.15 x E-03	282	307	296	2.38	0.956	95.3	0.27	9.94x 10-3	08L1099		

BAMBERGER POLYMERS INC.
12600 N. FEATHERWOOD DR.
SUITE 300
HOUSTON, TX 77034
Tel: 281-481-9100
Fax: 281-484-6222

10/28/08

AGRU/AMERICA INC
500 GARRISON ROAD
CSX/RR DELV CARRIER
GEORGETOWN, SC 29440

Attn: GRANT PALMER

Re: Material Certification

Customer PO #:	VBL
Quantity:	163,550 LB
Bamberger Order #:	4109960
Invoice #:	1049837
Ship Date:	10/21/08
Product:	NAT VIRGIN HDPE
Folio #:	97646
Hopper Car #:	ELTX 3350
Melt:	Nominal .30
Density:	.9570

LOT# 97646

We look forward to your continued business. If you need further assistance, please do not hesitate to call.

Bamberger Polymers

Lynnette Russo

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BAMBERGER POLYMERS INC.
12600 N. FEATHERWOOD DR.
SUITE 300
HOUSTON, TX 77034
Tel: 281-481-9100
Fax: 281-484-6222

10/31/08

AGRU/AMERICA INC
500 GARRISON ROAD
CSX/RR DELV CARRIER
GEORGETOWN, SC 29440

Attn: GRANT PALMER

Re: Material Certification

Customer PO #:	VER/ROBERT
Quantity:	197,250 LB
Bamberger Order #:	4109964
Invoice #:	1050060
Ship Date:	10/29/08
Product:	NAT VIRGIN HDPE
Folio #:	97603
Hopper Car #:	FPAX 201484
Melt:	Nominal .30
Density:	.9570

LOT# 97603

We look forward to your continued business. If you need further assistance, please do not hesitate to call.

Bamberger Polymers

Lynnette Russo

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Formosa Plastics Corporation, Texas

201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT TX 77978

PHONE:(888)FPCUSA3

QUALITY REPORT

CUSTOMER:PURE POLYMERS LLC
500 GARRISON ROAD

GEORGETOWN SC 29440
PRODUCT : HB5502B
RAILCAR CEFX051795
ASTM CLASSIFICATION:GP4-16340

S/O NO : E1CA410
CUSTOMER PO : PO0004930
DATE SHIPPED: 12/30/08
LOT NO : 08L1099
WEIGHT : 182,000.00
CUSTID:FT03628 SPIDHC

TEST ITEM	REFERENCE METHOD	TEST VALUE
Melt Index,g/10min	ASTM D1238	.33
Density, g/cm3	ASTM D1505	.9543

QC SUPERVISOR: JESSE CHANG

DALCO
NONWOVENS, LLC

March 30, 2009

Agru/America, Inc.
500 Garrison Road
Georgetown, SC 29440

Re: DalTex 1080ENH
Doc#: 11813 JED LF
Roll #s: 1010170701; 1010170703; 1010170708; 1010170709-1010170713; 1010170716; 1010170719; 1010170720; 1010170735; 1010170740; 1010170765; 1010170779; 1010170810; 1010170828; 1010170845; 1010170846; 1010170862; 1010170864; 1010170873; 1010170879; 1010170880; 010170884; 1010170915; 1010170923; 1010170932; 1010170939; 1010172862-1010172894; 1010172896-1010172901; 1010172903-1010172923; 1010172925-1010172928; 1010172930-1010172932; 1010172941; 1010172942; 1010172944-1010172957; 1010172959; 1010172961-1010172967; 1010172969-1010172980; 1010172982-1010172988; 1010172990; 1010172992-1010172998; 1010173000-1010173011-1010173913-1010173916; 101017300917-101017301048; 1010175545-1010175570.

Dear Sir/Madam:

This is to certify that DalTex 1080ENH is a high quality needle-punched nonwoven geotextile manufactured by DALCO Nonwovens, LLC of 100% polypropylene staple fibers. Stable within a pH range of 2 to 13, the fibers are randomly networked to form a high strength dimensionally stable fabric. This fabric resists ultraviolet deterioration, rotting and biological degradation and it is inert to commonly encountered soil chemicals. It meets or exceeds the following physical properties:

Fabric Property	Test Method	Units	Minimum Average Roll Value
Weight	ASTM D 5261	oz/yd^2	8.0 (272 g/m^2)
Thickness	ASTM D 5199	mils	100 (2.54 mm)
Grab Tensile	ASTM D 4632	lbs.	225 (1.02kN)
Grab Elongation	ASTM D 4632	%	50
Trap Tear	ASTM D 4533	lbs.	90(.40 kN)
Puncture	ASTM D 4833	lbs.	130 (.580kN)
CBR Puncture Strength	ASTM D 6241	lbs.	500
Mullen Burst	ASTM D 3786	psi	400(2756kPa)
Permittivity	ASTM D 4491	sec^{-2}	1.3
AOS	ASTM D 4751	US Sieve	80(.180 mm)
UV Resistance after 500 hrs.	ASTM D 4355	% Strength Retained	70

Sincerely,

Andrea D. Brawley

Andrea Brawley
Quality Assurance Manager

DALCO NONWOVENS, LLC ROLL DATA

PURCHASE ORDER NUMBER: 004971 **DOC #:** 11813 JED LF

PRODUCT / STYLE NAME: DALTEX 1080ENH

ROLL NUMBER	AVERAGE WEIGHT MD	AVERAGE GRAB TENSILE MD	AVERAGE ELONGATION MD	AVERAGE GRAB TENSILE XMD	AVERAGE ELONGATION XMD	AVERAGE TRAP TEAR MD	AVERAGE TRAP TEAR XMD	AVERAGE PUNCTURE RESISTANCE	AVERAGE CBR STATIC PUNCTURE	AVERAGE MULLEN BURST	PERMITTIVITY	WATER FLOW RATE	APPARENT OPENING SIZE
1010170701	8.5	242	55	287	55	110	135	147	744	410	1.4	121	80
1010170709	8.2	235	57	285	55	109	131	139	711	415	1.4	121	80
1010170720	8.2	251	55	279	59	121	142	141	722	407	1.4	123	80
1010170735	8.2	246	56	281	58	117	136	142	685	420	1.4	123	80
1010170765	8.3	247	50	267	55	97	122	154	763	410	1.4	121	80
1010170779	8.5	258	51	281	56	99	119	137	744	410	1.4	121	80
1010170810	8.3	235	53	272	53	121	136	138	735	410	1.4	123	80
1010170828	8.2	243	51	281	57	115	130	144	738	435	1.4	123	80
1010170845	8.1	227	56	257	61	99	145	151	698	405	1.4	120	80
1010170862	8.5	245	60	277	57	113	131	142	730	429	1.4	120	80
1010170880	8.3	229	59	282	52	99	128	140	723	405	1.4	120	80
1010170915	8.1	239	57	257	55	97	129	132	788	425	1.4	118	80
1010170939	8.1	231	52	265	53	107	147	153	717	415	1.4	121	80
1010172862	8.3	235	52	269	52	95	131	144	694	410	1.4	121	80
1010172872	8.2	240	50	275	53	97	137	138	716	415	1.4	118	80
1010172882	8.3	247	51	272	55	101	135	145	738	405	1.4	120	80
1010172892	8.2	245	55	267	56	108	129	149	651	425	1.4	123	80
1010172902	8.5	237	56	269	51	105	128	137	692	437	1.4	120	80
1010172911	8.5	239	59	262	59	119	121	145	738	444	1.4	120	80
1010172920	8.5	231	52	261	57	115	127	151	718	449	1.4	120	80
1010172930	8.3	242	53	270	58	100	119	147	669	452	1.4	119	80
1010172940	8.4	245	51	280	62	109	129	141	734	437	1.4	119	80
1010172950	8.4	243	57	282	59	121	137	146	733	433	1.4	123	80
1010172960	8.4	251	53	268	55	125	139	144	764	418	1.4	118	80
1010172970	8.3	227	55	257	52	123	145	139	725	409	1.4	120	80
1010172980	8.3	235	53	282	53	117	141	141	667	427	1.4	120	80
1010172990	8.3	237	52	261	51	115	148	140	679	429	1.4	120	80
1010173000	8.3	251	59	267	55	99	135	135	724	434	1.4	123	80
1010173011	8.4	252	56	265	58	103	127	139	774	406	1.4	121	80
101017300921	8.4	238	61	279	52	105	125	146	710	415	1.4	118	80
101017300931	8.5	235	59	277	61	112	122	151	699	429	1.4	118	80
101017300941	8.5	240	58	281	61	98	119	154	719	436	1.4	118	80
101017300951	8.2	246	60	275	65	100	140	157	757	430	1.4	119	80
101017300961	8.1	249	61	272	59	105	142	155	709	435	1.4	121	80
101017300971	8.2	235	52	278	52	109	137	148	806	437	1.4	120	80
101017300981	8.2	232	56	267	55	112	125	137	775	439	1.4	120	80
101017300991	8.2	229	51	281	56	114	122	135	740	440	1.4	121	80
101017301001	8.1	232	53	265	59	105	115	141	723	452	1.4	123	80
101017301011	8.1	239	53	269	60	107	129	140	695	449	1.4	123	80

101017301021	8.1	235	54	261	61	123	155	151	726	441	1.4	123	80
101017301031	8.1	233	56	275	57	105	152	147	764	432	1.4	120	80
101017301041	8.1	237	55	269	59	99	137	132	704	435	1.4	122	80
1010175545	8.2	239	53	270	58	119	147	145	759	435	1.4	120	80
1010175550	8.3	242	52	279	61	120	151	149	707	440	1.4	122	80
1010175555	8.2	235	55	269	62	115	139	141	670	437	1.4	120	80
1010175560	8.2	229	53	264	59	117	144	153	692	447	1.4	120	80
1010175565	8.3	245	52	285	57	122	151	159	760	455	1.4	120	80
47	**8.3**	**239**	**55**	**272**	**57**	**109**	**134**	**144**	**724**	**428**	**1.4**	**121**	**80**

Andrea S. Brawley
Quality Manager

APPENDIX W

DRAINAGE GEOCOMPOSITE CONFORMANCE TEST RESULTS (TRI)

March 11, 2009

Mail To:	Bill To:
Mr. Kirk Wills Geosyntec Consultants 14055 Riveredge Drive, Suite 200 Tampa, FL 33637 email: kwills@geosyntec.com	<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility
TRI Job Reference Number:	E2324-78-08
Material(s) Tested:	2 Agru Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel (ASTM D 7005) <==Data Pending

If you have any questions or require any additional information, please call us at
1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

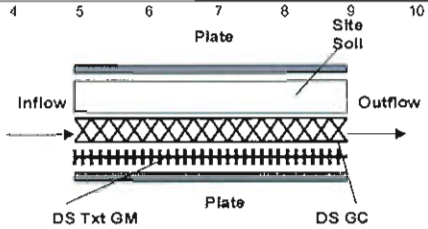
GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru Double Sided Geocomposite
Sample Identification: 510575.09
TRI Log #: E2324-78-08

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Hydraulic Transmissivity (ASTM D 4716)													
Direction Tested: Machine Direction													
Normal Load (psf):	500												
Hydraulic Gradient:	0.33												
Test Length (in)	12												
Test Width (in)	12												
Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate													
Seat Time (hours)	Specimen		1										
Volume (cc)		676	672	672									
Time (s)		10.03	10.01	10.03									
24 Flow Rate (GPM/ft width)		1.07	1.06	1.06							1.06	0.00	
Transmissivity (m^2/s)		6.70E-04	6.67E-04	6.66E-04							6.68E-04	2.02E-06	6.1E-4 min
Test Temp (C)			20.0										
Temp. Corr. Factor			1.000										
Peel Strength (ASTM D 7005)	Data Pending												
A - MD Average Peel Strength (ppi)	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
A - MD Average Peel Strength (g/in)	0	0	0	0	0						0	0	
B - MD Average Peel Strength (ppi)	0.0	0.0	0.0	0.0	0.0						0.0	0.0	
B - MD Average Peel Strength (g/in)	0	0	0	0	0						0	0	



Note: A and B represent a randomly assigned top and bottom of the sample

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru Double Sided Geocomposite
Sample Identification: 511123.09
TRI Log #: E2324-78-08

PARAMETER	TEST REPLICATE NUMBER	MEAN	STD. DEV.	PROJ. SPEC.

Hydraulic Transmissivity (ASTM D 4716)

Direction Tested: Machine Direction

Normal Load (psf):	500
Hydraulic Gradient:	0.33
Test Length (in)	12
Test Width (in)	12

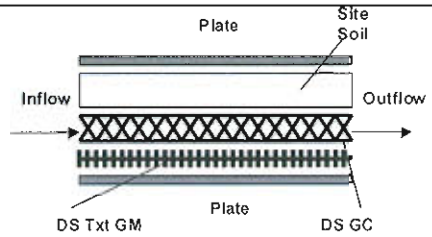


Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate

Seat Time (hours)	Specimen	1				
24	Volume (cc)	649	646	637		
	Time (s)	10.07	10.04	10.00		
	Flow Rate (GPM/ft width)	1.02	1.02	1.01	1.02	0.01
	Transmissivity (m^2/s)	6.41E-04	6.40E-04	6.33E-04	6.38E-04	4.03E-06 6.1E-4 min
	Test Temp (C)		20.0			
	Temp. Corr. Factor		1.000			

Peel Strength (ASTM D 7005)

Data Pending

A - MD Average Peel Strength (ppi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A - MD Average Peel Strength (g/in)	0	0	0	0	0	0	0
B - MD Average Peel Strength (ppi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B - MD Average Peel Strength (g/in)	0	0	0	0	0	0	0

Note: A and B represent a randomly assigned top and bottom of the sample

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

March 11, 2009
March 12, 2009 Updating Peel

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility
TRI Job Reference Number:	E2324-78-08
Material(s) Tested:	2 Agru Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

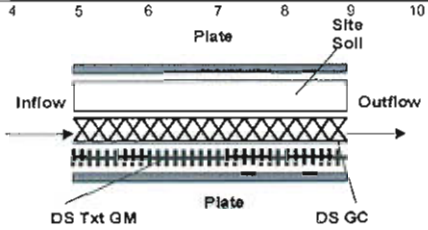
GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru Double Sided Geocomposite
Sample Identification: 510575.09
TRI Log #: E2324-78-08

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Hydraulic Transmissivity (ASTM D 4716)													
Direction Tested: Machine Direction													
Normal Load (psf):	500												
Hydraulic Gradient:	0.33												
Test Length (in)	12												
Test Width (in)	12												
Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate													
Seal Time (hours)	Specimen		1										
Volume (cc)		676	672	672									
Time (s)		10.03	10.01	10.03									
24 Flow Rate (GPM/ft width)		1.07	1.06	1.06							1.06	0.00	
24 Transmissivity (m^2/s)		6.70E-04	6.67E-04	6.66E-04							6.68E-04	2.02E-06	6.1E-4 min
Test Temp (C)			20.0										
Temp. Corr. Factor			1.000										
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	7.7	4.6	4.5	3.3	2.7						4.6	1.9	1 min
A - MD Average Peel Strength (g/in)	3496	2088	2043	1498	1226						2070	877	
B - MD Average Peel Strength (ppi)	6.6	3.2	5.7	3.4	2.1						4.2	1.9	1 min
B - MD Average Peel Strength (g/in)	2996	1453	2588	1544	953						1907	851	

Note: A and B represent a randomly assigned top and bottom of the sample



The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

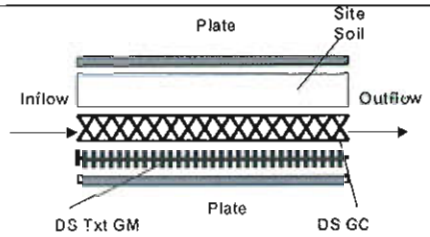
GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru Double Sided Geocomposite
Sample Identification: 511123.09
TRI Log #: E2324-78-08

PARAMETER	TEST REPLICATE NUMBER					MEAN	STD. DEV.	PROJ. SPEC.
Hydraulic Transmissivity (ASTM D 4716)								
Direction Tested: Machine Direction								
Normal Load (psf):	500							
Hydraulic Gradient:	0.33							
Test Length (in)	12							
Test Width (in)	12							
Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate								
Seal Time (hours)	Specimen		1					
	Volume (cc)		649	646	637			
	Time (s)		10.07	10.04	10.00			
24	Flow Rate (GPM/ft width)		1.02	1.02	1.01	1.02	0.01	
	Transmissivity (m^2/s)		6.41E-04	6.40E-04	6.33E-04	6.38E-04	4.03E-06	6.1E-4 min
	Test Temp (C)			20.0				
	Temp. Corr. Factor			1.000				
Peel Strength (ASTM D 7005)								
A - MD Average Peel Strength (ppi)	7.4	13.2	4.2	6.3	5.1	7.2	3.5	1 min
A - MD Average Peel Strength (g/in)	3360	5993	1907	2860	2315	3287	1609	
B - MD Average Peel Strength (ppi)	5.1	10.5	3.5	4.8	4.0	5.6	2.8	1 min
B - MD Average Peel Strength (g/in)	2315	4767	1589	2179	1816	2533	1281	

Note: A and B represent a randomly assigned top and bottom of the sample



The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

March 16, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-82-09
Material(s) Tested:	1 Agru Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC

If you have any questions or require any additional information, please call us at
1-800-880-8378.

Sincerely,

Sam R. Allen

Sam Allen
Vice President
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

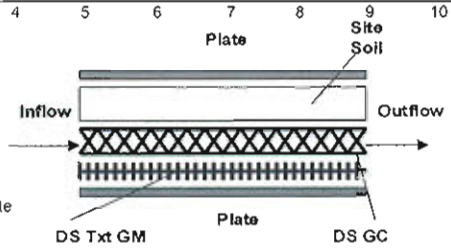
Material: Agru Double Sided Geocomposite
Sample Identification: 511317.09
TRI Log #: E2324-82-09

Hydraulic Transmissivity (ASTM D 4716)

Direction Tested: Machine Direction

Normal Load (psf):	500
Hydraulic Gradient:	0.33
Test Length (in)	12
Test Width (in)	12

Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate



PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Seat Time (hours)	Specimen		1										
Volume (cc)		752	758	756									
Time (s)		8.03	8.12	8.09									
24 Flow Rate (GPM/ft width)		1.48	1.48	1.48							1.48	0.00	
24 Transmissivity (m^2/s)		9.31E-04	9.28E-04	9.29E-04							9.29E-04	1.51E-06	6.1E-4 min
Test Temp (C)			20.0										
Temp. Corr. Factor			1.000										

Peel Strength (ASTM D 7005)

A - MD Average Peel Strength (ppi)	3.4	8.2	2.0	5.5	9.7	5.8	3.2	1 min
A - MD Average Peel Strength (g/in)	1544	3723	908	2497	4404	2615	1458	
B - MD Average Peel Strength (ppi)	4.0	6.7	0.9	6.4	8.4	5.3	2.9	1 min
B - MD Average Peel Strength (g/in)	1816	3042	409	2906	3814	2397	1320	

Note: A and B represent a randomly assigned top and bottom of the sample

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

March 18, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility
TRI Job Reference Number:	E2324-86-08
Material(s) Tested:	1 Agru Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

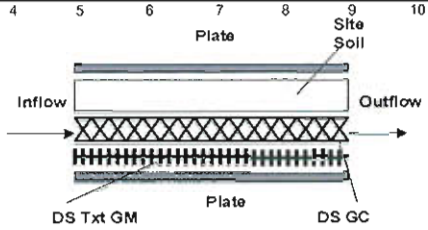
GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru Double Sided Geocomposite
Sample Identification: 511403.09
TRI Log #: E2324-86-08

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Hydraulic Transmissivity (ASTM D 4716)													
Direction Tested: Machine Direction													
Normal Load (psf):	500												
Hydraulic Gradient:	0.33												
Test Length (in)	12												
Test Width (in)	12												
Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate													
Seat Time (hours)	Specimen		1										
Volume (cc)		650	666	614									
Time (s)		5.30	5.44	5.03									
24 Flow Rate (GPM/ft width)		1.94	1.94	1.94							1.94	0.00	
24 Transmissivity (m^2/s)		1.22E-03	1.22E-03	1.21E-03							1.22E-03	2.88E-06	6.1E-4 min
Test Temp (C)			20.0										
Temp. Corr. Factor			1.000										
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	5.4	2.2	10.7	14.6	5.3						7.6	4.9	1 min
A - MD Average Peel Strength (g/in)	2452	999	4858	6628	2406						3469	2246	
B - MD Average Peel Strength (ppi)	4.0	6.1	5.1	10.9	5.0						6.2	2.7	1 min
B - MD Average Peel Strength (g/in)	1816	2769	2315	4949	2270						2624	1235	



Note: A and B represent a randomly assigned top and bottom of the sample

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

March 18, 2009

Mail To:	Bill To:
Mr. Kirk Wills Geosyntec Consultants 14055 Riveredge Drive, Suite 200 Tampa, FL 33637 email: kwills@geosyntec.com	<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-87-10
Material(s) Tested:	1 Agru Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

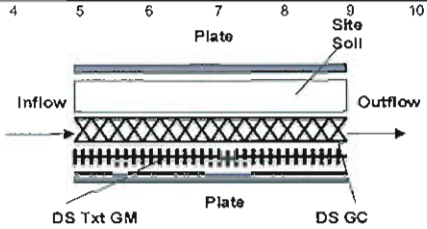
cc: Sam R. Allen, Vice President and Division Manager

GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru Double Sided Geocomposite
Sample Identification: 511693.09
TRI Log #: E2324-87-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Hydraulic Transmissivity (ASTM D 4716)													
Direction Tested: Machine Direction													
Normal Load (psf):	500												
Hydraulic Gradient:	0.33												
Test Length (in)	12												
Test Width (in)	12												
Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate													
Seat Time (hours)	Specimen		1										
Volume (cc)		709	660	698									
Time (s)		6.03	5.60	6.00									
24 Flow Rate (GPM/ft width)		1.86	1.87	1.84							1.86	0.01	
24 Transmissivity (m^2/s)		1.17E-03	1.17E-03	1.16E-03							1.17E-03	8.07E-06	6.1E-4 min
Test Temp (C)			20.0										
Temp. Corr. Factor			1.000										
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	6.4	4.1	2.8	3.1	7.6						4.8	2.1	1 min
A - MD Average Peel Strength (g/in)	2906	1861	1271	1407	3450						2179	957	
B - MD Average Peel Strength (ppi)	3.9	5.0	5.8	4.4	9.0						5.6	2.0	1 min
B - MD Average Peel Strength (g/in)	1771	2270	2633	1998	4086						2551	916	



Note: A and B represent a randomly assigned top and bottom of the sample

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

March 31, 2009

Mail To:	Bill To:
Mr. Kirk Wills Geosyntec Consultants 14055 Riveredge Drive, Suite 200 Tampa, FL 33637 email: kwills@geosyntec.com	<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility
TRI Job Reference Number:	E2326-02-08
Material(s) Tested:	1 Agru Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Agru Double Sided Geocomposite
Sample Identification: 513354.09
TRI Log #: E2326-02-08

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Hydraulic Transmissivity (ASTM D 4716)													
Direction Tested: Machine Direction													
Normal Load (psf):	500												
Hydraulic Gradient:	0.33												
Test Length (in)	12												
Test Width (in)	12												

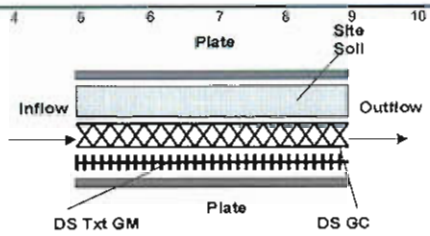


Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate

Seat Time (hours)	Specimen	1				
	Volume (cc)	758	764	766		
	Time (s)	8.01	8.04	8.00		
24	Flow Rate (GPM/ft width)	1.50	1.51	1.52	1.51	0.01
	Transmissivity (m^2/s)	9.41E-04	9.45E-04	9.52E-04	9.46E-04	5.64E-06
	Test Temp (C)		20.0			
	Temp. Corr. Factor		1.000			

6.1E-4 min

Peel Strength (ASTM D 7005)								
A - MD Average Peel Strength (ppi)	2.7	2.3	2.4	0.5	0.9	1.8	1.0	1 min
A - MD Average Peel Strength (g/in)	1226	1044	1090	227	409	799	449	
B - MD Average Peel Strength (ppi)	3.9	1.5	3.5	0.4	1.6	2.2	1.5	1 min
B - MD Average Peel Strength (g/in)	1771	681	1589	182	726	990	668	

Note: A and B represent a randomly assigned top and bottom of the sample

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

April 1, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D.** **Solid Waste Management Facility**
TRI Job Reference Number:	E2326-04-06
Material(s) Tested:	1 Agru Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

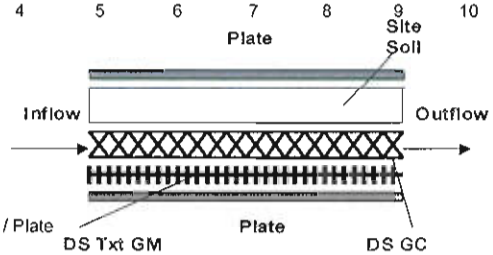
GEOCOMPOSITE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D.

Material: Agru Double Sided Geocomposite
Sample Identification: 513439.09
TRI Log #: E2326-04-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Hydraulic Transmissivity (ASTM D 4716)													
Direction Tested: Machine Direction													
Normal Load (psf):	500												
Hydraulic Gradient:	0.33												
Test Length (in)	12												
Test Width (in)	12												
Plate / Site Soil / Sample / Agru 40 mil Textured LLDPE Geomembrane / Plate													
Seat Time (hours)	Specimen		1										
Volume (cc)		768	755	755									
Time (s)		10.16	9.96	9.95									
24 Flow Rate (GPM/ft width)		1.20	1.20	1.20							1.20	0.00	
Transmissivity (m^2/s)		7.52E-04	7.54E-04	7.54E-04							7.53E-04	1.49E-06	6.1E-4 min
Test Temp (C)			20.0										
Temp. Corr. Factor			1.000										
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	7.9	8.3	7.1	4.4	3.6						6.3	2.1	1 min
A - MD Average Peel Strength (g/in)	3587	3768	3223	1998	1634						2842	966	
B - MD Average Peel Strength (ppi)	10.3	5.5	2.3	2.1	2.3						4.5	3.5	1 min
B - MD Average Peel Strength (g/in)	4676	2497	1044	953	1044						2043	1606	

Note: A and B represent a randomly assigned top and bottom of the sample



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GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

APPENDIX X

GEOTEXTILE MQC CERTIFICATES AND TEST RESULTS

DALCO
NONWOVENS, LLC

March 30, 2009

Agru/America, Inc.
500 Garrison Road
Georgetown, SC 29440

Re: DalTex 1080ENH
Doc#: 11813 JED LF
Roll #s: 1010170701; 1010170703; 1010170708; 1010170709-1010170713; 1010170716; 1010170719; 1010170720; 1010170735; 1010170740; 1010170765; 1010170779; 1010170810; 1010170828; 1010170845; 1010170846; 1010170862; 1010170864; 1010170873; 1010170879; 1010170880; 010170884; 1010170915; 1010170923; 1010170932; 1010170939; 1010172862-1010172894; 1010172896-1010172901; 1010172903-1010172923; 1010172925-1010172928; 1010172930-1010172932; 1010172941; 1010172942; 1010172944-1010172957; 1010172959; 1010172961-1010172967; 1010172969-1010172980; 1010172982-1010172988; 1010172990; 1010172992-1010172998; 1010173000-1010173011-1010173913-1010173916; 101017300917-101017301048; 1010175545-1010175570.

Dear Sir/Madam:

This is to certify that DalTex 1080ENH is a high quality needle-punched nonwoven geotextile manufactured by DALCO Nonwovens, LLC of 100% polypropylene staple fibers. Stable within a pH range of 2 to 13, the fibers are randomly networked to form a high strength dimensionally stable fabric. This fabric resists ultraviolet deterioration, rotting and biological degradation and it is inert to commonly encountered soil chemicals. It meets or exceeds the following physical properties:

Fabric Property	Test Method	Units	Minimum Average Roll Value
Weight	ASTM D 5261	oz/yd^2	8.0 (272 g/m^2)
Thickness	ASTM D 5199	mils	100 (2.54 mm)
Grab Tensile	ASTM D 4632	lbs.	225 (1.02kN)
Grab Elongation	ASTM D 4632	%	50
Trap Tear	ASTM D 4533	lbs.	90(.40 kN)
Puncture	ASTM D 4833	lbs.	130 (.580kN)
CBR Puncture Strength	ASTM D 6241	lbs.	500
Mullen Burst	ASTM D 3786	psi	400(2756kPa)
Permittivity	ASTM D 4491	sec^{-2}	1.3
AOS	ASTM D 4751	US Sieve	80(.180 mm)
UV Resistance after 500 hrs.	ASTM D 4355	% Strength Retained	70

Sincerely,

Andrea D. Brawley

Andrea Brawley
Quality Assurance Manager

DALCO NONWOVENS, LLC ROLL DATA

PURCHASE ORDER NUMBER: 004971 **DOC #:** 11813 JED LF

PRODUCT / STYLE NAME: DALTEX 1080ENH

ROLL NUMBER	AVERAGE WEIGHT MD	AVERAGE GRAB TENSILE MD	AVERAGE ELONGATION MD	AVERAGE GRAB TENSILE XMD	AVERAGE ELONGATION XMD	AVERAGE TRAP TEAR MD	AVERAGE TRAP TEAR XMD	AVERAGE PUNCTURE RESISTANCE	AVERAGE CBR STATIC PUNCTURE	AVERAGE MULLEN BURST	PERMITTIVITY	WATER FLOW RATE	APPARENT OPENING SIZE
1010170701	8.5	242	55	287	55	110	135	147	744	410	1.4	121	80
1010170709	8.2	235	57	285	55	109	131	139	711	415	1.4	121	80
1010170720	8.2	251	55	279	59	121	142	141	722	407	1.4	123	80
1010170735	8.2	246	56	281	58	117	136	142	685	420	1.4	123	80
1010170765	8.3	247	50	267	55	97	122	154	763	410	1.4	121	80
1010170779	8.5	258	51	281	56	99	119	137	744	410	1.4	121	80
1010170810	8.3	235	53	272	53	121	136	138	735	410	1.4	123	80
1010170828	8.2	243	51	281	57	115	130	144	738	435	1.4	123	80
1010170845	8.1	227	56	257	61	99	145	151	698	405	1.4	120	80
1010170862	8.5	245	60	277	57	113	131	142	730	429	1.4	120	80
1010170880	8.3	229	59	282	52	99	128	140	723	405	1.4	120	80
1010170915	8.1	239	57	257	55	97	129	132	788	425	1.4	118	80
1010170939	8.1	231	52	265	53	107	147	153	717	415	1.4	121	80
1010172862	8.3	235	52	269	52	95	131	144	694	410	1.4	121	80
1010172872	8.2	240	50	275	53	97	137	138	716	415	1.4	118	80
1010172882	8.3	247	51	272	55	101	135	145	738	405	1.4	120	80
1010172892	8.2	245	55	267	56	108	129	149	651	425	1.4	123	80
1010172902	8.5	237	56	269	51	105	128	137	692	437	1.4	120	80
1010172911	8.5	239	59	262	59	119	121	145	738	444	1.4	120	80
1010172920	8.5	231	52	261	57	115	127	151	718	449	1.4	120	80
1010172930	8.3	242	53	270	58	100	119	147	669	452	1.4	119	80
1010172940	8.4	245	51	280	62	109	129	141	734	437	1.4	119	80
1010172950	8.4	243	57	282	59	121	137	146	733	433	1.4	123	80
1010172960	8.4	251	53	268	55	125	139	144	764	418	1.4	118	80
1010172970	8.3	227	55	257	52	123	145	139	725	409	1.4	120	80
1010172980	8.3	235	53	282	53	117	141	141	667	427	1.4	120	80
1010172990	8.3	237	52	261	51	115	148	140	679	429	1.4	120	80
1010173000	8.3	251	59	267	55	99	135	135	724	434	1.4	123	80
1010173011	8.4	252	56	265	58	103	127	139	774	406	1.4	121	80
101017300921	8.4	238	61	279	52	105	125	146	710	415	1.4	118	80
101017300931	8.5	235	59	277	61	112	122	151	699	429	1.4	118	80
101017300941	8.5	240	58	281	61	98	119	154	719	436	1.4	118	80
101017300951	8.2	246	60	275	65	100	140	157	757	430	1.4	119	80
101017300961	8.1	249	61	272	59	105	142	155	709	435	1.4	121	80
101017300971	8.2	235	52	278	52	109	137	148	806	437	1.4	120	80
101017300981	8.2	232	56	267	55	112	125	137	775	439	1.4	120	80
101017300991	8.2	229	51	281	56	114	122	135	740	440	1.4	121	80
101017301001	8.1	232	53	265	59	105	115	141	723	452	1.4	123	80
101017301011	8.1	239	53	269	60	107	129	140	695	449	1.4	123	80

101017301021	8.1	235	54	261	61	123	155	151	726	441	1.4	123	80
101017301031	8.1	233	56	275	57	105	152	147	764	432	1.4	120	80
101017301041	8.1	237	55	269	59	99	137	132	704	435	1.4	122	80
1010175545	8.2	239	53	270	58	119	147	145	759	435	1.4	120	80
1010175550	8.3	242	52	279	61	120	151	149	707	440	1.4	122	80
1010175555	8.2	235	55	269	62	115	139	141	670	437	1.4	120	80
1010175560	8.2	229	53	264	59	117	144	153	692	447	1.4	120	80
1010175565	8.3	245	52	285	57	122	151	159	760	455	1.4	120	80
47	**8.3**	**239**	**55**	**272**	**57**	**109**	**134**	**144**	**724**	**428**	**1.4**	**121**	**80**

Andrea S. Brawley
Quality Manager

APPENDIX Y

GEOTEXTILE CONFORMANCE TEST RESULTS (TRI)

March 18, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-86-04
Material(s) Tested:	6 Daltex 8 oz Nonwoven Geotextile(s)
Test(s) Requested:	Mass/Unit Area (ASTM D 5261) Grab Tensile (ASTM D 4632) Trapezoidal Tear (ASTM D 4533) Apparent Opening Size (ASTM D 4751) Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172958
TRI Log #: E2324-86-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.85	4.17	4.07	4.03	3.75	3.48	3.98	3.77	4.37	4.43	3.99	0.29	
Mass/Unit Area (oz/sq.yd)	8.96	9.70	9.47	9.37	8.72	8.09	9.26	8.77	10.16	10.30	9.28	0.68	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	273	267	388	281	266	253	303	227	314	272	284	44	200 min
TD - Tensile Strength (lbs)	395	365	271	371	354	332	306	308	388	413	350	45	200 min
MD - Elong. @ Max. Load (%)	101	101	84	126	112	103	101	102	119	105	105	11	
TD - Elong. @ Max. Load (%)	98	106	104	119	101	109	89	107	119	109	106	9	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	107	100	112	99	108	121	85	93	121	97	104	12	75 min
TD - Tear Strength (lbs)	126	142	138	134	123	138	109	134	103	157	130	16	75 min

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172973
TRI Log #: E2324-86-04

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.69	3.74	3.52	4.31	3.11	3.62	3.60	3.18	3.33	3.09	3.52	0.37	
Mass/Unit Area (oz/sq.yd)	8.58	8.70	8.19	10.03	7.23	8.42	8.37	7.40	7.75	7.19	8.19	0.86	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	277	243	308	249	269	213	194	290	241	272	256	35	200 min
TD - Tensile Strength (lbs)	281	357	306	385	298	337	342	298	345	266	322	37	200 min
MD - Elong. @ Max. Load (%)	110	100	103	123	120	100	101	94	115	115	108	10	
TD - Elong. @ Max. Load (%)	87	96	96	107	111	98	105	99	101	95	100	7	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	82	86	82	71	101	86	109	74	97	108	90	13	75 min
TD - Tear Strength (lbs)	107	141	141	139	126	97	138	124	149	117	128	17	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.125	0.125	0.125	0.125	0.125						0.125	0.000	
Sieve No.	120	120	120	120	120						120		NA

Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)

Water Temp. (C):	22
Correction Factor:	0.953

Test Specimn No. >:	1					2				
Thickness (mils)	144	144	144	144	144	114	114	114	114	114
Time (s)	18.4	18.4	18.7	18.7	18.4	14.9	15.2	15.2	14.9	15.0
Specimen Permittivity (s-1)	1.54	1.54	1.52	1.52	1.54	1.90	1.87	1.87	1.90	1.89
Specimen Permittivity @20°C (sec-1)	1.47	1.47	1.45	1.45	1.47	1.81	1.78	1.78	1.81	1.80
Specimen Flow rate (GPM/ft2)	110	110	108	108	110	136	133	133	136	135
Specimen Permeability (cm/s)	0.54	0.54	0.53	0.53	0.54	0.53	0.52	0.52	0.53	0.52

Test Specimn No. >:	3					4				
Thickness (mils)	132	132	132	132	132	125	125	125	125	125
Time (s)	15.0	15.0	15.3	15.3	15.3	15.3	15.3	15.6	15.6	15.6
Permittivity (s-1)	1.89	1.89	1.85	1.85	1.85	1.85	1.85	1.82	1.82	1.82
Specimen Permittivity @20°C (sec-1)	1.80	1.80	1.77	1.77	1.77	1.77	1.77	1.73	1.73	1.73
Specimen Flow rate (GPM/ft2)	135	135	132	132	132	132	132	130	130	130
Specimen Permeability (cm/s)	0.60	0.60	0.59	0.59	0.59	0.56	0.56	0.55	0.55	0.55

TEMPERATURE CORRECTED VALUES		MEAN		
	Permittivity (s-1)	1.68		NA
	Flow rate (GPM/ft2)	127		
	Permeability (cm/s)	0.55		

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172976
TRI Log #: E2324-86-04

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.82	3.48	4.04	3.42	3.46	3.55	3.92	3.90	4.14	3.50	3.72	0.27	
Mass/Unit Area (oz/sq.yd)	8.89	8.09	9.40	7.95	8.05	8.26	9.12	9.07	9.63	8.14	8.66	0.63	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	233	214	376	299	234	255	236	281	278	248	265	47	200 min
TD - Tensile Strength (lbs)	378	357	389	307	421	307	402	369	369	289	359	44	200 min
MD - Elong. @ Max. Load (%)	91	101	117	115	103	87	104	103	113	109	104	10	
TD - Elong. @ Max. Load (%)	129	101	139	130	78	111	105	107	126	102	113	18	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	84	137	99	95	98	111	73	108	101	89	100	17	75 min
TD - Tear Strength (lbs)	107	123	150	150	112	129	107	152	119	154	130	19	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.125	0.125	0.106	0.125	0.125						0.121	0.008	
Sieve No.	120	120	140	120	120						120		NA

Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)

Water Temp. (C):	22
Correction Factor:	0.953

	1					2				
Test Specimn No. >:										
Thickness (mils)	116	116	116	116	116	128	128	128	128	128
Time (s)	15.9	15.6	15.9	15.9	15.5	15.9	15.9	15.9	15.9	15.9
Specimen Permittivity (s-1)	1.78	1.82	1.78	1.78	1.83	1.78	1.78	1.78	1.78	1.78
Specimen Permittivity @20°C (sec-1)	1.70	1.73	1.70	1.70	1.74	1.70	1.70	1.70	1.70	1.70
Specimen Flow rate (GPM/ft2)	127	130	127	127	130	127	127	127	127	127
Specimen Permeability (cm/s)	0.50	0.51	0.50	0.50	0.51	0.55	0.55	0.55	0.55	0.55

	3					4				
Test Specimn No. >:										
Thickness (mils)	112	112	112	112	112	136	136	136	136	136
Time (s)	16.2	16.6	16.5	16.6	16.5	21.5	21.2	21.5	21.2	21.5
Permittivity (s-1)	1.75	1.71	1.72	1.71	1.72	1.32	1.34	1.32	1.34	1.32
Specimen Permittivity @20°C (sec-1)	1.67	1.63	1.64	1.63	1.64	1.26	1.28	1.26	1.28	1.26
Specimen Flow rate (GPM/ft2)	125	122	123	122	123	94	95	94	95	94
Specimen Permeability (cm/s)	0.47	0.46	0.47	0.46	0.47	0.43	0.44	0.43	0.44	0.43

TEMPERATURE CORRECTED VALUES		MEAN		
Permittivity (s-1)	1.57			NA
Flow rate (GPM/ft2)	118			
Permeability (cm/s)	0.49			

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172991
TRI Log #: E2324-86-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.18	3.42	4.06	3.27	3.25	3.34	3.47	3.89	3.94	3.49	3.53	0.32	
Mass/Unit Area (oz/sq.yd)	7.40	7.95	9.44	7.61	7.56	7.77	8.07	9.05	9.16	8.12	8.21	0.74	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	263	278	310	272	230	251	207	221	243	245	252	30	200 min
TD - Tensile Strength (lbs)	236	334	299	406	331	298	321	334	372	320	325	45	200 min
MD - Elong. @ Max. Load (%)	103	113	90	125	106	93	109	108	118	101	107	11	
TD - Elong. @ Max. Load (%)	95	106	116	127	115	115	98	111	123	98	110	11	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	92	88	99	87	81	116	87	75	87	95	91	11	75 min
TD - Tear Strength (lbs)	109	118	118	113	123	141	119	98	138	133	121	13	75 min

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172995
TRI Log #: E2324-86-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.66	4.12	3.83	4.00	3.76	3.51	3.43	3.97	3.77	3.30	3.74	0.26	
Mass/Unit Area (oz/sq.yd)	8.51	9.58	8.91	9.30	8.75	8.16	7.98	9.23	8.77	7.68	8.69	0.61	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	271	283	285	283	226	290	238	248	284	272	268	23	200 min
TD - Tensile Strength (lbs)	341	327	321	369	373	267	309	327	357	407	340	39	200 min
MD - Elong. @ Max. Load (%)	95	116	86	105	113	91	107	104	117	121	106	12	
TD - Elong. @ Max. Load (%)	104	91	122	118	109	89	115	103	130	127	111	14	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	89	83	89	79	86	113	88	109	113	97	95	13	75 min
TD - Tear Strength (lbs)	105	106	125	120	158	128	113	102	132	107	120	17	75 min

MD Machine Direction TD Transverse Direction NA Not Available

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TRI / Environmental, Inc.
A Texas Research International Company

GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010173010
TRI Log #: E2324-86-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.93	4.08	4.00	4.26	3.92	3.38	3.85	3.60	3.94	3.65	3.86	0.25	
Mass/Unit Area (oz/sq.yd)	9.14	9.49	9.30	9.91	9.12	7.86	8.96	8.37	9.16	8.49	8.98	0.59	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	262	258	315	275	264	231	272	234	287	280	268	25	200 min
TD - Tensile Strength (lbs)	351	421	323	349	334	342	414	326	406	366	363	37	200 min
MD - Elong. @ Max. Load (%)	104	121	113	115	99	104	110	103	107	99	108	7	
TD - Elong. @ Max. Load (%)	102	107	107	108	93	111	100	114	117	114	107	7	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	102	89	98	102	99	103	86	109	112	103	100	8	75 min
TD - Tear Strength (lbs)	117	137	90	149	161	119	139	132	177	145	137	24	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.125	0.125	0.125	0.125	0.125						0.125	0.000	
Sieve No.	120	120	120	120	120						120		NA
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	22												
Correction Factor:	0.953												
Test Specimn No. >:	1					2							
Thickness (mils)	136	136	136	136	136	127	127	127	127	127			
Time (s)	18.7	18.7	18.8	18.7	18.7	18.3	18.3	18.4	18.4	18.4			
Specimen Permittivity (s-1)	1.52	1.52	1.51	1.52	1.52	1.55	1.55	1.54	1.54	1.54			
Specimen Permittivity @20°C (sec-1)	1.45	1.45	1.44	1.45	1.45	1.48	1.48	1.47	1.47	1.47			
Specimen Flow rate (GPM/ft2)	108	108	108	108	108	111	111	110	110	110			
Specimen Permeability (cm/s)	0.50	0.50	0.50	0.50	0.50	0.48	0.48	0.47	0.47	0.47			
Test Specimn No. >:	3					4							
Thickness (mils)	133	133	133	133	133	131	131	131	131	131			
Time (s)	18.4	18.4	18.1	18.4	18.4	21.6	21.5	21.6	21.8	21.6			
Permittivity (s-1)	1.54	1.54	1.57	1.54	1.54	1.31	1.32	1.31	1.30	1.31			
Specimen Permittivity @20°C (sec-1)	1.47	1.47	1.49	1.47	1.47	1.25	1.26	1.25	1.24	1.25			
Specimen Flow rate (GPM/ft2)	110	110	112	110	110	94	94	94	93	94			
Specimen Permeability (cm/s)	0.50	0.50	0.50	0.50	0.50	0.42	0.42	0.42	0.41	0.42			
	TEMPERATURE CORRECTED VALUES							Permittivity (s-1)			1.41		NA
								Flow rate (GPM/ft2)			105		
								Permeability (cm/s)			0.47		

MD Machine Direction TD Transverse Direction NA Not Available

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March 18, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

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Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-86-05
Material(s) Tested:	8 Daltex 8 oz Nonwoven Geotextile(s)
Test(s) Requested:	Mass/Unit Area (ASTM D 5261) Grab Tensile (ASTM D 4632) Trapezoidal Tear (ASTM D 4533) Apparent Opening Size (ASTM D 4751) Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax 512 263 2558

GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010170709
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.94	3.92	3.55	3.90	3.48	3.72	3.87	3.87	3.71	3.90	3.79	0.16	
Mass/Unit Area (oz/sq.yd)	9.16	9.12	8.26	9.07	8.09	8.65	9.00	9.00	8.63	9.07	8.81	0.38	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	284	243	270	268	217	240	261	243	247	264	254	19	200 min
TD - Tensile Strength (lbs)	310	361	245	329	384	338	316	304	289	372	325	42	200 min
MD - Elong. @ Max. Load (%)	93	95	77	87	87	87	85	91	79	81	86	6	
TD - Elong. @ Max. Load (%)	81	87	85	82	89	90	81	92	79	89	86	5	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	179	138	117	137	96	141	112	83	111	104	122	28	75 min
TD - Tear Strength (lbs)	176	195	149	137	184	170	152	127	156	154	160	21	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.090	0.090	0.075	0.090	0.090						0.087	0.007	
Sieve No.	170	170	200	170	170						170		NA
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	21												
Correction Factor:	0.976												
Test Specimn No. >:	1					2							
Thickness (mils)	123	123	123	123	123	110	110	110	110	110			
Time (s)	19.7	20.0	20.0	20.0	20.0	17.8	17.8	17.8	17.8	17.8			
Specimen Permittivity (s-1)	1.44	1.42	1.42	1.42	1.42	1.59	1.59	1.59	1.59	1.59			
Specimen Permittivity @20°C (sec-1)	1.41	1.38	1.38	1.38	1.38	1.56	1.56	1.56	1.56	1.56			
Specimen Flow rate (GPM/ft2)	105	104	104	104	104	116	116	116	116	116			
Specimen Permeability (cm/s)	0.44	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43			
Test Specimn No. >:	3					4							
Thickness (mils)	112	112	112	112	112	115	115	115	115	115			
Time (s)	19.0	19.0	19.0	19.4	19.1	20.3	20.4	20.3	20.4	20.3			
Permittivity (s-1)	1.49	1.49	1.49	1.46	1.49	1.40	1.39	1.40	1.39	1.40			
Specimen Permittivity @20°C (sec-1)	1.46	1.46	1.46	1.43	1.45	1.36	1.36	1.36	1.36	1.36			
Specimen Flow rate (GPM/ft2)	109	109	109	107	108	102	102	102	102	102			
Specimen Permeability (cm/s)	0.41	0.41	0.41	0.41	0.41	0.40	0.40	0.40	0.40	0.40			
			TEMPERATURE CORRECTED VALUES						Permittivity (s-1)		1.44		NA
									Flow rate (GPM/ft2)		108		
									Permeability (cm/s)		0.42		

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172865
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.35	4.38	4.24	3.58	3.38	3.20	3.86	4.03	3.82	3.80	3.76	0.39	
Mass/Unit Area (oz/sq.yd)	7.79	10.19	9.86	8.33	7.86	7.44	8.98	9.37	8.89	8.84	8.76	0.90	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	260	259	292	249	215	260	233	267	246	239	252	21	200 min
TD - Tensile Strength (lbs)	371	363	290	352	296	282	379	320	340	323	332	35	200 min
MD - Elong. @ Max. Load (%)	95	97	77	85	85	85	89	88	81	96	88	7	
TD - Elong. @ Max. Load (%)	102	88	91	81	78	94	90	89	88	89	89	7	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	109	134	107	106	115	109	124	115	140	121	118	12	75 min
TD - Tear Strength (lbs)	238	211	149	122	132	246	204	110	136	129	168	51	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.090	0.090	0.075	0.090	0.090						0.087	0.007	
Sieve No.	170	170	200	170	170						170		NA

Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)

Water Temp. (C):	21
Correction Factor:	0.976

	1					2				
Test Specimn No. >:										
Thickness (mils)	105	105	105	105	105	100	100	100	100	100
Time (s)	15.6	15.6	16.0	15.9	15.0	16.3	16.3	15.9	16.6	16.2
Specimen Permittivity (s-1)	1.82	1.82	1.77	1.78	1.89	1.74	1.74	1.78	1.71	1.75
Specimen Permittivity @20°C (sec-1)	1.77	1.77	1.73	1.74	1.85	1.70	1.70	1.74	1.67	1.71
Specimen Flow rate (GPM/ft2)	133	133	129	130	138	127	127	130	125	128
Specimen Permeability (cm/s)	0.47	0.47	0.46	0.46	0.49	0.43	0.43	0.44	0.42	0.43

	3					4				
Test Specimn No. >:										
Thickness (mils)	117	117	117	117	117	111	111	111	111	111
Time (s)	16.5	16.5	16.3	16.5	16.3	16.9	16.9	16.9	16.8	16.8
Permittivity (s-1)	1.72	1.72	1.74	1.72	1.74	1.68	1.68	1.68	1.69	1.69
Specimen Permittivity @20°C (sec-1)	1.68	1.68	1.70	1.68	1.70	1.64	1.64	1.64	1.65	1.65
Specimen Flow rate (GPM/ft2)	126	126	127	126	127	123	123	123	123	123
Specimen Permeability (cm/s)	0.50	0.50	0.50	0.50	0.50	0.46	0.46	0.46	0.46	0.46

TEMPERATURE CORRECTED VALUES	Permittivity (s-1)	1.70		NA
	Flow rate (GPM/ft2)	127		
	Permeability (cm/s)	0.47		

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010170884
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.91	3.33	3.64	3.40	4.05	3.96	4.09	3.52	3.29	3.81	3.70	0.30	
Mass/Unit Area (oz/sq.yd)	9.09	7.75	8.47	7.91	9.42	9.21	9.51	8.19	7.65	8.86	8.61	0.71	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	236	265	275	252	277	301	254	227	245	260	259	22	200 min
TD - Tensile Strength (lbs)	300	418	201	322	339	355	398	302	293	348	328	61	200 min
MD - Elong. @ Max. Load (%)	98	79	93	91	82	74	100	81	80	87	87	9	
TD - Elong. @ Max. Load (%)	85	89	79	78	93	108	88	81	83	83	87	9	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	126	121	123	123	75	116	106	110	94	119	111	16	75 min
TD - Tear Strength (lbs)	178	181	136	153	158	188	178	166	95	174	161	28	75 min

MD Machine Direction TD Transverse Direction

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172886
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.59	3.97	3.90	3.27	3.88	3.87	3.86	4.16	4.00	3.77	3.83	0.25	
Mass/Unit Area (oz/sq.yd)	8.35	9.23	9.07	7.61	9.02	9.00	8.98	9.66	9.30	8.77	8.90	0.57	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	286	231	256	224	268	293	217	258	227	255	252	26	200 min
TD - Tensile Strength (lbs)	289	378	257	265	330	260	349	314	244	334	302	45	200 min
MD - Elong. @ Max. Load (%)	90	87	77	77	94	81	87	77	83	93	85	7	
TD - Elong. @ Max. Load (%)	87	87	89	75	82	90	86	85	73	82	84	6	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	107	146	124	92	106	170	108	125	113	87	118	25	75 min
TD - Tear Strength (lbs)	143	206	134	122	169	203	148	170	113	136	154	32	75 min

MD Machine Direction TD Transverse Direction

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172903
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.80	3.41	3.37	3.98	3.65	3.60	3.50	3.99	4.03	3.50	3.68	0.25	
Mass/Unit Area (oz/sq.yd)	8.84	7.93	7.84	9.26	8.49	8.37	8.14	9.28	9.37	8.14	8.57	0.58	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	208	193	249	224	215	234	215	279	272	235	232	28	200 min
TD - Tensile Strength (lbs)	328	327	296	308	323	317	335	334	347	295	321	17	200 min
MD - Elong. @ Max. Load (%)	77	86	81	90	85	77	91	92	91	90	86	6	
TD - Elong. @ Max. Load (%)	92	91	109	86	81	101	91	103	89	83	93	9	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	92	104	98	95	99	99	98	104	109	66	96	12	75 min
TD - Tear Strength (lbs)	116	157	127	188	142	124	158	154	153	144	146	21	75 min

MD Machine Direction TD Transverse Direction

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 1010172921
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	4.71	4.01	3.57	3.54	4.26	4.09	3.79	3.72	3.72	3.83	3.92	0.36	
Mass/Unit Area (oz/sq.yd)	10.96	9.33	8.30	8.23	9.91	9.51	8.82	8.65	8.65	8.91	9.13	0.83	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	280	232	235	225	259	329	215	220	222	241	246	35	200 min
TD - Tensile Strength (lbs)	337	336	243	343	363	297	338	368	354	306	329	37	200 min
MD - Elong. @ Max. Load (%)	91	96	75	92	93	88	91	83	83	88	88	6	
TD - Elong. @ Max. Load (%)	93	88	94	90	92	95	84	97	83	83	90	5	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	144	114	121	106	110	123	115	95	94	125	115	15	75 min
TD - Tear Strength (lbs)	210	188	166	142	137	140	157	133	121	135	153	28	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.075	0.090	0.075	0.090	0.075						0.081	0.008	
Sieve No.	200	170	200	170	200						170		NA
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	21												
Correction Factor:	0.976												
Test Specimn No. >:	1					2							
Thickness (mils)	144	144	144	144	144	134	134	134	134	134			
Time (s)	21.6	21.3	21.3	20.9	21.0	19.7	19.7	19.7	19.4	19.7			
Specimen Permittivity (s-1)	1.31	1.33	1.33	1.36	1.35	1.44	1.44	1.44	1.46	1.44			
Specimen Permittivity @20°C (sec-1)	1.28	1.30	1.30	1.32	1.32	1.41	1.41	1.41	1.43	1.41			
Specimen Flow rate (GPM/ft2)	96	97	97	99	99	105	105	105	107	105			
Specimen Permeability (cm/s)	0.47	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.49	0.48			
Test Specimn No. >:	3					4							
Thickness (mils)	100	100	100	100	100	112	112	112	112	112			
Time (s)	15.3	15.3	15.3	15.3	15.4	16.9	16.5	16.8	16.8	16.9			
Permittivity (s-1)	1.85	1.85	1.85	1.85	1.84	1.68	1.72	1.69	1.69	1.68			
Specimen Permittivity @20°C (sec-1)	1.81	1.81	1.81	1.81	1.80	1.64	1.68	1.65	1.65	1.64			
Specimen Flow rate (GPM/ft2)	135	135	135	135	134	123	126	123	123	123			
Specimen Permeability (cm/s)	0.46	0.46	0.46	0.46	0.46	0.47	0.48	0.47	0.47	0.47			
			TEMPERATURE CORRECTED VALUES						Permittivity (s-1)		1.54		NA
									Flow rate (GPM/ft2)		115		
									Permeability (cm/s)		0.47		

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daitex 8 oz Nonwoven Geotextile
Sample Identification: 1010172941
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.35	3.56	3.25	3.41	3.61	3.48	3.95	3.46	3.66	3.73	3.55	0.20	
Mass/Unit Area (oz/sq.yd)	7.79	8.28	7.56	7.93	8.40	8.09	9.19	8.05	8.51	8.68	8.25	0.47	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	234	195	226	217	212	219	247	223	215	210	220	14	200 min
TD - Tensile Strength (lbs)	344	391	228	276	303	293	336	262	337	303	307	47	200 min
MD - Elong. @ Max. Load (%)	91	91	87	87	85	95	91	89	79	75	87	6	
TD - Elong. @ Max. Load (%)	91	89	85	80	81	87	86	84	79	79	84	4	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	112	106	105	90	110	107	110	113	92	92	104	9	75 min
TD - Tear Strength (lbs)	177	170	108	161	148	173	202	149	138	125	155	27	75 min

MD Machine Direction TD Transverse Direction

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 101017301034
TRI Log #: E2324-86-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.86	4.10	3.84	3.63	3.54	3.75	3.89	3.94	3.99	3.78	3.83	0.17	
Mass/Unit Area (oz/sq.yd)	8.98	9.54	8.93	8.44	8.23	8.72	9.05	9.16	9.28	8.79	8.91	0.39	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	243	263	246	341	247	289	264	258	268	210	263	34	200 min
TD - Tensile Strength (lbs)	342	404	247	304	294	269	383	368	326	379	332	53	200 min
MD - Elong. @ Max. Load (%)	99	88	96	81	85	101	94	77	85	87	89	8	
TD - Elong. @ Max. Load (%)	107	100	91	85	86	89	88	96	89	86	92	7	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	110	121	101	165	99	119	140	94	145	94	119	24	75 min
TD - Tear Strength (lbs)	218	207	155	139	139	151	194	144	179	133	166	31	75 min

MD Machine Direction TD Transverse Direction

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TRI / Environmental, Inc.
A Texas Research International Company

March 18, 2009

Mail To:

Mr. Kirk Wills
Geosyntec Consultants
14055 Riveredge Drive, Suite 200
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same

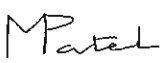
Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	**Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility**
TRI Job Reference Number:	E2324-86-06
Material(s) Tested:	6 Daltex 8 oz Nonwoven Geotextile(s)
Test(s) Requested:	Mass/Unit Area (ASTM D 5261) Grab Tensile (ASTM D 4632) Trapezoidal Tear (ASTM D 4533) Apparent Opening Size (ASTM D 4751) Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,



Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 101017301016
TRI Log #: E2324-86-06

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.31	3.68	4.03	3.67	3.01	4.02	3.66	4.04	3.81	3.64	3.69	0.33	
Mass/Unit Area (oz/sq.yd)	7.70	8.56	9.37	8.54	7.00	9.35	8.51	9.40	8.86	8.47	8.58	0.76	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	283	260	294	182	282	292	197	246	279	220	254	41	200 min
TD - Tensile Strength (lbs)	318	390	315	257	314	360	361	297	317	294	322	39	200 min
MD - Elong. @ Max. Load (%)	96	97	82	82	105	91	82	80	94	95	90	8	
TD - Elong. @ Max. Load (%)	97	101	107	82	95	111	97	99	91	90	97	8	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	109	112	117	133	113	109	116	116	98	108	113	9	75 min
TD - Tear Strength (lbs)	132	166	149	156	139	107	188	157	155	173	152	23	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.075	0.075	0.075	0.075	0.075						0.075	0.000	
Sieve No.	200	200	200	200	200						200		NA
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	21												
Correction Factor:	0.976												
Test Specimn No. >:	1					2							
Thickness (mils)	120	120	120	120	120	118	118	118	118	118			
Time (s)	20.0	20.0	20.0	20.0	20.0	19.1	19.1	19.1	19.0	19.0			
Specimen Permittivity (s-1)	1.42	1.42	1.42	1.42	1.42	1.49	1.49	1.49	1.49	1.49			
Specimen Permittivity @20°C (sec-1)	1.38	1.38	1.38	1.38	1.38	1.45	1.45	1.45	1.46	1.46			
Specimen Flow rate (GPM/ft2)	104	104	104	104	104	108	108	108	109	109			
Specimen Permeability (cm/s)	0.42	0.42	0.42	0.42	0.42	0.43	0.43	0.43	0.44	0.44			
Test Specimn No. >:	3					4							
Thickness (mils)	113	113	113	113	113	122	122	122	122	122			
Time (s)	16.0	15.9	16.0	15.9	16.0	15.9	15.9	15.9	15.9	15.9			
Permittivity (s-1)	1.77	1.78	1.77	1.78	1.77	1.78	1.78	1.78	1.78	1.78			
Specimen Permittivity @20°C (sec-1)	1.73	1.74	1.73	1.74	1.73	1.74	1.74	1.74	1.74	1.74			
Specimen Flow rate (GPM/ft2)	129	130	129	130	129	130	130	130	130	130			
Specimen Permeability (cm/s)	0.50	0.50	0.50	0.50	0.50	0.54	0.54	0.54	0.54	0.54			
TEMPERATURE CORRECTED VALUES											Permittivity (s-1)	1.58	NA
											Flow rate (GPM/ft2)	118	
											Permeability (cm/s)	0.47	

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daitex 8 oz Nonwoven Geotextile
Sample Identification: 101017300927
TRI Log #: E2324-86-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.61	3.64	4.00	3.71	3.45	3.71	4.11	3.93	3.97	4.25	3.84	0.25	
Mass/Unit Area (oz/sq.yd)	8.40	8.47	9.30	8.63	8.02	8.63	9.56	9.14	9.23	9.89	8.93	0.59	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	247	239	256	269	272	324	263	267	250	236	262	25	200 min
TD - Tensile Strength (lbs)	314	312	313	298	358	312	367	266	352	388	328	37	200 min
MD - Elong. @ Max. Load (%)	95	105	79	105	105	113	110	100	95	99	101	10	
TD - Elong. @ Max. Load (%)	95	101	90	104	101	99	93	85	101	101	97	6	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	105	120	125	122	107	107	115	103	100	106	111	9	75 min
TD - Tear Strength (lbs)	156	164	130	181	166	166	176	139	183	173	163	17	75 min

MD Machine Direction TD Transverse Direction

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 10101700945
TRI Log #: E2324-86-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	4.00	4.00	4.07	3.87	3.99	3.65	3.99	3.80	3 96	3.74	3.91	0.14	
Mass/Unit Area (oz/sq.yd)	9.30	9.30	9.47	9.00	9.28	8.49	9.28	8.84	9.21	8.70	9.09	0.32	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	246	234	247	210	299	258	257	277	262	236	253	24	200 min
TD - Tensile Strength (lbs)	273	382	281	375	332	397	464	328	361	404	360	58	200 min
MD - Elong. @ Max. Load (%)	96	99	95	101	95	108	95	91	107	92	98	6	
TD - Elong. @ Max. Load (%)	102	101	91	95	109	121	111	111	95	117	105	10	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	81	128	114	106	112	124	96	105	114	116	110	14	75 min
TD - Tear Strength (lbs)	152	188	168	175	160	135	149	157	176	199	166	19	75 min

MD Machine Direction TD Transverse Direction

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 101017300964
TRI Log #: E2324-86-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.71	3.92	3.52	3.66	3.75	3.43	3.54	3.77	3.93	4.16	3.74	0.22	
Mass/Unit Area (oz/sq.yd)	8.63	9.12	8.19	8.51	8.72	7.98	8.23	8.77	9.14	9.68	8.70	0.51	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	298	231	240	276	224	223	253	276	211	232	246	28	200 min
TD - Tensile Strength (lbs)	334	350	358	331	312	276	349	288	394	312	330	35	200 min
MD - Elong. @ Max. Load (%)	96	101	97	101	100	88	107	86	84	92	95	7	
TD - Elong. @ Max. Load (%)	107	95	98	86	89	89	99	95	98	93	95	6	
Trapozoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	107	103	97	98	86	95	102	106	126	97	102	10	75 min
TD - Tear Strength (lbs)	114	160	132	170	157	122	156	143	148	162	146	18	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.075	0.075	0.075	0.075	0.075						0.075	0.000	
Sieve No.	200	200	200	200	200						200		NA
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	21												
Correction Factor:	0.976												
Test Specimn No. >:	1					2							
Thickness (mils)	124	124	124	124	124	116	116	116	116	116			
Time (s)	19.4	19.4	19.7	19.4	9.4	16.9	16.9	16.9	16.9	16.9			
Specimen Permittivity (s-1)	1.46	1.46	1.44	1.46	3.02	1.68	1.68	1.68	1.68	1.68			
Specimen Permittivity @20°C (sec-1)	1.43	1.43	1.41	1.43	2.95	1.64	1.64	1.64	1.64	1.64			
Specimen Flow rate (GPM/ft2)	107	107	105	107	220	123	123	123	123	123			
Specimen Permeability (cm/s)	0.45	0.45	0.44	0.45	0.93	0.48	0.48	0.48	0.48	0.48			
Test Specimn No. >:	3					4							
Thickness (mils)	126	126	126	126	126	125	125	125	125	125			
Time (s)	16.3	16.3	16.2	16.3	6.3	16.9	16.6	16.9	16.8	16.8			
Permittivity (s-1)	1.74	1.74	1.75	1.74	4.50	1.68	1.71	1.68	1.69	1.69			
Specimen Permittivity @20°C (sec-1)	1.70	1.70	1.71	1.70	4.40	1.64	1.67	1.64	1.65	1.65			
Specimen Flow rate (GPM/ft2)	127	127	128	127	329	123	125	123	123	123			
Specimen Permeability (cm/s)	0.54	0.54	0.55	0.54	1.41	0.52	0.53	0.52	0.52	0.52			
TEMPERATURE CORRECTED VALUES											Permittivity (s-1)	1.60	NA
											Flow rate (GPM/ft2)	136	
											Permeability (cm/s)	0.57	

MD Machine Direction TD Transverse Direction NA Not Available

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 101017300981
TRI Log #: E2324-86-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	4.10	3.71	3.74	3.85	4.03	3.92	3.42	3.96	3.97	3.78	3.85	0.20	
Mass/Unit Area (oz/sq.yd)	9.54	8.63	8.70	8.96	9.37	9.12	7.95	9.21	9.23	8.79	8.95	0.46	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	293	263	288	270	260	276	275	288	290	233	274	18	200 min
TD - Tensile Strength (lbs)	356	421	273	320	384	370	397	356	297	337	351	46	200 min
MD - Elong. @ Max. Load (%)	91	106	101	96	125	95	106	83	97	92	99	11	
TD - Elong. @ Max. Load (%)	103	112	102	91	110	113	104	103	83	87	101	10	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	105	107	149	104	119	116	121	120	107	136	118	15	75 min
TD - Tear Strength (lbs)	113	160	139	186	115	162	187	167	208	157	159	31	75 min

MD Machine Direction TD Transverse Direction

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GEOTEXTILE TEST RESULTS

TRI Client: Geosyntec Consultants
Project: Phase 1 Partial Closure, J.E.D. Solid Waste Management Facility

Material: Daltex 8 oz Nonwoven Geotextile
Sample Identification: 101017300997
TRI Log #: E2324-86-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.19	4.19	4.47	4.18	3.18	4.07	3.87	4.00	3.60	4.09	3.88	0.43	
Mass/Unit Area (oz/sq.yd)	7.42	9.75	10.40	9.72	7.40	9.47	9.00	9.30	8.37	9.51	9.03	1.00	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	283	241	289	265	310	252	267	289	235	247	268	24	200 min
TD - Tensile Strength (lbs)	345	347	378	373	332	363	355	346	269	349	346	30	200 min
MD - Elong. @ Max. Load (%)	101	90	97	103	92	99	118	85	94	103	98	9	
TD - Elong. @ Max. Load (%)	119	102	121	103	102	108	117	91	101	117	108	10	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	113	120	127	118	96	79	116	111	102	101	108	14	75 min
TD - Tear Strength (lbs)	129	166	156	145	174	122	172	143	137	193	154	22	75 min

MD Machine Direction TD Transverse Direction

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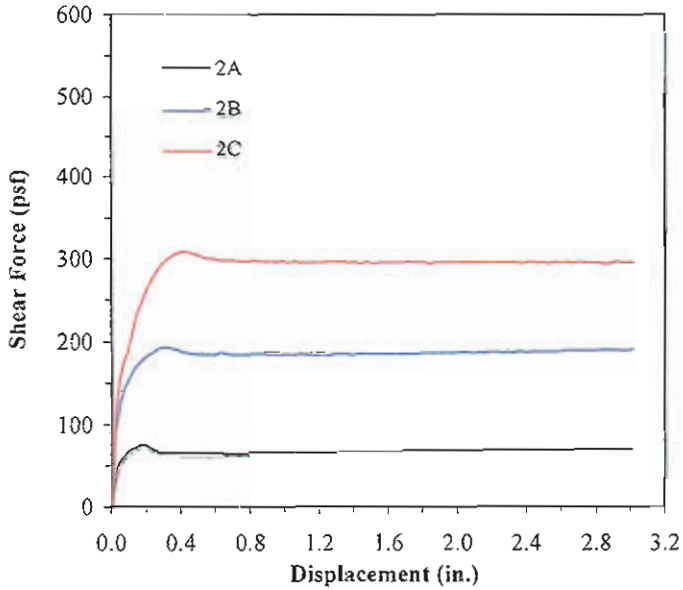
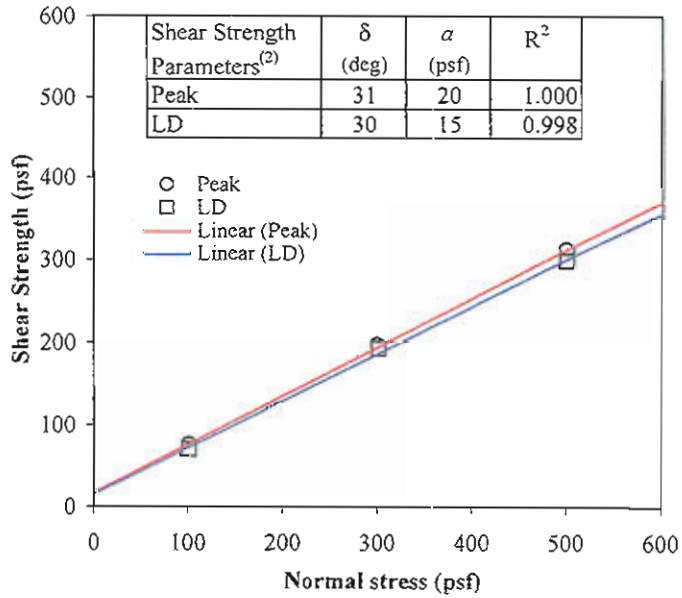
APPENDIX Z

INTERFACE SHEAR TESTING RESULTS (SGI)

GEOSYNTEC CONSULTANTS - JED PHASE 1 PARTIAL CLOSURE
INTERFACE DIRECT SHEAR TESTING (ASTM D 5321)

Upper Shear Box: Protective Cover soil compacted approximately 85% of max standard Proctor density at optimum moisture content/
Wetted Agru 8-250-8 geocomposite # 511601-09/
Wetted Agru 40-mil Microspike LLDPE geomembrane # 312451 with long spike (shiny) side down/
Lower Shear Box: Subbase soil compacted to approximately 85% of max standard Proctor density at optimum moisture content





Shear Strength Parameters[2]	δ (deg)	a (psf)	R^2
Peak	31	20	1.000
LD	30	15	0.998

Test No.	Shear Box Size (in. x in.)	Normal Stress (psf)	Shear Rate (in./min)	GCL Soaking Stress (psf)	GCL Soaking Time (hour)	Consolidation Stress (psf)	Consolidation Time (hour)	Subbase Soil γ_d (pcf)	Subbase Soil ω_i (%)	Subbase Soil ω_f (%)	Cover Soil γ_d (pcf)	Cover Soil ω_i (%)	Cover Soil ω_f (%)	GCL ω_i (%)	GCL ω_f (%)	Shear Strength τ_P (psf)	Shear Strength τ_{LD} (psf)	Failure Mode
2A	12 x 12	100	0.04					87.7	15.6	-	87.7	15.6	-	-	-	76	70	(1)
2B	12 x 12	300	0.04					87.9	15.4	-	87.9	15.4	-	-	-	197	193	(1)
2C	12 x 12	500	0.04					88.3	14.8	-	88.3	14.8	-	-	-	312	298	(1)

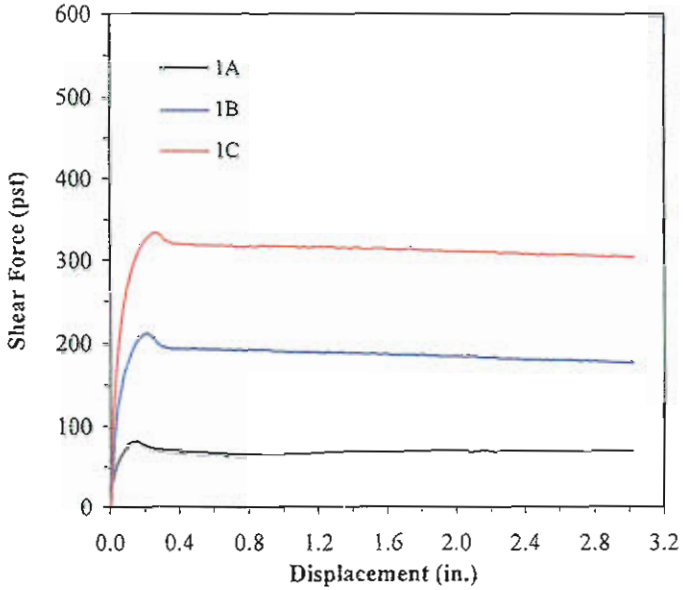
NOTES:
(1) Shear failure occurred at the interface between the protective cover soil and geocomposite.
(2) The reported total-stress parameters of friction angle and adhesion were determined from a best-fit line drawn through the test data. Caution should be exercised in using these strength parameters for applications involving normal stresses outside the range of the stresses covered by the test series. The large-displacement (LD) shear strength was calculated using the shear force measured at the end of the test.

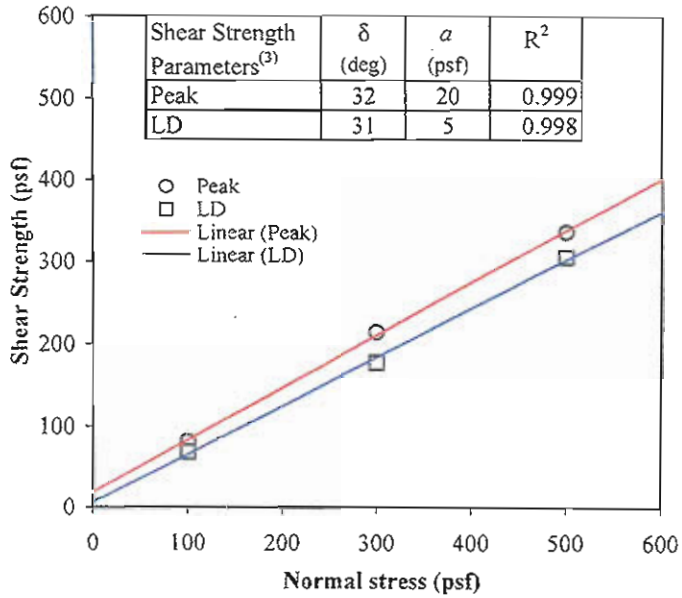
SGI TESTING SERVICES, LLC

DATE OF REPORT:	6/28/2009
FIGURE NO.	C-2
PROJECT NO.	SGI9038
DOCUMENT NO.	
FILE NO.	

GEOSYNTEC CONSULTANTS - JED PHASE 1 PARTIAL CLOSURE
INTERFACE DIRECT SHEAR TESTING (ASTM D 5321)

Upper Shear Box: Protective Cover soil compacted approximately 85% of max standard Proctor density at optimum moisture content/
Wetted Agru 8-250-8 geocomposite # 511188-09/
Wetted Agru 40-mil Microspike LLDPE geomembrane # 310119 with long spike (shiny) side down/
Lower Shear Box: Subbase soil compacted to approximately 85% of max standard Proctor density at optimum moisture content





Test No.	Shear Box Size (in. x in.)	Normal Stress (psf)	Shear Rate (in./min)	GCL Soaking Stress (psf)	GCL Soaking Time (hour)	Consolidation Stress (psf)	Consolidation Time (hour)	Subbase Soil γ_d (pcf)	Subbase Soil ω_i (%)	Subbase Soil ω_f (%)	Cover Soil γ_d (pcf)	Cover Soil ω_i (%)	Cover Soil ω_f (%)	GCL ω_i (%)	GCL ω_f (%)	Shear Strength τ_P (psf)	Shear Strength τ_{LD} (psf)	Failure Mode
1A	12 x 12	100	0.04					88.4	14.7	-	88.4	14.7	-	-	-	81	69	(1)
1B	12 x 12	300	0.04					88.2	14.9	-	88.2	14.9	-	-	-	214	177	(2)
1C	12 x 12	500	0.04					88.7	14.3	-	88.7	14.3	-	-	-	336	305	(2)

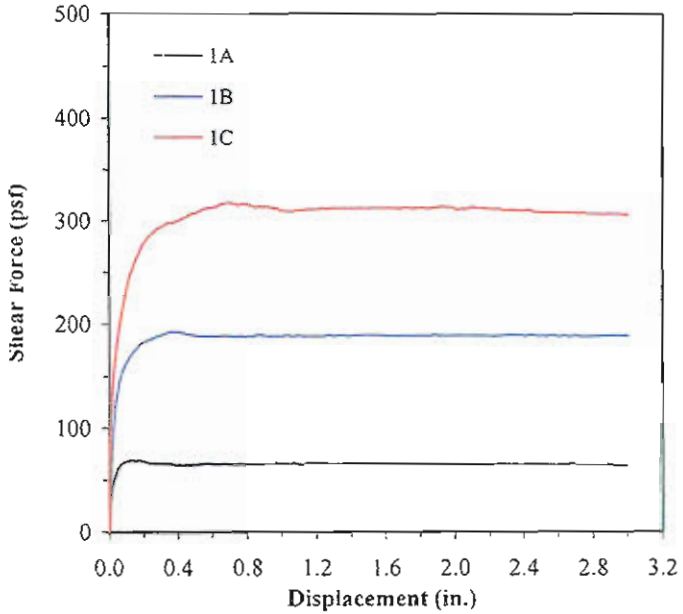
NOTES:
(1) Shear failure occurred at the interface between the protective cover soil and geocomposite.
(2) Shear failure occurred at the interface between the subbase soil and long spike side of geomembrane.
(3) The reported total-stress parameters of friction angle and adhesion were determined from a best-fit line drawn through the test data. Caution should be exercised in using these strength parameters for applications involving normal stresses outside the range of the stresses covered by the test series. The large-displacement (LD) shear strength was calculated using the shear force measured at the end of the test.

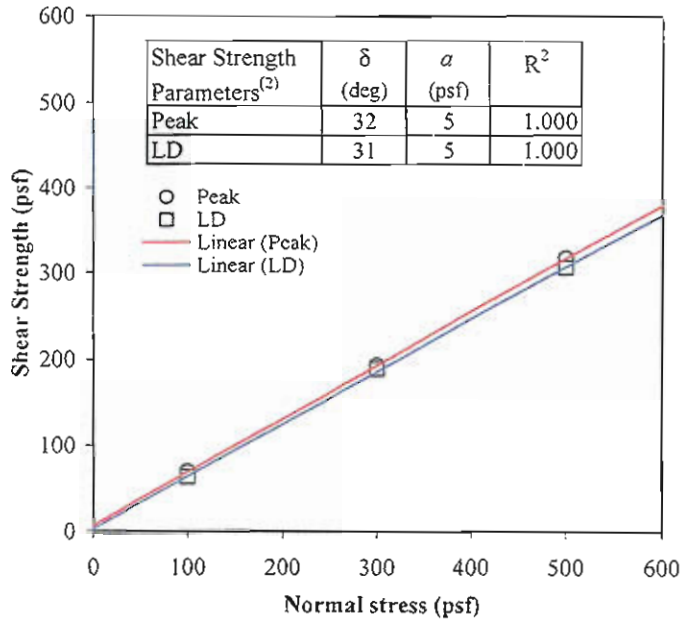
SGI TESTING SERVICES, LLC

DATE OF REPORT:	6/28/2009
FIGURE NO.	C-1
PROJECT NO.	SGI9038
DOCUMENT NO.	
FILE NO.	

GEOSYNTEC CONSULTANTS - JED PHASE 1 PARTIAL CLOSURE
INTERFACE DIRECT SHEAR TESTING (ASTM D 5321)

Upper Shear Box: Protective Cover soil compacted approximately 85% of max standard Proctor density at optimum moisture content/
Wetted Agru 8-250-8 geocomposite # 510575-09/
Wetted Agru 40-mil Microspike LLDPE geomembrane # 310219-09 with long spike (shiny) side down/
Lower Shear Box: Subbase soil compacted to approximately 85% of max standard Proctor density at optimum moisture content





Test No.	Shear Box Size (in. x in.)	Normal Stress (psf)	Shear Rate (in./min)	GCL Soaking Stress (psf)	GCL Soaking Time (hour)	Consolidation Stress (psf)	Consolidation Time (hour)	Subbase Soil γ_d (pcf)	Subbase Soil ω_i (%)	Subbase Soil ω_f (%)	Cover Soil γ_d (pcf)	Cover Soil ω_i (%)	Cover Soil ω_f (%)	GCL ω_i (%)	GCL ω_f (%)	Shear Strength τ_P (psf)	Shear Strength τ_{LD} (psf)	Failure Mode
1A	12 x 12	100	0.04					89.1	14.7	-	88.7	13.8	-	-	-	69	63	(1)
1B	12 x 12	300	0.04					89.0	14.9	-	88.9	13.5	-	-	-	193	189	(1)
1C	12 x 12	500	0.04					89.5	14.3	-	89.4	12.9	-	-	-	318	306	(1)

NOTES:
(1) Sliding (i.e., shear failure) occurred at the interface between the subbase soil and long spike side of geomemebrane in each test.
(2) The reported total-stress parameters of friction angle and adhesion were determined from a best-fit line drawn through the test data. Caution should be exercised in using these strength parameters for applications involving normal stresses outside the range of the stresses covered by the test series. The large-displacement (LD) shear strength was calculated using the shear force measured at the end of the test.

SGI TESTING SERVICES, LLC

DATE OF REPORT:	3/22/2009
FIGURE NO.	C-1
PROJECT NO.	SGI9013.1
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