TRAIL RIDGE LANDFILL
PHASE IVC
DEVIATION FROM PLANS AND APPLICATION

1 The frequency of quality control testing of the geotextile materials was revised from once per 50,000 square feet to once per 90,000 square feet Please note that this deviation was approved by the Department of Environmental Protection on August 25, 2000 per the attached letter

'01 FEB 6 PM 1 18
STATE OF FLORIDA
DEP - NE DISTRICT
JACKSONVILLE

1289677

England-Thims & Miller, Inc.

ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E England, P E , C E O
Douglas C Miller, P E , President
N Hugh Mathews, P E , Exec V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Scott A Wild, P E , P S M , V P

January 31, 2001

Ms Mary Nogas, P E
Solid Waste Section
Department of Environmental Protection
7825 Baymeadows Way, Suite B-200
Jacksonville, Florida 32256

Mr David P Apple, P E
Stormwater Section
Department of Environmental Protection
7825 Baymeadows Way, Suite B-200
Jacksonville, Florida 32256

NORTHEAST DISTRICT
RECEIVED
JAN 31 2001
DEP-JACKSONVILLE

33625

Reference Trail Ridge Landfill – Phase IVC
FDEP Permit No 0013493-002-SC
ET&M Project No 00-079

Dear Ms Nogas and Mr Apple

Please find herewith the Certification of Construction Completion for the Trail Ridge Landfill Phase IVC including the stormwater collection system for Phase IVC in accordance with Specific Condition #15 of the referenced permit The Soils and Geosynthetic Quality Assurance documentation and As-Built Surveys are included as part of this certification

We respectfully request a site inspection on or before February 20, 2001 Subject to your site inspection, Trail Ridge Landfill, Inc respectfully request your written authorization to accept Class I Solid Waste in Phase IVC of Trail Ridge Landfill

This is the certification for the Trail Ridge Landfill construction which commenced on May 24, 2000 Should you have any questions, please feel free to give me a call

Sincerely,

ENGLAND, THIMS & MILLER, INC.

Juanitta Bader Clem, P E
Vice President

Attachments
Certification of Construction Completion
QA/QC Documentation
Geosynthetic CQA Report
As-Built Survey

cc Greg Mathes w/ attachments
Chris Pearson w/ attachments

14775 ST AUGUSTINE RD • JACKSONVILLE FL 32258 • TEL (904) 642-8990 • FAX (904) 646-9485

Florida Department of Environmental Protection
Twin Towers Office Bldg • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion
Effective Date May 19, 1994
DEP Application No _____ (Filled by DEP)

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No 0013493-002-SC County: Duval

Name of Project: Trail Ridge Landfill - Phase IVC

Name of Owner: City of Jacksonville; Trail Ridge Landfill, Inc. Permitte/Operator

Name of Engineer: England, Thims & Miller, Inc.

Type of Project: Class I Landfill - Phase IVC

Cost. Estimate $ 2,835,000 Actual $ 1,648,500

Site Design: Quantity: 5000 ton/day Site Acreage: 9+/- Acres

Deviations from Plans and Application Approved by DEP: Deviations are shown in the Construction Quality Assurance documentation and As-built survey. The As-built survey was prepared by Robert M. Angas Associates, Inc. Deviations and limits of certification are as outlined in the attachment.

Address and Telephone No. of Site: 5110 U.S. Highway No. 301, Baldwin, Florida 32234, (904) 289-9100

Name(s) of Site Supervisor: Greg Mathes

Date Site inspection is requested February 20, 2001

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No: 0013493-002-SC Dated: Nov. 25, 1997

England, Thims & Miller, Inc. relied upon information and certifications provided by LAW Engineering, Golder Associates, Inc. and Robert M. Angas Associates, Inc.

Date Jan. 31, 2001 _____ Signature of Professional Engineer

Northwest District 160 Governmental Center Pensacola FL 32501-5794 850-595-8360
Northeast District 7825 Baymeadows Way Ste B200 Jacksonville FL 32256-7590 904-448-4300
Central District 3319 Maguire Blvd. Ste 232 Orlando FL 32803-3767 407-894-7555
Southwest District 3804 Coconut Palm Dr Tampa FL 33619 813-744-6100
South District 2295 Victoria Ave Ste 364 Fort Myers FL 33901-3881 941-332-6975
Southeast District 400 North Congress Ave West Palm Beach FL 33401 561-681-6600

TRAIL RIDGE LANDFILL
PHASE IVC
DEVIATION FROM PLANS AND APPLICATION

1 The frequency of quality control testing of the geotextile materials was revised from once per 90,000 square feet to once per 50,000 square feet Please note that this deviation was approved by the Department of Environmental Protection on August 25, 2000 per the attached letter

Department of Environmental Protection

Jeb Bush
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

David B Struhs
Secretary

August 25, 2000

CERTIFIED - RETURN RECEIPT

Ms. Juanitta Clem, Vice President
England, Thims, and Miller, Inc.
3131 St. Johns Bluff Road
Jacksonville, Florida 32246

Dear Ms. Clem.

Trail Ridge Landfill
FDEP Permit Number 0013493-002-SC
Quality Control Testing of Geotextile Material
Duval County - Solid Waste

The Department has reviewed your letter, received August 24, 2000, and concurs with your request to revise the Project Specific Addenda to the Quality Assurance Manual for the subject project. The quality control testing of the Geotextile material may be performed at a frequency of once per 90,000 square feet (SF), in lieu of once per 50,000 SF, as provided in the Project Specific Addenda.

Sincerely,

Stephen C Garvey

Stephen C. Garvey, P E.
Solid Waste Engineer

SCG·ml

cc Greg Mathes
Chris Pearson

MSSW/STORMWATER AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL*

PERMIT NUMBER: 0013493-002-SC

PROJECT NAME: Trail Ridge Landfill - Phase IVC

I hereby certify that all components of this stormwater management system have been built substantially in accordance with the approved plans and specifications and is ready for inspection. Any substantial deviations (noted below) from the approved plans and specifications will not prevent the system from functioning in compliance with the requirements of chapter 40C-4, 40C-41 or 40C-42, F.A.C. (as applicable), when properly maintained and operated. These determinations have been based upon on-site observation of the system conducted by me or by my designee under my direct supervision and/or my review of as-built plans certified by a registered professional or Land Surveyor licensed in the State of Florida.

Juanitta Bader Clem
Name (please print)

Signature of Professional

England, Thims & Miller, Inc.
Company Name

43245
Florida Registration Number

14775 St. Augustine Road
Company Address

Jan. 31, 2001
Date

Jacksonville, FL 32258
City, State, Zip Code

(904) 642-8990
Telephone Number

(Affix Seal)

Substantial deviations from the approved plans and specifications:

No deviations from the approved plans and specifications.

(Note: attach two copies of as-built plans when there are substantial deviations)

Within 30 days of completion of the system, submit two copies of this form to:

Department of Permit Data Services
St. Johns River Water Management District
P.O. Box 1429
Palatka, FL 32178-1429.

*A registered professional is defined in subsection 40C-42.021(1) as "a professional registered in Florida with the necessary expertise in the fields of hydrology, drainage, flood control, erosion and sediment control, and stormwater pollution control to design and certify stormwater management systems. Examples of registered professionals may include professional engineers licensed under chapter 471, F.S., professional landscape architects licensed under chapter 481, F.S., and professional geologists licensed under chapter 492, F.S., who have the referenced skills.

District Form No. 40C-1.181(13)

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Trail Ridge Landfill
Quality Assurance and Quality Control Documentation
For
Phase IVC

1 Construction Photographs

2. Subgrade

3 Clay Subbase Layer

4 Protective Sand Blanket

5. Clay Anchor Berm

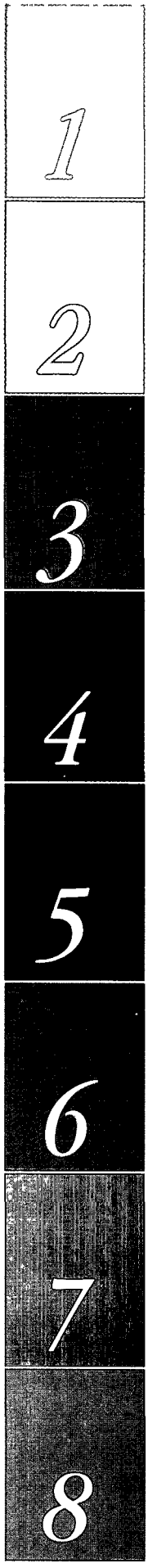
6 Leachate Collection Trench Aggregate

7 Weekly Progress Reports

8 Record of Daily Observations

APPENDIX

A. Project-Specific Addenda to Quality Assurance Manual
B. Report of Field Density
C. Proctor Test Report with Associated Grain Size Distribution



Construction Photographs

Subgrade

Clay Subbase Layer

Protective Sand Blanket

Clay Anchor Berm

Leachate Collection Trench and Sump Aggregate

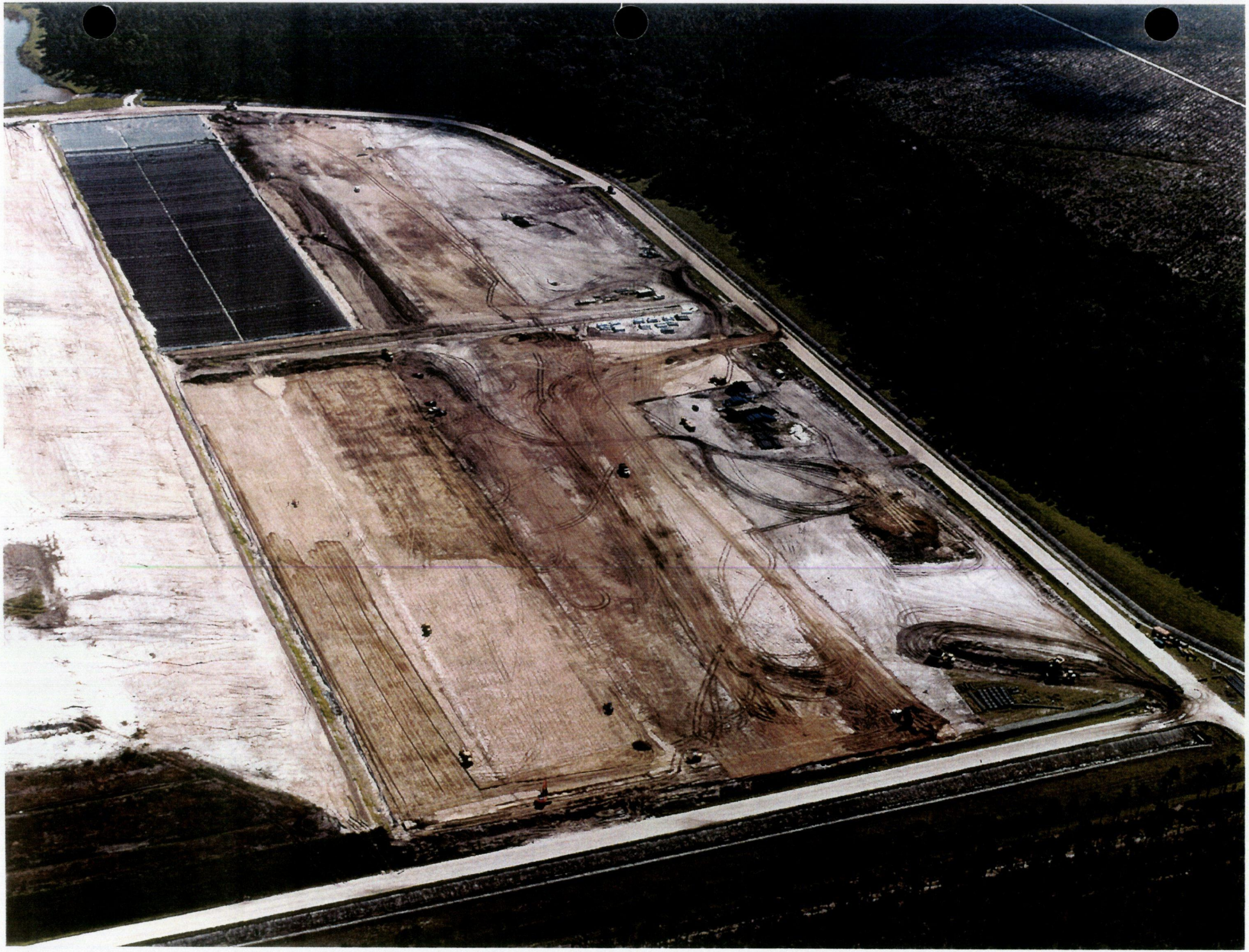
Weekly Progress Reports

Record of Daily Observations

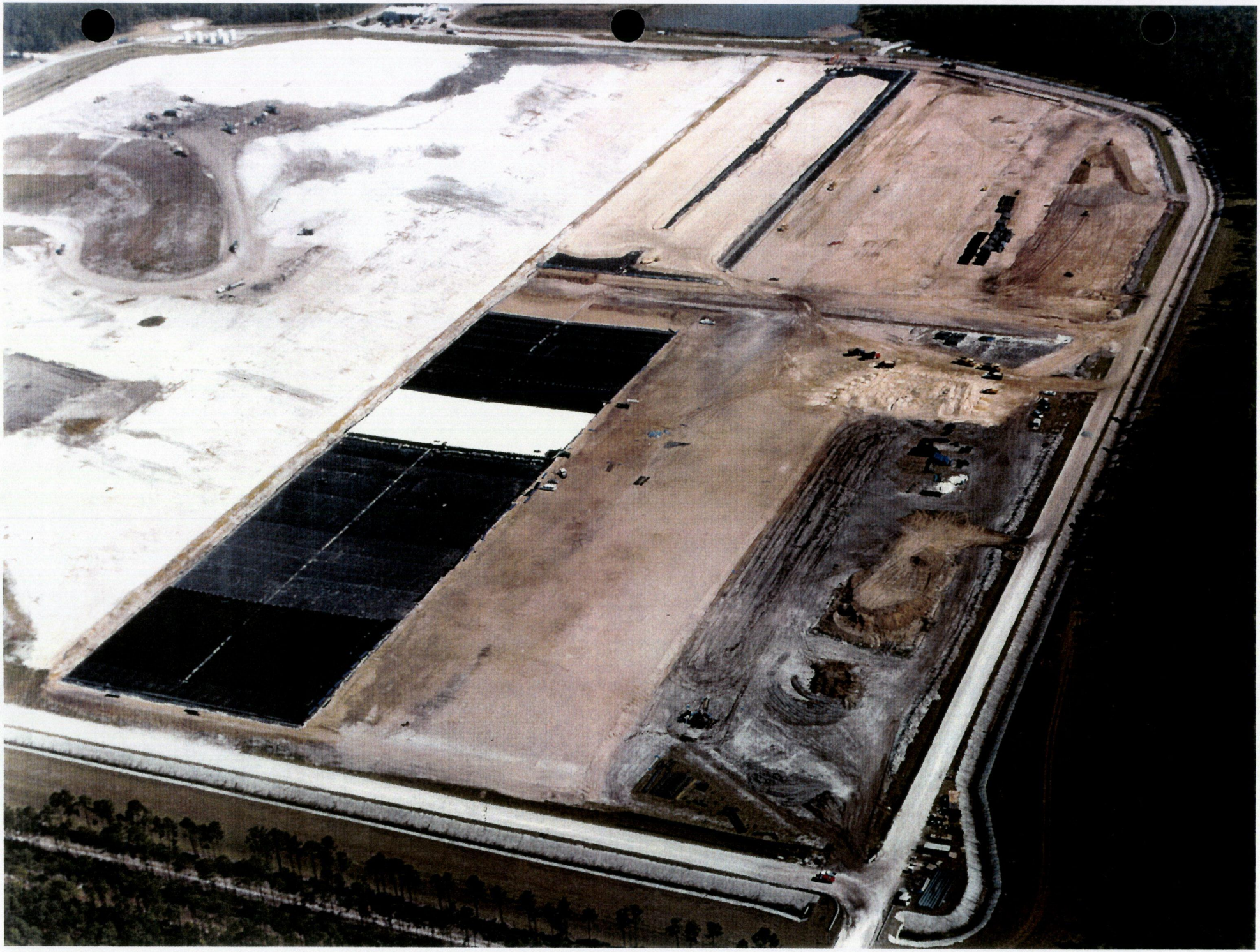
Construction Photographs

Construction Photographs

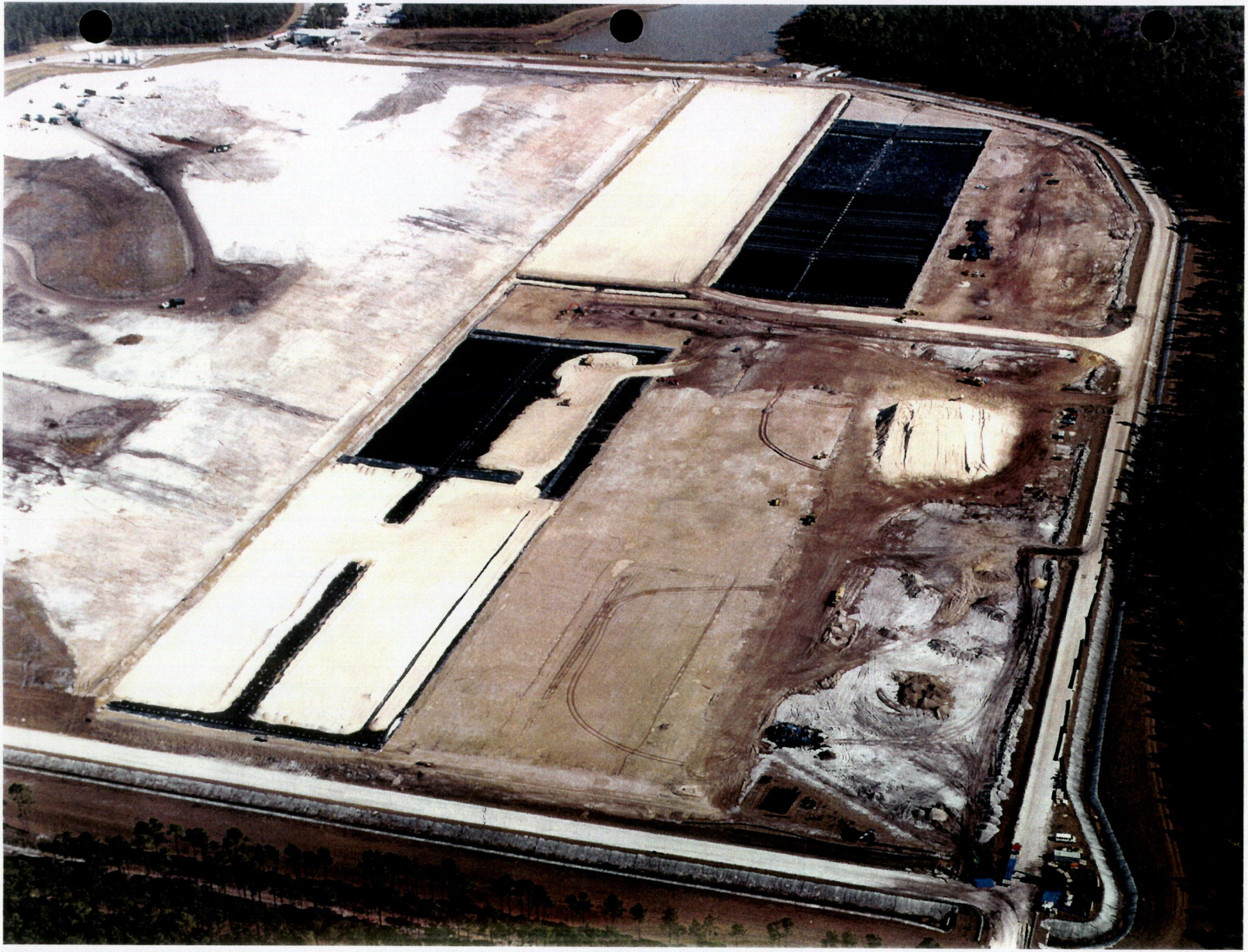
August 28, 2000 – Phase IVC Construction Site (view looking east)



October 2, 2000 – Phase IVC Construction Site (view looking east)



October 27, 2000 – Phase IVC Construction Site (view looking east)



November 27, 2000 – Phase IVC Construction Site (view looking east)

December 29, 2000 – Phase IVC Construction Site (view looking east)

Final Grading of Subgrade prior to Clay Placement (view looking west)

Excavation of Leachate Collection Trench (view looking east)

Excavated Leachate Collection Trench prior to Clay Placement (view looking east)

Grading the Clay Layer after Clay Placement (view looking north)

Checking Clay Layer Thickness at Tie-in to Existing Phase IVB (view looking north)

Finished Clay Layer (view looking west)

Placement of Clay into Anchor Trench (view looking south)

Excavation of Anchor Trench (view looking south)

Finished Clay Layer in Anchor Trench (view looking south)

Completed Geothynsetic Liner System up to Sta. 112+00 E (view looking south)

Placement of Cover Sand (view looking west)

Placement of Aggregate into Leachate Collection Trench (view looking east)

Subgrade

Subgrade

SUBGRADE

The subgrade for the clay subbase layer consisted of compacted existing material, fill material brought to Phase IVC from areas on site (within the Trail Ridge site) and material brought on site from the Macclenny borrow pit located on the north side of U S 90, approximately 6 miles west of U S Highway 301 We note that the existing material is similar to the material used for previous construction at Trail Ridge As such, for the existing material from on site, we utilized laboratory proctor information from previous projects (as contained in Appendix C) together with the new proctor information for the off site material The results of the density tests are included in Appendix B The subgrade testing locations are shown on the plans included in this section

I have reviewed the documentation and test data of the Quality Control Monitor and based upon that data, find that the construction is substantially in accordance with the Project-Specific Addenda

James A Horton, P E
Registered, Florida 23315

1/22/01

FIELD DENSITY TESTS
FOR EXISTING GRADE THRU FINISHED SUBGRADE

Test Date	Test Number	Location	Compaction	Specified Compaction	Elevation or Depth
7/10/00	119	112+00E and 83+10N	97	96	Existing grade
7/11/00	122	112+05E and 82+25N	97	96	1st Lift
7/11/00	136	109+85E and 82+85N	101	96	Existing grade
7/11/00	137	108+05E and 82+00N	97	96	Existing grade
7/13/00	171	111+95E and 81+15N	99	96	Existing grade
7/13/00	172	110+85E and 81+50N	98	96	Existing grade
7/14/00	191	105+90E and 83+05N	97	96	Existing grade
7/17/00	220	110+05E and 81+00N	97	96	Existing grade
7/17/00	221	109+00E and 80+50N	97	96	Existing grade
7/17/00	222	111+95E and 80+50N	96	96	Existing grade
7/17/00	223	108+10E and 81+50N	98	96	Existing grade
7/17/00	224	105+90E and 81+45N	96	96	Existing grade
7/17/00	225	110+05E and 81+65N	99	96	Existing grade
7/17/00	226	105+90E and 83+00N	96	96	1st Lift
7/17/00	227	108+05E and 83+15N	97	96	1st Lift
7/17/00	235	110+10E and 83+10N	97	96	1st Lift
7/18/00	236	108+05E and 80+75N	100	96	Existing grade
7/18/00	237	106+90E and 81+00N	99	96	Existing grade
7/18/00	238	106+00E and 80+45N	101	96	Existing grade
7/18/00	239	105+05E and 80+90N	99	96	Existing grade
7/18/00	240	111+90E and 80+75N	95<<	96	1st Lift
7/18/00	241	111+00E and 80+85N	95<<	96	1st Lift
7/19/00	242	103+05E and 80+45N	97	96	Existing grade
7/19/00	243	104+00E and 81+20N	97	96	Existing grade
7/19/00	244	109+95E and 80+45N	99	96	1st Lift
7/19/00	245	109+00E and 80+80N	99	96	1st Lift
7/19/00	246	107+95E and 81+10N	98	96	1st Lift
7/19/00	247	107+05E and 80+40N	99	96	1st Lift
7/19/00	248	106+05E and 80+90N	96	96	1st Lift
7/19/00	249	104+90E and 81+15N	90<<	96	1st Lift
7/19/00	252	101+95E and 80+75N	99	96	Existing grade
7/19/00	253	101+00E and 81+15N	99	96	Existing grade
7/20/00	257	112+00E and 80+80N	98	96	2nd Lift
7/20/00	258	111+05E and 81+05N	100	96	2nd Lift
7/20/00	259	109+90E and 80+45N	97	96	2nd Lift
7/20/00	260	109+05E and 80+85N	96	96	2nd Lift
7/20/00	261	104+00E and 83+10N	98	96	Existing grade
7/20/00	262	102+05E and 82+90N	99	96	Existing grade
7/21/00	240A	111+90E and 80+75N	99	96	1st Lift
7/21/00	241A	111+00E and 80+85N	99	96	1st Lift
7/21/00	249A	104+90E and 81+15N	99	96	1st Lift
7/21/00	268	103+95E and 80+45N	98	96	1st Lift
7/21/00	269	103+05E and 80+70N	96	96	1st Lift
7/21/00	270	102+00E and 80+90N	97	96	1st Lift
7/21/00	271	100+95E and 80+50N	92<<	96	1st Lift
8/15/00	271A	100+95E and 80+50N	96	96	1st Lift
8/15/00	380	104+90E and 81+10N	99	96	2nd Lift
8/15/00	381	103+95E and 82+60N	99	96	2nd Lift
8/15/00	382	103+00E and 80+80N	97	96	2nd Lift
8/15/00	383	107+95E and 81+85N	97	96	2nd Lift

FIELD DENSITY TESTS
FOR EXISTING GRADE THRU FINISHED SUBGRADE

Test Date	Test Number	Location	Compaction	Specified Compaction	Elevation or Depth
8/15/00	384	107+05E and 80+55N	93<<	96	2nd Lift
8/15/00	385	106+00E and 80+90N	95<<	96	2nd Lift
8/16/00	386	102+05E and 81+00N	100	96	2nd Lift
8/16/00	387	100+95E and 80+65N	98	96	2nd Lift
8/21/00	384A	107+05E and 80+55N	97	96	2nd Lift
8/21/00	385A	106+00E and 80+90N	96	96	2nd Lift
8/21/00	399	109+95E and 80+45N	98	96	3rd Lift
8/21/00	400	109+00E and 80+85N	98	96	3rd Lift
8/21/00	401	108+05E and 81+00N	99	96	3rd Lift
8/21/00	402	106+95E and 80+60N	97	96	3rd Lift
8/21/00	403	105+95E and 80+80N	99	96	3rd Lift
8/21/00	404	104+95E and 80+95N	100	96	3rd Lift
8/21/00	405	104+00E and 80+50N	98	96	3rd Lift
8/21/00	406	103+05E and 80+85N	98	96	3rd Lift
8/21/00	407	102+10E and 80+40N	99	96	3rd Lift
8/22/00	414	100+95E and 80+90N	99	96	3rd Lift
8/30/00	437	100+70E and 82+15N	98	96	1st Lift
9/1/00	487	100+80E and 82+10N	96	96	1st Lift
9/1/00	488	101+35E and 82+10N	98	96	Finished subgrade
9/1/00	489	102+45E and 82+10N	99	96	Finished subgrade
9/1/00	490	100+70E and 81+85N	98	96	2nd Lift
9/1/00	491	100+80E and 82+70N	98	96	2nd Lift
9/5/00	492	100+80E and 82+80N	100	96	3rd Lift
9/5/00	493	100+60E and 82+00N	99	96	3rd Lift
9/5/00	494	100+75E and 81+05N	101	96	3rd Lift
9/5/00	501	103+60E and 82+08N	96	96	Finished subgrade
9/5/00	502	104+55E and 82+12N	100	96	Finished subgrade
9/5/00	503	105+45E and 82+10N	100	96	Finished subgrade
9/5/00	504	106+50E and 82+12N	98	96	Finished subgrade
9/5/00	505	107+45E and 82+08N	99	96	Finished subgrade
9/6/00	513	101+00E and 80+45N	98	96	Finished subgrade
9/6/00	514	101+25E and 81+45N	97	96	Finished subgrade
9/6/00	515	101+10E and 82+95N	97	96	Finished subgrade
9/11/00	520	101+80E and 80+70N	100	96	Finished subgrade
9/11/00	521	102+95E and 81+15N	100	96	Finished subgrade
9/11/00	522	103+90E and 80+55N	100	96	Finished subgrade
9/11/00	523	104+60E and 80+85N	97	96	Finished subgrade
9/11/00	524	106+00E and 81+05N	97	96	Finished subgrade
9/11/00	525	107+15E and 80+40N	97	96	Finished subgrade
9/11/00	526	102+20E and 81+80N	96	96	Finished subgrade
9/11/00	527	102+95E and 82+00N	99	96	Finished subgrade
9/11/00	528	104+35E and 81+50N	100	96	Finished subgrade
9/11/00	529	105+10E and 81+90N	96	96	Finished subgrade
9/11/00	530	106+05E and 82+25N	100	96	Finished subgrade
9/11/00	531	106+95E and 81+40N	99	96	Finished subgrade
9/11/00	532	100+80E and 83+00N	99	96	4th Lift
9/11/00	533	100+70E and 82+10N	96	96	4th Lift
9/11/00	534	100+75E and 80+95N	99	96	4th Lift
9/12/00	545	102+05E and 82+85N	97	96	Finished subgrade
9/12/00	546	102+85E and 83+20N	96	96	Finished subgrade

FIELD DENSITY TESTS
FOR EXISTING GRADE THRU FINISHED SUBGRADE

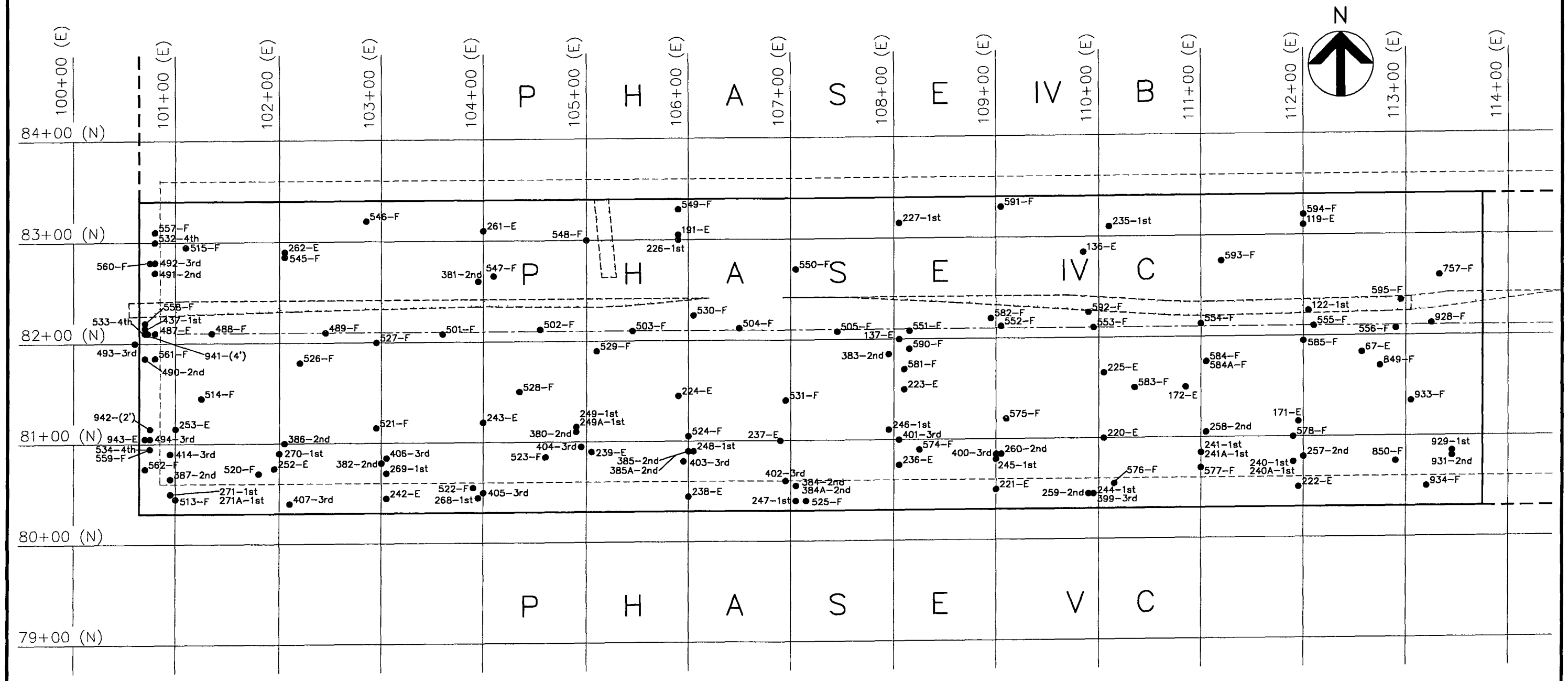
Test Date	Test Number	Location	Compaction	Specified Compaction	Elevation or Depth
9/12/00	547	104+10E and 82+65N	101	96	Finished subgrade
9/12/00	548	105+00E and 83+00N	101	96	Finished subgrade
9/12/00	549	105+90E and 83+30N	98	96	Finished subgrade
9/12/00	550	107+05E and 82+70N	100	96	Finished subgrade
9/12/00	551	108+15E and 82+08N	99	96	Finished subgrade
9/12/00	552	109+05E and 82+12N	99	96	Finished subgrade
9/12/00	553	109+95E and 82+10N	99	96	Finished subgrade
9/12/00	554	111+00E and 82+13N	100	96	Finished subgrade
9/12/00	555	112+10E and 82+10N	100	96	Finished subgrade
9/12/00	556	112+90E and 82+07N	96	96	Finished subgrade
9/12/00	557	100+80E and 83+10N	99	96	Finished subgrade
9/12/00	558	100+70E and 82+20N	98	96	Finished subgrade
9/12/00	559	100+75E and 80+95N	100	96	Finished subgrade
9/12/00	560	100+75E and 82+80N	98	96	6" below subgrade
9/12/00	561	100+80E and 81+85N	99	96	6" below subgrade
9/12/00	562	100+70E and 80+75N	99	96	6" below subgrade
9/13/00	574	108+25E and 80+90N	97	96	Finished subgrade
9/13/00	575	109+10E and 81+20N	100	96	Finished subgrade
9/13/00	576	110+15E and 80+55N	99	96	Finished subgrade
9/13/00	577	111+00E and 80+70N	101	96	Finished subgrade
9/13/00	578	111+90E and 81+00N	101	96	Finished subgrade
9/14/00	581	108+10E and 81+70N	97	96	Finished subgrade
9/14/00	582	108+95E and 82+20N	98	96	Finished subgrade
9/14/00	583	110+35E and 81+50N	101	96	Finished subgrade
9/14/00	584	111+05E and 81+75N	94<<	96	Finished subgrade
9/14/00	585	112+00E and 81+95N	97	96	Finished subgrade
9/15/00	584A	111+05E and 81+75N	97	96	Finished subgrade
9/15/00	590	108+15E and 82+90N	98	96	Finished subgrade
9/15/00	591	109+05E and 83+30N	98	96	Finished subgrade
9/15/00	592	109+90E and 82+25N	100	96	Finished subgrade
9/15/00	593	111+20E and 82+75N	98	96	Finished subgrade
9/15/00	594	112+00E and 83+20N	99	96	Finished subgrade
9/15/00	595	112+95E and 82+35N	99	96	Finished subgrade
10/19/00	757	113+30E and 82+55N	97	96	Finished subgrade
11/14/00	849	112+75E and 81+70N	100	96	Finished subgrade
11/27/00	928	113+25E and 82+12N	96	96	Finished subgrade
11/27/00	929	113+45E and 80+85N	100	96	1st Lift
11/27/00	931	113+45E and 80+80N	97	96	2nd Lift
11/28/00	933	113+05E and 81+35N	98	96	Finished subgrade
11/28/00	934	113+20E and 80+50N	100	96	Finished subgrade

FIELD DENSITY TESTS
FOR SPECIAL COMPACTION AREA AND DITCHES 'B' AND 'C'

Test Date	Test Number	Location	Compaction	Specified Compaction	Elevation or Depth
7/6/00	91	110+00E and 82+50N	88<<	96	1st Lift
7/6/00	92	111+00E and 82+55N	94<<	96	1st Lift
7/6/00	93	112+00E and 82+55N	94<<	96	1st Lift
7/6/00	94	113+00E and 82+50N	93<<	96	1st Lift
7/7/00	91A	110+00E and 82+50N	96	96	1st Lift
7/7/00	92A	111+00E and 82+55N	97	96	1st Lift
7/7/00	93A	112+00E and 82+55N	97	96	1st Lift
7/7/00	94A	113+00E and 82+50N	96	96	1st Lift
7/10/00	110	112+50E and 82+55N	93<<	96	2nd Lift
7/10/00	110A	112+50E and 82+55N	96	96	2nd Lift
7/10/00	111	111+50E and 82+50N	96	96	2nd Lift
7/10/00	112	110+50E and 82+50N	97	96	2nd Lift
7/10/00	113	112+50E and 82+35N	96	96	1st Lift
7/10/00	114	111+50E and 82+25N	97	96	1st Lift
7/11/00	120	110+50E and 82+60N	96	96	2nd Lift
7/11/00	121	109+50E and 82+55N	96	96	1st Lift
7/11/00	123	112+50E and 82+25N	99	96	2nd Lift
7/11/00	124	109+50E and 82+55N	98	96	2nd Lift
7/11/00	125	108+50E and 82+60N	97	96	1st Lift
7/11/00	126	107+50E and 82+60N	99	96	1st Lift
7/11/00	127	106+50E and 82+55N	99	96	1st Lift
7/11/00	128	105+50E and 82+55N	99	96	1st Lift
7/11/00	129	104+50E and 82+60N	98	96	1st Lift
7/11/00	130	103+50E and 82+55N	99	96	1st Lift
7/11/00	131	102+50E and 82+60N	99	96	1st Lift
7/11/00	132	101+50E and 82+60N	98	96	1st Lift
7/11/00	133	109+50E and 82+35N	98	96	1st Lift
7/11/00	134	110+50E and 82+25N	97	96	1st Lift
7/11/00	135	110+50E and 82+30N	97	96	2nd Lift
7/11/00	148	108+40E and 82+50N	99	96	2nd Lift
7/11/00	149	109+55E and 82+65N	98	96	2nd Lift
7/11/00	150	106+45E and 82+60N	99	96	2nd Lift
7/11/00	151	105+55E and 82+65N	99	96	2nd Lift
7/11/00	152	104+50E and 82+55N	97	96	2nd Lift
7/11/00	153	103+55E and 82+60N	98	96	2nd Lift
7/13/00	178	105+30E and 83+05N	97	96	1st Lift
7/14/00	179	108+55E and 82+60N	97	96	3rd Lift
7/14/00	180	107+45E and 82+55N	99	96	3rd Lift
7/14/00	181	106+50E and 82+50N	98	96	3rd Lift
7/14/00	182	105+45E and 82+60N	96	96	3rd Lift
7/14/00	183	104+45E and 82+45N	96	96	3rd Lift
7/14/00	184	103+40E and 82+50N	99	96	3rd Lift
7/14/00	185	102+45E and 82+60N	98	96	2nd Lift
7/14/00	186	101+55E and 82+55N	96	96	2nd Lift
7/14/00	187	105+20E and 83+05N	96	96	2nd Lift
7/14/00	188	105+45E and 82+75N	96	96	3rd Lift
7/14/00	189	102+50E and 82+50N	97	96	3rd Lift
7/14/00	190	101+45E and 82+45N	96	96	3rd Lift
7/14/00	192	109+45E and 82+55N	97	96	3rd Lift
7/14/00	193	110+45E and 82+55N	97	96	3rd Lift

FIELD DENSITY TESTS
FOR SPECIAL COMPACTION AREA AND DITCHES 'B' AND 'C'

Test Date	Test Number	Location	Compaction	Specified Compaction	Elevation or Depth
7/14/00	194	111+50E and 82+60N	96	96	3rd Lift
7/14/00	195	112+55E and 82+55N	99	96	3rd Lift
7/14/00	196	102+50E and 82+55N	96	96	4th Lift
7/14/00	197	103+55E and 82+60N	88<<	96	4th Lift
7/14/00	198	104+50E and 82+50N	91<<	96	4th Lift
7/14/00	199	105+55E and 82+50N	97	96	4th Lift
7/14/00	200	106+45E and 82+45N	96	96	4th Lift
7/14/00	201	107+45E and 82+50N	99	96	4th Lift
7/14/00	202	108+60E and 82+45N	97	96	4th Lift
7/14/00	203	109+50E and 82+55N	96	96	4th Lift
7/14/00	204	110+45E and 82+60N	97	96	4th Lift
7/14/00	205	111+55E and 82+65N	97	96	4th Lift
7/14/00	206	112+60E and 82+55N	98	96	4th Lift
7/21/00	197A	103+55E and 82+60N	97	96	4th Lift
7/21/00	198A	104+50E and 82+50N	96	96	4th Lift
7/21/00	272	111+50E and 82+30N	97	96	2nd Lift
7/21/00	273	109+50E and 82+35N	99	96	2nd Lift
8/31/00	472	112+55E and 82+30N	101	96	3rd Lift
8/31/00	473	111+45E and 82+35N	99	96	3rd Lift
8/31/00	474	110+45E and 82+30N	99	96	3rd Lift
8/31/00	475	109+55E and 82+40N	101	96	3rd Lift
8/31/00	476	108+50E and 82+50N	100	96	5th Lift
8/31/00	477	107+50E and 82+70N	101	96	5th Lift
8/31/00	478	106+55E and 82+60N	100	96	5th Lift
8/31/00	479	105+45E and 82+45N	101	96	5th Lift
8/31/00	480	104+50E and 82+65N	100	96	5th Lift
8/31/00	481	103+55E and 82+40N	100	96	5th Lift
8/31/00	482	102+50E and 82+55N	100	96	5th Lift
8/31/00	483	101+55E and 82+35N	99	96	5th Lift
8/31/00	484	100+85E and 82+60N	100	96	5th Lift
10/11/00	685	113+25E and 83+15N	99	96	4th Lift
10/11/00	686	113+25E and 83+15N	95<<	96	3rd Lift
10/11/00	687	113+25E and 83+15N	90<<	96	2nd Lift
10/11/00	688	113+25E and 83+15N	93<<	96	1st Lift
10/12/00	686A	113+25E and 83+15N	98	96	3rd Lift
10/12/00	687A	113+25E and 83+15N	97	96	2nd Lift
10/12/00	688A	113+25E and 83+15N	99	96	1st Lift
10/12/00	693	113+25E and 83+05N	98	96	4th Lift
10/12/00	694	113+30E and 82+90N	99	96	5th Lift
11/20/00	893	113+25E and 81+90N	101	96	1st Lift
11/20/00	894	113+30E and 80+85N	100	96	1st Lift
11/20/00	897	113+20E and 80+75N	100	96	2nd Lift
11/20/00	898	113+20E and 81+90N	98	96	2nd Lift
11/21/00	909	113+25E and 80+80N	96	96	3rd Lift
11/21/00	910	113+30E and 81+80N	99	96	3rd Lift
7/18/00	918	113+20E and 81+90N	96	96	4th Lift
7/18/00	919	113+35E and 80+80N	96	96	4th Lift
7/18/00	924	113+15E and 80+80N	96	96	5th Lift
7/18/00	925	113+30E and 80+90N	99	96	6th Lift



LEGEND

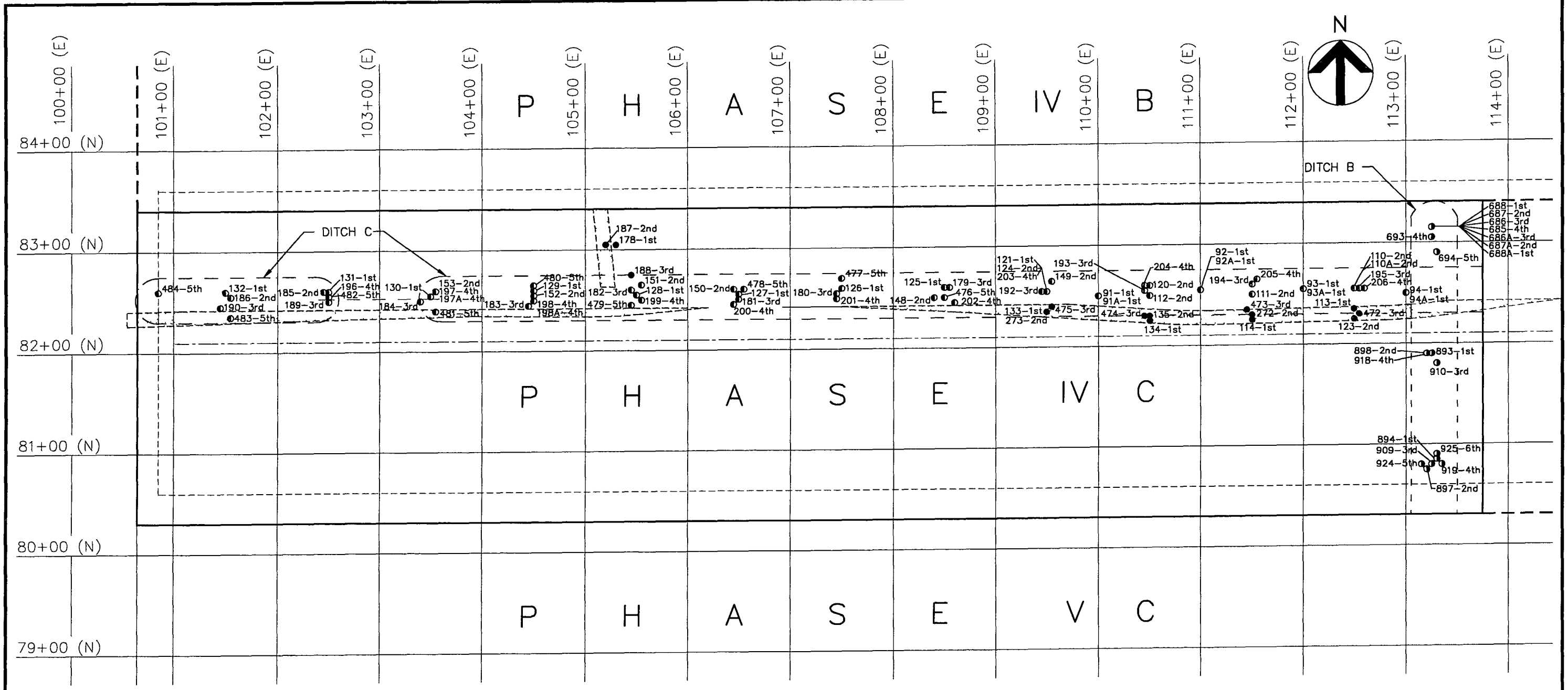
- ● FIELD DENSITY TEST LOCATION
- E INDICATES TEST TAKEN FROM EXISTING GRADE
- 1st INDICATES TEST TAKEN FROM 1ST LIFT
- 2nd INDICATES TEST TAKEN FROM 2ND LIFT
- 3rd INDICATES TEST TAKEN FROM 3RD LIFT
- 4th INDICATES TEST TAKEN FROM 4TH LIFT
- F INDICATES TEST TAKEN FROM FINISHED SUBGRADE

- ——— LIMITS OF CLAY SUBBASE LAYER – PHASE IVC
- —·—·— CENTERLINE OF VALLEY
- ---------- CENTERLINE OF RIDGE
- ▭ SPECIAL COMPACTION AREA
- – – – LIMITS OF EXISTING LINER

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES, INC

Trail Ridge Landfill
Phase IVC
Existing Grade Thru Finished Subgrade
Field Density Test Locations

DRAWN JP	DATE 1/3/01	SCALE 1"=100'
CHECKED JAH	PROJ NO 40562–0–4105	APPROX



LEGEND

- ◑ FIELD DENSITY TEST LOCATION TAKEN FROM DITCH B
- ◐ FIELD DENSITY TEST LOCATION TAKEN FROM DITCH C
- ● FIELD DENSITY TEST LOCATION TAKEN FROM SPECIAL COMPACTION AREA

1st INDICATES TEST TAKEN FROM 1ST LIFT

2nd INDICATES TEST TAKEN FROM 2ND LIFT

3rd INDICATES TEST TAKEN FROM 3RD LIFT

4th INDICATES TEST TAKEN FROM 4TH LIFT

5th INDICATES TEST TAKEN FROM 5TH LIFT

6th INDICATES TEST TAKEN FROM 6TH LIFT

——— LIMITS OF CLAY SUBBASE LAYER – PHASE IVC

—·—·— CENTERLINE OF VALLEY

---------- CENTERLINE OF RIDGE

▭ SPECIAL COMPACTION AREA

– – – LIMITS OF EXISTING LINER

0 50' 100'

GRAPHIC SCALE

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES, INC

Trail Ridge Landfill
Phase IVC
Special Compaction Area and Ditches B & C
Field Density Test Locations

DRAWN JP	DATE 1/3/01	SCALE 1"=100'
CHECKED JAH	PROJ NO 40562-0-4105	APPROX

Clay Subbase Layer

Clay Subbase Layer

CLAY SUBBASE LAYER

The clay material was obtained from a borrow source located south of County Road 225, west of Lawtey in Bradford County, Florida Information concerning the borrow source and the verification of permeability of the clay material was presented in our letter dated July 10, 2000 This document is included in this section Mr John Teague, our field representative, observed the material placement to verify the homogeneity of the material

Two test strips were performed during Phase IIIC of this construction project The second test strip was prepared due to permeability values not meeting the required values at some locations within the first test strip The documents noting the results of the test strip placement are included in this section

The installed compacted clay layer testing locations are shown on the plan included in this section The results of the thickness, hydraulic conductivity, percent fines and Atterberg limits testing are also included in this section The results of the density testing are included in Appendix B, designated as "Clay Subbase" We note that additional thickness checks were obtained as needed and are documented in daily reports

I have reviewed the documentation and test data of the Quality Control Monitor and based upon that data, find that the construction is substantially in accordance with the Project-Specific Addenda

James A Horton, P E
Registered, Florida 23315

LAW
LAWGIBB Group Member
3901 Carmichael Avenue
Jacksonville, FL 32207
(904) 396-5173 • (904) 396-5703

CLIENT England, Thims & Miller, Inc
PROJECT Trail Ridge Landfill – 3rd Increment
LAW PROJECT NO 40562-0-4105

CLAY LAYER TEST DATA – PHASE IVC

FIELD DENSITY TEST NO.	LOCATION STATION NO.	PERCENT COMPACTION*	THICKNESS (in.)	PERMEABILITY SAMPLE NO.	COEFFICIENT OF PERMEABILITY (cm/sec)	INDEX SAMPLE NUMBER	PERCENT PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
N/A	100+80E and 81+50N	N/A	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
586	101+30E and 80+70N	93	7-7/8	P-25	5.6×10^{-9}	I-39	46	62	23	39
587	102+40E and 81+80N	96	9-5/8	N/A	N/A	I-40	39	N/A	N/A	N/A
N/A	102+85E and 80+50N	N/A	7-5/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	101+20E and 82+45N	N/A	8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
596	101+65E and 83+20N	92	7-3/8	N/A	N/A	I-41	48	N/A	N/A	N/A
N/A	102+45E and 82+85N	N/A	7-5/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
597	103+20E and 82+70N	93	7-1/8	P-26	4.5×10^{-8}	I-42	59	117	38	79
N/A	103+65E and 82+20N	N/A	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
598	103+90E and 81+25N	95	7-1/2	P-27	1.2×10^{-8}	I-43	56	122	36	86
599	104+55E and 83+00N	95	7-3/4	N/A	N/A	I-44	41	N/A	N/A	N/A
N/A	104+65E and 80+95N	N/A	8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	105+05E and 82+80N	N/A	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* The project density for the clay subbase layer was established as 92 percent (minimum) based upon the second test strip

CLAY LAYER TEST DATA – PHASE IVC

FIELD DENSITY TEST NO.	LOCATION STATION NO	PERCENT COMPACTION*	THICKNESS (in)	PERMEABILITY SAMPLE NO.	COEFFICIENT OF PERMEABILITY (cm/sec)	INDEX SAMPLE NUMBER	PERCENT PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
600	105+10E and 80+40N	98	7-3/4	N/A	N/A	I-45	39	N/A	N/A	N/A
N/A	105+85E and 81+50N	N/A	7-3/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
601	105+95E and 82+30N	95	7-1/4	P-28	$5\,7 \times 10^{-9}$	I-46	38	52	22	30
N/A	106+15E and 83+15N	N/A	7-3/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
602	106+70E and 81+05N	95	7-7/8	P-29	$5\,8 \times 10^{9}$	I-47	66	141	40	101
N/A	107+05E and 81+80N	N/A	7-1/4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
603	107+95E and 81+50N	95	7-3/8	N/A	N/A	I-48	66	N/A	N/A	N/A
604	107+20E and 82+80N	93	7-5/8	N/A	N/A	I-49	87	N/A	N/A	N/A
N/A	107+95E and 82+50N	N/A	6-7/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	108+55E and 80+85N	N/A	7-3/4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
605	108+75E and 83+15N	95	7-1/4	P-30	$1\,1 \times 10^{-8}$	I-50	57	104	33	71
606	109+35E and 81+35N	84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
606A	109+35E and 81+35N	94	7-3/8	P-33	$5\,8 \times 10^{-9}$	I-55	46	72	22	50
N/A	109+40E and 82+40N	N/A	7-1/2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	110+15E and 81+65N	N/A	7-1/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
607	110+20E and 82+70N	95	7-3/4	N/A	N/A	I-51	57	N/A	N/A	N/A
608	110+80E and 80+95N	92	6-5/8	N/A	N/A	I-52	95	N/A	N/A	N/A
N/A	110+80E and 82+95N	N/A	6-5/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
609	111+35E and 82+30N	94	7-1/8	P-31	$5\,7 \times 10^{-9}$	I-53	58	107	32	75
N/A	111+55E and 81+40N	N/A	7-3/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	112+10E and 82+60N	N/A	7-1/2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
610	112+15E and 80+45N	95	7-3/8	P-32	$5\,7 \times 10^{-9}$	I-54	52	111	34	77
N/A	112+60E and 83+20N	N/A	6-3/4	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* The project density for the clay subbase layer was established as 92 percent (minimum) based upon the second test strip

CLAY LAYER TEST DATA – PHASE IVC

FIELD DENSITY TEST NO	LOCATION STATION NO.	PERCENT COMPACTION*	THICKNESS (in.)	PERMEABILITY SAMPLE NO.	COEFFICIENT OF PERMEABILITY (cm/sec)	INDEX SAMPLE NUMBER	PERCENT PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
684	103+45E and 83+35N	92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
935	112+90E and 83+30N	95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
936	112+90E and 81+50N	95	8-3/8	N/A	N/A	I-83	46	N/A	N/A	N/A
851	113+30E and 82+70N	97	8-5/8	P-46	$6\,4 \times 10^{9}$	I-73	43	80	22	59
N/A	113+60E and 80+75N	N/A	8-1/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A

RESPECTFULLY SUBMITTED,

John Teague

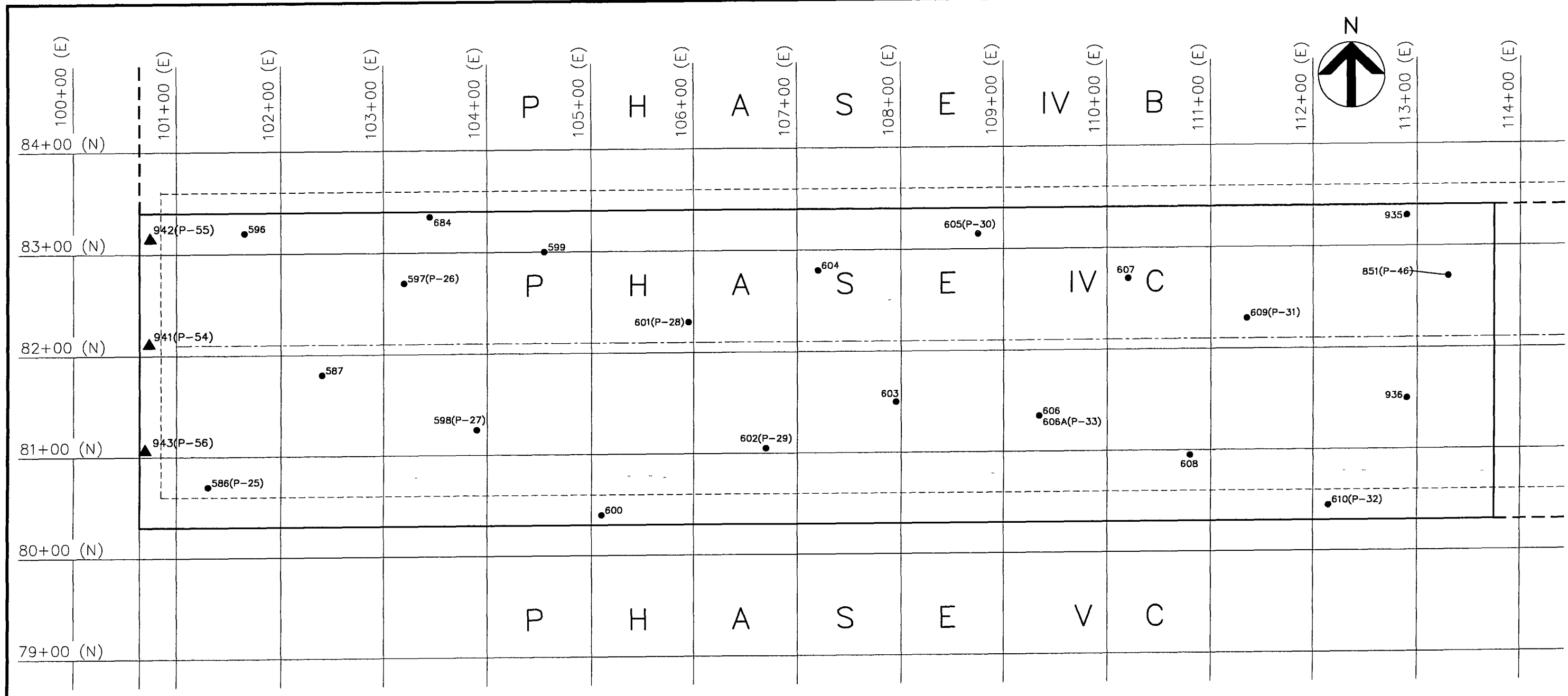
Submitted By John Teague

BY dp WITH PERMISSION

James J Gallup

Reviewed By James J Gallup

* The project density for the clay subbase layer was established as 92 percent (minimum) based upon the second test strip



LEGEND

- ● FIELD DENSITY TEST LOCATION
- (P-25) PERMEABILITY TEST LOCATED AT FIELD DENSITY TEST LOCATION
- ▲ ANCHOR BERM TEST LOCATION
- ——— LIMITS OF CLAY SUBBASE LAYER – PHASE IVC
- —·— CENTERLINE OF VALLEY
- ------ CENTERLINE OF RIDGE
- – – – LIMITS OF EXISTING LINER

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES, INC

Trail Ridge Landfill
Phase IVC
Clay Subbase Layer
Field Density and Permeability Test Locations

DRAWN JP	DATE 1/3/01	SCALE 1"=100'
CHECKED JAH	PROJ NO 40562-0-4105	APPROX

Clay Borrow Source Pre-Qualification

LAW

LAWGIBB Group Member

July 10, 2000

Ms. Juanitta Clem, P.E.
England, Thims & Miller, Inc.
14775 St. Augustine Road
Jacksonville, Florida 32258

Subject: Clay Borrow Source Pre-Qualification
3rd Construction Increment
Trail Ridge Landfill
Jacksonville, Florida
LAW Project Number 40562-0-4105

Dear Ms. Clem:

Law Engineering and Environmental Services, Inc. (LAW) has completed the pre-qualification testing of the potential clay borrow source. Attached are a site location map, Key to Soil Classification, Field Exploration Plan (FEP), completed pre-qualification form and Standard Proctor test results.

In summary, the proposed borrow source is located south of County Road 225, west of Lawtey in Bradford County, Florida. As part of the site evaluation designated the Lane Pit, nine test pits were excavated. The approximate locations of the test pits are shown on the FEP. The test pits initially encountered from 2 to 3½ feet of fine sandy overburden soils. Two strata of clayey soils were then encountered. The upper stratum consisted of a grey, orange and red very clayey fine sand to very sandy clay with sand seams. The stratum was typically 3 to 5 feet in thickness. This material had a percent fines (material passing the #200 sieve) content varying from 39% to 54% for the samples tested. Underlying this upper stratum a blue grey and orange sandy to slightly sandy clay with sand seams was encountered. This stratum varied from 2 to 7 feet in thickness, and had a percent fines content varying from 64% to 95% for the samples tested. Three samples of this clay (from Test Pits 1, 2 and 4) were submitted for Standard Proctor and permeability testing. The results of this testing are as follows:

	Test Pit 1 (Upper Stratum)	**Test Pit 2 (Upper Stratum)**	**Test Pit 4 (Lower Stratum)**
Maximum Dry Density (Standard Proctor)	105.6 pcf	109.7 pcf	83.6 pcf
Optimum Moisture Content (Standard Proctor)	19.7%	16.2%	33.8%
Liquid Limit	61	89	175
Plasticity Index	42	66	133
Percent Fines	39	46	83
Coefficient of Permeability	2.1×10^{-7} cm/sec	1.1×10^{-8} cm/sec	9.1×10^{-9} cm/sec
Percent Compaction (Standard Proctor)	91%	91%	91%
Moisture Content at compaction	22.2%	21.5%	35.8%

Results of the laboratory testing are presented on various data sheets attached to this report. Based on these results, it is our opinion that both of the clay strata from this site will be acceptable for consideration as the clay liner material. We note that one sample obtained from the upper stratum did not meet the permeability guidelines. We understand that you intend to mix the upper and lower clay strata during the borrow operation. Care should be taken to avoid inclusion of the larger sand seams present in the materials. As noted in the table above, the test samples were compacted several percent wet of the optimum moisture content. The permeability characteristics are enhanced when the clay is compacted wet of optimum.

LAW Engineering and Environmental Services, Inc
3901 Carmichael Avenue
Jacksonville, FL 32207
904-396-5173 • Fax 904-396-5703

We appreciate the opportunity to be of service on this phase of your project. If you have any questions concerning this report please contact us.

Very truly yours,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

James A. Horton, P.E.
Principal Geotechnical Engineer
Registered, FL 23315

Kirk A. McIntosh, P.E.
Principal Geotechnical Engineer
Registered, FL 33703

JAH/KAM:ko

Attachments

TRAIL RIDGE LANDFILL
CLAY BORROW SOURCE
PRE-QUALIFICATION FORM

CLAY SOURCE: Clay Pit 1

LOCATION*: County Road 225 (See Attached Map)

Bradford County, Florida

DISTANCE FROM PROJECT SITE: 16 Miles

ESTIMATED PROJECT QUANTITY: 41,000 yd^3

ESTIMATED SOURCE QUANTITY: Stratum 1 43,000 yd^3 Stratum 2 48,000 yd^3

NUMBER OF TEST PITS: 12

* Attach a map showing the location of the clay borrow source and the horizontal and vertical extent of the clay borrow. Also include the location and approximate depth of all test pits.

TEST RESULTS:

A. TEST PIT NO. 1

Clay Stratum Description Grey, orange and red very clayey fine sand with sand seams
Depth Below Surface From: 3 To: 7
Percent Fines 39
Atterberg Limits LL = 61 PI = 42
Moisture Content 21
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor 2.1×10^{-7} cm/sec (91% actual density)

Clay Stratum Description Grey slightly sandy clay
Depth Below Surface From: 7 To: 9
Percent Fines 88
Atterberg Limits
Moisture Content 61
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

B TEST PIT NO. 2

Clay Stratum Description Grey, orange and red very clayey fine sand with sand seams
Depth Below Surface From: 3 To: 7.5
Percent Fines 46
Atterberg Limits LL = 89 PI = 66
Moisture Content 24
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor 1.1×10^{-8} cm/sec (91% actual density)

Clay Stratum Description
Depth Below Surface From: To:
Percent Fines
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

C. TEST PIT NO. 3

Clay Stratum Description Grey, orange and red very clayey fine sand with sand seams
Depth Below Surface From: 2 To: 6

Percent Fines 45

Atterberg Limits

Moisture Content

Hydraulic Conductivity: (cm/sec)

@ 80% Standard Proctor

@ 85% Standard Proctor

@ 90% Standard Proctor

Clay Stratum Description Blue grey very sandy Clay
Depth Below Surface From: 6 To: 7.5

Percent Fines 64

Atterberg Limits

Moisture Content

Hydraulic Conductivity: (cm/sec)

@ 80% Standard Proctor

@ 85% Standard Proctor

@ 90% Standard Proctor

D. TEST PIT NO. 4

Clay Stratum Description Grey, orange and red very clayey fine sand with sand seams
Depth Below Surface From: 3.5 To: 6.3

Percent Fines 41

Atterberg Limits

Moisture Content

Hydraulic Conductivity: (cm/sec)

@ 80% Standard Proctor

@ 85% Standard Proctor

@ 90% Standard Proctor

Clay Stratum Description Grey and orange slightly sandy clay with sand seams
Depth Below Surface From: 6.3 To: 13.5

Percent Fines 83

Atterberg Limits LL = 175 PI = 133

Moisture Content 60

Hydraulic Conductivity: (cm/sec)

@ 80% Standard Proctor

@ 85% Standard Proctor

@ 90% Standard Proctor 9.1×10^{-9} cm/sec
(91% actual density)

E. TEST PIT NO. 5

Clay Stratum Description Grey, orange and red very clayey fine sand with sand seams
Depth Below Surface From: 3.5 To: 8

Percent Fines 40

Atterberg Limits

Moisture Content

Hydraulic Conductivity: (cm/sec)

@ 80% Standard Proctor

@ 85% Standard Proctor

@ 90% Standard Proctor

Clay Stratum Description Grey and tan slightly sandy clay with sand
Depth Below Surface From: 8 To: 14

Percent Fines 95

Atterberg Limits

Moisture Content

Hydraulic Conductivity: (cm/sec)

@ 80% Standard Proctor

@ 85% Standard Proctor

@ 90% Standard Proctor

F. TEST PIT NO. 6

Clay Stratum Description Grey, orange and red very sandy clay
Depth Below Surface From: 3 To: 8
Percent Fines 54
Atterberg Limits LL = 102 PI = 84
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

Clay Stratum Description Grey and orange slightly sandy clay
Depth Below Surface From: 8 To: 12.5
Percent Fines 91
Atterberg Limits LL = 182 PI = 139
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

G. TEST PIT NO. 7

Clay Stratum Description Grey, orange and red very sandy clay
Depth Below Surface From: 3.3 To: 7
Percent Fines 54
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

Clay Stratum Description Grey and orange sandy clay
Depth Below Surface From: 7 To: 9.5
Percent Fines 78
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

H. TEST PIT NO. 8

Clay Stratum Description Grey, orange and red very clayey fine sand
Depth Below Surface From: 3.3 To: 9.0
Percent Fines 45
Atterberg Limits LL = 86 PI = 58
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

Clay Stratum Description Grey and orange sandy clay with sand seams
Depth Below Surface From: 9.0 To: 13.5
Percent Fines 80
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

I. TEST PIT NO. 9

Clay Stratum Description Grey, orange and red very clayey fine sand
Depth Below Surface From: 3.5 To: 6.5
Percent Fines 39
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

Clay Stratum Description Grey and orange slightly sandy clay
Depth Below Surface From: 6.5 To: 12.7
Percent Fines 91
Atterberg Limits LL = 162 PI = 120
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

J. TEST PIT NO. 10

Clay Stratum Description Grey and orange sandy Clay
Depth Below Surface From: 2 To: 5.5
Percent Fines
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

Clay Stratum Description Grey and orange slightly sandy clay with large sand seams
Depth Below Surface From: 5.5 To: 8.5
Percent Fines
Atterberg Limits LL = 162 PI = 120
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

K. TEST PIT NO. 11

Clay Stratum Description Grey, orange and red sandy clay
Depth Below Surface From: 3.5 To: 8.5
Percent Fines
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

Clay Stratum Description
Depth Below Surface From: To:
Percent Fines
Atterberg Limits
Moisture Content
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor
@ 85% Standard Proctor
@ 90% Standard Proctor

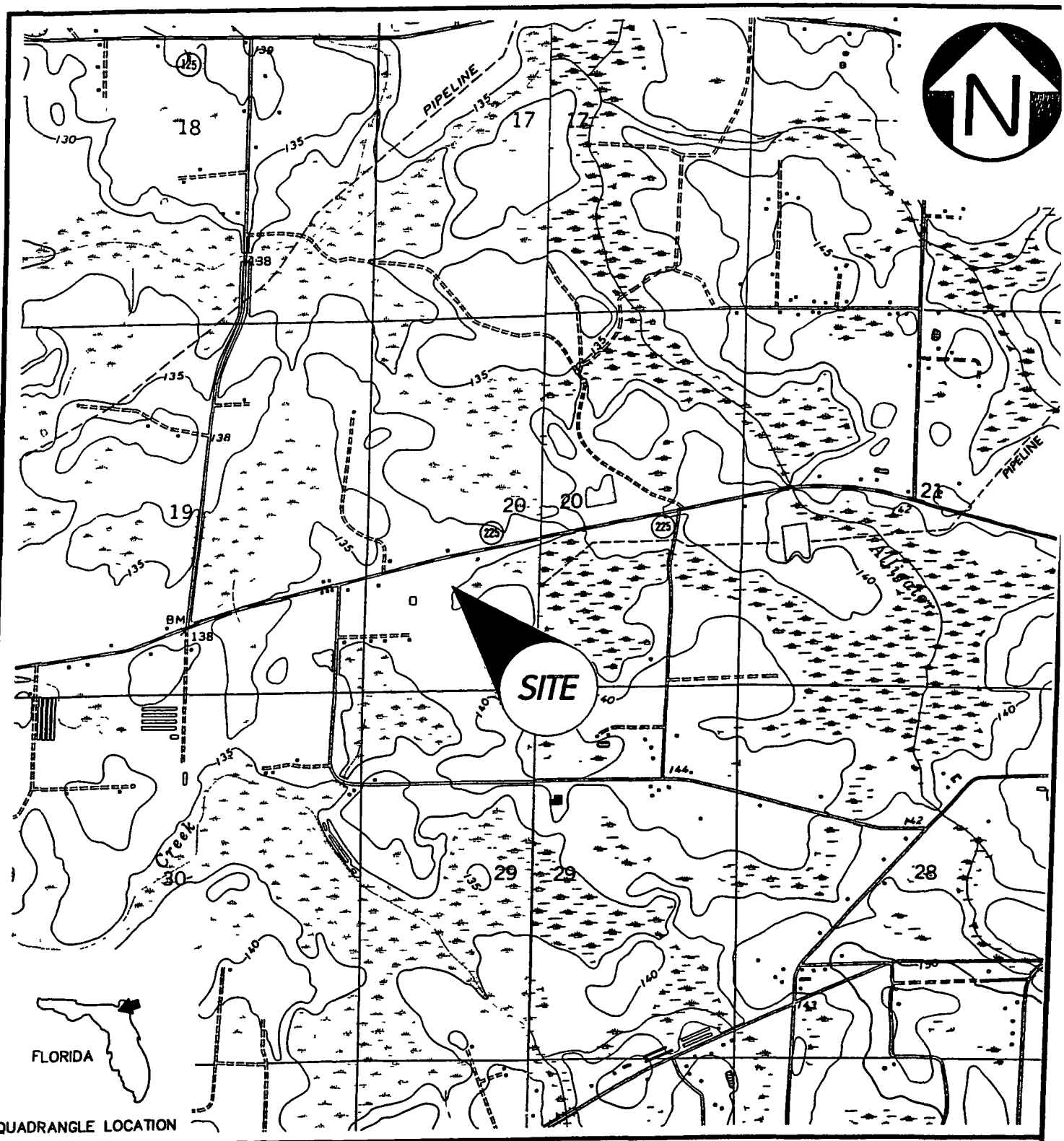
L. TEST PIT NO. 12

Clay Stratum Description Grey, orange and red Slightly sandy clay with small sand seams
Depth Below Surface From: 4 To: 9.5
Percent Fines _____
Atterberg Limits _____
Moisture Content _____
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor _____
@ 85% Standard Proctor _____
@ 90% Standard Proctor _____

Clay Stratum Description _____
Depth Below Surface From: _____ To: _____
Percent Fines _____
Atterberg Limits _____
Moisture Content _____
Hydraulic Conductivity: (cm/sec)
@ 80% Standard Proctor _____
@ 85% Standard Proctor _____
@ 90% Standard Proctor _____

Approved by Contractor P.A.
Approved by QC Monitor
Approved by QA Engineer

ATTACHMENTS



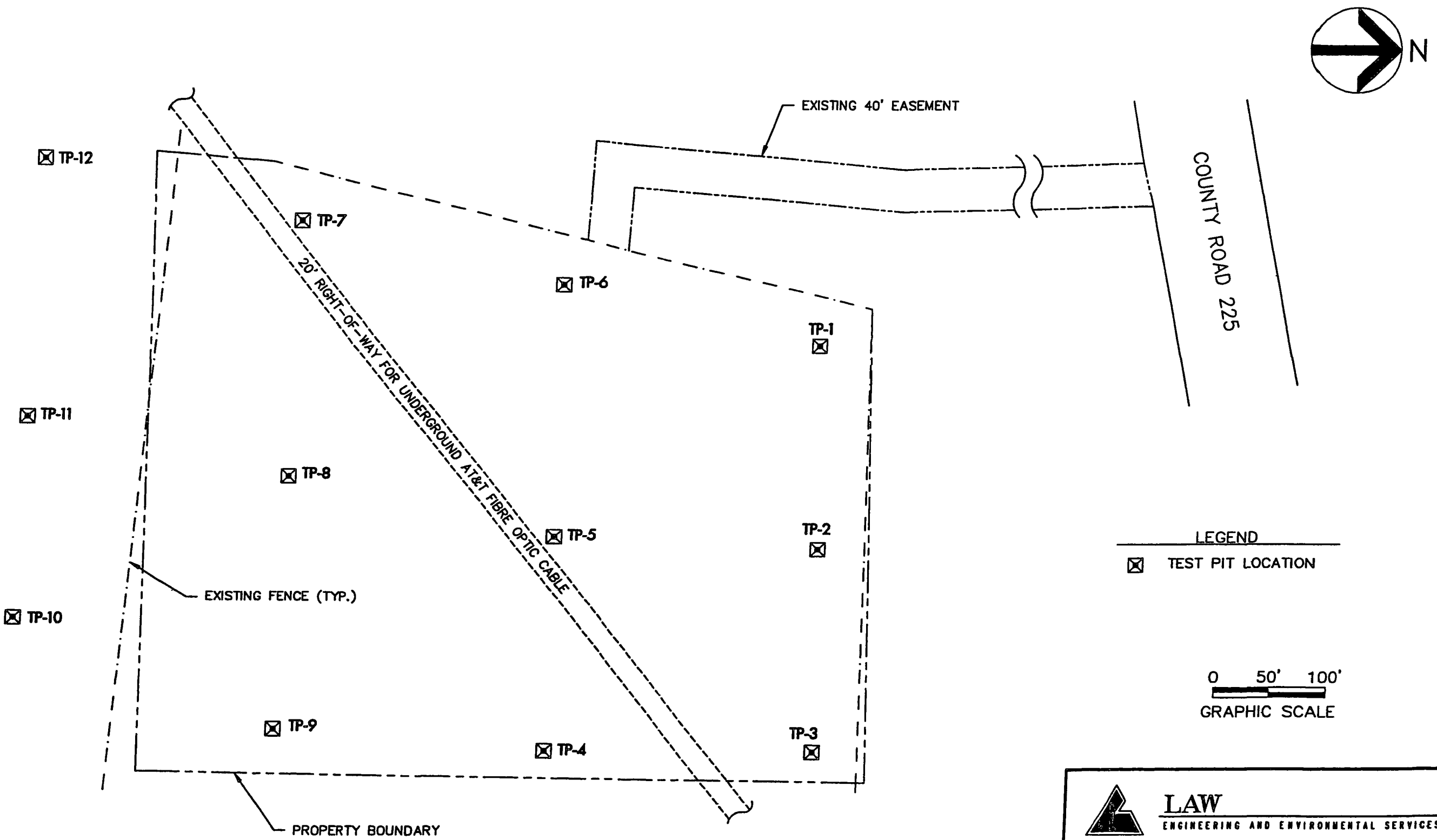
REFERENCE:
RAIFORD QUADRANGLE; FLORIDA
DATED: 1970; PHOTOREVISED: 1984
LAWTEY QUADRANGLE; FLORIDA
DATED: 1970; PHOTOREVISED: 1993
TOPOGRAPHIC MAPS
U.S. GEOLOGICAL SURVEY

0 1000' 2000'
GRAPHIC SCALE

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

SITE LOCATION MAP
Trail Ridge Landfill – 3rd Construction Increment
Clay Pit Pre-qualification
Bradford County, Florida

DRAWN: JP	DATE:6/16/00	SCALE: 1"=2000'
CHECKED: JAH	PROJECT NO. 40562-0-4105	



LEGEND

⊠ TEST PIT LOCATION

0 50' 100'

GRAPHIC SCALE

REFERENCE: Field Sketch
June 5, 2000
Based on furnished
Boundary Survey (partial)

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES, INC

FIELD EXPLORATION PLAN
Trail Ridge Landfill – 3rd Construction Increment
Clay Pit Pre-qualification
Bradford County, Florida

DRAWN: JP	DATE: 6/16/00	SCALE: 1"=100'
CHECKED: JAH	PROJ. NO. 40562-0-4105	APPROX.

Test Strip Qualification

August 7, 2000

LAWGIBB GROUP

Ms. Juanitta Clem
England, Thims & Miller, Inc.
14775 St. Augustine Road
Jacksonville, Florida 32258

Subject **Clay Test Strip Qualification**
Third Increment Construction – Phase IIIC
Trail Ridge Landfill
Jacksonville, Florida
LAW Project No. 40562-0-4105

Dear Ms. Clem:

Law Engineering and Environmental Services, Inc (LAW) has completed the monitoring and testing of the clay test strip placement at the subject site. Two test strips were constructed since the first test strip did not meet permeability requirements in all locations Attached is the test strip qualification form for both test strips. Field density testing performed by nuclear equipment indicated density values between 90 and 96 percent of the Standard Proctor values for the samples from Test Strip 1 that met the permeability criteria. For Test Strip 2, density values of 94 to 100 percent of the Standard Proctor values were measured. Samples of the clay liner were obtained for permeability testing. The coefficient of permeability values obtained for these samples varied from 1.1×10^{-8} to 5.6×10^{-9} cm/sec.

In summary, the test strip permeabilities meet the specified requirement at densities varying from 90 to 100 percent of the Standard Proctor maximum. In Test Strip 1, however, there was a sample that did not meet the permeability criteria at a density of 91 percent of the Standard Proctor value. Based on these results, we consider the test strip construction acceptable and recommended a minimum density criteria for the clay of 92 percent of the Standard Proctor maximum.

We appreciate the opportunity to be of continuing service on this phase of your project. If you have any questions concerning this report, please contact us.

Sincerely,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

James A Horton, P E.
Principal Geotechnical Engineer
Registered, Florida 23315

JAH·dp

Attachments

LAW Engineering and Environmental Services, Inc
3901 Carmichael Avenue • Jacksonville, FL 32207
904-396-5173 • Fax 904-396-5703

TRAIL RIDGE LANDFILL
THIRD INCREMENT OF CONSTRUCTION
TEST STRIP FORM

TEST STRIP NO · 1 DATE· 7/18/00

LOCATION Station 114+00(E) to Station 115+00(E)

Station 80+60(N) to Station 81+60(N)

SIZE (20' X 50' MINIMUM)· 100' x 100'

TYPE OF EQUIPMENT USED. Dozer / Steel-Wheeled Drum / Sheepsfoot

PASS/FAIL? Fail (P-4 and P-5 Permeability)

TEST RESULTS:

Lift No · 1
Percent Fines: 37 / 80 / 42 / 50 / 54
Atterberg Limits (PI) 26 / 34 / 68 / 45 / 43
Moisture Content 18 / 51 / 21 / 30 / 54
Field Density (@ 5 locations)
P1 105 6 pcf (96%)
P2 109 7 pcf (94%)
P3 83 6 pcf (90%)
P4 103 2 pcf (87%)
P5 103 2 pcf (91%)

Thickness· (@ 5 locations)
P1 8"
P2 6-3/4"
P3 7-7/8"
P4 7-3/8"
P5 6-1/2"

Hydraulic Conductivity. (@ 5 locations)
P1 1 1 x 10^{-8} cm/sec
P2 7 1 x 10^{-8} cm/sec
P3 1 1 x 10^{-8} cm/sec
P4 2 2 x 10^{-6} cm/sec
P5 2 3 x 10^{-6} cm/sec

Lift No
Percent Fines·
Atterberg Limits.
Moisture Content
Field Density: (@ 5 locations)

Thickness (@ 5 locations)

Hydraulic Conductivity (@ 5 locations)

TEST RESULTS (continued)

Lift No
Percent Fines·

TESTSTRP doc

Atterberg Limits _____
Moisture Content _____
Field Density (@ 5 locations)

_____
_____
_____
_____
_____

Thickness (@ 5 locations)

_____
_____
_____
_____
_____

Hydraulic Conductivity (@ 5 locations)

_____
_____
_____
_____
_____

Attach sampling results as needed

Approved by Contractor _____
Approved by QC Monitor _____
Approved by QA Engineer _____

TESTSTRP doc

TRAIL RIDGE LANDFILL
THIRD INCREMENT OF CONSTRUCTION
TEST STRIP FORM

TEST STRIP NO 2 DATE 7/26/00

LOCATION Station 115+00(E) to Station 116+00(E)

Station 80+60(N) to Station 81+60(N)

SIZE (20' X 50' MINIMUM). 100' x 100'

TYPE OF EQUIPMENT USED. Dozer / Steel-Wheeled Drum / Sheepsfoot

PASS/FAIL?. Pass

TEST RESULTS:

Lift No 1
Percent Fines 47 / 57 / 43 / 55 / 71
Atterberg Limits: (PI) 51 / 48 / 39 / 37 / 47
Moisture Content: 24 / 24 / 23 / 26 / 45
Field Density (@ 5 locations)
P6 97 pcf (94%)
P7 97 pcf (94%)
P8 100 pcf (97%)
P9 103 pcf (100%)
P10 99 pcf (96%)

Thickness (@ 5 locations)
P6 8"
P7 6-5/8"
P8 7"
P9 6-1/4"
P10 6-1/8"

Hydraulic Conductivity. (@ 5 locations)
P6 1.2×10^{-8} cm/sec
P7 1.1×10^{-8} cm/sec
P8 4.5×10^{-8} cm/sec
P9 5.6×10^{-9} cm/sec
P10 6.1×10^{-8} cm/sec

Lift No .
Percent Fines
Atterberg Limits
Moisture Content
Field Density (@ 5 locations)

Thickness. (@ 5 locations)

Hydraulic Conductivity (@ 5 locations)

TEST RESULTS (continued)

Lift No
Percent Fines:

TESTSTRP2 doc

Atterberg Limits _____
Moisture Content _____
Field Density (@ 5 locations)

_____
_____
_____
_____
_____

Thickness (@ 5 locations)

_____
_____
_____
_____
_____

Hydraulic Conductivity (@ 5 locations)

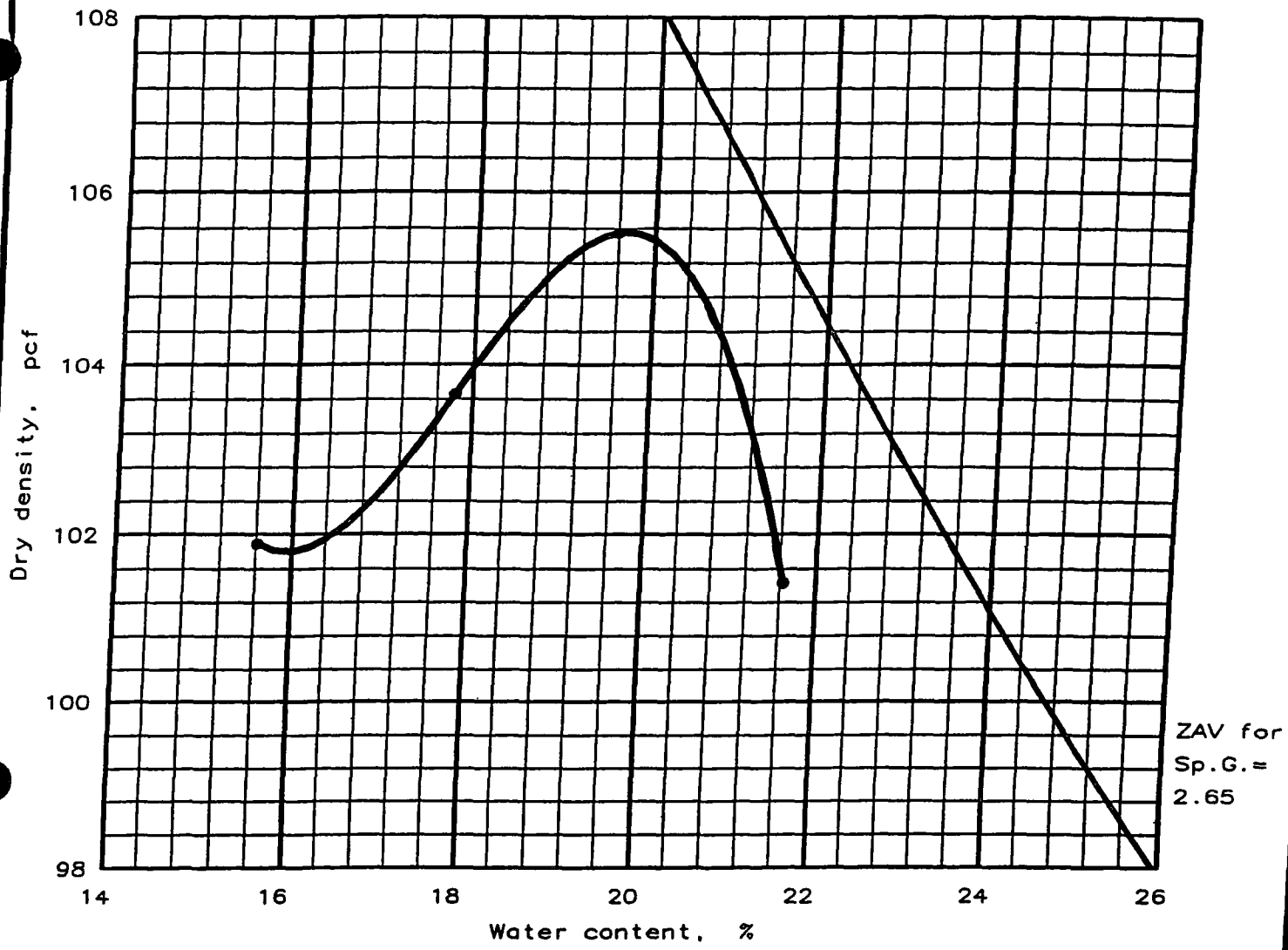
_____
_____
_____
_____
_____

Attach sampling results as needed

Approved by Contractor _____
Approved by QC Monitor _____
Approved by QA Engineer _____

TESTSTRP2 doc

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SC	A-6					0 %	47.6 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 105.6 pcf Optimum moisture = 19.7 %	Red, Orange and Gray Very Clayey Fine SAND

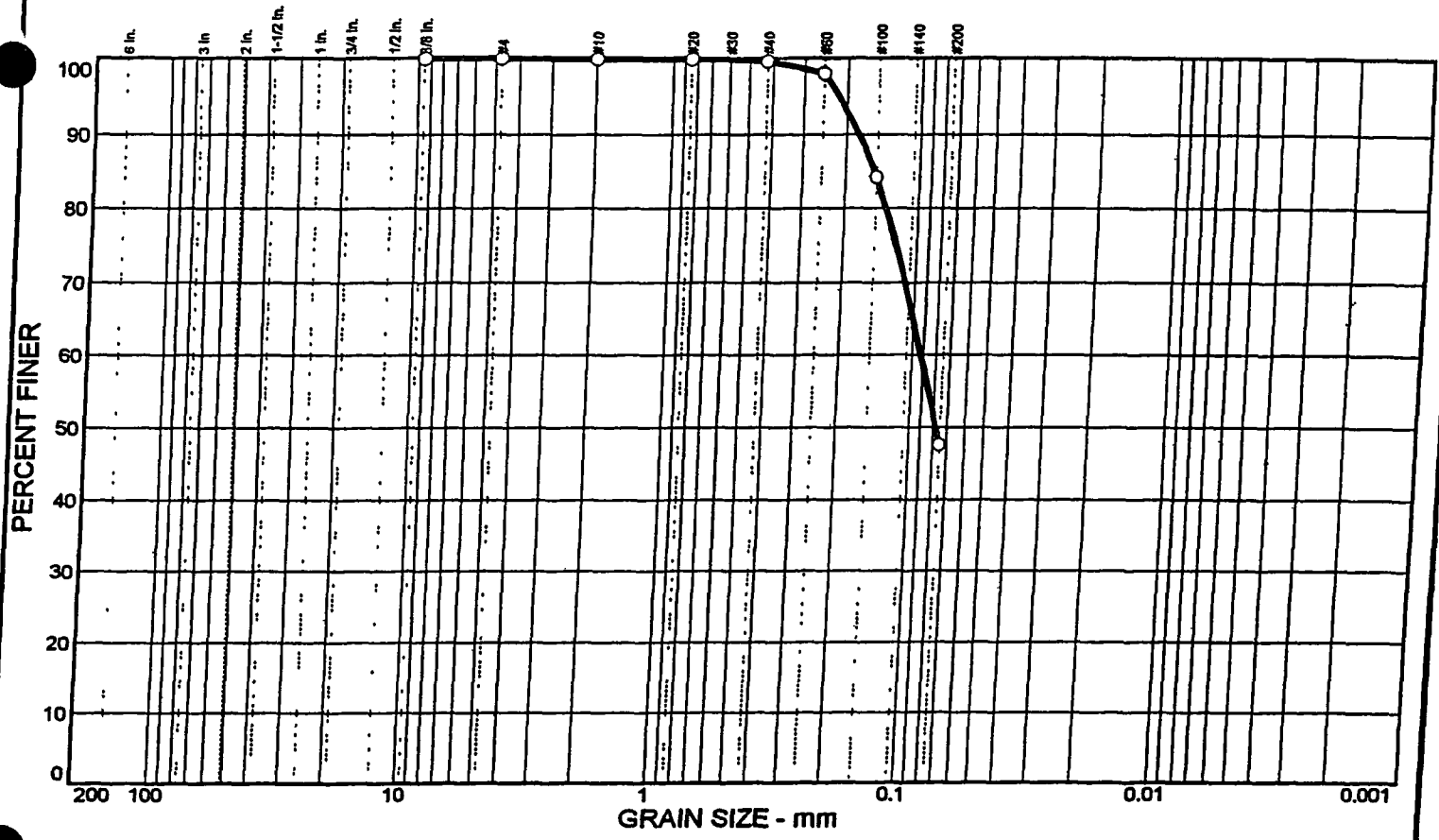
Project No.: 40562-0-4105
Project Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Clay Liner Material
Test Pit No. 1, Sample No. 1
Date: 6-14-00

Remarks:
Proctor No. CL-1

MOISTURE-DENSITY RELATIONSHIP TEST
LAW ENGINEERING INC.

Reviewed By

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			52.4	47 6		SC	A-6(0)		

SIEVE inches size	PERCENT FINER O		
.375	100.0		

	GRAIN SIZE		
D_{60}	0.0924		
D_{30}			
D_{10}			

	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100 0
#10	99.9
#20	99.9
#40	99.6
#60	98.0
#100	84.2
#200	47 6

SOIL DESCRIPTION

O Red, Orange & Gray Very Clayey Fine SAND

REMARKS:

O Clay Liner Test Pit No. 1, Sample No. 1

O Source: Proposed Clay Liner Material

Sample No.: Proctor No. CL-1

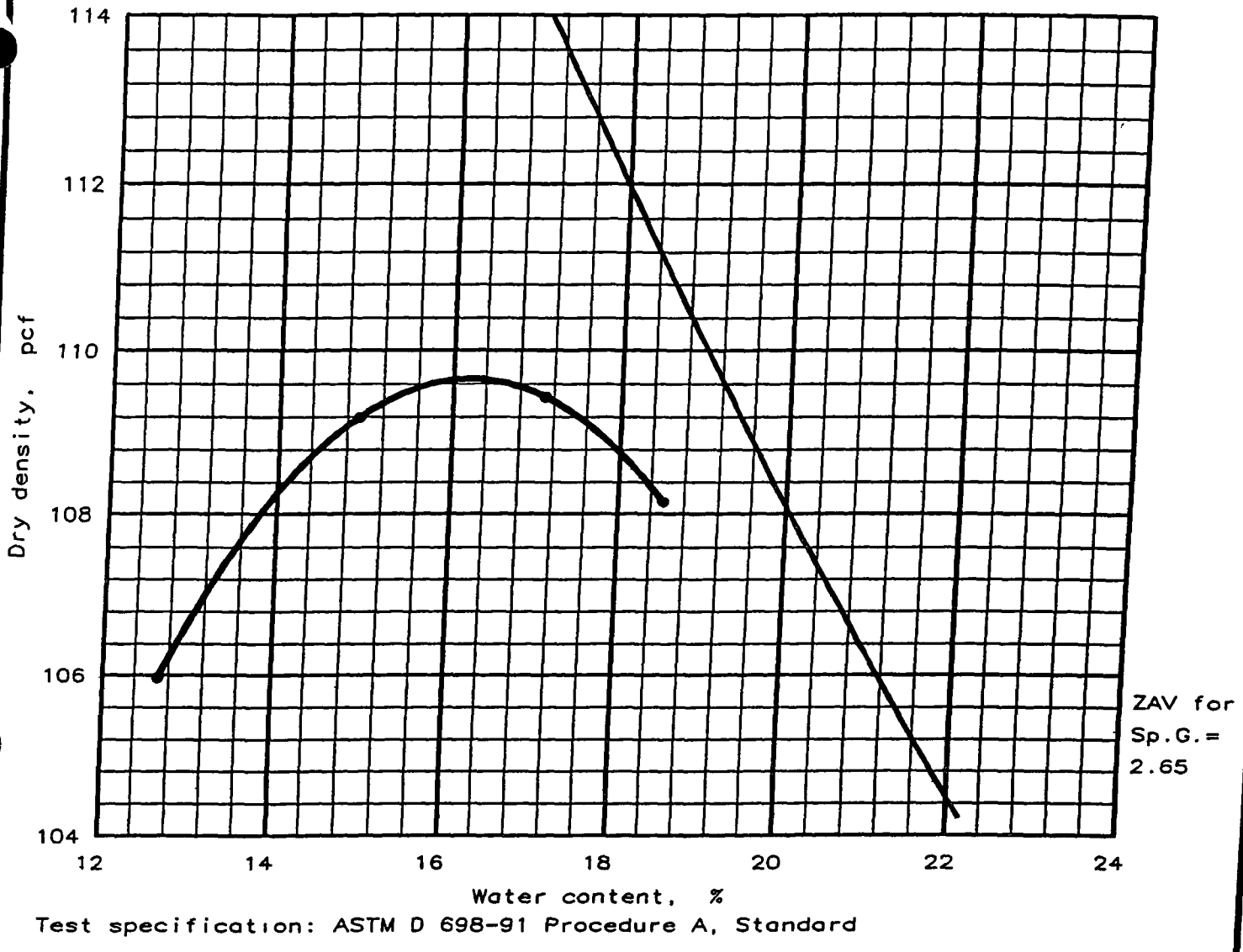
Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No · 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SC	A-6					0 %	46.4 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 109.7 pcf Optimum moisture = 16.2 %	Brown and Orange Very Clayey Fine SAND

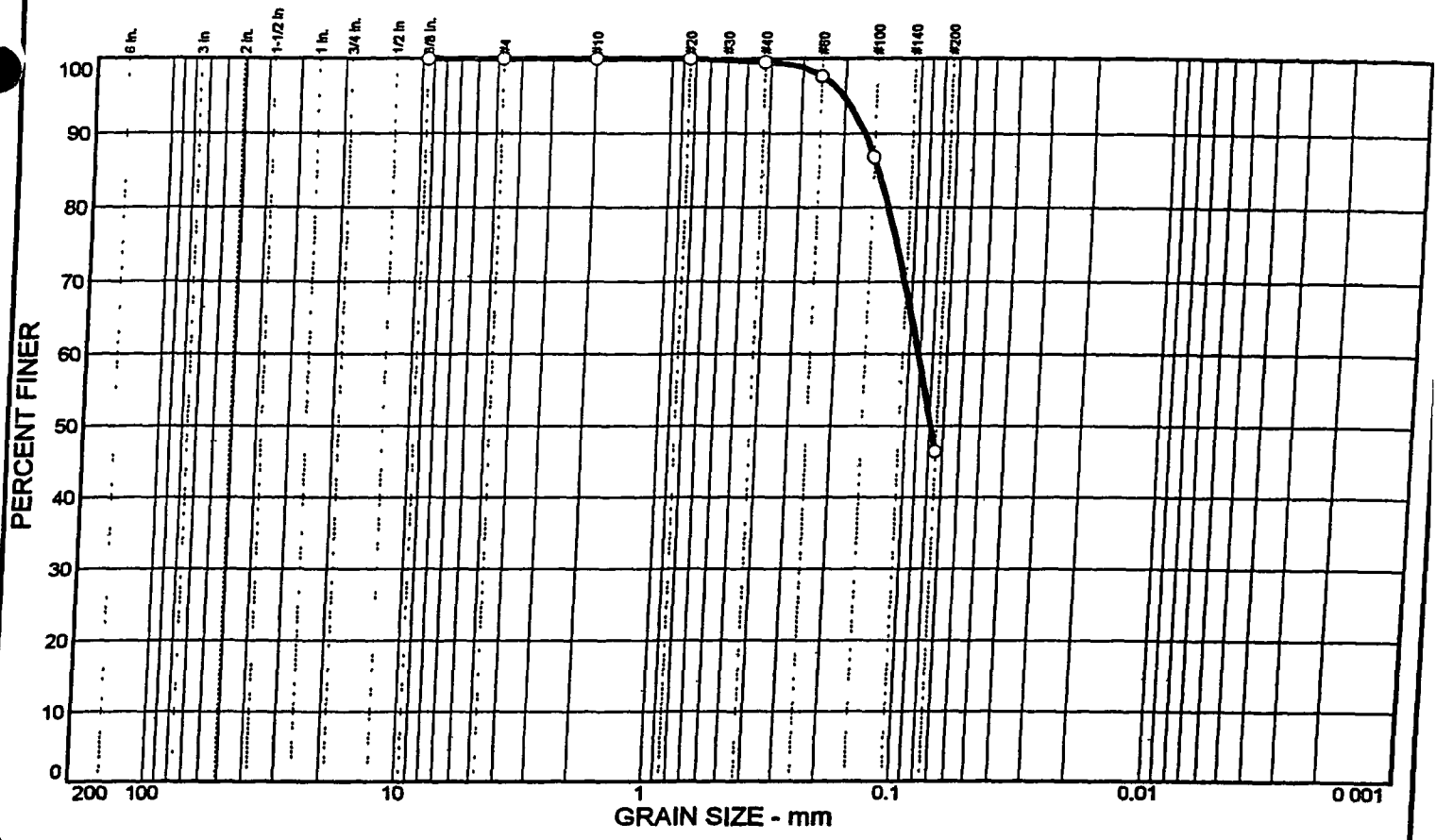
Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Clay Liner Material
Test Pit No. 2, Sample No. 1
Date: 6-14-00

Remarks:
Proctor No. CL-2

MOISTURE-DENSITY RELATIONSHIP TEST
LAW ENGINEERING INC.

Reviewed By

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			53.6	46.4		SC	A-6(0)		

SIEVE inches size	PERCENT FINER O
.375	100.0

	GRAIN SIZE
D_{60}	0.0918
D_{30}	
D_{10}	
	COEFFICIENTS
C_c	
C_u	

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	100.0
#40	99.5
#60	97.7
#100	86 8
#200	46.4

SOIL DESCRIPTION

O Brown and Orange Very Clayey Fine SAND

REMARKS.

O Test Pit No. 2, Sample No. 1

O Source: Proposed Clay Liner Material

Sample No.: Proctor No. CL-2

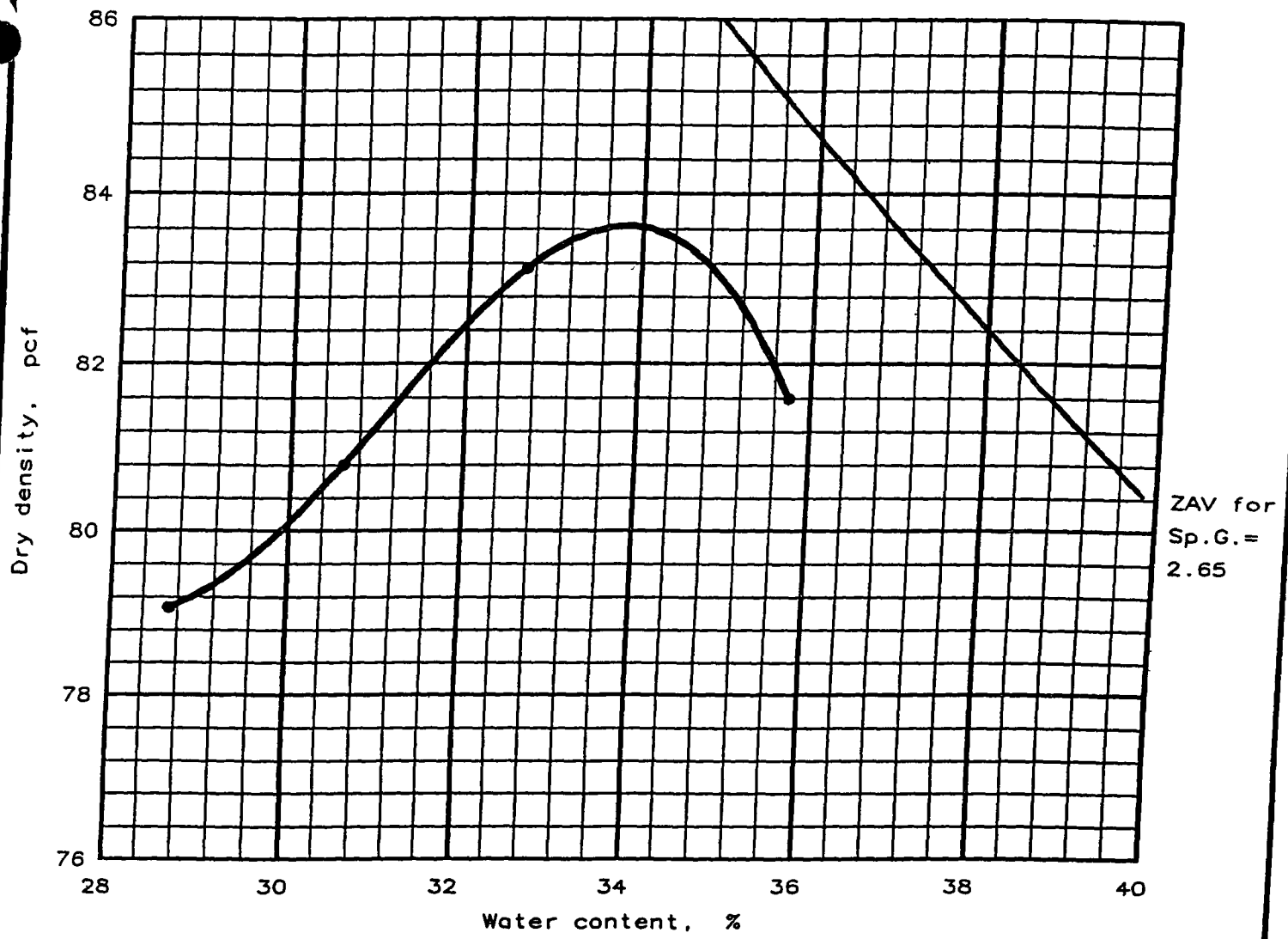
Law Engineering and Environmental Services, Inc.

Client. England Thims and Miller

Project: Trailridge Landfill

Project No 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CL	A-6					0 %	72.5 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 83.6 pcf Optimum moisture = 33.8 %	Gray and Brown Sandy CLAY

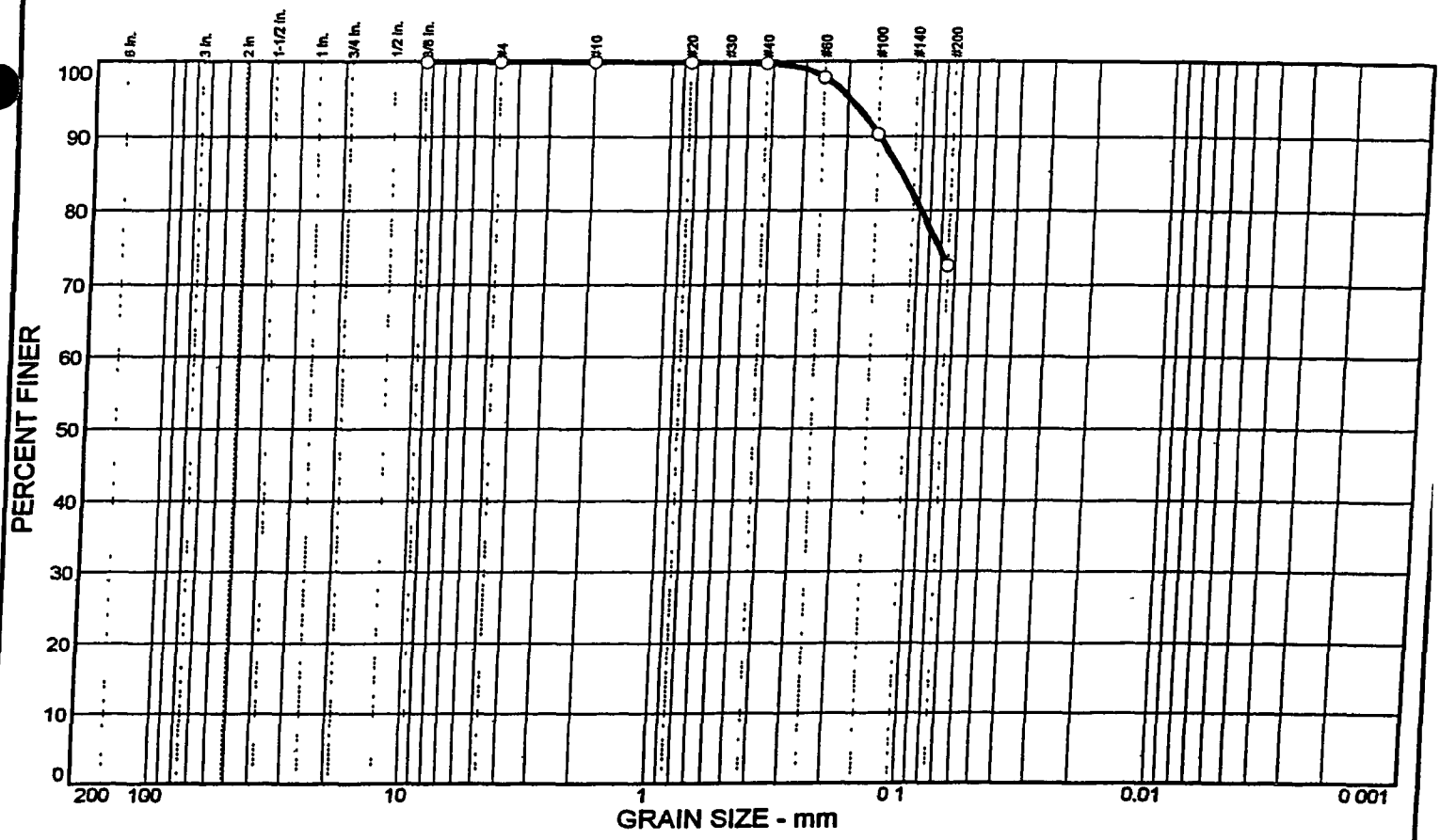
Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Clay Liner Material
Test Pit No. 4, Sample No. 2
Date: 6-14-00

Remarks:
Proctor No. CL-3

MOISTURE-DENSITY RELATIONSHIP TEST
LAW ENGINEERING INC.

Reviewed By

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			27 5	72.5		CL	A-6(0)		

SIEVE inches size	PERCENT FINER O		
.375	100.0		

GRAIN SIZE			
D_{60}			
D_{30}			
D_{10}			

COEFFICIENTS			
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.9
#40	99.7
#60	97.9
#100	90.3
#200	72.5

SOIL DESCRIPTION

O Gray and Brown Sandy CLAY

REMARKS:

O Test Pit No. 4, Sample No. 2

O Source: Proposed Clay Liner Material

Sample No.: Proctor No. CL-3

Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No 40562-0-4105

Protective Sand Blanket

Protective Sand Blanket

PROTECTIVE SAND BLANKET

The protective sand was obtained from an off-site source The borrow source is in an area south of Normandy Boulevard, east of U S Highway 301 in the Maxville area of Duval County, Florida The initial pre-qualification testing was conducted in June, 2000 The results of this initial testing is summarized in this section

During the excavation and hauling operation, additional permeability testing (ASTM D2434) was conducted on samples obtained from borings performed on approximately 40 foot centers (one test per 500 cubic yards assuming an average depth of 8-½ feet) A portion of these samples (at a minimum of one test per 5,000 cubic yards) were also tested for Insoluble Residue in Carbonate Aggregate (ASTM D3042) For location control, the borrow site was divided into grids, using a corner boundary as the origin Auger borings and permeability testing was performed based upon these grids Based on these results, grids in which the soils did not meet the permeability requirements were excluded from excavation In addition, the depth of excavation was set by grid based on this testing The results of the conformation permeability testing are summarized in this section

During actual excavation, our field representative at the borrow site noted on the truck ticket that the material obtained was from the appropriate strata This chain of custody via truck tickets was completed by our representative at the construction site A summary of placement quantities is included with this section

The sand blanket thickness was verified by the as-built survey

I have reviewed the documentation and test data of the Quality Control Monitor and based upon that data, find that the construction is substantially in accordance with the Project-Specific Addenda

James A Horton, P E
Registered, Florida 23315

4/21/01

LAW
LAWGIBB Group Member
3901 Carmichael Avenue
Jacksonville, FL 32207
(904) 396-5173 • (904) 396-5703

Report of Protective Sand Placement – Phase IVC

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: December 14, 2000

As requested, Law Engineering and Environmental Services, Inc. (LAW) has completed verification of delivery of the protective sand layer. The delivery of protective sand to the project site is as follows:

DATE	NO. OF LOADS
11/06/00	201
11/07/00	267
11/08/00	245
11/09/00	209
11/10/00	168
11/11/00	125
11/13/00	212
11/14/00	208
11/15/00	225
11/16/00	212
11/17/00	145
11/18/00	149
11/20/00	62
11/28/00	125
TOTAL	**2553**

Respectfully Submitted.

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC

John Teague
BY JP WITH PERMISSION

Reviewed By: James J. Gallup

SUMMARY OF SAND PERMEABILITY CONFORMANCE TESTING
TRAIL RIDGE LANDFILL

Permeability No	Station	Location No	Depth	Coefficient of Permeability (cm/sec)	Sampling Date
264	160N + 80E	149	12"	1 0E-03	10/11/00
265	160N + 80E	149	30"	2 0E-04	10/11/00
266	160N +80E	149	48"	1 4E-03	10/11/00
267	160N + 120E	150	12"	1 0E-03	10/11/00
268	160N + 120E	150	60"	1 7E-03	10/11/00
269	160N + 160E	151	12"	1 2E-03	10/11/00
270	160N + 160E	151	30"	2 1E-03	10/11/00
271	160N +160E	151	60"	1 7E-03	10/11/00
272	160N + 200E	152	12"	4 1E-04	10/11/00
273	160N + 200E	152	36"	1 5E-03	10/11/00
274	160N + 240E	153	12"	2 9E-03	10/11/00
275	160N + 240E	153	36"	2 0E-03	10/11/00
276	160N +280E	154	12"	1 0E-03	10/11/00
277	160N + 320E	155	12"	1 0E-03	10/11/00
278	160N + 320E	155	42"	1 9E-03	10/11/00
279	160N + 320E	155	66"	1 2E-03	10/11/00
280	160N + 360E	156	12"	2 2E-03	10/11/00
281	160N +360E	156	36"	2 0E-03	10/11/00
282	160N + 360E	156	72"	1 0E-03	10/11/00
283	160N + 400E	157	12"	2 0E-03	10/11/00
284	160N + 400E	157	36"	1 7E-03	10/11/00
285	160N + 400E	157	54"	2 0E-03	10/11/00
286	160N +400E	157	72"	4 0E-03	10/11/00
287	200N + 400E	158	12"	1 0E-03	10/11/00
288	200N + 400E	158	30"	4 3E-03	10/11/00
289	200N + 400E	158	48"	2 1E-03	10/11/00
290	200N + 360E	159	12"	1 1E-03	10/12/00
291	200N +360E	159	24"	1 9E-03	10/12/00
292	200N + 360E	159	42"	1 1E-03	10/12/00
293	200N + 360E	159	60"	4 9E-03	10/12/00
294	200N + 320E	160	28"	1 0E-03	10/12/00
295	200N + 320E	160	42"	1 1E-03	10/12/00
296	200N +320E	160	60"	4 9E-03	10/12/00
297	200N + 280E	161	18"	1 0E-03	10/12/00
298	200N + 280E	161	36"	3 2E-04	10/12/00
299	200N + 280E	161	60"	1 7E-03	10/12/00
300	200N + 280E	161	Blend of 18,36&60"	2 3E-03	10/12/00
301	200N +240E	162	24"	1 2E-03	10/12/00
302	200N + 240E	162	36"	3 0E-04	10/12/00
303	200N + 240E	162	66"	4 1E-03	10/12/00
304	200N + 200E	163	30"	1 1E-03	10/12/00
305	200N + 200E	163	48"	4 1E-04	10/12/00
306	200N +160E	164	12"	1 3E-03	10/12/00
307	200N + 160E	164	30"	8 6E-04	10/12/00
308	200N + 120E	165	12"	1 3E-03	10/12/00
309	200N + 120E	165	36"	1 2E-03	10/12/00
310	200N + 120E	165	60"	3 6E-04	10/12/00
311	200N +120E	165	78"	2 2E-03	10/12/00
312	200N + 80E	166	12"	1 0E-03	10/12/00
313	200N + 80E	166	30"	1 7E-03	10/12/00
314	200N + 80E	166	48"	1 4E-04	10/12/00

SUMMARY OF SAND PERMEABILITY CONFORMANCE TESTING
TRAIL RIDGE LANDFILL

Permeability No	Station	Location No	Depth	Coefficient of Permeability (cm/sec)	Sampling Date
315	200N + 80E	166	66"	4 7E-03	10/12/00
316	200N +40E	167	12"	2 5E-03	10/12/00
317	200N + 40E	167	36"	2 0E-03	10/12/00
318	200N + 0E	168	12"	1 9E-03	10/12/00
319	200N + 0E	168	24"	1 1E-03	10/12/00
320	200N + 0E	168	48"	2 9E-03	10/12/00
321	200N +0E	168	72"	2 5E-03	10/12/00
322	240N + 0E	169	12"	1 1E-03	10/12/00
323	240N + 0E	169	36"	3 9E-03	10/12/00
324	200N + 80E	166	Blend of 12, 30,48&60"	1 0E-03	10/12/00
325	240N + 40E	170	12"	1 3E-03	10/12/00
326	240N +40E	170	32"	3 0E-03	10/12/00
327	240N + 40E	170	52"	1 2E-03	10/12/00
328	240N + 80E	171	12"	2 7E-03	10/12/00
329	240N + 80E	171	32"	1 0E-03	10/12/00
330	240N + 80E	171	66"	3 6E-03	10/12/00
331	240N +120E	172	12"	1 7E-03	10/13/00
332	240N + 120E	172	54"	3 9E-04	10/13/00
333	240N + 120E	172	Blend of 12, 54 & 96"	3 2E-03	10/13/00
334	240N + 160E	173	12"	1 0E-03	10/13/00
335	240N + 160E	173	48"	4 8E-03	10/13/00
336	240N +200E	174	12"	1 5E-03	10/13/00
337	240N + 200E	174	36"	1 1E-03	10/13/00
338	240N + 200E	174	84"	2 0E-03	10/13/00
339	240N + 240E	175	12"	4 8E-04	10/13/00
340	240N + 240E	175	48"	3 9E-03	10/13/00
341	240N +280E	176	12"	1 6E-03	10/13/00
342	240N + 280E	176	36"	1 1E-03	10/13/00
343	240N + 280E	176	Blend of 12,36,60& 84"	1 6E-03	10/13/00
344	240N + 320E	177	Blend of 12, 40 & 72"	1 0E-03	10/13/00
345	240N + 360E	178	12"	4 3E-04	10/13/00
346	240N +360E	178	36"	1 5E-03	10/13/00
347	240N + 400E	179	Blend of 12, 36 & 84"	1 2E-03	10/13/00
348	280N + 400E	180	Blend of 12 to 54"	1 1E-03	10/13/00
349	280N + 360E	181	0 5-1 5'	4 5E-04	10/16/00
350	280N + 360E	181	3-4'	3 3E-04	10/16/00
351	280N +320E	182	12"	4 5E-04	10/16/00
352	280N + 280E	183	1-2'	1 4E-03	10/16/00
353	280N + 280E	183	4-5'	2 1E-04	10/16/00
354	280N + 240E	184	12"	3 0E-03	10/16/00
355	280N + 240E	184	5'	3 6E-03	10/16/00
356	280N +200E	185	12"	1 6E-03	10/16/00
357	280N + 200E	185	Blend 12, 54 & 72"	3 1E-04	10/16/00
358	280N + 160E	186	12"	1 6E-03	10/16/00
359	280N + 160E	186	5-6'	8 6E-04	10/16/00
360	280N + 120E	187	1-2'	2 3E-03	10/16/00
361	280N +80E	188	12"	1 4E-03	10/16/00
362	280N + 80E	188	Blend of 12, 48 & 72"	1 8E-03	10/16/00
363	280N + 40E	189	Blend of 12, 60 & 84"	1 9E-03	10/16/00
364	280N + 0E	190	Blend of 1-2' & 5 5-6 5'	1 6E-03	10/16/00
365	320N + 360E	192	Blend of 1-2' & 5 5-6 5'	1 6E-03	10/17/00
366	320N +320E	193	Blend of 1-2' & 60"	1 0E-03	10/17/00
367	320N + 280E	194	12"	1 5E-03	10/17/00

SUMMARY OF SAND PERMEABILITY CONFORMANCE TESTING
TRAIL RIDGE LANDFILL

Permeability No	Station	Location No	Depth	Coefficient of Permeability (cm/sec)	Sampling Date
368	320N + 280E	194	Blend of 12", 48" & 60"	4 0E-04	10/17/00
369	320N + 240E	195	12"	1 1E-03	10/17/00
370	320N + 200E	196	Blend of 12 & 54"	2 2E-03	10/17/00
371	320N +160E	197	12"	1 6E-03	10/17/00
372	320N + 160E	197	Blend of 12, 54 & 60"	1 4E-03	10/17/00
373	320N + 120E	198	Blend of 12" & 66"	2 1E-03	10/17/00
374	320N + 80E	199	12"	1 1E-03	10/17/00
375	320N + 40E	200	Blend of 12, 48 & 84"	1 5E-03	10/17/00
376	320N +0E	201	Blend of 12, 48 & 66"	3 3E-03	10/17/00
377	320N + 80E	199	Blend of 12, 54 & 84"	1 1E-03	10/17/00
378	320N + 40E	200	12"	1 6E-03	10/17/00
379	320N + 400E	191	Blend of 12 & 42"	1 0E-03	10/18/00
380	400N + 400E	202	Blend of 12, 42 & 72"	2 4E-03	10/18/00
381	400N +360E	203	Blend of 12 & 48"	1 4E-03	10/18/00
382	400N + 320E	204	12"	5 6E-04	10/18/00
383	400N + 280E	205	Blend of 12 & 54"	1 1E-03	10/18/00
384	400N + 240E	206	12"	5 2E-04	10/18/00
385	400N + 200E	207	12"	1 0E-03	10/18/00
386	400N +200E	207	Blend of 12 & 48"	1 1E-03	10/18/00
387	400N + 160E	208	Blend of 12, 72 & 80"	1 0E-03	10/18/00
388	400N + 120E	209	Blend of 12, 54 & 80"	2 7E-03	10/18/00
389	400N + 240E	206	Blend of 12 & 44"	1 1E-04	10/18/00
390	400N + 80E	210	12"	1 6E-03	10/18/00
391	400N +40E	211	Blend of 12 & 66"	2 2E-03	10/18/00
392	400N + 0E	212	12"	1 1E-03	10/18/00
393	400N+360&400E	180 & 181	Blend of 12,54,18&12"	5 7E-04	10/13, 10/18/00
394	280N+280&320E	182 & 183	Blend of 12" each	7 2E-04	10/16/00
395	360N +0E	213	Blend 12 & 60"	1 3E-03	10/19/00
396	360N + 40E	214	Blend 12 & 42"	2 2E-03	10/19/00
397	360N + 80E	215	Blend 12 & 52"	1 0E-03	10/19/00
398	300N + 120E	216	Blend of 12 & 48"	1 2E-03	10/19/00
399	360N + 160E	217	Blend of 12 & 50"	2 5E-03	10/19/00
400	360N + 200E	218	12"	1 2E-03	10/19/00
401	0N+360&320E	203 & 204	203-12 & 48", 204-12"	1 1E-03	10/18/00
402	360N + 240E	219	Blend 12 & 50"	1 5E-03	10/19/00
403	300N + 280E	220	12"	1 0E-03	10/19/00
404	360N + 320E	221	Blend 12 & 44"	1 4E-03	10/19/00
405	360N + 360E	222	12"	1 0E-03	10/19/00
406	360N + 360E	222	Blend 12, 40 & 72"	1 9E-04	10/19/00
407	360N + 400E	223	Blend 12 & 60"	2 5E-03	10/19/00
408	440N + 400E	224	Blend 12, 50 & 84"	1 1E-03	10/20/00
409	440N + 360E	225	12"	3 9E-03	10/20/00
410	440N + 360E	225	84"	3 7E-03	10/20/00
411	440N + 360E	225	Blend 12, 48 & 84"	1 2E-03	10/20/00
412	280N + 340E	181-182	Blend 0 to 90"	5 9E-04	10/16/00
413	280N + 340E	181-182	Blend 0 to 90"	6 6E-04	10/16/00
414	280N + 340E	181-182	Blend 0 to 90"	6 8E-04	10/16/00
415	440N + 360E	225	Blend 12, 62 & 74"	1 1E-03	10/20/00
416	440N + 320E	226	Blend 12, 48 & 66"	1 3E-03	10/23/00
417	440N + 280E	227	Blend 12, 36 & 66"	2 0E-03	10/23/00
418	440N + 0E	228	Blend 12 & 60"	1 5E-03	10/23/00
419	440N + 40E	229	Blend 12 & 60"	3 0E-03	10/23/00
420	440N + 80E	230	Blend 12, 52 & 66"	1 3E-03	10/23/00

SUMMARY OF SAND PERMEABILITY CONFORMANCE TESTING
TRAIL RIDGE LANDFILL

Permeability No	Station	Location No	Depth	Coefficient of Permeability (cm/sec)	Sampling Date
421	440N + 120E	231	Blend 12, 54 & 66"	2 3E-03	10/23/00
422	440N + 160E	232	Blend 12 & 48"	1 5E-03	10/23/00
423	440N + 200E	233	12"	1 3E-03	10/23/00
424	440N + 240E	234	Blend 12 & 68"	1 4E-03	10/23/00
425	480N + 0E	235	Blend 12, & 72"	2 5E-03	10/23/00
426	480N + 40E	236	Blend 12, 48 & 72"	1 8E-03	10/25/00
427	480N + 80E	237	Blend 12, 42 & 80"	2 4E-03	10/25/00
428	480N + 120E	238	Blend 12, 36 & 64"	2 6E-03	10/25/00
429	480N + 160E	239	Blend 12 & 30"	1 2E-03	10/26/00
430	480N + 200E	240	Blend 12 & 42"	2 2E-03	10/26/00
431	480N + 240E	241	Blend 12 & 36"	3 1E-04	10/31/00
432	480N + 280E	242	Blend 12, 36 & 66"	2 1E-03	10/31/00
433	480N + 320E	243	Blend 12 , 36 & 60"	1 9E-03	10/31/00
434	480N + 360E	244	Blend 12 , 42 & 66"	1 0E-03	10/31/00
435	480N + 400E	245	Blend 12, 48 & 80"	2 2E-03	10/31/00
436	520N + 0E	246	Blend 12, 52 & 78"	1 2E-03	10/31/00
437	520N + 40E	247	Blend 12, 64 & 84"	2 6E-03	10/31/00
438	520N + 80E	248	Blend 12, 48 & 89"	1 3E-03	10/31/00
439	520N + 120E	249	Blend 12, 48 & 72"	1 2E-03	10/31/00
440	520N + 160E	250	Blend 12 &48"	1 0E-03	10/31/00
441	520N + 200E	251	Blend 12 & 54"	1 5E-03	10/31/00
442	520N + 240E	252	Blend 12, 42 & 72"	1 2E-03	11/1/00
443	520N + 280E	253	Blend 12 , 36 & 60"	1 4E-03	11/1/00
444	520N + 320E	254	Blend 12 , 36 & 66"	1 1E-03	11/1/00
445	520N + 360E	255	Blend 12, 48 & 66"	1 8E-03	11/1/00
446	520N + 400E	256	Blend 12, 60 & 96"	1 0E-03	11/1/00
447	460N + 240E	241	12"	1 0E-03	11/2/00
448	560N + 400E	257	Blend 24, 60 & 80"	1 0E-03	11/2/00
449	560N + 360E	258	Blend 12, 48 & 66"	2 0E-03	11/2/00
450	560N + 320E	259	Blend 12 , 48 & 72"	1 6E-03	11/2/00
451	560N + 280E	260	Blend 12 , 30 & 60"	1 1E-03	11/2/00
452	560N + 240E	261	Blend 12, 42 & 60"	3 3E-03	11/2/00
453	560N + 200E	262	Blend 24, 60 & 72"	1 9E-03	11/2/00
454	560N + 160E	263	Blend 12, 54 & 72"	1 0E-03	11/2/00
455	560N + 120E	264	Blend 12 , 36 & 72"	2 1E-03	11/2/00
456	560N + 80E	265	Blend 12 , 48 & 72"	1 1E-03	11/2/00
457	560N + 40E	266	Blend 12, 48 & 86"	1 5E-03	11/2/00
458	560N + 00E	267	Blend 24, 54 & 72"	2 5E-03	11/2/00
459	600N + 00E	268	Blend 12, 60"	1 4E-03	11/2/00
460	600N + 40E	269	Blend 12 & 66"	1 1E-03	11/1/00
461	600N + 80E	270	Blend 24, 48 & 80"	1 5E-03	11/3/00
462	600N + 120E	271	Blend 12, 60 & 84"	1 1E-03	11/3/00
463	600N + 160E	272	Blend 12, 54 & 80"	3 0E-03	11/3/00
464	600N + 200E	273	Blend 12 & 66"	2 8E-03	11/3/00
465	600N + 240E	274	Blend 12 & 64"	3 7E-03	11/3/00
466	600N + 280E	275	Blend 12, 48 & 62"	1 1E-03	11/3/00
467	600N + 320E	276	Blend 12 & 52"	1 8E-03	11/3/00
468	600N + 360E	277	Blend 12 & 54"	1 6E-03	11/3/00
469	600N + 400E	278	Blend 12, 48 & 80"	1 2E-03	11/3/00
470	640N + 0E	279	Blend 12, 42 & 72"	1 0E-03	11/7/00
471	640N + 40	280	Blend 12, 42 & 72"	1 8E-03	11/11/00
472	640N + 80E	281	Blend 12 & 42"	1 4E-03	11/7/00
473	640N + 120E	282	Blend 12 & 48"	1 0E-03	11/7/00

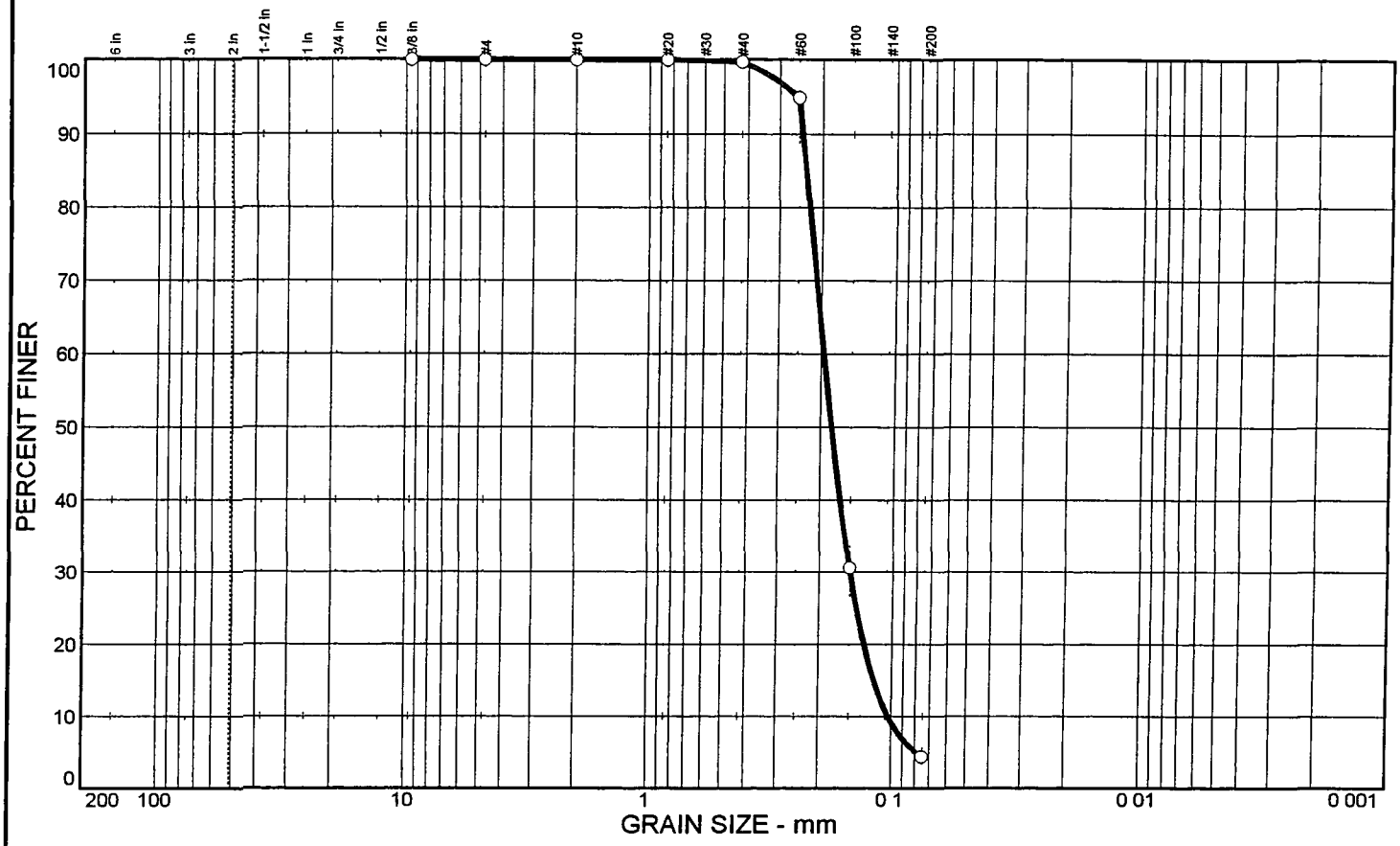
SUMMARY OF SAND PERMEABILITY CONFORMANCE TESTING
TRAIL RIDGE LANDFILL

Permeability No	Station	Location No	Depth	Coefficient of Permeability (cm/sec)	Sampling Date
474	640N + 160E	283	Blend 12, 24 & 60"	1 8E-03	11/11/00
475	640N + 200E	284	Blend 12 & 60"	1 0E-03	11/11/00
476	640N + 240	285	Blend 12 & 60"	1 1E-03	11/7/00
477	640N + 280E	286	Blend 12 & 42"	1 2E-03	11/7/00
478	640N + 320E	287	Blend 12 & 36"	1 5E-03	11/7/00
479	640N + 360E	288	Blend 12 & 42"	1 9E-03	11/7/00
480	640N + 400E	289	Blend 12 & 36"	1 0E-03	11/7/00
481	80N + 200W	290	Blend 12 & 94"	4 5E-03	11/7/00
482	80N + 160W	291	Blend 12, 72 & 89"	2 8E-03	11/7/00
483	80N + 120W	292	Blend 12 & 60"	2 6E-03	11/7/00
484	80N + 120W	292	12"	1 9E-03	11/7/00
485	80N + 80W	293	Blend 20 & 56"	1 0E-03	11/7/00
486	80N + 400W	294	Blend 20 & 60"	1 0E-03	11/7/00
487	120N + 40W	295	Blend 12 & 48"	2 0E-03	11/10/00
488	120N + 80W	296	Blend 12 & 48"	2 7E-03	11/10/00
489	120N + 120W	297	Blend 12 & 48"	2 8E-03	11/10/00
490	120N + 160W	298	Blend 12, 48 & 84"	1 1E-03	11/10/00
491	120N + 200W	299	Blend 12, 48, 84 & 120"	3 8E-03	11/10/00
492	160N + 200W	300	Blend 12, 48, 84 & 120"	2 3E-03	11/10/00
493	160N + 160W	301	Blend 12, 48 & 84"	1 9E-03	11/10/00
494	160N + 120W	302	Blend 12 & 48"	1 8E-03	11/10/00
495	160N + 80W	303	Blend 12, & 48"	1 1E-03	11/10/00
496	160N + 40W	304	Blend 12 & 48"	1 1E-03	11/10/00
497	200N + 40W	305	12"	1 3E-03	11/10/00
498	200N + 80W	306	Blend 12 & 48"	1 2E-03	11/10/00
499	200N + 120W	307	Blend 12, 48 & 84"	2 3E-03	11/10/00
500	200N + 160W	308	Blend 12, 48 & 84"	1 3E-03	11/10/00
501	200N + 200W	309	Blend 12, 48, 84 & 120"	1 2E-03	11/10/00
502	240N + 40W	310	Blend 12 & 48"	2 2E-03	11/13/00
503	240N + 80W	311	Blend 12, 48 & 70"	1 2E-03	11/13/00
504	240N + 120W	312	Blend 12, 46 & 80"	2 8E-03	11/13/00
505	240N + 160W	313	Blend 12, & 48"	1 0E-03	11/13/00
506	240N + 200W	314	Blend 12 & 50"	3 1E-03	11/13/00
507	680N + 0E	315	Blend 12, 65 & 90"	1 6E-03	11/13/00
508	680N + 40E	316	Blend 12 & 48"	3 2E-03	11/13/00
509	680N + 80E	317	Blend 12 & 48"	1 4E-03	11/13/00
510	680N + 120E	318	Blend 12, & 36"	2 2E-03	11/13/00
511	680N + 160E	319	Blend 12 & 36"	2 2E-03	11/13/00
512	680N + 200E	320	Blend 12 & 36"	1 9E-03	11/13/00
513	200N + 40W	305	Blend 12 & 48"	1 6E-03	11/13/00
514	680N + 240E	321	Blend 18, 34, 48 & 78"	1 0E-03	11/13/00

SUMMARY OF CALCIUM CARBONATE TESTING

Permeability No	Calcium Carbonate Testing (Percent Insoluble)
268	99 9 (ASTM D 3042)
288	99 9 (ASTM D 3042)
300	99 8 (ASTM D 3042)
318	99 8 (ASTM D 3042)
335	99 5 (ASTM D 3042)
358	99 8 (ASTM D 3042)
372	99 8 (ASTM D 3042)
383	99 8 (ASTM D 3042)
391	99 8 (ASTM D 3042)
452	99 9 (ASTM D 3042)
474	99 9 (ASTM D 3042)
499	99 9 (ASTM D 3042)

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			95 6	4 4		SP	A-3		

SIEVE inches size	PERCENT FINER O		
375	100 0		
	GRAIN SIZE		
D_{60}	0 195		
D_{30}	0 149		
D_{10}	0 103		
	COEFFICIENTS		
C_c	1 11		
C_u	1 89		

SIEVE number size	PERCENT FINER O		
#4	100 0		
#10	100 0		
#20	100 0		
#40	99 7		
#60	94 9		
#100	30 6		
#200	4 4		

SOIL DESCRIPTION

O Light Brown Fine SAND

REMARKS

O Percent Insoluble (ASTM D 3042) 99 9%

O Source Drainage Sand Borrow Source Sample No Permeability Test No 268

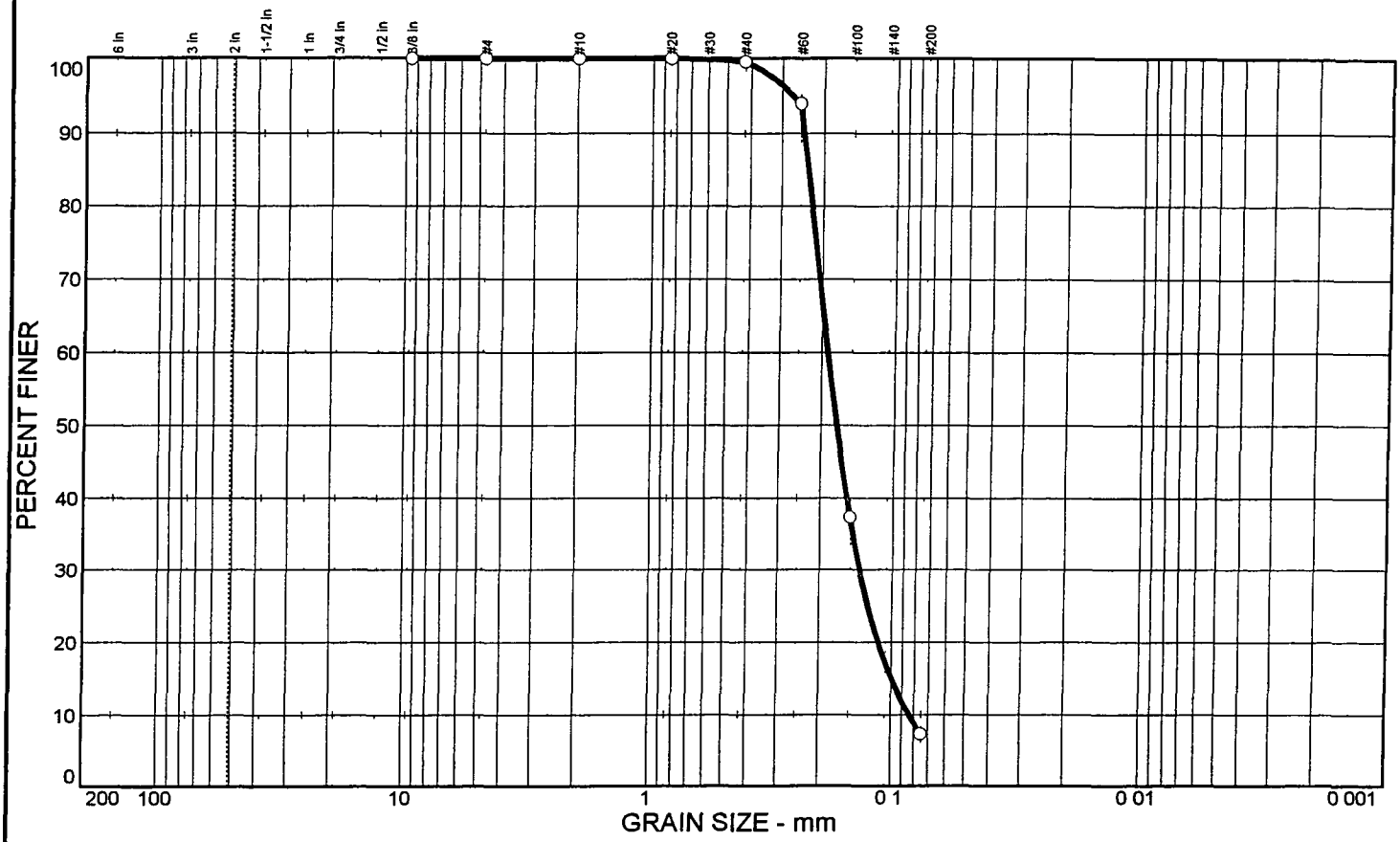
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			92 7	7 3		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 188		
D_{30}	0 136		
D_{10}	0 0839		
	COEFFICIENTS		
C_c	1 17		
C_u	2 25		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	100 0		
#20	100 0		
#40	99 6		
#60	93 9		
#100	37 3		
#200	7 3		

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 9%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 288

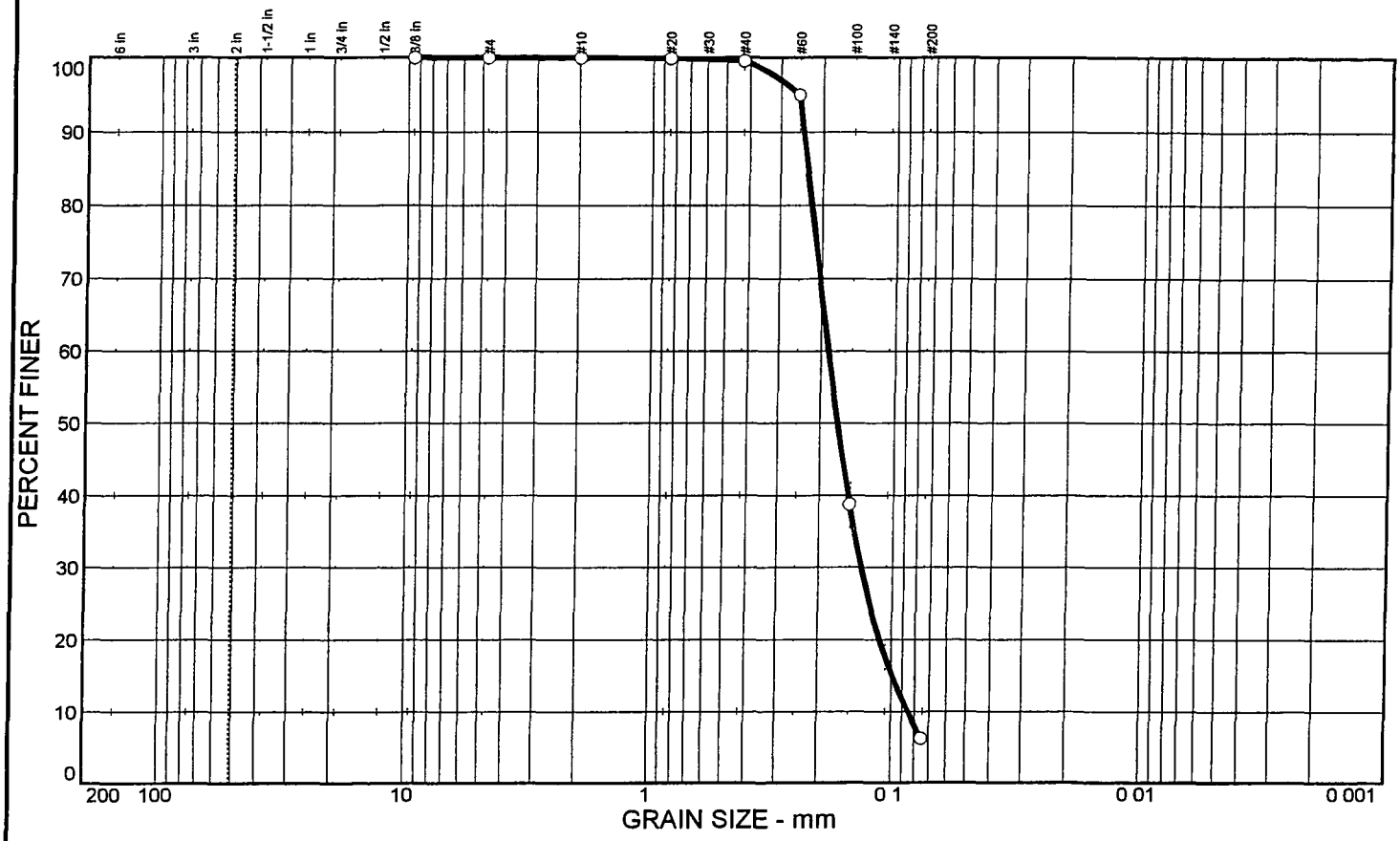
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			93 8	6 2		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 186		
D_{30}	0 133		
D_{10}	0 0854		
	COEFFICIENTS		
C_c	1 12		
C_u	2 18		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	100 0		
#20	99 9		
#40	99 6		
#60	95 0		
#100	38 8		
#200	6 2		

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 8%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 300

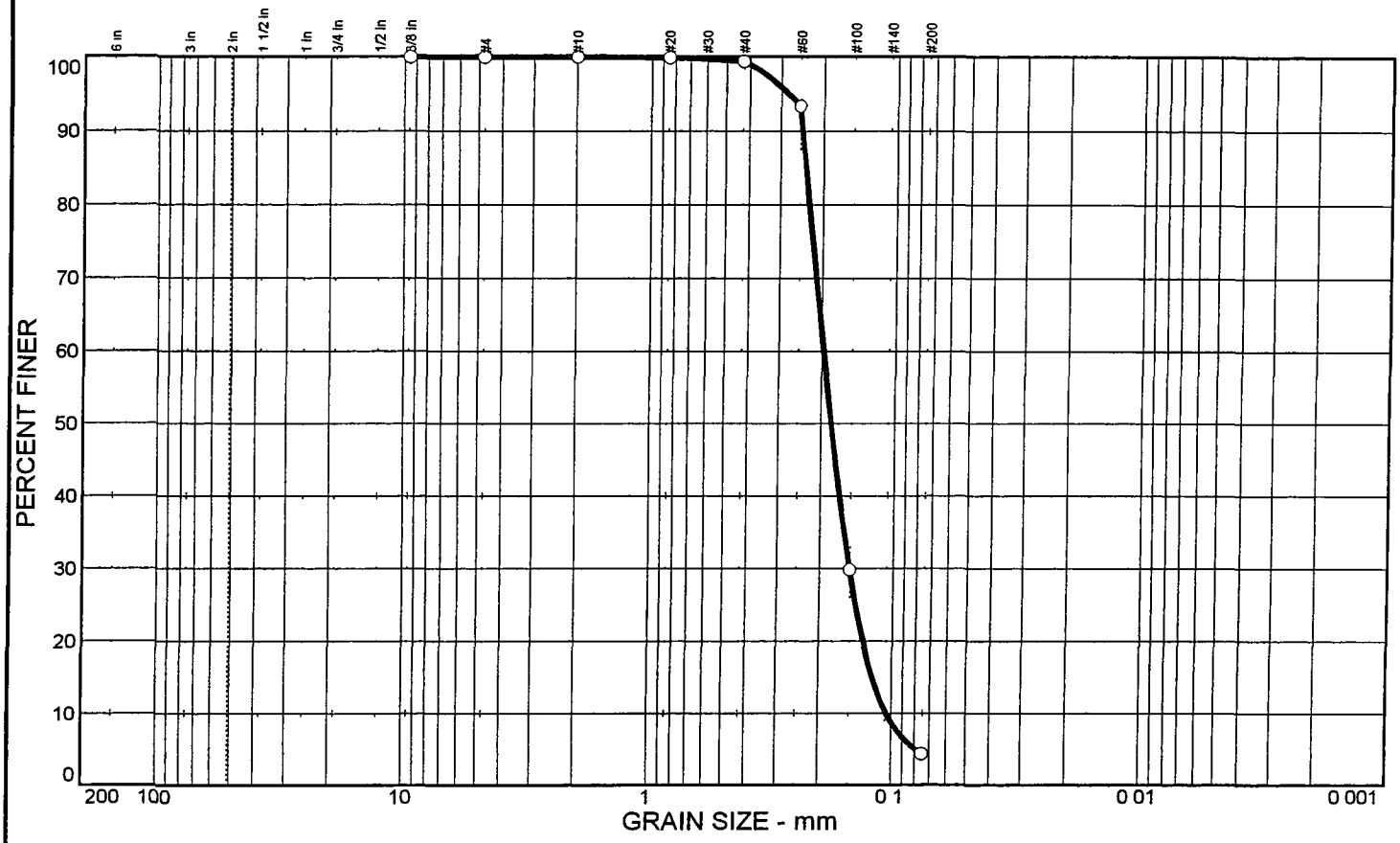
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			95 7	4 3		SP	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 196		
D_{30}	0 150		
D_{10}	0 105		
	COEFFICIENTS		
C_c	1 10		
C_u	1 87		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	100 0		
#20	99 9		
#40	99 4		
#60	93 4		
#100	29 8		
#200	4 3		

SOIL DESCRIPTION

○ Light Tan Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 8%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 318

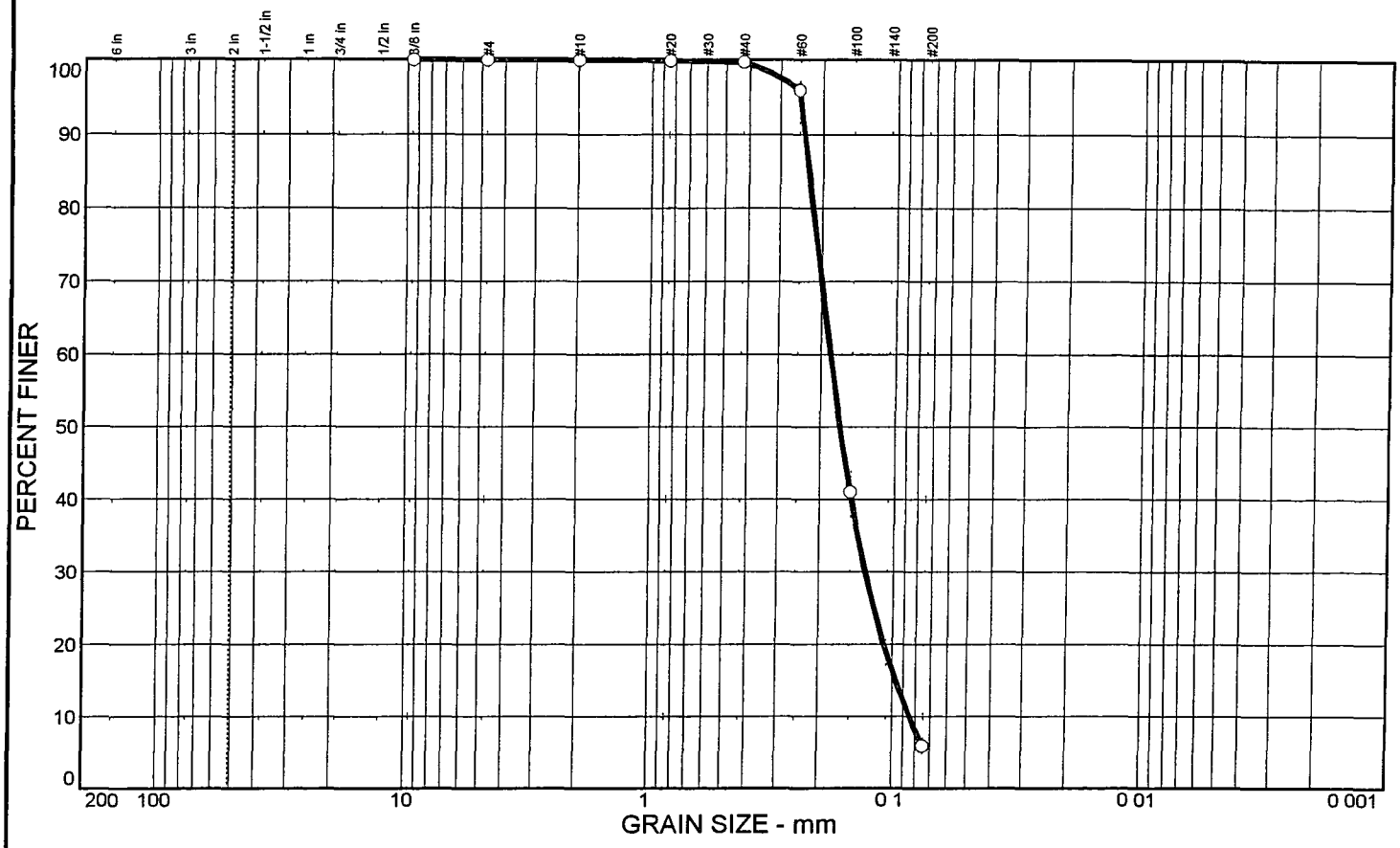
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			94 2	5 8		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 183		
D_{30}	0 129		
D_{10}	0 0847		
	COEFFICIENTS		
C_c	1 08		
C_u	2 16		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	100 0		
#20	99 9		
#40	99 7		
#60	96 0		
#100	41 0		
#200	5 8		

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 5%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 335

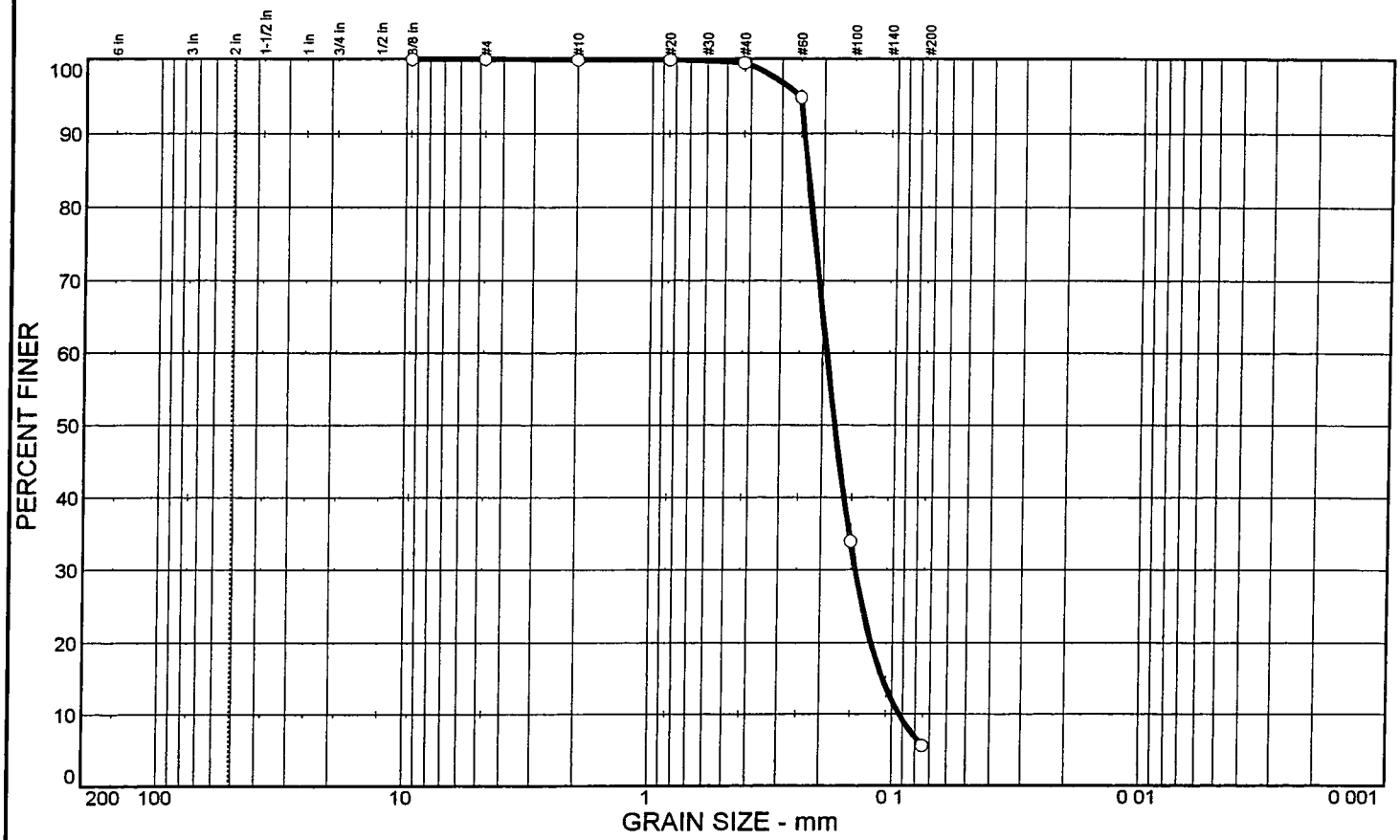
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			94 4	5 6		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		

	GRAIN SIZE
D_{60}	0 192
D_{30}	0 143
D_{10}	0 0933

	COEFFICIENTS
C_c	1 15
C_u	2 05

SIEVE number size	PERCENT FINER ○
#4	100 0
#10	99 9
#20	99 9
#40	99 5
#60	94 8
#100	33 9
#200	5 6

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 8%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 358

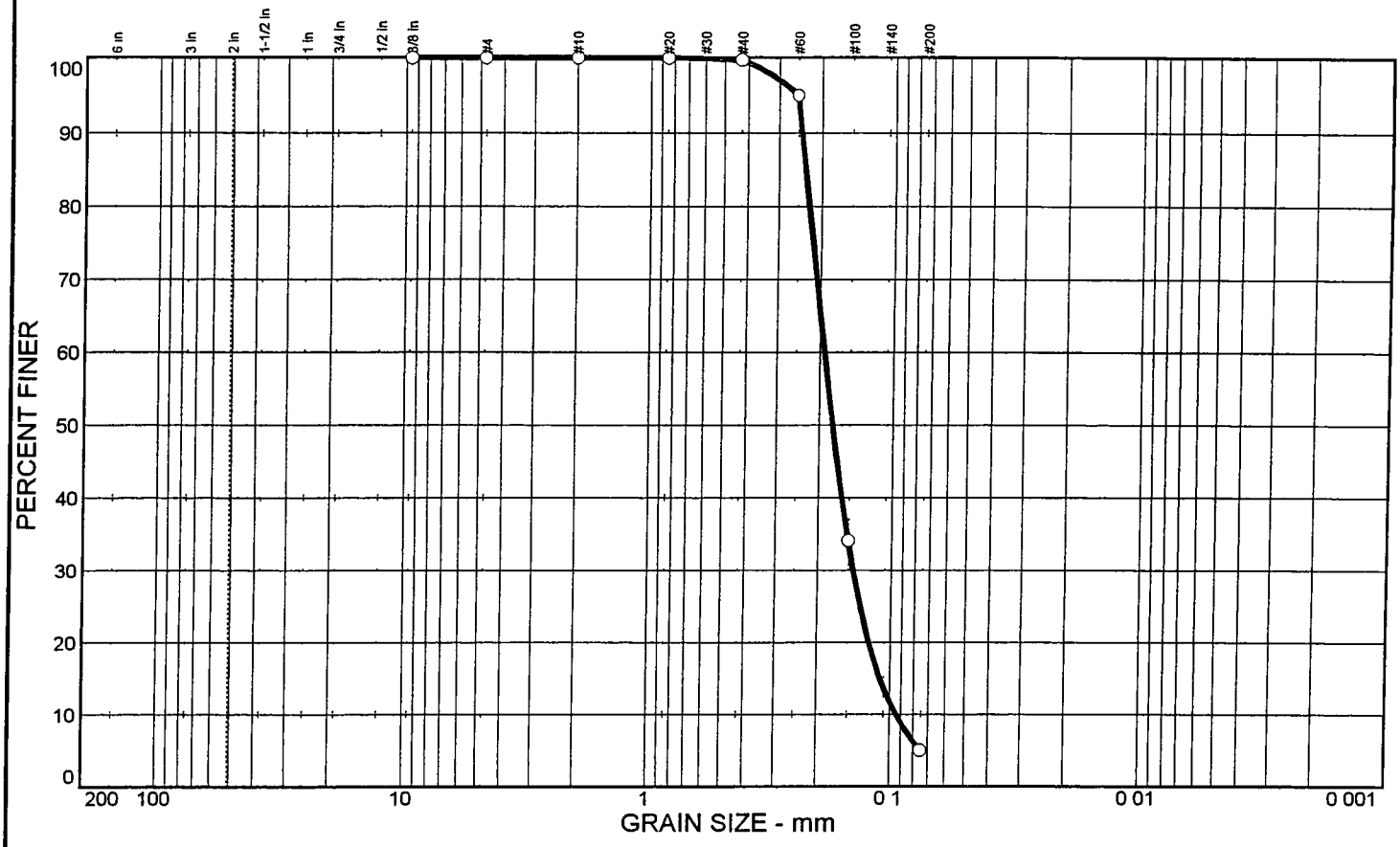
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			95 0	5 0		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 191		
D_{30}	0 143		
D_{10}	0 0943		
	COEFFICIENTS		
C_c	1 13		
C_u	2 03		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	100 0		
#20	100 0		
#40	99 7		
#60	95 0		
#100	34 1		
#200	5 0		

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 8%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 372

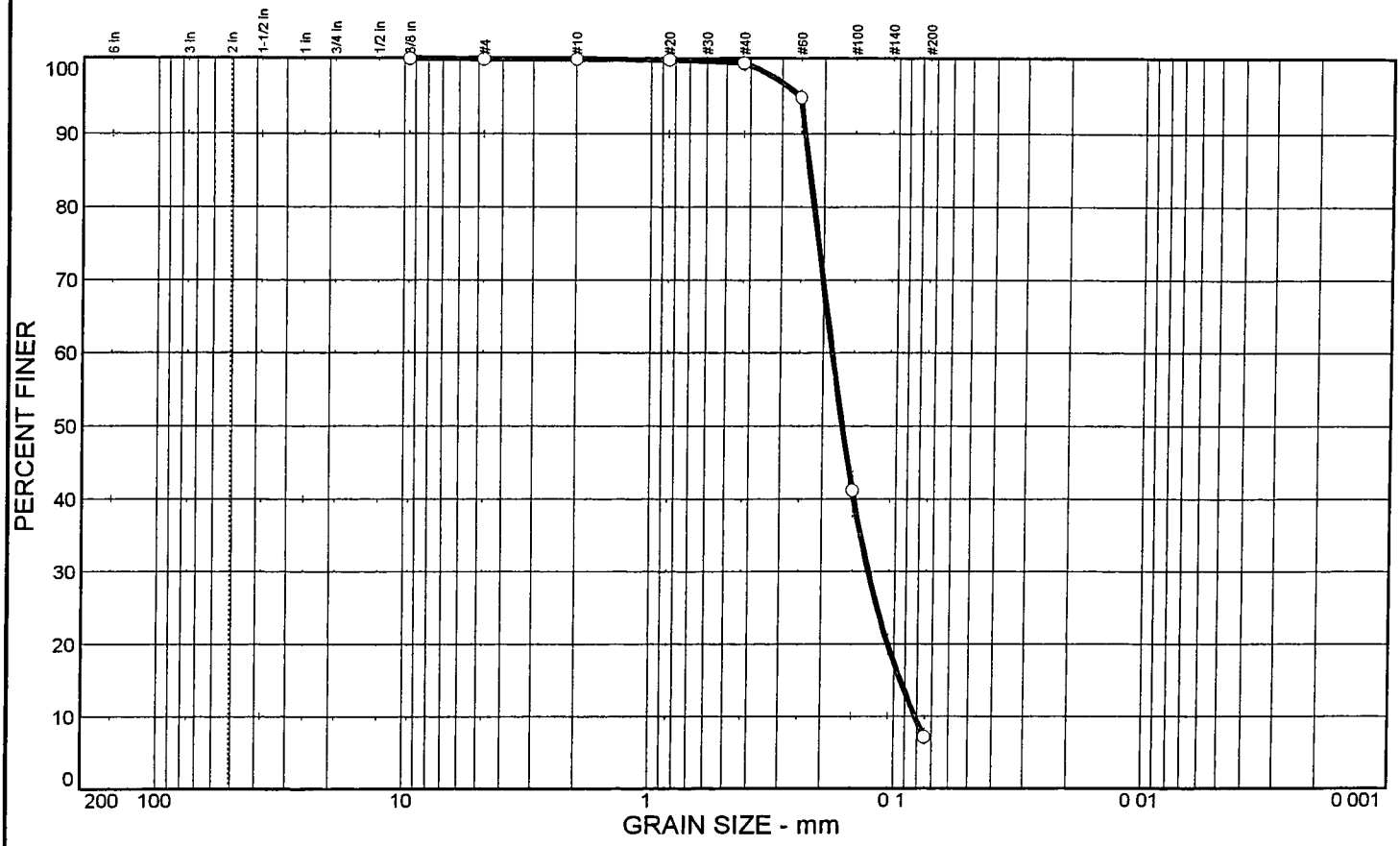
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		0 1	92 8	7 1		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 183		
D_{30}	0 128		
D_{10}	0 0819		
	COEFFICIENTS		
C_c	1 10		
C_u	2 24		

SIEVE number size	PERCENT FINER ○		
#4	99 9		
#10	99 9		
#20	99 8		
#40	99 4		
#60	94 8		
#100	41 2		
#200	7 1		

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 8%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 383

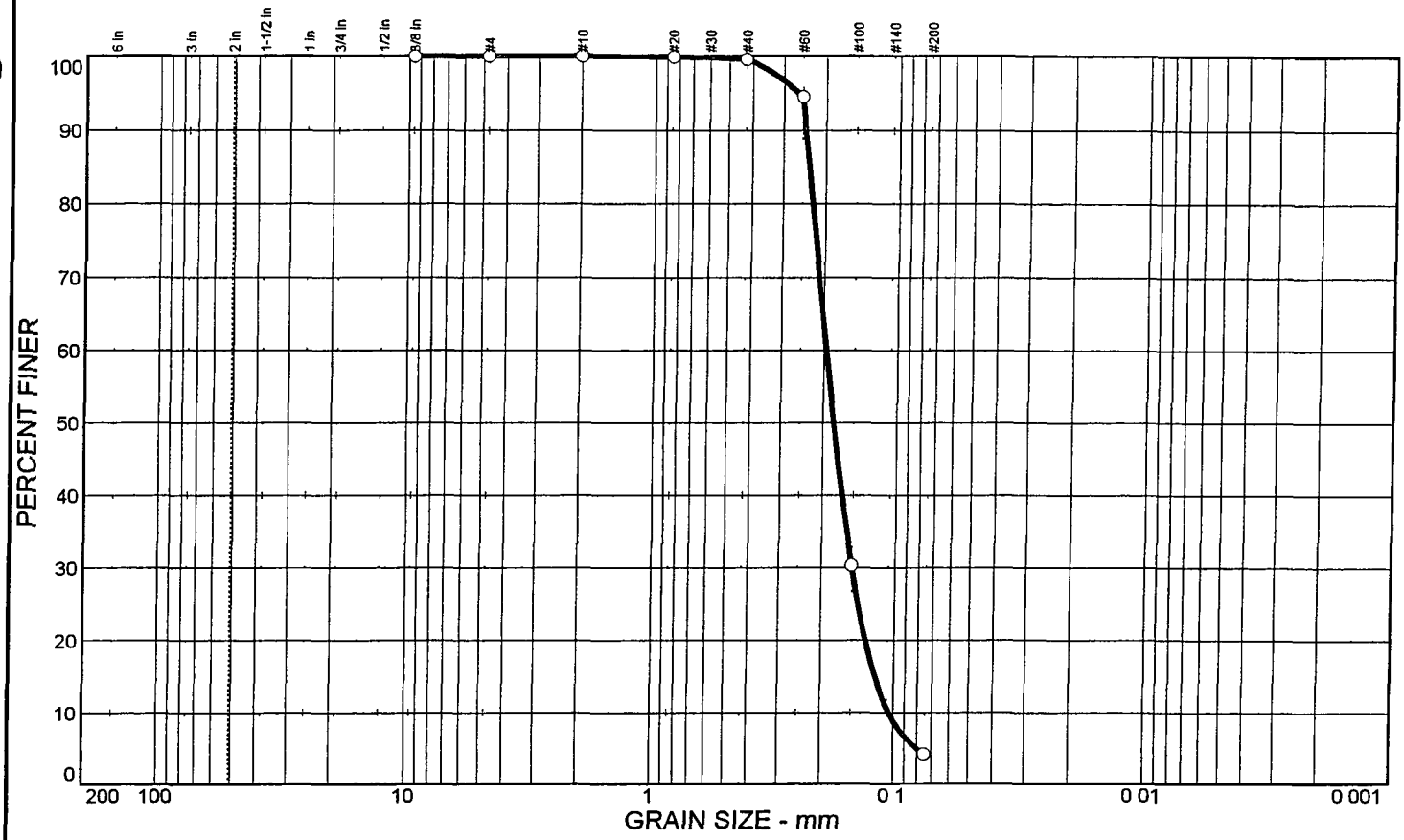
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			95 9	4 1		SP	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 195		
D_{30}	0 149		
D_{10}	0 104		
	COEFFICIENTS		
C_c	1 10		
C_u	1 87		

SIEVE number size	PERCENT FINER ○
#4	100 0
#10	100 0
#20	99 9
#40	99 6
#60	94 5
#100	30 3
#200	4 1

SOIL DESCRIPTION

○ Light Brown Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 8%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 391

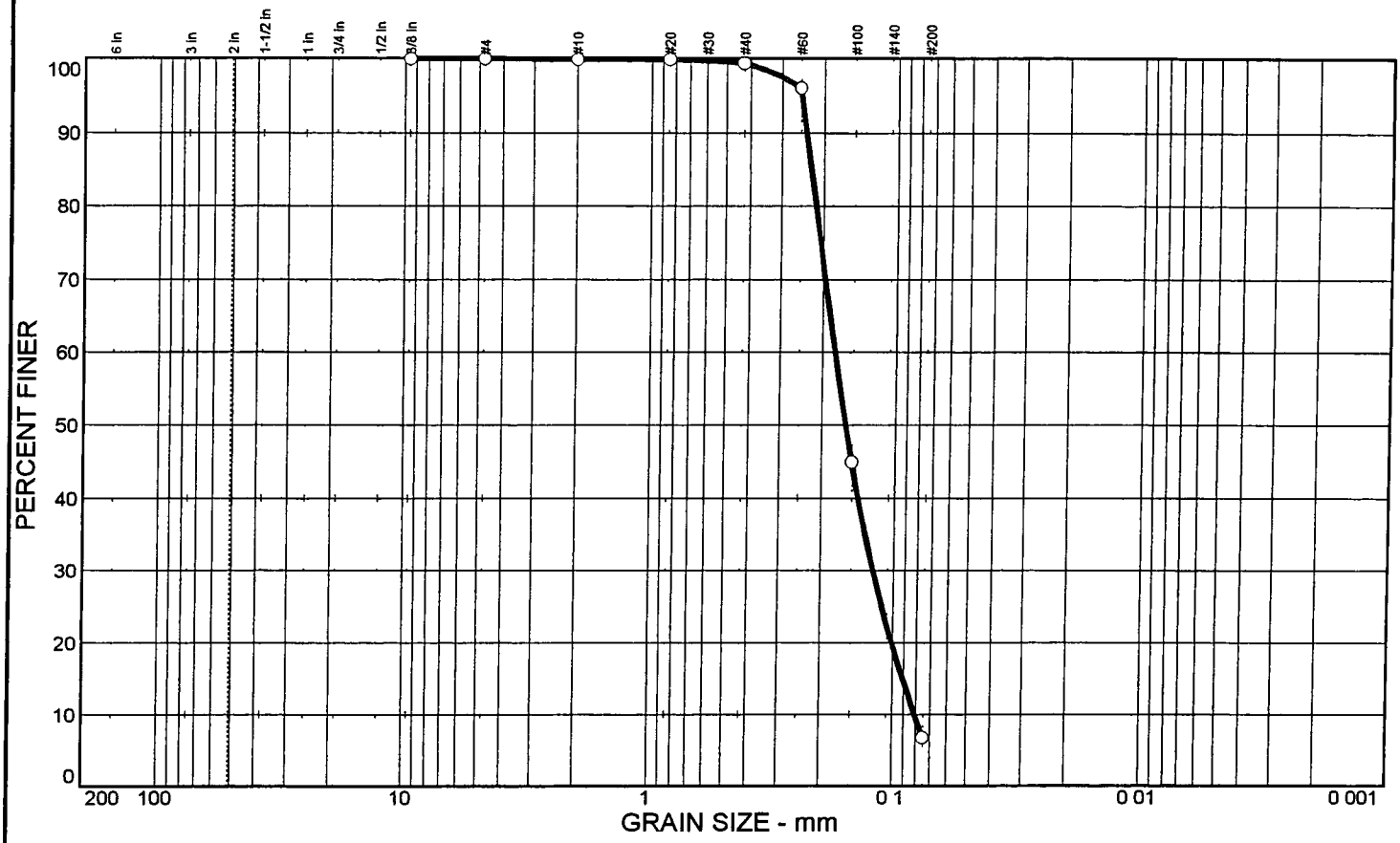
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			93 3	6 7		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 177		
D_{30}	0 121		
D_{10}	0 0811		
	COEFFICIENTS		
C_c	1 03		
C_u	2 19		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	99 9		
#20	99 9		
#40	99 4		
#60	96 1		
#100	44 9		
#200	6 7		

SOIL DESCRIPTION

○ Tan Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 9%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 452

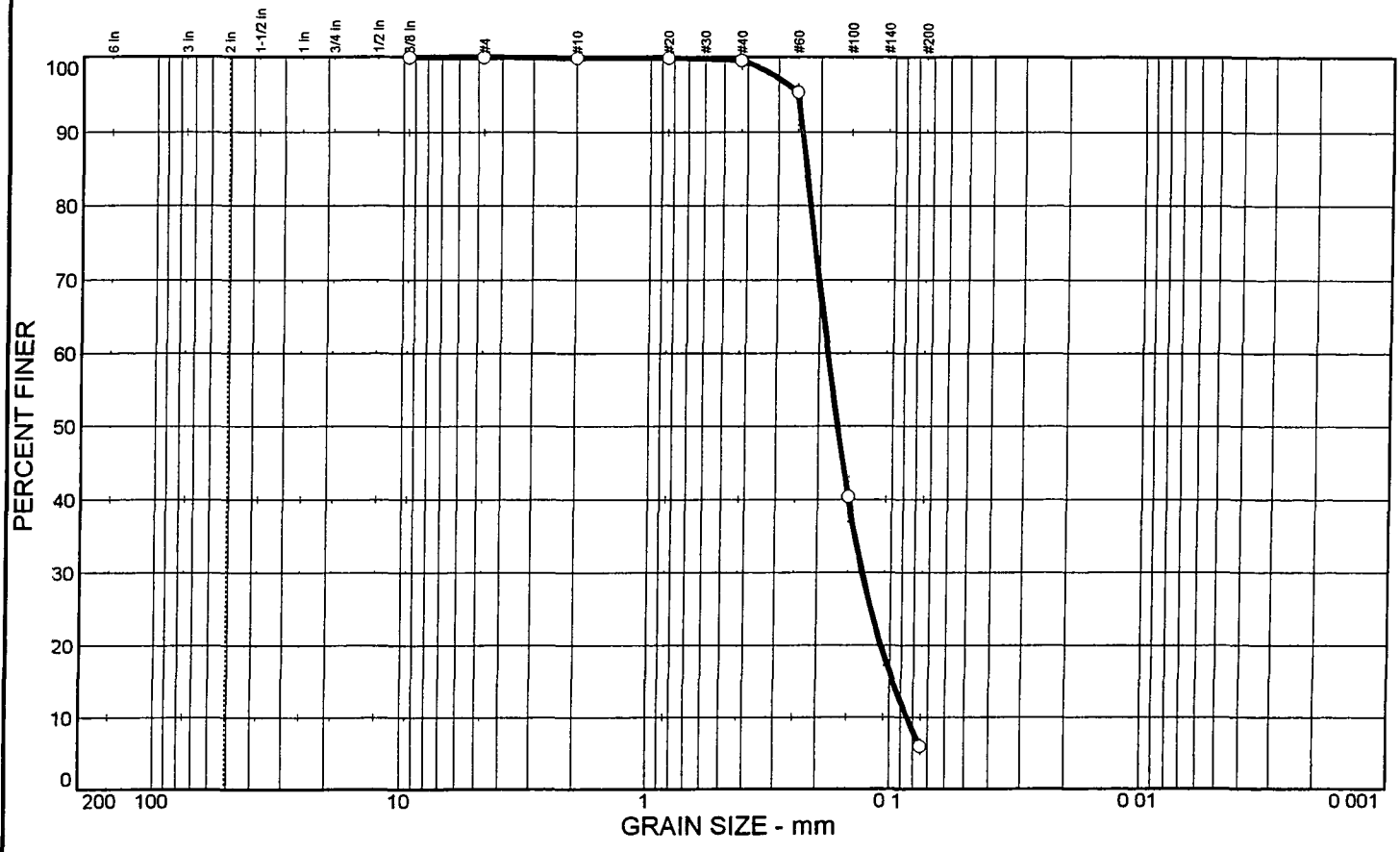
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			94 1	5 9		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		

	GRAIN SIZE
D_{60}	0 184
D_{30}	0 130
D_{10}	0 0848

	COEFFICIENTS
C_c	1 09
C_u	2 17

SIEVE number size	PERCENT FINER ○
#4	100 0
#10	99 9
#20	99 9
#40	99 6
#60	95 3
#100	40 4
#200	5 9

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 9%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 474

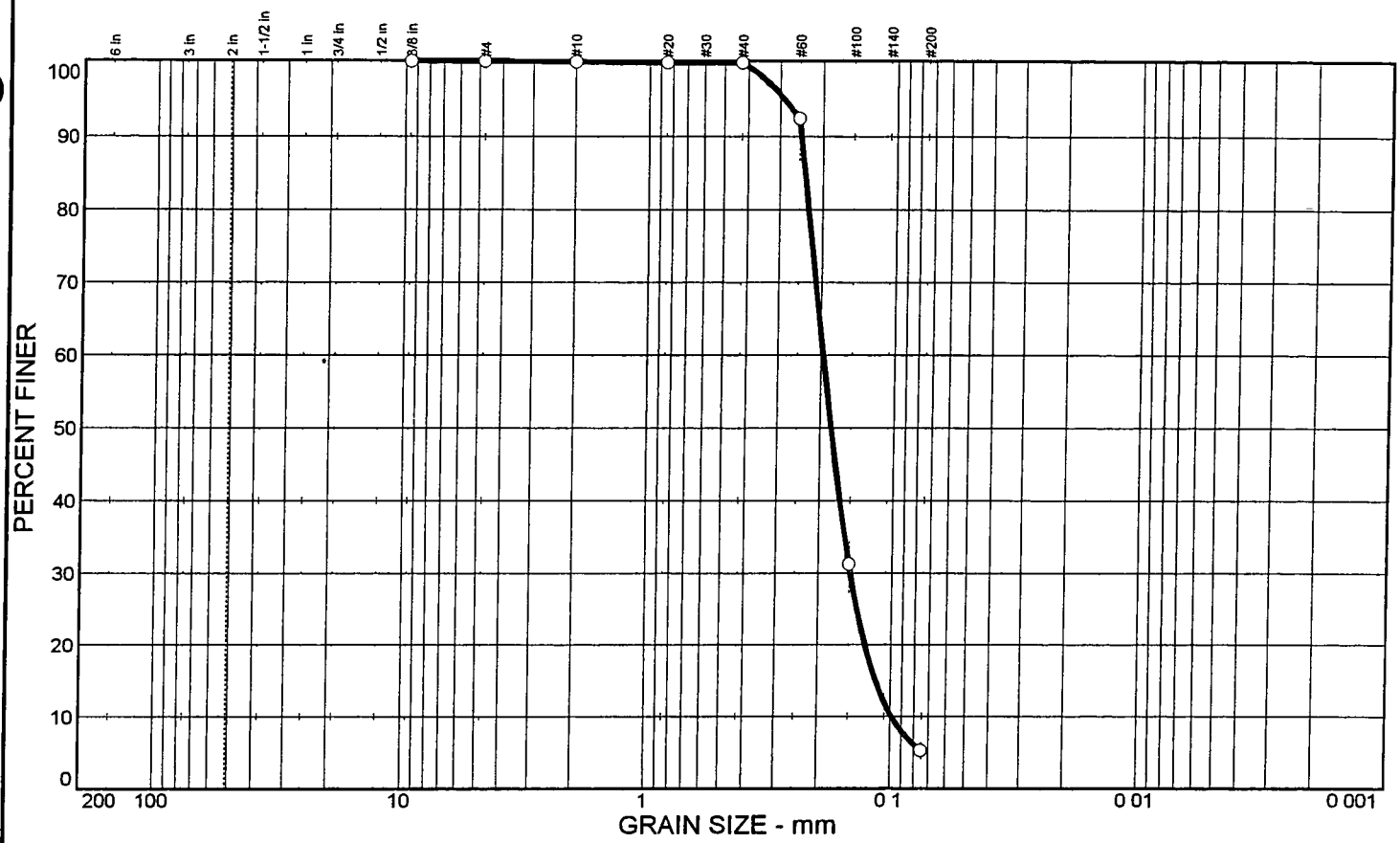
Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			94 8	5 2		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
375	100 0		
	GRAIN SIZE		
D_{60}	0 195		
D_{30}	0 148		
D_{10}	0 0989		
	COEFFICIENTS		
C_c	1 13		
C_u	1 98		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	99 9		
#20	99 8		
#40	99 8		
#60	92 4		
#100	31 3		
#200	5 2		

SOIL DESCRIPTION

○ Light Brown Slightly Silty Fine SAND

REMARKS

○ Percent Insoluble (ASTM D 3042) 99 9%

○ Source Drainage Sand Borrow Source Sample No Permeability Test No 499

Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

Clay Anchor Berm

Clay Anchor Berm

CLAY ANCHOR BERM

The clay material for the clay anchor berm was obtained from the same off-site source as documented in the clay subbase layer section of this submittal The anchor berm sampling locations are shown on the plan also located in the clay subbase section The density testing results are presented in Appendix B Other related data is presented in this section

I have reviewed the documentation and test data of the Quality Control Monitor and based upon that data, find that the construction is substantially in accordance with the Project-Specific Addenda

James A Horton, P E
Registered, Florida 23315

1/11/10

LAW
LAWGIBB Group Member
3901 Carmichael Avenue
Jacksonville, FL 32207
(904) 396-5173 • (904) 396-5703

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill – 3rd Increment
LAW PROJECT NO 40562-0-4105

CLAY LAYER TEST DATA FOR ANCHOR BERM – PHASE IVC

FIELD DENSITY TEST NO.	LOCATION STATION NO.	DEPTH OR ELEVATION	THICKNESS (in.)	PERMEABILITY SAMPLE NO.	COEFFICIENT OF PERMEABILITY (cm/sec)	INDEX SAMPLE NUMBER	PERCENT PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
941	100+73E and 82+10N	-4 0'	N/A	P-54	$7\,2 \times 10^{-8}$	N/A	N/A	N/A	N/A	N/A
942	100+75E and 83+15N	-2 0'	N/A	P-55	$2\,5 \times 10^{-8}$	N/A	N/A	N/A	N/A	N/A
943	100+70E and 81+05N	0	N/A	P-56	$6\,5 \times 10^{-9}$	N/A	N/A	N/A	N/A	N/A

RESPECTFULLY SUBMITTED,

John Teague
Submitted By John Teague
BY dc WITH PERMISSION

James J Gallup
Reviewed By James J Gallup

Leachate Collection Trench Aggregate

Leachate Collection Trench Aggregate

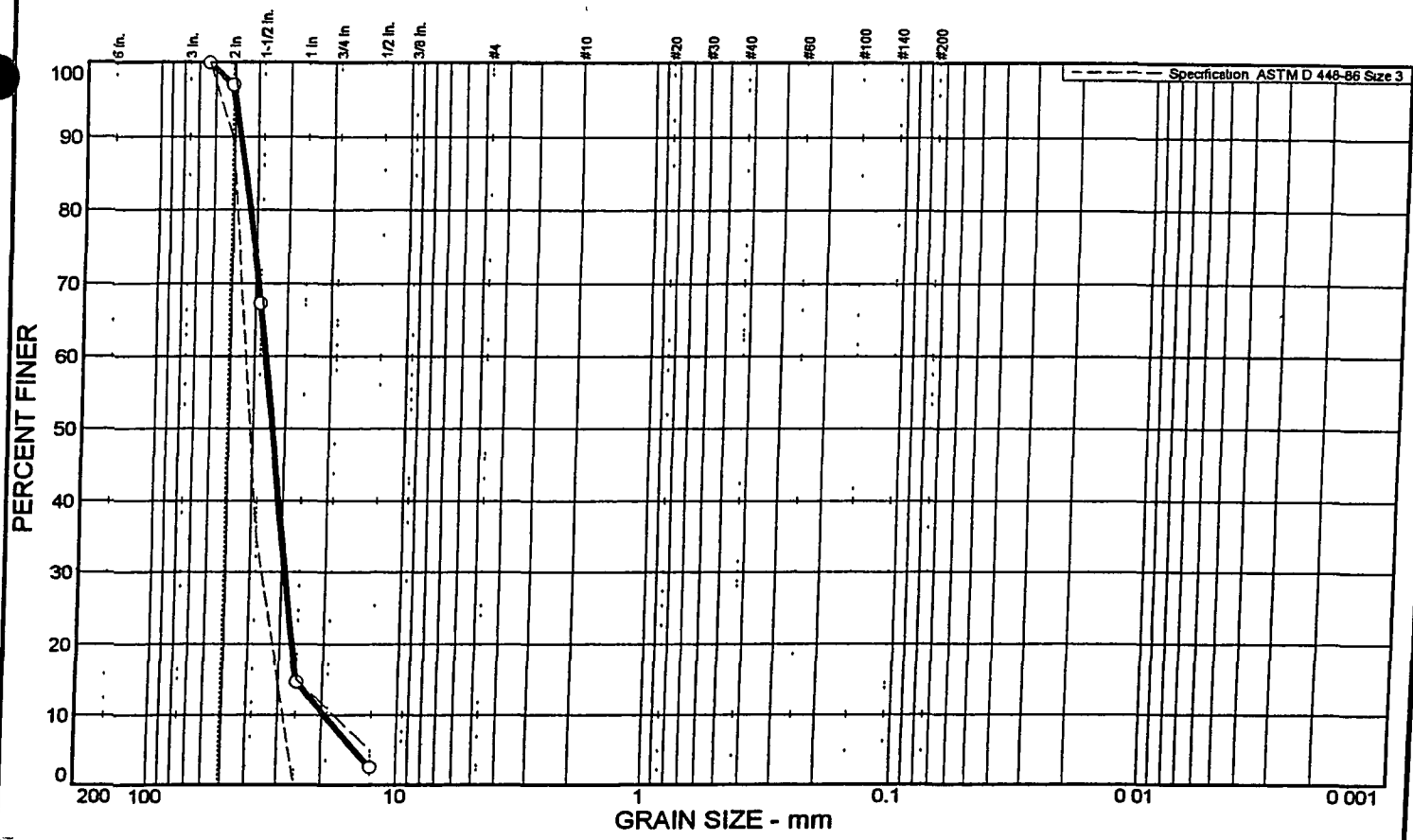
LEACHATE COLLECTION TRENCH AGGREGATE

The aggregate was obtained from off-site sources and stockpiled on site Samples were obtained from the on-site stockpiles The material was pre-qualified (Sample 1) by gradation testing (ASTM C136) and testing for Insoluble Residue in Carbonate Aggregates (ASTM D3042) Two additional samples (Numbers 5 and 6) were obtained from additional material stockpiled for testing, prior to material placement in Phase IVC The results of that testing is presented in this section Note that the results of the insoluble residue are presented in the remarks section of the gradation testing results

I have reviewed the documentation and test data of the Quality Control Monitor and based upon that data, find that the construction is substantially in accordance with the Project-Specific Addenda

James A Horton, P E
Registered, Florida 23315

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O									

SIEVE inches size	PERCENT FINER O		
2 5	100 0		
2	97 0		
1.5	67 2		
1 0	14 6		
1/2	2 5		
	GRAIN SIZE		
D_{60}	36 0		
D_{30}	29 0		
D_{10}	19 5		
	COEFFICIENTS		
C_c	1 20		
C_u	1 85		

SIEVE number size	PERCENT FINER O		

SOIL DESCRIPTION

O No 3 Granite

REMARKS

O Percent Insoluble 98 0%

O Source Trench Gravel Stockpile

Sample No 1

Law Engineering and Environmental Services, Inc.

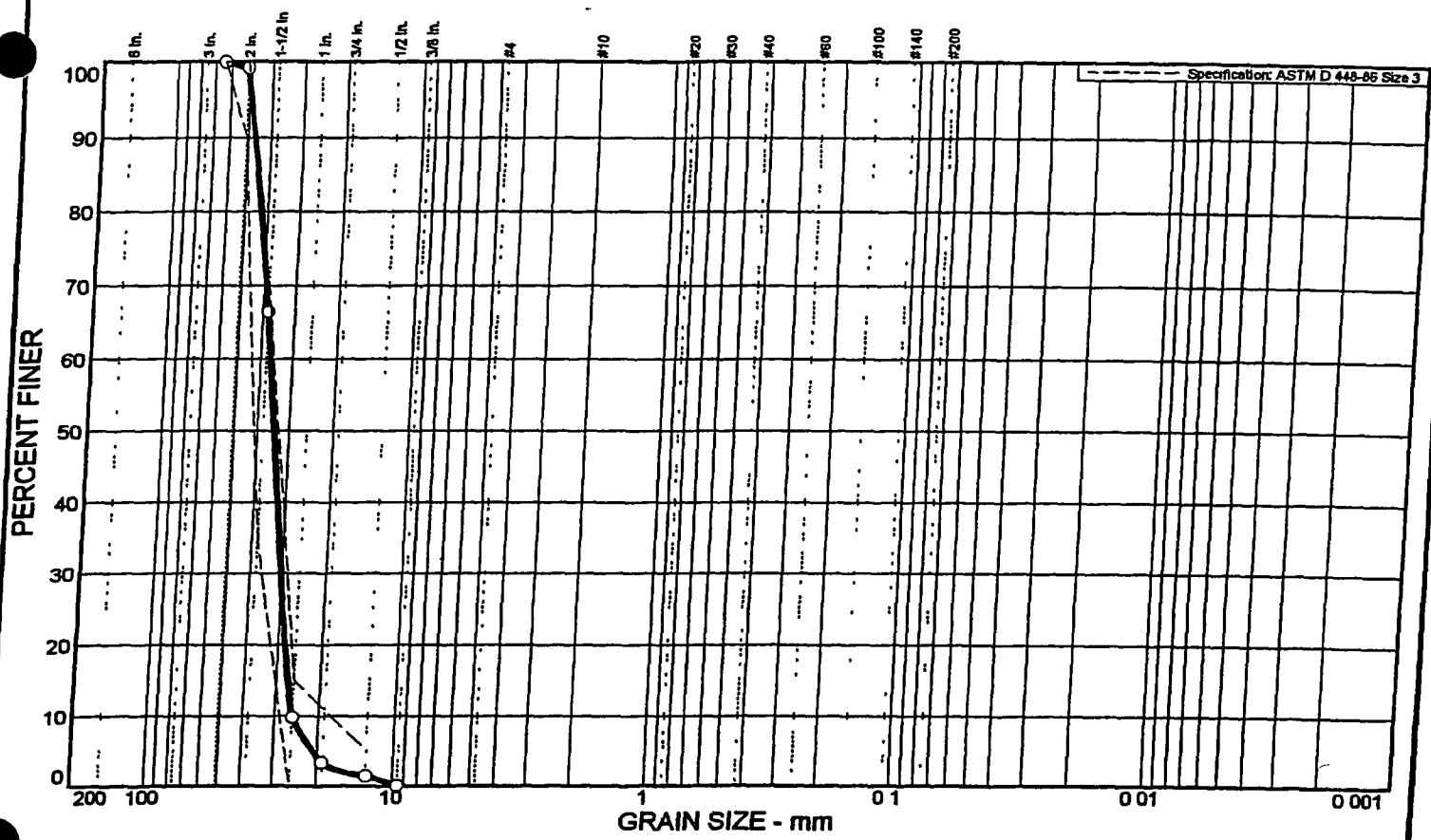
Client. England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

JOHN A. UNTERSPAN, P.E.

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O		100 0	0.0	0.0	0.0	GP	A-1-a		

SIEVE inches size	PERCENT FINER O		
2.5	100 0		
2	99.2		
1.5	66 4		
1.0	9.8		
3/4	3 3		
1/2	1.4		
3/8	0.0		

	GRAIN SIZE		
D_{60}	36 5		
D_{30}	30.1		
D_{10}	25 5		
	COEFFICIENTS		
C_c	0.98		
C_u	1 43		

SIEVE number size	PERCENT FINER O		

SOIL DESCRIPTION

O No. 3 Granite

REMARKS

O

O Source. Trench Gravel Stockpile

Sample No . 5

Law Engineering and Environmental Services, Inc.

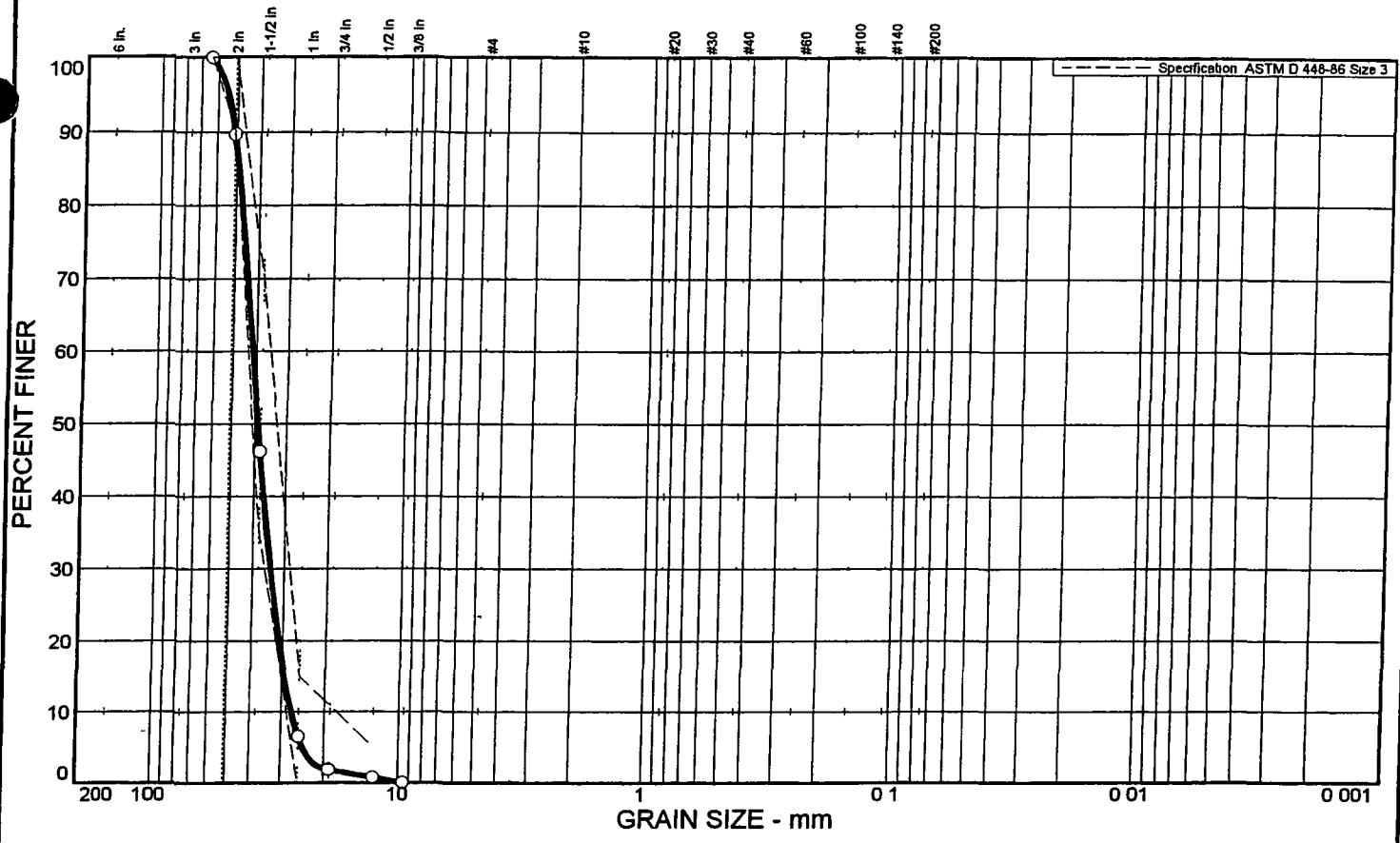
Client: England Thims and Miller

Project Trailridge Landfill

Project No · 40562-0-4105

JOHN A. UNTERSPAN. P.E.

Grain Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
	100 0	0 0	0 0	0 0	GP	A-1-a		

SIEVE inches size	PERCENT FINER ○		
2 5	100 0		
2	89 7		
1-1/2"	46 1		
1	6 5		
3/4"	1 9		
1/2"	0 8		
3/8"	0 0		
	GRAIN SIZE		
D_{60}	41 4		
D_{30}	33 9		
D_{10}	27 2		
	COEFFICIENTS		
C_c	1 02		
C_u	1 52		

SIEVE number size	PERCENT FINER ○		

SOIL DESCRIPTION

○ No 3 Granite

REMARKS

○ Stockpile for Phase IVC

○ Source Trench Gravel Stockpile Sample No 6

Law Engineering and Environmental Services, Inc.

Client England Thims and Miller

Project Trailridge Landfill

Project No 40562-0-4105

JOHN A. UNTERSPAN, P.E.

Weekly Progress Reports

Weekly Progress Reports

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E England, P E , C E O
Douglas C Miller, P E , President
N Hugh Mathews, P E , Exec , V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
PRE-CONSTRUCTION CONFERENCE MEETING MINUTES

DATE: May 24, 2000
10:30 A M. – 12 15 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Jimmy Purvis	Trail Ridge Landfill, Inc.	289-9100
Neil Rushing	City of Jacksonville	632-8050
Chuck Cameron	R.B. Baker Construction (Baker)	757-6100
Stoy Marlow	Baker	912-964-6513
James Goff	Baker	219-2999
Jim Horton	LAW Engineering (LAW)	396-5173
John Teague	LAW	396-5173
Frank Adams	Golder Associates (Golder)	363-3430
Fabian Benavente	Golder	363-3430
Damon Kelly	Robert M Angas, Associates	642-8990
Juanitta Clem	England, Thims & Miller (ETM)	642-8990
Bill Davidson	ETM	642-8990
Don Harjung	ETM	642-8990
Francis Dayao	ETM	642-8990

I. INTRODUCTION

Juanitta Clem started the meeting by passing out an agenda, introducing herself and asked everyone to introduce themselves and their responsibilities for this project

II. COMMUNICATIONS

Juanitta Clem stressed that all correspondence from all subcontractors and suppliers should be handled through the general contractor which is Baker for the purpose of this contract and then submitted to Trail Ridge Landfill, Inc (TRLF) ETM should be copied on all correspondence

Pay requests and shop drawings should be submitted to ETM and ETM will provide copies to TRLF and the City.

Juanitta Clem stated that weekly meetings will be held every Tuesday at 2 00 P.M. Chuck Cameron stated that this schedule is a conflict After further discussion, it was agreed that weekly meetings will be held every Tuesday at 10·00 A.M. until Chuck Cameron's schedule changes. All parties that will work on the job during the week are expected to attend the meeting. Baker is expected to provide a weekly short interval schedule.

Juanitta Clem then stated that any media request either print or television are to be referred to Greg Mathes with Trail Ridge

III. SAFETY ISSUES

Juanitta Clem stated that there will be no smoking on site and that the construction area is a hard hat area All parties are expected to sign in when they enter the site and then asked Jimmy Purvis if TRLF had any specific requirements for daily sign-in Jimmy Purvis replied that Baker's site supervisor must sign in daily and give TRLF a list of employees and subcontractors, when they are on site. The list should be kept current by Baker Frank Adams asked if Golder should do the same thing for daily sign-in Jimmy Purvis replied that the supervisor can sign in for the Golder crew

Juanitta Clem stated that all on-site personnel must attend the Waste Management Safety Program Jimmy Purvis added that Baker should coordinate the training schedule with him and that it will not be a problem to have two (2) training sessions. Frank Adams asked if Golder should attend the safety training. Jimmy Purvis recommended that Golder attend the safety training.

IV. EQUIPMENT AND MATERIALS STORAGE

As far as the equipment staging area, Juanitta Clem stated that there is no other storage area available except the construction area. Juanitta asked Stoy Marlow if Baker had investigated using a portion of the adjacent land (west of the landfill) with the property owner Stoy Marlow replied that they have not discussed this with the owner Frank Adams stated that storage of the geosynthetic materials must be in accordance with the project specifications

Concerning truck routes, Juanitta Clem stated that the main route to the site is through the main entrance Jimmy Purvis stated that there are approximately 400 garbage trucks a day and these trucks utilize the north perimeter road to get to the current disposal area. Construction trucks will be utilizing the southern perimeter road and therefore, there will be no interface with the garbage trucks until they begin placement of waste in Phase IIIC. Baker asked if construction trucks should go through the scale Jimmy Purvis stated that construction trucks must bypass the scales Jimmy Purvis stated that traffic flow will depend on daily traffic and the truck drivers. If traffic becomes a problem, then it will be addressed

V. CONTRACT ISSUES

Juanitta Clem stated that the Notice to Proceed was given to TRLF today (May 24, 2000) and in turn, TRLF has issued a Notice to Proceed to Baker today Stoy Marlow handed to Juanitta Clem the executed Short Form Construction Agreement, insurance and bonds (performance and payment) and stated that Chuck Cameron will be the Contractor's Resident Representative Juanitta Clem asked if Baker has a schedule of values Stoy Marlow replied that he had drafted a schedule of values but needs to review it with Chuck Cameron before submittal. Stoy Marlow stated that he will have the schedule of values ready for Juanitta Clem by Friday, May 26, 2000.

Juanitta Clem stated that draft of the pay requests must be provided to ETM by the 25th of each month and must be finalized by the 30th All Waiver of Liens for all sums previously paid must accompany the pay request Jim Horton asked if they have to submit pay requests on the same date Juanitta replied that LAW and Golder should submit their pay requests by the 1st week of the month

VI. POLLUTION PREVENTION PLAN

Juanitta Clem stated that 4 copies of the Pollution Prevention Plan (Sheet 31 of the construction drawings) will be provided to Baker and must be signed by Baker and all subcontractors (Serrot and National Pipe).

Juanitta Clem stated that erosion and sediment control measures must be in-place within 14 days of Notice to Proceed and must be maintained by Baker Juanitta Clem stressed that there will be no off-site discharge of stormwater except from the existing stormwater pond. Baker must flocculate the pond as needed to meet water quality standards prior to discharge from the pond. Juanitta-stated the when there is a pond discharge, Baker must conduct a turbidity test before the start of daily construction and at the end of daily construction. Any time a discharge exceeds 29 NTUs above background (2+/- NTUs), flocculation of the pond will be required.

Stoy Marlow asked if Baker can use the pond as a source of construction water. Jimmy Purvis replied that Baker can use the water from the pond and that there is an existing fire hydrant south of the operations building that Baker can use to obtain water. After utilizing the fire hydrant, Juanitta Clem stated that Baker must ensure that precautions are taken to make sure the hydrant is closed and erosion of the pond bank does not occur.

VII. SHOP DRAWINGS

Juanitta Clem stated that 6 copies plus Contractor's copies must be submitted to ETM.

VIII. QUALITY ASSURANCE/QUALITY CONTROL

Juanitta asked if Baker was prepared to discuss pre-qualification testing for the clay borrow pit. Stoy Marlow replied that they are not prepared at this time and agreed to call Juanitta later this week to schedule a meeting Juanitta stated that the clay borrow pit must have sufficient clay for the project If another clay pit (or sand pit) is necessary for the project, Juanitta recommended that pre-qualification testing be done as soon as possible to avoid construction delays. Juanitta stated that the sand must be tested at the sand pit to avoid handling the sand twice or potentially

placing unacceptable sand. Jim Horton stated that LAW will provide chain-of-custody for the sand material as it leaves the pit.

Juanitta stated that a test strip will be constructed that will establish the clay density for the project. Juanitta stated that the Owner will only pay for the first clay test strip Stoy Marlow asked if Baker can construct the test strip within the cell and if it is approved and within grade, then it may remain Juanitta replied that Baker can construct the test strip within the cell. Since there are three phases of construction, Jim Horton asked if the project is considered as one project as far as the testing frequency is concerned. Juanittta replied that this project is considered one project. Therefore the frequency of testing will only be doubled during the construction of the first 5 acres of the clay subbase. Baker asked about the turnaround time for permeability tests Jim Horton replied 3 to 4 days.

Juanitta Clem asked if Baker is still planning on constructing the clay subbase "high." Stoy Marlow replied that Baker is still planning on doing this. Juanitta Clem stated that desiccation cracks into the clay is likely to occur during construction, due to the current dry conditions. She recommended that Baker investigate procedures to keep the clay moist to minimize the cracking into the bottom 6" of clay

Note Synthetic liner must not be deployed over the clay that has not passed all tests.

IX. SURVEYING

Juanitta Clem stated that there is a coordinate grid system shown on the construction plans and ETM will be providing stake-out sheets to Baker and Robert M. Angas Associates for the as-builts. The stake-out sheets will be provided with a 50-foot grid.

Juanitta Clem reviewed the grade tolerances for the liner system. The tolerance for the subgrade is -0 10' (0.00 ft. tolerance on the positive side), +0 10' for the clay subbase (0.00 ft tolerance on the negative side) and +0.10' for the protective sand (0 00' tolerance on the negative side). Juanitta Clem stated that as-builts must be provided for the top of subgrade, top of clay, top of protective sand, top of anchor berm and the drainage system. Damon Kelly stated that Baker must provide at least a 24-hour notice for the survey crew to conduct as-builts. Juanitta Clem stated that Baker must coordinate all as-built surveying with Bill Davidson, ETM field representative Golder should also coordinate the survey of all key liner locations with Bill Davidson.

Note All as-builts not included above (i.e., electrical, forcemain, etc.) must be performed by the Contractor.

X. SCHEDULE

Juanitta Clem noted that the deadline for Phase IIIC is 6 months from Notice to Proceed, for Phase IVC – 8 months from Notice to Proceed and for all work – 12 months from Notice to Proceed Juanitta stated that the erosion and sediment control system must be placed within 14 days of Notice to Proceed and the temporary drainage system must be constructed within 45 days of Notice to Proceed During weekly construction meetings, Juanitta stated that Baker must provide a weekly bar chart schedule Concerning rain delays, Juanitta stated that an extension of

contract time will not be given due to rain delays unless the average rainfall for that month is more than the average for the same month for the period from 1962-1990 (as shown on the project specifications) When requesting a contract time extensions due to rain delays, Baker must also provide a description as to how weather conditions delayed progress of work.
All request for contract time extensions will be submitted by Baker to ETM and ETM will submit the request to the City All City approved extensions will be extended to Baker

XI. PLANS & SPECIFICATIONS

Juanitta Clem noted that the Released for Construction set (dated May 24, 2000) is the only set of plans allowed on site. Juanitta Clem asked Chuck Cameron if he wanted to do a plan overview Chuck replied that he preferred to do a plan overview some other time. Juanitta Clem noted that the project specifications include the FDEP construction and operation permit for the Trail Ridge Landfill and that Baker must comply with all permit condition during the construction.

XII. OTHER ISSUES

Juanitta Clem went over the following items briefly:

1. Temporary Ditch "A" and "B" – Juanitta Clem stated that maintenance of these ditches is the responsibility of the Contractor.
2. Leachate Collection System – All welds must be made by a certified welder and the entire leachate collection system must be thoroughly flushed prior to sump construction Baker must submit to ETM for review, qualifications and certifications of all welders for the leachate system.
3 Leachate Forcemain – Juanitta stated that the forcemain must be tested prior to the connection to the existing forcemains. The existing forcemains must be verified by the Contractor (primary versus secondary) prior to the connection.
4 Leachate Pumps – Juanitta asked Stoy Marlow to look into the possibility of using Myers pumps for the leachate pumps
5 Water Stops in Vault Boxes – Juanitta Clem noted that water stops are required in the vault boxes and water stops must be vinyl, not volclay
6 Synthetic Liner System Installation – Juanitta Clem stressed that a pre-construction meeting with the liner installer is necessary in order to coordinate construction of the liner system.
7. Leachate Trench – Juanitta Clem asked Baker how they would construct the leachate collection trench. Stoy Marlow replied that Baker has not looked into the construction of the leachate collection trench in detail

In closing, Juanitta Clem stated that she hopes that everyone can work together as a team on this project to construct a quality project and to meet the construction deadlines

Cc Greg Mathes
Chris Pearson
Attendees

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E England, P E , C E O
Douglas C Miller, P E , President
N Hugh Mathews, P E , Exec , V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: June 1, 2000
11 00 A M. – 12.00 P M (General)
1 30 P M – 2.30 P M (Geosynthetics)

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079-1

ATTENDEES:

Greg Mathes	Trail Ridge Landfill, Inc (TRLF)	289-9100
Jimmy Purvis	TRLF	289-9100
Neil Rushing	City of Jacksonville	632-8050
Chuck Cameron	R.B. Baker Construction (Baker)	757-6100
Angie Hall	Baker	757-6100
Stoy Marlow	Baker	912-964-6513
James Goff	Baker	219-2999
Jim Horton	LAW Engineering (LAW)	396-5173
John Teague	LAW	396-5173
Juanitta Clem	England, Thims & Miller (ETM)	642-8990
Bill Davidson	ETM	642-8990
Don Harjung	ETM	642-8990
Buckley Williams	ETM	613-5172
Francis Dayao	ETM	642-8990
Bob Trexler	Serrot International, Inc (Serrot)	800-843-6313
Chris Fore	Serrot	225-751-2700
Jon Edens	Serrot	225-751-2700
Frank Adams	Golder Associates (Golder)	363-3430
Fabian Benavente	Golder	363-3430

I. CLAY BORROW PIT PRE-QUALIFICATION

Chuck Cameron provided a Boundary Survey of the proposed clay borrow pit. According to Chuck, the proposed clay borrow pit is approximately 8 45 acres and the clay layer is estimated to be 8' thick with a 3' overburden

Juanitta Clem provided Baker and LAW with pre-qualification forms and asked Baker their schedule for performing the clay pre-qualification tests Upon discussion, it was agreed that Baker and LAW will collect samples for pre-qualification testing on Monday, June 5. Bill Davidson will observe the pre-qualification sample collection

Buckley Williams suggested that Baker pre-qualify a potential expansion area south of the proposed clay borrow pit. Buckley stated that this may prevent future delays. Baker and LAW agreed to collect clay samples on the potential expansion area

II. SAND BORROW PIT

Juanitta Clem asked Baker if they have located a sand borrow pit for the project. Chuck Cameron replied that they have located a sand borrow pit (approximately 35 acres) and they are negotiating an agreement with the owner. The sandpit, according to Chuck, is also a good source for fill material. Jim Horton asked if pre-qualification testing has been done on the proposed sand borrow pit Baker stated that pre-qualification testing had been performed.

III. SCHEDULE

Juanitta Clem asked if the construction schedule has been updated Chuck Cameron replied that they have not updated the schedule. Greg Mathes asked Baker when they plan to mobilize. Chuck Cameron replied that some equipment will arrive on site on Monday, June 5 and the two construction trailers are expected to be set up at the site on Thursday, June 8 Chuck requested that TRLF clear the area where the trailers will be located and move all stored materials from Phase IIIC.

Chuck Cameron stated that construction of the temporary stormwater system and installation of erosion controls will commence the week of June 5.

Juanitta Clem suggested that some pre-qualification testing be performed at the proposed sand borrow pit. Jim Horton replied that LAW can collect samples for testing. Chuck suggested that testing should be done once the limits of the proposed sand borrow pit have been defined and the agreement executed Baker will inform ETM and LAW when samples can be collected. According to Chuck, there initial testing on the proposed sand material had 2 samples that failed. Baker stated that testing may be scheduled for next week As far as the clay pit, Chuck Cameron indicated that the clay is dry and that water may be needed during construction of the clay layer. Since the clay is dry, Juanitta Clem stated that construction of the clay test strip will be extremely important

IV. GENERAL

Juanitta asked Baker if they have finalized the schedule of values Stoy Marlow replied that they will submit the schedule of values by Friday, June 2

Chuck stated that they have received the Pollution Prevention Plan from ETM

Chuck stated that Serrot may mobilize in late July. Juanitta Clem asked if Serrot will demobilize between construction phases. Chuck replied that Serrot will demobilize between phases Chuck stated that Baker will discuss this further with Serrot.

Chuck asked if Baker can utilize the area west of the western perimeter ditch as a temporary staging area. Greg Mathes replied that he will review the request. Additional erosion control as well as sodding will have to be considered if that area is utilized. Chuck asked if Baker can clear some of the trees. Greg replied that Baker cannot clear the trees due to CON conditions.

Baker asked if pay requests can include stored materials Juanitta replied that only materials on-site that meet the project specifications (passed conformance testing) will be paid as stored materials

V. GEOSYNTHETICS

Juanitta Clem started the afternoon meeting by introducing herself and asked everyone to introduce themselves and their specific role in the project.

Juanitta asked Serrot if they plan to demobilize between construction phases. Chris Fore replied that Serrot is in the preliminary stages of planning Chris Fore stated that Serrot is planning to deliver all geosynthetic materials before the end of the year.

Frank Adams stated that Serrot and Golder must coordinate the conformance testing at the plant. Chris Fore replied that Jon Edens is the contact person for Serrot and that all scheduling for conformance testing will be through Jon.

Chris Fore stated that the smooth HDPE will be manufactured at Henderson, Nevada; the geonet will be coming from Wellford, South Carolina; the bentofix will be manufactured in Canada; and the geotextiles will be coming from Synthetic Industries in Chattanooga, Tennessee.

Frank Adams requested Serrot give Golder notice as soon as possible so they can prepare for the conformance testing at the various plants

Juanitta Clem asked who will be the main contact for all the materials. Chris Fore replied that Jon Edens is the main contact for Serrot for all of the materials

Juanitta Clem stated that Golder needs samples of the liner materials for transmissivity testing. Frank Adams stated that the materials must be at least 2' x 2' and that the transmissivity testing will be done at Golder's laboratory in Atlanta. Since the transmissivity testing is a 100-hour test, Golder requested that Serrot must provide the materials directly to the lab as soon as possible

Upon discussion, it was agreed that Jon Edens will coordinate submittal of the materials for the transmissivity testing with Golder Frank requested quality control documentation with the materials provided for testing

Juanitta Clem asked Baker how long it will take to install the liner Chuck Cameron replied that it will take approximately 28 days to complete Phase IIIC and 28 days to complete Phase IVC.

Greg Mathes asked how Serrot will store the GCL material. Chris Fore replied that the GCL will be elevated above ground and secondary covered. Chris stated and that they do not have any intention on delivering the materials in box containers Golder stated that storage must be per the project specifications.

Golder asked Serrot's daily production rate (liner installation). Chris Fore replied that initially, they are planning to have 13 – 15 people at the site with 3 to 4 wedge welders Frank stated that Golder will have at least 3 people on-site, not including the person observing sand placement.

Neil Rushing reminded everyone of TRLF's Safety Training. Chuck stated that Serrot's crew must attend the safety training prior to working. As far as the sign-in sheets, Chuck Cameron stated that Baker will take care of the sign-ins. Chuck asked Serrot to provide (on a weekly basis) Baker with a list of people who will be at the site

Frank Adams stated that all ASTM methods must be per the project specifications.

Greg Mathes asked about the tax-exemption for pollution control. Serrot replied they would prefer to have a tax-exempt certificate from TRLF. Upon discussion, it was agreed that ETM and TRLF will investigate on the tax exemption certification.

Stoy Marlow asked whether materials for the project could be stored at Serrot's plant and included in the pay request Juanitta asked if these will include all materials. Chris Fore replied that probably just the GCL. Stoy stated that Baker is expecting 300 truckloads of material for the project and storage may be a problem Greg Mathes replied that he will discuss this with the City.

The next meeting is scheduled for Tuesday, June 6 at 10·00 A.M

cc. Chris Pearson
Attendees

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E England, P E , C E O
Douglas C Miller, P E , President
N Hugh Mathews, P E , Exec , V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: June 6, 2000
10 00 A.M. – 11.30 A.M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Greg Mathes	Trail Ridge Landfill, Inc (TRLF)
Chuck Cameron	R B Baker Construction (Baker)
Angie Hall	Baker
James Goff	Baker
John Teague	LAW Engineering (LAW)
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. CLAY BORROW PIT

Chuck Cameron stated that clay samples have been taken from the proposed clay borrow pit Samples were obtained from the area south of the surveyed area (approx. 110' south) so this area could be included if necessary. Based upon the sampling, the thickness of the clay layer appears to vary from 3' to 7'. Juanitta asked Baker to determine if there is sufficient clay at the proposed borrow pit for the project

II. SAND BORROW PIT

Chuck stated that the survey of the proposed sand borrow pit has been completed. Upon discussion, it was agreed that samples will be taken from the pit on Friday, June 9

III. SUBMITTALS

Schedule of Values - Chuck provided the schedule of values for the project.
Project Schedule - Chuck will provide the project schedule at the next construction progress meeting.
Pollution Prevention Plan - Baker has received the copies of the Pollution Prevention Plan and Chuck will send it to Serrot and National Piping for signatures
Shop Drawings from Serrot - Chuck will check on the status with Serrot.
Tax Exemption Certificate - Juanitta stated that TRLF and ETM are currently working on the tax exemption certificate and should have the certificate ready for Baker next week.

IV. STORED MATERIALS

Regarding stored material, Juanitta stated that the only time the material may be included in the pay request is when the material is stored at TRLF

Chuck asked if this would also apply to the GCL. Juanitta replied that materials stored at the plant should not be included in the pay request.

V. WEEKLY SCHEDULE

Baker will install hay bales around the inlet in accordance with the Erosion and Sediment Control Plan. The construction trailers will be set at the site on Thursday, June 8

Chuck asked if existing materials might be utilized for the construction of the temporary ditch Juanitta replied that existing materials (but not stripping) could be used to construct the temporary ditch Juanitta reminded Baker that removal of the temporary ditch would be at TRLF's convenience

Chuck asked if they could use 42" HDPE in lieu of 42" CMP for the temporary downcomer pipe. Juanitta replied that Baker could use 42" HDPE pipe with bell joints.

Baker plans to work on the special compaction areas next week.

Chuck stated that general fill material for the project will be coming from Macclenny and asked if it is possible for Baker to utilize the access road from S.R. 228. Greg Mathes stated that TRLF must discuss this with the owner Greg added that Baker would be responsible for maintaining the access road if Baker is authorized to use it.

Juanitta asked when samples of the general fill material can be taken. Chuck replied that Baker would coordinate the sampling schedule with Bill Davidson.

Regarding the leachate pumps, Baker explained that the Myers pumps would be more expensive and therefore the Grundfos pumps will be utilized as per the specifications Chuck stated that the leachate pump control panel will be supplied by Custom Pumps and the totalizer will be supplied by Hersey He must coordinate between the two so the totalizer can be installed by Hersey into the control panel.

ETM provided both Plan Sheet 5A with the control for the centerline of the road around the southeast corner as well as the stake-out sheets for Phase IIIC.

The next meeting will be on Tuesday, June 13 at 10:00 A M.

cc: Attendees
Chris Pearson
Neil Rushing
Jim Horton
Frank Adams
Don Harjung
Jon Edens

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

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N Hugh Mathews, P E , Exec V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: June 13, 2000
10 00 A M – 11 00 A M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Greg Mathes	Trail Ridge Landfill, Inc (TRLF)
Neil Rushing	City of Jacksonville
Chuck Cameron	R B Baker Construction (Baker)
Angie Hall	Baker
James Goff	Baker
Shawn Eisenman	Baker
John Teague	LAW Engineering (LAW)
Jim Horton	LAW
Fabian Benevente	Golder Associates
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Don Harjung	ETM

I. CLAY BORROW PIT

The clay samples are in the laboratory for testing. The index test should be complete tomorrow (June 14, 2000) and the permeability test should be complete by Thursday, June 16, 2000 The pre-qualification of the clay pit should be finalized by the next meeting (June 20, 2000), provided all the results are favorable.

II. SAND BORROW PIT

The sand samples are in the laboratory for testing The permeability results should be complete this week. The samples were taken for the preliminary testing at 200-250' spacing per John Teaque The uniformity of the pit is not known at this time.

Samples were obtained of the general fill for proctor testing

II. SUBMITTALS

Schedule of Values - Juanitta Clem requested breakdown of the liner system and stormwater system
Project Schedule - Chuck Cameron provided a detailed project (attached) Juanitta Clem will review prior to next meeting
Pollution Prevention Plan - Baker has submitted the Pollution Prevention Plan to Serrot and National Piping for signature
Shop Drawings from Serrot - Baker provided the shop drawing
Tax Exemption Certificate - Juanitta stated that TRLF and ETM are continuing to work on the tax exemption certificate and should have the certificate ready next week
Material Samples – Serrot told Chuck Cameron that they have submitted all samples to Golder's laboratory in Atlanta for the testing per Addendum 2

III. WEEKLY SCHEDULE

A *Mobilization* - Baker will mobilize trucks to the site today as well as a roller for compaction
B *Recompaction Area* - Baker has uncovered the recompaction area and will be placing the material back in 12" lifts per the specifications. Law will conduct the density testing After the meeting, the materials removed from the recompaction area were observed due to concerns about stumps, roots, etc It was agreed that Baker could reuse the material provided the soil is free from brush, weeds, stumps, roots of 3/8" diameter or greater, stones, etc (See Section 02030, Subsection 4 0 of the Specifications)
C *Access Roads* - Baker would like to use the access road off CR-228 to bring in the general fill. They must get the approval of the Owner They will maintain the road as needed and may need to stabilize the road in several locations
D *Temporary Stormwater Management System* - Baker will construct the temporary system including the culverts and structures The invert of the culvert over the anchor berm was discussed Baker said that they would uncover the anchor berm to ensure the elevation of 134 0± before they place the culvert at the design elevation of 135 0± across the anchor berm
E *Safety Meeting* - Baker will coordinate the safety meeting with Jimmy Purvis for this week.

V. LINER SYSTEM

During construction along the edge of the existing liner last Friday (June 9, 2000), the Contractor ripped the liner After the meeting, this area was observed. Since the area was not clearly exposed, the Contractor cleaned off the liner and a meeting was held on Tuesday (Juanitta Clem, Fabian Benevente, Bill Davidson, James Goff and Don Harjung were present) The certified liner system was breached in approximately three locations (small holes only inches long) and therefore, must be repaired as soon as possible. All other breaches were in a flap on the edge of the liner and do not require repair. Baker will arrange the repair with Serrot and will notify Bill Davidson Bill Davidson will notify Golder Associates so they can observe the repair.

The next meeting will be on Tuesday, June 20 at 10 00 A M

Attachment – Project Schedule

cc Attendees
Chris Pearson
David D Hahn, P E
Jim Horton
Frank Adams
Don Harjung
Jon Edens

England-Thims & Miller, Inc.
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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: June 20, 2000
10 00 A.M. – 11 00 A M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Jimmy Purvis	Trail Ridge Landfill, Inc (TRLF)
Chuck Cameron	R B. Baker Construction (Baker)
Angie Hall	Baker
James Goff	Baker
John Teague	LAW Engineering (LAW)
Fabian Benevente	Golder Associates
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Don Harjung	ETM

I. CLAY BORROW PIT

Juanitta Clem spoke to Jim Horton of LAW today and he explained that there are two layers of clay, a red layer overlaying a grey layer. Of the two permeability results on the red layer, one passed and one failed (2×10^{-7} cm/sec) The grey layer had permeability in the 10^{-8} cm/sec range

According to Chuck Cameron, they plan to mix the two clays (via digging and unloading) and Mr. Horton believes it should result in passing clay permeabilities

The red layer is approximately 1' - 3' thick and the grey layer is approximately 4' - 6' thick.

Once Chuck gets the test results, etc from LAW, he will determine quantities The borrow pit pre-qualification will be completed next week The clay test strip is scheduled for July 5-7

II. SAND BORROW PIT

The sand permeability results are complete and will be provided to Chuck as soon as possible According to Chuck, the permit for the pit has been submitted but they have received no response to date

II. SUBMITTALS

Schedule of Values - Chuck will finish the breakdown of the liner system and stormwater system today
Project Schedule - The detailed Project Schedule was reviewed and comments were provided to Chuck Chuck will update the schedule to incorporate the comments The items that must be added include anchor berms, stormwater/leachate berms, forcemains and access roads
Pollution Prevention Plan - Signature of the Pollution Prevention Plan is in process
Shop Drawings from Serrot - Juanitta and Golder have reviewed the shop drawings Juanitta will return the shop drawings on the geomembrane, geosynthetic clay layer, primary (16 oz) geotextile and panel layouts The geonets and secondary (6 oz) geotextile shop drawings will be withheld until the testing of the secondary (per Addendum #2) is complete
Tax Exemption Certificate - TRLF has provided a tax exemption certificate to Baker. Baker will provide a list of suppliers so TRLF can provide a certificate for each supplier
Material Samples – Serrot has submitted all samples to Golder's laboratory The results should be back this week

III. WEEKLY SCHEDULE

A *Work Week* - Baker plans to work 5 days/week, but Serrot will work 6 days/week
B *Stripping Vegetation* - Baker will continue
C *Recompaction Area* - Baker will place the final lift this week
D *Placement Fill* - Baker will continue this week and will continue to import fill material
E. *Temporary Drainage* - Baker will install the 42" outfall pipe and structure for Ditch A this week
F *Ditch A* - Baker will dress out the ditch and place the clay layer next week. The clay liner in this temporary ditch does not require a test strip or testing.
G *Ditch B* - Baker will continue the excavation and dressing, and then grass the ditch
H *Access* - Baker is continuing to work on obtaining access off CR 228 for general fill hauling.
I *Safety Meeting* - The safety meeting with Jimmy Purvis was conducted on June 20
J. *Temporary Stormwater Management System* - This system must be complete by July 7, 2000 per Contract

V. LINER SYSTEM

Chuck Cameron has notified Serrot regarding the liner repair. Serrot is scheduled to be on site this week to make the repair Chuck will notify Bill Davidson 24 hours in advance of the repair, so Bill can arrange to have a Golder representative on site to observe the liner repair

VI. ACCESS HAUL ROAD

Chuck Cameron stated that he is concerned that the access road across Phase VA will cause delays in the construction of that phase. Upon discussion, it was determined that Baker could place liner under the roadway to avoid the conflict or include the roadway in the tie-in between Phases VA and VC which results in a 200'± tie-in rather than the typical 100'± tie-in. Jimmy Purvis estimated that he will need the access road for a minimum of three months and longer if he has rain/weather delays Note· If the liner is placed under the roadway, it will have to be evaluated to ensure liner tie-in later

The next meeting will be on Tuesday, June 27 at 2 00 P M The meeting after the Fourth of July holiday will be on Wednesday, July 5 at 2 00 PM

cc Attendees
Chris Pearson
David D Hahn, P E
Neil Rushing
Jim Horton
Frank Adams
Jon Edens

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Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: June 27, 2000
2·00 P M – 3 30 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Greg Mathes	Trail Ridge Landfill, Inc (TRLF)
Neil Rushing	City of Jacksonville
Chuck Cameron	R B Baker Construction (Baker)
Angie Hall	Baker
James Goff	Baker
John Teague	LAW Engineering (LAW)
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A Pipe Crew - Scheduled to arrive this week to install the temporary stormwater piping for Ditch A and complete by Friday, June 30 Hopefully, the pipe crew can proceed with the piping and Ditch B next week.
B Structural Fill – Continue working
C Special Recompaction Areas – The area between Sta 120+00 (E) and Sta 126+00 (E) has been completed Excavation and recompaction of the remaining special recompaction areas within Phase IIIC will continue
D Clay Pit – The permit from Suwannee River Water Management District has not been issued Baker must receive the permit prior to any work (including stripping) at the pit The construction of the clay test strip is scheduled to commence July 5
E. Ditch A – Construction will proceed and expected to be complete by next week
F Ditch B – Construction will proceed and expected to be complete by next week

II. CLAY BORROW PIT

Juanitta Clem provided copies of the draft clay borrow source pre-qualification from Jim Horton The results indicated that the clay is acceptable However, according to Jim Horton, the test also

revealed the presence of sand seams Juanitta Clem stated that Baker must be careful when excavating to avoid the sand seams After further review of the pre-qualification test results, it was agreed that results for sampling locations 10, 11 and 12 should be included in the final report Juanitta Clem will contact Jim Horton and will request the inclusion of the additional test results

III. SAND BORROW PIT

Juanitta provided copies of the sand permeability test results from Jim Horton. Based upon the results, the sand in the vicinity of sampling locations 3, 4 and 5 is acceptable and the sand in the vicinity of sampling location 6 is marginal According to Chuck, location 6 is in the vicinity of a slough Chuck stated that the proposed sand borrow pit is approximately 31 acres and should be adequate for the project including avoidance of marginal areas

IV. GEOTEXTILE

Juanitta Clem stated that the result of the transmissivity testing on the proposed materials for the secondary liner system has been received The result indicated that the proposed materials will provide a permeability greater than the minimum requirement of 10 cm/sec

Juanitta explained that Serrot had provided the proposed materials to Golder for transmissivity testing, prior to the shop drawings being approved The shop drawings indicated that the proposed geotextile has an apparent opening size (AOS) equivalent to 70 sieve size However, the project specification required a minimum of 100 sieve size Since the result of the transmissivity testing met the project specification and based upon conversation with Golder, Juanitta stated that the proposed geotextile appears acceptable Juanitta stated that the project specification for the geotextile must be modified to allow the change, which she will evaluate.

V. SUBMITTALS

Schedule of Values – Chuck provided the revised schedule of values
Project Schedule - The detailed Project Schedule is being revised
Subgrade As-Built (Clay Test Strip) – Chuck will coordinate scheduling with Bill Davidson.
Pollution Prevention Plan – Chuck provided the Pollution Prevention Plan signed by Serrot and Baker Baker is still waiting on National Pipe's signed Pollution Prevention Plan
Tax Exemption Certificate - Baker will provide a list of suppliers so TRLF can provide a certificate for each supplier
Test Results - Juanitta asked Chuck if he wanted copies of the test results Chuck requested copies of the test results be provided to Baker

The next meeting will be on Wednesday, July 5 at 2 00 PM

cc Attendees
Chris Pearson
David Hahn
Jimmy Purvis
Don Harjung
Jim Horton
Frank Adams
Fabian Benevente
Jon Edens

England-Thims & Miller, Inc.
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Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: July 5, 2000
2.00 P.M. – 3.00 P.M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Chuck Cameron	R.B. Baker Construction (Baker)
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Don Harjung	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A. Pipe Crew – Continue installation of the temporary stormwater piping for Ditches A and B.
B Structural Fill – Continue placement.
C. Special Recompaction Areas - Excavation and recompaction of the remaining special recompaction area within Phase IIIC will continue and is expected to be complete this week.
D. Clay Pit – The permit from Suwannee River Water Management District has been issued The construction of the clay test strip is scheduled to commence July 11.
E Ditch A – Construction will proceed and expected to be complete by next week.
F. Ditch B – Construction will proceed and expected to be complete by next week.
G. Phase IVC – Continue stripping grass.
H. Subgrade As-Built (Clay Test Strip) – Chuck will coordinate the as-built schedule with Bill Davidson.

II. CLAY BORROW PIT

Jim Horton stated that he has the clay pre-qualification form and suggested that Baker and LAW sign the form at the next weekly meeting.

Jim Horton asked if Chuck is still planning to make a vertical cut on the clay at the borrow pit. Chuck replied that they still plan to mix the clay Jim Horton stated that representative samples of

the mixed clay will be taken as it is being delivered to the site in order to determine the density of the clay material.

III. SAND BORROW PIT

Chuck stated that Baker is proceeding with the permit application. Chuck asked if LAW can assist Baker by providing a statement stating that groundwater was not encountered in the six exploratory holes (approximately 10' to 11' deep) performed at the proposed sand pit. Jim Horton stated that he will provide Baker a letter

IV. SUBMITTALS

Project Schedule - The detailed Project Schedule is still being revised.
Pollution Prevention Plan – Chuck stated that Baker does not have a contract with National Pipe at this time but the Pollution Prevention Plan will be signed by National Pipe once a contract between Baker and National Pipe has been executed.
Tax Exemption Certificate - Baker will provide a list of suppliers to TRLF, as previously requested
Geomembrane Manufacturing Schedule – Francis Dayao stated that the schedule must be obtained as soon as possible so Golder can schedule plant visits

Bill Davidson requested that Baker provide notification as to where the next lift (for the subgrade) will be placed for coordination of density testing

Bill Davidson stated that for Ditch A, Baker should be careful not to dig into the existing protective sand when grading the ditch. Further, he stated that the check dams must be installed after the 1.0' compacted clay has been placed and not prior to clay placement.

The next meeting will be on Tuesday, July 11 at 2:00 P.M.

cc: Attendees
Greg Mathes
Chris Pearson
David Hahn
Jon Edens
Jimmy Purvis
Frank Adams
Fabian Benevente
Juanitta Clem

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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: July 11, 2000
2·00 P M – 3 00 P.M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
James Goff	R. B. Baker Construction (Baker)
Angie Hall	Baker
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A. Ditch A – Berm completion and clay placement are scheduled to commence on July 12. Juanitta Clem stated that the temporary stormwater system must be complete this week. Check dams will be installed following the clay placement.
B. Ditch B – Continue construction. Due to gaps at the joints in the 42" C.M.P., Juanitta requested that the joints must be grouted.
C. Clay Test Strip – Construction of the clay test strip is scheduled for tomorrow, July 12. Juanitta stated that an. Angas survey crew is on site performing as-builts on the subgrade where the test strip is going to be constructed. Bill Davidson will string line intermediate points and John Teague will perform density tests on the subgrade. If the test strip will be complete as scheduled, density and permeability test results should be received by Monday, July 17. The clay density will then be established at the next weekly meeting.
D. Subgrade – Continue construction
E. Dust Control – Three additional (full-time) people will be on site and a person will be assigned to run the water truck
F Phase IVC – Continue grading the subgrade and excavation and recompaction of the Special Compaction Area.

II. SUBMITTALS

Project Schedule - The detailed Project Schedule is still being revised.
Pollution Prevention Plan – James Goff will verify the status with Chuck Cameron.
Tax Exemption Certificate – Baker will provide a list of suppliers to TRLF, as previously requested.
Geomembrane Manufacturing Schedule – Juanitta stated that Serrot had provided a manufacturing schedule However, the manufacturing schedule for the geotextile and the GCL has not been provided.

III. OTHER ISSUES

In response a Baker request to modify the anchor trench, Juanitta explained that such modification will require a permit modification from the Department of Environmental Protection. Therefore, the anchor trench must be constructed per the Contract Drawings.

Francis Dayao provided Baker 2 copies of Drawing No 5B, which shows the design profile of the 24' wide perimeter road.

ETM will provide Baker with stake out sheets for the leachate collection trench, including both the subgrade and clay.

The next meeting will be on Tuesday, July 18 at 2:00 P.M.

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
David Hahn
Jon Edens
Frank Adams
Fabian Benevente
Chuck Cameron

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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: July 18, 2000
2.00 P M – 3 30 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Greg Mathes	Trail Ridge Landfill, Inc
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Chuck Cameron	R. B. Baker Construction (Baker)
James Goff	Baker
Angie Hall	Baker
Richard Austin	Baker
Fabian Benavente	Golder Associates
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A. Ditch A – Clay placement shall continue Approximately 1000' has been completed. The check dams will be placed as an integral part of the construction.

B. Ditch B – Continue construction Baker requested that a section of the ditch between Phases IIIC and IVC be modified to allow access of construction equipment to Phase IVC Juanitta requested Baker provide a plan of the requested modification for review

C Subgrade – Continue construction of the subgrade within Phase IIIC. As-built survey of the subgrade from Sta. 115+00 (E) to Sta 121+00 (E) between Sta 81+60 (N) and Sta 80+60 (N) have been completed Bill Davidson stated that equipment traffic within these areas must be minimized in order to maintain the as-built elevations. John Teague stated that density testing of the subgrade is on going

D Phase IVC – Continue placement of structural fill

II. SUBMITTALS

Project Schedule – Chuck Cameron provided the revised construction schedule Based on the schedule, Serrot is scheduled to mobilize on August 4. Juanitta requested a pre-construction meeting with Serrot be scheduled for August 4 or 5. Chuck Cameron will advise
Pollution Prevention Plan – The Pollution Prevention Plan will be provided by National Pipe.
Tax Exemption Certificate – Baker has a partial list of vendors at this time Juanitta Clem requested Baker provide the complete list
Geomembrane Manufacturing Schedule – Juanitta Clem stated that Serrot has not provided a manufacturing schedule for the geotextile Fabian Benavente stated that he would contact Jon Edens regarding the manufacturing schedule for the geotextile.

III. CLAY TEST STRIP

Jim Horton provided the density and permeability test results for the test strip Samples 4 and 5 had failing permeability test Jim Horton stated that based on the inspection of the samples that failed, it appeared that the clay material was "non-uniform." Jim Horton explained that this does not indicate that the clay material is not acceptable However, the results indicate that greater effort in mixing the clay will be required Chuck Cameron stated that due to the thickness of the clay subbase, a pad foot roller might be more effective in breaking down the clay material than a sheepsfoot roller Chuck Cameron stated that he is not sure if a pad foot roller is available at this time and that he will inform ETM and LAW when such equipment is available and when a new test strip will be constructed (Note Baker constructed a new clay test strip using a pad foot roller and the first test strip was reworked. LAW took samples of the clay subbase from the test strip on July 20)

IV. OTHER ISSUES

Juanitta Clem requested that Baker provide the remaining shop drawings for the control panel, leachate pump, leachate pipe, hatch, hand rails, electrical conduits, concrete mix, etc. as soon as possible. According to Chuck Cameron, the following is a schedule of shop drawing submittals.

Control Panel – Tomorrow
Pumps – Next week
Leachate Pipe – This week

Juanitta Clem stated that there was an error in the project specification regarding the 30" HDPE downcomer pipes Juanitta explained that in Section 02146 of the Project Specifications (Section 2 0 – Materials), Hancor Hi-Q Sure-Lok 10 8 pipe or equivalent was specified in error Chuck Cameron stated that he did not believe that he had Sure-Lok pipe proposed for the downcomer pipes and will get back with Juanitta.

The next meeting will be on Tuesday, July 25 at 2 00 P M

cc	Attendees	Neil Rushing	David Hahn
	Jimmy Purvis	Frank Adams	Don Harjung
	Chris Pearson	Jon Edens	

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Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: July 25, 2000
2 00 P M – 3 30 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Greg Mathes	Trail Ridge Landfill, Inc
Neil Rushing	City of Jacksonville
Jim Horton	LAW Engineering (LAW)
Richard Ridenour	LAW
Chuck Cameron	R B Baker Construction (Baker)
Angie Hall	Baker
Richard Austin	Baker
Jon Edens	Serrot International (Serrot)
Fabian Benavente	Golder Associates (Golder)
Michael Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. TEST STRIP

Jim Horton stated that the permeability tests have passed and the results indicated a permeability range of $5x10^{-9}$ cm/sec to $6x10^{-8}$ cm/sec Jim Horton stated that there is a 30 lb dry density range and that he will review the test results with Juanitta Clem, prior to setting the density for the clay subbase Baker will be informed of the required density once it has been set

Chuck Cameron asked if Baker can bring in clay material since the permeability tests are acceptable Juanitta Clem replied that Baker may deliver clay to the site

II. WEEKLY SCHEDULE

A Ditch A - Continue construction of the ditch According to Baker, the ditch will be complete next week
B Liner - Uncover the edge of the existing liner to prepare for tie-in
C Phase IIIC - Continue working on the subgrade and clay subbase
D Phase IVC - Continue working on the subgrade.

III. SUBMITTALS

Shop Drawings – Chuck Cameron submitted the shop drawings for the leachate control panel and pre-cast structures (S- 2T and S-152) Baker is in the process of obtaining shop drawings for the leachate pump and collection pipes
Pollution Prevention Plan – A signed Pollution Prevention Plan will be provided by National Pipe
Tax Exemption Certificate – Baker will provide the complete list of vendors to ETM

IV. OTHER ISSUES

Ditch B – Juanitta Clem stated that she had noted that half of Ditch B adjacent to Phase IIIC/IVC had been filled but Baker has not submitted a plan for review Bill Davidson stated that the fill in Ditch B has not been tested Richard Austin replied that Ditch B will be reopened, but may be less than the total 5' depth

Downcomer Pipe – Chuck Cameron stated that the quote from National Pipe was for a Hancor Sure-Lok pipe He will find out the actual cost of the HDPE downcomer pipes and submit it to Juanitta

Sand Pit – Chuck Cameron stated that the reviewing agency has requested a full archaeological review of the sand pit Without a permit, Chuck stated that a maximum of 40 acre-ft may be excavated Further, Chuck explained that Baker has an active sand pit that may be utilized for the project should the permitting process be delayed

General Fill – Chuck Cameron stated that a new pit for the general fill is being cleared and will be ready for proctor sampling next week Juanitta requested that Baker coordinate sampling with LAW and Bill Davidson

Grassing – Chuck Cameron stated that grassing of the temporary stormwater system is scheduled for next week

Geosynthetics – The attached status of Geosynthetic Material Conformance Testing was presented by Mike Bracci Jon Edens stated that Serrot has enough geotextile for the first two (2) phases and no delays are expected Mike Bracci stated that additional samples will be required for the geotextile For the geomembrane, Jon Edens stated that 500,000 ft^2 had been manufactured prior to the plant shut down yesterday Jon Edens added that the first production run (delivery) should be sufficient for two phases

The Pre-Construction Meeting for Geosynthetics with Serrot is scheduled for August 7 at 10 00 A M. The meeting will be preceded by a health and safety meeting scheduled for 9 00 A M

Contract time remaining Phase IIIC – 122 days, Phase IVC – 183 days, Remaining Phases – 303 days

The next meeting will be on Tuesday, August 1 at 2 00 P M The following meeting will be on Monday, August 7 at 1 00 P M

cc	Attendees	David Hahn
	Jimmy Purvis	Frank Adams
	Chris Pearson	Don Harjung

Attachment

Status of Geosynthetic Material Conformance Testing

GCL

160,000 SY have been manufactured. Two samples have been obtained at the manufacturing plant and both have been tested and passed. The Quality Control Certifications (QC Certs) have been received and appear good. The friction angle testing is underway and results are anticipated on Thursday, July 27.

Geonet

880,000 SF of geonet has been manufactured. Samples were cut on Friday, July 21 and conformance tests are underway. Results are anticipated within 2 - 3 days. QC Certs have been received.

Geotextiles (6 oz and 16 oz)

Both geotextiles have been manufactured. There are approximately 200 rolls (900,000 SF) of each geotextile. Samples were cut on Friday, July 21 and conformance tests are underway. Results are anticipated by Wednesday, July 26. The manufacturer is processing the QC Certs for submittal to Golder.

Geomembrane

Serrot started to manufacturer the geomembrane on Friday, July 21 and should complete it by Monday, July 24. Nine samples of the material will be obtained tomorrow. Results are anticipated within 2 - 3 days.

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Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: August 1, 2000
2 00 P M – 3 30 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Jimmy Purvis	Trail Ridge Landfill, Inc
Neil Rushing	City of Jacksonville
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Chuck Cameron	R. B Baker Construction (Baker)
Angie Hall	Baker
Richard Austin	Baker
Fabian Benavente	Golder Associates (Golder)
Michael Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A Ditch A - Continue construction of the ditch The remaining 300-ft section will be clay lined.

B Liner - The edge of the existing liner in Phase IIIC has been uncovered Baker will prepare the existing subgrade and clay subbase for tie-in

C Phase IIIC - Continue working on the subgrade, leachate collection trench and anchor berm subgrade. Clay placement will proceed when the subgrade has been approved

D Phase IVC - Continue working on the subgrade

E General Fill - Chuck Cameron stated that a new pit for the general fill is ready for proctor sampling Baker will coordinate the sampling schedule with John Teague and Bill Davidson

F Liner Installation - Chuck Cameron stated that the schedule for the liner installation will be delayed for a week and Serrot is expected to mobilize on August 10 The Pre-Construction Meeting for Geosynthetics has been rescheduled for August 14 at 10 00 A.M The meeting will be preceded by a safety meeting at 9·00 A M

II. SUBMITTALS

Pollution Prevention Plan – A signed plan will be provided by National Pipe
Tax Exemption Certificate – Baker provided a list of vendors to ETM.

III. GEOSYNTHETIC MATERIALS

Mike Bracci provided the conformance testing status as follows:

Geomembrane - 460,000 ft^2 had been approved by Golder and is expected to be delivered this week

Geonet - 880,000 ft^2 had been approved and 700,000 ft^2 had been delivered Approximately 1,400,000 ft^2 has been manufactured.

GCL - Awaiting interface friction angle for Quality Control Certifications.

Regarding the Quality Control Certifications for the geotextile material, Chuck Cameron stated that Serrot requested a reduction in testing frequency. According to Serrot, the geotextile material has been tested at a frequency of 1 per 90,000 ft^2 (industry standard). However, the project specification requires testing at 1 per 50,000 ft^2 Juanitta Clem stated that she will review Serrot's request with Golder and will provide a response

IV. OTHER ISSUES

Ditch B – Juanitta Clem stated that the fill in the ditch must be addressed prior to liner installation.

Downcomer Pipe – Chuck Cameron stated that he is still waiting for National Pipe to provide an estimate for the smooth-walled (SDR 32.5) HDPE downcomer pipes.

Sand Pit – Chuck indicated that the 40,000 acre-ft (net) allowed prior to permit approval should be adequate to provide the drainage layer for Phases IIIC and IVC. He added that a backup sand pit has been located and may be utilized for the project should the permitting process be delayed. Baker is scheduled to start hauling in sand in September

Leachate Collection Trench – Richard Austin stated that the subgrade north of the leachate collection trench has not been final graded Therefore, the survey shots on the northern edge of the leachate collection trench were higher than the design grades. Upon discussion, it was agreed to have the survey crew at the site during construction of the leachate collection trench.

Density – The clay density has been set at 92% Jim Horton stated that one clay sample of the test strip had a lower density but due to the passing permeability test would be acceptable John Teague stated that he uses a typical density of 103.8 pcf (with 46%- 53% fines). To date, a total of 17 density tests and 8 permeability tests have been performed on the clay subbase. Jim Horton stated that he is comfortable with the results and that the clay meets the intent of the project specifications. Since additional clay testing is scheduled this week, it was agreed that the previous

test results will be compared with the test strip results and the required density at 92% will be reviewed.

Phase IVC - Francis Dayao provided Baker with the stake out sheets for the subgrade.

Contract time remaining. Phase IIIC – 115 days, Phase IVC – 176 days, Remaining Phases – 296 days.

The next meeting is scheduled for August 8, 2000 at 2:00 P.M.

cc: Attendees
Greg Mathes
Chris Pearson
David Hahn
Jon Edens
Frank Adams
Don Harjung

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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: August 8, 2000
2 00 P.M – 3 30 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Chuck Cameron	R B. Baker Construction (Baker)
Angie Hall	Baker
Richard Austin	Baker
Fabian Benavente	Golder Associates (Golder)
Michael Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A. Temporary Stormwater Control - Continue construction of the Ditches. Check dams will be installed in Ditch A no later than next week and the Ditch B will be completed.

B Phase IIIC - Continue working on the subgrade and clay layer including the leachate sump, leachate collection trench and anchor berm.

C Phase IVC - Continue working on the subgrade

D Liner Installation - Chuck Cameron stated that Serrot is scheduled to mobilize on August 12 The Geosynthetics Pre-Construction Meeting is scheduled for August 14 at 10 00 A M The meeting will be preceded by a safety meeting at 9 00 A.M (Note, the scheduled meeting with Serrot has been rescheduled for August 16 and Serrot is expected to mobilize on that day)

E. General Fill – Chuck stated that samples have been taken from the new pit for proctor testing. John Teague stated that the results should be available this week

II. SUBMITTALS

Revised Project Schedule – Juanitta Clem requested a revised project schedule to reflect any changes.
Pollution Prevention Plan – A signed plan will be provided by National Pipe.

III. GEOSYNTHETIC MATERIALS

Mike Bracci provided the conformance testing status as follows

Geomembrane - 440,000 ft^2 have been delivered and another 440,000 ft^2 have been approved by Golder

Geonet - 880,000 ft^2 have been delivered and another 1,500,000 ft^2 have been approved for delivery

GCL - 160,000 f^2 have been manufactured.

Juanitta Clem stated that Serrot's request to reduce the testing frequency for the geotextile has been discussed with the DEP and the DEP decision is pending

IV. OTHER ISSUES

Liner – Juanitta asked if Serrot had provided a revised panel layout. Chuck stated that Baker has not received a revised panel layout and that he will follow up with Jon Edens

Downcomer Pipe – Chuck Cameron stated that he is still waiting for National Pipe to provide an estimate for the smooth-walled (SDR 32 5) HDPE downcomer pipes.

Sand Pit – Chuck Cameron stated that the permit application is still being processed

Clay Subbase – Juanitta Clem stated that a sample had failed the permeability test The sample was found to have only 40% fines Juanitta stated that Baker must rework the area where the sample was taken and LAW must re-sample the area after the reworking effort is complete

Ditch B – Juanitta Clem asked the status on the ditch. Richard Austin stated that the ditch will be opened once Ditch A has been constructed.

Leachate Pump – Chuck Cameron stated that he is having difficulties with the supplier of the Grundfos pumps (with skids, electrical leads, etc.) and requested that he be allowed to install a Myers pump. Upon discussion, it was agreed that Juanitta Clem would discuss the request with Greg Mathes because it was her understanding that the Myers pump from past experience (on this site) is an equal. This plan was acceptable with Neil Rushing as well as the Contractor.

Contract time remaining: Phase IIIC – 108 days, Phase IVC – 169 days, Remaining Phases – 289 days

The next meeting is scheduled for August 16, 2000 at 1:00 P.M

cc	Attendees	Jimmy Purvis	David Hahn
	Greg Mathes	Jon Edens	Frank Adams
	Chris Pearson	Don Harjung	

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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: August 16, 2000
1 00 P.M – 2 00 P.M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Chuck Cameron	R. B. Baker Construction (Baker)
Angie Hall	Baker
Richard Austin	Baker
Jon Edens	Serrot International (Serrot)
Don Butler	Serrot
Robert Butler	National Pipe
John Teague	LAW
Fabian Benavente	Golder Associates (Golder)
Michael Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Buckley Williams	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A Temporary Stormwater Control – Construction of the check dams in Ditch A will resume after the clay liner tie-in has been completed. Removal of fill from Ditch B will begin after Ditch A is complete.

B. Phase IIIC – As-built survey of the completed portions of the clay subbase is scheduled for Thursday afternoon Clay placement will continue on the phase floor and in the leachate collection trench

C Phase IVC – Continue with structural fill placement.

D Liner Installation – Liner installation is scheduled to begin on Friday, August 18.

E Anchor Trench – Continue clay placement in the anchor trench

II. SUBMITTALS

Revised Project Schedule – A revised project schedule was requested
Pollution Prevention Plan – A signed plan was provided by National Piping.
Shop Drawings – ETM returned shop drawings to Baker from Standard Precast, Inc and National Piping.

III. GEOSYNTHETIC MATERIALS

Geotextile – Juanitta Clem stated that the DEP has not made a decision regarding the testing frequency for the geotextile for the remaining four (4) phases

IV. OTHER ISSUES

Leachate Pump – Chuck Cameron stated that Baker will proceed with submitting the shop drawing for the Myers Pump. Juanitta Clem noted that review of the shop drawing for the leachate control panel cannot be completed without the pump electrical data. The shop drawing for the leachate pump should be completed for submittal by Friday.

Sand Pit – Chuck Cameron noted that the permit is expected to be issued within the next two (2) weeks LAW is scheduled to take samples for Proctor testing on Wednesday, August 23. Juanitta stated that she will notify Jim Horton that testing of the sand pit will begin soon.

Anchor Berm – Construction of the anchor berm was discussed briefly and it was decided that ETM will be providing the coordinates at 50' – 75' intervals along the anchor berm

Ditch B – Richard Austin stated that the ditch will be opened once Ditch A has been constructed.

Contract time remaining Phase IIIC – 101 days, Phase IVC – 162 days, Remaining Phases – 281 days.

The next meeting is scheduled for August 22, 2000 at 1:00 P M.

cc Attendees
Greg Mathes
Chris Pearson
Jimmy Purvis
Jim Horton
David Hahn
Frank Adams
Don Harjung

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS
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TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT - PHASES IIIC, IVC, VA, VB, VC & VD
SYNTHETIC LINER SYSTEM
PRE-CONSTRUCTION CONFERENCE MEETING MINUTES

DATE: August 16, 2000
10:00 A.M. – 12:00 P.M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
Synthetic Liner System Pre-Construction Conference
ET&M Project No. E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville	632-8050
Chuck Cameron	R. B. Baker Construction (Baker)	289-9701
Angie Hall	Baker	289-9701
Richard Austin	Baker	289-9701
John Teague	LAW	396-5173
Jon Edens	Serrot International (Serrot)	225-751-2700
Don Butler	Serrot	225-751-2700
Robert Butler	National Piping	888-628-7325
Frank Adams	Golder Associates (Golder)	363-3430
Michael Bracci	Golder	363-3430
Fabian Benavente	Golder	363-3430
Sue Lee	Golder	363-3430
Juanitta Clem	England, Thims & Miller (ETM)	642-8990
Bill Davidson	ETM	642-8990
Francis Dayao	ETM	642-8990

After a brief overview of the project site, the following meeting agenda was handed out to all parties. Items on that list and other issues were discussed below

I. INTRODUCTION

A Identify Parties

Juanitta Clem introduced the various parties that will be on the project site. They are as follows:

1. Project Manager – Juanitta Clem
2. Designer – England, Thims & Miller, Inc
3. Surveyor – Robert M. Angas Associates, Inc
4. Earthwork Contractor – R. B. Baker Construction, Inc
5. Geosynthetic Installer – Serrot International, Inc.
6. Soils Quality Assurance Consultant/Laboratory – LAW Engineering
7. Geosynthetic Quality Assurance Consultant/Laboratory – Golder Associates, Inc.
8. Others – Trail Ridge Landfill, Inc. and City of Jacksonville

II. Review Documents

A. Project Plans – Juanitta asked Serrot if it is necessary to go over the Project Plans. Jon Edens replied that it was not necessary to go over the plans. Juanitta recommended that Serot review the plans closely and get familiar with the design.

B. Project Specifications – Juanitta Clem stated that Serrot has a copy of the project specifications and she recommended that they review it in detail.

C. Geosynthetic Panel Layout – Serrot provided revised Panel Layout Drawings for ETM and Golder for review.

D. Project Quality Assurance Plan – Juanitta Clem stated that the project specifications contain Waste Management's Quality Assurance Guidance Document dated August 1997.

E. Project Specific Addenda – Juanitta Clem stated that the generic quality assurance plan has been enhanced in the Project Specific Addenda She recommended that Serrot review the Project Specific Addenda in detail.

F. Health and Safety Plan – Serrot and National Piping met with TRLF (Jimmy Purvis) for a Site Safety Meeting earlier in the day. Juanitta Clem asked if Baker has a standard Health and Safety Plan. Chuck Cameron replied that Baker has a standard Health and Safety Plan that is provided to sub-contractors and a copy will be provided.

III. Define Lines of Communication

A. Lines of Communication

Juanitta Clem stated that all correspondence and issues that come from Serrot and National Piping must be submitted through Baker. Frank Adams requested that ETM and Golder be informed of all issues involving the liner system Juanitta Clem noted that this requirement does not preclude Serrot and National Piping from asking any questions of ETM or Golder. Chuck Cameron stated that all field discussions should also go through ETM and Baker.

B Reporting Methods

Mike Bracci stated that the resident monitor for Golder will be providing daily reports to ETM on a daily basis. Juanitta Clem asked if Baker would like to receive a copy of the daily reports. Chuck Cameron replied that he would like to get a copy of the monthly reports from ETM since they will include the status of the liner system.

C Distribution Methods

Juanitta Clem stated that everyone involved in the project will continue to receive a copy of the minutes of the weekly progress meeting

D. Progress Meetings

Juanitta Clem stated that a progress meeting will be held every Tuesday at 2:00 P.M. at Baker's trailer. A representative of Serrot and National Piping must attend as long as they are on site This is a good time to bring up issues for discussion.

E. Procedures for Approving Design Clarifications and Changes during Installation

Juanitta Clem stated that this is a lump sum contract and the project is expected to have no change orders. If there are any changes in the construction that require additional fees, no work should be done until it has been approved in writing

IV. SITE REQUIREMENTS

A Safety and Site Rules

Juanitta Clem stated that smoking is not authorized within the construction area and should be taken seriously due to the presence of landfill gases. Upon discussion, it was agreed that Baker will designate a smoking area outside the construction area.

B. Work Schedule

Juanitta Clem asked if there is a specific work schedule that Serrot is adhering to at this time. Don Butler replied that Serrot typically works 10-11 hours a day, 6 days a week. Juanitta stated that the landfill is normally closed on Sundays. However, should Serrot need to work on Sundays, Baker and Serrot must notify and coordinate it with TRLF.

C. Storage of Materials

Juanitta Clem asked if a decision has been made regarding material storage. Chuck Cameron replied that geosynthetic materials will be stored within the limits of construction as long as possible. Baker has not decided where the materials will be stored beyond that point but Dick Austin will handle this issue

D Available Facilities

Juanitta Clem explained that Baker must provide all facilities, required by Serrot. Juanitta Clem asked if Baker has long distance telephone service. Chuck replied that they do have long distance telephone service.

V. DISCUSS CONSTRUCTION ISSUES

A. Scope of Work – Juanitta outlined the scope of work.

B. Review Design

1 Construction Drawings – Juanitta asked if Don Butler has any questions regarding the construction drawings Don Butler stated that he has not reviewed the plans and that he will review the plans with Jon Edens. Juanitta recommended that they review the construction of the leachate and stormwater flaps, leachate sumps and anchor trenches as well as the liner tie-in.

2. Specifications – Juanitta stated that Serrot must review the project specifications.

3. Geosynthetic Panel Layout – Juanitta Clem stated that based on the revised Panel Layout Plans, the liner will be deployed in the north-south direction. ETM and Golder will review the revised panel layout drawings as soon as possible.

C Construction Procedures

1. Proposed Construction Sequence - Jon Edens stated that they plan to construct the liner system, one phase at a time
2. Location of Geosynthetic Storage Area - As discussed earlier, geosynthetic materials will be stored within the limits of construction at this time

3. Equipment – Jon Edens reviewed the list of equipment provided with project submittals (Attachment 1). Jon Edens stated that the list appeared accurate, except the generator set that is listed will be replaced with four (4) portable generators.

D. Construction Schedule

1 Personnel - Don Butler stated that Serrot will have a total of 12 people at the site. Juanitta Clem asked if resumes of the liner installers are available. Jon Edens replied that they have copies of the resumes and they will be provided to ETM. (Note: After the meeting, Angie Hall provided ETM with copies of the resumes.)

E. Complete Construction Quality Assurance Plan

1. Soils - Juanitta Clem stated that the responsibility for certifying the soil lies with LAW Engineering and noted that the clay subbase must be tested and have passing permeability, density and thickness results before any liner is deployed. Golder's Subgrade Acceptance Form will be utilized and must be signed by representatives of Serrot, Golder and England, Thims & Miller, Inc., prior to liner deployment. ETM will coordinate with LAW to make sure the clay is approved and ETM will ensure that the clay is on grade.

2. Geosynthetics - Juanitta Clem noted that certification of the liner system is the responsibility of Golder.

F. Other Issues

1. Quality Control Certificates - Michael Bracci asked Serrot if they have the tensiometer calibration certificate and extrusion welding rod Quality Control certificates. Jon Edens replied that he does not have those certificates at this time and that he will provide them to Golder.

2. Use of All Terrain Vehicles (ATV) - Frank Adams stated that Serrot must review the Project Specific Addenda regarding the use of all terrain vehicles (ATV) on the liner system. Don Butler stated that the ATV will only be driven by select individuals. Further, he explained that he plans to use a tractor for deploying the geomembrane, geonet and geotextile, and a hydraulic trailer to deploy the GCL. It was agreed that Golder would review the proposed use of the tractors and trailer. It was also agreed that Serrot/Baker would provide material to bridge across the leachate trench and not drive equipment through the trench.

3. Mike Bracci provided the Status of Conformance Testing of the geosynthetic materials (Attachment B). He provided the following overview of the required testing:

A. Trial seams – Two "bones" shall be cut, tested in peel and shall not fail in the seam.

B. Non-Destructive Testing – Test at a sustained pressure between 25 and 30 psi for 5 minutes. The maximum pressure drop allowed will be 3 psi.

C. Destructive Testing – Test all seams at a frequency of one per 500 linear feet of seam. Testing will be conducted in Golder's lab in Atlanta and they should generally have a 24-hour turnaround.

4 Testing of the pipe boots was discussed. Non-destructive testing of the boot is generally conducted with the spark testing method. This method is acceptable but prior to the test, the Installer should test for the presence of landfill gas (methane).

5. Mike Bracci reminded Serrot that shavings (from cutting the pipe) must not be left in the riser pipes since this will damage the leachate pumps.

6. Liner Markings - Serrot's crew will use white markers to write on the liner.

7 Gas Management – Juanitta stated that after the liner tie-in to the existing liner system, gas bubbles will develop between the primary and secondary liners. Serrot should have a plan to handle the bubbles when they occur, until sand placement.

8. Sand Deployment – Frank Adams stated that Golder representatives will be at the leading edge of the sand during its placement.

9. Juanitta Clem stated that Serrot will only be able to "weld the flap" as a repair method on a case by case basis, subject to Quality Assurance Engineer approval, when the flap is at least 1.5 inches and shall be limited to a length of 110 feet. (See Section 9.10 3A-1d of the Project Specific Addenda.)

10. Juanitta Clem recommended that Serrot review the stormwater and leachate control flap details. They may want to construct the flaps in sections (first a 5' flap and then after sand placement, the remainder of the flap). Dick Austin felt that it would not be necessary, provided that the flap is constructed long enough to be pulled over the berm.

VI. ESTABLISH PROJECT DELIVERABLES

Juanitta Clem stated that the shop drawings for the liner system had been submitted and approved. Further the shop drawings for the leachate collection system had been submitted and ETM provided the approved shop drawings to Baker. Any other submittals should be submitted to Baker and then, Baker would submit them to ETM. A minimum of seven copies of all submittal must be provided and of those seven, two copies will be returned to Baker.

VII. TOUR OF PROJECT SITE

Juanitta Clem recommended that Serrot tour the project site.

Attachments 1 & 2

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
David Hahn
Jim Horton
Buckley Williams
Don Harjung

Attachment 1

Serrot International Inc.
Serrot Equipment Load Out

Wedges: 5

Extruders: 3

Tensiometer: 1

ATV / Tractor: 1

Sewing Machines: 3

Portable Gensets: 1

Grinders: 3

Liesters: 3

Spider Boxes: 2

Spreader Bar: 1

Carpet Pole: 1

Cords: Depends on voltage of wedges

Coupon Cutter: 1

Vacuum Motor: 2

Vacuum Boxes: 2

Air Compressor: 1

Air Hoses: 4

GEOSYNTHETIC MATERIALS UPDATE
AS OF 08/15/00

GEOMEMBRANE

- ⇒ Approximately 880,000 square feet (sf) has been approved for use and delivered to the site
- ⇒ An additional 880,000 sf was manufactured last week and was sampled by Golder on August 12, 2000 Quality Assurance (QA) results are expected on Wednesday, August 16, 2000 Serrot has not provided the Quality Control (QC) certificates for this material yet
- ⇒ The above manufactured materials are sufficient to complete the secondary and primary geomembrane layers in Phases IIIC and IVC

GEONET

- ⇒ Approximately 1,700,000 sf has been approved for use and delivered to the site This quantity is sufficient to complete the secondary and primary geonet layers in Phases IIIC and IVC
- ⇒ An additional 650,000 sf is approved for use but will not be sent to the site until a storage area is established outside the footprint of the 6 phases

GEOTEXTILES (6oz and 16oz)

- ⇒ Approximately 900,000 sf of each geotextile material has been manufactured Synthetic Industries is in the process of performing additional Quality Control (QC) testing on the manufactured material to meet the specifications The Quality Assurance (QA) testing performed by Golder met the specifications After Golder reviews the QC test results, the material will be acceptable for shipment to the site
- ⇒ The above materials are sufficient to complete the geotextile layers for Phases IIIC and IVC.

GEOSYNTHETIC CLAY LINER (GCL)

- ⇒ Approximately 223,000 sf has been delivered to the site Approximately 162,000 sf has been approved for use based on the QA and QC test results The remaining 61,000 sf is being QA and QC tested and is being shipped to the site at Serrot's risk QA and QC results are expected later this week
- ⇒ Golder obtained an additional six samples from the manufacturing plant on Monday, August 14, 2000 for the additional 460,000 sf manufactured. This material is being shipped to the site at Serrot's risk until the QA and QC test results are received and reviewed by Golder QA and QC results are expected later this week
- ⇒ Bentofix is continuing to manufacture additional GCL material and Golder will obtain conformance samples directly from the manufacturing facility Approximately 880,000 sf is required for completion of Phases IIIC and IVC

England-Thims & Miller, Inc.
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Principals
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Douglas C Miller, P E , President
N Hugh Mathews, P E , Exec , V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: August 22, 2000
2:00 P.M. – 3:00 P.M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Chuck Cameron	R. B. Baker Construction (Baker)
Angie Hall	Baker
Richard Austin	Baker
Lee Barnett	National Pipe
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Mike Bracci	Golder Associates (Golder)
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A. Phase IIIC – Continue grading the clay layer and construction of the leachate collection trench up to Sta. 120+00 (E). As-built survey is being conducted on the clay layer. If the as-builts and clay testing are acceptable, Baker will have approximately 4.4 acres ready for liner installation.

B. Phase IVC – Continue with structural fill placement and grading. The subgrade is expected to be complete this week and should be ready for as-builts next week.

C. Liner Installation – Liner installation on Phase IIIC is scheduled to begin on Wednesday, August 23.

D. Ditch A – Richard Austin stated that the check dams have not yet been constructed in the ditch. However, they do have rip-rap material on-site. Juanitta Clem cautioned Baker regarding the risk of not having the check dams installed in the ditch, prior to liner installation.

E. Ditch B – Richard Austin stated that the ditch had been cut to a degree and that work will proceed to get the ditch opened.

F. Phase VA – Continue with placement of structural fill.

II. SUBMITTALS

Revised Project Schedule – A revised project schedule was requested.
Shop Drawings – Baker provided the shop drawings for the leachate pumps and electrical system.

III. GEOSYNTHETICS

GCL – A review of the GCL manufacturer's recommendation revealed that bentonite is not necessary between seam overlaps. Mike Bracci stated that Jon Edens will be providing a letter to that effect.

IV. OTHER ISSUES

Piping – Lee Barnett stated that pipe delivery is expected tomorrow, August 23. Juanitta Clem asked if the pipes will be delivered to the site perforated. Lee Barnett replied that the pipes will be perforated. Juanitta Clem stated that the shop drawing did not show the pipes perforations and she expressed concern that the perforations may not meet the project specifications. Lee Barnett replied that he will look into this. Juanitta Clem noted that on the previous project, the pipe shavings were left in the pipe and damaged the leachate pumps. Lee Barnett stated that all pipes will be cleaned to ensure that no pipe shavings are left inside the pipe.

Phasing Section – Based upon previous discussions, ETM prepared the attached Phasing Section which provides the temporary end treatment between east/west phases.

Sand Pit – Testing of the sand pit was briefly discussed and it was agreed that Baker and LAW will coordinate the sampling effort. (Note: A detailed discussion regarding the sand pit was held after the meeting.)

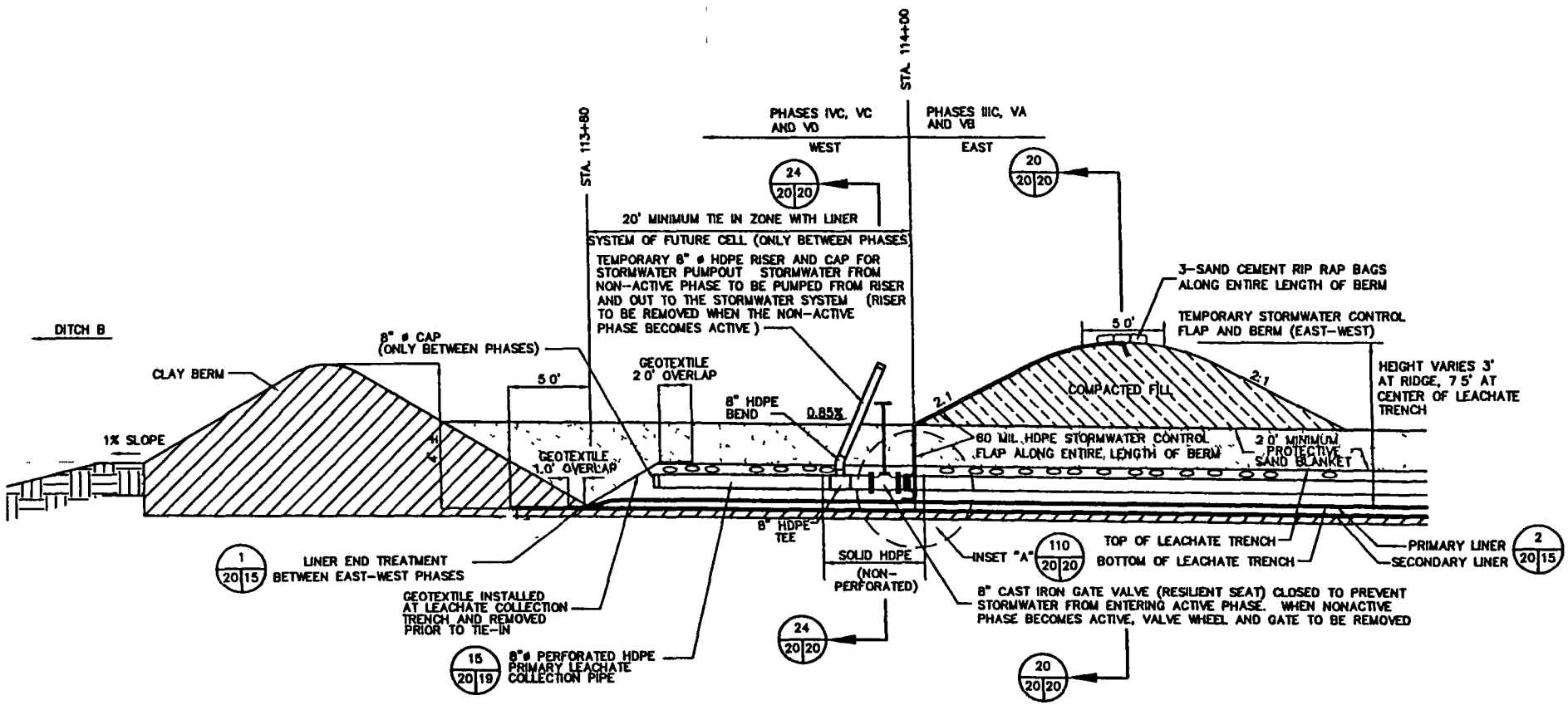
Phase IVC – Construction of the clay layer on Phase IVC was discussed and it was decided that a new test strip may be constructed so the density can be modified for the remaining phases.

Contract time remaining: Phase IIIC – 94 days, Phase IVC – 155 days, Remaining Phases – 274 days.

The next meeting is scheduled for August 29, 2000 at 2:00 P.M.

Attachment

cc: Attendees
Greg Mathes
Chris Pearson
Neil Rushing
Jimmy Purvis
David Hahn
Frank Adams
Fabian Benavente
Don Harjung
Buckley Williams


STA. 114+00
STA. 113+80
PHASES IVC, VC AND VD
WEST
PHASES IIIC, VA AND VB
EAST
24 20 20
20 20 20
20' MINIMUM TIE IN ZONE WITH LINER SYSTEM OF FUTURE CELL (ONLY BETWEEN PHASES)
TEMPORARY 8" ø HDPE RISER AND CAP FOR STORMWATER PUMPOUT STORMWATER FROM NON-ACTIVE PHASE TO BE PUMPED FROM RISER AND OUT TO THE STORMWATER SYSTEM (RISER TO BE REMOVED WHEN THE NON-ACTIVE PHASE BECOMES ACTIVE)
3-SAND CEMENT RIP RAP BAGS ALONG ENTIRE LENGTH OF BERM
5.0'
TEMPORARY STORMWATER CONTROL FLAP AND BERM (EAST-WEST)
DITCH B
8" ø CAP (ONLY BETWEEN PHASES)
CLAY BERM
5.0'
GEOTEXTILE 2.0' OVERLAP
8" HDPE BEND
0.85%
2:1
2:1
COMPACTED FILL
HEIGHT VARIES 3' AT RIDGE, 7.5' AT CENTER OF LEACHATE TRENCH
1% SLOPE
H
GEOTEXTILE 1.0' OVERLAP
60 MIL HDPE STORMWATER CONTROL FLAP ALONG ENTIRE LENGTH OF BERM
2.0' MINIMUM PROTECTIVE SAND BLANKET
8" HDPE TEE
SOLID HDPE (NON-PERFORATED)
INSET "A"
110 20 20
TOP OF LEACHATE TRENCH
BOTTOM OF LEACHATE TRENCH
PRIMARY LINER
SECONDARY LINER
2 20 15
1 20 15
LINER END TREATMENT BETWEEN EAST-WEST PHASES
GEOTEXTILE INSTALLED AT LEACHATE COLLECTION TRENCH AND REMOVED PRIOR TO TIE-IN
8" CAST IRON GATE VALVE (RESILIENT SEAT) CLOSED TO PREVENT STORMWATER FROM ENTERING ACTIVE PHASE. WHEN NONACTIVE PHASE BECOMES ACTIVE, VALVE WHEEL AND GATE TO BE REMOVED
15 20 19
8"ø PERFORATED HDPE PRIMARY LEACHATE COLLECTION PIPE
24 20 20
20 20 20

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Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: August 29, 2000
2 00 P.M – 3:00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Richard Austin	R. B. Baker Construction (Baker)
Don Butler	Serrot International (Serrot)
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Mike Bracci	Golder Associates (Golder)
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A Phase IIIC – Continue placement, compaction and grading of the clay subbase up to Sta. 125+00 E. Don Butler stated that once the clay is complete and approved for liner installation, Serrot will install the liner from Sta. 125+00 E to the anchor berm in one day.

B Phase IVC – Continue compacting and grading the subgrade The subgrade is expected to be complete this week and should be ready for as-builts no later than Tuesday, September 5. If the subgrade as-builts and density tests are acceptable, clay placement will proceed.

C Phases VA and VC – Continue with structural fill placement. Baker will continue stripping top soil from the other phases.

D. Ditch A – Continue placement of check dams

E End Treatment – Construction of the end treatment between Phases IIIC and IVC will commence before installation of the liner in Phase IVC.

II. SUBMITTALS

Revised Project Schedule – A revised project schedule was requested

III. GEOSYNTHETICS

Geotextile – Mike Bracci stated that Golder is still awaiting on the additional test results for the 6 oz. geotextile. According to Mike, Jon Edens has been in contact with the manufacturer regarding the additional test results Juanitta stated that the request to reduce the quality control testing frequency for the geotextile from once per 90,000 ft^2 to once per 50,000 ft^2 had been accepted by the DEP

Status of Liner Installation – The secondary geomembrane has been installed from Sta. 113+75 E to 122+50 E (approximately 270,000 ft^2 deployed) The geonet will be installed from Sta. 113+75 E to 122+50 E by tomorrow evening. Unless the 6 oz geotextile is approved by tomorrow, Serrot will be out of work. Serrot had estimated that if they are able to proceed on schedule, they should be able to complete Phase IIIC within 15 days.

Golder had taken 22 destructive tests on the geomembrane installation and the results are pending.

End Treatment – Upon discussion based upon field conditions, it has been agreed that the clay layer will be completed and certified from Sta 80+30 N to 83+40 N whereas the geosynthetic liner system will be certified from Sta 80+35 N to 83+40 N The 5-foot strip of liner will be protected by the geomembrane flap that will be wasted at tie-in to Phase VA.

Tractors – Don Butler requested that he be allowed to drive his low pressure tractors on the liner for material deployment. It was agreed that Mike Bracci would review the request with Frank Adams, Geosynthetic Quality Assurance Engineer.

IV. OTHER ISSUES

Piping – Juanitta Clem stated that the perforations on the 24" pipe were not per the design and that this issue had been discussed with Robert Butler with National Piping. Robert Butler will be providing additional information to ETM regarding the perforations for review. (Note: Subsequently, the perforations on the 24" pipe were not accepted due to inconsistency with the permit documents)

Sand Pit – Initial testing of the sand pit had been performed. Jim Horton stated that based on visual observations, the sand appears to be 4' to 5' thick. LAW will take additional samples once the proposed borrow pit is cleared by Baker.

Contract time remaining Phase IIIC – 87 days, Phase IVC – 148 days, Remaining Phases – 267 days.

The next meeting is scheduled for September 5, 2000 at 2 00 P.M

cc	Attendees	Frank Adams	Buckley Williams
	Greg Mathes	Fabian Benavente	Don Harjung
	Jimmy Purvis	Chuck Cameron	David Hahn
	Chris Pearson	Angie Hall	

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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: September 5, 2000 (Revised)
2 00 P M. – 3·00 P.M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Richard Austin	R. B. Baker Construction (Baker)
Angie Hall	Baker
Chuck Cameron	Baker
Jock Koy	Serrot International (Serrot)
Steve Phimmala	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Fabian Benavente	Golder Associates (Golder)
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A. Phase IIIC – The secondary liner and geonet have been installed from Sta. 113+75 E to 124+50 E. One panel of GCL and primary liner have been installed The Contractor plans to place secondary liner north and south of the sump this week
B. Phase IVC – Construction of the subgrade is complete As-built survey and density tests are being conducted and if the subgrade is accepted, clay placement will proceed on Thursday, September 7.
C. Phases VA – Structural fill placement is 80% complete. Baker will proceed with placing structural fill, compaction and grading of the subgrade
D. Other Phases – 50% of structural fill has been placed in Phase VC. Baker will continue to strip the top soil from the other phases.
E. Stormwater Control Berm – The berm between Phases IIIC and IVC will be constructed before liner installation in Phase IVC.

II. SUBMITTALS

Revised Project Schedule – A revised project schedule was requested.
Shop Drawing – The shop drawing for the leachate pump was returned to the Contractor.

III. GEOSYNTHETICS

GCL – One conformance test did not pass the project specifications for permeability, which affects 15 rolls. Fabian Benavente stated that the 15 rolls of unapproved material have been logged so they will not be installed. One roll of GCL on one side of the failure has been located for testing but the roll on the other side has not been located. Richard Austin stated that Baker will designate an area outside of the construction area for rejected materials.

Status of Liner Installation – Fabian Benavente stated that 339,909 ft^2 of secondary liner and 7,110 ft^2 of primary liner have been installed in Phase IIIC.

Destructive samples have been taken on 33 fusion seams and 5 extrusion seams and all samples have passed. Fabian added that additional geomembrane had been received and all but one roll were acceptable The one roll of geomembrane was rejected since it was delivered to the site and was not listed on the Bill of Lading.

IV. OTHER ISSUES

Leachate Sump – Construction of the leachate sump in Phase IIIC was discussed in detail. Richard Austin stated that Baker needs 2 consecutive dry days to construct the sump. Jock Koy stated that Serrot can install the liner in the sump in one day. Due to weather conditions, a close coordination between Baker, Serrot and National Piping will be critical during the sump construction. Baker will deliver aggregate to the site for sump construction.

Piping – Chuck Cameron indicated that they have not heard anything from National Piping regarding the 24" pipe. He will follow this up with Robert Butler.

Sand Pit – Clearing of the proposed borrow pit is scheduled for next week. Baker and LAW will coordinate sampling.

Geonet – Bill Davidson expressed concern regarding plastic ties and other debris between the geonet and secondary liner. Jock Koy stated that he will remove these materials.

Stake-out sheets for Phase IVC (Subgrade, Clay and Leachate Collection Trench) were provided to Chuck Cameron.

Contract time remaining: Phase IIIC – 80 days, Phase IVC – 141 days, Remaining Phases – 260 days.

The next meeting is scheduled for September 12, 2000 at 2:00 P.M.

cc:	Attendees	Chris Pearson	Don Harjung	David Hahn
	Greg Mathes	Neil Rushing	Mike Bracci	
	Jimmy Purvis	Frank Adams	Buckley Williams	

England-Thims & Miller, Inc.
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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: September 12, 2000
2 00 P M – 3 00 P.M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Richard Austin	R. B. Baker Construction (Baker)
Angie Hall	Baker
Chuck Cameron	Baker
Don Butler	Serrot International (Serrot)
John Teague	LAW Engineering (LAW)
Fabian Benavente	Golder Associates (Golder)
Mike Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

A Phase IIIC – Don Butler is hoping to install primary liner up to Sta 124+50 E by next Tuesday Weather permitting, construction of the leachate sump will begin on Monday, September 18, 2000. Baker is planning to excavate and grade the sump on Monday, install the secondary liner on Tuesday, install the aggregate and secondary riser pipe on Wednesday, and install the primary liner on Thursday Chuck Cameron will contact National Piping so they can have a crew on site to fabricate the riser pipes for the leachate sump and have one ready for installation on Wednesday morning Once the sump is complete, Serrot will need another week to complete the liner system within the Phase After the liner system is complete, construction of the clay anchor berm will proceed and is expected to be complete within two weeks Construction of the vault box will follow upon completion of the clay anchor berm

B Phase IVC – Excavation of the leachate collection trench is complete As-built survey and density tests are being conducted and if the subgrade is accepted, clay placement will proceed on Wednesday Construction of the anchor berm/trench will continue Liner installation is tentatively scheduled to start by the end of next week

C Phase VA – Structural fill placement is almost complete Limited work will proceed until liner installation in Phase IIIC is complete

D Phase VC – Structural fill placement is 70% complete Baker will proceed with compaction and grading of the subgrade as well as placing structural fill
E Other Phases - Baker will continue to strip the top soil from the other phases

II. SUBMITTALS

Revised Project Schedule – Juanitta Clem requested a revised project schedule as soon as possible

III. GEOSYNTHETICS

Status of Liner Installation – Mike Bracci stated that the result of the destructive tests on 33 fusion seams and 5 extrusion seams on the geomembrane have been received and all samples have passed. Approximately 142,201 ft^2 of primary liner and 339,909 ft^2 of secondary liner have been installed

GCL –The permeability failure on one roll of GCL has not been bound on both sides so the 15 affected rolls can not be used at this time

IV. OTHER ISSUES

Liner Deployment – Don Butler stated that Serrot will continue utilizing the tractor and try to stay on the GCL during liner deployment. Due to the height of the clay stockpile between Phases IIIC and VA, Juanitta Clem expressed concern about safety during liner deployment. Richard Austin stated that Baker has reduced the height of the stockpile Upon discussion, it was agreed that Baker and Serrot will review liner deployment north of the stockpile.

Sand Pit – The results of initial testing have been received and 33 samples had passing results and 9 samples did not meet the project specifications Based upon the results, excavation at the sand pit will have to be monitored closely by Baker and LAW Chuck Cameron stated that the first 1 5 acres of the proposed sand pit appear to have a sand depth of 5' - 6'. Chuck stated that this area is on the shallow end of the permitted 15 acre site and the depth of the sand is expected to increase The site clearing will begin next week

Leachate Pump – Chuck Cameron stated that he has not heard anything from the pump supplier and that he will check on the status on the pumps

General – The first delivery (5 loads) of aggregate is expected to arrive on Monday Chuck stated that everything is moving ahead with the materials for the vault box including the leachate control panel.

Stormwater Management – Juanitta Clem recommended that the contractor monitor the pond and when it has settled out (turbidity below 29 NTUs), determine if pumping would be beneficial to maintain no discharge during storm events

Contract time remaining Phase IIIC – 73 days, Phase IVC – 134 days, Remaining Phases – 253 days

The next meeting is scheduled for September 19, 2000 at 2 00 P M

cc:	Attendees	Chris Pearson	Don Harjung	Jon Edens
	Greg Mathes	David Hahn	Buckley Williams	
	Jimmy Purvis	Frank Adams	Jim Horton	

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Douglas C Miller, P E , President
N Hugh Mathews, P E , Exec , V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Jeffrey A Crammond, P E V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: September 19, 2000
2 00 P.M. – 3:00 P.M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Richard Austin	R B Baker Construction (Baker)
Angie Hall	Baker
Chuck Cameron	Baker
Don Butler	Serrot International (Serrot)
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Fabian Benavente	Golder Associates (Golder)
Mike Bracci	Golder
Lee Bartlett	National Piping
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Weather permitting, construction of the leachate sump will begin next Monday, September 25, 2000. As previously proposed, Baker will excavate and grade the sump on Monday, install the secondary liner on Tuesday, install the aggregate and secondary riser pipe on Wednesday, and install the primary liner on Thursday National Piping is on site this week and will fabricate the riser pipes for the leachate sump Serrot is continuing with primary liner. By Saturday, Serrot should have the primary liner to Sta. 124+50 E and then they will need a couple days to complete the detail work Baker is constructing the temporary stormwater control berm at the western edge of Phase IIIC.

B. Phase IVC – The subgrade is complete to Sta. 112+50 E, including as-builts and density testing. Clay placement has been completed to Sta 109+00 E and Baker plans to complete the clay placement to Sta 112+50 E by the end of the week Baker plans to final grade the clay next week so Serrot can begin secondary liner at the end of the week. Law has tested the permeability and density of the clay to Sta 106+00 E.

C Phase VA – Structural fill placement is 80% complete Work will proceed once liner installation in Phase IIIC is complete

D. Phase VC – Structural fill placement is 70% complete.
E. Downcomer Pipe - National Piping is fabricating the downcomer pipes and will review each downcomer design with Dick Austin to ensure adequate lengths.

II. SUBMITTALS

Revised Project Schedule – Chuck Cameron provided a revised project schedule

III. GEOSYNTHETICS

Status of Liner Installation – Mike Bracci provided the status of liner installation. The result of the destructive tests on 47 fusion seams and 9 extrusion seams on the geomembrane have been received and all samples have passed. Approximately 142,201 ft^2 of primary liner and 339,909 ft^2 of secondary liner have been installed. There is one roll of liner on site that does not have QC certifications or conformance testing. Golder will evaluate using this material for temporary flaps.

GCL –The second roll of GCL (to bind the permeability failure) has been located and tested If the test passed, then only two rolls will be rejected. There are also three rolls of GCL on site that do not have QC certifications or conformance testing and these rolls will not be used on the project.

IV. OTHER ISSUES

Sand Pit – Chuck Cameron stated that they started to clear the pit last Friday and will begin to haul the sand to a stockpile on site, next week

Flat Stock – Juanitta Clem inquired whether there is flat stock material on site for the placement under the storm water control gate valves National Piping will check on the material.

Leachate Pump and Panels – Chuck Cameron stated that the panels are near completion and he will check on the status on the pumps. Juanitta Clem requested that Baker make sure that they will have everything to construct the leachate vaults, including top slabs with hatches, CPVC piping, valves, Kor-N-Seal, etc

General – The first delivery of aggregate has arrived on site.

Stormwater Management – Juanitta Clem recommended that the contractor monitor the pond and if necessary, block the outfall to maintain no discharge during storm events.

Contract time remaining Phase IIIC – 66 days, Phase IVC – 127 days, Remaining Phases – 246 days.

The next meeting is scheduled for September 26, 2000 at 2 00 P.M.

cc	Attendees	Chris Pearson	Don Harjung
	Greg Mathes	David Hahn	Buckley Williams
	Jimmy Purvis	Frank Adams	Jon Edens

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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: September 26, 2000
2:00 P.M. – 3:00 P.M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Richard Austin	R. B. Baker Construction (Baker)
Angie Hall	Baker
Chuck Cameron	Baker
Don Butler	Serrot International (Serrot)
Jon Edens	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Fabian Benavente	Golder Associates (Golder)
Frank Adams	Golder
Mike Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A. Phase IIIC – Weather permitting, construction of the leachate sump will begin on Tuesday, September 26, 2000. As previously proposed, Baker will excavate and grade the sump on Tuesday and Wednesday, install the secondary liner on Thursday, install the aggregate and secondary riser pipe on Friday, and install the primary liner on Saturday National Piping fabricated the riser pipes for the leachate sump last week and the aggregate is on site. Serrot is continuing with primary liner within the Phase Serrot plans to complete the liner system in Phase IIIC by next Wednesday or Thursday.

B. Phase IVC – The clay placement is complete to Sta. 112+50 E, including density and permeability testing except for one wet area. LAW is awaiting the permeability results on approx. half of the clay layer. (Preliminary indications are that they clay will pass.) Baker has begun to address the clay tie-in with the existing Phase and will begin final grading the clay this week Weather permitting, Baker will complete the clay by next Wednesday, so Serrot can begin secondary liner.

C. Phase VA – Work will proceed once liner installation in Phase IIIC is complete.

D. Phase VC – Structural fill placement is 70% complete.

E. Sand Pit – Baker has cleared the sand pit and is in process of building haul roads. LAW will coordinate testing of the sand with Baker. Baker will begin to stockpile the sand on site next week as well as begin placement of sand onto the liner (next Wednesday, at the earliest).

II. GEOSYNTHETICS

Status of Liner Installation – Mike Bracci provided the status of liner installation. The result of the destructive tests on 52 fusion seams and 10 extrusion seams on the geomembrane have been received and all samples have passed. Approximately 256,575 ft^2 of primary liner and 339,909 ft^2 (7.8 ac.) of secondary liner have been installed Golder has determined that the one roll of liner on site, that does not have QC certifications or conformance testing, may be used for stormwater flaps since they are temporary flaps.

GCL – Golder has received the result of the second roll of GCL to bind the permeability failure and it has passed. Therefore, only two rolls (the failed roll and the roll after) are rejected There are also three rolls of GCL on site that do not have QC certifications or conformance testing and these rolls will not be used on the project These five rolls have been tagged in the field.

III. OTHER ISSUES

Sand Placement – Dick Austin would like drive off-road, low pressure trucks onto previously placed sand with a thickness of two feet, rather than the required three feet Upon discussion, it was agreed that Baker would provide 1) a plan of the sand placement to ensure that the liner system is not compromised and 2) the details on the equipment (trucks, dozers, etc) to demonstrate the low pressure in conformance with the specifications (5 psi or less) Upon review, it will be determined if the plan can proceed on a trial basis.

Certification Documents – Juanitta reminder LAW and Golder that the certification documents must be submitted to DEP within 30 days of substantial completion by the Contractor. Due to the need for air space, it would be great if the documents could be submitted earlier

Stormwater Management – Baker has blocked the outfall to maintain no discharge

Rain Delays – It has been determined that there were no rain delays for the month of August. Upon review last week, it was determined that the threshold of 4 days with 0 5 inches of rainfall has been exceeded and there will be a number of rain days for the month of September

National Piping - It has been discovered that the bends delivered to the site for the riser pipes and downcomer pipes are not the proper angles. Chuck Cameron will speak to Robert Butler regarding the status of delivery of replacement materials.

Pay Request – A draft pay request was presented for review

Contract time remaining· Phase IIIC – 59 days, Phase IVC – 120 days, Remaining Phases – 239 days.

The next meeting is scheduled for October 3, 2000 at 2:00 P M.

cc	Attendees	Chris Pearson	Don Harjung
	Greg Mathes	David Hahn	Buckley Williams
	Jimmy Purvis	Francis Dayao	

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Jeffrey A Crammond, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: October 3, 2000
2 00 P.M. – 3 00 P M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No. E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Fabian Benavente	Golder Associates (Golder)
Mike Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

Prior to the meeting, Richard Austin provided the following schedule to Juanitta Clem Mr Austin was conducting critical work during the meeting and could not attend the meeting and Mr Cameron is on vacation this week

A Phase IIIC – Baker is installing the pipe and aggregate in the secondary sump Weather permitting, Serrot will install the primary liner on Wednesday through Friday (the primary liner has been installed to approx Sta 124+20 E). Baker will begin delivery of sand to the site on Thursday to a stockpile and then will begin placement of sand next Monday Baker has estimated two to three weeks to complete sand placement The primary sump (pipe and aggregate) will be placed when the sand is placed around the sump, near the end of the sand placement. Baker will install the leachate collection pipe on the western end of the liner system (through the stormwater control flap) next week so they can bridge over the leachate collection trench for sand placement. Serrot and Baker must coordinate the installation of the leachate control flap at the ridge. Mike Bracci requested that Baker install clay in the anchor trench after the liner system has been installed

B Phase IVC – Baker will final grade the clay placement to Sta. 112+50 E, including the anchor berm and trench on Tuesday through Friday LAW has received all the permeability results and they are all passing LAW must take a permeability sample from the tie-in area. Baker will place the clay on the northern half of the tie-in next week and LAW will get a sample from that area. Weather permitting, Serrot will begin secondary liner on Friday

C Phase VA – Baker will final grade the subgrade next week

D Phase VC – Structural fill placement is 70% complete No work proposed for this week

E. Sand Pit – Since excavation of sand is proposed for Thursday, Jim Horton will meet with Baker at the pit site to coordinate testing and chain-of-custody for the sand.

II. GEOSYNTHETICS

Status of Liner Installation – Mike Bracci provided the status of liner installation. The result of the destructive tests on 72 fusion seams and 12 extrusion seams on the geomembrane have been received and all samples have passed Approximately 404,976 ft^2 (9.3 ac) of secondary liner and 322,555 ft^2 (7.4 ac) of primary liner have been installed

Status of Conformance Testing – Approximately 880,000 ft^2 (20 2 ac) of geomembrane has been manufactured and an additional 880,000 ft^2 (20.2 ac) of geomembrane has been manufactured and approved for shipment Further, 600,000 ft^2 (13 8 ac) of geonet has been manufactured and approved for shipment.

III. OTHER ISSUES

Sand Placement – Baker provided information on the off-road trucks proposed for placement of sand onto the liner system Baker would like the haul road to have a thickness of two feet, rather than the required three feet. ETM and Golder will review the information to determine if the trucks will meet the low pressure in conformance with the specifications (5 psi or less) (Note Upon review, it was determined that the equipment as proposed will not meet the project specifications)

National Piping – Juanitta Clem spoke with Robert Butler of National Piping and he said that he has moved materials of site due to the earlier vandalism. She informed Mr. Butler that he could not invoice for stored materials that were not on the job site. Baker needs to check on the status of replacement fittings for the riser pipes as well as the downcomer pipes

Pay Request – The pay request was provided which included revisions due to ETM comments on the draft pay request.

Contract time remaining Phase IIIC – 52 days, Phase IVC – 113 days, Remaining Phases – 232 days.

The next meeting is scheduled for October 10, 2000 at 2:00 P M

cc Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
David Hahn
Richard Austin
Chuck Cameron
Don Butler
Frank Adams
Jon Edens
Buckley Williams
Angie Hall
Don Harjung

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Juanitta Bader Clem, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: October 10, 2000
2:00 P M. – 3:00 P M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Chuck Cameron	Baker Construction, Inc. (Baker)
Richard Austin	Baker
Angie Hall	Baker
Don Butler	Serrot International (Serrot)
Robert Butler	National Piping
Trevor Simmons	Serrot
John Teague	LAW Engineering (LAW)
Fabian Benavente	Golder Associates (Golder)
Mike Bracci	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Serrot will continue installing the primary liner and is expected to be complete today with the exception of the southern leachate control flap. Sand placement is on going on the southern half of the Phase Baker will install a 200' section of the leachate collection pipe and aggregate at the western end so they can begin placement of sand on the northern half of the Phase Construction of the vault box is expected to start next week and Steve Ramsey will do the concrete work.

B Phase IVC – Continue construction of the anchor berm Installation of the liner system is tentatively set for tomorrow Baker will construct the clay layer on the northern half of the Phase IIIC/IVC tie-in (the Ditch "B" area) next week. Serrot is hoping to install 100,000 ft^2 to 120,000 ft^2 of liner material per day and should be able to complete installation in four days (weather permitting)

C Phase VA – Baker will continue final grading the subgrade this week and should be able to start with clay placement next week. Baker estimated two weeks to complete the clay placement

D Phase VC – Structural fill placement is complete No work will be done until the liner has been installed in Phase IVC

E. Phase VB – Structural fill placement is complete on the northern half of the Phase.

II. GEOSYNTHETICS

Status of Liner Installation – Mike Bracci stated that Golder is awaiting on the results of two (2) destructive tests on the primary liner system for Phase IIIC.

Juanitta Clem asked if Serrot is planning to deliver all materials before the end of the year. Don Butler stated that he is not sure and he will discuss this with Jon Edens Mike Bracci stated that all liner materials for Phase IVC are on-site Juanitta Clem stated that the liner materials for Phase VA should have Quality Control Certifications and conformance testing so there will be no delays.

III. OTHER ISSUES

Sand Placement – Juanitta Clem asked if the haul road on the liner (for sand delivery) in Phase IIIC has at least 3'of sand Mike Bracci replied that at least 3' of sand has been placed on areas where trucks turn to unload the sand. However, other areas have less than 3' of sand Mike Bracci stated that sand is being unloaded where sand has previously been placed and then pushed by a dozer. He added that a Golder representative is at the leading edge of the sand layer to observe the placement in accordance with project specifications (Note, after the meeting, ETM, Baker and Golder observed sand placement in Phase IIIC and it was agreed that sand will be pushed from low to high to minimize wrinkles on the liner system)

Leachate Collection Piping – Juanitta Clem stated the 8" leachate collection pipe must be flushed after it has been installed Richard Austin agreed that the 8" pipe will be flushed prior to connection to the 24" leachate riser pipe Juanitta Clem stated it is acceptable to utilize a water truck to flush the pipe and suggested that a scrap piece of geotextile be placed in the sump when flushing the pipe to filter out debris

Shop Drawings - Juanitta Clem stated that the shop drawing for the top slab for the vault box has been reviewed by ETM and will be returned to Baker as soon as the hatch cover opening has been reviewed with Trail Ridge Landfill, Inc Juanitta Clem added that all top slabs for the vault box will have the same dimensions (7 5' x 4') It was pointed out that the proposed 12" core on the top slab may be too large Chuck Cameron stated that both cores will have Kor-N-Seals but he will discuss the possibility of reducing the core size with Standard Precast Juanitta Clem reminded Baker to provide the shop drawings for the concrete design mix and the water stop (vinyl) for the vault boxes.

Contract time remaining: Phase IIIC – 45 days, Phase IVC – 106 days, Remaining Phases – 225 days

The next meeting is scheduled for October 17, 2000 at 2:00 P.M

cc	Attendees	Jim Horton
	Greg Mathes	Frank Adams
	Jimmy Purvis	Jon Edens
	Chris Pearson	Buckley Williams
	David Hahn	Don Harjung

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Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: October 17, 2000
2 00 P M – 3 00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Chuck Cameron	Baker Construction, Inc (Baker)
Richard Austin	Baker
Angie Hall	Baker
Dean Harris	Baker
Don Butler	Serrot International (Serrot)
Jon Edens	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Fabian Benavente	Golder Associates (Golder)
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A. Phase IIIC – Sand placement will continue and is expected to be complete by the end of next week. The sand placement is currently the critical path item on the project schedule. Construction of the vault box is expected to begin in two weeks The primary riser pipe and sump will be completed by the middle of next week Construction of the southern flap will take 1 5 days and will be coordinated between Baker and Serrot Chuck Cameron stated that the aggregate on site is sufficient for the Phase IIIC sump and aggregate will be delivered to the site for the leachate collection trench Baker has begun construction of the temporary access road to the Phase.

B Phase IVC – Secondary liner has been installed up to Sta 112+00 (E) The northern half of the tie-in to Phase IIIC is scheduled for next week Liner installation will continue and is expected to be complete in two weeks Fabian Benavente stated that the results of the 16 destructive tests performed on the secondary liner have all passed The results of 25 additional destructive tests are expected today

C Phase VA – Continue construction of the anchor trench as well as compacting and grading the subgrade Clay placement will start on Thursday and is expected to be complete in two weeks

D Phase VC – Structural fill placement is complete No work will be done until the liner has been installed in Phase IVC

E Phase VB – Structural fill placement is 80% complete.

II. GEOSYNTHETICS

Status of Liner Installation – The results of the last 2 destructive tests have been received and both passed. According to Fabian Benavente, a total of 45 destructive tests (40 fusion and 5 extrusion welds) were performed on the secondary liner and 47 (38 fusion and 9 extrusion welds) destructive tests were performed on the primary liner for Phase IIIC To date, all tests have passed

Status of Geosynthetic Conformance Testing - Jon Edens stated that samples for conformance testing will be taken and Quality Control Certifications will be provided on the GCL this week. Regarding the geotextiles, Jon Edens stated that he will check on the status and will contact Golder

Geonet – Fabian Benavente stated that 15 rolls were delivered to the site without the required documentation Jon Edens stated that he will check on this and will contact Golder

III. OTHER ISSUES

Vault Boxes – Per discussion with Jimmy Purvis, Juanitta Clem stated that the depth of the vault boxes must be as shallow as possible for easier access during operation and maintenance Juanitta Clem added that ETM will review the depth of existing vault boxes and will provide the information to Baker

Sand Borrow Pit – Jim Horton stated that the sand is becoming more consistent and the sand layer is thicker, based upon the results of the additional testing performed on the pit

FDEP Certification – Juanitta Clem stated that LAW, Golder and ETM must begin preparing the certification documents for submittal to the FDEP Jim Horton requested a meeting to discuss the coordination of documents

Shop Drawings – Juanitta Clem provided Baker a list of shop drawings that must be submitted to ETM for review

Rain Delays – Chuck Cameron provided ETM with a request of Contract Time extension of 10 days due to rain delays during the month of September

Contract time remaining Phase IIIC – 38 days, Phase IVC – 99 days, Remaining Phases – 218 days

The next meeting is scheduled for October 22, 2000 at 2 00 P M.

cc Attendees

Greg Mathes	Frank Adams	Robert Butler
Jimmy Purvis	Chris Pearson	Mike Bracci
David Hahn	Don Harjung	Buckley Williams

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Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: October 24, 2000
2.00 P M – 3 00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Richard Austin	R. B Baker Construction, Inc (Baker)
Dean Harris	Baker
Don Butler	Serrot International (Serrot)
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Michael Bracci	Golder Associates (Golder)
Fabian Benavente	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Sand placement will be complete next week. Clay placement at the Phase IIIC/ Phase IVC tie-in will be complete by Friday, weather permitting Form construction for the vault box slab is scheduled for today and the concrete slab will be poured tomorrow Jim Horton stated that based upon his review, the concrete design mix for the concrete vault box is acceptable However, certification that the aggregate is non-reactive, the source of the aggregate and performance record for the design mix must be provided Dean Harris replied that he will contact the supplier for the supplemental information National Piping will be back at the site this Friday

B Phase IVC – Secondary liner has been installed up to Sta 112+00 (E) Primary liner has been installed up to Sta 104+20 (E) Construction of the northern tie-in will continue. Don Butler stated that the windy conditions at the site are slowing his progress. With the exception of the Phase IIIC/Phase IVC tie-in, he expects to complete the phase by next week, weather permitting Baker will begin sand placement after liner installation and is expected to begin in two weeks

C Phase VA – The subgrade has been as-built with the exception of the area used for stockpile and the anchor trench and sump As-built survey of these areas are scheduled for tomorrow Clay placement is on-going and will be complete by next week If the clay testing and as-builts on the finished clay layer are acceptable, secondary liner installation will begin next week

D Phase VC – No work will be done until the liner has been installed in Phase IVC

II. GEOSYNTHETICS

Liner Installation – As of October 23, a total of 898,322 ft^2 of secondary liner, 117,745 ft^2 of GCL and 119,700 ft^2 of primary liner have been installed in Phase IVC The results of destructive testing on 8 fusion welds and 1 extrusion weld have been received and all passed

Status of Geosynthetic Conformance Testing - Mike Bracci stated that samples have been taken on the GCL and results are expected to be received next Tuesday

Geonet – A passing conformance test result and Quality Control Certifications have been received for the 15 rolls of geonet that were previously delivered to the site without any documentation

III. OTHER ISSUES

Sand Borrow Pit – Jim Horton stated that the sand on the northern half of the pit is 8' – 9' thick and overall the site is looking better Jim Horton stated that a procedure was established yesterday that will improve coordination between LAW and Baker at the pit

Shop Drawings – Juanitta Clem reviewed a list of shop drawings that have to be submitted to ETM. Dean Harris submitted shop drawings for the vinyl water stop and concrete waterproofing for the vault box. (Note, prior to the meeting, Dean Harris provided the reinforcement plan for the vault box.)

Contract time remaining Phase IIIC – 31 days, Phase IVC – 92 days, Remaining Phases – 211 days

The next meeting is scheduled for October 31, 2000 at 2:00 P M

cc Attendees

Greg Mathes	Frank Adams	Robert Butler
Jimmy Purvis	Chris Pearson	Jon Edens
David Hahn	Don Harjung	Buckley Williams

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E England, P E , C E O
Douglas C Miller, P E , President
N Hugh Mathews, P E , Exec , V P
Joseph A Tarver, Exec , V P
Juanitta Bader Clem, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: October 31, 2000
2·00 P M. – 3.00 P M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Richard Austin	R. B Baker Construction, Inc (Baker)
Dean Harris	Baker
Don Butler	Serrot International (Serrot)
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Michael Bracci	Golder Associates (Golder)
Fabian Benavente	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Sand placement will continue and will be ready for as-builts next week. LAW will perform thickness checks on the sand along the southern ridge at 50-foot intervals and the results will be documented in their daily reports Baker will continue with the construction of the access road through Phase VB this week The walls for the vault box will be poured Thursday Pipe laying is scheduled for Monday at the flap and then to the vault box Installation of the leachate forcemain is also scheduled on Monday As previously discussed, the leachate forcemain will be hydrostatically tested Electrical work will start the middle of next week Baker hopes to complete construction of Phase IIIC before Thanksgiving

B Phase IVC – Secondary liner has been installed up to Sta 112+00 (E) and the primary liner has been installed up to Sta. 110+00 (E) Clay has been placed on the northern half of the Phase IIIC/Phase IVC tie-in and will be reworked due to its dry condition

C Phase VA – Richard Austin stated that they will concentrate their efforts on clay placement in the Phase. The clay has been tested except the northeast corner since the area is wet Baker is reworking an area which had a failing permeability result and a new permeability sample

will be taken this afternoon The result should be received either Saturday or Monday As-builts of the clay layer are scheduled for Friday Liner installation will begin Saturday or Monday.

D Phase VC – Baker will continue compacting and grading the subgrade.

II. GEOSYNTHETICS

Michael Bracci explained that 1½ rolls of GCL (previously received without proper documentation) were inadvertently installed in Phase IVC The half roll was pulled out and another roll was pulled put but it was not certain whether it was the untested roll Therefore, a sample was taken from the batch from the remaining roll for conformance testing (Note. The result of the conformance testing was received by Golder and it passed.)

Materials Summary – According to Michael Bracci, the geomembrane on-site is sufficient for Phases VA and VC The GCL and geonet are sufficient for Phase VA only There is no geotextile on site The geotextile will be delivered tomorrow but Golder has not received the Quality Control Certifications from Serrot (Note The Quality Control Certifications for the 6 oz geotextile were received by Golder later in the week.)

III. OTHER ISSUES

Sand Borrow Pit – The remainder of the cleared area has been tested and Baker will begin hauling sand next week

As-builts on the liner in Phase IVC are scheduled for either Thursday or Friday.

Contract time remaining. Phase IIIC – 24 days, Phase IVC – 85 days, Remaining Phases – 204 days

The next meeting is scheduled for November 7, 2000 at 2 00 P.M.

cc: Attendees

Greg Mathes	Frank Adams	Robert Butler
Jimmy Purvis	David Hahn	Jon Edens
Chris Pearson	Don Harjung	Buckley Williams

England-Thims & Miller, Inc.
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Juanitta Bader Clem, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: November 7, 2000
2 00 P.M. – 3.00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Richard Austin	R. B Baker Construction, Inc (Baker)
Dean Harris	Baker
Don Butler	Serrot International (Serrot)
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Michael Bracci	Golder Associates (Golder)
Frank Adams	Golder
Fabian Benavente	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Angas performed preliminary as-builts on the sand layer north of the leachate collection trench between Sta 116+00 E and 120+00 E Richard Austin stated that the results of the survey indicate that balancing of the sand layer is required Baker will continue grading the sand layer this week and should be ready for as-builts on Monday. Upon review, it was agreed that the berm will have a constructed height of 3 5' at the southern ridge and will be flat across the top Richard Austin stated that the force main is currently being constructed Juanitta Clem stated that the project specifications require that Baker provide as-built on the force main and electrical system Richard Austin took note Regarding the 8" gate valves, Juanitta Clem clarified that there will be a total of eight (8) gate valves (at each stormwater control berm) for the project. Dean Harris agreed. John Teague discussed sampling of the clay anchor trench. Upon discussion, it was agreed that Jim Horton and John Teague will determine the sampling method in the field Dean Harris stated that the leachate pumps will be shipped today and will be installed with the control panels. Richard Austin stated that the electrical sub-contractor will be at the site on Monday Baker hopes to have Phase IIIC complete before Thanksgiving

B Phase IVC – With the exception of the primary system, the liner system has been installed to Sta 112+00 E. Baker will begin sand placement today or tomorrow. Baker will rework the clay layer at the Phase IIIC/IVC tie-in due to dry condition and should be ready for sampling next week Don Butler stated that it will take Serrot a week to install the liner at the tie-in and 4 to 5 weeks to complete the Phase

C Phase VA – Richard Austin stated that the northeast corner has been reworked and should be ready for sampling this afternoon. Liner installation in the Phase has begun and will take 3 weeks to complete

D Phase VB – Baker has placed most of the structural fill.

E Phase VC – Baker will continue compacting and grading the subgrade

F Phase VD – The northern half of the Phase is to grade

II. GEOSYNTHETICS

Materials Summary - Michael Bracci stated that a load of primary geotextile arrived at the site and that the geotextiles on site (primary and secondary) are not sufficient to cover Phase VA However, geotextiles have been manufactured, tested and QC certifications received and are awaiting delivery to the site. The geomembrane on site is sufficient to cover Phases VA and VC The geonet and GCL are sufficient to cover Phase VA only Mike Bracci will contact Jon Edens to verify the status on the materials

III. OTHER ISSUES

Sand Borrow Pit – Jim Horton stated that the sand layer at the pit continues to look good Dean Harris stated that additional testing have been performed in the second phase and the results are pending

Thanksgiving Schedule – Baker will not work Thursday, Friday and Saturday. Serrot will work Friday and a half day Saturday.

Contract time remaining: Phase IIIC – 17 days, Phase IVC – 78 days, Remaining Phases – 197 days

The next meeting is scheduled for November 14, 2000 at 2.00 P M

cc Attendees

Greg Mathes	Neil Rushing	Jon Edens
Jimmy Purvis	David Hahn	Buckley Williams
Chris Pearson	Don Harjung	Robert Butler

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

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Juanitta Bader Clem, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: November 14, 2000
2 00 P M – 3 00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Richard Austin	R B Baker Construction, Inc (Baker)
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Lee Barnett	National Piping
Michael Bracci	Golder Associates (Golder)
Fabian Benavente	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Angas is conducting as-builts on the sand layer and is expected to be complete today The top slabs for the vault boxes are scheduled to be delivered on Thursday The aluminum hand rails and signage for the vault box will be installed after Thanksgiving. The electrical contractor is on site The primary and secondary force mains have been welded and tested Richard Austin stated that Angas will as-built the force main and electrical for Baker. Richard Austin stated that construction of the clay berm is on hold until the results of the permeability testing have been received John Teague stated that a sample failed and the result of the other sample has not been received The result of the remaining sample should be received by Wednesday afternoon Additional clay samples will be taken to the north and south of the failed sample It was agreed that the exterior side slope will be graded and sodded before Christmas The areas where future work will be performed will be dressed and seeded

B. Phase IVC – The clay tie-in north of the leachate collection trench has been reworked and will be sampled this afternoon. The Phase IIIC/Phase IVC tie-in is expected to be complete the week after Thanksgiving According to Mike Bracci, liner installation in the tie-in will take approximately 3 days to complete Sand placement is complete up to Sta 107+00 E and will proceed this week

C Phase VA – Richard Austin stated that construction of the sump will take 2 days and is scheduled after completion of the Phase IIIC/Phase IVC tie-in Mike Bracci stated that all liner materials (including the geotextiles) necessary to complete the Phase are on site John Teague stated that the sample taken northeast of the Phase failed Upon discussion, it was agreed that a field inspection of the area where the failed sample was collected will be performed, after the meeting

D Phase VB – No work scheduled

E. Phase VC – Angas will perform as-builts on the subgrade tomorrow If the subgrade is acceptable, clay placement will follow

F. Phase VD – No work scheduled.

II. GEOSYNTHETICS

Materials Summary – Mike Bracci stated that the geonet will be manufactured by the end of this week The liner material has been manufactured The geotextiles have been manufactured and the GCl is currently being manufactured. Golder is scheduled to collect samples of all of the materials for testing this week Serrot plans to deliver the materials the first two weeks of December

III. OTHER ISSUES

Temporary Access Road – Richard Austin stated that the current grades are at the bottom elevation of the limerock

Monitoring Wells – Installation of new well pads will be performed after the side slope grading is complete.

Thanksgiving Schedule – Serrot will be off November 22 and will be back November 25. Baker will not work Thursday, Friday and Saturday.

Contract Time Remaining (Adjusted) Phase IIIC – 21 days, Phase IVC – 88 days, Remaining Phases – 201 days

The next meeting is scheduled for November 21, 2000 at 2:00 P.M

cc: Attendees

Greg Mathes	Frank Adams
Jimmy Purvis	David Hahn
Chris Pearson	Don Harjung
Jon Edens	Dean Harris
Buckley Williams	Robert Butler

England-Thims & Miller, Inc.
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Juanitta Bader Clem, P E , V P
Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: November 21, 2000
2 00 P M – 3 00 P M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Richard Austin	R B Baker Construction, Inc (Baker)
Dean Harris	Baker
Chris Fore	Serrot International (Serrot)
Jon Edens	Serrot
Don Butler	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Michael Bracci	Golder Associates (Golder)
Fabian Benavente	Golder
Francis Dayao	England, Thims & Miller (ETM)
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Baker will continue working on the clay berm and should be complete by the end of the day Grading and sodding of the side slopes, installation of the hand rails, signage and the mitered end section (S-152) will be conducted the week of December 11 Dean Harris asked the status on the electrical conduit and the location of the leachate control panel. Francis Dayao replied that the location of the leachate control panel is being reviewed Dean Harris stated that Hinson Electric plans to install the leachate control panel per the design drawings on Monday and if the leachate control panel must be relocated, a change order will be required to cover the cost of relocation Francis Dayao stated that he will discuss this with Juanitta Clem and will get back with Dean Francis Dayao asked the status on the conduit Dean Harris replied that a 30' section of the conduit has been found to have inadequate cover and no additional work has been performed Francis Dayao asked if it is possible to conduct a final inspection next week Dean Harris replied that the first week of December may be more appropriate Jim Horton asked if ETM still plans to submit the certification to the DEP on December 4 Francis Dayao replied that he believes that this is still the intent but will verify the schedule with Juanitta Clem

B Phase IVC – John Teague stated that the permeability test on the northern half of the Phase IIIC/Phase IVC tie-in passed Richard Austin stated that the southern half of the Phase IIIC/Phase IVC tie-in will be completed by next Wednesday and the downcomer will be installed after construction of the anchor berm is complete The aggregate for the leachate collection trench has been tested and found acceptable William Davidson stated that National Piping has not provided

certification that welding of two different SDR rated pipes will provide a proper weld Chris Fore stated that he will follow this up with Robert Butler

C Phase VA – Richard Austin stated that the clay layer in the northeastern portion of the Phase will be reworked Construction of the sump is scheduled after the Phase VC subgrade is complete Mike Bracci stated that the secondary liner and primary liner have been installed to Sta 124+40 (E) and Sta 118+00 (E), respectively Don Butler stated that liner installation (with the exception of the sump) will be complete in 4 to 5 days

D Phase VB – Final grading of the subgrade is expected to begin soon ETM will provide the stake out sheets next week

E Phase VC – Baker will continue with clay placement and is expected to be complete by next week LAW took samples for permeability testing on Monday.

F Phase VD – No work scheduled

II. GEOSYNTHETICS

Mike Bracci stated that all of the geosynthetic materials needed for the project have been manufactured and sampled Jon Edens asked if the materials that are stored at the plant can be considered as stored materials William Davidson stated that this was previously requested and it will not be allowed Francis Dayao asked Serrot to provide a formal request through Baker. (Note Jon Edens was informed by ETM on November 22, 2000 that stored materials at the plant can not be paid for as stored materials. The materials must be on site)

III. OTHER ISSUES

Temporary Access Road – Richard Austin stated that Baker will start limerock placement this afternoon

Leachate Pumps – Francis Dayao stated that after discussion with Jimmy Purvis and Gary Barett with Custom Pumps, it has been decided that the pumps will be supplied with cables in lieu of stainless steel chains Dean Harris stated that the pumps are scheduled to be delivered on Monday and will be installed by Friday, December 1

Sand Borrow Pit – Dean Harris stated that Baker is doing some clearing at the borrow pit

Contract time remaining Phase IIIC – 14 days, Phase IVC – 81 days, Remaining Phases – 194 days

The next meeting is scheduled for November 28, 2000 at 2 00 P M

cc Attendees

Greg Mathes	Juanitta Clem	Buckley Williams
Jimmy Purvis	David Hahn	Robert Butler
Chris Pearson	Don Harjung	Frank Adams

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Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: November 28, 2000
2 00 P.M – 3 00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Dean Harris	Baker
Timmy Lee	Baker
Don Butler	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Michael Bracci	Golder Associates (Golder)
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Baker will grade the sand at the eastern toe of the slope and place sand around the 8" gate valve at Sta 82+10 (N) Water proofing of the vault box will be complete by December 5 Dean Harris stated that the leachate pumps will be delivered on Thursday and will be installed by Friday EG Controls and Custom Pump representatives will be on site Monday for initial start-up Grading and sodding of the side slopes, installation of the hand rails, signage and the mitered end section (S-152) will be conducted the week of December 11 Construction of concrete pads around the monitoring wells and for pipe supports and sand cement bags on the stormwater berms will be complete before December 19 Dean Harris stated that Phase IIIC will be substantially complete by December 5, the scheduled date of the inspection Juanitta Clem stated that Baker is responsible for maintaining Phase IIIC, including stormwater pump-out, until the Department of Environmental Protection (DEP) authorizes waste placement into the Phase. ETM will coordinate a DEP inspection and if acceptable to the DEP, schedule the inspection for December 19

B Phase IVC – Clay placement at the Phase IIIC/Phase IVC tie-in is scheduled for Wednesday and will be graded by Friday, weather permitting Don Butler stated that Serrot will take 4 days to install the liner system at the tie-in, once the clay subbase is complete Upon discussion, it was agreed that all installed liner will be protected prior to Serrot leaving the site for the Christmas/New Years Holidays

C Phase VA – The northeast corner of the Phase will be reworked after the Phase IIIC/Phase IVC tie-in is complete

D Phase VB – Final grading of the subgrade is expected to begin soon.

E Phase VC – Baker will continue compacting and grading the clay layer. John Teague stated that five (5) permeability test results have been received and all samples passed

F Phase VD – No work scheduled

II. GEOSYNTHETICS

Mike Bracci stated that the Quality Control certificates have been received for the geonet, geomembrane and GCL The results of the conformance testing for all of the geosynthetic materials and the Quality Control certificate for the geotextile are expected to be received by the end of this week. Mike Bracci stated that the geomembrane and GCl on site are adequate to cover Phase VC

III. OTHER ISSUES

Temporary Access Road – John Teague stated that the result of the LBR test has been received and it passed

Holiday Schedule – Baker will be off from December 22 through January 1, 2001 and Serrot will be off from December 22 through January 3, 2001

Contract Time Remaining Phase IIIC – 7 days, Phase IVC – 74 days, Remaining Phases – 187 days

The next meeting is scheduled for December 5, 2000 at 2 00 P M

cc Attendees

Greg Mathes	Richard Austin	Jon Edens
Jimmy Purvis	David Hahn	Buckley Williams
Chris Pearson	Don Harjung	Robert Butler
Fabian Benavente	Frank Adams	

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Scott A Wild, P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: December 5, 2000
2.00 P.M. – 3·00 P M.

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Dean Harris	Baker
Richard Austin	Baker
Don Butler	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Michael Bracci	Golder Associates (Golder)
Fabian Benavente	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A. Phase IIIC – The startup is scheduled for tomorrow at 2:00 P.M. Hinson Electric will complete the electrical work today for the startup. Baker will continue dressing up the side slopes and start grading the perimeter swale Dean Harris provided a completion schedule for Phase IIIC. Juanitta Clem stated that if all goes well at the startup, the DEP Certification will be submitted on December 7 and the DEP inspection will be scheduled for December 19 (est. at 1.30 P.M.) Juanitta Clem stated that the Stormwater Certification to the DEP will be submitted after the stormwater system associated with the Phase is complete. Juanitta Clem stated that a punch list will be prepared by ETM and will be provided to Baker as soon as possible Juanitta Clem asked if Baker has any questions regarding the number of T-Handles for the 8" gate valves Dean Harris asked if it is necessary to have all eight T-Handles. Upon further discussion, it was agreed that William Davidson will clarify this with Jimmy Purvis and will get back with Dean Harris.

B. Phase IVC – Richard Austin stated that the Phase IIIC/Phase IVC tie-in is ready for Serrot. Don Butler stated that 5 panels (of secondary liner) will be installed today and 3 panels will be installed tomorrow to complete the tie-in. As-builts on the protective sand layer are scheduled for tomorrow. The stormwater and leachate control berms will be constructed after the as-builts are complete in those areas. Bill Davidson stated that Serrot may need Baker's assistance in clearing sand off the southern edge of the liner in Phase IVC Don Butler stated that he will investigate this further and will keep Richard Austin informed Installation of the downcomer pipe is

scheduled for Monday National Piping will be back on site next week to weld the leachate collection pipe. The anchor berm is currently under construction.

C Phase VA – The result of the last permeability test for the Phase is expected to be received on Thursday Construction of the sump is scheduled for next week, after the clay installation in Phase VC is complete Richard Austin stated that the aggregate on site is adequate for the leachate collection trench in Phase IVC and the secondary sump in Phase VA The secondary liner will be installed in the remaining areas and in the sump by next week The liner system should be complete by December 22.

D Phase VB – Baker will continue with structural fill placement and berm construction. Final grading of the subgrade will be performed, after grading of the clay layer in Phase VC is complete Clay placement is scheduled to begin on December 18

E. Phase VC – Baker will continue compacting and grading the clay layer. John Teague stated that eight samples have been taken from the clay layer up to Sta 110+00 (E) on the north half and Sta. 110+50 (E) on the south half Five results have been received and passed Three results are outstanding and three samples will have to be taken to complete testing of the Phase.

F. Phase VD – Hauling of structural fill is scheduled to begin tomorrow.

II. GEOSYNTHETICS

Mike Bracci stated that the results of the conformance testing for the remaining geotextiles, geonet and geomembrane have been received and passed The GCL testing is on-going. The Quality Control Certificates for the geonet, geomembrane and geotextiles have been received and approved. Mike Bracci stated that delivery dates have not been scheduled by Serrot due to lack of storage space on site

III. OTHER ISSUES

Temporary Access Road – Dean Harris expressed concern regarding the schedule for removing the temporary access road and meeting the project schedule. Juanitta Clem replied that if Baker can not meet the project schedule due to the delay in the removal of the temporary access road, then the contract schedule may have to be extended

Dean Harris stated that Baker has a mandatory meeting on Saturday and will not be working that day.

Contract Time Remaining: Phase IIIC – 2 days, Phase IVC – 67 days, Remaining Phases – 180 days.

The next meeting is scheduled for December 12, 2000 at 2:00 P M.

cc: Attendees

Greg Mathes	Jon Edens	Robert Butler
Jimmy Purvis	David Hahn	Buckley Williams
Chris Pearson	Don Harjung	Frank Adams

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Juanitta Bader Clem P E , V P
Scott A Wild P E , P S M , V P

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: December 12, 2000
2 00 P M – 3 00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Dean Harris	Baker
Richard Austin	Baker
Don Butler	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Fabian Benaventer	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Installation of the aluminum hand rails and signage are scheduled for Wednesday Sodding and seeding of the side slope and construction of the concrete well pads are scheduled for Thursday Installation of the 18" RCP and Structure S-152 is on-going The vent pipes in the vault boxes as well as the pipe supports will be installed on December 18 Juanitta Clem asked if all of the outstanding items for Phase IIIC will be complete by December 19 Dean Harris replied that all the outstanding items will be complete with the exception of the installation of the pipe supports which are not available locally Dean Harris stated that Hinson Electric checked the transformer and they believe it is operating properly Upon discussion, it was agreed that Baker will have Hinson Electric discuss the transformer with David Lassetter Juanitta Clem provided Baker with the Punch List for Phase IIIC Juanitta Clem stated that there are some items on the Punch List that have been corrected and that the Punch List will be updated with a copy to Baker

B Phase IVC – Richard Austin stated that construction of the leachate control berm is on-going and is expected to be complete by Friday (weather permitting) Baker will continue with the installation and grading of the sand layer Installation of the leachate collection piping and downcomer pipe is scheduled for December 13

C Phase VA – Construction of the leachate sump has been rescheduled to after January 1, due to weather conditions

D Phase VB – Baker will continue finishing the subgrade Clay placement is scheduled for December 20

E Phase VC – Baker will continue constructing the remaining clay subbase Serrot will continue with liner installation and plans to install liner up to Sta 105+50 (E) before they leave the site on December 22 for the Holidays

F Phase VD – Baker will continue with structural fill placement

II. GEOSYNTHETICS

The last shipment of geosynthetic materials for this year is on December 21 Juanitta Clem stated that all installed liner must be secured prior to Serrot leaving the site for the Holidays

III. OTHER ISSUES

Phase IVC Certification – Juanitta Clem stated that LAW, Golder and ETM should begin preparing the necessary documents for the certification

Richard Austin stated that Baker will have the site checked periodically during the Holiday break

Contract Time Remaining Phase IVC – 54 days, Remaining Phases – 174 days

The next meeting is scheduled for December 19, 2000 following the DEP inspection The first regular meeting for next year is scheduled for January 9, 2001 at 2 00 P M

cc Attendees

Greg Mathes	Jon Edens	Frank Adams
Jimmy Purvis	David Hahn	Buckley Williams
Chris Pearson	Don Harjung	

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N Hugh Mathews, PE, Exec VP
Joseph A Tarver, Exec, VP
Juanitta Bader Clem, PE, VP
Scott A Wild PE PSM VP

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: January 9, 2001
2 00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Dean Harris	Baker
Richard Austin	Baker
Don Butler	Serrot
Jim Horton	LAW Engineering (LAW)
John Teague	LAW
Scott Marhold	LAW
Fabian Benavente	Golder Associates, Inc (Golder)
Frank Adams	Golder
Juanitta Clem	England, Thims & Miller (ETM)
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – Installation of the pipe supports and screens on the vent pipes is scheduled for next Monday National Pipe is scheduled to arrive back on site on January 18 and will install the valve keys on Phases IIIC and IVC on January 19 The Contractor was not able to prime the temporary access road prior to putting the road in operation and therefore will assist TRLF with the maintenance of the road Dean Harris will check into the installation of the bollards at the electrical pull boxes and signage on the hatch covers David Lassetter (electrical engineer) has received a response from Siemens regarding the transformer at the pump station and they have indicated that the transformer will be replaced Juanitta Clem will provide a copy of the response from David Lassetter to Baker, upon receipt TRLF is in the process of building a haul road on the southern slope of the existing waste fill for access to Phase IIIC They are hoping to have the roadway complete and in operation by the end of January When the roadway is operable Baker can proceed with removal of the temporary access road

B Phase IVC – The Contractor is final grading the sand this week and will complete the stormwater and leachate control berms tomorrow The collar around the clean-out riser will be constructed this week and the blind flange will be installed on the clean-out riser next week The Contractor will grade the exterior slope next week and Dean Harris will make arrangements for sodding the slope The sand-cement rip rap around the downcomer will be delayed until the other downcomers have been installed A final review of the phase is scheduled for January 23

C Phase VA – The leachate sump has been excavated and the secondary liner, geonet, geotextile, aggregate and secondary riser have been installed Serrot will begin installation of the primary liner system on Thursday or Friday and Don Butler has estimated it will take 3 days to complete the work The remainder of the sand will be placed in the Phase next week and the sand will be final graded the following week The leachate collection pipe will be installed next week The downcomer pipe will be installed at a later date when a pipe crew is on site to install the other downcomer pipes

Jim Horton stated that the most recent shipment of aggregate has been tested and preliminary results indicate that it does not meet the specifications However, the aggregate has more larger stones than required and therefore, would meet the intent of the project He will review the final results and if necessary, Juanitta Clem will submit a deviation to the DEP for their approval

D Phase VB – Baker has placed the clay up the sump and will be final grading the clay this week The clay in this phase was placed prior to the Holidays and was dry Of the six permeability tests taken prior to the Holidays, three samples failed The Contractor has reworked the clay and LAW has retested it Preliminary results on two of the retest indicate that they will pass The third test was taken yesterday The Contractor plans to complete the clay layer by January 20 and begin liner installation by January 22

E Phase VC – The clay layer has been completed to Sta 112+50 (E) and Serrot has placed secondary liner to Sta 109+20 (E) Don Butler estimated that it will take his crew 10 work days to complete Phases VA (complete) and VC (to Sta 112+50 (E))

F Phase VD – Baker is placing structural fill and plans to complete the structural fill by Thursday Further, they plan to begin clay placement on January 22

II. GEOSYNTHETICS

Golder has determined that there may be additional shipments of GCL, primary geotextile and geonet, based upon review of QC certifications and conformance test results for material manufactured for this project Juanitta Clem requested that Don Butler compare the inventory of the materials on site to the materials required to complete the project and determine if the materials on site are sufficient to complete the project

III. OTHER ISSUES

Phase IVC Certification – Juanitta Clem stated she will target certification to DEP on January 26

Contract Time Remaining Phase IVC – 28 days, Remaining Phases – 148 days

The next meeting is scheduled for January 16, 2001 at 2 00 P M

cc Attendees

Greg Mathes	Jon Edens	Francis Dayao
Jimmy Purvis	David Hahn	Buckley Williams
Chris Pearson	Don Harjung	

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E England PE, CEO
Douglas C Miller PE, President
N Hugh Mathews PE, Exec VP
Joseph A Tarver Exec, VP
Juanitta Bader Clem PE, VP
Scott A Wild, PE PSM VP

TRAIL RIDGE LANDFILL
3RD CONSTRUCTION INCREMENT
CONSTRUCTION MEETING MINUTES

DATE: January 16, 2001
2 00 P M

REFERENCE: Trail Ridge Landfill
3rd Construction Increment – Phases IIIC, IVC, VA, VB, VC & VD
ET&M Project No E00-079

ATTENDEES:

Neil Rushing	City of Jacksonville
Dean Harris	R B Baker Construction, Inc (Baker)
Richard Austin	Baker
Don Butler	Serrot
John Teague	LAW Engineering (LAW)
Scott Marhold	LAW
Fabian Benavente	Golder Associates, Inc (Golder)
Juanitta Clem	England, Thims & Miller (ETM)
Francis Dayao	ETM
Bill Davidson	ETM

I. SHORT-TERM INTERVAL SCHEDULE

A Phase IIIC – It was agreed that placement of the bollard at the electrical pull box will be delayed until the temporary drainage is removed Installation of the handles on the stormwater gate valves, vent screens and pipe supports is scheduled for Friday Replacement of the transformer and adjustment of the bubbler tubing is scheduled for this week Juanitta Clem stated that Baker has 55 days from the date of substantial completion (December 6, 2000) to complete the Punch List for Phase IIIC

B Phase IVC – A review of Phase IVC construction is scheduled for January 23, 2001 Construction of the concrete pad around the HDPE cleanout riser and placement of the cement rip-rap bags on the stormwater control berm are scheduled for tomorrow Angas is as-building the sand layer Construction of the sand cement rip-rap collar around the downcomer pipe will be delayed until the Phase VC anchor berm is constructed Grading and sodding of the backslope and swale will be conducted next week Installation of the handles on the stormwater control valve will be done this week

C Phase VA – The secondary riser has been installed and Serrot will complete the primary liner (including the pipe boots) in the sump today National Piping is on site installing the leachate collection piping in the leachate trench Juanitta Clem stated that the result of the second sample of the aggregate passed the specified gradation Richard Austin stated that Baker plans to begin placement of the aggregate in the leachate trench tomorrow Juanitta Clem stated that she will contact Jim Horton and the DEP regarding the aggregate (Note Upon review of the results,

ETM and LAW have agreed that the aggregate will meet the intent of the project design and upon discussion with the DEP, it was agreed that the aggregate could be noted as a deviation in the certification documents Baker was notified that they could use the aggregate) Construction of the anchor berm will begin tomorrow Baker will continue sand installation and final grading of the sand Richard Austin stated that installation of Downcomer S-145 has not been scheduled at this time

D Phase VB – Baker will continue grading the clay layer John Teague stated that three permeability samples have been taken Two of the samples passed and the other sample appears to be good A sample will be taken near the sump and should complete the required permeability testing for the phase Liner installation is scheduled to begin on January 23

E Phase VC – Serrot will continue with liner installation Sand placement and grading is scheduled to begin tomorrow and will be coordinated with Golder The anchor berm is being constructed and permeability samples will be taken

F Phase VD – Placement of structural fill is complete Baker will continue grading the subgrade

II. OTHER ISSUES

Permanent Access Road - Juanitta Clem stated that Structure S-49 will be covered Construction of the access road was discussed and it was agreed that ETM will discuss the road with Greg Mathes and Jimmy Purvis

Phase IVC Certification – If possible, the Phase IVC Certification will be submitted to the DEP on January 26

Contract Time Remaining Phase IVC – 21 days, Remaining Phases – 141 days

The next meeting is scheduled for January 23, 2001 at 2.00 P M

cc Attendees

Greg Mathes	Jon Edens	Frank Adams
Jimmy Purvis	David Hahn	Buckley Williams
Chris Pearson	Don Harjung	Jim Horton

Record of Daily Observations

Record of Daily Observations

LAW
LAWGIBB Group Member
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 14, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 14, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 01-09, and 02A were performed today on the special compaction area in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 15, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 15, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 10-18 were performed today on the subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

Reviewed By: James J. Gallup

BY dp WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 16, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 16, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 16A-18A and 19-23 were performed today on the special compaction area and subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

Reviewed By: James J. Gallup

BY dp WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: June 19, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 19, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 24-35, 27A, 28A, 31A and 31B were performed today on the special compaction area and subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY JT WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 21, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 21, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 36-46, 51 and 36A were performed today on the subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 22, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 22, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 47-50, 52, 44A and 49A were performed today on the subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 23, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 23, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 15A, 53 and 54 were performed today on the subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
John Teague
BY JT WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT. England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 26, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on June 26, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 55-63 and 58A were performed today on the subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague
BY df WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 28, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on June 28, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 64-74 were performed today on the subgrade in Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 29, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on June 29, 2000, to perform soil testing as needed.

Phase IIIC

Density tests 75-84 were performed today on the subgrade and backfill of the interceptor ditch 'C' within Phase IIIC.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

BY JT WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** June 30, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on June 30, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. finished stripping grass and stumps from Sta. 118+50E to 113+50E and 82+80 to 83+30N. This area was rolled then density test Nos. 85-87 were performed. Contractor also removed one foot of two foot lift in bottom of ditch 'C' from Sta. 118+50E to 115+50E. The area was then compacted and density test Nos. 88-90 were performed. When rain began in the afternoon, contractor began pushing in a 2' thick lift in ditch 'C' from 118+50E to 113+50E. This 2' layer of fill was not compacted with roller and contractor did not request any density tests.

Phase IVC

Contractor continued stripping grass from this area.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY JP WITH PERMISSION

James J. Gallup

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 5, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 5, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B Baker Construction, Inc. placed another 2 to 3 feet of fill in ditch 'C' from Sta. 120+00E to 113+50E without compacting with roller. Contractor didn't request any tests on this area. Shawn of R.B. Baker was reminded that we still needed to test every 1' layer of fill at 100' intervals for the 4' to 5' thick untested fill in this area.

Phase IVC

Contractor finished clearing silt and grass from Sta. 113+00E to 109+50E in ditch 'C'. A foot of fill was placed in this area and is to be compacted and tested tomorrow.

Phase VA

Contractor began stripping grass.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
John Teague
BY JP WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 6, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 6, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R B. Baker Construction, Inc. excavated special compaction area between Sta. 115+00 and 116+00E from existing interceptor ditch 'C' north to Sta. 83+30N to a depth of 3' below existing grade.

Phase IVC

Contractor compacted 1st lift in ditch 'C' backfill from Sta. 109+50E to 113+00E and density test Nos. 91-94 were performed. These tests did not pass due to moisture higher than optimum and contractor will let area dry then try to recompact.

Phase VA

Contractor continued stripping grass. From Sta. 80+30 to 80+50N, existing grade was compacted and density tests 95-97 were performed. Contractor then began placing 1st lift in this area and compacting it. Density 98 was performed.

Temporary Drainage

Contractor excavated road crossing for 42-inch cmp between S-3T and S-4T and backfill over pipe with soil removed from excavation to top of existing limerock. Backfill contained roots and stumps. Bill Davidson (ETM) discussed this with contractor. Contractor is to remove fill with roots and stumps tomorrow and place root-free soil and limerock in lifts compacted as they go in.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY JT WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 7, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 7, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. excavated special compaction area between Sta. 113+50 to 116E and between 82+00 and 83+00N to a depth of 3 feet. This area, along with special compaction area north of ditch 'C' between Sta. 115+00 and 116+00N, were backfilled in lifts and density tests performed. Grade crew arrived today and started fine grading.

Phase IVC

Contractor recompacted 1st lift of ditch 'C' backfill from Sta. 109+50E to 113+00E and failing density tests 91-94 were retested as Nos. 91A-94A and passed.

Phase VA

Contractor removed spoil pile from approximately Sta. 116+05E to 116+90E and 79+35N to 80+20N that tapered out at edges to approximately 3-1/2' deep in the middle. Contractor backfilled this area and compacted it in lifts, then density tests were performed. Stripping of grass continued today in this phase.

Temporary Drainage

Contractor removed fill with roots from 42-inch cmp road crossing between S-3T and S-4T and backfilled in lifts, compacting each lift. Limerock was also placed in lifts and density tests were performed.

Density tests 99-109, 91A-94A and 104A were performed today. Please see density reports from additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 10, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 10, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading operation in this area today. Additionally, contractor dug down in a couple of locations so that density tests could be performed on some of the areas that had been covered up before density tests could be performed.

Phase IVC

Contractor placed second lift of backfill in ditch 'C' from 113+00 to 110+00E and density tests were performed. Contractor also excavated special compaction area from 113+00 to 109+00E and placed 1st lift of fill from 113+00 to 111+00E and density tests were performed.

Area from ditch 'C' north to 83+10N and from 113+00 to 111+00E was stripped of grass, compacted, and a density test was performed so that first lift of fill could be placed in this area.

Phase VA

Contractor continued stripping grass in this area.

Density tests 110-121 were performed today.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC

John Teague

John Teague

BY JP WITH PERMISSION

James J. Gallup

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 11, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 11, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading and fine graded subgrade from Sta. 114+00 to 115+00E and 80+60 to 81+60N for clay test strip area. After grading was complete for subgrade in test strip area, a density test was performed.

Additionally, contractor began digging down test locations so that density testing could be done on ditch 'C' backfill that had been placed but not tested for compaction.

Phase IVC

Contractor continued placing 1st and 2nd lifts in special compaction area between Sta. 113+00 and 109+00E and density tests were performed.

Contractor also continued placing 1st and 2nd lifts in ditch 'C' and special compaction area within ditch 'C' after completion of stripping and cleaning out the ditch. Density tests were performed on backfill.

Phase VA

Contractor continued stripping operations.

Density tests 122-165 were performed today, please see test reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY: dp WITH PERMISSION

James J. Gallup

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 12, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 12, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading subgrade. Contractor installed clay subbase from Sta. 114+00E to 115+00E and 80+60N to 81+60 by spreading it with the dozer then compacting it one time in both directions. Contractor left for the day before testing and sampling of test strip could be done. Sampling and testing will be performed tomorrow morning when contractor returns.

Phase IVC

Contractor began placing 3rd lift of ditch 'C' (along with 1st lift of special compaction areas west of Sta. 109+00E) backfill. No density testing performed today.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
John Teague

BY dp WITH PERMISSION

James J. Gallup
Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 13, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 13, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading subgrade. Density tests 166-170 were performed on clay test strip installed yesterday between Sta. 114+00 to 115+00E and 80+60 to 81+60N. After density test, samples (P-1 through P-5) were taken at these five locations for laboratory test of hydraulic conductivity, moisture content, percent fines, and Atterberg limits. Density tests were performed at five locations, on south side of the phase, for previously placed 2nd lift of fill that had not been tested, due to area being covered up before testing could be performed.

Phase IVC

Contractor stripped remaining grass from Sta. 112+50E to 110+50E and 80+80 to 81+80N, then compacted area and density tests were performed. Contractor placed and compacted 1st lift of fill in special compaction area north of ditch 'C' between Sta. 105+00E and 106+00E, then density test was performed. Contractor continued placing 3rd lift of ditch 'C' (and special compaction areas) backfill.

Density tests 166-178 were performed today Please see density test reports for more information.

Contractor began placing clay on east end of temporary ditch 'A'

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY JT WITH PERMISSION

James J. Gallup

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: July 14, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 14, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grade work in this area.

Phase IVC

Contractor continued placing lifts and compacting fill for special compaction areas and ditch 'C'. Additionally, remaining grass roots were stripped from 107+00E to 105+00E and 82+80N to 83+30N and existing grade compacted.

Density tests 179-206 were performed on backfill and existing grade. Please see density report for more information. Contractor continued placing clay on east end of ditch 'A'.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: July 15, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 15, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. dug down test locations, on ditch 'C' backfill that had been placed without any compaction tests, so that remaining density tests could be performed. Density tests 207-219 were performed. Please see density reports for more information.

Phase IVC

Contractor worked on cutting fill that was too high and using it to backfill west end of ditch 'C'.

Contractor also continued placing clay in bottom of ditch 'A'.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 17, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 17, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued fine grading phase. Density tests were performed on finished subgrade between stations 115+00 to 121+00E and 80+60 to 81+60N.

Phase IVC

Contractor finished stripping grass and compacting existing grade between 80+30 to 80+80N and 112+50 to 110+50E, from 80+30 to 81+80N and 110+50 to 108+50E, and from 81+30 to 81+80N and 108+50 to 105+00E. Density tests were performed on existing grade in these areas. Contractor then placed 1st lift of fill from 112+50 to 109+00E and 80+30 to 81+80N.

1st lift of fill placed from 111+00 to 105+00E and 82+80 to 83+30N last week was compacted and density tests were performed.

Temporary Drainage

Contractor continued installing clay in temporary ditch 'A'.

Density test Nos. 220-235 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

BY JP WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 18, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on July 18, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading this area and dug down test locations so that density test #64 and 65 (which failed) could be retested as #64A and 65A.

Phase IVC

Contractor stripped grass and compacted existing grade from stations 80+30 to 81+30N and 108+50 to 104+50E, then density tests were performed on existing grade. 1st lift of fill was then placed from 80+30 to 81+80N and 109+00 to 105+00E. Contractor started compacting 1st lift of fill and density tests were performed between 80+30 to 81+30N and 112+50 to 110+50E (density tests failed due to high moisture content).

Temporary Drainage

Placement of clay in temporary ditch 'A' continued

Density test Nos. 236-241, 64A and 65A were performed today. Please see density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 19, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 19, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading this phase. Clay was hauled and placed for second test strip between 80+60 to 81+60N and from 115+00 to 116+00E. Clay was spread with a bulldozer then sealed with the steel wheel roller. Contractor was unable to complete set up of pad foot roller, so kneading, compaction and sampling was postponed until tomorrow.

Phase IVC

Grass was stripped and existing grade compacted and tested from 80+30 to 81+30N and 104+50 to 100+50E. 1st lift of fill was placed from 80+30 to 81+30N and 105+00 to 103+50E. 1st lift was compacted and density tests were performed from 80+30 to 81+30N and 110+50 to 104+50E. Density test No. 249 failed due to high moisture content; to be recompacted and retested when area dries out.

Phase VC

Grass was stripped and compacted existing grade from 80+05 to 80+30N and 112+50 to 100+50E. Density tests were performed, then 1st lift of fill was placed from 112+50 to 105+00E.

Temporary Drainage

Clay is still being installed in bottom of temporary ditch 'A'.

Density tests 242-254 were performed. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 20, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 20, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. kneaded 2nd clay test strip using a pad foot roller overlapping previous pass and running in both directions, then using flat drum roller to smooth out surface. LAW then performed density tests 259-263 and obtained laboratory samples (P-5 through P-10) at these five locations for required tests. Grading of this phase continued.

Phase IVC

Grass was stripped and existing grade compacted, then density tests performed between 82+80 to 83+30N and 100+50 to 105+00E. 2nd lift of fill was placed, compacted and tested for density between 80+30 to 81+30N and 112+50 to 109+00E. 1st lift of fill was placed and compacted from 80+30 to 81+30N and 103+50 to 100+50E, but rain started before density tests could be performed.

Phase VC

1st lift placed from 80+05 to 80+30N and 112+50 to 105+00E, placed yesterday, was compacted and tested for density. Density tests failed, so area was recompacted and retested; then second lift was placed and compacted to be tested as finished subgrade.

Temporary Drainage

Clay placement in ditch 'A' continued.

Density tests 255-263, 255A and 256A were performed. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 21, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 21, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading this phase, and completed grading between 80+60 to 82+10N and 114+00 to 125+50E. Failing density test #81 was retested as #81A and passed.

Phase IVC

Contractor started placing fill from 110+50 to 105+50E and 80+30 to 81+30N. This lift is approximately 2' thick at 80+60N and tapers down at 81+30N. Dozer operator was notified about lift thickness at 80+30N but continued placing lift. Dick Austin with R.B. Baker was notified.

Density tests that failed (197, 198, 240, 241, and 249) were retested and passed.

Temporary Drainage

Clay is still being installed in bottom of temporary ditch 'A'.

Density tests 268-273, 81A, 197A, 198A, 240A, 241A, and 249A were performed. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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BY dlp WITH PERMISSION

James J. Gallup
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 24, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 24, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

Contractor plans to transport clay and dress-up subgrade. Clay is being transported using 15 trucks. Contractor is removing stumps and loose roots from fill. Clay fill is being placed from 114+00E/N80+60 in a lift 3" higher than required. The clay lift is approximately 30' in width being placed.

Placement of clay was halted at 117+00E and 80+60N because of rain. The contractor is building a soil ramp at 117+50E and 80+60N to bring clay in later. A soil ramp has been started at 122+50E and 80+90N. The contractor has placed a ditch north of 83+60N line from approximately 112+00E toward 100+00E.

Removal of organic material from 114+00E and 29+10N to 115+00E and 29+10N. There remains stumps which the contractor says he will remove later.

Retest of density #270 was found to be satisfactory. Test Nos. 281-283 were found to be 95 percent and above. See density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Richard Ridenour

Richard Ridenour

BY dr WITH PERMISSION

Reviewed By: James S. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 25, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 25, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

Clay arrived and was unloaded at 117+00E and 80+60N. The clay from yesterday is too wet to compact. Removal of soil along 84+00N and 83+10N is being done and placed at the NW section of site.

Phase IVC

Trucks transporting clay from clay pit were halted because haul road was in need of repair. Mud was being carried to the highway. FDOT informed the contractor to clean-up and not bring mud on the road. The contractor started compaction on clay that was being transported in.

Grading of soil continues in Phase IVC. Contractor is placing clay in temporary ditch 'A' along 84+00N line.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Richard Ridenour

Richard Ridenour

BY RR WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 26, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 26, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

The contractor plans to remove top soil and organic matter from Phase VA. Rain from late yesterday has washed areas both from the landfill and construction area. The clay pit is also full of rain water. The contractor will not transport any clay today because of the wet conditions.

Phase VA continues with the removal of organics. Removal of soil from 83+50N is approximately 40 percent complete.

Density test Nos. 284-305 were performed on the subgrade of Phase VA (see density reports for more information). Density test Nos. 302-305 were performed on the clay subgrade.

Soil removed from 83+50N was placed at 79+60N and 116+00E.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Richard Ridenour
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 27, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 27, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

The clay has arrived at 80+60N and 117+00E. Density tests were performed on the east end at 126+00E. The soil remains too wet. Contractor plans to re-scarify this area and re-roll later today.

An area at 126+00E and 79+10N had roots concentrated. The contractor removed these roots. Clay continued to be transported in. Soil placed on Monday and Tuesday continues to be wet. Removal of soil along 83+50N to uncover the existing liner is approximately 50 percent complete The clay being transported in has roots. Contractor said he would remove them.

Approximately 100,000 ft^2 of clay placed today. Compaction and dressing to 6" has not been performed.

Density tests 306-308 were performed.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Richard Ridenour

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 28, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 28, 2000, to observe earthwork and perform soil testing as needed.

The contractor plans to transport clay using 15 trucks and continue placing along 80+60N and 119+00E. Contractor will remove roots from the clay. Density tests 302 and 304 which failed yesterday were retested and found to be satisfactory.

The contractor begins excavation of the drainage ditch at 82+10N and 125+00E. Clay continues to be compacted. The leachate trench was excavated starting at 125+50E and 82+10N and ending at 124+50E and 82+10N. The ditch is 100' by 8.5' x 1.5'. Clay will be placed approximately 12" in depth. Density tests 306A, 308A, and 309-311 were performed and found to be satisfactory.

Rain moved in and clay placement was halted. The clay which has been spread needs to be smooth rolled and graded before density is tested.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Richard Ridenour

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** July 31, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on July 31, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. compacted 2nd lift of fill placed last week for anchor berm construction and density tests were performed. Contractor then began placing 3rd lift of fill.

Contractor excavated leachate trench and compacted subgrade from station 124+00 to 118+50E and density tests were performed. Clay was then placed from 124+00 to 120+00E and stopped when rain began.

Clay subbase was placed between stations 119+00 to 122+00E and 80+30 to 82+10N. Clay subbase from 116+00 to 119+00E and 80+30 to 82+10E was compacted and density tests were performed. Density test #323 failed required compaction. Contractor will rework this area, then it will be retested. Rain began before permeability and laboratory samples could be obtained for area with passing density tests and will be done tomorrow.

Temporary Drainage

Clay placement and berm construction continued on the west end of ditch 'A'.

Density test Nos. 312-325, 316A and 319A were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY JP WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 1, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 1, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed clay subbase from 80+30 to 82+10N and 122+00 to approximately 122+70E. Clay was worked and compacted from 119+00 to 122+70E. Density tests were performed on clay subbase from 119+00 to 121+00E and 80+30 to 82+10N. Permeability samples P-11 through P-13 along with samples for percent fines and Atterberg limits for laboratory analysis on areas with passing density tests from today and yesterday.

Contractor excavated and compacted subgrade in leachate trench from 118+50 to 114+00E and density tests were performed. Clay was then placed in leachate trench from 120+00 to 114+00E.

Temporary Drainage

Berm construction and clay placement continued on western section of ditch 'A'.

Density test Nos. 326-333 were performed today. Please see density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

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BY dp WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 2, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 2, 2000, to observe earthwork and perform soil testing as needed

Phase IIIC

R.B. Baker Construction, Inc. is placing clay in low spots of previously placed clay subbase, after scarifying areas. Clay subbase working, and compaction were completed on area from 80+30N to 82+10N and from 121+00 to 122+70E. Area that didn't meet required 92 percent compaction (Test No. 323) was reworked and recompacted. Density tests were then performed and density test No. 323 was retested as 323A. After density testing, permeability samples P-14 through P-16 were obtained along with samples for percent fines and Atterberg limits for laboratory testing. Contractor continued grading north side of this phase.

Phase VA

Excess fill removed from north side of Phase IIIC is being placed along the north side of this phase.

Temporary Drainage

Berm construction and clay placement for ditch 'A' continued today on the west side of site.

2nd Structural Fill Pit

LAW obtained a soil sample for proctor testing. Dick Austin with R.B. Baker requested that sample be held and not tested until he determined if they would use this pit or change to another, based on what he saw in sample holes.

Density tests 334-336 and 323A were performed. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 3, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 3, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R B Baker Construction, Inc. placed clay subbase from 80+30 to 81+60N and 122+70 to 125+50E. Clay was then seal rolled to protect it from rain. Anchor berm, extending into north side of VA was compacted (3rd lift) and density tests were performed. Test on north and south sides (north of VA) failed due to high moisture contents and contractor will try to let fill dry out, then recompact area.

Contractor began touching up grade work on northwest corner of this phase around lunch time, after subgrade had dried out from yesterday's rain. Some density tests were performed on finished subgrade between 82+10 to 83+10N and 114+00 to 121+50E but could not be completed before rain, due to lack of control to reference test locations.

Phase IVC

Contractor worked on cleaning off liner tie-in at 83+40N.

Temporary Drainage

Berm construction and clay placement continued. When rain began, all loads of clay were diverted from IIIC clay liner to ditch 'A'.

Density tests 337-344 were performed. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 4, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 4, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed clay from station 81+60 to 82+10N and 122+70 to 122+50E.

Grade work continued between tie-in and leachate collection trench, and density test were performed on finished subgrade between 82+10 to 83+10N and 116+50 to 120+50E.

Temporary Drainage

Contractor continued clay placement and berm construction on ditch 'A'.

Density test Nos. 345-348 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 5, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 5, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed clay between stations 82+10 to 83+10N and 114+00 to 116+00E today. Grade crew spent the day removing the top foot of wet fill that was pumping along tie-in area between approximately 83+20 to 83+38N. Dry fill was then placed and compacted so this area could be fine graded.

Temporary Drainage

Berm construction and clay placement continued today on ditch 'A'.

No density tests were performed today.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC

John Teague
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 7, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 7, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed clay from 82+10 to 83+10N and 116+00 to 120+50E today. Clay was removed from anchor berm tie-in area. Contractor began placing a 4th lift on west side of anchor berm. Shawn Eisermar (R.B. Baker) was reminded that some of this fill was being placed on an area of 3rd lift that had failed to meet 96 percent required compaction and was still pumping. This was also brought to Dick Austin's attention and he informed Shawn that they may have to remove 4th lift if 3rd lift couldn't be corrected and passing densities achieved.

Temporary Drainage

Berm construction and clay placement for ditch 'A' was completed today.

Density tests 349-357, 354A and 355A were performed today. Tests were performed on finished subgrade from 83+10 to approximately 83+38N and 114+00 to 123+00E. Tests were done on existing grade from 82+80 to 83+38N and 123+00 to 126+00E. Density tests were performed on clay subbase between 80+30 to 83+10N and 114+00 to 116+00E; excluding 2nd test strip (80+60 to 81+60N and 115+00 to 116+00E), but including reconstructed area of original test strip (80+60 to 81+60N and 114+00 to 115+00E). After densities passed required 92 percent compaction, samples were obtained for laboratory testing for permeability (P-17 and P-18), percent fines, and atterberg limits.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

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Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: August 8, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 8, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed clay subbase from 82+10 to 83+10N and 120+50 to 123+50E. Compaction was completed on clay subbase from 80+30 to 82+10N and 122+70 to 125+50 and density tests were performed. Even though density tests met required 92 percent compaction on all but one location in this area, Dick Austin (R.B. Baker) requested that laboratory samples for permeability and other tests not be obtained until he could increase moisture content, rework and reachieve compaction required. Contractor wet clay for this area then reworked and recompacted the clay and density tests 358A to 360A were performed.

Additionally, area of failing permeability sample P-16 was also reworked and retested as density No. 336A. Of the density tests performed on reworked clay, only 360A met the required 92 percent compaction and Dick Austin said he would wait until clay dries out some, then recompact it.

Grade work was completed on finished subgrade between 82+10 to 83+38N and 121+50 to 125+50E and density tests were performed.

Subgrade was excavated for sump at east side of phase. Rain came before as-builts and testing could be performed.

Density tests 358-367, 336A, and 358A-360A were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY JT WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: August 9, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 9, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed clay subbase from 83+10 to 83+40N to 114+00 to 121+00E, after scraping sand off and tapering existing clay subbase at the tie-in at 83+40N.

Clay placement from 82+10 to 83+10N and 116+00 to 123+50E was finished being worked and compacted. Density tests 368 to 370 were performed on this area. A new proctor sample was obtained due to a clay change. Dick Austin (R.B. Baker) was notified that density test results could not be computed until new proctor could be run. Dick requested that samples for permeability (P-19 and P-20), percent fines, and atterberg limits be taken for laboratory testing due to time required to run proctor and permeabilities.

Phase IVC

Contractor started cleaning off liner tie-in. Minor grade work was done to level off tire ruts so water would not collect in the event of rain.

Density tests 368-370 were performed on clay subbase as previously mentioned, and awaiting proctor results for calculation. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
John Teague
BY JP WITH PERMISSION

James J. Gallup
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 10, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 10, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed clay from 83+10 to 83+40N and 121+00 to 123+50E, then from 82+10 to 83+40N and 123+50 to 124+50E.

Sump at east end was re-excavated after water was pumped out. Bottom was recompacted and a density test was performed on the subgrade; then the contractor began placing clay in bottom of sump.

Clay subbase was recompacted from 80+30 to 82+10N and 121+50 to 125+50E, including area of failing permeability (P-16). Compaction of clay subbase was also completed from 83+10 to 83+40N and 114+00 to 121+00E and density test was performed. After density testing the areas, samples were taken for laboratory testing of permeability (P-21 through P-23, including P-16A which is a retest of failing permeability sample P-16), percent fines and Atterberg limits.

Subgrade was graded from 80+30 to 83+38N and 113+60 to 114+00E including leachate trench. Subgrade was compacted and density tests were performed on finished subgrade.

Phase IVC

Work continued on cleaning off liner tie-in on north side of phase.

Density test Nos.371-374, 358B, 359B, 360B, 361A, 362A, and 336B were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY JP WITH PERMISSION

Reviewed By: James G. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 11, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 11, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B Baker Construction, Inc. finished compacting clay subbase placed in sump and a density test was performed. Subgrade was compacted from 125+50E to toe of anchor berm and a density test was performed on the finished subgrade.

Clay was placed from 80+30 to 83+40N and 113+60 to 114+00E, 82+10 to 83+40N and 124+50 to 125+00E. A clay plug was installed temporarily n sump from top of clay subbase to projection of valley to allow water to drain instead of collecting in sump if it rains.

Contractor began grading clay subbase today in southwest corner of phase.

Phase IVC

Contractor continued cleaning off liner tie-in and leveling out ruts in previously placed fill.

Density test Nos.375-376 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 14, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 14, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. stockpiled clay from 125+00 to 125+50E for finishing clay subbase and for anchor trench. Clay was then stockpiled in southwest corner of Phase VD for use in other phases.

Contractor recompacted anchor berm and failing 3rd lift tests were retested as #338A and 341A.

Density tests 377-379 were performed on 4th and final lift (finished subgrade) on east side of anchor trench. Please see density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 15, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 15, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. re-excavated anchor trench another foot and a half due to trench not being wide enough. Contractor began spreading clay stockpile east from 125+50E eastward and into anchor trench. Clay was stockpiled in southwest corner of phase VD today.

Grade crew worked on rough grading (removing ruts) east of 116+00E.

Phase IVC

Previously placed 2nd lift between 80+30 to 81+30 and 105+50 to 102+50E was tested for density and passed. Previously failing density on 1st lift was retested as 271A and passed. The 2nd lift of fill was placed today from 80+30 to 81+30N and 102+50 to 100+50E.

Previously placed 2' thick lift from 80+30 to 81+30N and 108+50 to 105+50E was tested 1-foot down to represent what should have been tested as 2nd lift. Test between 108+50 to 107+50E passed but test between 107+50 to 105+50E failed to meet required 96 percent compaction. Contractor will recompact this area further, then it will be retested.

Density tests 271A and 380-385 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 16, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 16, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. recompacted clay subbase north of leachate trench (82+10N). Failing density tests 368, 369, and 374 were retested along with remaining density tests required for phase north of 82+10N and they met the required 92 percent compaction. Laboratory samples were then taken for percent fines, Atterberg limits and permeability testing (P-24). Clay was placed in anchor trench on east side of phase.

Finished clay subbase is being graded from 82+10 to 83+40N and 113+60 to 116+00E.

Phase IVC

The 3rd lift of fill is being placed from 80+30 to 81+30N and 105+50 to 104+50E. Spoil piles from cleaning off liner tie-in are being hauled to stockpile in southwest corner of phase VD.

Density tests 368A, 369A, 374A, and 386-391 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 17, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 17, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. completed grading clay from 113+75 to 116+00E today.

Phase IVC

The third lift of fill was placed from 80+30 to 81+30N and 104+50 to 102+50E. Only 6 loads of fill were delivered to site today due to pit entrance road problems. The remainder of fill came from the re-excavation of ditch 'B' (north end).

Phase VA

Contractor began removing clay ramps used to truck clay into phase IIIC.

No density tests were performed today.

Required thickness checks were performed on clay subbase on phase IIIC from 80+30 to 83+40N and 113+75 to 116+00E; and found to have the required 6 inches or greater thickness.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 18, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 18, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. started grading clay from 116+00E, eastward, Contractor also continued dragging clay west of 116+00E with a screen in preparation for liner placement.

Phase IVC

The 3rd lift of fill was placed from 80+30 to 81+30N and 102+50 to 101+50E and then compacted previously placed 3rd lift. Hauling of spoil piles from liner tie-in clean off continued into phase VD stockpile.

Phase VA

An area was filled, compacted and graded from 79+80 to 80+30N and 119+00 to 121+00E. Density tests were performed in this area (test nos. 392-395). Please see density reports for more information. Shaun Eiserman (R.B. Baker) was notified that the area from 79+80 to 80+30N and 121+00E to 124+00E contained unsuitable fill (a lot of grass roots and traces of garbage) that needs to be removed and replaced with clean fill before proceeding.

Phase VD

Contractor continued to haul clay to site and place in stockpile in southwest of corner of phase for future use.

Clay thickness checks were performed on phase IIIC clay subbase from 80+30 to 82+10N and 113+75 to 116+00E and found to be equal to or greater than the required 6-inch thickness.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 21, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 21, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading clay subbase east of station 116+00E. A thickness check was performed at 115+50E and 81+10N at the request of Bill Davidson (ETM) and found to have 6-1/4" of clay subbase.

Phase IVC

Third lift of fill was placed from 80+30 to 81+30N and 101+50 to 100+50E and started compacting. Failing density tests 384 and 385 on 2nd lift of fill were retested along with 3rd lift of fill from 80+30 to 81+30N and 110+50 to 101+50E which was compacted on Friday, and passed. Clean-up of piles along north side, from liner clean off, continued. Another grade crew arrived today and began balancing fill on south side of phase.

Phase VA

Density testing of existing grade south of 79+10N was completed, after stripping and compacting area was complete. First lift of fill was placed from 77+60 to 79+00N and 114+00 to 117+50E. This area was not compacted today since the roller was broken down.

Phase VD

Contractor continued stockpiling clay from pit and grading operation in phase IIC, in southwest corner of this phase. Density tests 384A, 385A and 396-409 were performed today. Please see density report for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 22, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on August 22, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. completed grading clay subbase from 116+00 to 120+00E, and required thickness checks were performed.

Phase IVC

Grade work on south half subgrade and clean-up along liner tie-in continued today. Third lift of fill from 80+30 to 81+30N and 101+50 to 100+50E was compacted and tested for density.

Phase VA

First lift of fill was placed from 77+60 to 79+00N and 117+50 to 120+50E. First lift of fill was compacted, tested, recompacted, then retested for density from 77+60 to 79+00N and 114+00 to 117+50E.

Phase VC

Contractor began stripping grass in northeast corner of phase.

Phase VD

Stockpiling of clay continued in southwest corner of phase from clay pit and excess clay from Phase IIIC.

Density tests 410 through 414 and 412A were performed today. Please see density report for more information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 23, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 23, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. did touch up work on clay subbase from 116+00 to 120+00E in preparation for HDPE liner. Contractor removed and replaced clay in an area about 4 feet wide along station 83+10N from 115+85 to 116+75E because the area was pumping and rutting due to a thin wet sand seam trapped in the clay layer. Grading of clay subbase continued east of station 120+00E.

Phase IVC

Clean-up along north edge of piles from liner tie-in and grading of subgrade on south side continued today.

Phase VA

First lift of fill from 77+60 to 79+00N and 117+50 to 120+50E was compacted and tested for density. Contractor continued placing 1st lift of fill today, from 77+60 to 79+00N and 120+50 to 123+50E.

Phase VC

After completion of stripping grass and removing stumps, existing subgrade was compacted and tested for density between 79+05 to 80+05N and 106+00 to 112+50E. Stripping of grass and removing of stumps continued on the remainder of this phase.

Phase VD

The stockpiling of clay from Phase IIIC and from clay pit continued in the southwest corner of phase.

Density tests 415 through 422 were performed today. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 24, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 24, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading clay east of 120+00E. Contractor removed and replaced clay in an area about 4 feet wide along station 83+00N from 117+15 to 117+80E because the area was pumping and rutting due to a thin wet sand seam in the clay layer. Touch-up work on clay subbase continued from 116+00 to 120+00E in preparation for HDPE liner. Thickness checks were performed at the following locations at the request of Bill Davidson (ETM).

117+00E and 81+60N – 6-1/4" clay subbase
118+50E and 80+30N – 7-3/4" clay subbase
118+50E and 80+60N – 7-1/2" clay subbase

Additional thickness checks were also performed at the following locations based on visual observation of clay tie-in:

118+50E and 83+39.5N – 7" clay subbase
119+25E and 83+39.5N – 8" clay subbase

Phase IVC

Grading of subgrade continued on north side of phase.

Phase VA

First lift of fill was compacted and tested for density from 77+60 to 79+00N and 120+50 to 121+50E. First lift of fill was placed 77+60 to 79+00N and 123+50 to 125+00E. Fill from 122+00 to 125+00E is too wet to compact and Dick Austin (R.B. Baker) was notified of this.

Phase VB

Grass was stripped, then existing grade was compacted and tested for density from 77+35 to 77+60N and 114+00 to 121+50E. First lift of fill was then placed from 77+35 to 77+60N and 114+00 to 117+50E.

Phase VC

The stripping of grass continued in this phase today.

Phase VD

Contractor continued to stockpile clay from phase IIIC and clay pit in the stockpile in the southwest corner of this phase.

Density tests 423 to 425 were performed today. Please see density reports for more information.

Respectfully Submitted:

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John Teague

BY JT WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 25, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 25, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading clay subbase from 120+00 to 125+00E and touching up clay surface for liner placement from 117+50 to 125+00E. Required thickness checks were performed between 120+00 to 122+00E.

Phase IVC

Grading of subgrade continued today.

Phase VA

Second lift of fill was placed from 77+60 to 78+60N and from 114+00 to 115+00. Fill was coming in too wet to compact and R. B. Baker Construction is aware of fill condition.

Phase VB

First lift of fill was compacted and tested for density from 77+35 to 77+60N and 114+00 to 117+50E. First lift of fill was placed from 77+35 to 77+60N and 117+50 to 121+50E, then 2nd lift was placed from 77+35 to 77+60N and 114+00 to 117+50E This fill is also coming in too wet to compact at this time These areas will be compacted and tested for density when fill dries enough to allow compaction.

Density test #426 was performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: August 26, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 26, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

Clay subbase is too wet to work and thickness checks will be done from 122+00 to 125+00E next week when clay dries enough to walk on.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 28, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on August 28, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R B. Baker Construction, Inc. began touching up clay after rains from 120+00 to 125+00E. Thickness checks were performed from 122+00 to 125+00E. Thickness check at 81+90N and 124+95E was only 5-1/4" thick, thickness checks were then performed on clay subbase in all four directions until 6 inches or greater clay thickness was encountered. The area containing less than the required 6 inches appears to be a low spot in clay subbase. Contractor scarified surface of clay from 81+85 to 82+00N and 124+80 to 125+10E and added clay Clay was then compacted and graded, then thickness was rechecked at previously failing station and found to be 7-3/8 inches thick.

Phase IVC

Grading of subgrade continued.

Phase VA

Second lift of fill was placed from 115+00 to 120+50E and 77+60 to 78+60N. First lift of fill was compacted and tested for density from 121+50 to 125+50E and 77+60 to 78+60N.

Phase VB

First lift of fill was compacted and tested for density from 117+50 to 121+50E and 77+35 to 77+60N. Failing test #427 was recompacted and retested and density passed. Second lift of fill was placed from 115+00 to 120+50E and 77+35 to 77+60N. Fill is too wet to compact. Grass was stripped, then existing grade was compacted and tested for density from 121+50 to 125+50E and 77+35 to 77+60N.

Phase VC

Grass is being stripped from phase.

Density tests #427 to 432 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 29, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 29, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R B. Baker Construction, Inc was unable to work on clay subbase because clay is wet.

Phase IVC
Grading of subgrade continued today.

Phase VA
Unable to access phase due to wet conditions from rain last night.

Phase VB
Contractor is stripping grass. First lift of fill was placed from 79+30 to 80+05N and 112+50 to 105+50E Fill is still coming in wet and this was discussed with Dick Austin (R B. Baker). After stripping grass, existing grade was compacted and tested for density from 79+30 to 80+05N and 106+00 to 100+50E.

Density test #433 to 436 were performed today. Please see density reports for additional information

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 30, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 30, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R.B. Baker Construction, Inc. worked on touching up clay for placement of HDPE liner from 122+50 to 125+50E.

Phase IVC
Grade work continued on subgrade and contractor began removing top foot of subgrade and replacing it along tie in, due to clay spoils in subgrade.

Phase VA
Third lift of fill was placed from 77+60 to 78+10N and 116+00 to 199+00E, after 2nd lift was compacted and tested from 77+60 to 78+60N and 114+00 to 120+00E. Density tests failed to meet required 96% compaction between 114+00 to 116+00E because of high moisture content, and fill is too wet for roller to compact from 120+00 to 125+50E. No fill was placed on 2nd lift in these areas.

Phase VB
First lift of fill was placed from 77+35 to 77+60N and 121+50 to 125+50E and compacted. Density test failed due to high moisture content. Second lift was compacted and tested for density from 77+35 to 77+60N and 114+00 to 120+50E. Third lift was placed from 77+35 to 77+60N and 116+00 to 119+00E. Contractor continued stripping and hauling of grass.

Phase VC
Density tests were performed on existing grade south of 79+10N.

Density tests 437 through 464 were performed today. See density reports for additional information.

Respectfully Submitted:
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** August 31, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on August 31, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R. B. Baker Construction, Inc. continued touching up clay for HDPE liner placement.

Phase IVC
Grade work continued on subgrade and density tests were performed on final lift of special compaction areas.

Phase VA
Previously placed fill is still too wet to compact.

Phase VB
Contractor continued stripping and hauling of topsoil.

Phase VC
Previously placed 2nd lift of fill from 80+05 to 80+30N and 112+50 to 105+00E was tested for compaction and passed. Bottom foot of a 2+ feet lift was tested between 80+05 to 80+30N and 105+00 to 100+50E and failed to meet required compaction. Contractor cut this area back down to a 1' thick lift and recompacted. Failing test was then retested as #467A and passed required density. First lift of fill was placed from 79+30 to 80+05N and 105+50 to 100+50E. The first lift was compacted from 79+55 to 80+05N and 112+50 to 100+50E, tested for density and passed. Second lift was placed from 79+50 to 80+05N and 110+50 to 107+50E.

Density tests 465 through 486 and 467A were performed today. Please see density report for more information.

Respectfully Submitted:
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 1, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 1, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. placed 1st through 3rd lifts on anchor berm trench/subgrade and compacted each lift. Density tests were performed on 1st and 2nd lifts. Rain started before 3rd lift could be tested. Contractor excavated and compacted subgrade for leachate trench from 101+00 to 103+50E and density tests were performed.

Phase VA

Area was too wet to work in today.

Phase VB

Contractor began compacting existing grade and continued to haul off stripping.

Phase VC

Second lift of fill was placed from 80+05 to 79+50N and 107+50 to 100+50E and between 80+05 to 80+30N and 105+00 to 100+50E. Second lift was compacted, but rain started before density tests could be performed.

Density tests 487 through 491 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 5, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 5, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. began placing 4th lift for anchor berm/trench after 3rd lift was tested for density. Leachate trench was excavated, compacted, and tested for density from 103+50 to 108+00E.

Phase VA

Second lift of fill was compacted and tested from 77+60 to 78+60N between 114+00 to 116+00E and 120+00 to 125+50E. Retests of failing tests 439 and 440 passed as 439A and 440A. Grade crew placed and compacted 1st lift of fill from 77+60 to 79+10N and 113+50 to 114+00E and lift was tested for density. Grade crew placed 3rd lift of fill from 77+60 to 78+10N between 115+00 to 116+00E and 119+00 to 120+50E.

Phase VB

First lift of fill was recompacted and retested as #438A, then 2nd lift was placed, compacted, and tested for density from 77+35 to 77+60N and 121+50 to 125+50E. Grade crew began placing 3rd lift from 77+35 to 77+60N and between 115+00 to 116+00E and 120+50 to 119+00E.

Phase VC

First lift of fill was placed from 77+60 to 79+10N and 112+75 to 110+00E.

Phase VD

Existing grade was compacted and tested for density after grass was removed from 77+10 to 77+60N and 112+75 to 103+00E.

Density tests 438A to 440A and 492-512 were performed today. Please see density reports for more information.

Respectfully Submitted:
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

BY JT WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: September 6, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 6, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. excavated leachate trench from 108+00 to 108+75E and stopped due to rain.

Phase VA

Grade crew started balancing fill on south side but had to stop because of rain.

Phase VD

First lift of fill was placed from 77+10 to 77+60N and 112+75 to 109+50E, then stopped due to rain. Contractor began stripping grass due to other operations being suspended because of rain.

Density tests 513 to 515 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: September 7, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 7, 2000, to observe earthwork and perform soil testing as needed.

R. B. Baker Construction, Inc. suspended operations in all phases today due to yesterday's rain and additional rain forecasted for today.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
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WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT. TrailRidge Landfill - 3rd Increment
DATE: September 8, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 8, 2000, to observe earthwork and perform soil testing as needed

Phase VC

R. B. Baker Construction, Inc. placed 1st and 2nd lifts of fill in an existing small swale that runs from 77+10 to 79+10N between 110+00 and 108+00E. First lift was compacted and tested for density, then 2nd lift was placed and compaction started. First lift of fill was placed from 77+60 to 79+10N and 110+00 to 107+50E.

Phase VD

First lift of fill was placed from 77+10 to 77+60N and 109+50 to 107+50E; and contractor continued stripping grass in this phase.

Density tests 516 and 517 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 11, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 11, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. rerolled finished subgrade and density tests were performed between 80+30 to 82+30N and 101+50 to 107+50E. Fourth lift of anchor berm fill was tested for density and contractor excavated anchor trench.

Phase VA

Grade crew continued balancing fill on south side of phase and is placing fill along south ridge line.

Phase VC

Second lift of fill in existing swale from 77+10 to 79+10N and between 110+00 and 108+00E was tested for density then a lift of fill was placed to bring it up level with the first lift of fill from area around it. Area of existing grade that failed density was recompacted and retested as #456A and passed. First lift of fill was placed from 77+60 to 79+10N and compaction of fill was started. First lift of fill was compacted and tested for density from 77+60 to 78+60N and 112+75 to 108+50E.

Phase VD

First lift of fill was placed and compaction started from 77+10 to 77+60N and 107+50 to 105+50E. First lift was compacted and tested for density from 77+10 to 77+60N and 112+75 to 108+00E. Density tests #456A and 518-540 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 12 , 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 12, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. excavated leachate trench and then the subgrade was compacted and tested for density from 108+00 to 113+00E. Contractor graded anchor berm/trench subgrade and finished subgrade was tested for density. Density tests were performed on finished subgrade compacted yesterday evening from 82+30 to 83+35N and 101+50 to 107+50E.

Phase VC

First lift of fill was compacted and tested for density from 77+60 to 78+60N and 108+50 to 105+50E. Second lift of fill was placed from 77+60 to 78+60N and 112+75 to 108+50E and contractor started compacting. Grade crew is balancing fill out north of 79+10N.

Phase VD

First lift of fill was compacted and tested for density from 77+10 to 77+60N and 108+00 to 105+50E. Second lift was placed from 77+10 to 77+60N and 112+75 to 108+50E and compaction started.

Density tests 541 through 562 were performed today. Please see density report for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 13, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 13, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. placed clay subbase from 80+30 to 82+10N then started working and compacting clay. Density tests were performed on finished subgrade from 80+30 to 81+30N and 107+50 to 112+50E today.

Phase VB

Existing grade that was compacted yesterday evening from 76+85 to 77+35N and 113+50 to 125+00E was tested for density.

Phase VC

Second lift of fill was placed from 77+60 to 78+60N and 108+50 to 106+50E. Second lift of fill was compacted and tested for density from 77+60 to 78+25N and 112+75 to 107+00E.

Phase VD

Second lift of fill was placed from 77+10 to 77+60N and 108+50 to 106+50E. Second lift of fill was compacted and tested for density from 77+10 to 77+60N and 112+75 to 107+00E today.

Density tests 563 through 580 were performed today. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 14, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 14, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. began regrading and touching up clay subbase east of station 124+50E.

Phase IVC

Contractor placed clay subbase, hauled from pit and on-site stockpile, between 82+10 to 83+35N and 100+65 to 104+00E. Clay was also placed from 80+30 to 82+10N and 103+00 to 103+50E. The contractor started compacting clay but a brief shower made clay too slick and compaction had to be stopped until clay dried. Density tests were performed on clay subbase from 80+30 to 82+10N and 100+65 to 103+00E. The clay was sampled for laboratory testing of permeability (P-25), percent fines and Atterberg limits after clay had been compacted. Density tests were performed on finished subgrade from 81+30 to 82+30N and 107+50 to 112+50E.

Phase VC

Second lift of fill was placed, compacted and tested from 77+60 to 78+25N and 106+50 to 105+50E. Fill was shut down after lunch to concentrate on hauling clay for Phase IV.

Phase VD

Second lift of fill was placed, compacted and tested for density form 77+10 to 77+60N and 106+50 to 105+50E.

Density tests 581 to 589 were performed today. Please see density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

BY JT WITH PERMISSION

James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 15, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 15, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. hauled clay from pit and on-site stockpiled. Contractor placed and worked clay then started compacting from 80+30 to 82+10N and 103+50 to 106+00E. Clay was also placed from 82+10 to 82+35N and 104+00 to 105+00E.

Density tests 590 to 595 were performed on finished subgrade from 82+30 to 83+35N and 107+50 to 113+00E. Contractor also recompacted the area of failing test #584 from yesterday then the area was retested for density and passed as #584A. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 16, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 16, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. placed clay subbase from pit between 82+10 to 83+35N and 105+00 to 108+50E and rolled the clay to seal it as a means of protection from anticipated rain.

Contractor finished working and compacting clay subbase form 80+30 to 83+35N and 100+65 to 106+00E. Density tests #596 through 601 were performed. Clay subbase was sampled for laboratory testing of permeability (P-26 to P-28), percent fines and Atterberg limits.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 18, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 18, 2000, to observe earthwork and perform soil testing as needed.

R. B. Baker Construction, Inc. plans to only work on erosion repairs and control today due to rain over the weekend.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 19, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 19, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. is removing clay stockpile along south edge of phase, and using it to build clay berm along the west side of liner at 113+80E.

Phase IVC

Contractor placed, worked, and compacted clay subbase from pit between 80+30 to 82+10N and 106+00 to 109+00E. Density tests 602 and 603 were performed on clay and samples were taken for laboratory testing of permeability (P-29), percent fines and Atterberg limits.

Contractor was allowing clay subbase placed on September 16, 2000, to dry further before working and compacting the clay.

Aggregate from on-site stockpile for Phase IIIC sump was sampled for laboratory testing of calcium carbonate content and sieve analysis.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 20, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on September 20, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. completed working and compacting clay subbase placed on September 16, 2000, between 82+10 to 83+35N and 105+00 to 108+50E after it had dried sufficiently. Density tests were then performed and clay was sampled for laboratory testing of permeability (P-30), percent fines, and Atterberg limits.

Contractor placed clay subbase from stockpile in phase VD and clay pit between 80+30 to 82+10N and 109+00 to 110+50E, then 82+10 to 83+35N and 108+50 to 111+50E. Clay was worked and compacted from 108+50 to 110+50E and density tests were performed.

Density #606 failed due to high moisture. Dick Austin (R. B. Baker) was notified, and will allow clay to dry then rework and recompact. Clay from 82+10 to 83+35N and 110+50 to 111+50E was only seal rolled due to rain starting at end of day.

Density tests 604 to 607 were performed today on phase IVC clay subbase. Please see density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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BY dp WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 21, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 21, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. placed clay subbase from pit from 80+30 to 82+10N and 110+50 to 112+50E then from 82+10 to 83+35N and 111+50 to 112+50E. Clay subbase was then worked, compacted, and tested for density; then samples were taken for laboratory testing of permeability (P-31 and P-32), percent fines and Atterberg limits. Clay was then stockpiled along the east side of 112+50E to approximately 112+70-75E.

Density tests 608 to 610 were performed today. Please see density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 22, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 22, 2000, to observe earthwork and perform soil testing as needed.

Phase VC

R.B. Baker Construction, Inc. placed the 3rd lift of fill from 77+60 to 78+20N and 112+75 to 108+50E and started compacting.

Phase VD

Third lift of fill was placed from 77+10 to 77+60N and 112+75 to 108+50E and contractor began compacting fill.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 25, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 25, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. began grading clay subbase.

Phase VC

Third lift of fill was placed from 77+60 to 78+20N and 108+50 to 106+50E. First lift of fill was placed from 77+60 to 79+10N and 105+50 to 102+50E and contractor began compacting fill.

Phase VD

Third lift of fill was placed from 77+10 to 77+60N and 108+50 to 106+50E and first lift from 77+10 to 77+60N and 105+50 to 102+50E and began compacting fill.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 26, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 26, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. is touching up clay surface east of 124+50E in preparation of liner placement and excavated anchor trench north of 82+10N.

Phase IVC

Clay subbase was reworked, recompacted and retested for density (#606A) after drying sufficiently, from 80+30 to 82+10N and 109+00 to 110+50E. After density passed, clay was sampled for laboratory testing of permeability (P-33), percent fines, and Atterberg limits.

Grade work continued on clay on north side of phase.

Phase VC

First lift of fill was compacted and tested for density from 77+60 to 78+60N and 105+50 to 102+50E. First lift of fill was placed from 77+60 to 79+10N and 102+50 to 100+50E and compaction started.

Phase VD

First lift of fill was compacted and tested for density from 77+10 to 77+60N and 105+50 to 102+50E. First lift was placed and compaction started from 77+10 to 77+60N and 102+50 to 100+50E.

Density tests #611 through 615 and 606A were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY JP WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 27, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 27, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. removed clay from 80+30 to 80+60N and 125+50 to 126+00E due to clay being too high, as a result of subgrade being too high. Subgrade was then cut down and clay subbase replaced. Temporary drainage ditch through anchor berm was backfilled and tested in lifts. Sump was excavated, clay was recompacted and failing density test #375 was retested as #375A. Anchor trench was excavated south of 82+10N.

Phase IVC

Grade work continued on clay subbase.

Phase VC

First lift of fill was compacted and tested for density from 77+60 to 78+60N and 102+50 to 100+50E Second lift was placed from 77+60 to 78+60N and 105+50 to 101+50E and compaction started.

Phase VD

First lift of fill was compacted and tested for density from 77+10 to 77+60N and 102+50 to 100+50E. Second lift was placed from 77+10 to 77+60N and 105+50 to 101+50E and compaction started.

Density tests 616 through 622 and 375A were performed today. Please see density report for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC

John Teague

BY DP WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 28, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 28, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. compacted clay subbase and a density tests was performed on temporary drainage ditch through anchor berm. As-builts on clay subbase in sump revealed clay was one foot too high. Sump was then re-excavated to correct elevation, recompacted and retested as test #375A. Test #375A from yesterday was deleted because it was not at correct elevation. Clay subbase was compacted (from subgrade repair) between 80+30 to 80+60N and 125+50 to 126+00E and tested for density. Clay thickness was then checked at station 80+45N and 125+70E and was 9-1/4" thick. Required clay thickness checks were performed from 125+50 to 126+00E.

Phase IVC

Grading of clay subbase continued.

Phase VC

Second lift of fill was placed from 77+60 to 78+60N and 101+50 to 100+50E. Second lift of fill was then compacted and tested for density from 77+60 to 78+20N and 105+50 to 100+50E.

Phase VD

Second lift of fill was placed from 77+10 to 77+60N and 101+50 to 100+50E. Second lift of fill was then compacted and tested for density from 77+10 to 77+60N and 105+50 to 100+50E. Existing grade was compacted and tested for density, then 1st lift of fill placed from 74+60 to 77+10N and 112+00 to 110+00E. First lift of fill was placed, compacted, and tested for density in existing swale between stations 113+00 to 112+00E and 77+00 to 77+60N.

Density tests 623-638 and 375A were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** September 29, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 29, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC
R.B. Baker Construction, Inc. continued grading clay subbase.

Phase VC
Third lift of fill was placed from 77+60 to 78+20N and 106+50 to 101+50E. Contractor also began placing first lift of fill for anchor berm.

Phase VD
First lift of fill was compacted and tested for density then recompacted and retested for density at failing tests 639 and 640 as 639A and 640A between 74+60 to 77+10N and 112+00 to 110+00E. Second lift of fill was placed, compacted and tested for density at existing swale between 77+00 to 77+60N and 113+00 to 112+00E. Third lift of fill was placed from 77+10 to 77+60N and 106+50 to 101+50E.

Density tests 639 to 646 and 639A and 640A were performed today. Please see density reports for more information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 2, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 2, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

Clay anchor trench was backfilled and compacted in lifts so anchor trench could be re-excavated in correct location, then trench was re-cut.

Phase IVC

Grade work continued on clay subbase.

Phase VB

First lift of fill was placed from 76+85 to 77+35N and 114+50 to 118+00E.

Phase VC

Third lift of fill was placed from 77+60 to 78+20N and 101+50 to 100+50N. First lift of fill for anchor berm/trench was compacted and tested for density; then second and third lifts were placed, compacted and tested for density.

Phase VD

Third and fourth lifts of fill were placed, compacted, and tested for density of backfill in existing swale between 77+00 to 77+60N and 113+00 to 112+00E. Third lift of fill was placed from 77+10 to 77+60N and 101+50 to 100+50E.

Density tests 647 to 654 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY JT WITH PERMISSION

Reviewed By: James J. Gallup

LAW
LAWGIBB Group Member
3901 Carmichael Avenue
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 3, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 3, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. finished south end of anchor trench excavation of clay subbase. Additional thickness checks were performed in the anchor trench, for clay subbase, at 80+35N as requested by Bill Davidson (ETM) and results were as follows:

12-1/2" top of east slope
8" bottom of east slope
15+" middle of west slope

AASHTO No. 3 coarse aggregate was placed in secondary sump.

Phase IVC
Grade work continued on clay subbase today.

Phase VB
First lift of fill was placed from 76+85 to 77+35N and 118+00 to 124+75E. First lift of fill was compacted and tested for density from 76+85 to 77+35N and 114+50 to 123+00E.

Density tests 655 through 658 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 4, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 4, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

R. B. Baker Construction, Inc. placed and compacted second lift of fill and density tests were performed from 77+35 to 78+50N and 113+50 to 114+00E.

Phase VB

First lift of fill was placed, compacted, tested for density, then recompacted from 76+85 to 77+35N and 113+50 to 114+50E. Second lift of fill was placed from 76+85 to 77+35N and 114+50 to 124+75E. Existing grade was compacted and tested from 74+85 to 76+85N and 114+50E eastward to east anchor berm. Test #675 failed since some topsoil was not removed. Contractor will remove remaining topsoil and recompact this area so it can be retested.

Density tests 659 to 680 and 660A were performed today. Please see density reports for additional information.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 5, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 5, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued grading clay subbase and began preparing clay for liner placement on west end of phase. Contractor also began cutting leachate trench from west end.

Phase VB

First lift of fill was placed from 76+30 to 76+85N and from 119+00E to east anchor berm.

Phase VC

Fill was stockpiled on anchor berm for placement of 4th lift.

Seventy-seven loads of sand were hauled from the pit today and placed in stockpile in southeast corner of Phase VD. A chain of custody is kept on sand by LAW.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 6, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 6, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. continued preparing clay subbase on west end for liner placement and continued cutting leachate trench on east end of phase Required thickness checks were performed on clay subbase from 100+64 to 106+00E and were all 6" or greater.

Phase VA

Third lift of fill was placed from 77+60 to 78+10N and 113+50 to 114+00E.

Phase VB

First lift of fill was placed from 75+00 to 76+10N and 119+50E to east anchor berm.

Phase VD

Existing grade was compacted and tested for density after stripping of grass was completed from 74+25 to 74+75N and 112+00 to 114+00E. First lift of fill was then placed for a haul road for trucks delivering sand to Phase IIIC.

Eighty-eight loads of sand were hauled from the pit today and placed in stockpile in southeast corner of phase VD. A chain of custody is maintained on sand by LAW.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 7, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 7, 2000, to observe earthwork and perform soil testing as needed.

Phase VB

R.B. Baker Construction, Inc. worked to finish stripping grass and roots along the south side of phase.

Phase VC

Worked to spread and compact fill for 4th lift of anchor berm.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 9, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 9, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. began placing sand from stockpile onto liner system. There were 175 loads of sand hauled to the site from the pit today and placed in stockpile in southeast corner of phase VD. A chain of custody is maintained on sand by LAW.

Phase IVC

Contractor continued preparing clay subbase for liner placement on west end of phase. At the request of Bill Davidson (ETM), thickness checks were performed along clay tie-in to Phase IVB. Results and locations are as follows:

100+97E and 83+38N = 3"
100+97E and 83+41N = 6-1/8"
100+97E and 83+36N = 2-1/4"
100+97E and 83+34N = 4-3/4"
101+00E and 83+35N = 4-1/4"
101+50E and 83+38N = 7-1/4"
102+00E and 83+38N = 5-1/2"
102+50E and 83+38N = 6"
103+00E and 83+38N = 5"
103+50E and 83+38N = 4-1/2"
104+00E and 83+38N = 7"
104+50E and 83+38N = 6-1/8"
105+00E and 83+38N = 7-1/2"
105+50E and 83+38N = 8-1/4"
106+00E and 83+38N = 7-3/8"

Bill Davidson notified Dick Austin (R.B. Baker) of the areas that had less than 6" clay thickness. Contractor then removed clay and lowered the subgrade to provide 6" plus clay on all sides; between 83+30 to 83+40N and 100+85 to 101+25E in one section, and from 102+88 to 103+86E and 83+30 to 83+40N in other section. Contractor then began placing clay in these areas and will compact. An area at 102+00E and 83+38N is an apparent low spot in clay and thickness was checked at edges of depression (7'E, 5'W, 2'N and 4'S) and found to be 6" or greater. Contractor will scarify clay and add clay to fill in low spot. Excavation of anchor trench was began but was halted due to alignment problems.

Phase VA

First lift of fill was placed, compacted, and tested for density, then second lift placed on south section of anchor berm.

Phase VB

First lift of fill was placed from 75+00N to south anchor berm and from 119+50E to east anchor berm. Existing grade was recompacted and failing test #675 was retested as #675A after additional stripping of roots and grass was done in this area.

Compaction of existing grade began from 74+85 to 74+35N and 120+00 to 114+00E, after stripping was completed. First lift of fill was also placed from 76+85 to 76+30N and 114+50 to 119+00E, then from 76+10 to 75+00N and 117+50 to 119+50E.

Density tests 682, 683, and 675A were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 10, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 10, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. continued placing sand from stockpile onto liner. There were 202 loads of sand hauled from the pit and placed in stockpile in southeast corner of phase VD. A chain of custody is maintained on sand by LAW.

Phase IVC

Clay was scarified in low spot from 83+34 to 83+40N and 101+95 to 102+07E, then clay was added and area compacted. Clay repairs from yesterday were also compacted from 83+30 to 83+40N between 100+85 to 101+25E and 102+88 to 103+86E. Density test #684 was then performed to verify repairs met required compaction of 92 percent. Thickness checks were then performed on repaired areas at locations that had failed thickness requirement yesterday and the results are as follows:

100+97E and 83+38N = 6-1/4"
100+97E and 83+36N = 6"
100+97E and 83+34N = 7-1/8"
101+00E and 83+35N = 6-1/4"
102+00E and 83+38N = 6-1/2"
103+00E and 83+38N = 6-3/4"
103+50E and 83+38N = 6-1/2"

Anchor trench was excavated today and contractor continued preparing clay subbase for liner placement. Required thickness checks were performed on clay subbase from 106+00 to 112+50E and all met required thickness of 6" or greater.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 11, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 11, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. continued placing sand from stockpile onto liner system. There were 66 loads of sand hauled from pit until about mid-day when hauling was suspended due to road conditions at the pit. Sand was placed in stockpile in southeast corner of phase VD and a chain of custody is maintained on sand from pit by LAW.

AASHTO No. 3 aggregate was placed in leachate trench around HDPE collection pipe between 114+50 to 116+50E.

Contractor placed clay loosely in bottom of anchor trench on top of HDPE liner.

Phase IVC

Contractor continued preparing clay subbase for liner placement Previously placed 5 feet of fill in temporary ditch 'B' from 82+50 to 83+20N was tested in 1-foot lifts with a track hoe digging test holes. Tests 685 to 688 were performed on bottom 4' of 5' of fill. Dick Austin (R.B. Baker) was notified that tests 686 to 688 (bottom 3' of fill) failed required 96 percent compaction. Dick informed us they would remove fill down to bottom foot of fill and then recompact this lift, backfill in one foot lifts and test density as they come up

Phase VA

Grade work on subgrade continued.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 5-10, 2000

A representative of Law Engineering and Environmental Services, Inc (Joshua Richmond) was present at the sand pit for the referenced project on the following dates to observe excavations.

Thursday, October 5, 2000 – 78 loads removed

Friday, October 6, 2000 – 88 loads removed

Monday, October 9, 2000 – 183 loads removed *

Tuesday, October 10, 2000 – 202 loads removed **

* On Monday, 183 loads were removed but load #109 loaded at 12:42 p.m. on truck 874, #121 loaded at 1:37 p.m. on truck 121, and #152 loaded at 3:45 p.m. on truck T35 were removed from their trucks in order to remove trucks from areas where they had slid off the exit road.

** On Tuesday, 202 loads were removed but load #73 loaded at 10:51 a.m. on truck T37 was removed from its truck due to truck sliding off exit road.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Joshua Richmond

Joshua Richmond

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 11-22, 2000

A representative of Law Engineering and Environmental Services, Inc. (Joshua Richmond) was present at the sand pit for the referenced project on the following dates to observe excavations.

Wednesday, October 11, 2000 – 67 loads removed

Thursday, October 12, 2000 – No hauling

Friday, October 13, 2000 – 126 loads removed

Saturday, October 14, 2000 – 131 loads removed

Sunday, October 15, 2000 – No hauling

Monday, October 16, 2000 – 176 loads removed

Tuesday, October 17, 2000 – 175 loads removed

Wednesday, October 18, 2000 – 141 loads removed

Thursday, October 19, 2000 – 156 loads removed

Friday, October 20, 2000 – 59 loads removed

Saturday, October 21, 2000 – 100 loads removed

Sunday, October 22, 2000 – No hauling

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Joshua Richmond
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 12, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 12, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R. B. Baker Construction, Inc. placed sand onto liner system until about 10 a.m. when stockpile in VD was exhausted.

Phase IVC
Preparation of clay subbase for liner placement continued today. Contractor removed top 4 feet (of 5 feet) of fill in temporary ditch 'B' between 82+50 to 83+20N and then extended bottom lift south to 82+20N. First lift was compacted and tested for density and area was filled in one-foot lifts, compacted and tested for densities as they came up. Failing tests 686 through 688 were retested as 686A, 687A and 688A and passed required density of 96 percent.

Phase VA
Grading of subgrade continued.

Phase VB
Density tests were performed on existing grade that had been stripped of grass and compacted from 74+85 to 74+25N and 119+50 to 113+50E. First lift of fill was compacted and tested for density from 75+25 to 75+75N and 115+50E to east anchor berm and from 74+25 to 75+25N and 119+50E to east anchor berm. First lift of fill was placed from 74+25 to 75+00N and 119+50 to 117+50E then from 76+10 to 74+60N and 117+50 to 114+50E. Existing grade was stripped of grass, compacted, and tested for density from 76+85 to 74+85N and 113+50 to 114+50E. Contractor also began placing fill for north half of anchor berm.

Density tests 689 to 703, 686A, 687A and 688A were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 13, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 13, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. hauled 126 loads of sand from the pit today. Sand was stockpiled in southeast corner of Phase VD, and a chain of custody was maintained on sand by Law Engineering. Contractor began placing sand from stockpile onto liner system at 1:00 p.m. when stockpile had been re-established.

Phase IVC

Preparation of clay layer for liner placement continued.

Phase VA

Grading of subgrade continued today.

Phase VB

First lift of fill was placed, compacted and tested for density from 74+60 to 76+85N and 113+50 to 114+50E. First lift of fill was also placed frm 74+60 to 74+25N and 117+50 to 113+50E. Then 1st lift of fill was compacted and tested for density from 75+75 to 75+25N and 115+50 to 113+50E and between 75+25 to 74+25N and 119+50 to 113+50E. The 2nd lift of fill was then placed from 74+25 to 75+50N and 120+00E to east anchor berm

Density tests 704-709 were performed today. Please see density report for additional information.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 14, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 14, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. placed sand from stockpile onto liner system today. There were 130 loads of sand hauled from the pit and placed in stockpile in the southeast corner of phase VD. A chain of custody was maintained on the sand by Law Engineering.

Phase IVC

R. B. Baker finished preparation of clay layer for liner placement up to 112+50E.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: October 16, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 16, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. hauled 175 loads of sand from the pit today. Sand was stockpiled in the southeast corner of Phase VD, and a chain of custody was maintained on the sand by Law Engineering. Clay was placed loosely in bottom of anchor trench, but was not compacted at this time.

Phase VA

Grading of the subgrade was continued today.

Phase VB

Contractor graded the northern 35 feet of subgrade for clay placement. Second lift of fill was placed from 75+50N to south anchor berm and from 120+00 to 117+00E.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 17, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 17, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing sand from stockpile onto liner system. There were 175 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by Law Engineering.

Phase VA

Density tests were performed on finished subgrade between 77+60 to 80+30N and 114+50 to 119+50E today.

Phase VB

The 2nd lift of fill was placed from 77+50 to 74+25N and 117+00 to 114+25E. The 2nd lift of fill was compacted and tested for density from 75+25N to south anchor berm and 117+50E to east anchor berm. Finished subgrade was tested for density from 77+25 to 77+60N and 114+00 to 119+50E.

The contractor began placing fill for the temporary access road to Phase IIIC. The operator informed Law Engineering that he was told by Dick Austin, with R. B. Baker, that no testing was required on fill for the temporary road other than structural fill for Phase VB. Law Engineering has requested direction from ETM regarding the testing of the temporary access road to Phase IIIC.

Density tests 710-728 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 18, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 18, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R.B. Baker Construction, Inc. continued to place sand from stockpile onto liner system today. There were 141 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by Law Engineering.

Phase IVC
Contractor began grading the subgrade from temporary ditch 'B' backfill between 82+20 to 83+40N and 113+00 to 113+50E.

Phase VA
After review of subgrade testing, it was discovered that there was insufficient testing performed on the 1st lift of fill from 79+80 to 80+30N and 113+75 to 126+30E. Additional fill was placed on these areas and not tested. Holes were dug in these areas and the area was tested for density to meet the required frequency.

Finished subgrade was tested for density from 77+60 to 80+30N between 119+50 to 122+50E and 114+00 to 114+50E. Dick Austin (R. B. Baker) was then notified that the top several inches of subgrade east of 122+50E was dry and loose and needed to be wet and recompacted so that density testing could be completed on finished subgrade. Anchor berm was backfilled, compacted, and tested for density in lifts today.

Phase VB
The 3rd lift of fill was placed from 75+30N to south anchor berm and 122+00 to 119+50E. The contractor continued placing fill for the temporary access road to Phase IIIC. Bill Davidson (ETM) notified Law Engineering this afternoon that the temporary roadway is to be tested using the permanent roadway specifications and that a 12-inch stabilized subgrade, meeting an LBR value of 40, is required under the 6 inches of limerock base.

Density tests 729-756 were performed today.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 19, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 19, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing sand from stockpile onto liner system for the first half of the day, when placement was halted so that off-road trucks could be used for leachate trench excavation in Phase VA. There were 152 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by Law Engineering. Clay has been placed on the east side of anchor trench to provide a foundation for the vault box. Dick Austin (R. B. Baker) and Bill Davidson (ETM) were notified that this may not be an acceptable subgrade for vault box bearing surface. Bill Davidson agreed to check suitability of vault box bearing on clay.

Phase IVC

The contractor finished grading and compacting finished subgrade on temporary ditch 'B' backfill from 82+20 to 83+40N and 113+00 to 113+50N, then a density test was performed.

Phase VA

Leachate trench was excavated, compacted, and tested for density from 114+20 to 119+50E. Finished subgrade was set and recompacted from 119+50E eastward, then density tests were performed. Clay was placed from 77+60 to 79+15N and 114+20 to 117+00E. Contractor only seal rolled clay today since there was a shortage of personnel. Dick Austin (R. B. Baker) along with other Baker personnel, were notified that ruts from off-road trucks (used to excavate leachate trench between 79+20 to 79+30N and 115+50 to 119+50E), need to be rolled out before clay is placed.

Phase VB

Density tests were performed on the 2nd lift of fill compacted yesterday between 75+25 to 74+25N and 117+50 to 114+50E. The 3rd lift of fill was compacted and tested for density from 74+90N to south anchor berm and 122+00 to 119+50E. Finished subgrade was tested for density from 77+25 to 77+60N and 122+50E to east anchor berm. Clay was placed from 77+25 to 77+60N and 114+20 to 117+00E.

Density tests 757-778 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: October 20, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 20, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing sand from stockpile onto liner system. There were 59 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of phase VD. A chain of custody was maintained on the sand by Law Engineering.

At 5:00 p.m. today, ETM and Law Engineering notified Dick Austin (R. B. Baker) that clay was an unacceptable bearing soil for the vault box foundation and that bearing surface should be constructed per the Construction Plan.

Phase VA/VB

R. B. Baker was again reminded that ruts from off-road trucks used for leachate trench excavation need to be rolled out from 79+20 to 79+30N and 115+50 to 119+50E before clay was placed in this area. Ruts were finally rolled out from 116+50E to 119+50E. Ruts were not rolled out from 115+50 to 116+50E before clay was placed and this area will require additional thickness checks to assure that the 6-inch minimum required thickness of clay layer was achieved.

The contractor began compacting clay placed yesterday between 77+25 to 79+15N and 114+20 to 117+00E, but rain started before compaction could be completed and operation was halted.

Clay was placed for clay layer from 77+25 to 79+15N and 117+00 to 118+00E then 79+15N to 79+80N and 115+00 to 115+75E. The placement was stopped midday due to rain.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

BY dp WITH PERMISSION

Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 21, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 21, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R B. Baker Construction, Inc. continued placing sand from stockpile onto the liner system. There were 100 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phases VA and VB

Clay was placed from 79+15 to 80+30N and 114+20 to 119+00E. Due to previously placed clay being too wet from yesterday's rain, the contractor was running trucks over the clay they were placing. Therefore they were unable to begin compacting clay placed today until the end of the day. The clay was compacted from 79+15 to 80+30N and 114+20 to 115+25E. The clay from 77+25 to 79+15N and 114+20 to 115+25E had dried sufficiently by the end of the day to compact. Density test #779 was performed on clay subbase from 77+25 to 80+30N and 114+20 to 115+25E, then clay was sampled for laboratory testing of permeability (P-34), percent fines, and Atterberg limits.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 23, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 23, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing sand from stockpile onto the liner system. There were 162 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW. The contractor removed clay from under the vault box area. This area was then backfill, compacted and tested for density in one foot lifts. The remaining aggregate for Phase IIIC has not arrived on site.

Phases VA and VB

Clay was placed between 77+25 to 79+15N and 118+00 to 120+50E from clay pit as well as from 79+15 to 80+30N and 119+00 to 120+50E by spreading existing clay stockpile on north edge of Phase VA. The clay was compacted and tested for density from 77+25 to 80+30N and 115+25 to 118+25E. The clay was then sampled for laboratory testing of permeability (P-35 and P-36), percent fines and Atterberg limits. The subgrade was excavated, compacted, and tested for density at the leachate trench from 119+50 to 125+00E today.

Density tests 780 through 792 were performed today. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 24, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 24, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R B. Baker Construction, Inc. continued placing sand from stockpile onto the liner system. There were 149 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW. The contractor placed the remaining aggregate from the 1st shipment around the primary sump pipe. The 2nd shipment of aggregate began arriving about 1:30 p.m. All but the 1st and last loads appeared to be contaminated with limestone pea rock (3/8" and smaller). Dick Austin and Dean Harris of R.B. Baker along with Bill Davidson (ETM) were notified of this apparent contamination. LAW then sampled aggregate for laboratory testing of gradation and carbon content.

Phases VA and VB

Clay was placed from the pit between 77+25 to 79+15N and 120+50 to 124+00E. The clay was also spread from the existing stockpile on the north edge of Phase VA, between 79+15 to 80+30N and 120+50 to 123+00E. Approximately six loads of clay from the pit were removed due to contamination of topsoil in the clay and Dick Austin (R. B. Baker) was notified of this. The clay was compacted, tested for density, then sampled for laboratory testing of permeability (P-37 and P-38), percent fines, and Atterberg limits between 77+25 to 80+30N and 118+75 to 121+25E Density tests 793 through 796 were performed on the clay subbase. Please see density report for additional information.

The contractor also began excavating the subgrade for the anchor trench today.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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BY JP WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 25, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 25, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing sand from stockpile onto liner. There were 167 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on cover sand by Law Engineering. The contractor began placing and compacting clay for anchor berm construction north of sump. Dick Austin and Dean Harris (R. B. Baker) along with Bill Davidson (ETM) were notified that aggregate sampled yesterday failed to meet the required AASHTO No. 3 gradation requirements.

Phases VA and VB

The clay was placed for clay subbase today between 77+25 to 79+15N and 124+00 to 125+00E and from 79+15 to 80+30N and 123+00 to 125+00E. The clay was then stockpiled along 125+00E for placement onto anchor berm and into sump. The clay was compacted and tested for density from 77+25 to 80+30N and 121+25 to 123+50E then sampled for laboratory testing permeability (P-39 and P-40), percent fines, and Atterberg limits. The subgrade for sump was excavated, compacted and tested for density and excavation of anchor trench subgrade was also completed.

Density tests 797 through 800 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 26 , 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 26, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. continued placing sand from stockpile onto liner system. There were 153 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW. The placement and compaction continued for the anchor berm construction, north of the sump. A representative of Martin Marietta Aggregates met with LAW about aggregate gradation and what appears to be limerock contamination in the stockpiles. The stockpiles were remixed with a loader then resampled for gradation testing. The concrete was placed for the vault box floor slab and cylinder set No. 1 was made on concrete pour. Please see concrete report for additional information.

Phase VA

The clay stockpiled along 125+00E was spread, compacted and tested for density from 77+25 to 80+30N and from 125+00 onto east anchor berm/trench, including sump. Density tests 801 to 804 were performed. The clay was sampled for laboratory testing of permeability (P-41), percent fines, and Atterberg limits, except at test 804 which failed to meet the required density (92 percent) due to high moisture content. The sump was then filled with clay after density testing had been performed on the clay layer that will remain in the sump.

Phase VB

The 3rd lift of fill was placed from 74+25 to 75+30N and 119+50 to 116+50E.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 27, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 27, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing the sand from the stockpile onto liner system. There were 139 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW. Clay for anchor berm construction is being placed in lifts and compacted, using a jumping jack, around riser pipes between the sump and the vault box. The aggregate sample taken yesterday also failed to meet required AASHTO No. 3 gradation requirements. The aggregate stockpile was then screened on-site in the presence of LAW, using a ¾" power screen and limerock along with the smaller granite was removed. A new sample for laboratory testing of gradation was then taken on screened material and a sample was taken from a new load that arrived on-site. LAW's on-site representative received word at the end of the day that both gradation samples taken today met requirements for AASHTO No. 3 aggregate. R. B. Baker and ETM representatives were notified.

Phase IVC

LAW notified Dick Austin (R.B. Baker) that before the clay could be placed, the tie-in in temporary ditch 'B' needed to be cleaned off where sand from temporary ditch 'A' berm had washed into the tie-in area.

Phase VA

The contractor continued clipping off excess clay.

Phase VB

The 3rd lift of fill was placed from 74+25 to 75+30N and 116+50 to 114+00E. The 3rd lift was then compacted and tested for density from 74+25 to 74+90N and 119+50 to 115+00E.

Density tests 805 through 807 were performed today. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 29, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 29, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

R.B. Baker Construction, Inc. is using a bulldozer to clip off excess clay. LAW attempted to resample the area around failing permeability P-36 (25-feet in each direction). The clay in the area appears poorly mixed, so samples were obtained for the soils engineer to observe.

Phase VC

Second lift of fill was placed, compacted and tested from 77+60 to 78+25N and 106+50 to 105+50E. The filling operation was discontinued after lunch to concentrate on hauling clay for Phase IV.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 30, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on October 30, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. continued placing sand from stockpile onto liner system.

Phase IVC

The clay placed in temporary ditch 'B' tie-in over the weekend was wetted and compacted. Test holes were dug to determine if sufficient water had been added but there are still dry seams in the clay. Dick Austin (R.B. Baker) was notified and said that he would rewet the clay before density testing and permeability sampling is performed.

Phase VA

The contractor continued clipping excess clay to a manageable thickness for a motor grader. Dick Austin was notified that the area of failing permeability sample P-36 require mixing. He reworked this area with the pads foot roller to knead the clay. LAW delineated the area as 79+15 to 80+30N and 116+50 to 119+00E. LAW then rechecked the clay and the clay did not appear sufficiently blended. Dick Austin will scarify the area and mix the clay. Moisture content is still too high in the northeast corner of phase and the area failed to meet the required density (test 804).

Phase VD

The existing grade was compacted and tested for density from 76+10 to 77+10N and 102+50 to 110+00E, after grass had been removed. The contractor then began placing the 1st lift of fill from 76+70 to 77+10N and 110+00 to 104+00E.

Density tests 808 through 814 were performed. Please see density reports for additional information.

Respectfully Submitted:
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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** October 31, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on September 16, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B. Baker Construction, Inc. continued placing sand from stockpile onto liner system. AASHTO No. 3 aggregate is arriving on site and the loads appear free from contamination. The contractor is compacting clay in anchor trench, south of the sump.

Phase IVC

The clay was scarified and rewet at ditch 'B' tie-in, north of 82+20N.

Phase VA

The clay was scarified and mixed from 79+15 to 80+30N and 116+60 to 119+00E, then recompacted, retested for density (791A) and checked for mixing. Mixing appeared to be satisfactory so samples were taken for laboratory testing of permeability (P-36A, percent fines, and Atterberg limits). The contractor continued clipping the clay to a manageable thickness for the motor grader.

Phase VD

The 1st lift of fill was placed from 77+10 to 77+60N and 104+00 to 102+50E then 76+70N to 76+10N and 110+00 to 102+50E. The 1st lift was compacted and tested for density from 76+10 to 77+10N and 110+00 to 102+50E and then the 2nd lift was placed from 77+10 to 76+10N and 110+00 to 106+00E.

Density tests 815 through 822 and 791A were performed today. Please see density test reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 1, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 1, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R. B. Baker Construction, Inc. continued placing sand from stockpile onto liner system. The clay anchor berm construction also continued on the east side of this phase.

Phase IVC
The clay at ditch 'B' tie-in was visually inspected, north of 82+20N. Dick Austin agreed that the clay appears to need additional water.

Phase VA
Grading of the clay layer continues.

Phase VB
The 3rd lift of fill was compacted and tested for density from 115+00 to 114+00E and 74+25 to 74+90N. The fill is being stockpiled on the southwest corner of anchor berm.

Phase VD
The 2nd lift of fill was placed from 76+10 to 77+10N and 16+00 to 102+50E. The 2nd lift of fill was compacted and tested for density from 77+10 to 77+80N and 110+00 to 102+50E. The fill is being stockpiled along 76+10N from 110+00 to 102+50E for later use.

Density tests 823 through 826 were performed. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: November 2, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 2, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing sand on liner system until the stockpile was gone. The construction of clay anchor berm continued. Density tests were performed on anchor berm, then samples were taken for laboratory testing of permeability (P-42 to P-44). The concrete was placed for the vault box walls and cylinder set No. 2 was made on the concrete pour. Please see concrete report for additional information.

Phase VA

The fill was placed for the temporary roadway to Phase IIIC. The 1st and 2nd lifts were compacted and tested for density. The 3rd lift was placed and removed because the fill was too wet. The 3rd lift was reconstructed but fill is still too wet and road construction was stopped in order to allow the fill to dry sufficiently for compaction. Grade work continued on clay layer.

Phase VB

The contractor continued stockpiling the fill on the southwest corner of the anchor berm.

Phase VD

The existing grade was stripped of grass, compacted and tested for density from 74+25 to 76+10N and 112+25 to 113+00E. The contractor then began stockpiling fill in this area The clean-up of liner debris and stripping of grass was began between 74+25 to 76+10N and 110+00 to 107+50E.

Density tests 827 through 832 were performed. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 3, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 3, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

R.B. Baker Construction, Inc. continued grading the clay layer and excavation of leachate trench was started.

Phase VB

The 3rd lift of fill was placed, compacted and tested for density on anchor berm from 122+00 to 124+00E. The 4th lift of fill was placed on anchor berm from 119+50 to 124+00E, then compacted and tested for density from 119+50 to 122+00E.

Phase VD

After completion of stripping grass, existing grade was then compacted and tested for density from 74+25 to 76+10N and 110+00 to 107+50E. The contractor then started placing the 1st lift of fill in this area.

Density tests 833 to 840 were performed. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 4, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 4, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. dug holes for the sand thickness checks along both sides of leachate control flap (at 80+60N). Thickness was then checked by LAW and recorded on the attached chart. There were four areas found to be less than the required minimum 24-inch thickness. The contractor filled these areas and then LAW rechecked thickness. The contractor then began constructing leachate control berm along the ridge at 80+60N. Balancing of the sand continued.

Phases VA and VB

Grading of the clay layer and prepping for liner placement continued today. The required thickness checks were performed on finished clay from 77+25 to 80+30N and 114+20 to 116+00E. Additionally, extra thickness checks were performed due to ruts in subgrade, as noted in 10/20/00 report and the results are as follows:

115+50E and 79+20N = 7-1/8"
115+75E and 79+20N = 7-3/4"
116+00E and 79+25N = 6-1/2"
115+50E and 79+30N = 8-1/8"
115+75E and 79+30N = 8-3/4"
116+00E and 79+20N = 8-1/2"
115+50E and 79+25N = 7"
115+75E and 79+25N = 7=1/8"
116+00E and 79+30N = 7-3/8"

Density test 804 was retested as 804A and again failed to meet the required density (92 percent) due to high moisture content.

Phase VD

The contractor continued placing the 1st lift from 74+25 to 76+10N and 110+00 to 107+50E.

Sand thickness checks for Phase IIIC at leachate control flap (80 + 60N)

	5' North (80 + 65N)	5' South (80 + 55N)
115 + 00E	23" *	25"
115 + 50E	27"	31"
116 + 00E	32"	28"
116 + 46E	27"	30"
116 + 93E	29"	31"
117 + 40E	27"	31"
117 + 83E	29"	34"
118 + 20E	30"	27"
118 + 51E	29"	26"
118 + 91E	26"	30"
119 + 24E	24"	26"
119 + 59E	25"	30"
119 + 94E	24"	36"
120 + 34E	24"	29"
120 + 73E	25"	26"
121 + 11E	25"	28"
121 + 48E	26"	31"
121 + 93E	26"	32"
122 + 39E	24"	27"
122 + 80E	22" *	27"
123 + 19E	25"	28"
123 + 53E	27"	31"
123 + 84E	25"	31"
124 + 27E	24"	32"
124 + 61E	25"	30"
124 + 97E	22" *	26"
125 + 30E	22" *	26"
125 + 64E	25"	26"
126 + 00E	31"	30"

Areas after rework (80 + 65N)	
115 + 00E	30"
122 + 80E	30"
124 + 97E	27"
125 + 30E	28"

* These areas were reworked and rechecked.

Note: The stations were not surveyed and are approximate.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 6, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 6, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued constructing leachate control berm along 80+60N line, and grading the sand. The Contractor also started grading the clay anchor berm.

Phases IVC

There were 201 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phases VA and VB

Grading of clay layer and preparing clay for liner placed continued. Required thickness checks were performed on clay layer from 77+25 to 80+30N and 116+00 to 120+00E. Additionally, extra thickness checks were performed due to ruts in subgrade as noted in the October 20, 2000 report and the results are as follows:

116+25E and 79+20N = 8-1/4"	116+50E and 79+20N = 8-1/2"
116+25E and 79+25N = 7-1/8"	116+50E and 79+25N = 6-1/2"
116+25E and 79+30N = 7-3/4"	116+50E and 79+30N = 7-3/8"

Phase VB

A density test was performed on the 4th lift of fill for anchor berm between 124+00 and 122+00E.

Phase VC

Density tests were performed on the 4th lift of fill for anchor berm.

Phase VD

The 1st lift of fill from 74+25 to 76+10N and 110+00 to 107+50E was tested for density.

Please see density report for additional information on Test Nos. 841 through 848.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 7, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 7, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R.B. Baker Construction, Inc. began stormwater control berm construction after LAW checked sand thickness as requested by Bill Davidson (ETM) and the results are as follows:

114+10E and 83+40N = 25"	114+10E and 82+10N = 30"
114+10E and 83+10N = 24"	114+10E and 81+60N = 31"
114+10E and 82+60N = 25"	114+10E and 81+10N = 31"

Note: These stations were not surveyed and are approximate.

Permeability samples P-42 and P-44 were resampled on the clay anchor berm. The contractor continued grading sand.

Phase IVC
There were 267 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phases VA and VB
Grading of the clay subbase layer and preparing the clay for liner system placement continued. Leachate trench was excavated. The clay was scarified in the northeast corner of the phase to let the clay dry out then recompacted and retested as density 804B and sampled for laboratory testing of permeability (P-45), percent fines and Atterberg limits.

Phase VC
The contractor began grading subgrade.

Respectfully Submitted:

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Reviewed By: James J. Gallup

BY dp WITH PERMISSION

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 8, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 8, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. began placing sand in this phase from the stockpile. There were 245 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phases VA and VB

Required thickness checks were performed on clay layer from 77+25 to 80+30N and 120+00E to the eastern anchor berm.

Preparing of clay layer for liner placement also continued

Phase VC

Grading of subgrade continued.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 9, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 9, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. resumed grading of sand.

Phases IVC

Placement of sand from stockpile onto liner system continued today. There were 209 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phases VA and VB

Contractor continued preparing clay layer for liner placement.

Phase VC

Grading of subgrade also continued today.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 10, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 10, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R.B. Baker Construction, Inc. continued grading sand.

Phase IVC
Sand placement from stockpile onto liner system continued today. There were 168 loads of sand hauled from the pit today and placed in stockpile in southeast corner of Phase VD. A chain of custody was maintained on sand by LAW. AASHTO No. 3 aggregate was placed around a 200' section of HDPE pipe in the leachate trench.

Phase VC
Contractor continued grading subgrade today.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 11, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 11, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued grading sand and began placing sand around the stormwater control and leachate control flap intersection.

Phase IVC

Sand placement from stockpile onto liner system continued. There were 125 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on sand by LAW.

Phase VA

The 3rd lift of fill for temporary access road to Phase IIIC was compacted and density tests were performed.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 13, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 13, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. began grading the east slope of clay anchor berm. The contractor also began construction of berms at stormwater and leachate control flap intersections.

Phase IVC

Placement of sand from stockpile onto liner system continued. There were 212 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phase VC

The contractor continued grading subgrade.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill – Phase IVC **DATE:** 11/13/00 – 12/2/00

A representative of Law Engineering and Environmental Services, Inc. (Joshua Richmond) was present at the sand pit for the referenced project on the following dates to observe excavations.

Monday, November 13, 2000 – 213 loads removed
Tuesday, November 14, 2000 – 209 loads removed
Wednesday, November 15, 2000 – 226 loads removed
Thursday, November 16, 2000 – 211 loads removed
Friday, November 17, 2000 – 145 loads removed
Saturday, November 18, 2000 – 151 loads removed
Sunday, November 19, 2000 – No hauling
Monday, November 20, 2000 – 62 loads removed
Tuesday, November 21, 2000 through Monday, November 27, 2000 – No hauling
Tuesday, November 28, 2000 – 125 loads removed
Wednesday, November 29, 2000 – 110 loads removed
Thursday, November 30, 2000 – 160 loads removed
Friday, December 1, 2000 – 240 loads removed
Saturday, December 2, 2000 – 185 loads removed

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 14, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 14, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

Failing permeability P-42 was bracketed 20 feet north and south with samples P-42A and P-42B for laboratory testing.

Phase IVC

R.B. Baker Construction, Inc. wetted and mixed clay at the ditch 'B' tie-in north of 82+20N. The clay subbase was then compacted, tested for density, and sampled for laboratory testing of permeability (P-46), percent fines, and Atterberg limits. The finished subgrade was graded, compacted, and tested for density from 80+30 to 82+20N and 112+50 to 113+00E. The sand placement from stockpile onto liner system continued. There were 208 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phase VA

The 4th and 5th lifts of fill for temporary access road to Phase IIIC were placed, compacted and tested for density.

Phase VC

The contractor continued grading subgrade.

Density tests 849 through 851 were performed. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 15, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 15, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. began wetting the clay stockpile between 80+60 to 82+00N and 112+50 to 112+75E. The sand placement from stockpile onto the liner system continued. There were 225 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phase VA

The contractor finished placing fill for temporary access road to Phase IIIC. The fill was compacted in lifts and density tests were performed. Please see density report for additional information.

Phase VC

Fill was placed, compacted, and tested for density to complete subgrade for the west side of anchor berm. Leachate trench subgrade was excavated from 101+00 to 105+75E. The contractor began wetting and mixing clay stockpiled in Phase VD in preparation to begin placing it for clay subbase.

Density tests 852 through 857 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 16, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 16, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. began removing the top 18 inches of clay on the north side of anchor berm and then replacing and compacting it in lifts.

Phase IVC

Sand placement from stockpile onto the liner system continued. There were 212 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW. AASHTO No. 3 aggregate arrived on site and was sampled for laboratory testing of gradation (Sample #6).

Phases VA and VB

Density tests were performed on fill for temporary access road to Phase IIIC. The contractor mixed in clay to stabilize the subgrade and LBR No. 1 was sampled for laboratory testing.

Phases VC and VD

Leachate trench subgrade was compacted and tested for density from 101+00 to 105+75E. Density tests were performed on finished subgrade between 77+25 to 77+60N and 101+00 to 108+50E then 77+60 to 80+30N and 101+00 to 106+50E. The contractor continued wetting the clay stockpiled in Phase VD, then began placing it from 77+25 to 79+00N and 101+00 to 102+00E.

Density tests 858 through 881 were performed. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 17, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 17, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued replacing the top 18 inches of clay on anchor berm and compacting it in lifts.

Phase IVC

There were 145 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phases VC and VD

Clay was placed for clay layer between 77+25 to 79+15N and 102+00 to 104+00E, then on anchor trench from 77+25 to 80+30N.

Density tests 882 through 886 were performed on finished subgrade from 77+60 to 80+30N and 106+50 to 108+50E. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 18, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 18, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R.B. Baker Construction, Inc. continued placing and compacting clay for anchor berm repair and clay cap construction on the north side.

Phase IVC

There were 149 loads of sand hauled from the pit and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phases VA and VB

Clay was placed for clay layer from 79+00 to 80+30N and 100+65 to 105+75E. The contractor began disking the clay to mix in moisture along the west side of Phases VA and VB.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 20, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 20, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued sand placement from stockpile onto liner system. There were 62 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD until about 9:30 a.m. when trucks were switched to hauling clay from the clay pit. A chain of custody was maintained on the sand by LAW.

The first and second lifts of fill were placed, compacted and tested for density in temporary ditch 'B' tie-in area from 82+20 to 79+40N.

Phases VC and VD

Leachate trench subgrade was excavated, compacted, and tested for density from 105+75 to 110+00E. Density tests were performed on finished subgrade from 77+25 to 77+60N and 108+50 to 111+50E, then 77+60 to 80+30N and 108+50 to 110+50E. The contractor began hauling clay subbase from the pit and placed it from 77+25 to 79+00N and 104+00 to 108+50E. Approximately 50 to 75 percent of the loads hauled after 2:30 p.m. had to be removed from phase due to high sand content in loads and Dick Austin (R.B. Baker) was notified of this.

The clay subbase was disced from 77+25 to 80+30N and 100+75 to 104+50E; then recompacted, tested for density and sampled for laboratory testing of permeability (P-47 through P-49), percent fines and Atterberg limits.

Density tests 887 through 907 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 21, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 21, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC
R.B. Baker Construction, Inc. began removing the top 2 feet of clay on the south side of anchor berm, then replacing and compacting with clay in lifts.

Phase IVC
The third and fourth lifts of fill were placed, compacted and tested for density in ditch 'B' tie-in area from 82+20 to 79+40N. The placement of sand from stockpile onto liner system continued.

Phases VA and VB
Stabilized subgrade for temporary access road to Phase IIIC was compacted and density tests were performed.

Phases VC and VD
Leachate trench subgrade was excavated, compacted and tested for density from 110+00 to 111+50E. The density tests were also performed on finished subgrade from 77+25 to 79+30N between 110+50 to 112+50E and 79+30 to 80+30N between 110+50 to 111+50E. The clay from the pit was placed for clay subbase from 77+25 to 79+00N and 108+50 to 109+50E, then 79+00 to 80+30N and 105+75 to 108+00E. The clay subbase was disced and compacted from 77+25 to 80+30N and 104+50 to 105+50E; then tested for density and sampled for laboratory testing of permeability (P-50), percent fines, and Atterberg limits.

Density tests 908 through 922 were performed. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 22, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 22, 2000, to observe earthwork and perform soil testing as needed.

Phase IIIC

R. B Baker Construction, Inc. completed replacing clay on the south side of anchor berm and constructing the clay cap.

Phase IVC

The placement of sand from stockpile onto liner system continued today. The fifth and sixth lifts of fill were placed, compacted and tested for density in ditch 'B' tie-in area from 82+20 to 79+40N.

Phases VA and VB

Limerock began arriving for temporary access road to Phase IIIC and was sampled for laboratory testing of LBR (LBR #2).

Phases VC and VD

The clay subbase was disced and compacted from 77+25 to 80+30N and 105+50 to 107+00E; then tested for density and sampled for laboratory testing of permeability (P-51), percent fines, and Atterberg limits.

Density tests 923 through 927 were performed. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 27, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 27, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. cancelled plans to haul sand from the pit today, due to wet conditions at the pit from rain over the weekend. Placement of sand from the stockpile onto the liner system continued.

Leachate trench subgrade was excavated, compacted and tested for density from 113+50 to 113+25E. The density met 96 percent required compaction at moisture content above optimum. The contractor was notified that the clay subbase layer could not be placed until moisture dropped enough so the area is not pumping.

Temporary drainage trench in tie-in area was backfilled, compacted and first and second lifts were tested for density.

Phases VA and VB

Limerock is arriving on site and being placed for temporary access road to Phase IIIC.

Phase VC

Four loads of clay arrived from the pit but the hauling operation was cancelled due to wet conditions on the site.

Density tests 928 through 932 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 28, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 28, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued placing sand from the stockpile onto the liner system. There were 125 loads of sand hauled from the pit today and placed in the stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by Law Engineering. The subgrade was graded, compacted, and density tests 933 and 934 were performed on the finished subgrade from 80+30 to 82+00N and 112+50 to 113+50E. The subgrade in leachate trench between 113+25 and 113+50E had dried sufficiently and was no longer pumping. The clay subbase was then placed from 80+30 to 82+20N and 112+50 to 113+50E.

Phases VC and VD

Clay from the pit was placed from 77+25 to 79+00N and 110+75 to 112+00E, then stockpiled along the southwest corner of temporary Ditch 'B'.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 29, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 29, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC
R.B Baker Construction, Inc. continued placing sand from the stockpile onto the liner system. The clay was placed in the bottom of the anchor trench on top of the liner system and compacted with a jumping jack and bentonite was placed in the anchor trench at downcomer location. The clay subbase is being graded on the north side of ditch 'B' tie-in between 82+20 to 83+40N and 112+50 to 113+75E.

Phase VA
There were 110 loads of sand hauled from the pit today and placed into stockpile in the southeast corner of Phase VD. A chain of custody on sand was maintained by LAW.

Phases VC and VD
Clay from the pit is being stockpiled in the southeast corner of Phase VD. The clay subbase was disced to dry the clay then seal rolled at the end of the day from 77+25 to 80+30N and 107+00 to 109+50E.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** November 30, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on November 30, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. placed sand from the stockpile onto the liner system. An area of wet clay subbase, approximately 8' wide between 83+25 to 83+35N and 112+50 to 113+15E, was removed and replaced. The clay subbase is being graded between 82+20 to 83+40N and 112+50 to 113+50E. The clay subbase was disced between 80+30 to 82+20N and 112+50 to 113+50E. Serrot International cut the secondary liner at 112+20E so that water damage to the clay subbase could be evaluated. The clay subbase in the bottom of the leachate collection trench was soft over the full depth of clay and was discussed with Jim Horton (LAW). Juanitta Clem (ETM) and Jim Horton discussed this situation and it was determined that the primary and secondary liners will have to be cut and pulled back to define the limits of soft clay and so it can be properly repaired. R. B. Baker and Serrot will wait until tomorrow morning to cut the liners.

Phase VA

There were 159 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on sand by LAW. The clay subbase in the northeast corner of phase that failed permeability (P-45) was disced to both mix and dry the clay subbase.

Phases VC and VD

The contractor continued hauling clay from the pit and stockpiling it in the southeast corner of Phase VD. The clay subbase was disced up from 77+25 to 80+30N and 107+00 to 109+50E and left to dry.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 1, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 1, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. continued placing sand from the stockpile onto the liner system. Serrot International cut the liners from 112+20E to 112+15E in the leachate collection trench. The soft clay in the bottom of the trench extended only 2 feet to the west (to 112+18E). R. B. Baker than removed soft clay in the bottom of trench and new clay was placed and compacted. The clay between 83+25 to 83+35N and 112+50 to 113+15E was also repaired, compacted and density test 935 was performed on the repairs. The clay subbase was graded from 82+20 to 83+40N and 112+50 to 113+50E, leachate trench was cut in clay subbase, and contractor began grading and compacting clay subbase from 80+30 to 82+20N and 112+50 to 113+50E. After compacting the clay layer south of the leachate trench, density test 936 was performed and a sample was taken from laboratory testing of percent fines. After completion of grading of the clay subbase, the required thickness checks on the clay subbase were performed from 80+30 to 83+40N and 112+50 to 113+75E. Additional thickness checks of the clay subbase were performed at the request of Bill Davidson (ETM) and the results are as follows:

113+50E and 80+30N = 6-7/8"
113+60E and 83+38N = 8-3/4"
113+60E and 83+10N = 10-3/4"
113+60E and 82+60N = 9-5/8"
113+60E and 81+60N = 9-1/4"
113+60E and 81+10N = 6-7/8"
113+60E and 80+60N = 9-1/4"
113+60E and 80+30N = 13"

Phase VA

There were 239 loads of sand hauled from the pit today and placed in the stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW. The clay subbase in the northeast corner of phase (where permeability P-45 had failed) was disced again to allow clay to dry and for additional mixing.

Phases VC and VD

The contractor began compacting the clay subbase between 77+25 to 80+30N and 107+00 to 109+50E.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 2, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 2, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued placing sand from the stockpile onto liner system. The preparation of clay subbase at the tie-in between 80+30 to 83+40N and 112+50 to 113+25E continued but is still too wet to create a suitable surface for liner installation. The contractor placed a clay berm on the western limits of Phase IIIC secondary liner at 113+75E to prevent water from getting under liner.

Phase VA

There were 185 loads of sand hauled from the pit today and placed in the stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW. Compaction of the clay subbase in the northeast corner of the phase, that had been disced to mix and dry the clay in the area of failing permeability sample (P-45), was completed. Density test 804C was performed and the area was resampled for laboratory retesting of permeability (P-45A), percent fines, and Atterberg limits.

Phases VC and VD

Rough grading of clay between 77+25 to 80+30N and west of 107+00E was begun but then stopped to wait on surveyors to set grade so that the laser system could be set up. Compaction of clay subbase between 77+25 to 80+30N and 107+00 to 109+50E was completed and density tests 937 through 940 were performed. The clay was then sampled for laboratory testing of permeability (P-52 and 53), percent fines, and Atterberg limits.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY dr WITH PERMISSION

Reviewed By: James J Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 4, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 4, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued preparing the clay subbase at the tie-in between 80+30 to 83+40N and 112+50 to 113+25E. The construction of clay anchor berm was begun. The clay was placed and compacted in lifts, then density test 941 was performed and a sample was taken for laboratory testing of permeability (P-54)

Phase VA

There were 241 loads of sand hauled from the pit today and placed in the stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phase VC

The clay subbase is being graded between 79+10 to 80+30N and from 107+00E to the western anchor berm.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 5, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 5, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC
R.B. Baker Construction, Inc continued preparing the clay subbase at the tie-in between 80+30 to 83+40N and 112+50 to 113+75E. The placement and compaction of clay in lifts continued on the western anchor berm. Density tests 942 and 943 were performed, then samples were taken for laboratory testing of permeability (P-55 and P-56).

Phase VA
There were 214 loads of sand hauled from the pit today and placed in the stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand by LAW.

Phase VC
Grading of clay between 77+60 to 79+10N and from 107+00E to the western anchor berm was performed today.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 6, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on December 6, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued preparing the clay subbase at the tie-in, between 80+30 to 83+40N and 113+25 to 113+75E The construction of the leachate control berm at 80+60N was begun.

Phases VA and VB

Density tests and thickness checks were performed on limerock base for the temporary access road to Phase IIIC. Please see density report for additional information.

Phase VB

The first lift of the eastern anchor berm was compacted and tested for density; then the second lift was placed, compacted, and tested for density from 77+25 to 76+00N. The third lift was also placed but not compacted at this time. The fourth lift of fill was placed, compacted and tested for density on the southern anchor berm from 119+50 to 114+50E.

Phases VC and VD

The clay subbase is being graded from 77+25 to 79+10N and from 106+00E to the western anchor berm.

Phase VD

Existing grade was stripped of grass, compacted and test for density from 74+25 to 76+10N and 107+50 to 106+50E as well as from 75+80 to 77+10N and 112+25 to 113+00E. The existing swale (between 77+10 to 75+80 and 112+25 to 112+80E) was backfilled, compacted and tested in lifts; then the first lift of fill was placed, compacted and tested for density from 75+80 to 77+10N and 112+25 to 113+00E.

Density tests 944 through 956 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 7, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 7, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc continued construction of leachate control berm along 80+60N and placed sand on the east slope adjacent to the clay anchor berm.

Phase VB

The 3rd lift of fill on the eastern anchor berm was compacted and tested for density from 77+25 to 76+00N. The 5th lift of fill was placed along the back side of southern anchor berm from 123+50 to 116+50E but was not compacted.

Phases VC and VD

The contractor continued grading the clay subbase from 77+25 to 79+10N and from 106+00E to west anchor trench. The leachate trench was excavated in the clay subbase from 101+00 to 106+00E.

Phase VD

The existing grade was stripped of grass, compacted, and tested for density, then the 1st lift of fill was placed between 74+25 to 74+60N and 109+25 to 110+75E. The grass was stripped of existing grade between 74+25 to 76+10N and 106+50 to 103+50E. The existing grade was then compacted and tested for density from 74+25 to 76+10N and 106+50 to 104+50E.

Density tests 957 through 963 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 8, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 8, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC
R.B. Baker Construction, Inc. constructed the clay cap on top of the anchor berm.

Phase VA
The contractor began placing sand onto liner system in this phase.

Phases VC and VD
The excavation of anchor trench in the clay subbase continued and R. B. Baker began preparing the clay subbase for liner system placement between 77+25 to 80+30N and from 106+00E to west anchor trench. The clay subbase is being graded from 77+25 to 80+30N and 106+00 to 109+50E. The required thickness checks were performed on the clay subbase between 77+25 to 80+30N and 100+65 to 106+00E.

Phase VD
The 1st lift of fill was compacted and tested for density from 74+25 to 74+60N and 109+75 to 110+75E. The existing grade was compacted and tested for density from 74+25 to 76+10N and 104+50 to 103+50E. The 1st lift of fill was placed from 74+25 to 76+10N and 107+50 to 103+50 and compaction of the lift was began.

Density tests 964 through 967 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT. England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 11, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 11, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

R B. Baker Construction, Inc. continued placing sand from stockpile onto the liner system.

Phases VC and D

Preparing clay layer for geosynthetic liner placement continued between 77+25 to 80+30N and from 106+00E to western anchor trench. Grading of clay layer continued today between 77+25 to 80+30N and 106+00 to 109+50E. Leachate trench was excavated from 106+00 to 109+50E.

Phase VD

Compaction of first lift of fill from 74+25 to 76+10N and 107+50 to 103+50E was completed and density tests were performed. Second lift was then placed, compacted and tested for density from 74+25 to 75+25N and 107+50 to 103+50E. Second lift of fill was started between 75+25 to 75+75N and 104+00 to 105+50E and third lift between 74+25 to 75+25N and 104+00 to 105+50E.

Density tests 968 through 979 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 12, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on December 12, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. restarted placing sand from stockpile onto liner system in the phase.

Phase VA

There were 179 loads of sand were hauled today, when hauling from pit was restarted, and placed in stockpile in southeast corner of Phase VD. A chain of custody was maintained on sand.

Phases VC and D

Subgrade on leachate trench was excavated, compacted and tested for density from 112+00 to 113+00E. Subgrade was graded, compacted and tested for density from 77+25 to 80+30N and 112+00 to 113+00E Contractor began removing access ramp to Phase IVC at 111+00E on north side of Phase VC.

Required thickness checks were performed on clay layer from 77+25 to 80+30N and 106+00 to 109+50E. This area is being prepared for geosynthetic liner placement.

Phase VB

Baker is grading subgrade on the southern portion of this phase.

Drainage

Density tests were performed on backfill for 18" RCP south of manhole S-29 along with S-152. Please see density report Excavation was started for downcorner pipe on westside of Phase IVC at manhole S-52.

Density tests 980 through 983 were performed today. Please see density report for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 13, 2000

A representative of Law Engineering and Environmental Services, Inc was on site on December 13, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC
R B. Baker Construction, Inc. continued placing sand from the stockpile onto the liner system.

Phase VA
There were 119 loads of sand hauled from the pit today and placed in stockpile in the southeast corner of Phase VD. A chain of custody was maintained on the sand.

Phase VB
Grading of the subgrade continued on the southern portion of the phase.

Phases VC and VD
Work continued on preparing clay layer for geosynthetic liner placement between 77+25 to 80+30N and 106+00 to 109+50E.

Removal of ramp into Phase IVC, on northside of Phase VC at 111+00E, was completed and then subgrade recompacted and tested for density (No. 984).

Clay was placed on subgrade from 77+25 to 79+10N and 112+00 to 112+75E, then from 79+10 to 80+30N and 110+25 to 111+50E.

Drainage
A 30" HDPE downcorner pipe was installed on westside of Phase IVC to S-52. Pipe backfill was compacted and tested for density in lifts. Please see density report for additional information.

Respectfully Submitted:
LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 14, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 14, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC
R.B. Baker Construction, Inc. placed aggregate around the pipe in leachate collection trench.

Placement of sand from stockpile onto liner system continued. Sand is also being graded.

Phase VA
There were 218 loads of sand hauled from the pit today and placed in stockpile in southeast corner of Phase IV. A chain of custody was maintain on sand.

Phase VB
Grading of the subgrade continued.

Phases VC and VD
Clay, from stockpile in Phase VC, was placed from 79+10 to 80+30N and 111+50 to 113+00E.

Clay was wetted and disced to mix from 77+25 to 79+10N and 111+50 to 112+75E, then from 79+10 to 80+30N and 110+00 to 113+00E. Clay layer was compacted and tested for density between 77+25 to 79+10N and 111+50 to 112+75E and from 79+10 to 80+30N and 110+00 to 111+50E, then was sampled for laboratory testing of permeability (P-57 and 58), percent fines and atterberg limits.

Density tests 985 through 986 were performed on clay layer. Please see density report for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 15, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 15, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. continued placement of aggregate around the pipe in leachate collection trench.

Placement of sand onto liner system and grading of sand continued in this phase.

Phase VA

There were 138 loads of sand hauled from the pit today and placed in stockpile in southeast corner of Phase VD. A chain of custody was maintained on sand.

Phase VB

Grading of the subgrade continued.

Phase VC

Clay layer was compacted from 79+10 to 80+30N and 111+50 to 112+75E. Then the clay which was compacted yesterday and today. was rolled with flat wheel compactor to seal it.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT. TrailRidge Landfill - 3rd Increment **DATE:** December 16, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 16, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. continued grading sand within phase and graded western slope of clay anchor berm.

Phase VA

There were 135 loads of sand hauled from the pit today and placed in stockpile in southeast corner of Phase VD A chain of custody was maintained on sand.

Placement of sand onto liner system was restarted today in this phase.

Phase VB

Density tests 987 through 993 were performed on the subgrade today. Please see density report for further information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 18, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 18, 2000, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B Baker Construction, Inc. continued grading sand within phase.

Phase VA

Placement of sand onto liner system, continued from stockpile.

Phase VB

Subgrade for leachate trench was excavated from 114+30 to 121+50E, then compacted and tested for density from 114+30 to 121+00E. Clay (from stockpile in Phase VC) was placed in leachate trench from 114+30 to 117+00E.

Grading and compacting of finished subgrade continued, and finished subgrade was tested for density between 76+25 to 77+25N and 114+30 to 123+50E. Density tests were also performed on 5th lift of fill on southern anchor berm between 123+50 to 116+50E.

Density tests 994 through 1016 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc
JOB NO.: 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment
DATE: December 19, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 19, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

R.B. Baker Construction, Inc. continued placing sand from stockpile onto liner system. AASHTO No. 3 aggregate was placed around pipe in leachate trench so sand could be placed over the pipe and placement of sand could begin north of leachate trench.

Phase VB

Density tests were performed on finished subgrade from 74+60 to 76+25N and 114+30 to 123+50E.

Subgrade for leachate trench was excavated from 121+50 to 123+00E. Subgrade was compacted and tested for density from 121+00 to 123+00E. Clay was placed in trench from 117+00 to 123+00E.

Clay from the pit and stockpile in Phase VC was placed between 75+10 to 76+10N and 114+30 to 115+50E as well as from 76+10 to 77+25N and 114+30 to 119+25E.

Density tests 1017 through 1031 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT. TrailRidge Landfill - 3rd Increment **DATE:** December 20, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 20, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

R. B. Baker Construction, Inc. continued placing sand from stockpile onto liner system.

Phase VB

Grading and compacting of anchor berm subgrade continued, and density tests were performed.

Subgrade for anchor trench was excavated from 114+30 to 116+50E.

Clay from the pit and stockpile in Phase VD was placed between 74+60 to 76+10N and 115+50 to 119+50E as well as from 76+10 to 77+25N and 119+25 to 121+00E.

Clay was disced from 74+60 to 77+25N and 114+30 to 119+25E.

Clay layer was compacted, tested for density, then sampled for laboratory testing of permeability (P-59 and 60), percent fines, and atterberg limits from 74+60 to 76+10 between 114+30 to 116+00E as well as from 76+10 to 77+25N between 114+30 to 119+25E.

Density tests 1032 through 1041 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** December 21, 2000

A representative of Law Engineering and Environmental Services, Inc. was on site on December 21, 2000, to observe earthwork and perform soil testing as needed.

Phase VA

R.B. Baker Construction, Inc. continued placing the sand from the stockpile onto liner system.

Phase VB

Clay from the pit was placed from 76+10 to 77+25N between 121+00 and 123+00E and from south anchor berm to 76+10N between 119+50 and 122+50E

Clay layer was disced from 76+10 to 77+25N between 119+25 and 123+00E.

Clay was compacted, tested for density, then sampled for laboratory testing of permeability (P-61 to 63), percent fines, and atterberg limits from 74+60 to 76+10N between 116+00 and 119+25E and from 76+10 to 77+25N between 119+25 and 123+00E.

Grading and compacting of anchor berm subgrade was finished between 119+50 and 122+50E, and density tests were performed.

Subgrade for anchor trench was excavated from 116+50 to 122+50E.

Density tests 1042 through 1051 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** January 2, 2001

A representative of Law Engineering and Environmental Services, Inc was on site on January 2, 2001, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued grading sand.

Phases VA

Placement of sand from stockpile continued. Temporary drainage through anchor berm (east of the sump) was backfilled, compacted, and tested for density in lifts.

Baker began preparing clay layer east of 124+25E, for liner placement.

Phase VB

Clay layer (placed on December 22, 2000) along anchor berm from 114+30 to 122+25E and clay layer from south anchor berm to 76+10N between 119+25 and 123+00E was compacted and tested for density, and then sampled for laboratory testing of permeability (P-64), percent fines, and atterberg limits.

Phase VC

Clay layer was disced, compacted, and tested for density where clay stockpile had been removed between 77+25 and 79+10N from 110+00 to 111+75E. Clay was also sampled for laboratory testing of percent fines at density locations.

Clay layer is being graded and rolled between 79+10 and 80+30N from 109+50 to 113+00E.

Remaining grass is being stripped around clay stockpile (75+35 to 74+60N and 102+30 to 103+50E) between 74+25 and 76+10N from 103+50 to 100+50E.

Density tests 1052 through 1061 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** January 3, 2001

A representative of Law Engineering and Environmental Services, Inc. was on site on January 3, 2001, to observe earthwork and perform soil testing as needed.

Phase IVC

R. B. Baker Construction, Inc. continued grading sand.

Phase VA

Placement of sand from stockpile continued and contractor began stockpiling sand within the phase.

Phase VC

Clay layer is being graded between 77+60 and 80+30N from 109+50 to 112+50E. Density test 1069 was performed on clay layer between 79+10 and 80+30N from 112+50 to 113+00E, then a sample was taken for laboratory testing of percent fines.

Phase VD

Existing grade was compacted and tested for density around clay stockpile between 74+25 and 76+10N from 103+50 to 100+50E as well as between 76+10 and 77+10N from 102+50 to 100+50E. First lift of fill was then placed around stockpile between 74+25 and 76+10N from 103+50 to 101+50E.

Density tests 1062 through 1069 were performed today. Please see density reports for additional information.

Respectfully Submitted:

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** January 4, 20001

A representative of Law Engineering and Environmental Services, Inc. was on site on January 4, 2001, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued grading sand.

Phase VA

The hauling of sand from stockpile in Phase VD and stockpiling it within this phase continued.

Excess clay in sump was excavated to finished clay elevation.

Finished subgrade was compacted and tested for temporary drainage repair of anchor berm east of the sump, then clay layer was placed on subgrade and compacted.

Aggregate is arriving on site for the sump and leachate collection trench.

Phase VB

Contractor disced, wetted, and re-disced clay layer at failing permeability locations (P-63 and P-64), between south anchor berm and 76+10N from 117+50 to 122+75E then between 76+10 and 77+25N from 119+50 to 123+00E.

Phase VC

Grading of clay layer continued between 79+10 and 77+25N from 109+50 to 112+50E.

Phase VD

First lift of fill was placed between 74+25 and 76+10N from 101+50 to 100+50E and between 76+10 and 77+10N from 102+50 to 100+50E.

First lift of fill was compacted and tested for density between 74+25 and 76+10N from 103+50 to 100+50E around clay stockpile, then second lift of fill was placed between 74+25 and 75+25N from 103+50 to 100+50E around stockpile.

Density tests 1070 through 1075 were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
BY dp WITH PERMISSION

Reviewed By: James D. Gallup

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(904) 396-5173 • (904) 396-5703

Report of Daily Observation

CLIENT: England-Thims and Miller, Inc. **JOB NO.:** 40562-0-4105

PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** January 5, 2001

A representative of Law Engineering and Environmental Services, Inc. was on site on January 5, 2001, to observe earthwork and perform soil testing as needed.

Phase IVC

R.B. Baker Construction, Inc. continued grading of sand.

Phase VA

The hauling of sand from stockpile in Phase VD and stockpiling within this phase continued.

Clay layer for anchor trench was excavated and clay subbase is being prepared for liner placement system east of 124+25E.

Phase VB

Clay layer was reworked and compacted in area of failing perms P-62 and P-63, between south anchor berm and 76+10N from 117+50 to 122+75E as well as from 76+10 to 77+25N between 119+50 and 123+00E. Density tests 1045A and 1051A were performed at original perm locations, then these locations were resampled for laboratory retesting of permeability (P-62A and P-63A), percent fines and atterberg limits.

Rough grading of clay layer was started between 114+30 and 116+00E.

Phase VD

Second lift of fill was compacted and tested for density around clay stockpile between 74+25 and 75+25N and 103+50 to 100+50E. Third lift of fill was then placed from 74+25 to 75+25N between 104+50 and 100+50E.

Density tests 1076 through 1077, 1045A, and 1051A were performed today. Please see density reports for additional information.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague

John Teague

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Reviewed By: James J. Gallup

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Report of Daily Observation

CLIENT: England-Thims and Miller, Inc **JOB NO.:** 40562-0-4105
PROJECT: TrailRidge Landfill - 3rd Increment **DATE:** January 6, 2001

A representative of Law Engineering and Environmental Services, Inc. was on site on January 6, 2001, to observe earthwork and perform soil testing as needed.

Phase IVA

R. B. Baker Construction, Inc. continued preparation of clay layer east of 124+25E for liner placement.

LAW noticed a section approximately 15' long on south end of anchor trench within 8 to 10-inch thick sand seam. The sand seam was removed and replaced with clay.

The aggregate was sampled for laboratory testing of gradation and to ensure that it is non-calcareous.

Phase VB

Clay layer was disced and worked with the pad-foot roller along south anchor berm/trench in the area of failing permeability sample P-64. Contractor will do additional reworking in this area before resampling.

Phase VC

Fill placed yesterday is being compacted.

Respectfully Submitted:

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

John Teague
John Teague
BY dp WITH PERMISSION

Reviewed By: James J. Gallup

APPENDIX A
Project-Specific Addenda to Quality Assurance Manual

APPENDIX A
Project-Specific Addenda to Quality Assurance Manual

TRAIL RIDGE LANDFILL
PROJECT-SPECIFIC ADDENDA
TO QUALITY ASSURANCE MANUAL

This plan specifically addresses the quality assurance and quality control (QA/QC) for Trail Ridge Landfill, Phases IIIC, IVC, VA, VB, VC and VD. This program delineates the quality procedures and standards for the construction.

In the context of this plan, quality assurance, quality control and the plan participants are defined as follows:

Quality Assurance - A planned and systematic pattern of all means and actions designed to provide adequate confidence that items or services meet contractual and regulatory requirements and will perform satisfactorily in service.

Quality Control - Those actions which provide a means to measure and regulate the characteristics of an item or service to contract and regulatory requirements.

Permittee - Trail Ridge Landfill, Inc.

Owner - The City of Jacksonville

Design Engineer - England, Thims & Miller, Inc.

The QA/QC Program for this project includes General QA/QC, Soils QA/QC, and Synthetic Liner System QA/QC. These QA/QC activities (including monitoring, sampling and testing) shall be directed and conducted by the third parties whom are independent of the Contractor.

The General QA/QC includes full-time services to periodically observe the contractor's work to verify substantial compliance with permits, plans, specifications and design concepts.

General Quality Control Monitor - shall monitor the construction for compliance with the permits, plans, specifications and design including construction to proper lines and grades, maintain daily logs and weekly progress reports of the construction (including observation data sheets, problem identification and correction logs), make note of construction deviations, coordinate qualifying and testing of materials, and monitor filling. This individual shall be experienced in civil site construction and solid waste regulations.

General Quality Assurance Engineer - shall supervise the construction monitoring to verify compliance with permits, plans, specification and design concepts. This individual shall be experienced in civil site construction and solid waste regulations and shall be a registered Professional Engineer.

The General QA/QC Program includes monitoring the following activities:

1. General Earthwork
2. Drainage Installation
3. Leachate Pump System Installation
4. Leachate Forcemain Installation
5. Overall Liner System Installation
6. General Construction Quality Control

The Soils QA/QC for this project includes soil material qualifying, sampling and testing to verify substantial compliance with the material standards.

Soils Quality Control Monitor - shall pre-qualify soil materials, monitor the installation of soil materials, determine where in-place soil materials shall be tested, and test the in-place soil materials. This individual shall be responsible for assuring that all soil materials have been pre-qualified and have a chain-of-custody from the pre-qualified source to the project site, prior to installation. This individual shall be experienced in civil site construction and soil testing standards and procedures.

Soils Quality Assurance Engineer - shall supervise the soil material pre-qualifying and testing of in-place soil materials to assure compliance with the test standards and testing frequency requirements, and verify compliance with the plans, specification and design. This individual shall be experienced in civil site construction and soil testing procedures and shall be a registered Professional Engineer.

The QA/QC Plan shall include monitoring and testing of the following:

A. SUBGRADE

Prior to construction of the liner system including the clay subbase, a subgrade shall be prepared. The subgrade shall be placed and compacted in 12" lifts.

1. Subgrade

a. Location - The Soils Quality Control Monitor shall visually inspect the fill material and test the material in-place.

b. Standard - Soil shall be free of brush, weeds, and other litter; and free of roots 3/8" diameter or greater, stumps, stones 1" diameter or greater and any other extraneous or toxic matter.

The soil shall be cohesionless soil with a fines content of 15% or less.

Compacted to 96%* of Modified Proctor maximum dry density (ASTM D 1557) and a firm unyielding surface. Testing by Drive Cylinder (ASTM D2937), Nuclear (ASTM D2922) or Sand Cone (ASTM D1556) Methods

* If the required densities are achieved at a moisture content exceeding 2% of optimum moisture content, the soil will be proof rolled and visually inspected by the Soils Quality Control Monitor to determine if it is unyielding and not pumping. Clay subbase shall not be placed on a yielding subgrade.

c. Frequency - Density tests shall be conducted at the frequency of two tests per acre of finished subgrade including the same frequency for each 12-inch lift of fill.

B. CLAY SUBBASE

Prior to placement of the synthetic liner system, a clay subbase shall be prepared. The subbase shall be a minimum of 6" in thickness.

1. Clay Subbase

a. Borrow Source - Prior to clay subbase installation, an appropriate borrow source shall be located. Suitability of the subbase construction materials from that source shall be determined in accordance with the following:

(1) If demonstrated field experience is available from at least three prior successful projects of five or more acres each to document that a given borrow source can meet the requirements of the project specifications, then extensive laboratory testing of the borrow source will not be required. However, the source of material shall be geologically similar to and the methods of excavating and stockpiling the material shall be consistent with those used on the prior projects. Furthermore, a minimum of three representative samples from the appropriate thickness of the in-situ stratum or from stockpiles of the borrow material proposed for subbase construction shall be submitted to the Soils Quality Assurance Engineer to document through index testing that the proposed material is consistent with the material used on prior successful projects. At a minimum, index testing shall consist of percent fines, Atterberg limits and moisture content determinations.

(2) If demonstrated field experience as defined above is not available or cannot be documented, then the following requirements shall be met.

(a) A field exploration and laboratory testing program shall be conducted by the Soils Quality Assurance Engineer to document the horizontal and vertical extent and the homogeneity of the soil strata proposed for use as subbase material. A sufficient number of index tests from each potential borrow stratum shall be performed to quantify the variability of the borrow materials and to document that the proposed borrow material complies with specifications. At a minimum, the index tests shall consist of percent fines (ASTM D1140), Atterberg limits (ASTM D4318) and moisture content (ASTM D2216) determinations.

(b) Sufficient laboratory hydraulic conductivity tests shall be conducted on samples representative of the range invariability of the proposed borrow source (ASTM D5084). At a minimum, the tests shall be taken once per 20,000 cubic yards of soil. For each such sample, test specimens shall be prepared and tested to cover the range of molding conditions (moisture content and dry density) required by project specifications. The hydraulic conductivity tests shall be conducted in triaxial type permeameters. The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D5084). The borrow source will only be considered suitable if the hydraulic conductivity of the material, as documented on laboratory test specimens, can be shown to meet the requirements of the project specifications at the 98 percent confidence level.

(3) The Soils Quality Assurance Engineer shall review the pre-qualification data and shall approve or reject the material for use.

b. Test Strip - Prior to full-scale clay subbase installation, a field test section or test strip shall be constructed at the site above a prepared subgrade. The test strip shall be considered acceptable if the measured hydraulic conductivities of undisturbed samples from the test strip meet the requirements of the project specifications at the 98 percent confidence level. If the test section fails to achieve the desired results, additional test sections shall be constructed in accordance with the following requirements:

(1) The test section shall be of sufficient size (40' wide x 60' long at a minimum) such that full-scale clay subbase installation procedures can be duplicated within the test section;

(2) The test section shall be constructed using the same equipment for spreading, kneading and compaction and the same construction procedures (e g., number of passes, moisture addition and homogenization, if needed) that are anticipated for use during full-scale clay subbase installation;

(3) At a minimum, the clay subbase test section shall be subject to the following field and laboratory testing requirements by the Soils Quality Control Monitor:

(a) A minimum of five random samples of the clay subbase construction material delivered to the site during test section installation shall be tested for moisture content (ASTM D2216), percent fines (ASTM D1140) and Atterberg limits (ASTM D4318);

(b) At least five field density and moisture determinations shall be performed on the compacted clay subbase test section;

(c) Upon completion of the test section, the thickness of the section shall be measured at a minimum of five random locations to check for thickness adequacy; and

(d) A minimum of five Shelby tube or drive cylinder (ASTM D2937) samples shall be obtained from each test section for laboratory hydraulic conductivity testing. Laboratory hydraulic conductivity testing shall be conducted in triaxial type permeameters (ASTM D5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D5084).

(e) The test strip shall meet or exceed the standards established below except the field density which shall be established by the Soils Quality Assurance Engineer based upon the test strip

results. If the test strip fails to meet these standards, the construction methods and/or material will be rejected and the test strip shall be performed again.

c. Clay Subbase Installation - Full scale clay subbase installation may begin only after completion of a successful test section. During clay subbase construction, quality control testing shall be provided to document that the installed clay subbase conforms to project specifications. The testing frequency for quality control testing are specified below. However, during construction of the first five acres of the clay subbase, the frequencies shall be doubled The clay subbase shall be installed in one 6" lift.

(1) Location - The clay subbase shall be tested in-place at random locations. These locations of tests shall be determined by the Soils Quality Control Monitor. If there are indications of a change in product quality or construction procedures during clay subbase construction, additional tests shall be performed to determine compliance.

(2) Standard

(a) Subgrade - Compacted to 96% of Modified Proctor maximum dry density (ASTM D1557) (See Subgrade).

(b) Field Density - The field density shall be established by the Soils Quality Assurance Engineer based upon the test strip results and shall be determined by Standard Proctor Density (ASTM D698). In no case shall the field density be less than 80% of Standard Proctor Density (ASTM D698).

(c) Thickness - The clay subbase shall have a minimum in-place thickness of 6"

(d) Hydraulic Conductivity - The compacted clay subbase shall have an in-place hydraulic conductivity no greater than 1×10^{-5} cm/sec (ASTM D5084).

(3) Field Testing Frequency

(a) Prior to the laying of the clay subbase materials, the subgrade shall be compacted to the specified density. Density tests shall be conducted at a minimum rate of two tests per acre of finished subgrade.

(b) A minimum of two moisture content and field density determinations shall be conducted per acre of compacted clay

subbase The degree of compaction shall be checked using the one-point field Proctor test or other appropriate test procedures; and

(c) A minimum of four thickness measures shall be conducted per acre of the compacted clay subbase.

(4) Laboratory Testing Frequency

(a) Percent fines (ASTM D1140) of the subbase construction material shall be determined at a minimum frequency of two tests per acre of installed clay subbase;

(b) Atterberg limits determinations shall be performed on one sample per acre of installed clay subbase; and

(c) Hydraulic conductivity testing of Shelby tube or drive cylinder (ASTM D-2937) samples of the compacted clay subbase shall be performed at a minimum frequency of one test per acre. Laboratory hydraulic conductivity tests shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured.

(5) Deficiency - If the test data from a clay subbase section does not meet the requirements of the project specifications, additional random samples shall be tested from that clay subbase section. If such additional testing demonstrates that the thickness and hydraulic conductivity meet the requirements of the project specifications at the 95 percent confidence level, that clay subbase section will be considered acceptable. If not, that clay subbase section shall be reworked or reconstructed so that it does meet these requirements.

C. BASE LINER GEOMEMBRANE

The lining system shall include a primary and secondary geomembrane liner. The followings revisions shall be made to Section 9A of the "Quality Assurance Guidance Document for the Installation of Lining Systems" (WMI, August 1997) with regard to the geomembrane liners.

9.3A-3.f. Add Puncture Resistance (ASTM D4833)

9.3A-3. Replace "15,000 lb of resin" with "50,000 ft^2 of geomembrane sheet, except for thickness (ASTM D5199/ASTM D5944), which will be performed for every roll."

9.3A-4 Add the following: "Written certification from the manufacturer that the geomembrane product to be delivered has been extruded from an approved resin will be required. The certification shall include the origin (resin supplier's name and resin production plant), identification (brand name and number), resin production date, and quality control certificates issued by the resin supplier."

9.3A-4 Added "6. Batch number" and "7. Date of manufacture" to the manufacturer's roll identification information.

9.4A Replace entire section as follows: "Conformance testing of geomembrane will be conducted by an independent laboratory selected by the CQA Engineer. The laboratory will be accredited by the Geosynthetics Accreditation Institute (GAI) for the specific tests to be performed. The results of the conformance testing shall be reviewed by the Geosynthetic QAE and compared to the Project Specifications. Any nonconformance will be the basis of rejection of the material by the Geosynthetic QAE."

9.5.1A-1. Replace "licensed land surveyor qualified according to project requirements" with "Professional Land Surveyor registered by the State of Florida."

9.5.1A-2. Replace "Professional Engineer" with "Professional Engineer, registered by the State of Florida, or his designee."

9.6.3A Replace "The normal acceptable weather conditions for seaming" with "The normal acceptable weather conditions for deployment".

9.8.2A-2.e. Replace "the maximum permissible pressure differential as outlined in the project specifications" with "3 psi".

9.9.2A-1. Replace "A minimum frequency of one test location per 1000 ft (305 m)" with "A minimum frequency of one test location per 500 ft (150 m)".

D. GEOTEXTILES

The lining system shall include two geotextiles. The followings revisions shall be made to Section 10 of the "Quality Assurance Guidance Document for the Installation of Lining Systems" (WMI, August 1997) with regard to the geotextiles.

10.3-4.e. Add "e Grab Elongation (ASTM D4632)"

10.3-4.f. Add "f. Burst Strength (ASTM D3786)"

10.3-4.g. Add "g. Apparent Size Opening (ASTM D4751)"

10.3-4.h. Add "h. Permittivity (ASTM D4491)"

10.3-4.3. Replace "10,000 lbs" with ~~"50,000 ft^2"~~ "90,000 ft^2" .

10.3-4 Add "5. Batch number" and "6. Date of manufacture" to the manufacturer's roll identification information.

10 4 Replace entire section as follows: "Conformance testing of geotextile will be conducted by an independent laboratory selected by the CQA Engineer. The laboratory will be accredited by the Geosynthetics Accreditation Institute (GAI) for the specific tests to be performed. The results of the conformance testing shall be reviewed by the Geosynthetic QAE and compared to the Project Specifications. Any nonconformance will be the basis of rejection of the material by the Geosynthetic QAE."

10.4.2 Delete columns that differentiate between different geotextiles. All tests listed shall be performed.

10.6 Replace second paragraph in its entirety with the following: "All geotextile seams shall be continuously sewn. Spot sewing or heat bonding is not allowed."

E. GEONETS

The lining system shall include geonets. The followings revisions shall be made to Section 11 of the "Quality Assurance Guidance Document for the Installation of Lining Systems" (WMI, August 1997) with regard to geonets.

11.3-2.f. Add: "f. Grab Tensile Strength (ASTM D5035)"

11.3-2. Replace "10,000 lbs" with "50,000 ft^2" and "25,000 lbs" with "100,000 ft^2"

11.3-2 Add the following: "Written certification from the manufacturer that the product to be delivered has been extruded from an approved resin will be required. The certification shall include the origin (resin supplier's name

and resin production plant), identification (brand name and number), resin production date, and quality control certificates issued by the resin supplier."

11.3-2 Added "5. Batch number" and "6. Date of manufacture" to the manufacturer's roll identity information.

11.4 Replace entire section as follows: "Conformance testing of geonet will be conducted by an independent laboratory selected by the CQA Engineer. The laboratory will be accredited by the Geosynthetics Accreditation Institute (GAI) for the specific tests to be performed. The results of the conformance testing shall be reviewed by the Geosynthetic QAE and compared to the Project Specifications Any nonconformance will be the basis of rejection of the material by the Geosynthetic QAE."

11.4.2-4 Add "4. Transmissivity (ASTM D4716)"

F. BENTONITE MAT (Geosynthetic Clay Liner)

The lining system shall include a bentonite mat (geosynthetic clay liner). The followings revisions shall be made to Section 13 of the "Quality Assurance Guidance Document for the Installation of Lining Systems" (WMI, August 1997) with regard to the bentonite mat.

13.3-2. Replace "100,000 lbs" with "50,000 ft^2"

13.3-4.c. Replace "Mass per unit area (ASTM D5261)" with "Mass per unit area (ASTM D5993)".

13.4 Replace entire section as follows: "Conformance testing of GCL will be conducted by an independent laboratory selected by the CQA Engineer. The laboratory will be accredited by the Geosynthetics Accreditation Institute (GAI) for the specific tests to be performed. The results of the conformance testing shall be reviewed by the Geosynthetic QAE and compared to the Project Specifications. Any nonconformance will be the basis of rejection of the material by the Geosynthetic QAE."

13.4.2-1 Replace "Samples for index flux conformance tests" with "Samples for hydraulic conductivity tests".

13 4.2-2 Delete "Index Flux (ASTM D5887) or"

13 4.2-3 Replace "Mass per unit area (ASTM D5261)" with "Mass per unit area (ASTM D5993)".

13.6.1 3. Replace "The addition of bentonite to seam locations shall be in accordance with the project specifications." with "The addition of bentonite to seam locations shall be in accordance with the manufacturer's recommendations."

13.6.1 2. Replace "The amount of the bentonite is placed on the seam required by the project specifications." with "The amount of the bentonite is placed on the seam required by the manufacturer's recommendations."

13.7 Replace "The material shall extend over the entire damaged area with a minimum 24-inch overlap in all directions. Addition of bentonite to patches shall be in accordance with the project specifications" with "The material shall extend over the entire damaged area with a minimum 24-inch overlap in all directions. Addition of bentonite to patches shall in accordance with the manufacturer's recommendations."

In addition to the requirements of the "Quality Assurance Guidance Document for the Installation of Lining Systems" (WMI, August 1997), the bentonite mat shall be monitored and tested as follows:

1. Bentonite Mat

   a. Location - Prior to installation, samples shall be obtained.

   b. Standard

      (1) Hydraulic Conductivity - The hydraulic conductivity (ASTM D5084) shall be no greater than 5×10^{-9} cm/sec at a confining stress of 5 psi.

      (2) Moisture Content - The moisture content (ASTM D4643) shall be no greater than 12 percent.

      (3) Mass - The mass per unit area (ASTM D5261) of the sodium bentonite component of the bentonite mat shall be a minimum of 0.825 lb/ft2.

   c. Frequency - The bentonite mat shall be tested for moisture content, hydraulic conductivity and mass per unit area at least once per 40,000 square feet or once per lot, whichever is more frequent.

G. PROTECTIVE SAND BLANKET

After the synthetic liner system has been installed, it shall be covered with a protective sand blanket. The protective sand blanket shall be a minimum of 24" in thickness.

1. Protective Sand Blanket

a. Location - Material shall be pre-qualified by hydraulic conductivity, particle size, and calcium carbonate content testing at the borrow location.

Truck tickets shall be utilized for chain of custody to site.

Thickness shall be verified by as-built survey.

b. Standard - Sand shall be reasonably free of brush, weeds, and other litter; and relatively free of roots, stumps, stones and any other extraneous or toxic matter. The Soils Quality Control Monitor shall visually inspect the sand during placement.

Hydraulic Conductivity shall be greater than or equal to 1 x 10^{-3} cm/sec at a density of 96 percent Modified Proctor maximum dry density (ASTM D1557). Hydraulic Conductivity testing by Constant Head Method (ASTM D2434).

Thickness shall be no less than 24 inches at each location.

The sand shall be non-calcareous (ASTM D3042).

Compatibility of protective sand cover grain size with geotextile to be determined, prior to initial placement.

c. Frequency - Hydraulic Conductivity testing shall be on-going as necessary to support fill borrow operations with minimum of one test per 500 cubic yards.

Prior to placement, the sand shall be tested for particle size and calcium carbonate content. The test shall be taken at least once per 5,000 cubic yards and for each change in material source.

d. Miscellaneous - The material shall be placed loose and spread on top of the liner system to a minimum depth of 24 inches. No equipment shall come in direct contact with liner. Low

ground pressure equipment shall be used for the placement and spreading of the sand cover. Temporary haul roads and access roads over the liner for the delivery of material shall include a minimum of 36 inches of sand cover depth. These temporary facilities shall be removed during the finish grading of the protective sand blanket.

The leading edge of sand placement over the synthetic liner system shall be by vertical placement versus pushing sand horizontally.

H. CLAY ANCHOR BERM

A clay anchor berm shall be constructed in accordance with the Contract Drawings.

1. Clay Anchor Berm

a. Location - The clay anchor berm shall be sampled in place. Hydraulic conductivity testing shall be conducted in the laboratory.

b. Standard - Hydraulic conductivity shall be less than 1×10^{-7} cm/sec. Hydraulic conductivity testing by Falling Head Method (ASTM D5084).

c. Frequency - One testing location per 100 linear feet of anchor trench.

I. LEACHATE COLLECTION TRENCH AND SUMP AGGREGATE

Aggregate shall be placed in leachate collection trenches and sumps.

1. Aggregate

a. Location - The aggregate shall be sampled on site, prior to placement.

b. Standard - Gradient shall meet AASHTO No. 3 coarse aggregate (ASTM D448). Testing by Sieve Analysis (ASTM C136).

The aggregate shall be non-calcareous (ASTM D3042).

c. Frequency - Prior to placement, one gradation test per sump plus one testing location per trench with a minimum of one test per 500 cubic yards of aggregate.
Prior to placement, the aggregate shall be tested for calcium carbonate content. The test shall be taken once for 2,600 LF of trench or once per change in material source.

APPENDIX B
Report of Field Density

FIELD DENSITY TESTS

1 SUFFIXED NUMBERS DENOTE RETESTS

2 DUE TO RETESTS, IN SOME CASES, OCCURRING SEVERAL DAYS AFTER INITIAL TESTS, A SUMMARY OF RETEST LOCATIONS FOR PHASE IVC (BY PAGE NUMBER) HAS BEEN PROVIDED BELOW

RETEST NO	PAGE NO
91A	10
92A	10
93A	10
94A	10
110A	10
197A	23
198A	23
240A	23
241A	23
249A	23
271A	34
384A	35
385A	35
584A	51
606A	52
686A	59
687A	59
688A	59

REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

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Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
06/14/2000	01	5 9	109 3	1	114 3	10 7	96	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ Sta 126+00E and 81+50N									
06/14/2000	02	5 8	106 7	1	114 3	10 7	93 <<	96	3	1st lift
Location Comments	Phase IIIC special compacton area @ Sta 125+00E and 81+80N									
06/14/2000	02A	6 1	110 0	1	114 3	10 7	96	96	3	1st lift
Location Comments	Retest of #2									
06/14/2000	03	5 9	111 5	1	114 3	10 7	98	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ Sta 124+00E and 81+90N									
06/14/2000	04	6 3	109 3	1	114 3	10 7	96	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ Sta. 123+00E and 81+90N									
06/14/2000	05	5 2	113 4	1	114 3	10 7	99	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ 122+00E and 82+10N									
06/14/2000	06	5 4	110 5	1	114 3	10 7	97	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ 121+00E and 81+90N									
06/14/2000	07	5 7	109 8	1	114 3	10 7	96	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ Sta 120+00E and 82+10N									
06/14/2000	08	6 4	109 8	1	114 3	10 7	96	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ 119+00E and 82+20N									
06/14/2000	09	5 5	112 6	1	114 3	10 7	99	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ Sta 118+00E and 82+40N									
06/15/2000	10	4 8	114 1	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ 125+50E and 80+80N									
06/15/2000	11	7 7	110 9	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ 124+50E and 80+50N									
06/15/2000	12	4 2	110 0	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ 123+50E and 80+90N									

Report Date 1/19/01

REPORT OF FIELD DENSITY TESTS

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Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
06/15/2000	13	4 1	111 6	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ 122+50E and 80+80N									
06/15/2000	14	7 1	112 8	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Stqa 121+50E and 80+50N									
06/15/2000	15	2 3	106 8	1	114 3	10 7	93 <<	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 120+50E and 80+80N									
06/15/2000	16	11 1	107 8	6	113 9	10 5	95 <<	96	3	1st lift
Location Comments	Phase IIIC subgrade @ 125+50E and 80+80N									
06/15/2000	17	8 6	103 6	6	113 9	10 5	91 <<	96	3	1st lift
Location Comments	Phase IIIC subgrade @ 124+50E and 80+50N									
06/15/2000	18	8 2	105 2	6	113 9	10 5	92 <<	96	3	1st lift
Location Comments	Phase IIIC subgrade @ Sta 123+50E and 80+90N									
06/16/2000	16A	9 6	112 7	6	113 9	10 5	99	96	3	1st lift
Location Comments	Retest of #16									
06/16/2000	17A	9 3	110 3	6	113 9	10 5	97	96	3	1st lift
Location Comments	Retest of #17									
06/16/2000	18A	9 9	108 9	6	113 9	10 5	96	96	3	1st lift
Location Comments	Retest of #18									
06/16/2000	19	10 1	109 4	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC subgrade @ 122+50E and 80+45N									
06/16/2000	20	10 6	109 4	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC subgrade @ 121+40-E and 81+05N									
06/16/2000	21	6 0	111 1	2	113	10 7	98	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 124+00E and 81+95N									
06/16/2000	22	5 5	109 0	2	113	10 7	96	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 125+00E and 81+80N									

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REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
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CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
06/16/2000	23	11 2	109 4	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta. 126+00E and 81+55N									
06/19/2000	24	8 6	113 3	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 123+00E and 81+90N									
06/19/2000	25	10 1	109 7	1	114 3	10 7	96	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 122+00E and 82+00N									
06/19/2000	26	11 2	110 4	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 121+00E and 82+10N									
06/19/2000	27	8 2	106 8	6	113 9	10 5	94 <<	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta. 120+00E and 81+90N									
19/2000	27A	9 3	110 1	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Retest of #27									
06/19/2000	28	11 5	106 6	6	113 9	10 5	94 <<	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 119+00E and 82+25N									
06/19/2000	28A	10 5	109 5	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Retest of #28									
06/19/2000	29	9 8	112 8	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 118+00E and 82+35N									
06/19/2000	30	10 4	109 2	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IIIC subgrade @ Sta. 121+55E and 80+50N									
06/19/2000	31	7 3	103 3	6	113 9	10 5	91 <<	96	3	2nd lift
Location Comments	Phase IIIC subgrade @ Sta 122+45E and 80+75N									
06/19/2000	31A	9 3	104 9	6	113 9	10 5	92 <<	96	3	2nd lift
Location Comments	Retest of #31									
06/19/2000	31B	10 4	110 6	6	113 9	10 5	97	96	3	2nd lift
Location ments	Retest of #31A									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
06/19/2000	32	8 2	109 9	6	113 9	10 5	96	96	3	2nd lift
Location	Cell IIIC subgrade @ 123+55E and 81+10N									
Comments										
06/19/2000	33	10 1	110 3	6	113 9	10 5	97	96	3	2nd lift
Location	Cell IIIC subgrade @ 124+50E and 80+55N									
Comments										
06/19/2000	34	12 4	109 9	6	113 9	10 5	96	96	3	2nd lift
Location	Cell IIIC subgrade @ 125+45E and 80+85N									
Comments										
06/19/2000	35	6 3	114 1	1	114 3	10 7	100	96	3	Exiting grade
Location	Cell IIIC subgrade @ 124+00E and 81+45N									
Comments										
06/21/2000	36	11 2	106 6	6	113 9	10 5	94 <<	96	3	1st lift
Location	125+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	36A	10 7	109 6	6	113 9	10 5	96	96	3	1st lift
Location	Retest of #36									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	37	8 0	114 0	6	113 9	10 5	100	96	3	1st lift
Location	123+35E and 82+60N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	38	11 6	110 2	6	113 9	10 5	97	96	3	2nd lift
Location	125+00E and 82+50N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	39	11 9	109 4	6	113 9	10 5	96	96	3	1st lift
Location	123+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	40	12 2	109 8	6	113 9	10 5	96	96	3	1st lift
Location	122+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	41	9 2	110 6	6	113 9	10 5	97	96	3	1st lift
Location	121+00E and 82+60N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	42	11 0	110 8	6	113 9	10 5	97	96	3	3rd lift
Location	125+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	43	11 1	110 5	6	113 9	10 5	97	96	3	4th lift
[illegible]cation	125+00E and 82+60N									
[illegible]mments	Existing interceptor ditch 'C' backfill									

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PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
06/21/2000	44	16 0	107 4	6	113 9	10 5	94 <<	96	3	2nd lift
Location	123+00E and 82+65N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	45	10 0	112 5	6	113 9	10 5	99	96	3	2nd lift
Location	122+00E and 82+50N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	46	11 5	110 1	6	113 9	10 5	97	96	3	2nd lift
Location	121+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/21/2000	51	10 4	109 4	6	113 9	10 5	96	96	3	2nd lift
Location	124+00E and 82+60N									
Comments	Existing interceptor ditch 'C' backfill									
06/22/2000	44A	10 1	113 4	6	113 9	10 5	100	96	3	2nd lift
Location	Retest of #44									
Comments										
/22/2000	47	11 5	110 8	6	113 9	10 5	97	96	3	3rd lift
Location	121+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/22/2000	48	10 0	109 3	6	113 9	10 5	96	96	3	3rd lift
Location	122+00E and 82+70N									
Comments	Existing interceptor ditch 'C' backfill									
06/22/2000	49	15 9	106 8	6	113 9	10 5	94 <<	96	3	3rd lift
Location	123+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/22/2000	49A	11 9	110 6	6	113 9	10 5	97	96	3	3rd lift
Location	Retest of #49									
Comments	Existing interceptor ditch 'C' backfill									
06/22/2000	50	11 7	109 2	6	113 9	10 5	96	96	3	1st lift
Location	124+00E and 82+50N									
Comments	Existing interceptor ditch 'C' backfill									
06/22/2000	52	11 6	110 0	6	113 9	10 5	97	96	3	3rd lift
Location	124+00E and 82+55N									
Comments	Existing interceptor ditch 'C' backfill									
06/23/2000	15A	4 1	109 9	1	114 3	10 7	96	96	3	Existing grade
Location	Retest of #15									
Comments										
06/23/2000	53	4 4	110 9	1	114 3	10 7	97	96	3	Existing grade
ation	Phase IIIC subgrade @ Sta 119+60E and 81+10N									
ments										

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06/23/2000	54	2 9	109 3	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 118+45E and 80+55N									
06/26/2000	55	7 3	109 5	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase IIIC subgrade at Sta 117+55E and 80+75N									
06/26/2000	56	3 2	111 5	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase IIIC subgrade at Sta 116+45E and 81+00N									
06/26/2000	57	8 3	110 0	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IIIC subgrade at Sta. 120+40E and 80+55N									
06/26/2000	58	7 2	106 4	6	113 9	10 5	93 <<	96	3	1st lift
Location Comments	Phase IIIC subgrade at Sta 119+45E and 80+80N									
06/26/2000	58A	6 6	109 3	6	113 9	10 5	96	96	3	1st lift
Location Comments	Retest of #58									
06/26/2000	59	10 0	110 2	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IIIC subgrade at Sta. 118+55E and 81+05N									
06/26/2000	60	8 2	109 8	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC subgrade at Sta 117+45E and 80+40N									
06/26/2000	61	11 0	109 6	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC subgrade at Sta 116+50E and 80+85N									
06/26/2000	62	8 0	109 4	2	113	10 7	97	96	3	Existing grade
Location Comments	Phase IIIC subgrade at Sta 115+55E and 80+35N									
06/26/2000	63	4 2	109 8	2	113	10 7	97	96	3	Existing grade
Location Comments	Phase IIIC subgrade at Sta 114+50E and 80+70N									
06/28/2000	64	14 2	106 5	6	113 9	10 5	94 <<	96	3	1st lift
Location Comments	Phase IIIC subgrade @ Sta 115+55E and 81+15N									
06/28/2000	65	17 5	99 6	6	113 9	10 5	87 <<	96	3	1st lift
Location Comments	Phase IIIC subgrade @ Sta 114+40E and 80+50N									

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06/28/2000	66	6 5	111 4	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 116+75E and 81+55N									
06/28/2000	67	6 8	109 7	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase IIIC 117+50E and 81+85N									
06/28/2000	68	8 6	110 5	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta. 118+55E and 82+00N									
06/28/2000	69	11 4	111 9	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 119+50E and 81+55N									
06/28/2000	70	9 3	113 0	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 122+00E and 81+55N									
06/28/2000	71	11 7	112 4	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IIIC subgrade @ Sta 124+50E and 80+75N									
06/28/2000	72	12 5	109 7	7	110 9	11 7	99	96	3	3rd lift
Location Comments	Phase IIIC subgrade @ Sta 123+45E and 81+05N									
06/28/2000	73	13 0	107 0	7	110 9	11 7	96	96	3	3rd lift
Location Comments	Phase IIIC subgrade @ Sta. 122+55E and 80+55N									
06/28/2000	74	9 5	109 5	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IIIC subgrade @ Sta 121+55E and 80+85N									
06/29/2000	75	10 5	109 4	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC subgrade @ Sta 114+35E and 81+00N									
06/29/2000	76	11 0	113 6	6	113 9	10 5	100	96	3	2nd lift
Location Comments	Phase IIIC subgrade @ Sta 114+40E and 81+05N									
06/29/2000	77	6 5	110 8	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Phase IIIC subgrade @ Sta 114+10E and 80+90N									
06/29/2000	78	10 3	112 5	6	113 9	10 5	99	96	3	4th lift
Location Comments	Existing intercepter ditch 'C' backfill @ Sta 121+00E and 82+55N									

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06/29/2000	79	11 5	109 3	6	113 9	10 5	96	96	3	4th lift
Location Comments	Existing intercepter ditch 'C' backfill @ 122+00E and 82+60N									
06/29/2000	80	10 1	110 4	6	113 9	10 5	97	96	3	4th lift
Location Comments	Existing intercepter ditch 'C' backfill @ 123+00E and 82+70N									
06/29/2000	81	19 3	104 7	6	113 9	10 5	92 <<	96	3	4th lift
Location Comments	Existing intercepter ditch 'C' backfill @ 124+00E and 82+60N									
06/29/2000	82	10 5	111 9	6	113 9	10 5	98	96	3	5th lift
Location Comments	Existing intercepter ditch 'C' backfill @ 125+00E and 82+50N									
06/29/2000	83	9 5	113 8	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 122+00E and 83+15N									
06/29/2000	84	10 9	114 3	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta. 120+00E and 82+95N									
06/30/2000	85	9 1	115 7	1	114 3	10 7	101	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 118+00E and 81+05N									
06/30/2000	86	7 2	109 9	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 116+00E and 82+90N									
06/30/2000	87	8 6	114 2	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 114+00E and 83+15N									
06/30/2000	88	12 1	110 1	6	113 9	10 5	97	96	3	1st lift
Location Comments	Existing intercepter ditch 'C' backfill @ 118+00E and 82+50N									
06/30/2000	89	9 8	113 2	6	113 9	10 5	99	96	3	1st lift
Location Comments	Existing intercepter ditch 'C' backfill @ 117+00E and 82+55N									
06/30/2000	90	10 0	109 3	6	113 9	10 5	96	96	3	1st lift
Location Comments	Existing intercepter ditch 'C' backfill @ 116+00E and 82+60N									
07/06/2000	91	13 5	100 0	6	113 9	10 5	88 <<	96	3	1st lift
Location Comments	Phase IVC existing intercepter ditch 'C' backfill 110+00E and 82+50N									

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07/06/2000	92	13 6	106 8	6	113 9	10 5	94 <<	96	3	1st lift
Location Comments	Phase IVC existing intercepter ditch 'C' backfill 111+00E and 82+55N									
07/06/2000	93	13 9	107 6	6	113 9	10 5	94 <<	96	3	1st lift
Location Comments	Phase IVC existing intercepter ditch 'C' backfill 112+00E and 82+55N									
07/06/2000	94	14 5	105 7	6	113 9	10 5	93 <<	96	3	1st lift
Location Comments	Phase IVC existing intercepter ditch 'C' backfill 113+00E and 82+50N									
07/06/2000	95	5 2	105 0	5	108 3	11 8	97	96	3	Existing grade
Location Comments	Phase VA subgrade @ Sta. 124+00E and 80+10N									
07/06/2000	96	5 6	105 9	5	108 3	11 8	98	96	3	Existing grade
Location Comments	Phase VA subgrade @ Sta 120+00E and 80+20N									
07/06/2000	97	11 4	115 3	1	114 3	10 7	101	96	3	Existing grade
Location Comments	Phase VA subgrade @ Sta 116+00E and 80+15N									
07/06/2000	98	9 2	109 8	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase VA subgrade @ Sta 123+90E and 80+25N									
07/07/2000	100	8 0	109 8	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 115+55E and 83+30N									
07/07/2000	101	12 0	109 6	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta 115+55E and 83+00N									
07/07/2000	102	11 2	111 1	6	113 9	10 5	98	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ Sta. 113+80E and 82+35N									
07/07/2000	103	11 9	109 4	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IIIC special compaction area @ Sta 113+75E and 82+40N									
07/07/2000	104	8 9	106 2	1	114 3	10 7	93 <<	98	3	-1 0'*
Location Comments	42" cmp road crossing for temporary road repair 113+27E and 73+65N * Below finished subgrade									
07/07/2000	104A	8 0	111 9	1	114 3	10 7	98	98	3	-1 0'*
Location Comments	Retest of #104 * Below finished subgrade									

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07/07/2000	105	7 8	114 9	1	114 3	10 7	101	98	3	Finished subgrade
Location Comments	42" cmp road crossing from temporary road repair 113+28E and 73+75N									
07/07/2000	106	4 4	115 0	8	115 5	9 7	99 <<	100	3	-8" *
Location Comments	42" cmp road crossing for temporary road repair 113+28E and 73+65N * From finished limerock									
07/07/2000	107	7 9	115 0	8	115 5	9 7	99 <<	100	3	Finished limerock
Location Comments	42" cmp road crossing for temporary road repair 113+27E and 73+70N									
07/07/2000	108	9 8	109 5	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase VA spoil pile backfill @ Sta. 116+65E and 80+00N									
07/07/2000	109	10 6	109 3	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase VA spoil pile backfill @ Sta 116+35E and 80+05N									
07/07/2000	91A	10 7	109 0	6	113 9	10 5	96	96	3	1st lift
Location Comments	Retest of #91									
07/07/2000	92A	11 2	110 4	6	113 9	10 5	97	96	3	1st lift
Location Comments	Retest of #92									
07/07/2000	93A	11 5	110 3	6	113 9	10 5	97	96	3	1st lift
Location Comments	Retest of #93									
07/07/2000	94A	11 5	109 2	6	113 9	10 5	96	96	3	1st lift
Location Comments	Retest of #94									
07/07/2000	99	6 9	109 5	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC special compaction area @ Sta. 115+50E and 82+75N									
07/10/2000	110	12 7	106 2	6	113 9	10 5	93 <<	96	1	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 112+50E and 82+55N									
07/10/2000	110A	13 0	109 9	6	113 9	10 5	96	96	1	2nd lift
Location Comments	Retest of #110									
07/10/2000	111	13 8	109 9	6	113 9	10 5	96	96	1	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 111+50E and 82+50N									

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REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/10/2000	112	13 6	110 1	6	113 9	10 5	97	96	1	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 110+50E and 82+50N									
07/10/2000	113	10 6	109 3	6	113 9	10 5	96	96	1	1st lift
Location Comments	Phase IVC special compaction area @ Sta 112+50E and 82+35N									
07/10/2000	114	12 2	110 4	6	113 9	10 5	97	96	1	1st lift
Location Comments	Phase IVC special compaction area @ Sta 111+50E and 82+25N									
07/10/2000	115	10 7	114 6	6	113 9	10 5	101	96	1	2nd lift
Location Comments	Phase IIIC subgrade @ Sta 114+50E and 81+05N									
07/10/2000	116	10 1	109 8	6	113 9	10 5	96	96	1	2nd lift
Location Comments	Phase IIIC subgrade @ Sta 115+55E and 80+50N									
07/10/2000	117	5 5	107 0	5	108 3	11 8	99	96	1	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 114+45E and 81+75N									
07/10/2000	118	5 8	107 0	5	108 3	11 8	99	96	1	Existing grade
Location Comments	Phase IIIC subgrade @ Sta 115+55E and 81+95N									
07/10/2000	119	5 3	105 2	5	108 3	11 8	97	96	1	Existing grade
Location Comments	Phase IVC subgrade @ Sta 112+00E and 83+10N									
07/10/2000	120	11 0	109 7	6	113 9	10 5	96	96	1	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 110+50E and 82+60N									
07/10/2000	121	11 9	109 4	6	113 9	10 5	96	96	1	1st lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta. 109+50E and 82+55N									
07/11/2000	122	10 6	110 2	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IVC subgrade @ Sta 112+05 E and 82+25 N									
07/11/2000	123	11 1	112 4	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IVC special compaction area @ Sta 112+50 E an d82+25 N									
07/11/2000	124	11 5	111 8	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch "C" Backfill @ Sta 109+50 E and 82+55 N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/11/2000	125	8 5	108 6	4	112	13 5	97	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta 108+50 E an d82+60 N									
07/11/2000	126	6 5	113 0	6	113 9	10 5	99	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta 107+50E and 82+60 N									
07/11/2000	127	8 2	110 5	4	112	13 5	99	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta 106+50 E and 82+55 N									
07/11/2000	128	9 1	110 6	4	112	13 5	99	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta. 105+50E and 82+55 N									
07/11/2000	129	8 0	109 4	4	112	13 5	98	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta. 104+50 E and 82+60 N									
07/11/2000	130	7 8	110 9	4	112	13 5	99	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta 103+50 E and 82" 55 N									
07/11/2000	131	8 6	111 0	4	112	13 5	99	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta 102+50 an d82+60 N									
07/11/2000	132	7 3	109 2	4	112	13 5	98	96	3	1st lift
Location Comments	Phase IVC existing interceptor ditch "C" backfill @ Sta 101+50E and 82+60 N									
07/11/2000	133	10 1	108 5	7	110 9	11 7	98	96	3	1st lift
Location Comments	Phase IVC special compaction area @ Sta 109+50 E and 82+35 N									
07/11/2000	134	11 9	110 6	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IVC special compaction area @ Sta 110+50 E and 82+25 N									
07/11/2000	135	8 2	111 0	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IVC special compaction area @ Sta 110+50 E and 82+30 N									
07/11/2000	136	9 5	115 3	1	114 3	10 7	101	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 109+85 E and 82+ 85 N									
07/11/2000	137	4 0	110 8	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta. 108+05 E and 82+00 N									

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PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/11/2000	138	7 8	113 6	6	113 9	10 5	100	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta. 118+00E and 82+35N									
07/11/2000	139	9 9	112 0	6	113 9	10 5	98	96	3	3rd lift
Location Comments	Phase IIIC sepcial compaction area @ Sta 119+00E and 82+20N									
07/11/2000	140	8 5	112 6	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta. 120+00E and 82+05N									
07/11/2000	141	8 6	114 2	6	113 9	10 5	100	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta. 121+00E and 81+95N									
07/11/2000	142	10 4	112 8	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta. 122+00E and 82+10N									
07/11/2000	143	10 5	114 7	6	113 9	10 5	101	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta 123+00E and 82+00N									
07/11/2000	144	11 6	112 4	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta. 124+00E and 81+90N									
07/11/2000	145	10 7	113 8	6	113 9	10 5	100	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta 125+00E and 81+80N									
07/11/2000	146	10 9	114 2	6	113 9	10 5	100	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ Sta. 126+00E and 81+55N									
07/11/2000	147	10 1	113 8	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ Sta 114+35E and 81+00N									
07/11/2000	148	9 6	112 6	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 108+40E and 82+50N									
07/11/2000	149	12 5	111 1	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 109+55E and 82+65N									
07/11/2000	150	11 7	112 8	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 106+45E and 82+60N									

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07/11/2000	151	9 6	112 6	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 105+55E and 82+65N									
07/11/2000	152	9 5	110 7	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 104+50E and 82+55N									
07/11/2000	153	8 3	111 4	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 103+55E and 82+60N									
07/11/2000	154	9 3	110 2	6	113 9	10 5	97	96	3	4th lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 119+00E and 82+55N									
07/11/2000	155	10 5	110 1	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 119+00E and 82+55N									
07/11/2000	156	9 9	110 3	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta. 119+00E and 82+55N									
07/11/2000	157	11 5	109 4	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta. 119+00E and 82+55N									
07/11/2000	158	11 0	113 1	6	113 9	10 5	99	96	3	4th lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta. 120+00E and 82+50N									
07/11/2000	159	10 3	112 0	6	113 9	10 5	98	96	3	3rd lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 120+00E and 82+50N									
07/11/2000	160	11 4	111 5	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 120+00E and 82+50N									
07/11/2000	161	12 1	111 7	6	113 9	10 5	98	96	3	1st lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 120+00E and 82+50N									
07/11/2000	162	9 2	110 8	6	113 9	10 5	97	96	3	4th lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 115+05E and 82+55N									
07/11/2000	163	9 6	109 0	6	113 9	10 5	96	96	3	3rd lift
ation Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 115+05E and 82+55N									

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07/11/2000	164	10 4	111 2	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IIIC ditch 'C' backfill @ Sta 115+05E and 82+55N									
07/11/2000	165	10 9	109 9	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC ditch 'C' backfill @ Sta 115+05E and 82+55N									
07/13/2000	166	18 1	101 4	CL-1	105 6	19 7	96	96	3	Clay subbase
Location Comments	Clay test strip in Ph IIIC @ Sta 114+82E and 80+75N									
07/13/2000	167	21 2	103 3	CL-2	109 7	16 2	94 <<	96	3	Clay subbase
Location Comments	Clay test strip in Ph IIIC @ Sta. 114+23E and 80+85N									
07/13/2000	168	51 1	75 4	CL-3	83 6	33 8	90 <<	96	3	Clay subbase
Location Comments	Clay test strip in Ph IIIC @ Sta. 114+44E and 81+13N									
/13/2000	169	30 5	89 4	CL-4	103 2	18 6	87 <<	96	3	Clay subbase
Location Comments	Clay test strip in Ph IIIC @ Sta. 114+26N and 81+38N									
07/13/2000	170	29 7	94 4	CL-4	103 2	18 6	91 <<	96	3	Clay subbase
Location Comments	Clay test strip in Ph IIIC @ Sta 114+84E and 81+45N									
07/13/2000	171	7 2	107 0	5	108 3	11 8	99	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta. 111+95E and 81+15N									
07/13/2000	172	8 9	106 2	5	108 3	11 8	98	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 110+85E and 81+50N									
07/13/2000	173	12 0	113 3	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IIIC subgrade @ Sta. 116+45E and 80+85N									
07/13/2000	174	10 4	110 3	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IIIC subgrade @ Sta 117+55E and 81+05N									
07/13/2000	175	8 8	109 0	7	110 9	11 7	98	96	3	2nd lift
Location Comments	Phase IIIC subgrade @ Sta 118+50E and 80+50N									
07/13/2000	176	9 6	108 3	7	110 9	11 7	98	96	3	2nd lift
...cation ...ments	Phase IIIC subgrade @ Sta 119+45E and 80+75N									

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07/13/2000	177	11 7	112 0	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IIIC subgrade @ Sta 120+45E and 81+00N									
07/13/2000	178	11 9	110 6	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IVC special compaction area @ Sta 105+30E and 83+05N									
07/14/2000	179	11 2	110 4	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Phase IVC S C A * ditch 'C' backfill @ Sta 108+55E and 82+60N * S C A. - Special Compaction Area									
07/14/2000	180	8 5	113 3	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IVC S C A. @ ditch 'C' backfill @ Sta 107+45E and 82+55N									
07/14/2000	181	11 7	111 7	6	113 9	10 5	98	96	3	3rd lift
Location Comments	Phase IVC S C A. @ ditch 'C' backfill @ Sta 106+50E and 82+50N									
07/14/2000	182	12 4	109 4	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IVC S C A. @ ditch 'C' backfill @ Sta 105+45E and 82+60N									
07/14/2000	183	10 5	109 7	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IVC S C A. @ ditch 'C' backfill @ Sta 104+45E and 82+45N									
07/14/2000	184	7 9	113 3	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IVC S C A. @ ditch 'C' backfill @ Sta 103+40E and 82+50N									
07/14/2000	185	11 6	111 6	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 102+45E and 82+60N									
07/14/2000	186	8 1	109 7	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 101+55E and 82+55N									
07/14/2000	187	9 5	109 4	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IVC special compaction area @ Sta 105+20E and 83+05N									
07/14/2000	188	11 0	109 7	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IVC special compaction area @ Sta 105+45E and 82+75N									
07/14/2000	189	10 6	107 8	7	110 9	11 7	97	96	3	3rd lift
Location Comments	Phase IVC S C A. @ ditch 'C' backfill @ Sta 102+50E and 82+50N									

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07/14/2000	190	11 4	109 9	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IVC S C A. @ ditch 'C' backfill @ Sta 101+45E and 82+45N									
07/14/2000	191	11 1	111 1	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 105+90E and 83+05N									
07/14/2000	192	12 2	110 8	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta. 109+45E and 82+55N									
07/14/2000	193	11 9	110 5	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 110+45E and 82+55N									
07/14/2000	194	11 2	109 7	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 111+50E and 82+60N									
07/14/2000	195	10 7	112 6	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta 112+55E and 82+55N									
07/14/2000	196	11 0	109 3	6	113 9	10 5	96	96	3	4th lift
Location Comments	Ph IVC S C A.* ditch 'C' backfill @ Sta 102+50E and 82+55N * Special Compaction Area									
07/14/2000	197	17 4	100 4	6	113 9	10 5	88 <<	96	3	4th lift
Location Comments	Ph IVC S C A. @ ditch 'C' backfill @ Sta. 103+55E and 82+60N									
07/14/2000	198	16 2	103 4	6	113 9	10 5	91 <<	96	3	4th lift
Location Comments	Ph IVC S C A. @ ditch 'C' backfill @ Sta 104+50E and 82+50N									
07/14/2000	199	8 5	110 4	6	113 9	10 5	97	96	3	4th lift
Location Comments	Ph IVC S C A. @ ditch 'C' backfill @ Sta 105+55E and 82+50N									
07/14/2000	200	8 9	109 6	1	114 3	10 7	96	96	3	4th lift
Location Comments	Ph IVC S C A. @ ditch 'C' backfill @ Sta 106+45E and 82+45N									
07/14/2000	201	10 7	112 2	6	113 9	10 5	99	96	3	4th lift
Location Comments	Ph IVC S C A. @ ditch 'C' backfill @ Sta 107+45E and 82+50N									
07/14/2000	202	10 6	110 5	6	113 9	10 5	97	96	3	4th lift
Location Comments	Ph IVC S C A. @ ditch 'C' backfill @ Sta 108+60E and 82+45N									

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07/14/2000	203	10 5	109 8	6	113 9	10 5	96	96	3	4th lift
Location Comments	Ph IVC existing interceptor ditch 'C' backfill @ Sta 109+50E and 82+55N									
07/14/2000	204	11 5	111 0	6	113 9	10 5	97	96	3	4th lift
Location Comments	Ph IVC existing interceptor ditch 'C' backfill @ Sta 110+45E and 82+60N									
07/14/2000	205	11 9	110 9	6	113 9	10 5	97	96	3	4th lift
Location Comments	Phase IVC existing interceptor ditch 'C' backfill @ Sta. 111+55E and 82+65N									
07/14/2000	206	12 1	111 3	6	113 9	10 5	98	96	3	4th lift
Location Comments	Ph IVC existing interceptor ditch 'C' backfill @ Sta 112+60E and 82+55N									
07/15/2000	207	10 9	110 6	6	113 9	10 5	97	96	3	4th lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta. 117+95E and 82+60N									
07/15/2000	208	11 6	109 2	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta 117+95E and 82+60N									
07/15/2000	209	11 4	109 6	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta. 117+95E and 82+60N									
07/15/2000	210	9 8	108 4	7	110 9	11 7	98	96	3	4th lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta 116+95E and 82+55N									
07/15/2000	211	11 2	110 1	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta 116+95E and 82+55N									
07/15/2000	212	10 5	110 3	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta 116+95E and 82+55N									
07/15/2000	213	9 4	109 8	6	113 9	10 5	96	96	3	4th lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta 116+00E and 82+60N									
07/15/2000	214	12 1	111 0	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Ph IIIC existing interceptor ditch 'C' backfill @ Sta 116+00E and 82+60N									
07/15/2000	215	12 5	109 4	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 116+00E and 82+60N									

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07/15/2000	216	8 7	110 3	6	113 9	10 5	97	96	3	4th lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 113+95E and 82+55N									
07/15/2000	217	10 2	110 4	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 113+95E and 82+55N									
07/15/2000	218	10 7	109 2	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IIIC existing interceptor ditch 'C' backfill @ Sta 113+95E and 82+55N									
07/15/2000	219	9 8	110 3	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IIIC existing interceptor ditch 'C backfill @ Sta. 113+95E and 82+55N									
07/17/2000	220	6 5	108 7	4	112	13 5	97	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 110+05E and 81+00N									
07/17/2000	221	5 3	111 2	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta. 109+00E and 80+50N									
07/17/2000	222	5 0	104 5	5	108 3	11 8	96	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 111+95E and 80+50N									
07/17/2000	223	6 4	112 1	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta 108+10E and 81+50N									
07/17/2000	224	9 1	109 7	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta. 105+90E and 81+45N									
07/17/2000	225	5 5	106 9	5	108 3	11 8	99	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 110+05E and 81+65N									
07/17/2000	226	10 9	109 4	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IVC subgrade @ Sta 105+90E and 83+00N									
07/17/2000	227	13 0	110 4	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IVC subgrade @ Sta 108+05E and 83+15N									
07/17/2000	228	10 7	113 9	8	115 5	9 7	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 115+15E and 80+80N									

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LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/17/2000	229	11 1	114 0	8	115 5	9 7	99	96	3	Fin subgrade
Location Comments	Phase IIIC subgrade @ sta 116+05E and 81+15N									
07/17/2000	230	10 3	113 9	8	115 5	9 7	99	96	3	Fin subgrade
Location Comments	Phase IIIC subgrade @ sta. 117+10E and 81+45N									
07/17/2000	231	8 7	113 5	6	113 9	10 5	100	96	3	Fin subgrade
Location Comments	Phase IIIC subgrade @ sta 118+05E and 81+85N									
07/17/2000	232	9 2	110 2	6	113 9	10 5	97	96	3	Fin subgrade
Location Comments	Phase IIIC subgrade @ sta 119+15E and 81+05N									
07/17/2000	233	7 9	113 8	6	113 9	10 5	100	96	3	Fin subgrade
Location Comments	Phase IIIC subgrade @ sta. 120+10E and 81+35N									
07/17/2000	234	10 4	116 0	8	115 5	9 7	100	96	3	Fin subgrade
Location Comments	Phase IIIC subgrade @ sta 121+00E and 80+75N									
07/17/2000	235	11 2	110 9	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta 110+10E and 83+10N									
07/18/2000	236	4 8	108 1	5	108 3	11 8	100	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta 108+05E and 80+75N									
07/18/2000	237	5 2	113 6	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta 106+90E and 81+00N									
07/18/2000	238	4 7	109 5	5	108 3	11 8	101	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta 106+00E and 80+45N									
07/18/2000	239	4 3	113 5	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta 105+05E and 80+90N									
07/18/2000	240	15 1	107 5	9	113 4	11 2	95 <<	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta 111+90E and 80+75N									
07/18/2000	241	14 5	107 9	9	113 4	11 2	95 <<	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta 111+00E and 80+85N									

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07/18/2000	64A	9 2	109 9	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IIIC - Retest of #64									
07/18/2000	65A	11 4	110 3	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IIIC - Retest of #65									
07/19/2000	242	5 0	110 9	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta 103+05E and 80+45N									
07/19/2000	243	5 7	108 8	4	112	13 5	97	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta. 104+00E and 81+20N									
07/19/2000	244	7 5	112 4	6	113 9	10 5	99	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta. 109+95E and 80+45N									
/19/2000	245	11 6	112 7	6	113 9	10 5	99	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta. 109+00E and 80+80N									
07/19/2000	246	10 9	113 6	8	115 5	9 7	98	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta 107+95E and 81+10N									
07/19/2000	247	7 3	112 7	6	113 9	10 5	99	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta 107+05E and 80+40N									
07/19/2000	248	11 9	106 6	7	110 9	11 7	96	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta 106+05E and 80+90N									
07/19/2000	249	16 6	102 7	6	113 9	10 5	90 <<	96	3	1st lift
Location Comments	Phase IVC subgrade @ sta 104+90E and 81+15N									
07/19/2000	250	5 4	107 2	5	108 3	11 8	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 110+05E and 80+20N									
07/19/2000	251	4 3	108 0	5	108 3	11 8	100	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 105+95E and 80+15N									
07/19/2000	252	3 4	107 2	5	108 3	11 8	99	96	3	Existing grade
cation mments	Phase IVC subgrade @ sta 101+95E and 80+75N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/19/2000	253	5 4	107 4	5	108 3	11 8	99	96	3	Existing grade
Location Comments	Phase IVC subgrade @ sta 101+00E and 81+15N									
07/19/2000	254	2 8	106 2	5	108 3	11 8	98	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 101+90E and 80+10N									
07/20/2000	255	10 7	108 9	8	115 5	9 7	94 <<	96	3	1st lift
Location Comments	Phave VC subgrade @ Sta 111+05E and 80+15N									
07/20/2000	255A	11 0	111 0	8	115 5	9 7	96	96	3	1st lift
Location Comments	Retest of #255									
07/20/2000	256	10 1	105 2	6	113 9	10 5	92 <<	96	3	1st lift
Location Comments	Phase VC subgrade @ Sta 107+10E and 80+20N									
/20/2000	256A	10 3	109 6	6	113 9	10 5	96	96	3	1st lift
Location Comments	Retest of #256									
07/20/2000	257	11 2	113 7	8	115 5	9 7	98	96	3	2nd lift
Location Comments	Phase IVC subgrade @ Sta 112+00E and 80+80N									
07/20/2000	258	10 9	115 7	8	115 5	9 7	100	96	3	2nd lift
Location Comments	Phase IVC subgrade @ Sta 111+05E and 81+05N									
07/20/2000	259	11 2	110 2	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IVC subgrade @ Sta 109+90E and 80+45N									
07/20/2000	260	11 5	109 3	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IVC subgrade @ Sta 109+05E and 80+85N									
07/20/2000	261	5 0	111 7	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 104+00E and 83+10N									
07/20/2000	262	5 2	111 3	2	113	10 7	99	96	3	Existing grade
Location Comments	Phase IVC subgrade @ Sta 102+05E and 82+90N									
07/20/2000	263	24 7	97 1	CL-4	103 2	18 6	94	92	3	Clay subbase
cation mments	2nd clay test strip for Ph IIIC @ sta 115+30E and 80+88N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/20/2000	264	23 7	96 8	CL-4	103 2	18 6	94	92	3	Clay subbase
Location Comments	2nd clay test strip, Ph IIIC @ sta 115+67E and 80+85N									
07/20/2000	265	22 6	99 7	CL-4	103 2	18 6	97	92	3	Clay subbase
Location Comments	2nd clay test strip, Ph IIIC @ sta 115+69E and 81+30N									
07/20/2000	266	20 5	103 1	CL-4	103 2	18 6	100	92	3	Clay subbase
Location Comments	2nd clay test strip, Ph IIIC @ sta. 115+22E and 81+33N									
07/20/2000	267	23 8	99 3	CL-4	103 2	18 6	96	92	3	Clay subbase
Location Comments	2nd clay test strip, Ph IIIC @ sta. 115+47E and 81+13N									
07/21/2000	197A	5 7	110 2	6	113 9	10 5	97	96	3	4th lift
Location Comments	Retest of #197									
07/21/2000	198A	11 7	109 6	6	113 9	10 5	96	96	3	4th lift
Location Comments	Retest # 198									
07/21/2000	240A	13 1	111 8	9	113 4	11 2	99	96	3	1st lift
Location Comments	Retest of #240									
07/21/2000	241A	13 3	112 1	9	113 4	11 2	99	96	3	1st lift
Location Comments	Retest of #241									
07/21/2000	249A	13 1	111 9	9	113 4	11 2	99	96	3	1st lift
Location Comments	Retest of #249									
07/21/2000	268	12 5	111 2	6	113 9	10 5	98	96	3	1st lift
Location Comments	Phase IVC subgrade @ Sta 103+95E and 80+45N									
07/21/2000	269	12 6	109 8	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IVC subgrade @ Sta 103+05E and 80+70N									
07/21/2000	270	12 2	110 9	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IVC subgrade @ Sta 102+00E and 80+90N									
07/21/2000	271	11 5	104 5	6	113 9	10 5	92 <<	96	3	1st lift
Location Comments	Phase IVC subgrade @ Sta 100+95E and 80+50N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/21/2000	272	6 5	110 2	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IVC special compaction area @ Sta 111+50E and 82+30N									
07/21/2000	273	11 6	112 6	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IVC special compaction area @ Sta 109+50E and 82+35N									
07/21/2000	81A	11 9	111 8	6	113 9	10 5	98	96	3	4th lift
Location Comments	Phase IIIC - Retest of #81									
07/22/2000	274	7 9	105 8	1	114 3	10 7	93 <<	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 115+05E and 81+90N									
07/22/2000	275	5 8	112 0	1	114 3	10 7	98	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 116+95E and 81+95N									
07/22/2000	276	7 7	110 7	1	114 3	10 7	97	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta. 119+00E and 82+05N									
07/22/2000	277	11 0	114 2	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 120+95E and 81+75N									
07/22/2000	278	6 9	112 8	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta. 123+10E and 81+65N									
07/22/2000	279	8 3	112 6	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 124+90E and 82+00N									
07/22/2000	280	10 5	110 9	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 121+95E and 81+10N									
07/22/2000	281	11 2	112 9	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 122+90E and 81+40N									
07/22/2000	282	9 9	112 9	8	115 5	9 7	98	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 124+10E and 80+80N									
07/22/2000	283	10 7	112 9	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 124+95E and 81+15N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
07/22/2000	284	9 4	109 4	6	113 9	10 5	96	96	3	3rd lift
Location Comments	Phase IIIC special compaction area @ sta. 113+85E and 82+35N									
07/24/2000	274A	8 0	109 5	1	114 3	10 7	96	96	3	Finished subgrade
Location Comments	Retest of #274 - Phase III @ sta 115+05E and 81+90N									
07/24/2000	285	10 9	111 5	2	113	10 7	99	96	3	Finished subgrade
Location Comments	Phase VA @ sta 117+55E and 80+40N									
07/24/2000	286	13 1	110 1	2	113	10 7	97	96	3	Finished subgrade
Location Comments	Phase VA @ sta 121+50E and 80+40N									
07/24/2000	287	14 0	109 0	2	113	10 7	96	96	3	Finished subgrade
Location Comments	Phase VA @ sta. 124+50E and 80+50N									
07/26/2000	288	8 9	113 1	1	114 3	10 7	99	96	3	Subgrade
Location Comments	Phase VA @ sta 79+10N and 114+50E									
07/26/2000	289	7 8	112 7	1	114 3	10 7	99	96	3	Subgrade
Location Comments	Phase VA @ sta 79+50N and 115+00E									
07/26/2000	290	9 7	114 9	1	114 3	10 7	101	96	3	Subgrade
Location Comments	Phase VA @ sta 78+20N and 115+30E									
07/26/2000	291	10 1	113 1	1	114 3	10 7	99	96	3	Subgrade
Location Comments	Phase VA 79+95N and 114+90E									
07/26/2000	292	8 3	113 4	1	114 3	10 7	99	96	3	Subgrade
Location Comments	Phase VA @ sta 78+10N and 118+00E									
07/26/2000	293	9 4	114 5	1	114 3	10 7	100	96	3	Subgrade
Location Comments	Phase VA @ sta 79+40N and 118+30E									
07/26/2000	294	3 8	113 3	1	114 3	10 7	99	96	3	Subgrade
Location Comments	Phase VA @ sta 79+40N and 119+40E									
07/26/2000	295	4 3	112 3	1	114 3	10 7	98	96	3	Subgrade
Location Comments	Phase VA 78+20N and 119+90E									

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07/26/2000	296	5 4	107 5	1	114 3	10 7	94 <<	96	3	Subgrade
Location Comments	Phase VA @ sta 78+50N and 120+40E									
07/26/2000	296A	3 6	111 7	1	114 3	10 7	98	96	3	Subgrade
Location Comments	Retest of #296									
07/26/2000	297	4 6	110 2	1	114 3	10 7	96	96	3	Subgrade
Location Comments	Phase VA @ sta 79+30N and 120+30E									
07/26/2000	298	4 3	111 5	1	114 3	10 7	98	96	3	Subgrade
Location Comments	Phase VA @ sta 79+20N and 121+20E									
07/26/2000	299	4 7	111 3	1	114 3	10 7	97	96	3	Subgrade
Location Comments	Phase VA @ sta. 78+00 and 121+30E									
07/26/2000	300	6 1	109 4	1	114 3	10 7	96	96	3	Subgrade
Location Comments	Phase VA @ sta. 78+10N and 122+00E									
07/26/2000	301	4 4	114 4	1	114 3	10 7	100	96	3	Subgrade
Location Comments	Phase VA @ sta. 79+15N and 122+30E									
07/26/2000	302	6 4	110 0	1	114 3	10 7	96	96	3	Subgrade
Location Comments	Phase VA @ sta. 79+30N and 123+20E									
07/26/2000	303	5 6	111 9	1	114 3	10 7	98	96	3	Subgrade
Location Comments	Phase VA @ sta 78+10N and 123+40E									
07/26/2000	304	3 8	109 6	1	114 3	10 7	96	96	3	Subgrade
Location Comments	Phase VA @ sta 78+00 and 124+10E									
07/26/2000	305	3 0	114 1	1	114 3	10 7	100	96	3	Subgrade
Location Comments	Phase VA @ sta 79+20N and 124+50E									
07/27/2000	306	9 4	108 6	6	113 9	10 5	95 <<	96	3	1st lift
Location Comments	Phase IIIC @ sta 126+50E and 80+10N									
07/27/2000	307	6 6	110 5	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase IIIC @ sta 126+30E and 81+30N									

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07/27/2000	308	11 1	108 1	6	113 9	10 5	95 <<	96	3	1st lift
Location Comments	Phase IIIC @ sta 126+30E and 82+30N									
07/28/2000	306A	10 1	111 9	6	113 9	10 5	98	96	3	1st lift
Location Comments	Retest of #306									
07/28/2000	308A	10 2	114 0	6	113 9	10 5	100	96	3	1st lift
Location Comments	Retest of #308									
07/28/2000	309	9 4	112 5	6	113 9	10 5	99	96	3	1st lift
Location Comments	Phase IIIC @ sta 126+30E and 79+10N									
07/28/2000	310	8 2	107 1	5	108 3	11 8	99	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 125+50E and 82+10N									
07/28/2000	311	6 6	106 2	5	108 3	11 8	98	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta. 124+50E and 82+10N									
07/31/2000	312	12 4	110 6	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IIIC anchor berm fill @ sta 126+40E and 82+05N									
07/31/2000	313	7 3	111 9	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IIIC anchor berm fill @ sta 126+25E and 81+10N									
07/31/2000	314	9 9	111 9	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IIIC anchor berm fill @ sta 126+10E and 80+10N									
07/31/2000	315	10 3	111 0	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase VA anchor berm fill @ sta 125+75E and 79+15N									
07/31/2000	316	12 6	105 2	6	113 9	10 5	92 <<	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 123+45E and 82+10N									
07/31/2000	316A	8 5	111 0	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Retest of #316									
07/31/2000	317	7 9	109 4	6	113 9	10 5	96	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 122+55E and 82+08N									

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07/31/2000	318	5 9	109 6	6	113 9	10 5	96	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 121+50E and 82+10N									
07/31/2000	319	5 0	107 3	6	113 9	10 5	94 <<	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 120+45E and 82+08N									
07/31/2000	319A	5 6	110 9	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Retest of #319									
07/31/2000	320	9 1	115 2	8	115 5	9 7	100	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 119+55E and 82+07N									
07/31/2000	321	23 0	101 4	CL-5	103 8	19 6	98	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 116+55E and 81+35N									
[illegible]1/2000	322	22 2	99 1	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 116+95E and 81+05N									
07/31/2000	323	22 4	92 7	CL-5	103 8	19 6	89 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 117+60E and 80+40N									
07/31/2000	324	23 7	97 8	CL-5	103 8	19 6	94	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta. 118+30E and 81+70N									
07/31/2000	325	24 2	99 5	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 118+90E and 81+15N									
08/01/2000	326	25 2	98 6	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 119+50E and 81+70N									
08/01/2000	327	25 8	95 6	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta. 119+50E and 81+70N									
08/01/2000	328	22 0	101 3	CL-1	105 6	19 7	96	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 120+85E and 80+60N									
08/01/2000	329	11 0	112 1	4	112	13 5	100	96	3	Finished subgrade
Location [illegible]ments	Phase IIIC leachate trench @ sta 116+55E and 82+12N									

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REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
08/01/2000	330	8 2	110 6	4	112	13 5	99	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 117+45E and 82+10N									
08/01/2000	331	10 1	113 1	2	113	10 7	100	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 118+45E and 82+10N									
08/01/2000	332	6 7	112 9	4	112	13 5	101	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 115+55E and 82+08N									
08/01/2000	333	9 9	112 5	4	112	13 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta. 114+55E and 82+08N									
08/02/2000	323A	25 1	95 9	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Phase IIIC clay liner - Retest of #323									
02/2000	334	23 9	100 0	CL-5	103 8	19 6	96	96	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta. 121+30E and 81+75N									
08/02/2000	335	23 9	96 1	CL-5	103 8	19 6	93	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 121+85E and 81+15N									
08/02/2000	336	20 9	100 1	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 122+45E and 80+50N									
08/03/2000	337	10 3	112 3	2	113	10 7	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 120+95E and 82+30N									
08/03/2000	338	16 6	105 6	1	114 3	10 7	92 <<	96	3	3rd lift
Location Comments	Phase IIIC anchor berm @ sta 126+30E and 82+60N									
08/03/2000	339	10 7	109 8	1	114 3	10 7	96	96	3	3rd lift
Location Comments	Phase IIIC anchor berm @ sta 126+25E and 81+60N									
08/03/2000	340	11 3	112 9	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IIIC anchor berm @ sta 126+30E and 80+65N									
08/03/2000	341	20 5	101 8	6	113 9	10 5	89 <<	96	3	3rd lift
Location Comments	Phase IIIC anchor berm @ sta 125+95E and 79+55N									

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08/03/2000	342	11 0	114 3	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta. 114+05E and 82+80N									
08/03/2000	343	10 2	110 4	1	114 3	10 7	97	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 115+00E and 82+35N									
08/03/2000	344	11 4	114 2	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 115+90E and 82+95N									
08/04/2000	345	12 9	109 5	6	113 9	10 5	96	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 116+90E and 82+55N									
08/04/2000	346	11 4	113 7	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 118+05E and 82+30N									
[illegible]4/2000	347	10 9	113 6	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 119+10E and 82+30N									
08/04/2000	348	12 4	114 7	6	113 9	10 5	101	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 120+05E and 82+30N									
08/07/2000	349	10 3	113 5	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 121+55E and 83+35N									
08/07/2000	350	11 9	113 1	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta. 118+45E and 83+30N									
08/07/2000	351	11 0	113 4	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 115+50E and 83+20N									
08/07/2000	352	28 9	95 5	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta. 114+55E and 82+40N P-17									
08/07/2000	353	27 1	95 7	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 115+65E and 82+65N									
08/07/2000	354	32 4	88 4	CL-5	103 8	19 6	85 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 114+35E and 81+65N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
08/07/2000	354A	23 0	98 1	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Retest of #354									
08/07/2000	355	28 0	92 2	CL-5	103 8	19 6	89 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 114+90E and 80+45N									
08/07/2000	355A	22 6	99 8	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Retest of #355									
08/07/2000	356	8 5	114 0	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ sta. 123+95E and 83+30N									
08/07/2000	357	8 5	112 5	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase IIIC subgrade @ sta. 125+75E and 83+10N									
08/2000	336A	25 8	92 4	CL-5	103 8	19 6	89 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner - Retest of #336									
08/08/2000	358	19 6	93 2	CL-5	103 8	19 6	90 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 123+10E and 81+70N									
08/08/2000	358A	26 9	94 6	CL-5	103 8	19 6	91 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner - retest of #358									
08/08/2000	359	17 5	106 7	CL-2	109 7	16 2	97	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 123+75E and 81+20N									
08/08/2000	359A	23 8	94 2	CL-5	103 8	19 6	91 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner - retest of #359									
08/08/2000	360	20 4	99 7	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 124+25E and 80+70N									
08/08/2000	360A	26 1	95 5	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Phase IIIC clay liner - retest of #360									
08/08/2000	361	19 5	99 6	CL-5	103 8	19 6	96	92	3	Clay subbase
Location ments	Phase IIIC clay liner @ sta 124+95E and 81+90N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
08/08/2000	362	18 2	102 5	CL-5	103 8	19 6	99	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 125+45E and 81+10N									
08/08/2000	363	9 5	115 7	8	115 5	9 7	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 122+05E and 82+75N									
08/08/2000	364	6 3	112 0	6	113 9	10 5	98	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta. 122+95E and 82+30N									
08/08/2000	365	10 3	115 0	6	113 9	10 5	101	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 124+05E and 82+70N									
08/08/2000	366	7 4	114 8	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 124+95E and 82+25N									
08/2000	367	6 5	113 3	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 124+50E and 83+25N									
08/09/2000	368	31 1	89 2	CL-6	100	22	89 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 117+05E and 82+90N P-19									
08/09/2000	369	30 8	90 5	CL-6	100	22	91 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta. 119+25E and 82+25N									
08/09/2000	370	37 8	83 3	CL-3	83 6	33 8	100	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta. 121+55E and 82+55N P-20									
08/10/2000	336B	25 6	95 5	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Retest of #336 - Phase IIIC clay liner									
08/10/2000	358B	23 6	97 7	CL-5	103 8	19 6	94	92	3	Clay subbase
Location Comments	Retest of #358A - Phase IIIC clay liner									
08/10/2000	359B	24 2	98 5	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Retest of #359A - phase IIIC clay liner P-21									
08/10/2000	360B	22 7	101 0	CL-5	103 8	19 6	97	92	3	Clay subbase
Location	Retest of #360A - Phase IIIC clay liner									
nments										

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
08/10/2000	361A	24 0	97 1	CL-5	103 8	19 6	94	92	3	Clay subbase
Location Comments	Retest of #361									
08/10/2000	362A	23 3	98 0	CL-5	103 8	19 6	94	92	3	Clay subbase
Location Comments	Retest of #362 - Phase IIIC clay liner									
08/10/2000	371	10 4	113 2	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 113+90E and 81+70N									
08/10/2000	372	11 4	113 6	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase IIIC sump @ sta 125+85E and 82+00N									
08/10/2000	373	5 6	110 2	4	112	13 5	98	96	3	Finished subgrade
Location Comments	Phase IIIC leachate trench @ sta 113+80E and 82+10N									
10/2000	374	31 3	90 7	CL-6	100	22	91 <<	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 119+15E and 83+20N									
08/11/2000	375	32 0	89 9	CL-6	100	22	90 <<	92	3	Clay subbase
Location Comments	Phase IIIC sump @ sta 125+90E and 82+10N									
08/11/2000	376	13 5	109 6	6	113 9	10 5	96	96	3	Finished subgrade
Location Comments	Phase IIIC subgrade @ sta 125+95E and 81+20N									
08/14/2000	338A	10 9	110 5	1	114 3	10 7	97	96	3	3rd lift
Location Comments	Retest of #338 - phase IIIC anchor berm									
08/14/2000	341A	11 6	112 6	1	114 3	10 7	99	96	3	3rd lift
Location Comments	Retest of #341 - Phase VA anchor berm									
08/14/2000	377	10 5	109 7	1	114 3	10 7	96	96	3	4th lift
Location Comments	Phase IIIC anchor berm @ sta 126+40E and 82+90N									
08/14/2000	378	6 5	109 9	1	114 3	10 7	96	96	3	4th lift
Location Comments	Phase IIIC anchor berm @ sta 126+45E and 81+80N									
08/14/2000	379	7 1	110 0	1	114 3	10 7	96	96	3	4th lift
Location Comments	Phase IIIC anchor berm @ sta 126+35E and 80+80N									

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08/15/2000	271A	8 5	109 6	6	113 9	10 5	96	96	3	1st lift
Location Comments	Retest of #271									
08/15/2000	380	9 8	112 7	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta. 104+90E and 81+10N									
08/15/2000	381	8 3	112 3	6	113 9	10 5	99	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta 103+95E and 82+60N									
08/15/2000	382	10 1	110 0	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta 103+00E and 80+80N									
08/15/2000	383	12 2	110 4	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta 107+95E and 81+85N									
5/2000	384	12 0	106 2	6	113 9	10 5	93 <<	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta 107+05E and 80+55N									
08/15/2000	385	12 6	107 9	6	113 9	10 5	95 <<	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta 106+00E and 80+90N									
08/16/2000	368A	28 8	92 6	CL-6	100	22	93	92	3	Clay subbase
Location Comments	Retest of #368 - Phase IIIC clay liner									
08/16/2000	369A	23 7	97 6	CL-6	100	22	98	92	3	Clay subbase
Location Comments	Retest of #369 - Phase IIIC clay liner									
08/16/2000	374A	27 1	94 0	CL-6	100	22	94	92	3	Clay subbase
Location Comments	Retest of #374 - Phase IIIC clay liner									
08/16/2000	386	12 7	106 6	10	106 2	14 4	100	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta 102+05E and 81+00N									
08/16/2000	387	8 9	111 5	6	113 9	10 5	98	96	3	2nd lift
Location Comments	Phase IVC subgrade @ sta 100+95E and 80+65N									
08/16/2000	388	27 7	95 1	CL-6	100	22	95	92	3	Clay subbase
Location	Phase IIIC clay liner @ sta 122+45E and 83+30N									
ments										

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08/16/2000	389	28 8	92 4	CL-6	100	22	92	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 123+60E and 82+20N									
08/16/2000	390	26 2	94 8	CL-6	100	22	95	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta. 124+55E and 82+60N									
08/16/2000	391	27 7	94 4	CL-6	100	22	94	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 125+90E and 83+25N									
08/18/2000	392	6 5	111 3	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 121+00E and 79+80N									
08/18/2000	393	10 7	113 3	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 119+10E and 79+85N									
18/2000	394	8 6	106 4	7	110 9	11 7	96	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 120+15E and 80+15N									
08/18/2000	395	7 8	112 7	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 119+80E and 79+85N									
08/21/2000	384A	8 1	110 0	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Phase IVC subgrade - Retest of #384									
08/21/2000	385A	8 0	109 6	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase IVC subgrade - Retest of #385									
08/21/2000	396	5 9	113 3	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta. 114+25E and 77+95N									
08/21/2000	397	9 3	115 0	1	114 3	10 7	101	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta. 116+10E and 78+60N									
08/21/2000	398	7 1	114 2	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 117+05E and 77+85N									
08/21/2000	399	8 3	112 7	8	115 5	9 7	98	96	3	3rd lift
cation ments	Phase IVC subgrade @ sta 109+95E and 80+45N									

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08/21/2000	400	11 2	111 2	6	113 9	10 5	98	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 109+00E and 80+85N									
08/21/2000	401	9 4	114 8	8	115 5	9 7	99	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 108+05E and 81+00N									
08/21/2000	402	6 9	110 2	6	113 9	10 5	97	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 106+95E and 80+60N									
08/21/2000	403	10 6	113 0	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 105+95E and 80+80N									
08/21/2000	404	11 1	106 8	11	107 2	13 6	100	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 104+95E and 80+95N									
21/2000	405	10 1	111 7	6	113 9	10 5	98	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 104+00E and 80+50N									
08/21/2000	406	11 6	109 4	4	112	13 5	98	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta. 103+05E and 80+85N									
08/21/2000	407	12 2	106 5	11	107 2	13 6	99	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 102+10E and 80+40N									
08/21/2000	408	7 8	113 9	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 118+95E and 78+65N									
08/21/2000	409	5 8	112 0	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 125+05E and 78+60N									
08/22/2000	410	9 1	102 9	11	107 2	13 6	96	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 114+10E and 77+75N									
08/22/2000	411	12 1	106 7	11	107 2	13 6	100	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 115+05E and 78+10N									
08/22/2000	412	13 4	100 4	11	107 2	13 6	94 <<	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 116+05E and 78+45N									

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08/22/2000	412A	12 9	103 2	11	107 2	13 6	96	96	3	1st lift
Location Comments	Retest of #412									
08/22/2000	413	14 0	103 9	11	107 2	13 6	97	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 116+95E and 77+90N									
08/22/2000	414	12 0	106 3	11	107 2	13 6	99	96	3	3rd lift
Location Comments	Phase IVC subgrade @ sta 100+95E and 80+90N									
08/23/2000	415	14 4	104 5	11	107 2	13 6	97	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 117+95E and 78+05N									
08/23/2000	416	13 6	103 0	11	107 2	13 6	96	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 119+00E and 78+55N									
23/2000	417	3 6	108 1	5	108 3	11 8	100	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 111+90E and 79+50N									
08/23/2000	418	4 3	107 3	5	108 3	11 8	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta. 110+95E and 79+75N									
08/23/2000	419	5 5	114 4	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 109+05E and 79+80N									
08/23/2000	420	5 9	112 2	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 108+00E and 79+55N									
08/23/2000	421	4 2	112 9	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 107+05E and 79+75N									
08/23/2000	422	11 7	102 2	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 120+05E and 77+80N									
08/24/2000	423	4 0	111 7	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 115+90E and 77+40N									
08/24/2000	424	4 0	110 9	1	114 3	10 7	97	96	3	Existing grade
Location ments	Phase VB subgrade @ sta 119+95E and 77+50N									

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LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
08/24/2000	425	11 4	106 5	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 121+10E and 78+20N									
08/25/2000	426	15 1	102 8	11	107 2	13 6	96	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 115+55E and 77+45N									
08/28/2000	427	15 6	96 3	10	106 2	14 4	91 <<	96	3	1st lift
Location Comments	Phase VB subgrade @ sta. 119+60E and 77+50N									
08/28/2000	427A	14 5	103 6	10	106 2	14 4	98	96	3	1st lift
Location Comments	Retest of #427									
08/28/2000	428	12 7	106 7	11	107 2	13 6	100	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 122+00E and 78+40N									
08/28/2000	429	12 1	102 1	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 122+95E and 77+85N									
08/28/2000	430	9 2	107 4	11	107 2	13 6	100	96	3	1st lift
Location Comments	Phase VA subgrade @ sta. 124+05E and 78+05N									
08/28/2000	431	12 7	106 9	11	107 2	13 6	100	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 125+00E and 78+35N									
08/28/2000	432	3 2	110 1	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 123+65E and 77+55N									
08/29/2000	433	6 0	107 5	5	108 3	11 8	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 105+10E and 79+85N									
08/29/2000	434	6 2	110 5	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 105+10E and 79+85N									
08/29/2000	435	5 0	105 2	5	108 3	11 8	97	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 102+95E and 79+80N									
08/29/2000	436	5 3	105 2	5	108 3	11 8	97	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 101+00E and 79+50N									

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08/30/2000	437	8 5	111 7	6	113 9	10 5	98	96	3	1st lift
Location Comments	Phase IVC anchor berm @ sta 100+70E and 82+15N									
08/30/2000	438	18 2	96 3	11	107 2	13 6	90 <<	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 123+50E and 77+45N									
08/30/2000	439	20 1	98 6	10	106 2	14 4	93 <<	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 114+15E and 77+75N									
08/30/2000	440	22 3	98 4	11	107 2	13 6	92 <<	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 115+05E and 78+10N									
08/30/2000	441	14 9	104 0	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 116+00E and 78+30N									
/30/2000	442	13 1	102 4	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 116+95 and 77+80N									
08/30/2000	443	14 9	103 7	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 118+05E and 78+05N									
08/30/2000	444	14 9	103 8	11	107 2	13 6	97	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 119+10E and 78+35N									
08/30/2000	445	11 7	102 1	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta 115+40E and 77+45N									
08/30/2000	446	12 5	104 4	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta 119+55E and 77+40N									
08/30/2000	447	8 5	114 1	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 111+95E and 77+75N									
08/30/2000	448	10 6	114 2	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 111+05E and 78+05N									
08/30/2000	449	4 8	113 6	1	114 3	10 7	99	96	3	Existing grade
...cation ...ments	Phase VC @ sta 109+90E and 78+40N									

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08/30/2000	450	5 7	113 1	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 109+00E and 77+80N									
08/30/2000	451	6 3	110 4	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta. 108+05E and 78+15N									
08/30/2000	452	4 8	111 5	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 107+10E and 78+45N									
08/30/2000	453	4 0	112 0	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 105+95E and 77+70N									
08/30/2000	454	5 2	107 9	5	108 3	11 8	100	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 105+05E and 78+10N									
08/30/2000	455	5 3	111 8	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 104+05E and 78+35N									
08/30/2000	456	10 4	102 4	4	112	13 5	91 <<	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 102+95E and 77+85N									
08/30/2000	457	4 1	107 1	5	108 3	11 8	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 102+00E and 78+05N									
08/30/2000	458	3 1	105 9	5	108 3	11 8	98	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 100+90E and 78+45N									
08/30/2000	459	3 7	105 0	5	108 3	11 8	97	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 101+90E and 79+00N									
08/30/2000	460	6 5	111 7	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 104+-5E and 78+85N									
08/30/2000	461	5 4	110 3	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 106+10E and 78+70N									
08/30/2000	462	8 9	111 1	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 107+95E and 78+95N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
08/30/2000	463	3 5	113 6	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 110+05E and 78+80N									
08/30/2000	464	8 1	113 5	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VC subgrade @ sta 112+00E and 78+65N									
08/31/2000	465	9 8	111 2	8	115 5	9 7	96	96	3	2nd lift
Location Comments	Phae VC subgrade @ sta 110+95E and 80+20N									
08/31/2000	466	5 7	109 4	6	113 9	10 5	96	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 107+00E and 80+15N									
08/31/2000	467	8 1	103 0	6	113 9	10 5	90 <<	96	3	1st lift
Location Comments	Phase VC subgrade @ sta. 102+95E and 80+15N									
1/2000	467A	12 0	109 8	6	113 9	10 5	96	96	3	1st lift
Location Comments	Retest of #467									
08/31/2000	468	14 4	104 3	11	107 2	13 6	97	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 111+55E and 79+85N									
08/31/2000	469	13 6	105 6	11	107 2	13 6	99	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 109+45E and 79+75N									
08/31/2000	470	9 5	107 3	11	107 2	13 6	100	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 107+55E and 79+65N									
08/31/2000	471	10 5	101 9	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 105+60E and 79+95N									
08/31/2000	472	10 9	114 8	6	113 9	10 5	101	96	3	3rd lift
Location Comments	Phase IVC special compaction area @ sta 112+55E and 82+30N									
08/31/2000	473	11 6	113 0	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IVC special compaction area @ 111+45E and 82+35N									
08/31/2000	474	9 9	112 3	6	113 9	10 5	99	96	3	3rd lift
Location Comments	Phase IVC special compaction area @ sta 110+45E and 82+30N									

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08/31/2000	475	9 4	114 7	6	113 9	10 5	101	96	3	3rd lift
Location Comments	Phase IVC special compaction area @ sta 109+55E and 82+40N									
08/31/2000	476	7 9	114 4	6	113 9	10 5	100	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta. 108+50E and 82+50N									
08/31/2000	477	8 6	115 0	6	113 9	10 5	101	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta 107+50E and 82+70N									
08/31/2000	478	11 1	113 9	6	113 9	10 5	100	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta 106+55E and 82+60N									
08/31/2000	479	8 2	114 6	6	113 9	10 5	101	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta 105+45E and 82+45N									
08/31/2000	480	7 3	113 4	6	113 9	10 5	100	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta 104+50E and 82+65N									
08/31/2000	481	9 9	113 7	6	113 9	10 5	100	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta 103+55E and 82+40N									
08/31/2000	482	10 1	114 4	6	113 9	10 5	100	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta 102+50E and 82+55N									
08/31/2000	483	9 5	113 0	6	113 9	10 5	99	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta. 101+55E and 82+35N									
08/31/2000	484	6 9	113 5	6	113 9	10 5	100	96	3	5th lift
Location Comments	Phase IVC special compaction area & ditch 'C' backfill @ sta. 100+85E and 82+60N									
08/31/2000	485	11 4	104 6	11	107 2	13 6	98	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 103+45E and 79+65N									
08/31/2000	486	12 5	103 0	11	107 2	13 6	96	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 101+50E and 79+50N									
09/01/2000	487	11 1	109 7	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase IVC anchor berm @ sta 100+80E and 82+10N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/01/2000	488	3 2	109 4	4	112	13 5	98	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta 101+35E and 82+10N									
09/01/2000	489	4 2	111 0	4	112	13 5	99	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta 102+45E and 82+10N									
09/01/2000	490	11 9	110 3	2	113	10 7	98	96	3	2nd lift
Location Comments	Phase IVC anchor berm @ sta 100+70E and 81+85N									
09/01/2000	491	6 8	110 4	2	113	10 7	98	96	3	2nd lift
Location Comments	Phase IVC anchor berm @ sta 100+80E and 82+70N									
09/05/2000	438A	15 4	103 1	11	107 2	13 6	96	96	3	1st lift
Location Comments	Retest of #438 - Phase VB									
09/05/2000	439A	16 0	103 8	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Retest of #439 - Phase VA									
09/05/2000	440A	15 3	103 4	11	107 2	13 6	96	96	3	2nd lift
Location Comments	Retest of #440									
09/05/2000	492	11 1	107 4	11	107 2	13 6	100	96	3	3rd lift
Location Comments	Phase IVC anchor berm @ sta. 100+80E and 82+80N									
09/05/2000	493	15 2	105 8	11	107 2	13 6	99	96	3	3rd lift
Location Comments	Phase IVC anchor berm @ sta 100+60E and 82+00N									
09/05/2000	494	9 6	107 8	11	107 2	13 6	101	96	3	3rd lift
Location Comments	Phase IVC anchor berm @ sta 100+75E and 81+05N									
09/05/2000	495	10 3	106 6	11	107 2	13 6	99	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 120+05E and 77+70N									
09/05/2000	496	15 5	103 3	11	107 2	13 6	96	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 121+05E and 78+05N									
09/05/2000	497	15 9	103 0	11	107 2	13 6	96	96	3	2nd lift
Location Comments	Phase VA subgrade @ sta 121+95E and 78+40N									

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09/05/2000	498	14 8	104 0	11	107 2	13 6	97	96	3	2nd lift
Location	Phase VA subgrade @ sta 123+10E and 77+80N									
Comments										
09/05/2000	499	14 5	107 3	11	107 2	13 6	100	96	3	2nd lift
Location	Phase VA subgrade @ sta 124+05E and 78+15N									
Comments										
09/05/2000	500	9 6	107 4	11	107 2	13 6	100	96	3	2nd lift
Location	Phase VA subgrade @ sta. 125+00E and 78+40N									
Comments										
09/05/2000	501	5 5	107 5	4	112	13 5	96	96	3	Finished subgrade
Location	Phase IVC leachate trench @ sta. 103+60E and 82+08N									
Comments										
09/05/2000	502	10 7	113 2	2	113	10 7	100	96	3	Finished subgrade
Location	Phase IVC leachate trench @ sta 104+55E and 82+12N									
Comments										
5/2000	503	7 5	112 9	2	113	10 7	100	96	3	Finished subgrade
Location	Phase IVC leachate trench @ sta. 105+45E and 82+10N									
Comments										
09/05/2000	504	7 8	110 3	2	113	10 7	98	96	3	Finished subgrade
Location	Phase IVC leachate trench @ sta 106+50E and 82+12N									
Comments										
09/05/2000	505	7 1	112 0	2	113	10 7	99	96	3	Finished subgrade
Location	Phase IVC leachate trench @ sta. 107+45E and 82+08N									
Comments										
09/05/2000	506	10 5	104 0	11	107 2	13 6	97	96	3	2nd lift
Location	Phase VB subgrade @ sta 123+55E and 77+45N									
Comments										
09/05/2000	507	10 6	115 4	1	114 3	10 7	101	96	3	Existing grade
Location	Phase VD subgrade @ sta 111+20E and 77+15N									
Comments										
09/05/2000	508	4 5	111 7	1	114 3	10 7	98	96	3	Existing grade
Location	Phase VD subgrade @ sta 107+10E and 77+40N									
Comments										
09/05/2000	509	8 1	114 7	1	114 3	10 7	100	96	3	Existing grade
Location	Phase VD subgrade @ sta 109+05E and 77+50N									
Comments										
09/05/2000	510	6 7	106 1	5	108 3	11 8	98	96	3	Existing grade
Location	Phase VD subgrade @ sta 104+95E and 77+25N									
ments										

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09/05/2000	511	4 8	106 4	5	108 3	11 8	98	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta. 103+00E and 77+45N									
09/05/2000	512	11 7	109 9	2	113	10 7	97	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 113+75E and 78+25N									
09/06/2000	513	11 2	111 8	6	113 9	10 5	98	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 101+00E and 80+45N									
09/06/2000	514	12 1	110 4	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 101+25E and 81+45N									
09/06/2000	515	11 1	110 7	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta. 101+10E and 82+95N									
08/2000	516	13 4	102 0	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VC swale backfill @ sta. 109+20E and 78+75N									
09/08/2000	517	10 9	102 1	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VC swale backfill @ sta 108+75E and 77+85N									
09/11/2000	456A	5 3	107 8	4	112	13 5	96	96	3	Existing grade
Location Comments	Retest of #456 - Phase VC subgrade									
09/11/2000	518	16 5	102 7	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VC swale backfill @ sta 109+10E and 78+60N									
09/11/2000	519	16 1	104 0	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VC swale backfill @ sta 108+55E and 77+65N									
09/11/2000	520	14 2	107 5	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 101+80E and 80+70N									
09/11/2000	521	8 5	113 7	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 102+95E and 81+15N									
09/11/2000	522	13 1	107 2	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 103+90E and 80+55N									

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09/11/2000	523	12 5	110 6	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 104+60E and 80+85N									
09/11/2000	524	10 9	110 7	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 106+00E and 81+05N									
09/11/2000	525	11 2	110 3	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 107+15E and 80+40N									
09/11/2000	526	4 0	109 9	1	114 3	10 7	96	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 102+20E and 81+80N									
09/11/2000	527	7 7	107 6	5	108 3	11 8	99	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 102+95E and 82+00N									
11/2000	528	10 1	113 5	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 104+35E and 81+50N									
09/11/2000	529	10 9	109 8	6	113 9	10 5	96	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 105+10E and 81+90N									
09/11/2000	530	9 1	114 1	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 106+05E and 82+25N									
09/11/2000	531	8 7	113 0	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 106+95E and 81+40N									
09/11/2000	532	11 6	112 7	1	114 3	10 7	99	96	3	4th lift
Location Comments	Phase IVC anchor berm @ sta 100+80E and 83+00N									
09/11/2000	533	9 6	110 2	1	114 3	10 7	96	96	3	4th lift
Location Comments	Phase IVC anchor berm @ sta 100+70E and 82+10N									
09/11/2000	534	7 4	113 3	1	114 3	10 7	99	96	3	4th lift
Location Comments	Phase IVC anchor berm @ sta 100+75E and 80+95N									
09/11/2000	535	13 0	105 8	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 112+25E and 77+80N									

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REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/11/2000	536	11 7	105 7	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 111+10E and 78+05N									
09/11/2000	537	12 0	105 7	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 109+90E and 78+45N									
09/11/2000	538	10 6	106 2	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 108+95E and 77+90N									
09/11/2000	539	14 5	104 2	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VD subgrade @ sta. 111+15E and 77+25N									
09/11/2000	540	10 0	104 5	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 109+00E and 77+40N									
12/2000	541	6 4	104 4	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VC subgrade @ sta. 108+05E and 78+15N									
09/12/2000	542	8 3	105 6	10	106 2	14 4	99	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 107+10E and 78+35N									
09/12/2000	543	11 5	105 6	10	106 2	14 4	99	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 106+15E and 77+75N									
09/12/2000	544	10 1	103 8	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 106+90E and 77+30N									
09/12/2000	545	11 7	110 0	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 102+05E and 82+85N									
09/12/2000	546	12 0	109 5	6	113 9	10 5	96	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 102+85E and 83+20N									
09/12/2000	547	10 5	115 3	6	113 9	10 5	101	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 104+10E and 82+65N									
09/12/2000	548	10 9	114 5	6	113 9	10 5	101	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 105+00E and 83+00N									

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Jacksonville, FL 32207
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CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/12/2000	549	11 5	111 7	6	113 9	10 5	98	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta. 105+90E and 83+30N									
09/12/2000	550	10 5	113 8	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta. 107+05E and 82+70N									
09/12/2000	551	4 9	111 1	4	112	13 5	99	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta. 108+15E and 82+08N									
09/12/2000	552	5 3	111 3	4	112	13 5	99	96	3	Finished subgrade
Location Comments	Phase IVC leachaate trench @ sta 109+05E and 82+12N									
09/12/2000	553	5 0	110 8	4	112	13 5	99	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta. 109+95E and 82+10N									
09/12/2000	554	6 5	114 2	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta 111+00E and 82+13N									
09/12/2000	555	6 2	113 8	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta. 112+10E and 82+10N									
09/12/2000	556	8 3	110 1	1	114 3	10 7	96	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta. 112+90E and 82+07N									
09/12/2000	557	11 4	112 6	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase IVC anchor berm @ sta 100+80E and 83+10N									
09/12/2000	558	14 5	104 5	10	106 2	14 4	98	96	3	Finished subgrade
Location Comments	Phase IVC anchor berm @ sta. 100+70E and 82+20N									
09/12/2000	559	13 6	105 8	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase IVC anchor berm @ sta 100+75E and 80+95N									
09/12/2000	560	12 0	111 8	1	114 3	10 7	98	96	3	6" below subgrade
Location Comments	Phase IVC anchor berm @ sta 100+75E and 82+80N									
09/12/2000	561	13 8	105 5	10	106 2	14 4	99	96	3	6" below subgrade
Location Comments	Phase IVC anchor berm @ sta 100+80E and 81+85N									

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CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/12/2000	562	15 3	104 9	10	106 2	14 4	99	96	3	6" below subgrade
Location Comments	Phase IVC anchor berm @ sta 100+70E and 80+75N									
09/13/2000	563	9 6	103 0	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 112+50E and 77+70N									
09/13/2000	564	13 0	102 6	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 111+10E and 78+05N									
09/13/2000	565	11 9	102 6	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 109+45E and 77+90N									
09/13/2000	566	9 2	102 2	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta. 111+95E and 77+20N									
/13/2000	567	11 5	102 5	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta. 110+10E and 77+40N									
09/13/2000	568	4 9	113 0	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta. 124+15E and 77+10N									
09/13/2000	569	5 8	110 5	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 122+05E and 77+25N									
09/13/2000	570	5 2	112 4	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 119+95E and 77+00N									
09/13/2000	571	4 5	113 8	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 117+95E and 77+10N									
09/13/2000	572	6 7	114 0	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 116+00E and 76+95N									
09/13/2000	573	7 1	110 8	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 114+10E and 77+20N									
09/13/2000	574	8 5	110 0	6	113 9	10 5	97	96	3	Finished subgrade
cation ments	Phase IVC subgrade @ sta 108+25E and 80+90N									

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Jacksonville, FL 32207
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CLIENT England, Thims & Miller, Inc
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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/13/2000	575	9 9	113 6	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 109+10E and 81+20N									
09/13/2000	576	9 2	112 9	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 110+15E and 80+55N									
09/13/2000	577	8 8	114 8	6	113 9	10 5	101	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 111+00E and 80+70N									
09/13/2000	578	7 9	114 6	6	113 9	10 5	101	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 111+90E and 81+00N									
09/13/2000	579	13 0	104 2	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 107+90E and 78+15N									
09/13/2000	580	14 7	102 1	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta 108+00E and 77+35N									
09/14/2000	581	6 4	109 5	2	113	10 7	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 108+10E and 81+70N									
09/14/2000	582	8 8	110 9	2	113	10 7	98	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 108+95E and 82+20N									
09/14/2000	583	9 8	114 7	6	113 9	10 5	101	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 110+35E and 81+50N									
09/14/2000	584	9 2	105 1	4	112	13 5	94 <<	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 111+05E and 81+75N									
09/14/2000	585	6 3	108 3	4	112	13 5	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 112+00E and 81+95N									
09/14/2000	586	26 2	96 9	CL-5	103 8	19 6	93	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 101+30E and 80+70N									
09/14/2000	587	24 1	99 3	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 102+40E and 81+80N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/14/2000	588	15 1	102 2	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 106+55E and 77+75N									
09/14/2000	589	10 7	103 2	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta 105+90E and 77+15N									
09/15/2000	584A	6 0	108 6	4	112	13 5	97	96	3	Finished subgrade
Location Comments	Retest of #584									
09/15/2000	590	11 6	111 6	6	113 9	10 5	98	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 108+15E and 82+90N									
09/15/2000	591	9 8	112 5	1	114 3	10 7	98	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 109+05E and 83+30N									
[illegible]5/2000	592	6 5	112 9	2	113	10 7	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 109+90E and 82+25N									
09/15/2000	593	10 0	113 4	8	115 5	9 7	98	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 111+20E and 82+75N									
09/15/2000	594	11 1	112 7	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 112+00E and 83+20N									
09/15/2000	595	9 9	114 9	8	115 5	9 7	99	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 112+95E and 82+35N									
09/16/2000	596	26 2	96 0	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 101+65E and 83+20N									
09/16/2000	597	30 7	88 5	CL-7	95 5	25 4	93	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 103+20E and 82+70N									
09/16/2000	598	31 2	90 6	CL-7	95 5	25 4	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 103+90E and 81+25N									
09/16/2000	599	24 5	98 7	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 104+55E and 83+00N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/16/2000	600	21 1	98 4	CL-6	100	22	98	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta. 105+10E and 80+40N									
09/16/2000	601	24 4	98 3	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 105+95E and 82+30N									
09/19/2000	602	31 0	90 4	CL-7	95 5	25 4	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 106+70E and 81+05N									
09/19/2000	603	41 2	79 8	CL-3	83 6	33 8	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 107+95E and 81+50N									
09/20/2000	604	39 8	77 9	CL-3	83 6	33 8	93	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 107+20E and 82+80N									
20/2000	605	39 1	79 1	CL-3	83 6	33 8	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta. 108+75E and 83+15N									
09/20/2000	606	35 1	84 1	CL-6	100	22	84 <<	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 109+35E and 81+35N									
09/20/2000	607	29 8	90 7	CL-7	95 5	25 4	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 110+20E and 82+70N									
09/21/2000	608	44 5	76 9	CL-3	83 6	33 8	92	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 110+80E and 80+95N									
09/21/2000	609	38 3	78 3	CL-3	83 6	33 8	94	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 111+35E and 82+30N									
09/21/2000	610	27 6	90 8	CL-7	95 5	25 4	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 112+15E and 80+45N									
09/26/2000	606A	25 5	94 2	CL-6	100	22	94	92	3	Clay subbase
Location Comments	Phase IVC clay liner (Retest of #606)									
09/26/2000	611	9 3	105 7	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VC subgrade @ sta. 105+15E and 78+15N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/26/2000	612	13 1	104 2	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 103+95E and 78+40N									
09/26/2000	613	12 5	106 1	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VC subgrade @ sta. 103+05E and 77+85N									
09/26/2000	614	13 5	105 5	10	106 2	14 4	99	96	3	1st lift
Location Comments	Phase VD subgrade @ sta. 104+90E and 77+15N									
09/26/2000	615	15 7	102 1	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 102+85E and 77+35N									
09/27/2000	616	15 3	102 8	10	106 2	14 4	97	96	3	1st lift
Location Comments	Ph IIIC anchor berm repair of temp drainage ditch 126+10E and 82+05N									
27/2000	617	12 1	106 3	10	106 2	14 4	100	96	3	2nd lift
Location Comments	Ph IIIC anchor berm repair of temp drainage ditch 126+20E and 81+95N									
09/27/2000	618	13 8	102 7	10	106 2	14 4	97	96	3	3rd lift
Location Comments	Ph IIIC anchor berm repair of temp drainage ditch 126+35E and 81+95N									
09/27/2000	619	10 1	102 6	10	106 2	14 4	97	96	3	Finished subgrade
Location Comments	Ph IIIC anchor berm repair of temp drainage ditch 126+40E and 81+85N									
09/27/2000	620	10 6	106 8	10	106 2	14 4	101	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 102+00E and 78+05N									
09/27/2000	621	9 2	102 1	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VC subgrade @ sta 100+90E and 78+45N									
09/27/2000	622	8 3	105 3	10	106 2	14 4	99	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 101+10E and 77+40N									
09/28/2000	375A	26 9	92 8	CL-6	100	22	93	92	3	Clay subbase
Location Comments	Retest of #375 - Phase IIIC sump									
09/28/2000	623	6 3	114 8	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta. 110+85E and 76+90N									

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09/28/2000	624	5 4	113 6	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 111+10E and 76+10N									
09/28/2000	625	8 0	111 3	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta. 110+95E and 75+00N									
09/28/2000	626	22 4	100 7	CL-5	103 8	19 6	97	92	3	Clay subbase
Location Comments	Ph IIIC anchor berm repair of temp drainage ditch 126+35E and 81+85N									
09/28/2000	627	9 1	107 4	11	107 2	13 6	100	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 104+95E and 78+00N									
09/28/2000	628	11 0	103 3	11	107 2	13 6	96	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 103+40E and 77+75N									
28/2000	629	9 9	104 3	11	107 2	13 6	97	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta. 102+05E and 78+20N									
09/28/2000	630	10 1	102 3	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VC subgrade @ sta 100+60E and 77+85N									
09/28/2000	631	12 1	105 9	10	106 2	14 4	100	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta. 104+15E and 77+20N									
09/28/2000	632	10 7	105 2	10	106 2	14 4	99	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta 101+90E and 77+40N									
09/28/2000	633	21 1	102 5	CL-5	103 8	19 6	99	92	3	Clay subbase
Location Comments	Phase IIIC clay liner @ sta 125+70E and 80+45N									
09/28/2000	634	4 7	113 7	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 112+10E and 75+20N									
09/28/2000	635	14 3	103 2	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD swale backfill @ sta 112+75E and 77+10N									
09/28/2000	636	8 5	112 3	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 112+05E and 74+60N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
09/28/2000	637	5 2	114 7	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta. 111+00E and 75+15N									
09/28/2000	638	4 1	112 3	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 110+15E and 74+95N									
09/29/2000	639	10 7	99 4	10	106 2	14 4	94 <<	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 112+05E and 76+40N									
09/29/2000	639A	9 9	102 8	10	106 2	14 4	97	96	3	1st lift
Location Comments	Retest of #639 - Phase VD subgrade									
09/29/2000	640	12 1	98 9	10	106 2	14 4	93 <<	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 111+85E and 75+45N									
29/2000	640A	11 2	103 4	10	106 2	14 4	97	96	3	1st lift
Location Comments	Retest of #640 - Phase VD subgrade									
09/29/2000	641	11 2	104 1	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VD subgrade @ sta. 110+95E and 76+80N									
09/29/2000	642	9 4	105 7	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VD subgrade @ sta. 111+05E and 76+10N									
09/29/2000	643	10 6	102 1	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 110+95E and 74+95N									
09/29/2000	644	9 8	103 4	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 110+20E and 75+20N									
09/29/2000	645	12 7	102 3	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 110+10E and 76+00N									
09/29/2000	646	10 1	101 9	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VD swale backfill @ sta 112+85E and 77+25N									
10/02/2000	647	10 3	102 4	10	106 2	14 4	96	96	3	3rd lift
Location	Ph VD swale backfill @ sta 112+80E and 77+05N									
ments										

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REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/02/2000	648	10 9	104 0	10	106 2	14 4	98	96	3	4th lift
Location Comments	Ph VD swale backfill @ sta 112+85E and 77+10N									
10/02/2000	649	9 2	103 5	10	106 2	14 4	97	96	3	1st lift
Location Comments	Ph VC anchor berm @ sta. 100+75E and 79+00N									
10/02/2000	650	11 9	103 2	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Ph VC anchor berm @ sta. 100+80E and 78+60N									
10/02/2000	651	13 0	103 8	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Ph VC anchor berm @ sta 100+70E and 79+50N									
10/02/2000	652	12 4	103 9	10	106 2	14 4	98	96	3	3rd lift
Location Comments	Ph VC anchor berm @ sta 100+60E and 79+75N									
02/2000	653	8 5	103 2	10	106 2	14 4	97	96	3	3rd lift
Location Comments	Ph VC anchor berm @ sta 100+65E and 78+85N									
10/02/2000	654	13 6	102 8	10	106 2	14 4	97	96	3	3rd lift
Location Comments	Ph VC anchor berm @ sta. 100+70E and 77+90N									
10/03/2000	655	10 6	102 5	10	106 2	14 4	97	96	3	1st lift
Location Comments	Ph VB subgrade @ sta. 115+85E and 77+10N									
10/03/2000	656	10 9	101 9	10	106 2	14 4	96	96	3	1st lift
Location Comments	Ph VB subgrade @ sta 117+70E and 76+90N									
10/03/2000	657	9 8	102 1	10	106 2	14 4	96	96	3	1st lift
Location Comments	Ph VB subgrade @ sta 120+05E and 77+25N									
10/03/2000	658	10 7	102 8	10	106 2	14 4	97	96	3	1st lift
Location Comments	Ph VB subgrade @ sta 122+10E and 77+00N									
10/04/2000	659	11 5	102 8	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Ph VA subgrade @ sta 113+80E and 77+95N									
10/04/2000	660	16 3	99 4	10	106 2	14 4	94 <<	96	3	1st lift
Location ments	Ph VB subgrade @ sta 113+95E and 76+95N									

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JOB NO 40562-0-4105

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10/04/2000	660A	10 1	105 9	10	106 2	14 4	100	96	3	1st lift
Location Comments	Retest of #660									
10/04/2000	661	10 9	104 7	10	106 2	14 4	99	96	3	1st lift
Location Comments	Ph VB subgrade @ sta 124+05E and 77+15N									
10/04/2000	662	4 7	112 5	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 115+05E and 76+65N									
10/04/2000	663	5 2	114 9	1	114 3	10 7	101	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 115+95E and 75+90N									
10/04/2000	664	6 7	112 1	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 117+10E and 76+30N									
4/2000	665	5 4	114 3	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta. 118+00E and 76+50N									
10/04/2000	666	4 9	109 6	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 118+95E and 76+00N									
10/04/2000	667	4 5	113 5	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 120+10E and 76+30N									
10/04/2000	668	4 2	114 2	1	114 3	10 7	100	96	3	Exiting grade
Location Comments	Ph VB subgrade @ sta 121+15E and 76+70N									
10/04/2000	669	4 5	110 7	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 122+00E and 75+90N									
10/04/2000	670	8 8	110 9	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 122+90E and 76+40N									
10/04/2000	671	4 7	111 1	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 124+05E and 76+60N									
10/04/2000	672	4 9	113 4	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 114+90E and 75+55N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/04/2000	673	4 2	112 9	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 116+05E and 75+80N									
10/04/2000	674	6 0	111 5	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 116+95E and 75+05N									
10/04/2000	675	9 6	103 4	1	114 3	10 7	90 <<	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 118+15E and 75+45N									
10/04/2000	676	5 6	110 3	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 119+10E and 75+70N									
10/04/2000	677	10 6	110 7	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 120+00E and 75+00N									
10/04/2000	678	4 1	110 3	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 120+95E and 75+30N									
10/04/2000	679	4 4	113 8	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 122+15E and 75+75N									
10/04/2000	680	4 3	114 4	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Ph VB subgrade @ sta 123+00E and 75+30N									
10/06/2000	681	4 0	114 1	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 112+85E and 74+40N									
10/09/2000	675A	3 2	111 1	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Retest of #675 - Phase VB subgrade									
10/09/2000	682	9 6	114 1	8	115 5	9 7	99	96	3	1st lift
Location Comments	Phase VA anchor berm @ sta 125+50E and 78+75N									
10/09/2000	683	10 7	102 4	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VA anchor berm @ sta 125+20E and 77+90N									
10/10/2000	684	19 0	95 9	CL-5	103 8	19 6	92	92	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta 103+45E and 83+35N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/11/2000	685	10 9	112 7	6	113 9	10 5	99	96	3	4th lift
Location Comments	Phase IVC temporary ditch 'B' backfill @ 113+25E and 83+15N									
10/11/2000	686	11 7	108 2	6	113 9	10 5	95 <<	96	3	3rd lift
Location Comments	Phase IVC temporary ditch 'B' backfill @ 113+25E and 83+15N									
10/11/2000	687	12 6	102 0	6	113 9	10 5	90 <<	96	3	2nd lift
Location Comments	Phase IVC temporary ditch 'B' backfill @ 113+25E and 83+15N									
10/11/2000	688	12 7	105 5	6	113 9	10 5	93 <<	96	3	1st lift
Location Comments	Phase IVC temporary ditch 'B' backfill @ 113+25E and 83+15N									
10/12/2000	686A	9 1	111 3	6	113 9	10 5	98	96	3	3rd lift
Location Comments	Retest of #686									
12/2000	687A	11 4	110 9	6	113 9	10 5	97	96	3	2nd lift
Location Comments	Retest of #687									
10/12/2000	688A	11 2	112 2	6	113 9	10 5	99	96	3	1st lift
Location Comments	Retest of #688									
10/12/2000	689	4 1	113 2	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 114+50E and 74+30N									
10/12/2000	690	3 5	112 3	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 116+10E and 74+75N									
10/12/2000	691	3 8	113 6	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta. 117+35E and 74+45N									
10/12/2000	692	4 1	112 1	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta. 118+95E and 74+60N									
10/12/2000	693	9 9	111 4	6	113 9	10 5	98	96	3	4th lift
Location Comments	Phase IVC temporary ditch 'B' backfill @ sta 113+25E and 83+05N									
10/12/2000	694	8 9	112 3	6	113 9	10 5	99	96	3	5th lift
Location Comments	Phase IVC temporary ditch 'B' backfill @ sta 113+30E and 82+90N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/12/2000	695	8 6	102 2	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 123+05E and 75+60N									
10/12/2000	696	11 1	104 0	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 120+95E and 75+30N									
10/12/2000	697	8 9	103 6	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 119+00E and 75+65N									
10/12/2000	698	10 0	104 7	10	106 2	14 4	99	96	3	1st lift
Location Comments	Phase VB subgrade @ sta. 117+10E and 75+35N									
10/12/2000	699	11 0	102 8	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 121+95E and 75+05N									
12/2000	700	9 5	101 9	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 120+00E and 74+65N									
10/12/2000	701	12 1	102 6	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 118+95E and 74+75N									
10/12/2000	702	4 2	112 0	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta. 113+95E and 76+30N									
10/12/2000	703	3 6	113 0	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VB subgrade @ sta 114+05E and 75+10N									
10/13/2000	704	8 5	103 2	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 118+05E and 75+00N									
10/13/2000	705	7 8	102 7	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 114+85E and 75+60N									
10/13/2000	706	8 0	102 3	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 116+90E and 74+50E									
10/13/2000	707	7 2	102 0	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 116+05E and 74+80N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/13/2000	708	11 4	104 4	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 115+00E and 75+05N									
10/13/2000	709	9 8	103 0	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VB subgrade @ sta 113+90E and 74+75N									
10/17/2000	710	6 4	108 4	11	107 2	13 6	101	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 114+95E and 79+55N									
10/17/2000	711	12 9	108 2	11	107 2	13 6	101	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 115+05E and 78+45N									
10/17/2000	712	6 9	111 7	6	113 9	10 5	98	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 115+90E and 79+70N									
7/2000	713	8 9	108 1	11	107 2	13 6	101	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 116+15E and 78+80N									
10/17/2000	714	4 9	105 1	11	107 2	13 6	98	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 116+05E and 77+65N									
10/17/2000	715	6 5	111 0	6	113 9	10 5	97	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 117+10E and 80+15N									
10/17/2000	716	4 3	112 4	1	114 3	10 7	98	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 117+05E and 79+05N									
10/17/2000	717	8 5	107 8	10	106 2	14 4	102	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 116+95E and 78+15N									
10/17/2000	718	7 4	112 9	8	115 5	9 7	98	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 118+00E and 79+45N									
10/17/2000	719	13 6	106 3	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 117+90E and 78+40N									
10/17/2000	720	7 8	105 7	11	107 2	13 6	99	96	3	Finished subgrade
Location Comments	Phase VB subgrade @ sta 115+15E and 77+50N									

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10/17/2000	721	6 7	103 8	10	106 2	14 4	98	96	3	Finished subgrade
Location Comments	Phase VB subgrade @ sta. 118+05E and 77+45N									
10/17/2000	722	9 1	102 3	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta 121+45E and 75+10N									
10/17/2000	723	11 6	102 5	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta 120+10E and 74+80N									
10/17/2000	724	5 9	105 2	10	106 2	14 4	99	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta 118+95E and 74+45N									
10/17/2000	725	7 8	101 9	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta. 118+10E and 75+20N									
17/2000	726	8 2	108 6	11	107 2	13 6	101	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 119+00E and 77+80N									
10/17/2000	727	9 4	107 7	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 118+95E and 78+70N									
10/17/2000	728	9 1	115 0	8	115 5	9 7	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 119+05E and 79+65N									
10/18/2000	729	8 0	110 3	6	113 9	10 5	97	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 114+15E and 79+95N									
10/18/2000	730	7 2	109 7	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 116+05E and 80+10N									
10/18/2000	731	4 4	109 4	6	113 9	10 5	96	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 117+90E and 80+00N									
10/18/2000	732	6 0	112 0	6	113 9	10 5	98	96	3	1st lift
Location Comments	Phase VA subgrade @ sta 121+95E and 80+20N									
10/18/2000	733	6 4	112 6	6	113 9	10 5	99	96	3	1st lift
Location ments	Phase VA subgrade @ sta 125+85E and 80+15N									

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10/18/2000	734	5 2	109 9	2	113	10 7	97	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 117+10E and 79+75N									
10/18/2000	735	6 6	110 4	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 122+00E and 79+65N									
10/18/2000	736	4 9	111 7	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 122+95E and 79+85N									
10/18/2000	737	7 8	111 8	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VA subgrade @ sta 125+35E and 79+65N									
10/18/2000	738	4 3	114 1	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 119+85E and 79+00N									
10/18/2000	739	10 7	106 6	11	107 2	13 6	99	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 120+10E and 78+15N									
10/18/2000	740	6 2	114 2	8	115 5	9 7	99	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 121+15E and 79+40N									
10/18/2000	741	6 6	115 4	8	115 5	9 7	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 121+05E and 78+50N									
10/18/2000	742	10 5	112 4	8	115 5	9 7	97	96	3	Finished grade
Location Comments	Phase VA subgrade @ sta. 122+00E and 79+90N									
10/18/2000	743	8 6	107 5	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 122+10E and 78+75N									
10/18/2000	744	8 0	106 9	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 122+05E and 77+75N									
10/18/2000	745	6 7	103 6	11	107 2	13 6	97	96	3	Finished subgrade
Location Comments	Phase VB subgrade @ sta 120+90E and 77+40N									
10/18/2000	746	15 6	102 7	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VA anchor berm @ sta 125+35E and 78+65N									

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10/18/2000	747	9 3	107 5	11	107 2	13 6	100	96	3	3rd lift
Location Comments	Phase VA anchor berm @ sta 125+35E and 78+70N									
10/18/2000	748	8 6	107 1	11	107 2	13 6	100	96	3	4th lift
Location Comments	Phase VA anchor berm @ sta 125+45E and 78+65N									
10/18/2000	749	11 1	112 8	6	113 9	10 5	99	96	3	4th lift
Location Comments	Phase VA anchor berm @ sta 126+00E and 79+70N									
10/18/2000	750	5 9	108 0	11	107 2	13 6	101	96	3	4th lift
Location Comments	Phase VA anchor berm @ sta. 125+10E and 77+75N									
10/18/2000	751	13 1	105 0	11	107 2	13 6	98	96	3	Finished subgrade
Location Comments	Phase VA anchor berm @ sta 126+05E and 79+75N									
[illegible]8/2000	752	10 4	105 0	11	107 2	13 6	98	96	3	Finished subgrade
Location Comments	Phase VA anchor berm @ sta. 125+35E and 79+60N									
10/18/2000	753	14 5	105 2	11	107 2	13 6	98	96	3	Finished subgrade
Location Comments	Phase VA anchor berm @ sta 125+20E and 77+80N									
10/18/2000	754	9 6	107 5	10	106 2	14 4	101	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 114+10E and 78+15N									
10/18/2000	755	8 0	108 2	4	112	13 5	97	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 114+00E and 79+00N									
10/18/2000	756	8 9	112 9	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 114+25E and 80+10N									
10/19/2000	757	7 4	103 7	11	107 2	13 6	97	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 82+55N and 113+30E									
10/19/2000	758	9 5	104 1	11	107 2	13 6	97	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta 117+05E and 74+80N									
10/19/2000	759	10 1	103 1	11	107 2	13 6	96	96	3	2nd lift
Location [illegible]ments	Phase VB subgrade @ sta 115+95E and 74+35N									

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REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone· 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/19/2000	760	13 6	104 2	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VB subgrade @ sta. 115+00E and 75+15N									
10/19/2000	761	9 3	114 9	1	114 3	10 7	101	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta. 114+60E and 79+12N									
10/19/2000	762	8 0	110 9	2	113	10 7	98	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta. 115+45E and 79+08N									
10/19/2000	763	11 4	105 7	11	107 2	13 6	99	96	3	3rd lift
Location Comments	Phase VB subgrade @ sta 121+50E and 74+90N									
10/19/2000	764	9 5	103 4	11	107 2	13 6	96	96	3	3rd lift
Location Comments	Phase VB subgrade @ sta 120+15E and 74+40N									
9/2000	765	7 3	109 8	6	113 9	10 5	96	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta. 123+05E and 80+20N									
10/19/2000	766	5 3	112 9	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 122+95E and 79+15N									
10/19/2000	767	10 1	108 1	11	107 2	13 6	101	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 123+10E and 78+20N									
10/19/2000	768	8 9	112 1	8	115 5	9 7	97	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 123+90E and 79+50N									
10/19/2000	769	7 9	107 9	11	107 2	13 6	101	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 124+10E and 78+40N									
10/19/2000	770	6 8	104 8	11	107 2	13 6	98	96	3	Finished subgrade
Location Comments	Phase VB subgrade @ sta 124+05E and 77+45N									
10/19/2000	771	10 3	105 0	11	107 2	13 6	98	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 124+85E and 77+85N									
10/19/2000	772	4 1	113 0	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 125+10E and 78+80N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/19/2000	773	4 6	113 5	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 125+00E and 79+80N									
10/19/2000	774	7 7	114 3	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase VA subgrade @ sta 125+75E and 80+10N									
10/19/2000	775	10 4	110 8	2	113	10 7	98	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta 116+60E and 79+10N									
10/19/2000	776	6 7	111 6	2	113	10 7	99	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta 117+55E and 79+10N									
10/19/2000	777	10 6	113 7	2	113	10 7	101	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta 118+40E and 79+08N									
19/2000	778	5 2	111 8	2	113	10 7	99	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta 119+45E and 79+12N									
10/21/2000	779	30 4	91 2	CL-7	95 5	25 4	96	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta. 114+80E and 78+80N									
10/23/2000	780	4 1	112 9	2	113	10 7	100	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta. 120+55E and 79+12N									
10/23/2000	781	5 8	113 9	2	113	10 7	101	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta. 121+45E and 79+08N									
10/23/2000	782	5 3	112 7	2	113	10 7	100	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta 122+50E and 79+10N									
10/23/2000	783	5 0	111 7	2	113	10 7	99	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta. 123+45E and 79+08N									
10/23/2000	784	5 6	112 3	2	113	10 7	99	96	3	Finished subgrade
Location Comments	Phase VA leachate trench @ sta 124+60E and 79+12N									
10/23/2000	785	5 3	110 3	1	114 3	10 7	97	95	3	1st lift
Location Comments	Phase IIIC vault box @ sta. 126+45E and 82+10N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/23/2000	786	4 3	112 0	1	114 3	10 7	98	95	3	2nd lift
Location Comments	Phase IIIC vault box @ sta 126+40E and 82+05N									
10/23/2000	787	4 9	112 5	1	114 3	10 7	98	96	3	Finished subgrade
Location Comments	Phase IIIC vault box @ sta. 126+40E and 82+15N									
10/23/2000	788	25 5	95 8	CL-6	100	22	96	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 115+50E and 79+90N									
10/23/2000	789	43 2	76 8	CL-3	83 6	33 8	92	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 116+25E and 77+90N									
10/23/2000	790	26 0	96 7	CL-5	103 8	19 6	93	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 116+70E and 78+70N									
23/2000	791	25 5	98 3	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 117+75E and 80+00N									
10/23/2000	792	24 8	94 5	CL-6	100	22	95	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 118+25E and 77+80N									
10/24/2000	793	27 8	90 0	CL-7	95 5	25 4	94	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 119+00E and 78++95N									
10/24/2000	794	22 6	97 0	CL-5	103 8	19 6	93	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 119+50E and 80+15N									
10/24/2000	795	28 0	91 3	CL-7	95 5	25 4	96	92	3	Clay subbase
Location Comments	Phase VB clay liner @ sta 120+30E and 77+45N									
10/24/2000	796	21 6	102 9	CL-5	103 8	19 6	99	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 121+10E and 78+75N									
10/25/2000	797	5 0	111 0	1	114 3	10 7	97	96	3	Finished subgrade
Location Comments	Phase VA sump @ sta 125+15E and 79+05N									
10/25/2000	798	25 2	97 5	CL-5	103 8	19 6	94	92	3	Clay subbase
Location ments	Phase VA clay liner @ sta 121+85E and 79+55N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/25/2000	799	25 4	97 0	CL-5	103 8	19 6	93	92	3	Clay subbase
Location Comments	Phase VB clay liner @ sta 122+60E and 77+50N									
10/25/2000	800	27 9	92 8	CL-6	100	22	93	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 123+35E and 78+60N									
10/26/2000	801	25 1	97 6	CL-5	103 8	19 6	94	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 124+05E and 79+65N									
10/26/2000	802	26 8	92 6	CL-6	100	22	93	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 124+65E and 77+85N									
10/26/2000	803	24 2	94 7	CL-7	95 5	25 4	99	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 125+20E and 79+10N									
26/2000	804	37 0	83 6	CL-6	100	22	84 <<	92	3	Clay subbase
Location Comments	Phase VA clay liner @ sta 125+75E and 79+95N									
10/27/2000	805	9 5	102 3	10	106 2	14 4	96	96	3	3rd lift
Location Comments	Phase VB subgrade @ sta 118+45E and 74+55N									
10/27/2000	806	10 6	102 0	10	106 2	14 4	96	96	3	3rd lift
Location Comments	Phase VB subgrade @ sta 116+90E and 74+35N									
10/27/2000	807	12 7	104 1	11	107 2	13 6	97	96	3	3rd lift
Location Comments	Phase VB subgrade @ sta 115+55E and 74+70N									
10/30/2000	808	4 2	113 6	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 109+00E and 76+65N									
10/30/2000	809	4 0	111 3	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 108+05E and 76+20N									
10/30/2000	810	3 1	111 2	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 107+10E and 76+85N									
10/30/2000	811	3 2	112 9	1	114 3	10 7	99	96	3	Existing grade
Location ments	Phase VD subgrade @ sta 105+90E and 76+50N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
10/30/2000	812	3 7	112 8	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 104+95E and 76+30N									
10/30/2000	813	5 8	108 1	5	108 3	11 8	100	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 104+05E and 76+90N									
10/30/2000	814	3 5	106 5	5	108 3	11 8	98	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 103+10E and 76+55N									
10/31/2000	791A	23 3	99 8	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Retest of #791 - Phase VA clay liner									
10/31/2000	815	7 4	102 5	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 109+90E and 76+40N									
31/2000	816	8 7	101 9	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 108+95E and 77+65N									
10/31/2000	817	9 1	106 7	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 109+10E and 76+95N									
10/31/2000	818	11 1	102 7	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD 106+95E and 76+30N									
10/31/2000	819	8 3	104 3	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 106+05E and 76+55N									
10/31/2000	820	8 9	103 6	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 105+10E and 76+90N									
10/31/2000	821	7 6	102 0	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 104+00E and 76+25N									
10/31/2000	822	8 1	102 2	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 103+10E and 76+60N									
11/01/2000	823	10 7	103 8	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta. 109+95E and 76+90N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
11/01/2000	824	10 4	102 0	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta 106+90E and 76+95N									
11/01/2000	825	8 0	101 9	10	106 2	14 4	96	96	3	3rd lift
Location Comments	Phase VB subgrade @ sta 114+05E and 74+60N									
11/01/2000	826	9 6	103 8	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase VD subgrade @ sta 104+05E and 76+85N									
11/02/2000	827	3 9	113 3	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 112+95E and 75+95N									
11/02/2000	828	3 2	111 0	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 113+00E and 75+00N									
02/2000	829	16 0	101 8	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD existing swale backfill @ sta 112+20E and 75+70N									
11/02/2000	830	26 8	93 8	CL-6	100	22	94	92	3	-3 0'
Location Comments	West side of Phase IIIC clay anchor berm @ sta 80+85N									
11/02/2000	831	23 9	92 3	CL-6	100	22	92	92	3	-1 0'
Location Comments	West side of Phase IIIC clay anchor berm @ sta 81+95N									
11/02/2000	832	22 4	98 7	CL-5	103 8	19 6	95	92	3	-2 0'
Location Comments	West side of Phase IIIC clay anchor berm @ sta 82+90N									
11/03/2000	833	4 0	111 5	1	114 3	10 7	98	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 108+90E and 75+65N									
11/03/2000	834	3 2	112 8	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 109+05E and 76+75N									
11/03/2000	835	3 5	113 6	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 108+00E and 75+85N									
11/03/2000	836	3 0	112 8	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 107+95E and 74+80N									

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11/03/2000	837	10 9	103 3	10	106 2	14 4	97	96	3	3rd lift
Location Comments	Phae VB anchor berm subgrade @ sta. 123+10E and 75+30N									
11/03/2000	838	11 2	103 9	10	106 2	14 4	98	96	3	4th lift
Location Comments	Phase VB anchor berm subgrade @ sta 122+05E and 75+10N									
11/03/2000	839	10 5	103 1	10	106 2	14 4	97	96	3	4th lift
Location Comments	Phase VB anchor berm subgrade @ sta 120+95E and 74+80N									
11/03/2000	840	9 8	102 4	10	106 2	14 4	96	96	3	4th lift
Location Comments	Phase VB anchor berm subgrade @ sta 120+00E and 74+30N									
11/04/2000	804A	32 4	88 6	CL-6	100	22	89 <<	92	3	Clay subbase
Location Comments	Restest of #804 - Phase VA clay liner									
06/2000	841	10 5	103 3	10	106 2	14 4	97	96	3	4th lift
Location Comments	Phase VB anchor berm subgrade @ sta 123+05E and 75+40N									
11/06/2000	842	6 2	104 7	11	107 2	13 6	98	96	3	4th lift
Location Comments	Phase VC anchor berm @ sta 100+75E and 79+75N									
11/06/2000	843	7 5	103 4	11	107 2	13 6	96	96	3	4th lift
Location Comments	Phase VC anchor berm @ sta 100+65E and 78+85N									
11/06/2000	844	6 0	104 4	11	107 2	13 6	97	96	3	4th lift
Location Comments	Phase VC anchor berm @ sta 100+80E and 77+80N									
11/06/2000	845	12 3	102 0	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 109+05E and 75+85N									
11/06/2000	846	10 9	103 8	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 108+95E and 74+70N									
11/06/2000	847	10 1	103 8	10	106 2	14 4	98	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 107+90E and 75+55N									
11/06/2000	848	11 7	103 2	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 108+10E and 74+60N									

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11/07/2000	804B	24 6	95 2	CL-6	100	22	95	92	3	Clay subbase
Location Comments	Phase VA clay liner - Retest of #804A									
11/14/2000	849	5 5	114 5	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 112+75E and 81+70N									
11/14/2000	850	6 3	113 7	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 112+90E and 80+75N									
11/14/2000	851	23 4	100 7	CL-5	103 8	19 6	97	96	3	Clay subbase
Location Comments	Phase IVC clay liner @ sta. 113+30E and 82+70N									
11/15/2000	852	6 5	103 4	10	106 2	14 4	97	96	3	5th lift
Location Comments	Phase VC anchor berm @ sta 100+65E and 79+80N									
11/15/2000	853	6 0	102 8	10	106 2	14 4	97	96	3	5th lift
Location Comments	Phase VC anchor berm @ sta 100+70E and 79+00N									
11/15/2000	854	6 6	104 0	10	106 2	14 4	98	96	3	5th lift
Location Comments	Phase VC anchor berm @ sta 100+65E and 77+85N									
11/15/2000	855	7 1	102 4	10	106 2	14 4	96	96	3	Finished subgrade
Location Comments	Phase VC anchor berm @ sta 100+60E and 79+80N									
11/15/2000	856	6 5	102 3	10	106 2	14 4	96	96	3	Finished subgrade
Location Comments	Phase VC anchor berm @ sta 100+65E and 78+95N									
11/15/2000	857	6 9	102 7	10	106 2	14 4	97	96	3	Finished subgrade
Location Comments	Phase VC anchor berm @ sta 100+60E and 77+90N									
11/16/2000	858	9 2	102 3	10	106 2	14 4	96	96	3	Finished subgrade
Location Comments	Phase VD subgrade @ sta 101+00E and 77+35N									
11/16/2000	859	7 1	106 5	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VD subgrade @ sta 103+90E and 77+45N									
11/16/2000	860	7 5	106 3	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VD subgrade @ sta 107+05E and 77+40N									

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11/16/2000	861	4 3	105 7	5	108 3	11 8	98	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta 101+55E and 79+10N									
11/16/2000	862	7 9	104 0	5	108 3	11 8	96	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta 102+45E and 79+12N									
11/16/2000	863	5 3	109 9	1	114 3	10 7	96	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta. 103+45E and 79+08N									
11/16/2000	864	4 9	109 8	1	114 3	10 7	96	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta. 104+55E and 79+12N									
11/16/2000	865	7 7	108 1	5	108 3	11 8	100	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta 105+50E and 79+10N									
11/16/2000	866	6 4	105 7	11	107 2	13 6	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 101+10E and 78+45N									
11/16/2000	867	8 6	107 7	10	106 2	14 4	101	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 101+05E and 79+60N									
11/16/2000	868	5 5	113 7	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 101+95E and 79+80N									
11/16/2000	869	7 9	107 2	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 102+10E and 78+65N									
11/16/2000	870	8 0	103 1	10	106 2	14 4	97	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 102+05E and 77+70N									
11/16/2000	871	8 8	106 5	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 103+05E and 80+10N									
11/16/2000	872	5 0	105 6	10	106 2	14 4	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 103+00E and 79+00N									
11/16/2000	873	7 3	105 9	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 103+10E and 78+15N									

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REPORT OF FIELD DENSITY TESTS

LAWGIBB GROUP

3901 Carmichael Avenue
Jacksonville, FL 32207
Phone 904-396-5173

CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
11/16/2000	874	10 3	106 9	10	106 2	14 4	101	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 103+85E and 78+35N									
11/16/2000	875	5 6	106 2	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta. 104+00E and 79+50N									
11/16/2000	876	6 3	104 3	10	106 2	14 4	98	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 104+95E and 77+85N									
11/16/2000	877	5 8	104 5	10	106 2	14 4	98	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 105+10E and 78+90N									
11/16/2000	878	8 6	106 8	10	106 2	14 4	101	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 105+05E and 79+70N									
16/2000	879	8 5	106 2	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 106+15E and 80+15N									
11/16/2000	880	7 5	107 4	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 105+95E and 79+25N									
11/16/2000	881	5 5	106 6	11	107 2	13 6	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 106+10E and 78+00N									
11/17/2000	882	9 4	103 9	10	106 2	14 4	98	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 106+95E and 78+50N									
11/17/2000	883	7 4	107 6	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 107+10E and 79+40N									
11/17/2000	884	8 1	107 8	11	107 2	13 6	101	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 108+00E and 79+75N									
11/17/2000	885	7 3	106 8	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 108+05E and 78+80N									
11/17/2000	886	6 0	107 6	11	107 2	13 6	100	96	3	Finished subgrade
Location ments	Phase VC subgrade @ sta 107+95E and 77+65N									

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TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
11/20/2000	887	8 9	106 7	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 109+10E and 78+10N									
11/20/2000	888	4 2	113 3	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 109+00E and 79+00N									
11/20/2000	889	7 3	113 8	6	113 9	10 5	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 108+95E and 80+00N									
11/20/2000	890	8 1	104 2	10	106 2	14 4	98	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 110+05E and 79+65N									
11/20/2000	891	7 1	107 4	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta. 110+10E and 78+40N									
20/2000	892	6 5	106 9	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VD subgrade @ sta 109+90E and 77+55N									
11/20/2000	893	14 0	106 8	10	106 2	14 4	101	96	3	1st lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+25E and 81+90N									
11/20/2000	894	6 0	105 8	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+30E and 80+85N									
11/20/2000	895	4 7	106 0	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase VC ditch 'B' tie-in @ sta 113+30E and 79+95N									
11/20/2000	896	6 0	105 7	10	106 2	14 4	100	96	3	2nd lift
Location Comments	Phase VC ditch 'B' tie-in @ sta 113+25E and 79+95N									
11/20/2000	897	4 8	106 1	10	106 2	14 4	100	96	3	2nd lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+20E and 80+75N									
11/20/2000	898	9 9	104 1	10	106 2	14 4	98	96	3	2nd lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+20E and 81+90N									
11/20/2000	899	8 0	109 8	1	114 3	10 7	96	96	3	Finished subgrade
Location ments	Phase VC leachate trench @ sta 106+55E and 79+10N									

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
11/20/2000	900	6 3	113 5	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta 107+40E and 79+08N									
11/20/2000	901	7 2	113 8	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta 108+60E and 79+12N									
11/20/2000	902	7 7	114 0	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta. 109+45E and 79+08N									
11/20/2000	903	25 0	97 2	CL-5	103 8	19 6	94	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 101+10E and 77+80N									
11/20/2000	904	24 9	96 8	CL-6	100	22	97	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta. 101+70E and 78+85N									
[illegible]0/2000	905	23 2	99 9	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta. 102+25E and 79+90N									
11/20/2000	906	28 8	94 1	CL-6	100	22	94	92	3	Clay subbase
Location Comments	Phase VD clay liner @ sta 102+85E and 77+45N									
11/20/2000	907	24 5	98 0	CL-5	103 8	19 6	94	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta. 103+70E and 78+90N									
11/21/2000	908	8 6	103 2	10	106 2	14 4	97	96	3	3rd lift
Location Comments	Phase VC ditch 'B' tie-in @ sta 113+30E and 79+85N									
11/21/2000	909	5 0	102 2	10	106 2	14 4	96	96	3	3rd lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+25E and 80+80N									
11/21/2000	910	5 3	105 2	10	106 2	14 4	99	96	3	3rd lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+30E and 81+80N									
11/21/2000	911	5 4	113 0	6	113 9	10 5	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 110+90E and 79+90N									
11/21/2000	912	9 5	107 7	11	107 2	13 6	100	96	3	Finished subgrade
Location [illegible]ments	Phase VC subgrade @ sta 111+00E and 78+75N									

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CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
11/21/2000	913	8 1	106 9	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 110+95E and 77+85N									
11/21/2000	914	7 5	107 6	11	107 2	13 6	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 112+05E and 78+05N									
11/21/2000	915	5 2	113 6	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ sta 111+90E and 79+25N									
11/21/2000	916	6 2	109 1	4	112	13 5	97	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta. 111+40E and 79+12N									
11/21/2000	917	8 1	114 4	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ sta 110+50E and 79+10N									
11/21/2000	918	7 8	102 0	10	106 2	14 4	96	96	3	4th lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+20E and 81+90N									
11/21/2000	919	9 2	101 9	10	106 2	14 4	96	96	3	4th lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+35E and 80+80N									
11/21/2000	920	10 7	102 2	10	106 2	14 4	96	96	3	4th lift
Location Comments	Phase VC ditch 'B' tie-in @ sta 113+25E and 79+85N									
11/21/2000	921	23 2	92 6	CL-6	100	22	93	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 104+65E and 80+10N									
11/21/2000	922	23 5	99 8	CL-5	103 8	19 6	96	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 105+15E and 78+10N									
11/22/2000	923	9 8	102 6	10	106 2	14 4	97	96	3	5th lift
Location Comments	Phase VC ditch 'B' tie-in @ sta 113+40E and 79+90N									
11/22/2000	924	8 6	102 0	10	106 2	14 4	96	96	3	5th lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+15E and 80+80N									
11/22/2000	925	10 4	105 2	10	106 2	14 4	99	96	3	6th lift
Location Comments	Phase IVC ditch 'B' tie-in @ sta 113+30E and 80+90N									

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CLIENT England, Thims & Miller, Inc
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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
11/22/2000	926	22 2	102 4	CL-1	105 6	19 7	97	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 105+80E and 79+35N									
11/22/2000	927	22 3	102 9	CL-1	105 6	19 7	97	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 106+60E and 80+00N									
11/27/2000	928	17 6	101 9	10	106 2	14 4	96	96	3	Finished subgrade
Location Comments	Phase IVC leachate trench @ sta 113+25E and 82+12N									
11/27/2000	929	10 0	105 9	10	106 2	14 4	100	96	3	1st lift
Location Comments	Phase IVC temporary drainage trench backfill @ sta. 113+45E and 80+85N									
11/27/2000	930	14 3	102 7	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VC temporary drainage trench backfill @ sta 113+40E and 79+85N									
11/27/2000	931	12 2	102 5	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase IVC temporary drainage trench backfill @ sta 113+45E and 80+80N									
11/27/2000	932	11 9	105 1	10	106 2	14 4	99	96	3	2nd lift
Location Comments	Phase VC temporary drainage trench backfill @ sta 113+40E and 79+80N									
11/28/2000	933	11 6	103 6	10	106 2	14 4	98	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 113+05E and 81+35N									
11/28/2000	934	13 1	106 0	10	106 2	14 4	100	96	3	Finished subgrade
Location Comments	Phase IVC subgrade @ sta 113+20E and 80+50N									
12/01/2000	935	22 2	98 6	CL-5	103 8	19 6	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner repair @ sta 112+90E and 83+30N									
12/01/2000	936	24 3	94 7	CL-6	100	22	95	92	3	Clay subbase
Location Comments	Phase IVC clay liner repair @ sta 112+90E and 81+50N									
12/02/2000	804C	28 0	92 0	CL-6	100	22	92	92	3	Clay subbase
Location Comments	Retest of #804B - Phase VA clay liner									
12/02/2000	937	27 8	94 0	CL-7	95 5	25 4	98	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 107+30E and 77+85N									

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CLIENT England, Thims & Miller, Inc
PROJECT Trailridge Landfill - 3rd Increment

JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
12/02/2000	938	28 1	91 8	CL-7	95 5	25 4	96	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 107+95E and 78+60N									
12/02/2000	939	27 5	94 3	CL-7	95 5	25 4	99	92	3	Clay subbase
Location Comments	Phase VC clay liner @ sta 108+50E and 79+70N									
12/02/2000	940	27 7	92 6	CL-7	95 5	25 4	97	92	3	Clay subbase
Location Comments	Phase VD clay liner @ sta 109+40E and 77+50N									
12/04/2000	941	21 6	99 7	CL-5	103 8	19 6	96	92	3	-4 0'
Location Comments	Phase IVC anchor berm @ sta. 100+73E and 82+10N									
12/05/2000	942	28 3	92 0	CL-7	95 5	25 4	96	92	3	-2 0'
Location Comments	Phase IVC anchor berm @ sta 100+75E and 83+15N									
12/05/2000	943	29 4	89 8	CL-7	95 5	25 4	94	92	3	Existing grade
Location Comments	Phase IVC anchor berm @ sta 100+70E and 81+05N									
12/06/2000	944	4 3	109 9	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 107+05E and 75+80N									
12/06/2000	945	4 9	113 3	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 106+90E and 74+60N									
12/06/2000	946	5 0	114 4	1	114 3	10 7	100	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 113+00E and 76+50N									
12/06/2000	947	9 1	102 6	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD existing swale backfill @ sta 112+60E and 76+65N									
12/06/2000	948	8 3	102 0	10	106 2	14 4	96	96	3	2nd lift
Location Comments	Phase VD existing swale backfill @ sta 112+50E and 76+55N									
12/06/2000	949	7 2	102 0	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VB anchor berm @ sta 124+45E and 76+70N									
12/06/2000	950	8 0	106 3	10	106 2	14 4	100	96	3	2nd lift
Location Comments	Phase VB anchor berm @ sta 124+55E and 76+80N									

Report Date 1/22/01

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JOB NO 40562-0-4105

TEST DATE	TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
12/06/2000	951	8 7	102 5	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 112+90E and 76+55N									
12/06/2000	952	7 5	102 2	10	106 2	14 4	96	96	3	4th lift
Location Comments	Phase VB anchor berm @ sta 114+90E and 74+50N									
12/06/2000	953	9 9	102 8	10	106 2	14 4	97	96	3	4th lift
Location Comments	Phase VB anchor berm @ sta. 116+05E and 74+35N									
12/06/2000	954	8 2	106 8	10	106 2	14 4	101	96	3	4th lift
Location Comments	Phase VB anchor berm @ sta. 117+10E and 74+45N									
12/06/2000	955	7 2	102 4	10	106 2	14 4	96	96	3	4th lift
Location Comments	Phase VB anchor berm @ sta 118+00E and 74+35N									
6/2000	956	7 7	102 5	10	106 2	14 4	97	96	3	4th lift
Location Comments	Phase VB anchor berm @ sta. 118+95E and 74+40N									
12/07/2000	957	8 2	102 6	10	106 2	14 4	97	96	3	3rd lift
Location Comments	Phase VB anchor berm @ sta 124+60E and 76+65N									
12/07/2000	958	3 1	113 4	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 110+95E and 74+30N									
12/07/2000	959	3 0	109 9	1	114 3	10 7	96	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 110+05E and 74+40N									
12/07/2000	960	3 6	110 0	2	113	10 7	97	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 105+90E and 75+55N									
12/07/2000	961	4 0	113 6	1	114 3	10 7	99	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 106+00E and 74+50N									
12/07/2000	962	7 8	113 2	2	113	10 7	100	96	3	Existing grade
Location Comments	Phase VD subgrade @ 105+05E and 74+35N									
12/07/2000	963	4 1	106 1	5	108 3	11 8	98	96	3	Existing grade
Location	Phase VD subgrade @ sta 104+95E and 75+25N									
ments										

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12/08/2000	964	7 9	102 6	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 111+10E and 74+35N									
12/08/2000	965	10 1	103 2	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ sta 110+05E and 74+45N									
12/08/2000	966	3 1	111 2	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 103+95E and 75+80N									
12/08/2000	967	4 6	110 6	1	114 3	10 7	97	96	3	Existing grade
Location Comments	Phase VD subgrade @ sta 103+90E and 74+95N									
12/11/2000	968	7 3	102 2	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 107+05E and 75+85N									
12/11/2000	969	8 6	104 5	11	107 2	13 6	97	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 105+95E and 75+55N									
12/11/2000	970	11 1	102 6	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 105+00E and 75+20N									
12/11/2000	971	6 5	102 1	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 104+95E and 74+55N									
12/11/2000	972	7 1	102 9	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 106+00E and 74+70N									
12/11/2000	973	8 2	102 2	10	106 2	14 4	96	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 107+10E and 74+85N									
12/11/2000	974	7 3	105 8	11	107 2	13 6	99	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 103+95E and 75+90N									
12/11/2000	975	8 9	102 9	10	106 2	14 4	97	96	3	1st lift
Location Comments	Phase VD subgrade @ Sta 104+10E and 74+95N									
12/11/2000	976	9 8	106 1	10	106 2	14 4	100	96	3	2nd lift
Location Comments	Phase VD subgrade @ Sta 106+90E and 74+95N									

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12/11/2000	977	11 7	107 3	11	107 2	13 6	100	96	3	2nd lift
Location Comments	Phase VD subgrade @ Sta 106+05E and 74+65N									
12/11/2000	978	10 7	103 3	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VD subgrade @ Sta 104+95E and 74+35N									
12/11/2000	979	7 8	103 3	10	106 2	14 4	97	96	3	2nd lift
Location Comments	Phase VD subgrade @ Sta 104+10E and 74+85N									
12/12/2000	980	6 6	103 2	10	106 2	14 4	97	96	3	Finished subgrade
Location Comments	Phase VD subgrade @ Sta. 112+70E and 77+30N									
12/12/2000	981	7 7	113 4	1	114 3	10 7	99	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ Sta 112+80E and 78+60N									
2/2000	982	4 6	113 9	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase VC subgrade @ Sta 112+75E and 79+50N									
12/12/2000	983	3 5	113 8	1	114 3	10 7	100	96	3	Finished subgrade
Location Comments	Phase VC leachate trench @ Sta. 112+55E and 79+10N									

REMARKS

Performed in General Accordance With
1 - ASTM D2937
3 - ASTM D2922
<< Denotes Less Than Specified Compaction

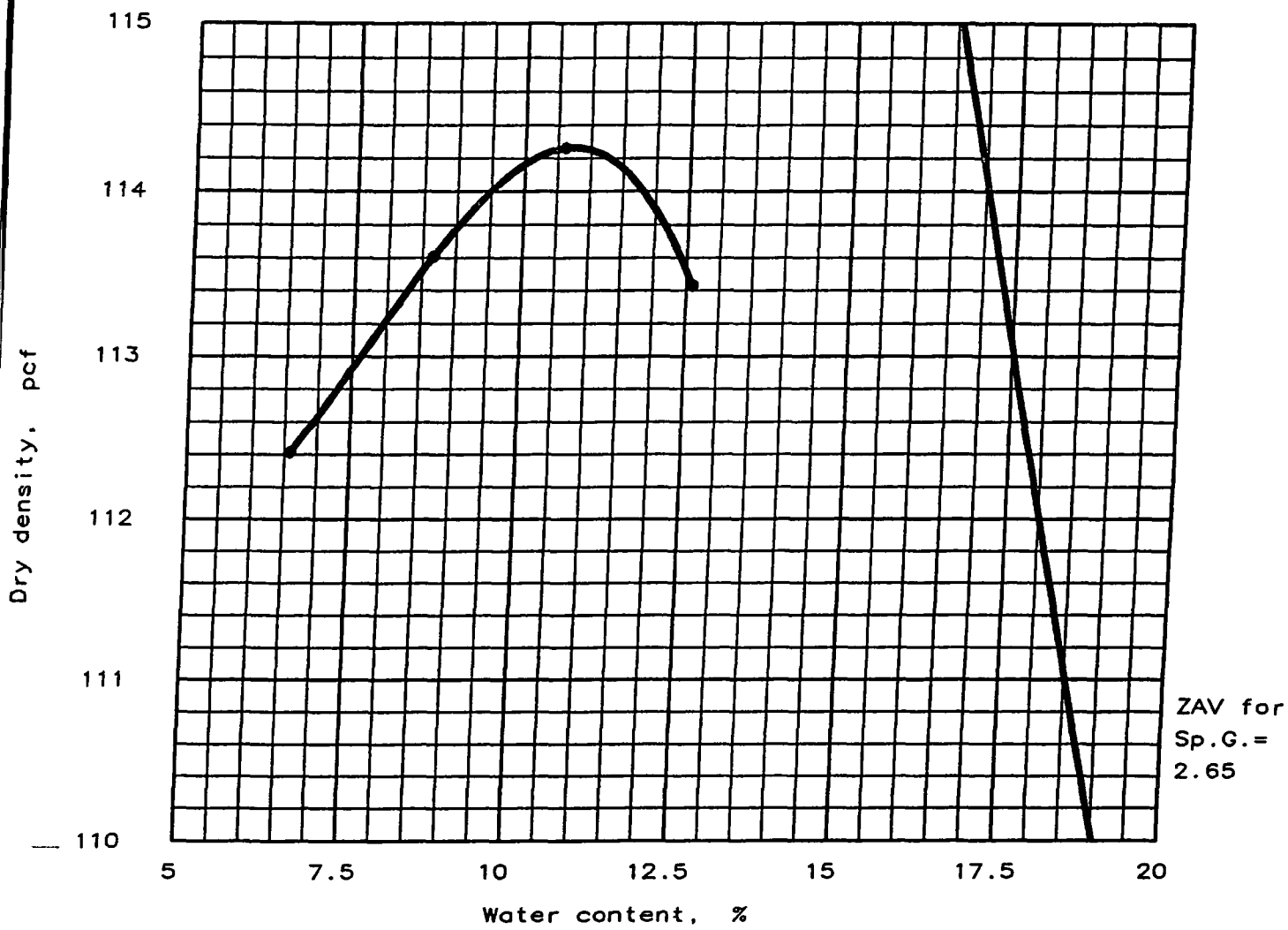
RESPECTFULLY SUBMITTED

APPENDIX C
Proctor Test Report with Associated Grain Size Distribution

APPENDIX C
Proctor Test Report with Associated Grain Size Distribution

Test Reports for Fill Material

PROCTOR TEST REPORT



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No. 4	% < No. 200
	USCS	AASHTO						
	SP-SM	A-3						

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 10.7 % Maximum dry density = 114.3 pcf	Grey Brown Slightly Silty Fine SAND

Project No.. 40562-5-2827
Project: Trailridge Phase IV A
Location: Existing Subgrade: Cell IV A
Station 103+00E and 88+00N
Date 11-16-95 CLIENT: England Thims & Miller

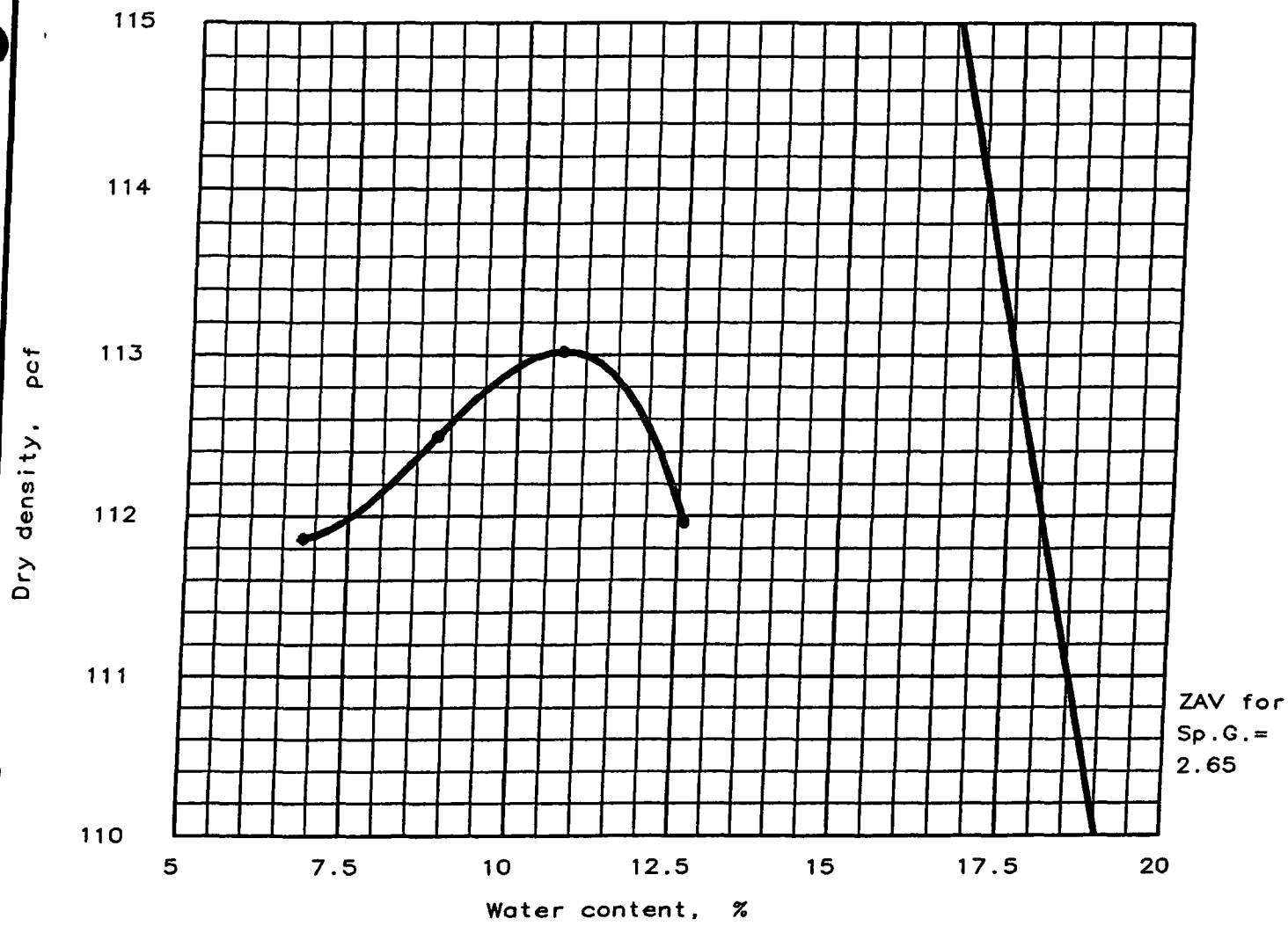
Remarks:
Proctor No. 1

PROCTOR TEST REPORT
LAW ENGINEERING INC.

Bryant B. Wildes

REVIEWED BY: Bryant B. Wildes
Chief Engineering Technician

PROCTOR TEST REPORT



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No. 4	% < No. 200
	USCS	AASHTO						
	SP	A-3						

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 10.7 % Maximum dry density = 113.0 pcf	Dark Brown Fine SAND

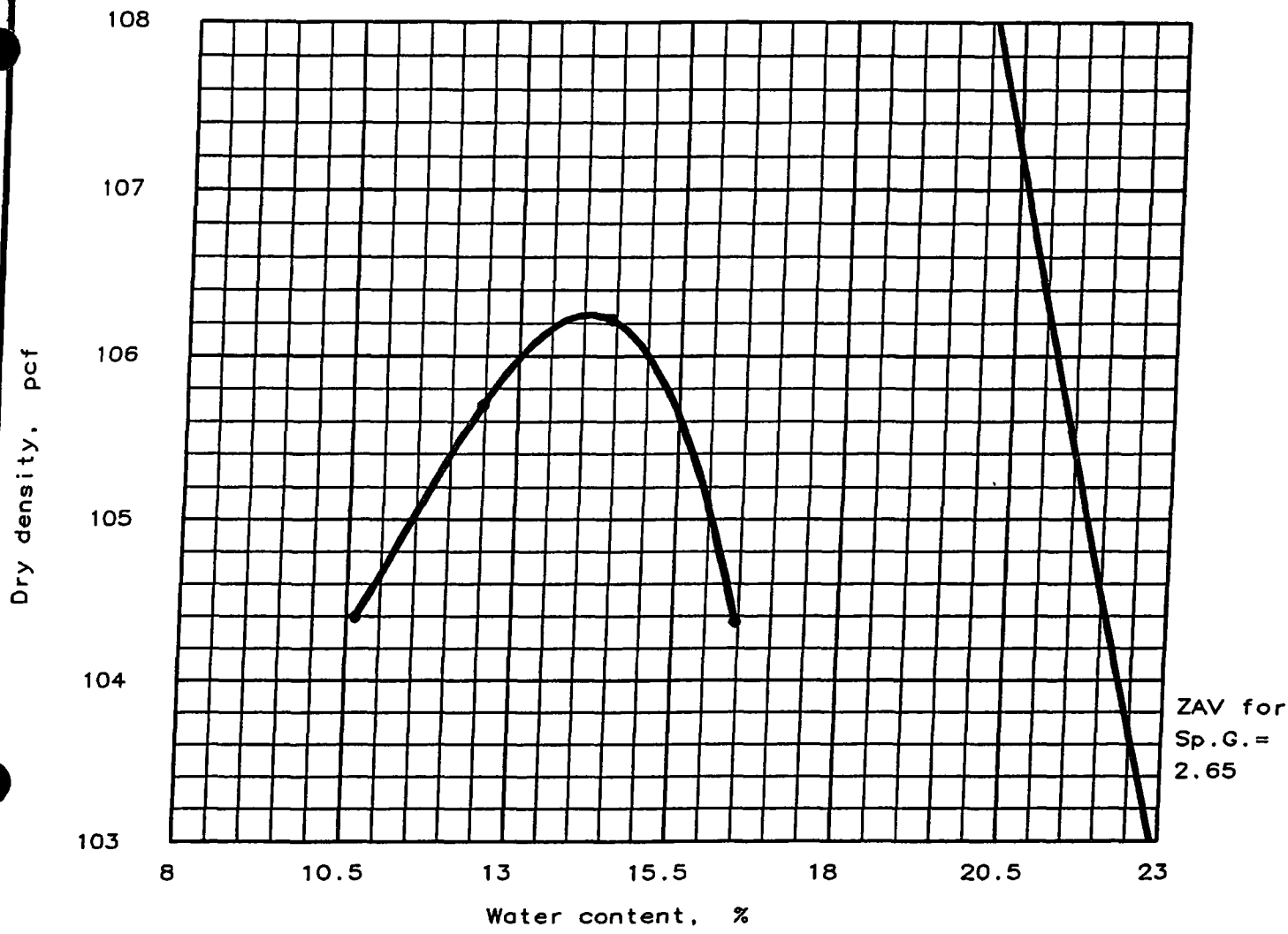
Project No.: 40562-5-2827
Project: Trailridge Phase IV A
Location: Fill Excavated From Perimeter Ditch
Station 114+00
Date: 11-16-95 CLIENT: England Thims & Miller

Remarks:
Proctor No. 2

PROCTOR TEST REPORT
LAW ENGINEERING INC.

REVIEWED BY: Bryant B. Wildes
Chief Engineering Technician

PROCTOR TEST REPORT



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No. 4	% < No. 200
	USCS	AASHTO						
	SP-SM	A-3					0 %	6.7 %

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 14.1 % Maximum dry density = 106.3 pcf	Dark Brown Slightly Silty Fine SAND

Project No.: 40562-5-2827
Project: TrailRidge Landfill, Phase IIIB, IVA, IVB
Location. Fill Material

Date 1-5-96

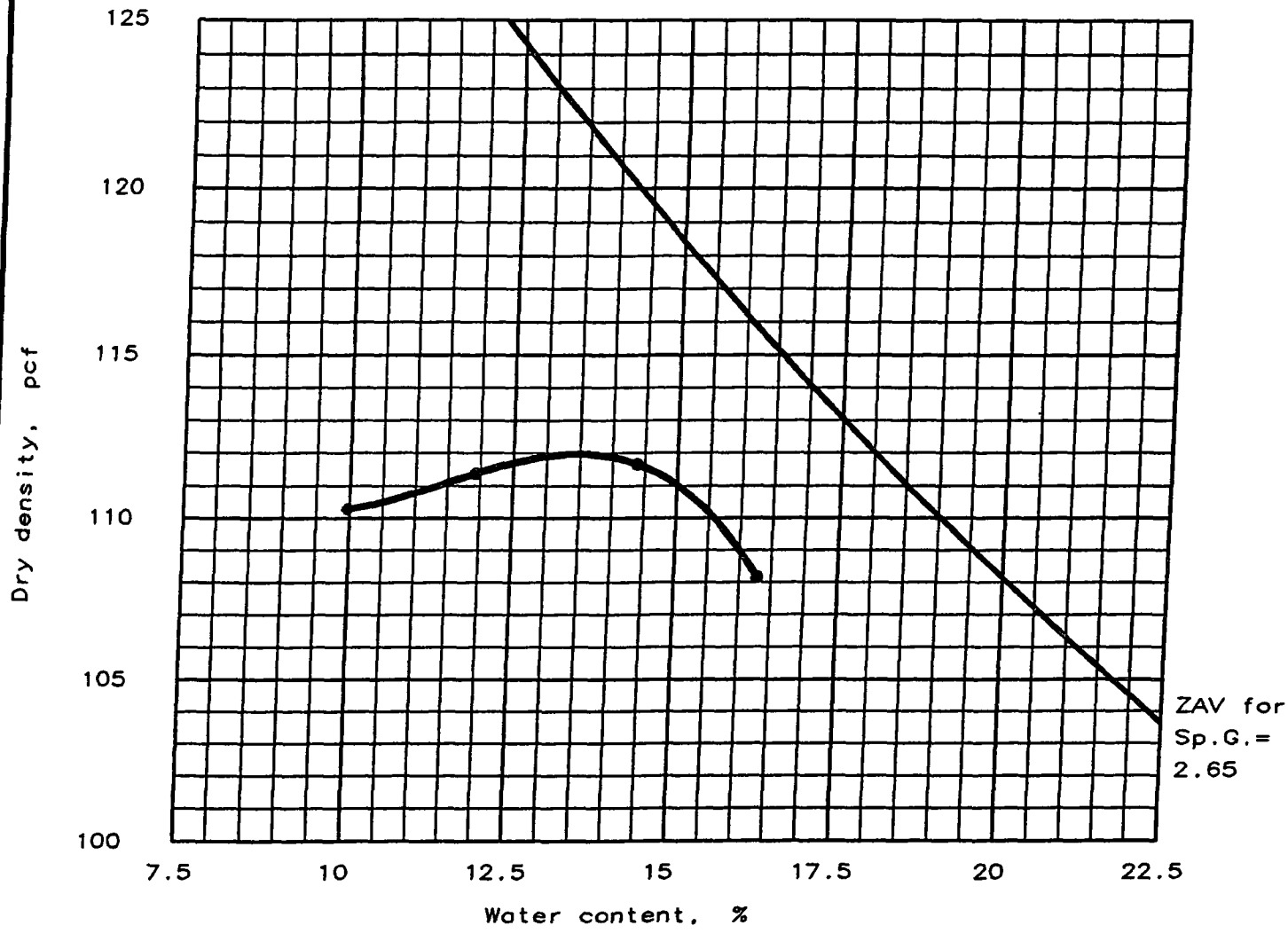
Remarks:
Proctor No. 3

PROCTOR TEST REPORT
LAW ENGINEERING INC.

Bryant B. Wildes

Reviewed by: Bryant B. Wildes
Chief Engineering Technician

PROCTOR TEST REPORT



"Modified" Proctor, ASTM D 1557, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No. 4	% < No. 200
	USCS	AASHTO						
	SP-SM	A-3					0 %	7.0 %

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 13.5 % Maximum dry density = 112.0 pcf	Brown Slightly Silty Fine SAND

Project No.: 40562-5-2827
Project: TrailRidge Landfill Phase IIIB, IVA,IVB
Location: West Perimeter Ditch

Date: 5-31-96

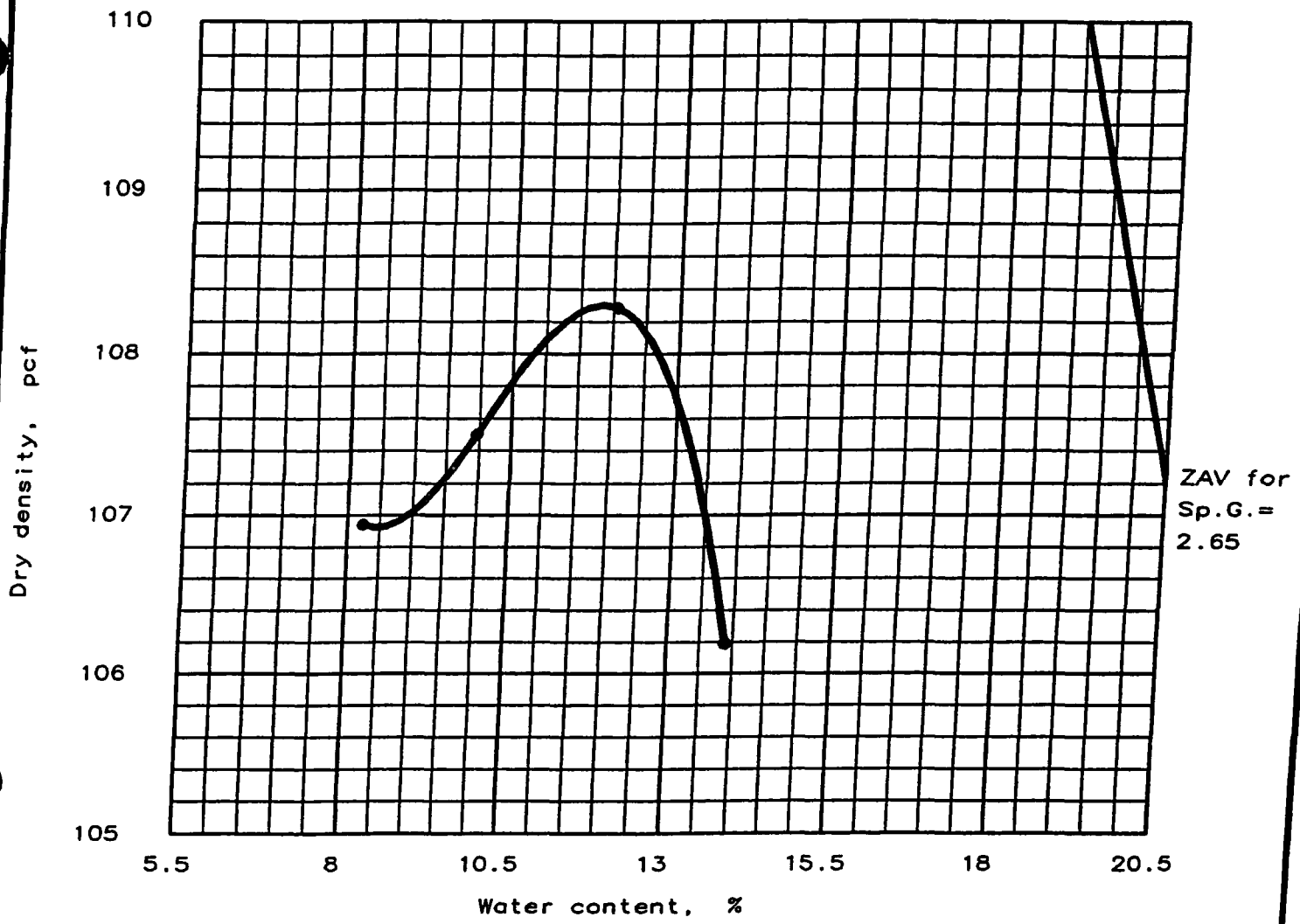
Remarks:
Proctor No. 4

PROCTOR TEST REPORT
LAW ENGINEERING INC.

Bryant B. Wildes

Reviewed by: Bryant B. Wildes

PROCTOR TEST REPORT



"Modified" Proctor, AASHTO T180, Method A

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No. 4	% < No. 200
	USCS	AASHTO						
	SM	A-2-4					0 %	13.0 %

TEST RESULTS	MATERIAL DESCRIPTION
Optimum moisture = 11.8 % Maximum dry density = 108.3 pcf	Light Grey Silty Fine SAND

Project No.: 40562-5-2827
Project: Trailridge Landfill Ph. IIIB, IVA, IVB
Location: Ditch "B" at Station 89+00 East

Date: 6-6-96

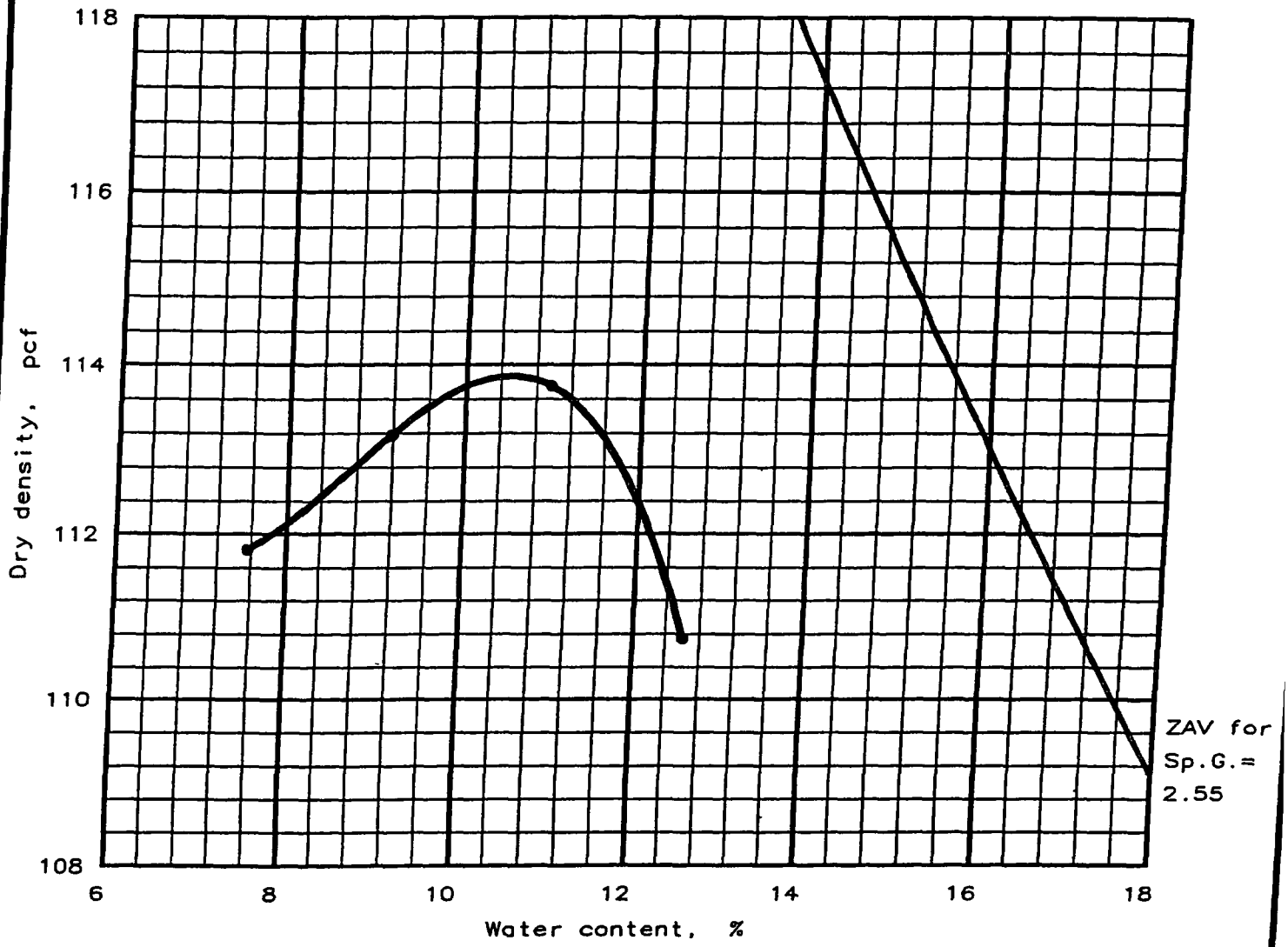
Remarks:
Proctor No. 5

PROCTOR TEST REPORT
LAW ENGINEERING INC.

Bryant B. Wildes

Reviewed by: Bryant B. Wildes
Chief Engineering Technician

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-78 Method A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SM	A-3					0 %	5.2 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 113.9 pcf Optimum moisture = 10.5 %	Dark Brown Slighty Silty Fine SAND

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Fill from McClenny Pit

Date: 6-9-00

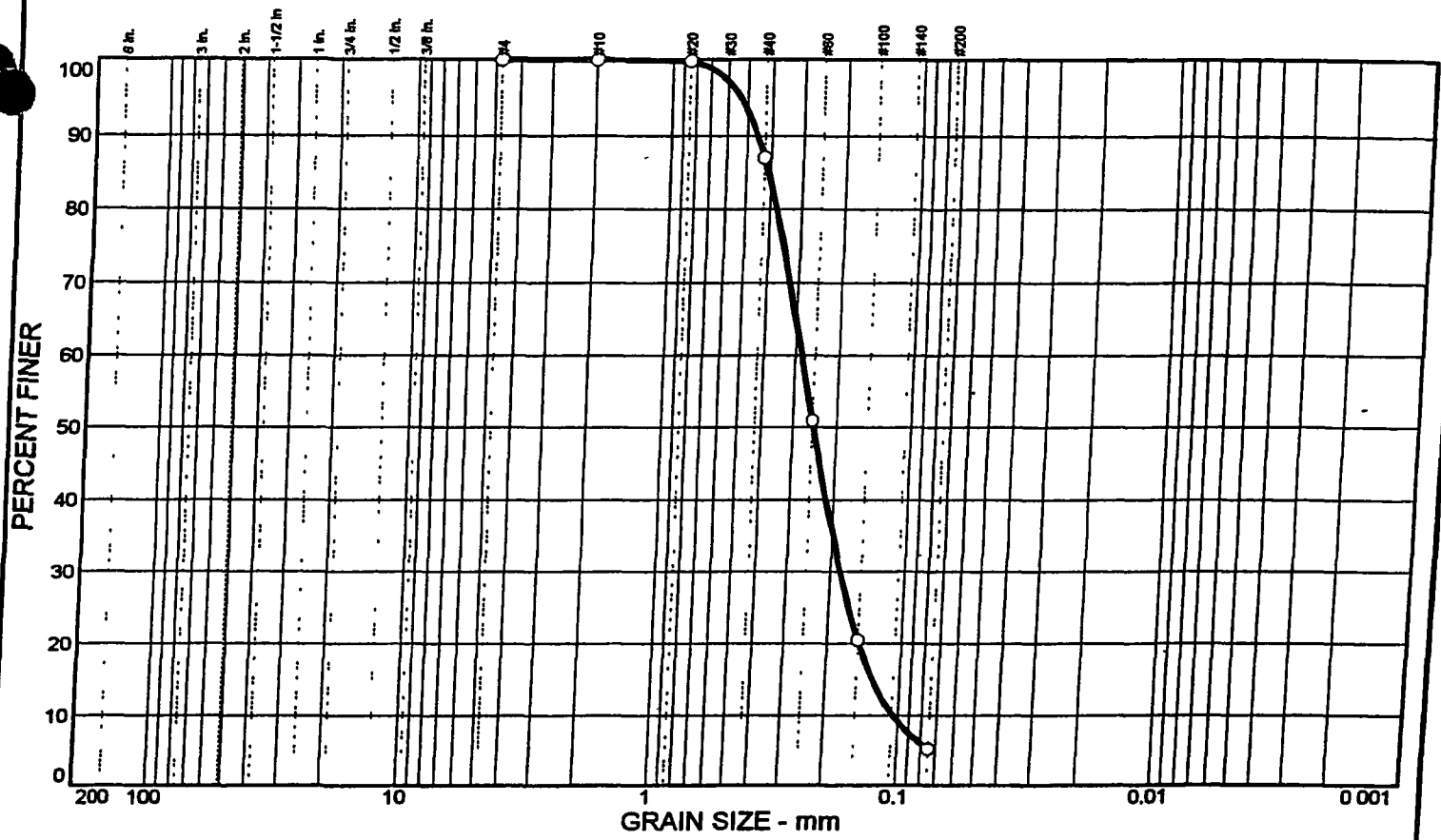
Remarks:
Proctor No. 6

MOISTURE-DENSITY RELATIONSHIP TEST
LAW ENGINEERING INC.

Reviewed By

JOHN A. UNTERSPAN, P.E.

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			94.8	5.2		SP-SM	A-3		

SIEVE inches size	PERCENT FINER O		
	GRAIN SIZE		
D_{60}	0.282		
D_{30}	0.182		
D_{10}	0.105		
	COEFFICIENTS		
C_c	1.12		
C_u	2.69		

SIEVE number size	PERCENT FINER O		
#4	100.0		
#10	100.0		
#20	99.8		
#40	87.0		
#60	50.9		
#100	20.4		
#200	5.2		

SOIL DESCRIPTION

O *Dark Brown Slighty Silty Fine SAND*

REMARKS:

O

O Source: Fill from McClenny

Sample No. Proctor No. 6

Law Engineering and Environmental Services, Inc.

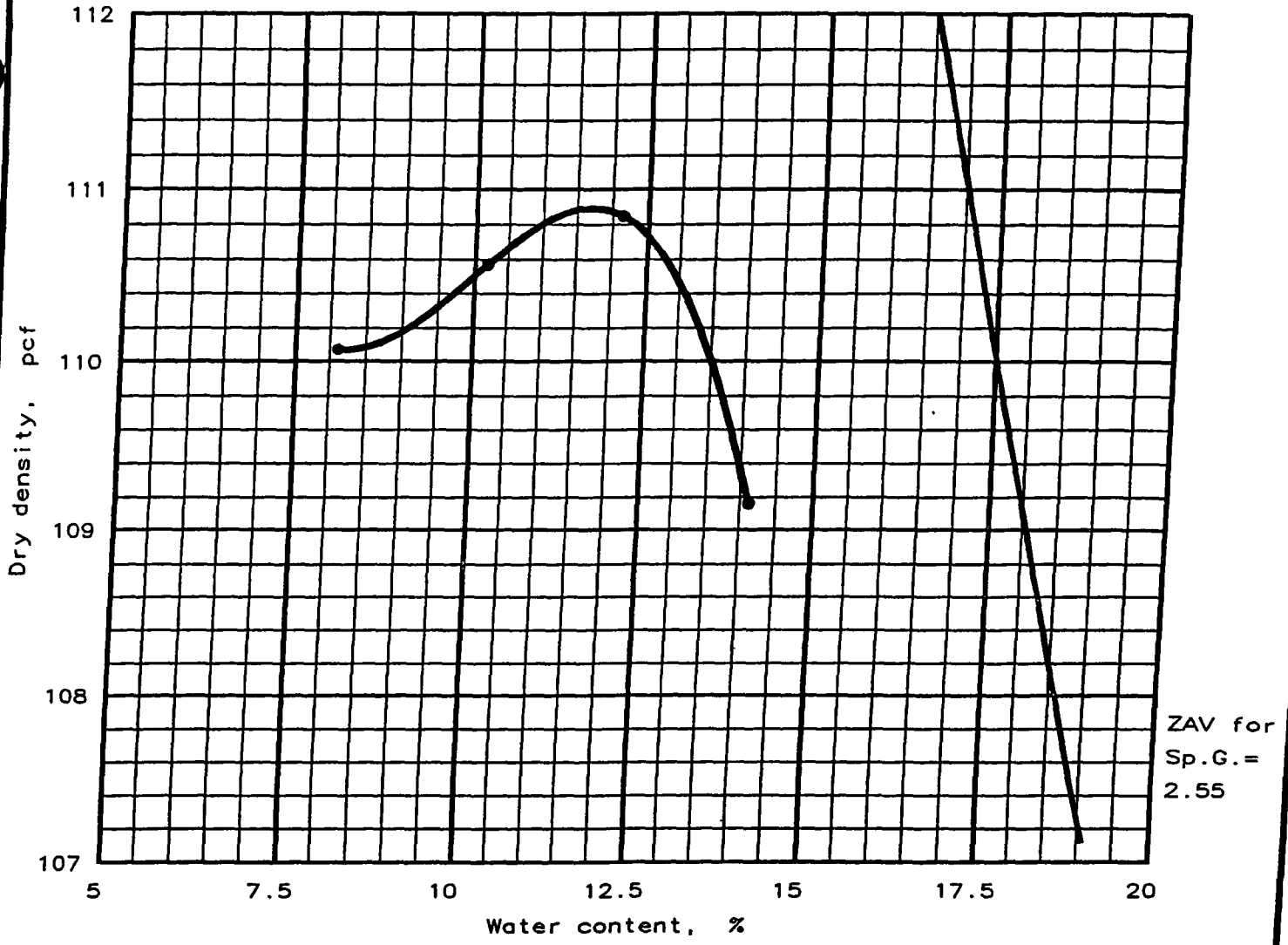
Client: England Thims and Miller

Project: Trailridge Landfill

Project No 40562-0-4105

JOHN A. UNTERSPAN, P.E.

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-78 Method A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SM	A-3					0 %	5.5 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 110.9 pcf Optimum moisture = 11.7 %	Light Gray and Brown Slighty Silty Fine SAND

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Fill from McClenny Pit

Date: 6-9-00

Remarks:

Proctor No. 7

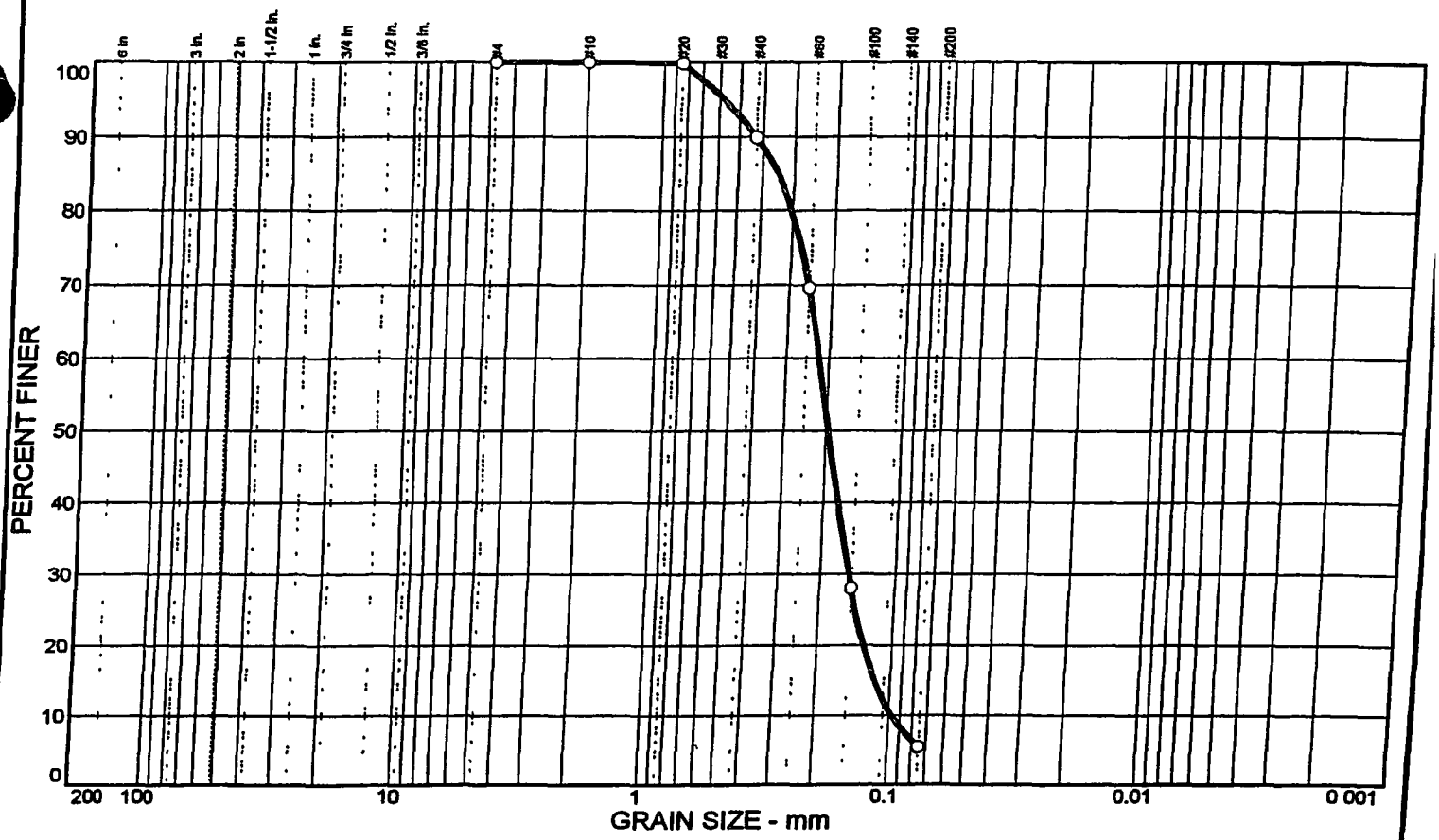
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

JOHN A. UNTERSPAN, P.E.

Grain Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
		94.5	5.5		SP-SM	A-3		

SIEVE inches size	PERCENT FINER O		

	GRAIN SIZE		
D_{60}	0.221		
D_{30}	0.154		
D_{10}	0.0975		
	COEFFICIENTS		
C_c	1 11		
C_u	2.26		

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.9
#40	89 8
#60	69.5
#100	28 0
#200	5.5

SOIL DESCRIPTION

O Light Gray and Brown Slighty Silty Fine SAND

REMARKS

O

O Source Fill from McClenny Sample No. Proctor No. 7

Law Engineering and Environmental Services, Inc.

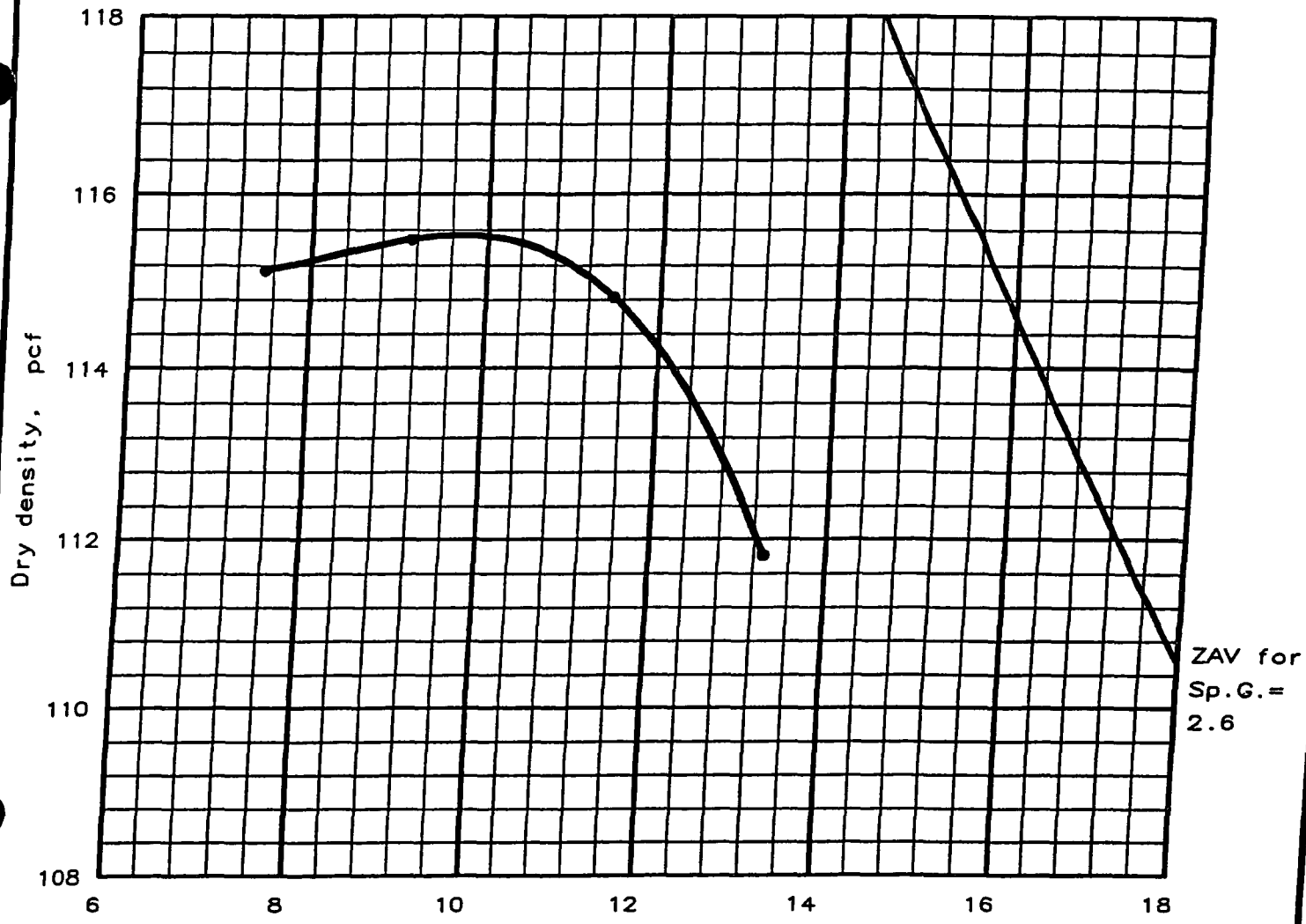
Client: England Thims and Miller

Project: Trailridge Landfill

Project No · 40562-0-4105

JOHN A. UNTERSPAN, P.E.

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SM	A-3					0 %	5.8 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 115.5 pcf Optimum moisture = 9.7 %	Dark Brown Slightly Silty Fine SAND

Project No.: 40562-0-4105
Project: TrailRidge Landfill
Client: England Thimbs & Miller
Location:

Date: 7-10-00

Remarks:

Proctor No. 8

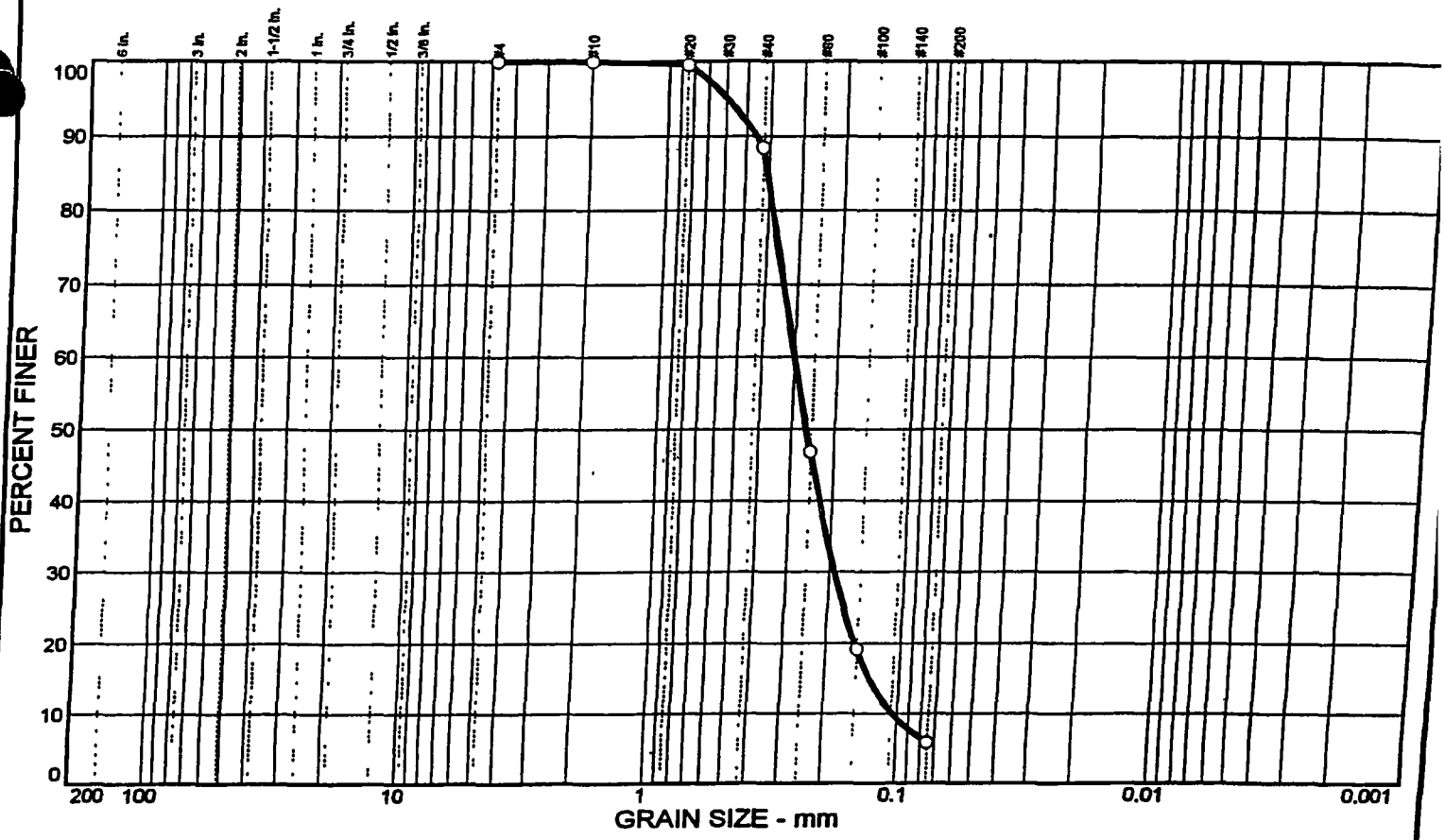
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

JOHN A. UNTERSPAN, P.E.

Grain Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O		94.2	5.8		SP-SM	A-3		

SIEVE inches size	PERCENT FINER O

GRAIN SIZE	
D_{60}	0.298
D_{30}	0.191
D_{10}	0.105
COEFFICIENTS	
C_c	1.16
C_u	2.85

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.6
#40	88.4
#60	46.8
#100	19.1
#200	5.8

SOIL DESCRIPTION

O Dark Brown Slighty Silty Fine SAND

REMARKS:

O

O Source: Fill from Macclenny

Sample No . Proctor No. 8

Law Engineering and Environmental Services, Inc.

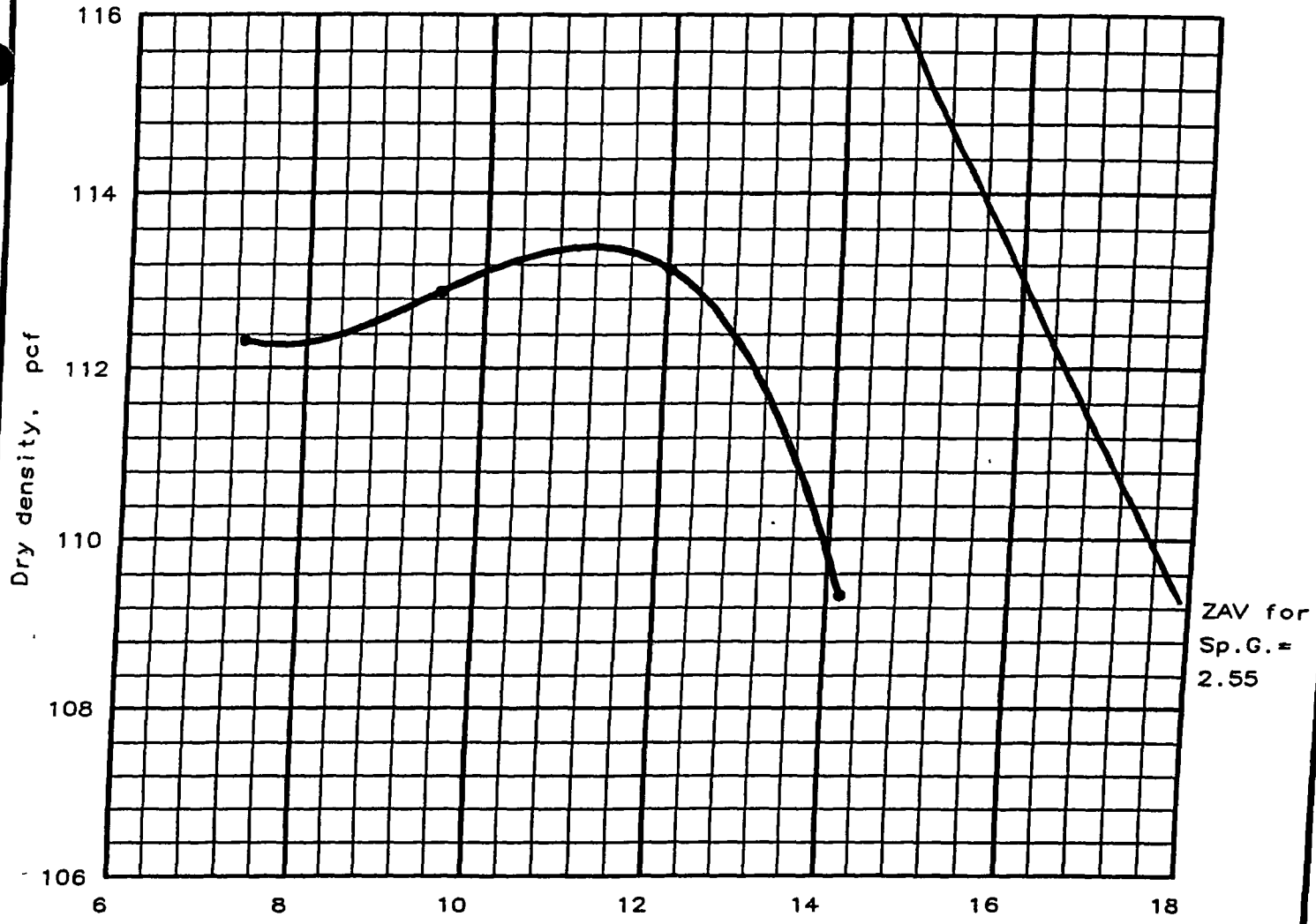
Client: England Thims and Miller

Project: Trailridge Landfill

Project No: 40562-0-4105

JOHN A. UNTERSPAN, P.E.

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SM	A-3					0 %	7.9 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 113.4 pcf Optimum moisture = 11.2 %	Dark Brown Slightly Silty Fine SAND

Project No.: 40562-0-4108
Project: TrailRidge Landfill
Client: England Thims & Miller
Location: Fill Material

Date: 7-20-00

Remarks:

Proctor No. 9

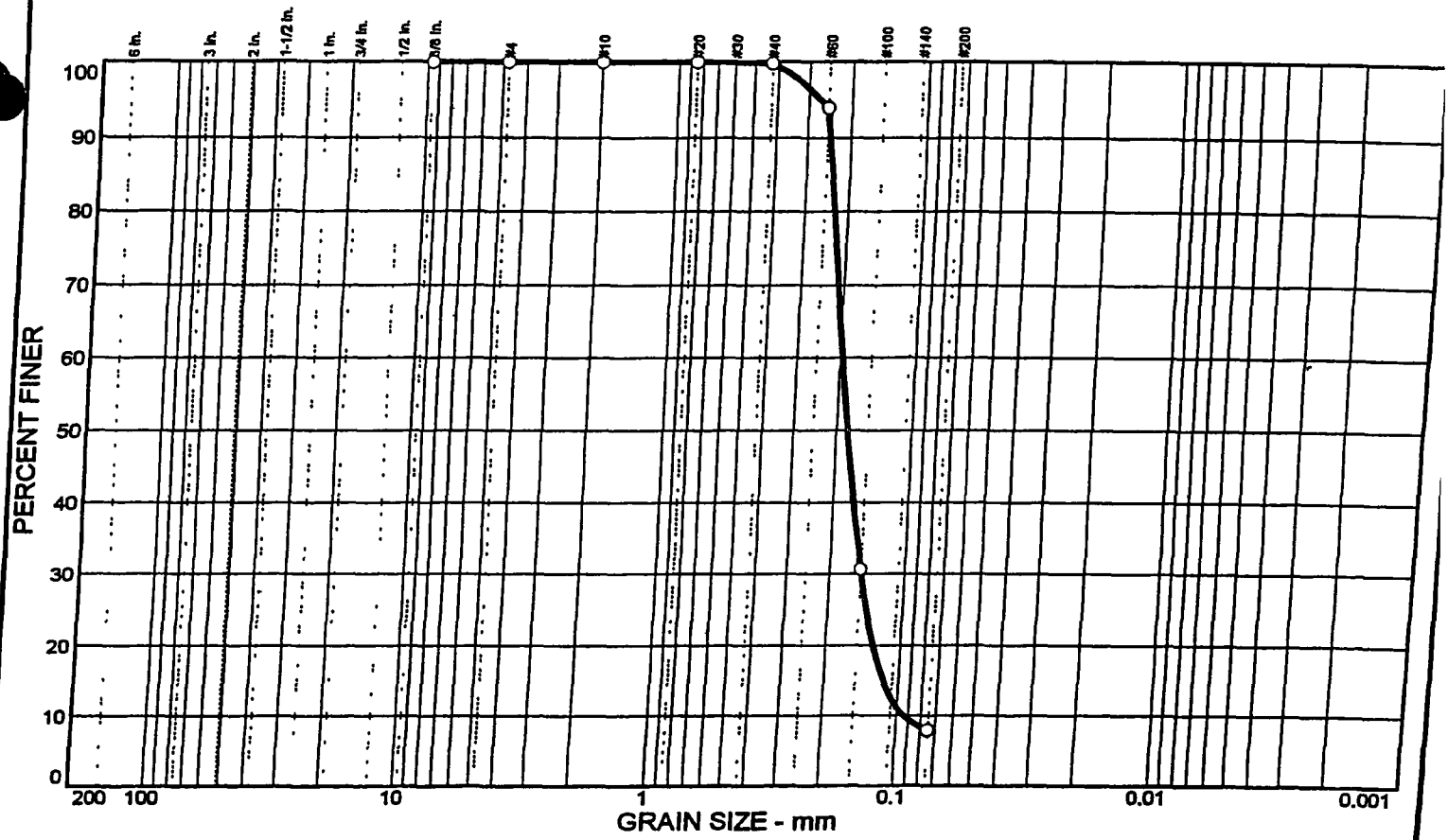
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

John A. Hinterspan, P.E.

Grain Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
		92.1	7.9		SP-SM	A-3		

SIEVE inches size	PERCENT FINER
.375	100 0

	GRAIN SIZE
D_{60}	0.195
D_{30}	0.149
D_{10}	0.0942
	COEFFICIENTS
C_c	1.20
C_u	2.07

SIEVE number size	PERCENT FINER
#4	100.0
#10	100.0
#20	100.0
#40	99.8
#60	93.9
#100	30.7
#200	7.9

SOIL DESCRIPTION

O Dark Brown Slightly Silty Fine SAND

REMARKS:

O

O Source: Fill Material

Sample No Proctor No. 9

Law Engineering and Environmental Services, Inc.

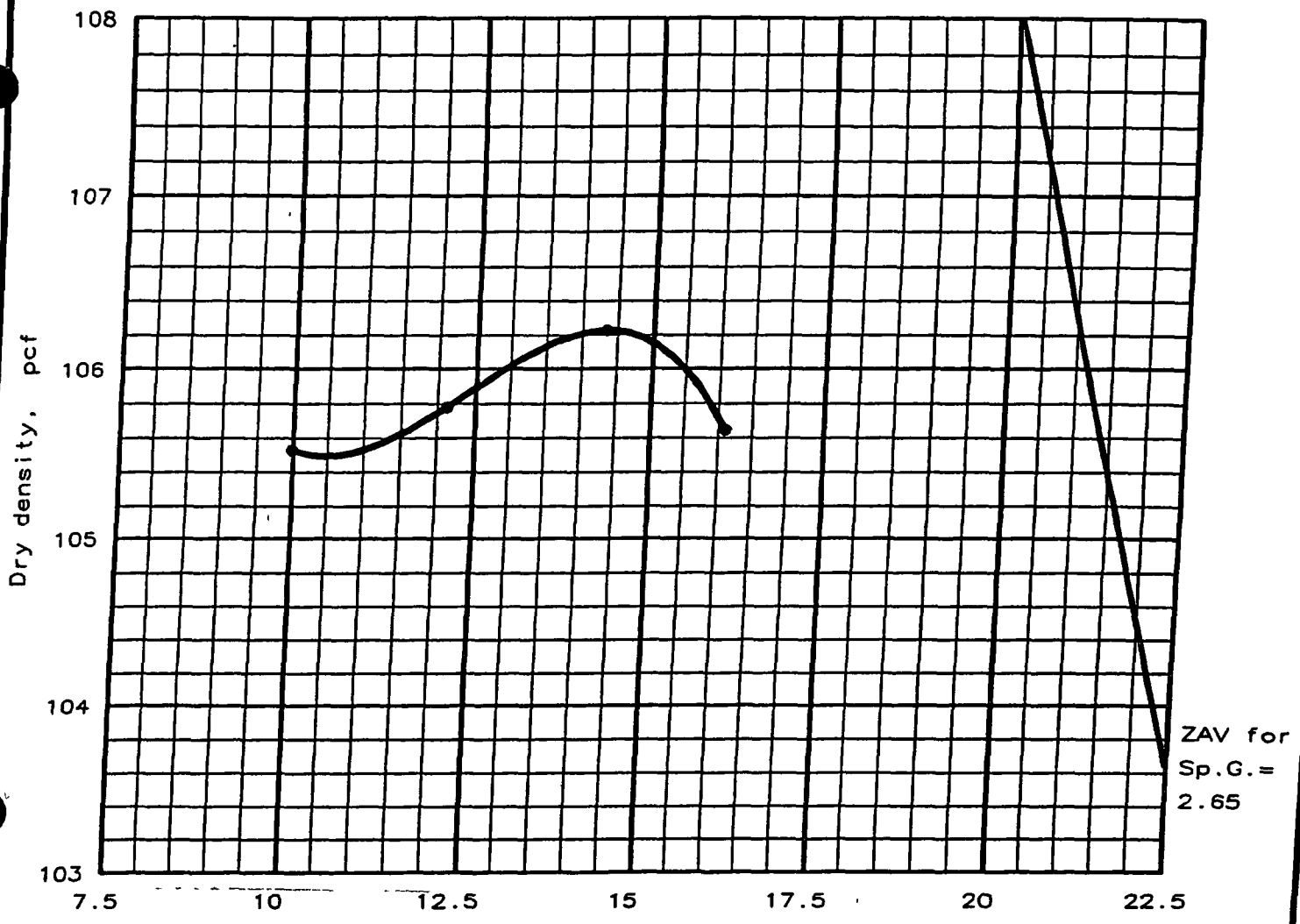
Client: England Thims and Miller

Project: Trailridge Landfill

Project No: 40562-0-4105

JOHN A. UNTERSPAN, P.E.

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SM	A-2-4					0 %	10.6 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 106.2 pcf Optimum moisture = 14.4 %	Dk. Brown Sl. Silty Fine SAND w/ wk. Cem. Sand

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims & Miller
Location: Fill Material, Normandy Pit

Date: 8-6-00

Remarks:

Proctor No. 10

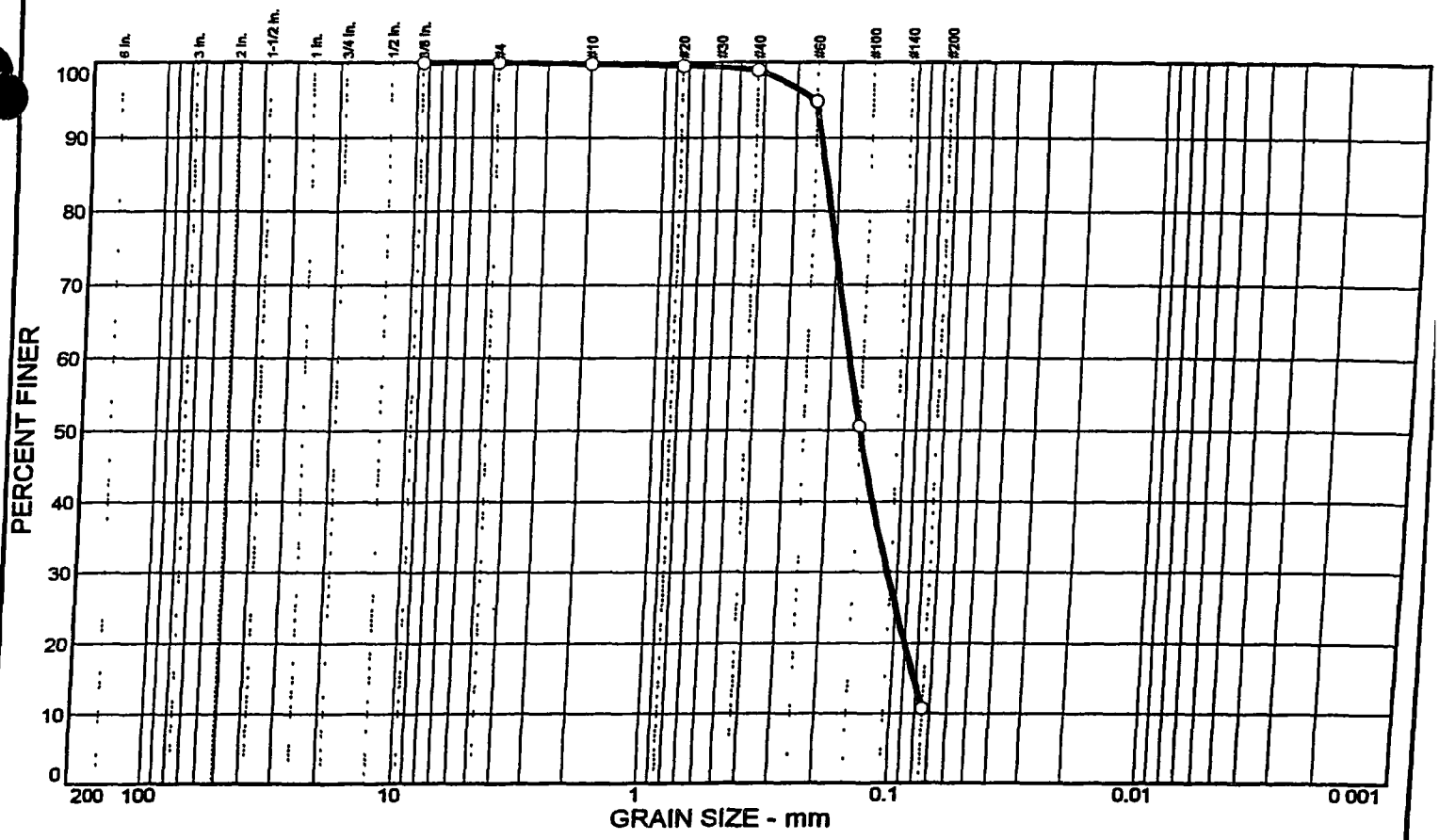
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

JOHN A. UNTERSPAN, P.E.

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			89.4	10.6		SP-SM	A-2-4(0)		

SIEVE inches size	PERCENT FINER O		
.375	100.0		

	GRAIN SIZE		
D_{60}	0.169		
D_{30}	0.109		
D_{10}			

	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100.0
#10	99.8
#20	99.6
#40	99.0
#60	94.8
#100	50.6
#200	10.6

SOIL DESCRIPTION

O Dark Brown Slightly Silty Fine SAND with Weakly Cemented Sand

REMARKS

O

O Source Fill Material, Normandy Pit

Sample No.· Proctor No. 10

Law Engineering and Environmental Services, Inc.

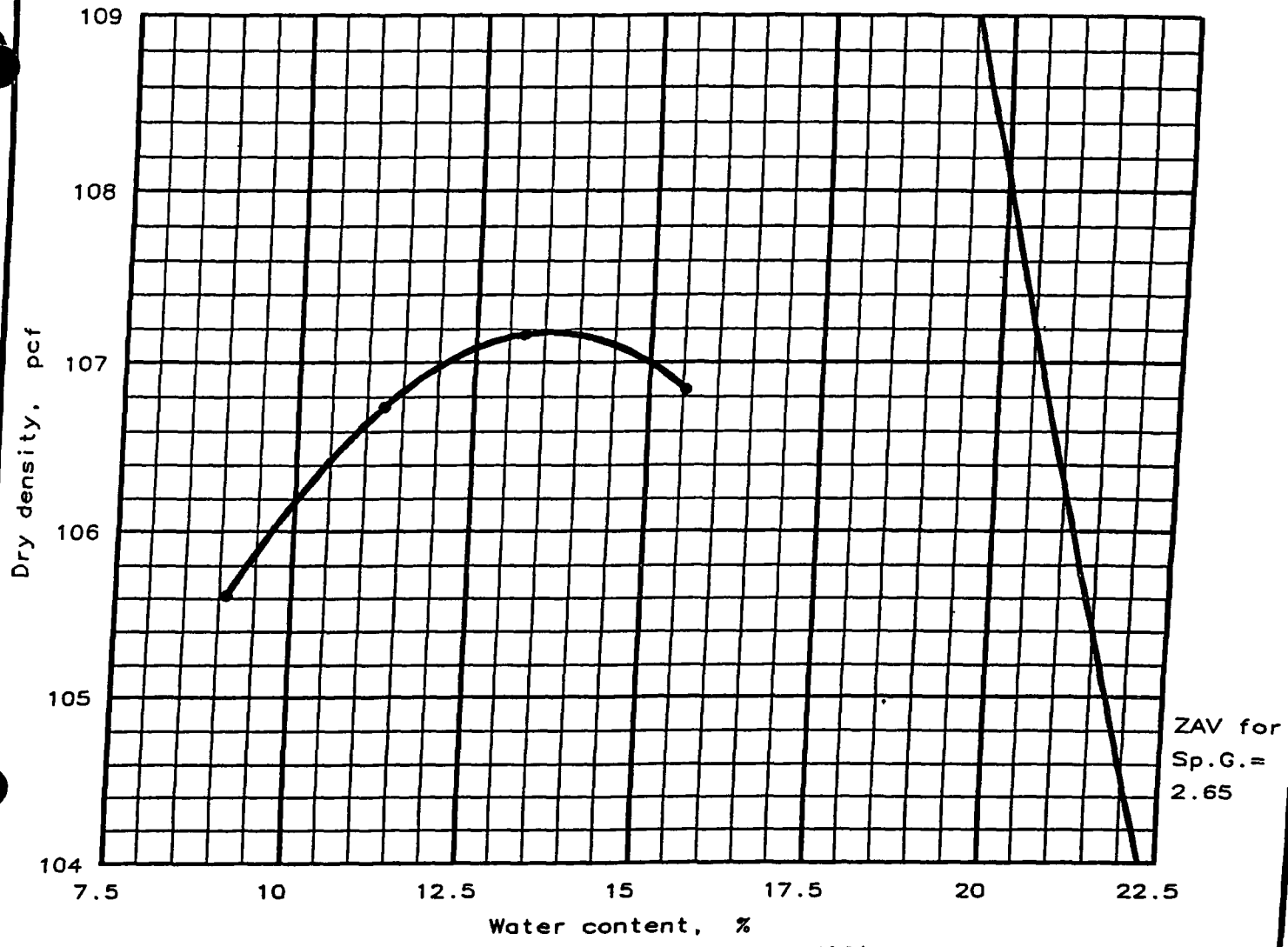
Client· England Thims and Miller

Project: Trailridge Landfill

Project No 40562-0-4105

JOHN A. UNTERSPAN, P.E.

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SC	A-2-6					0 %	10.3 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 107.2 pcf Optimum moisture = 13.6 %	Brown Slightly Clayey Fine SAND

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims & Miller
Location: Fill Material, Normandy Pit

Date: 8-6-00

Remarks:

Proctor No. 11

MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

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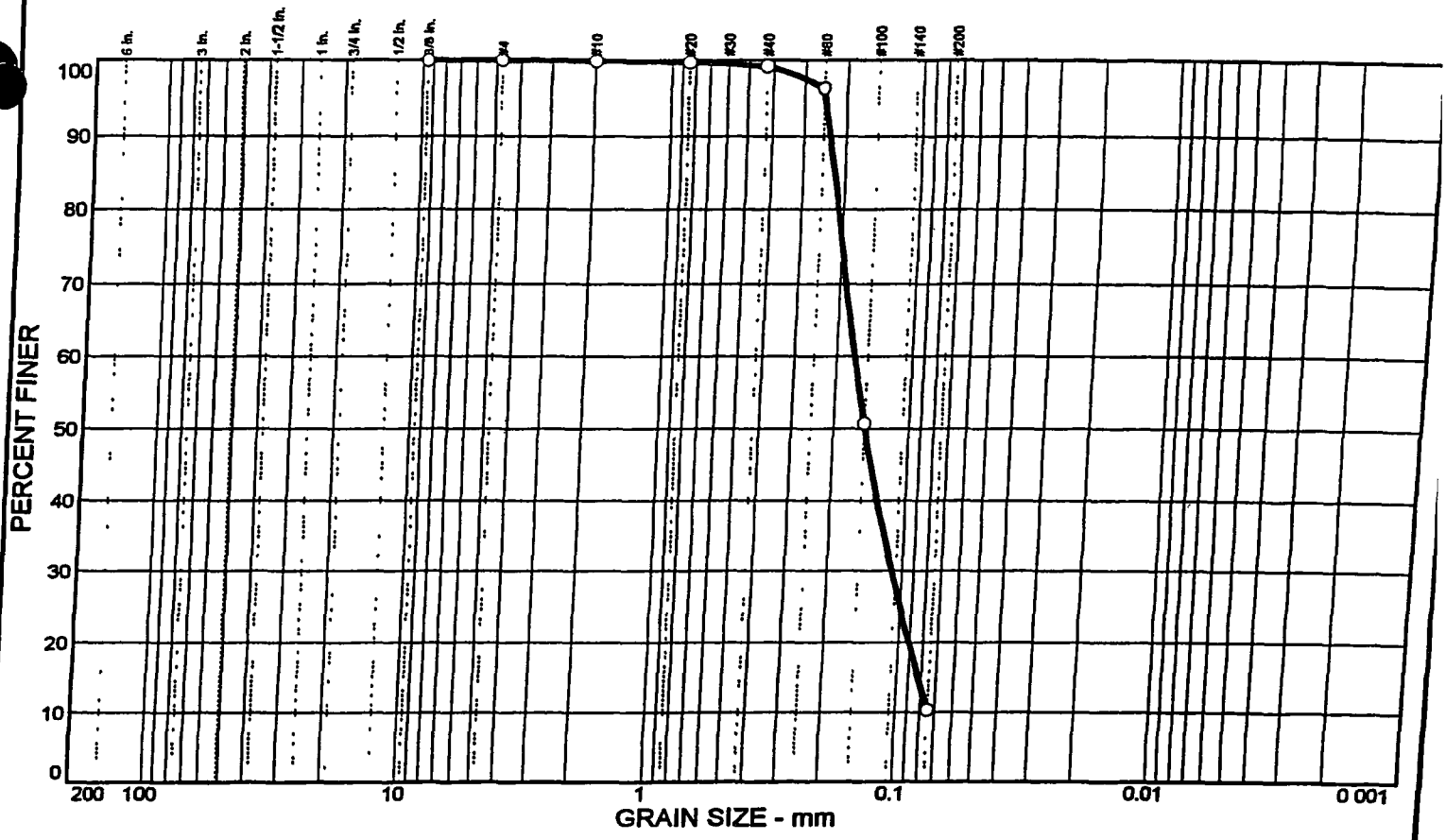
Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			89 7	10 3		SP-SC	A-3		

SIEVE inches size	PERCENT FINER O		
.375	100.0		

	GRAIN SIZE		
D_{60}	0.168		
D_{30}	0.110		
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O		
#4	100.0		
#10	99.9		
#20	99.7		
#40	99.2		
#60	96.3		
#100	50.7		
#200	10.3		

SOIL DESCRIPTION

O Brown Slightly Clayey Fine SAND

REMARKS.

O

O Source: Fill Material, Normandy Pit

Sample No.. Proctor No. 11

Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

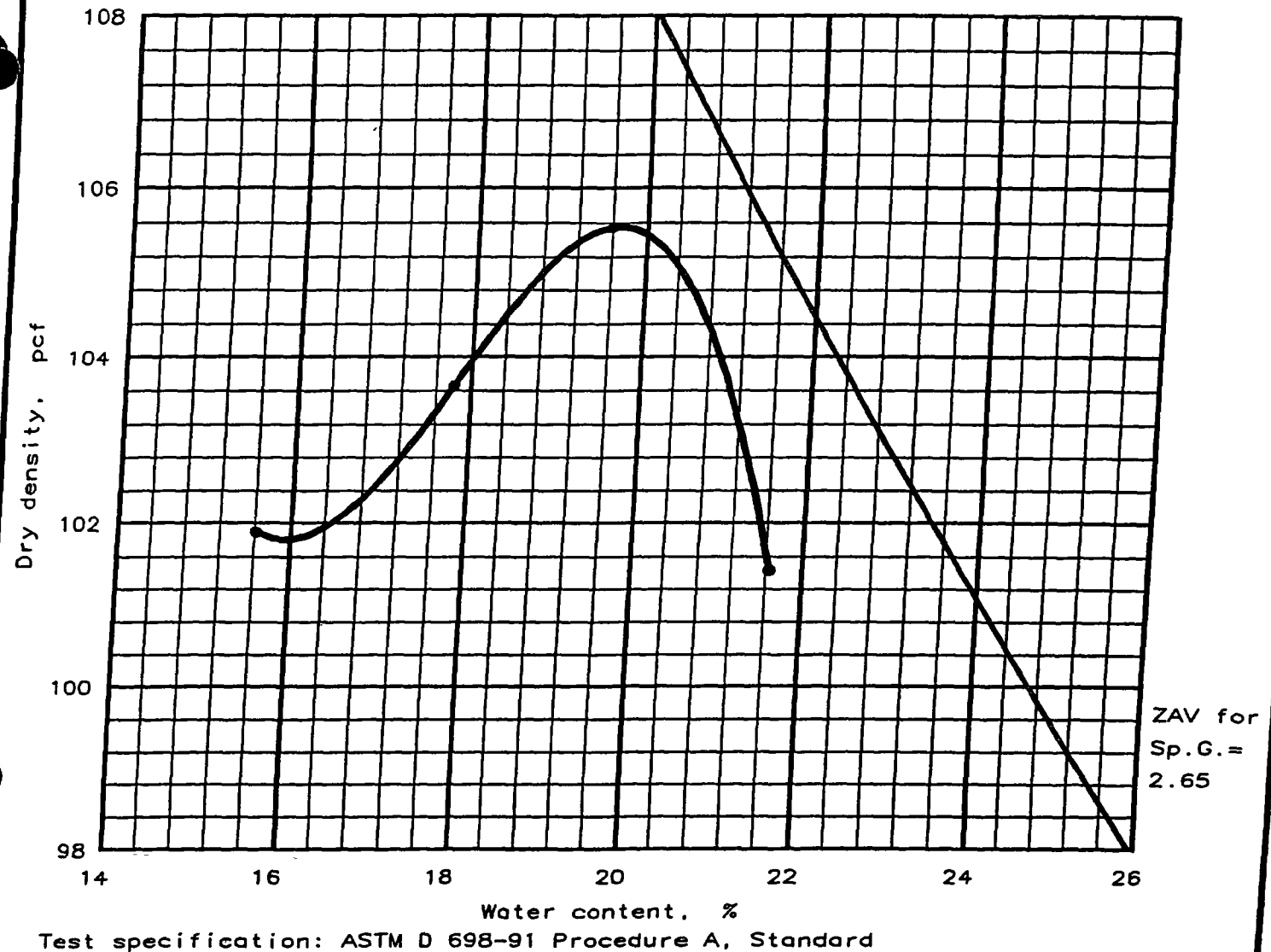
Project: Trailridge Landfill

Project No : 40562-0-4105

JOHN A. HINTERSPAN, P.E.

Test Reports for Clay Material

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SC	A-6					0 %	47.6 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 105.6 pcf Optimum moisture = 19.7 %	Red, Orange and Gray Very Clayey Fine SAND

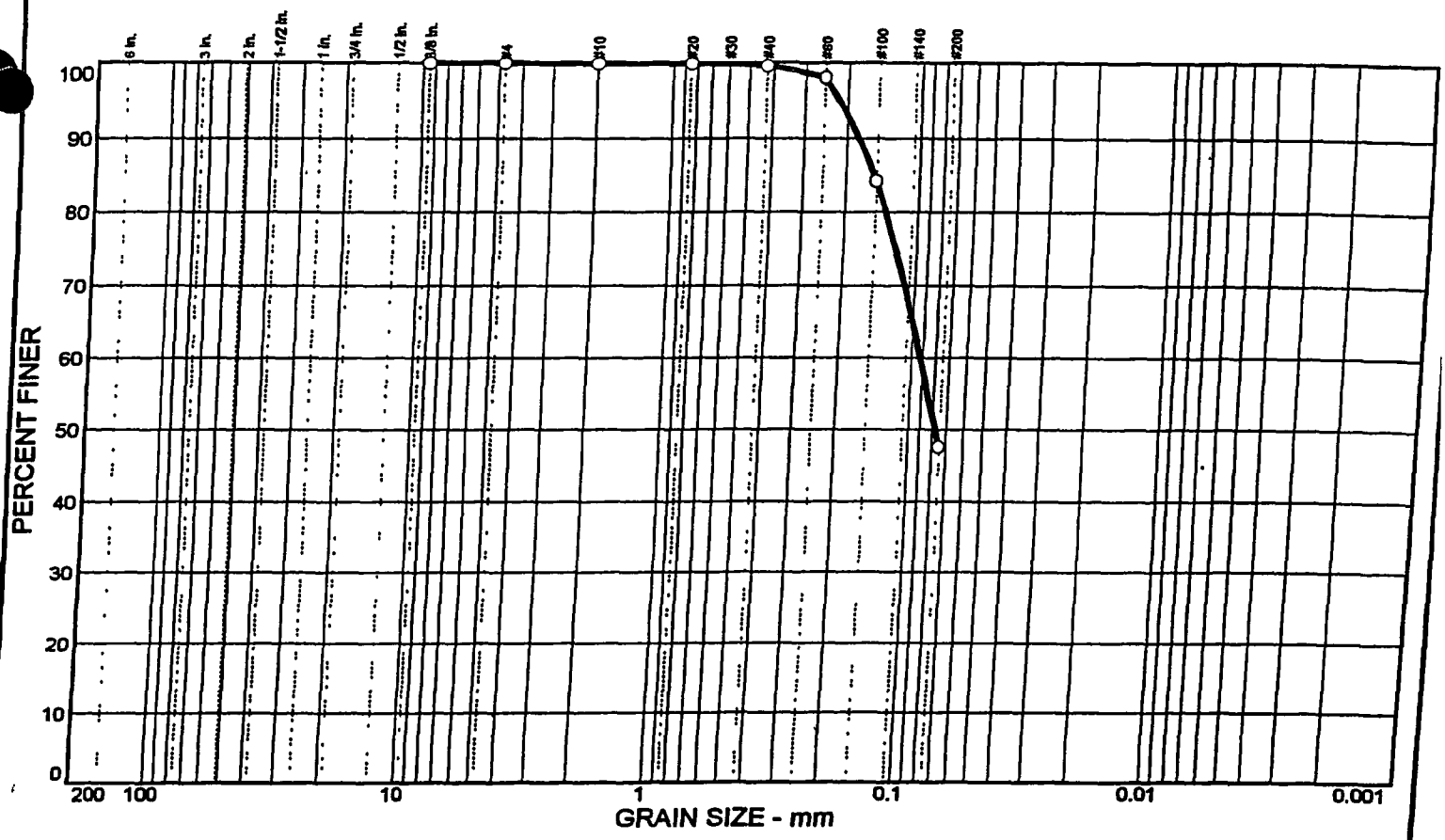
Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Clay Liner Material
Test Pit No. 1, Sample No. 1
Date: 6-14-00

Remarks:
Proctor No. CL-1

MOISTURE-DENSITY RELATIONSHIP TEST
LAW ENGINEERING INC.

Reviewed By
_____

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			52 4	47.6		SC	A-6(0)		

SIEVE inches size	PERCENT FINER O		
.375	100.0		

	GRAIN SIZE		
D_{60}	0.0924		
D_{30}			
D_{10}			

	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100.0
#10	99.9
#20	99.9
#40	99.6
#60	98.0
#100	84.2
#200	47.6

SOIL DESCRIPTION

O Red, Orange & Gray Very Clayey Fine SAND

REMARKS:

O Clay Liner Test Pit No. 1, Sample No 1

O Source. Proposed Clay Liner Material

Sample No.: Proctor No. CL-1

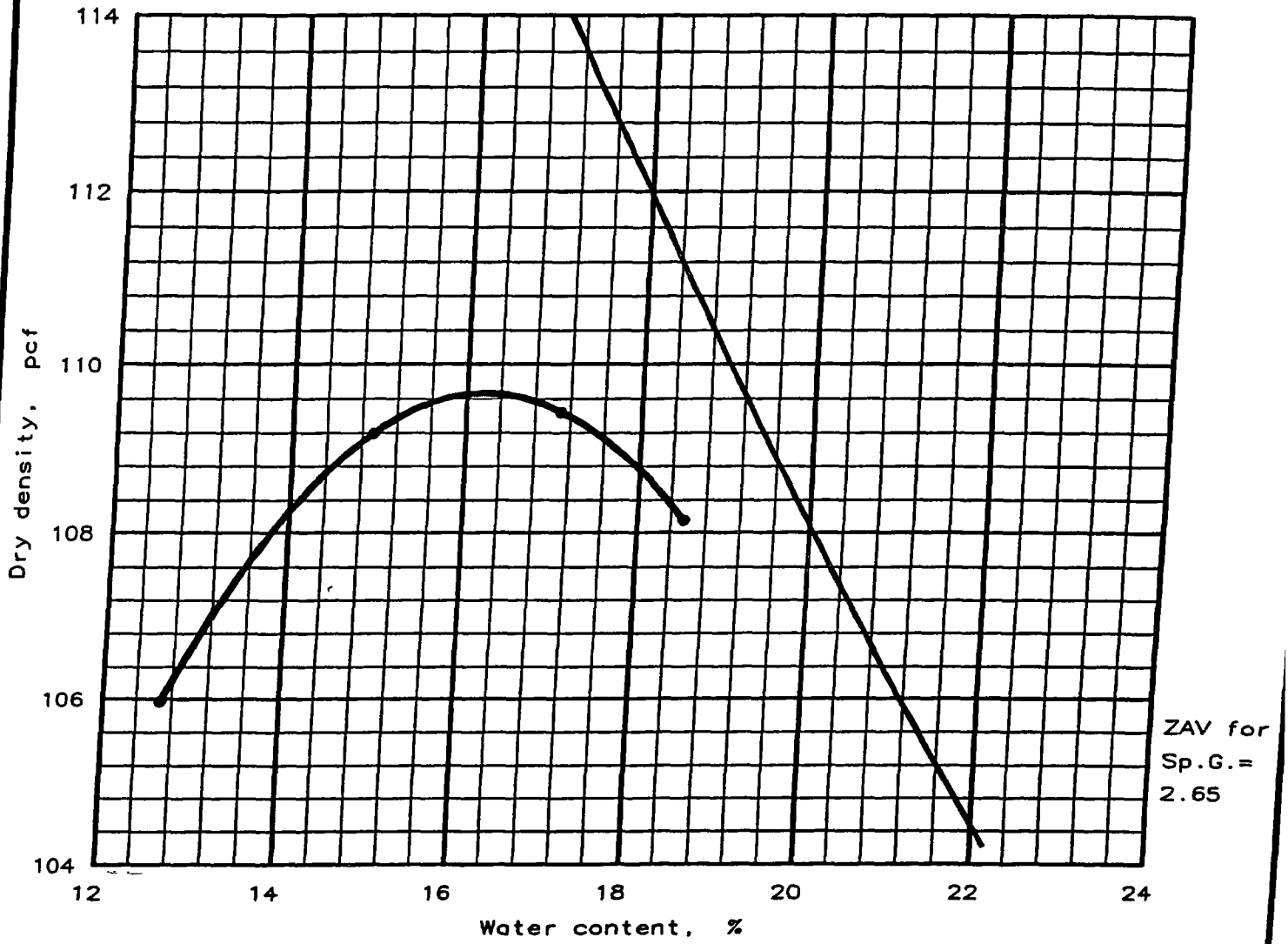
Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SC	A-6					0 %	46.4 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 109.7 pcf Optimum moisture = 16.2 %	Brown and Orange Very Clayey Fine SAND

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Clay Liner Material
Test Pit No. 2, Sample No. 1
Date 6-14-00

Remarks:
Proctor No. CL-2

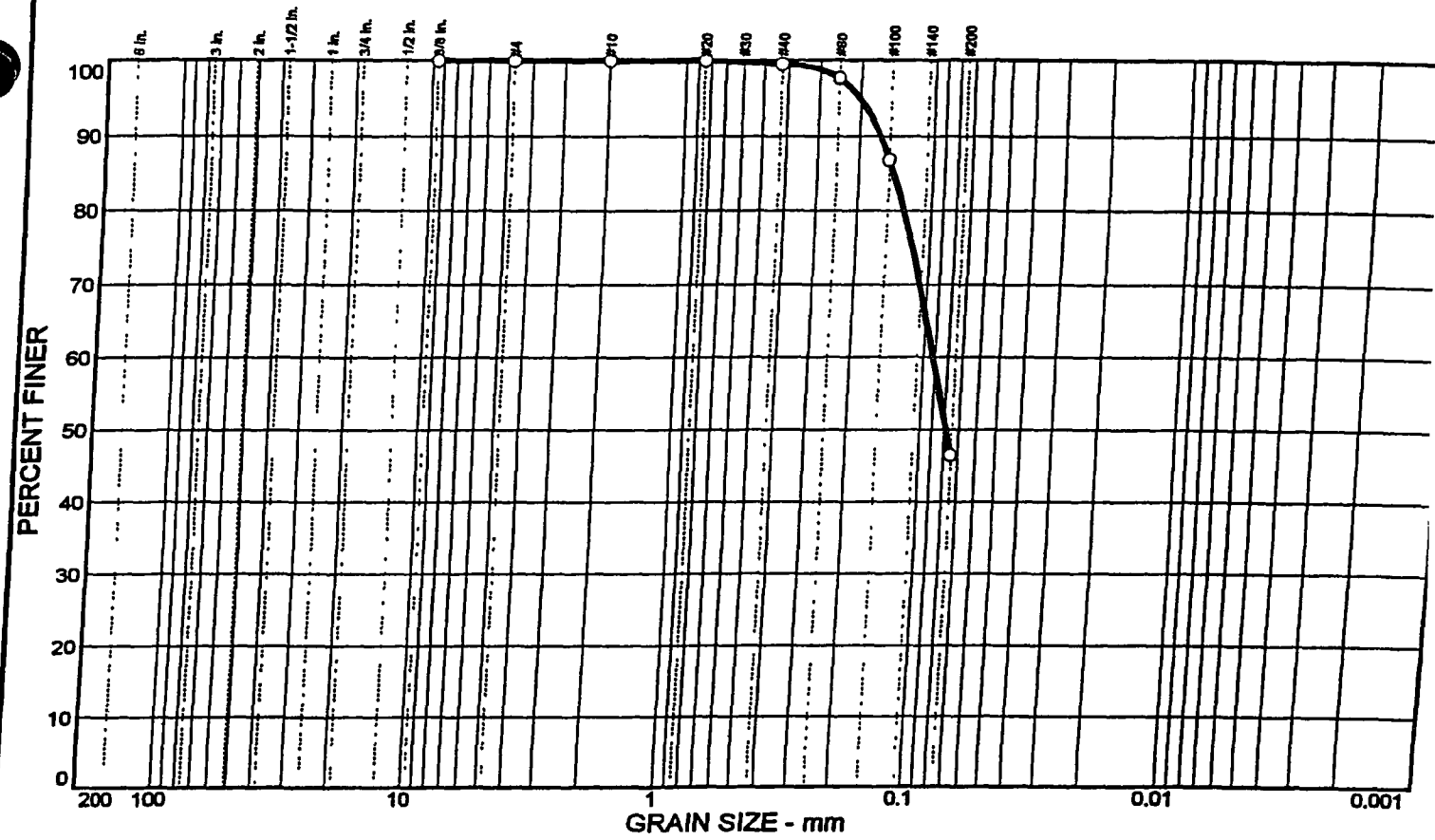
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

_____

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			53.6	46.4		SC	A-6(0)		

SIEVE inches size	PERCENT FINER O		
.375	100.0		
	GRAIN SIZE		
D_{60}	0 0918		
D_{30}			
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O		
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.5		
#60	97.7		
#100	86.8		
#200	46.4		

SOIL DESCRIPTION

O Brown and Orange Very Clayey Fine SAND

REMARKS:

O Test Pit No. 2, Sample No. 1

O Source. Proposed Clay Liner Material

Sample No.· Proctor No. CL-2

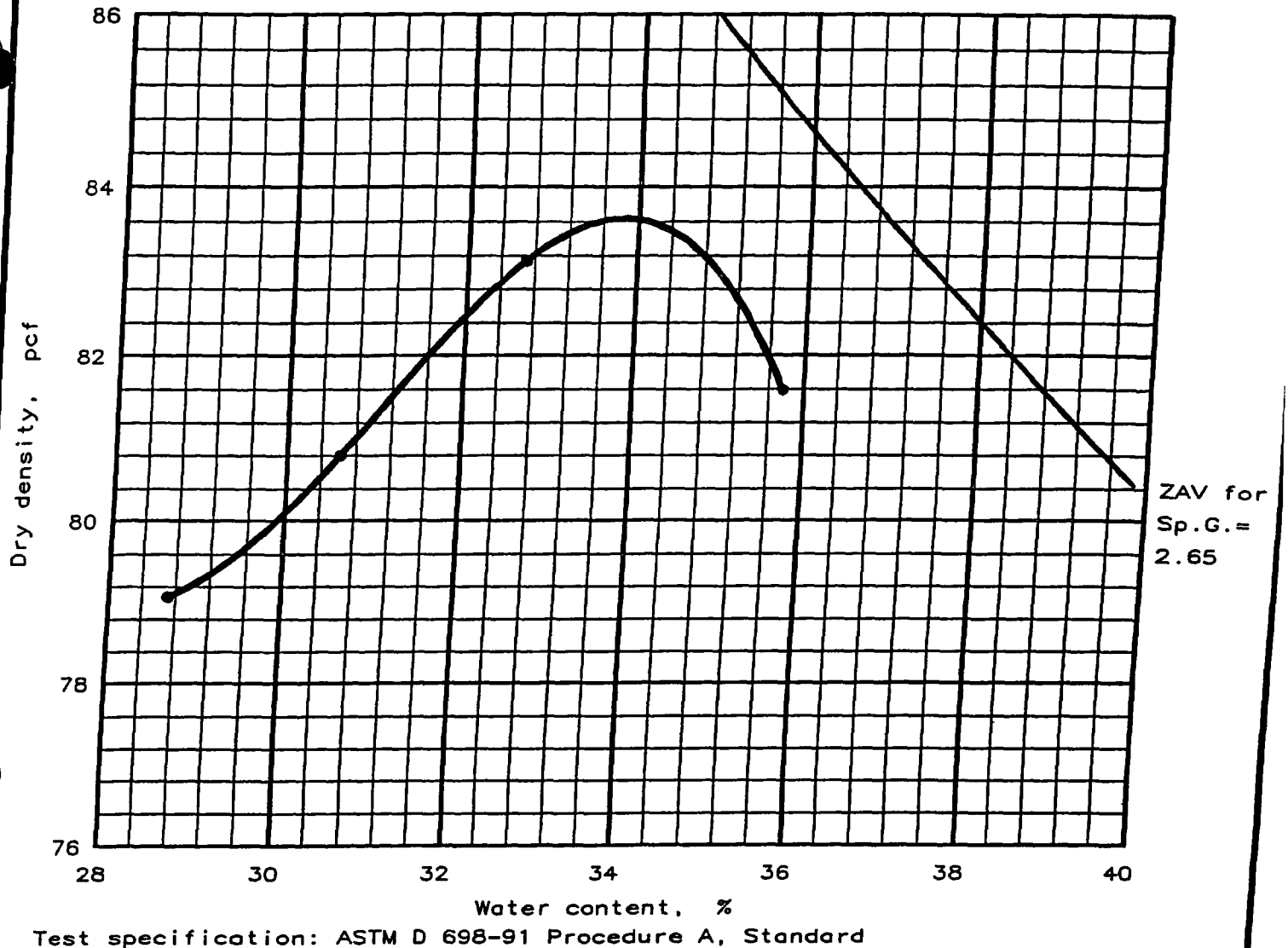
Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No · 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CL	A-6					0 %	72.5 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 83.6 pcf Optimum moisture = 33.8 %	Gray and Brown Sandy CLAY

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Clay Liner Material
Test Pit No. 4, Sample No. 2
Date: 6-14-00

Remarks:
Proctor No. CL-3

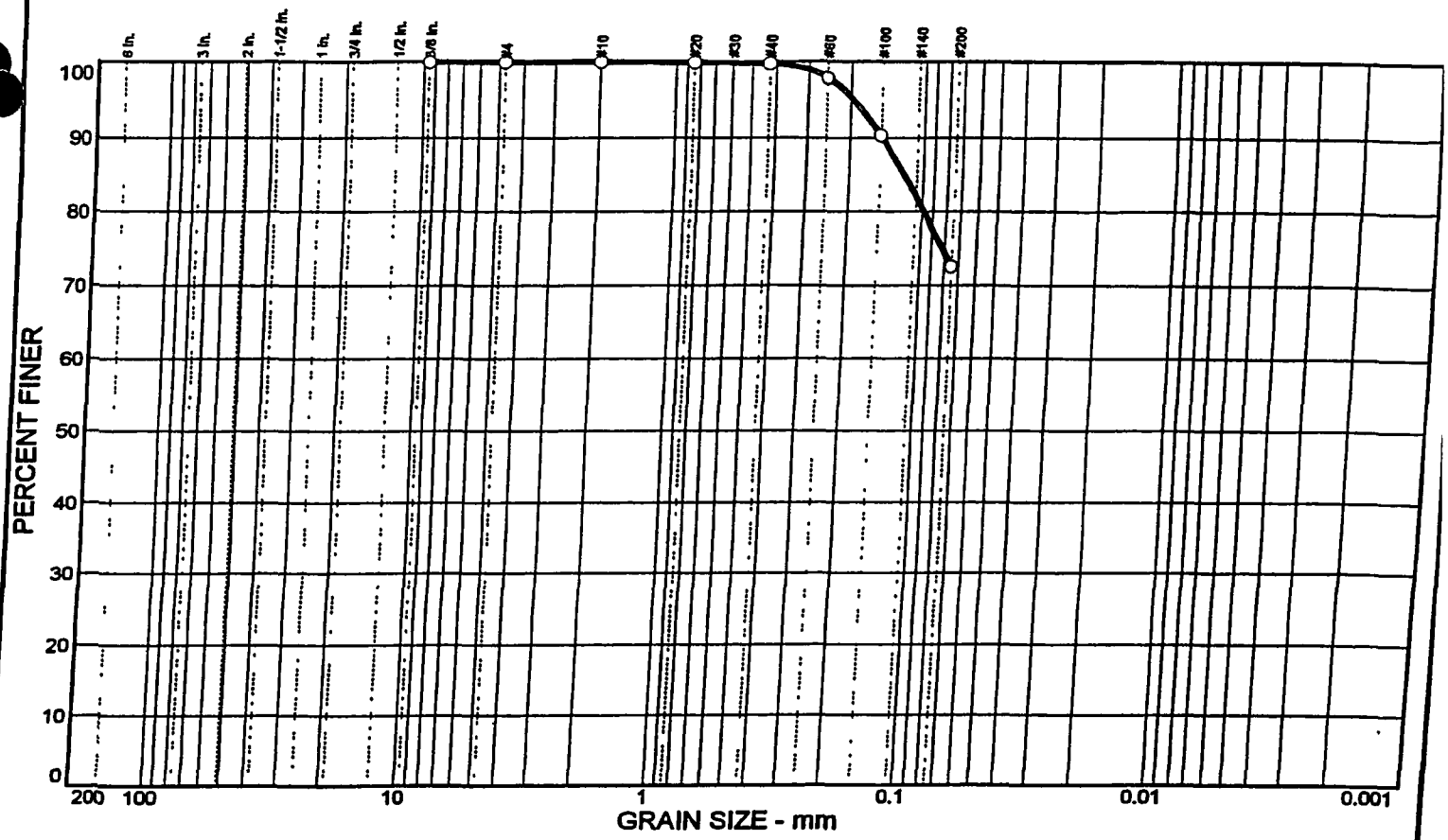
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

_____

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			27.5	72.5		CL	A-6(0)		

SIEVE inches size	PERCENT FINER O		
.375	100.0		

GRAIN SIZE			
D_{60}			
D_{30}			
D_{10}			
COEFFICIENTS			
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.9
#40	99.7
#60	97.9
#100	90.3
#200	72.5

SOIL DESCRIPTION

O Gray and Brown Sandy CLAY

REMARKS.

O Test Pit No. 4, Sample No. 2

O Source. Proposed Clay Liner Material

Sample No.: Proctor No. CL-3

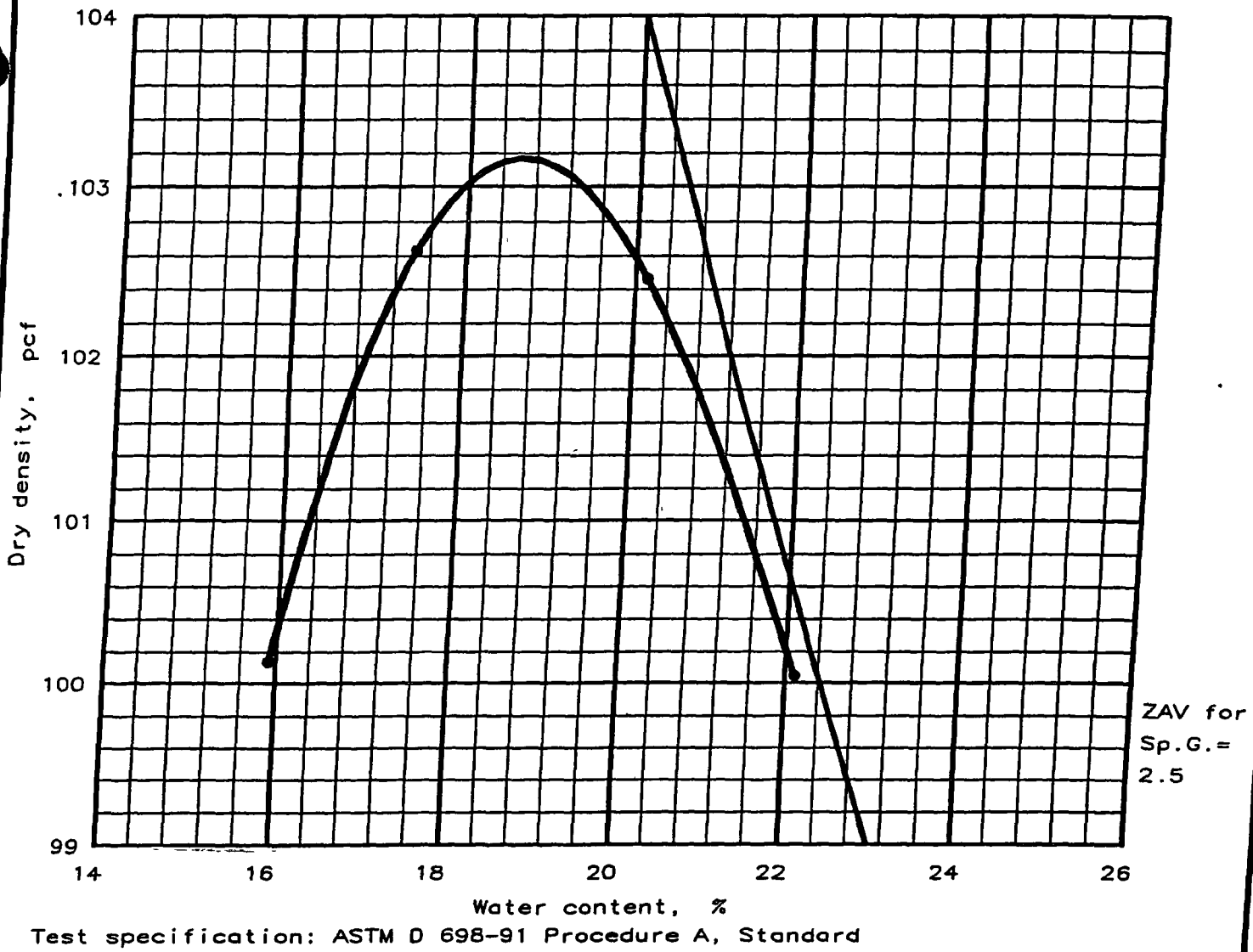
Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No: 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CH	A-6					0 %	53.2 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 103.2 pcf Optimum moisture = 18.6 %	Orange and Gray Very Sandy CLAY

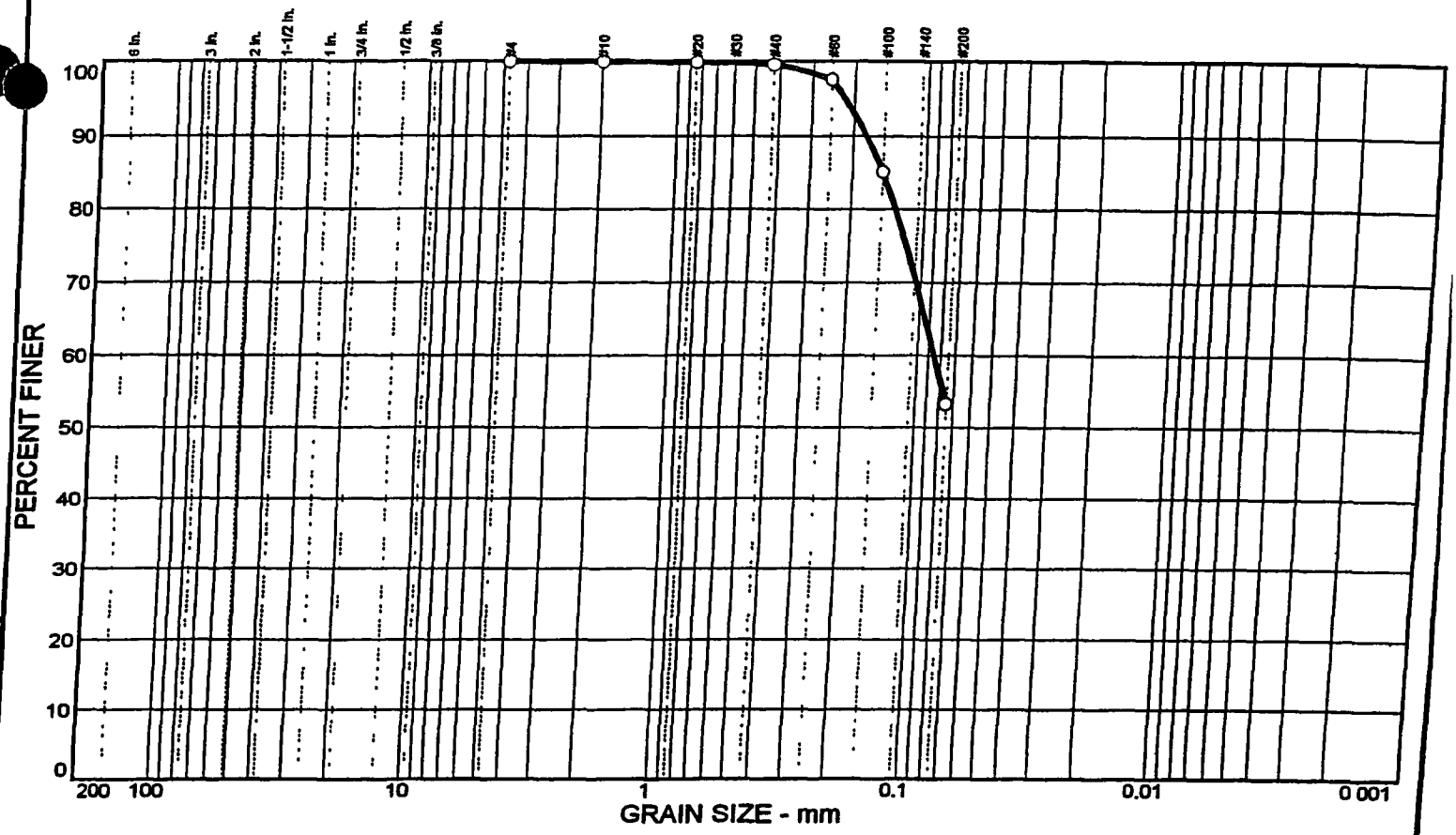
Project No.: 40562-0-4108
Project: Trailridge Landfill
Client: England Thims & Miller
Location: Clay Liner Test Strip
3rd Increment
Date: 7-15-00

Remarks:
Proctor No. CL-4

MOISTURE-DENSITY RELATIONSHIP TEST
LAW ENGINEERING INC.

Reviewed By

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			46.8	53.2		CH	A-6(0)		

SIEVE inches size	PERCENT FINER O		
	GRAIN SIZE		
D_{60}	0.0855		
D_{30}			
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.9
#40	99.6
#60	97.6
#100	85.1
#200	53.2

SOIL DESCRIPTION

O Orange and Gray Very Sandy CLAY

REMARKS:

O 3rd Increment Test Strip

O Source. Proposed Clay Liner Material

Sample No.: Proctor No. CL-4

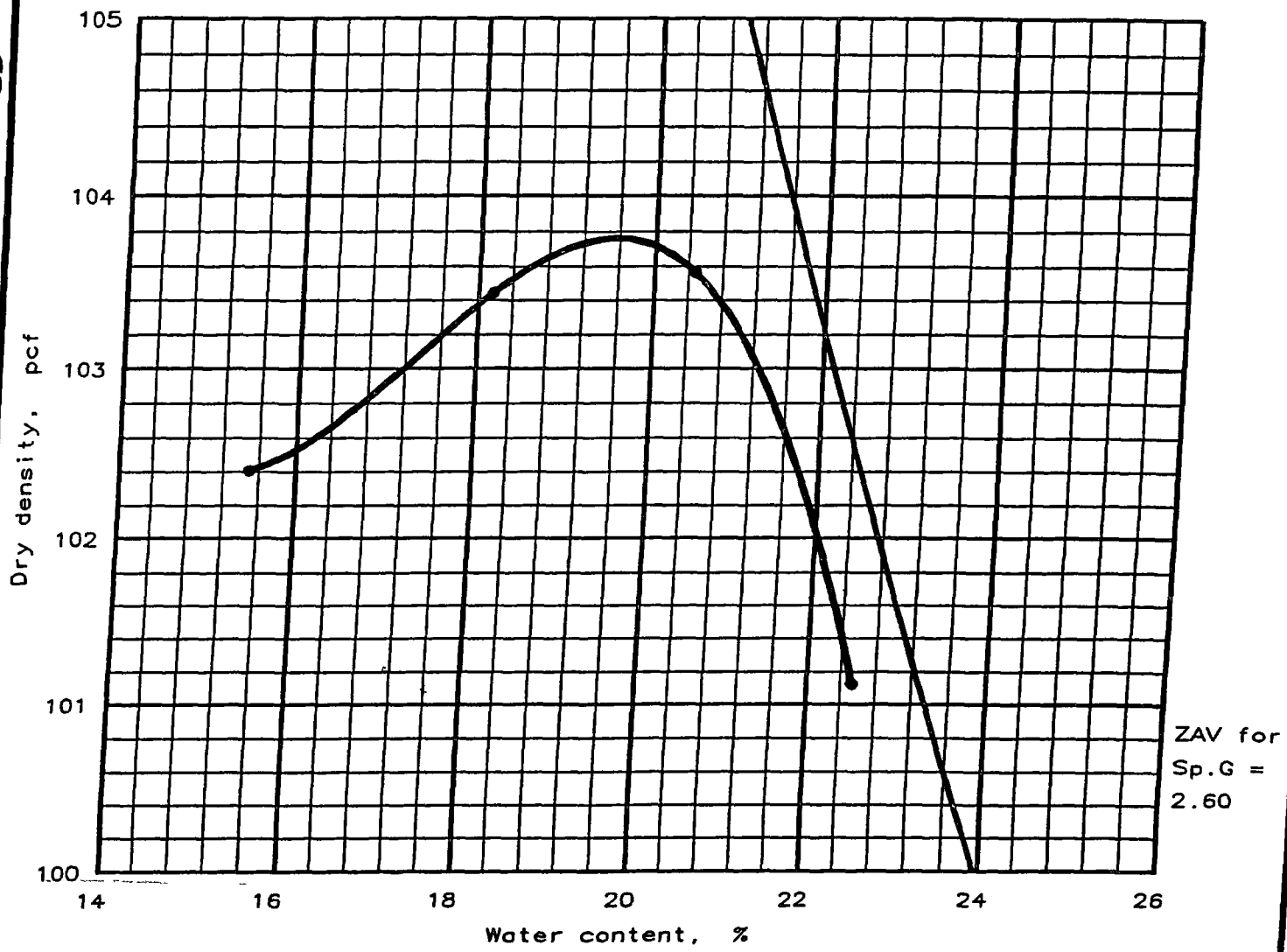
Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No: 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SC	A-2-6					0 %	49.0 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 103.8 pcf Optimum moisture = 19.6 %	Light Brown Very Clayey Fine SAND

Project No.: 40562-0-4108
Project: TrailRidge Landfill
Client: England Thims & Miller
Location: Test Strip No. 2 in Phase III-C

Date: 7-25-00

Remarks:

Proctor No. CL-5

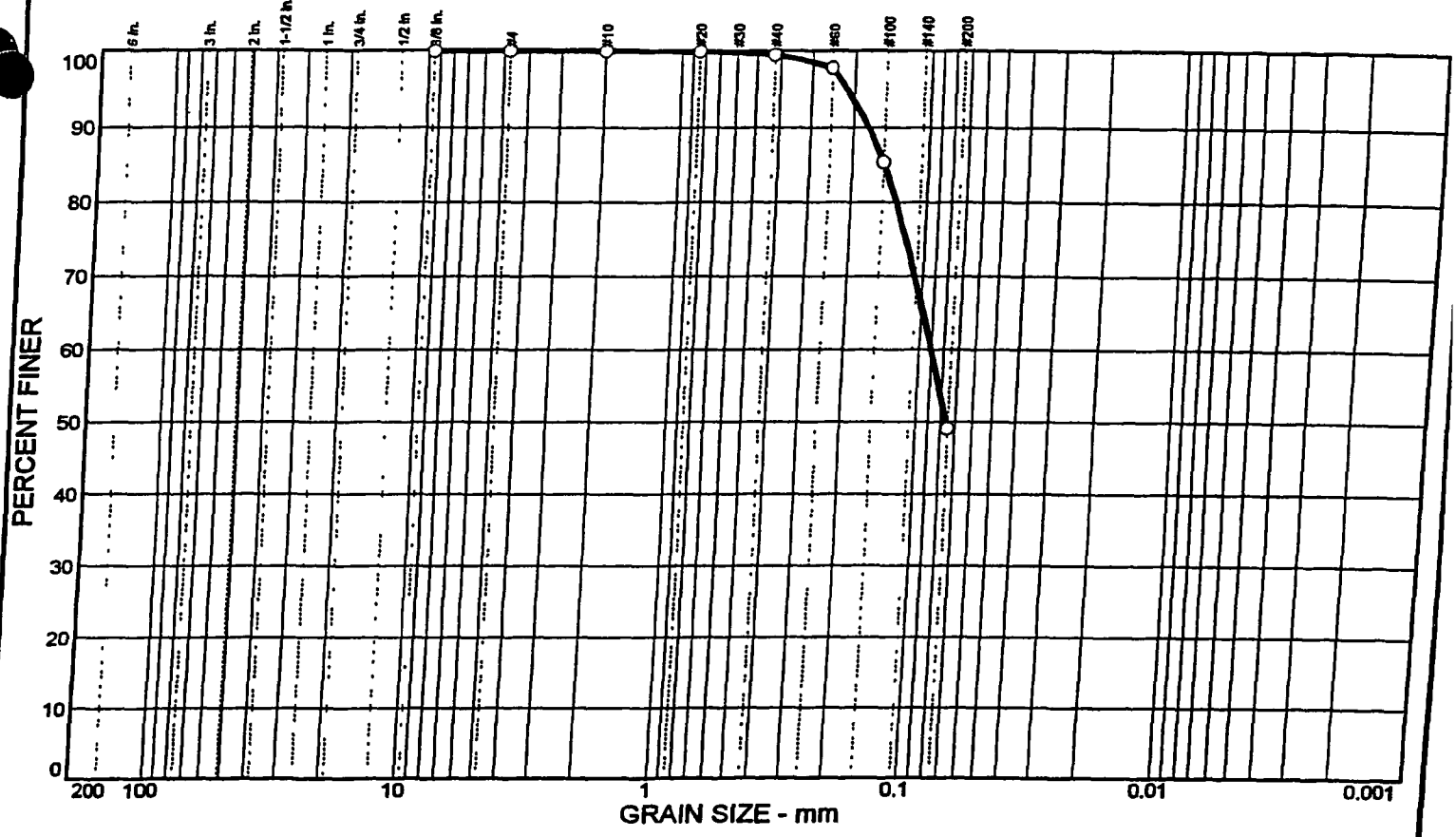
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

JOHN A HINTERSPAN, PE

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			51.0	49.0		SM	A-4(0)		

SIEVE inches size	PERCENT FINER O		
.375	100.0		

	GRAIN SIZE		
D_{60}	0.0902		
D_{30}			
D_{10}			

	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.9
#40	99.5
#60	97.8
#100	85.3
#200	49.0

SOIL DESCRIPTION

O Light Brown Very Clayey Fine SAND

REMARKS:

O

O Source: Test Pit No. 2 in Phase III-C

Sample No.: CL-5

Law Engineering and Environmental Services, Inc.

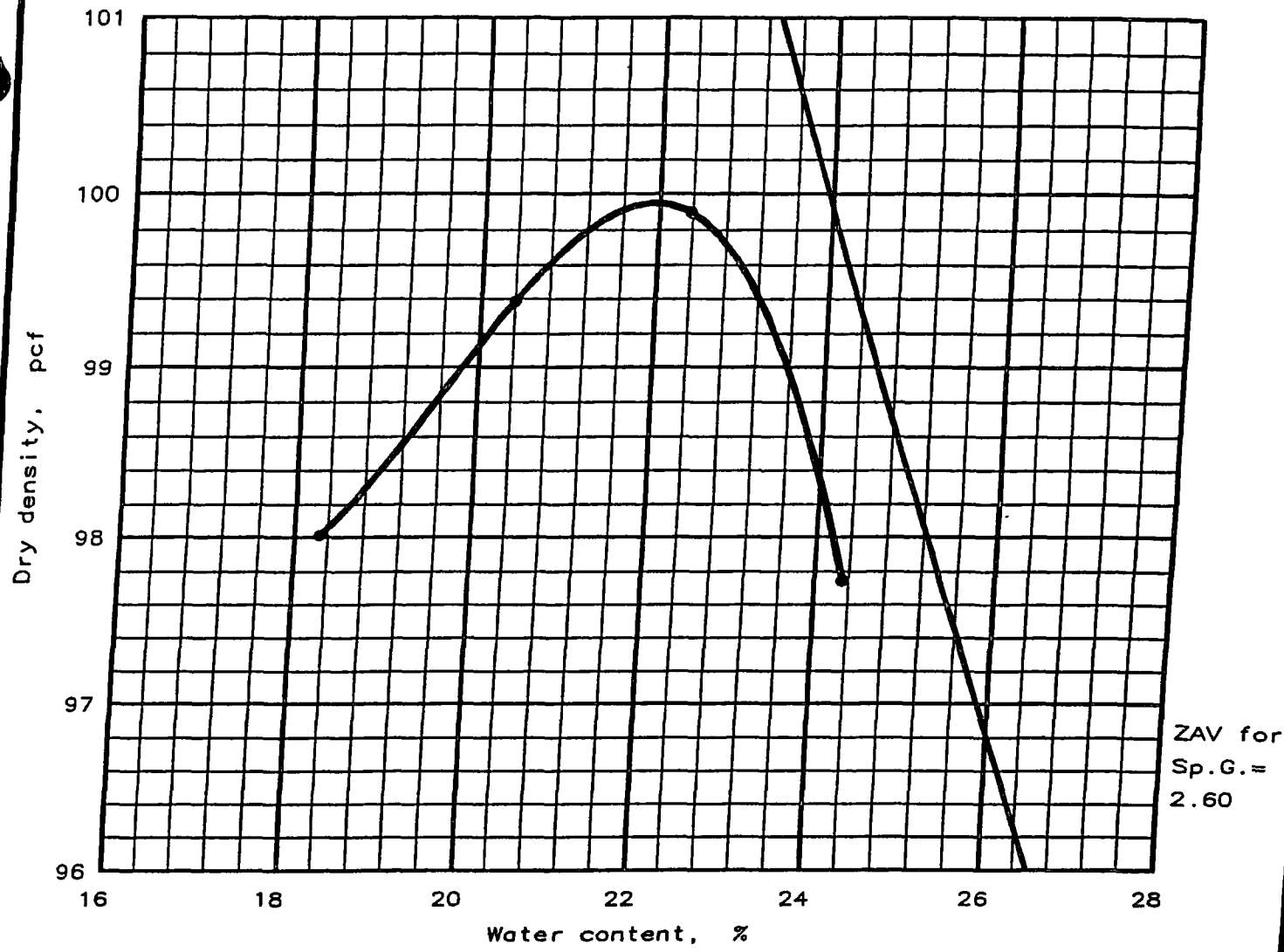
Client: England Thims and Miller

Project: Trailridge Landfill

Project No.: 40562-0-4105

JOHN A. UNTERSPAN, P.E.

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CH	A-6					100 %	50.9 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 100.0 pcf Optimum moisture = 22.0 %	Gray and Orange Very Sandy CLAY

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client. England Thims & Miller
Location: Test Pit No. 2 in Phase III-C

Date: 8-14-00

Remarks:

Proctor No. CL-6

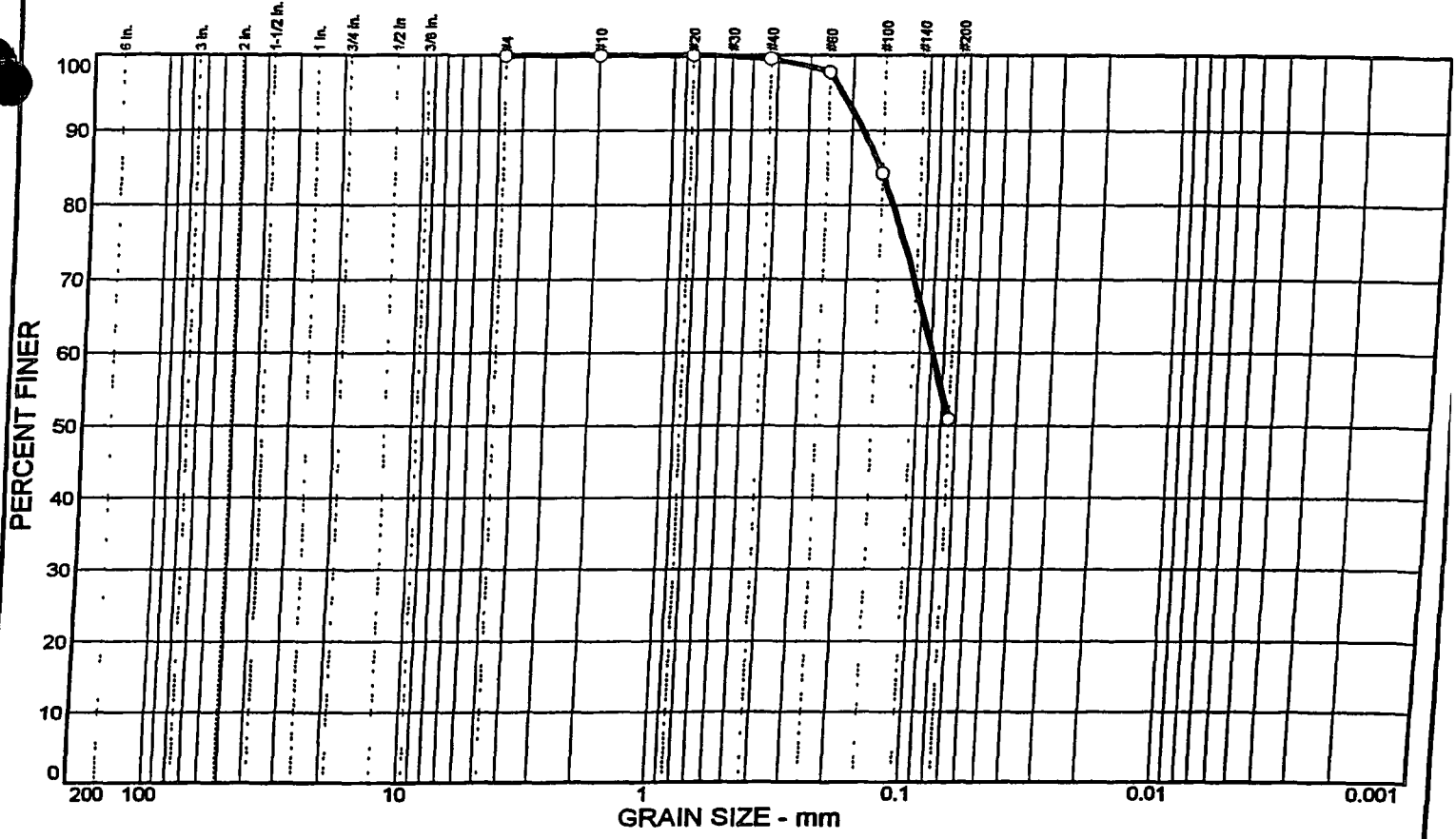
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

JOHN A. HINTERSPAN PE

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			49.1	50.9		CH	A-6(0)		

SIEVE inches size	PERCENT FINER O		
	GRAIN SIZE		
D_{60}	0 0888		
D_{30}			
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	100.0
#40	99.5
#60	97.8
#100	84.2
#200	50.9

SOIL DESCRIPTION

O Gray and Orange Very Sandy CLAY

REMARKS:

O

O Source Test Pit No. 2 in Phase III-C

Sample No.: CL-6

Law Engineering and Environmental Services, Inc.

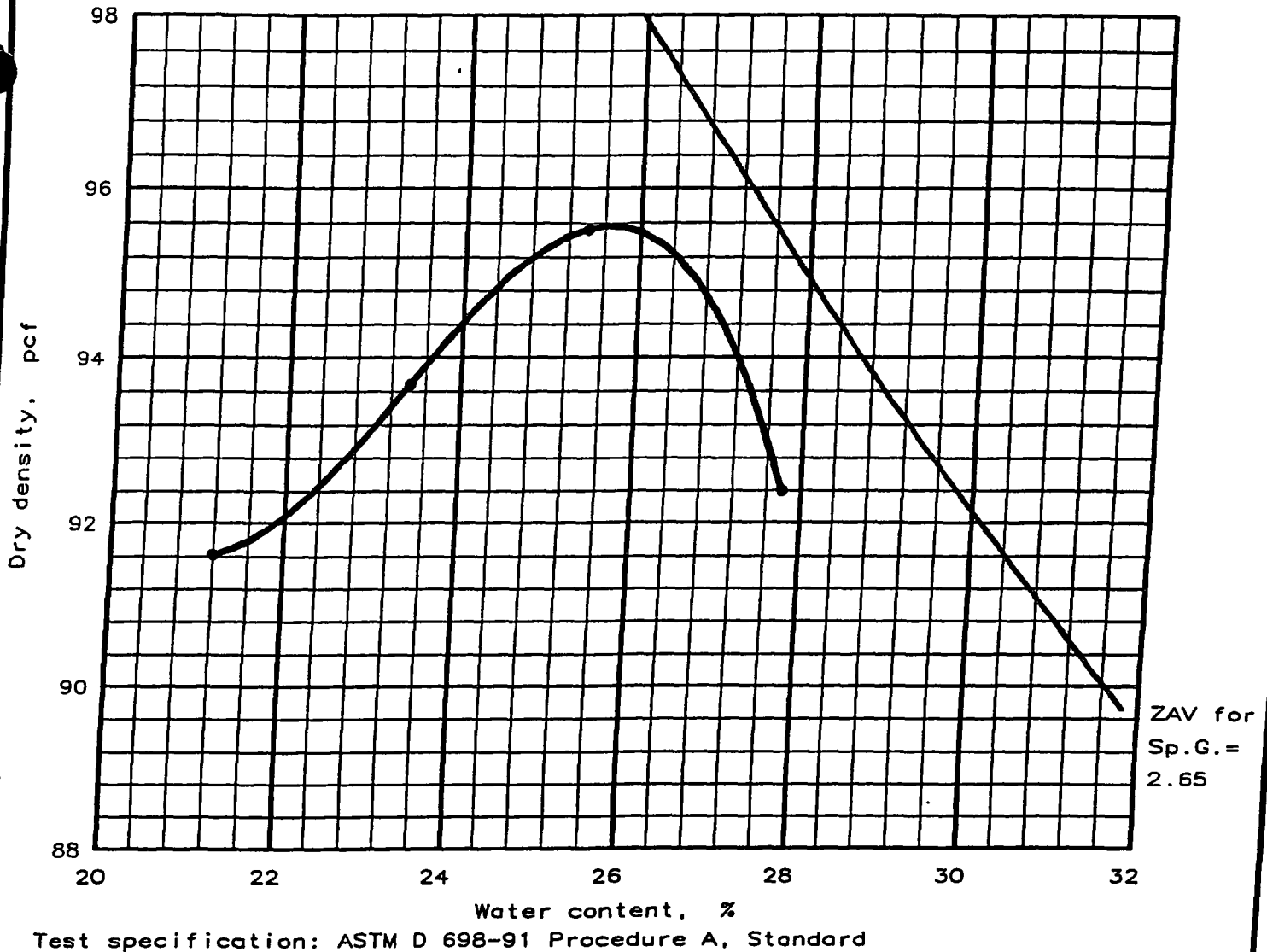
Client: England Thims and Miller

Project: Trailridge Landfill

Project No · 40562-0-4105

JOHN A. UNTERSPAN, P.E.

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CH	A-6					0 %	57.0 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 95.5 pcf Optimum moisture = 25.4 %	Light Brown and Gray Sandy CLAY

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Test Pit No. 2, Phase III-C

Date: 8-16-00

Remarks:

Proctor No. CL-7

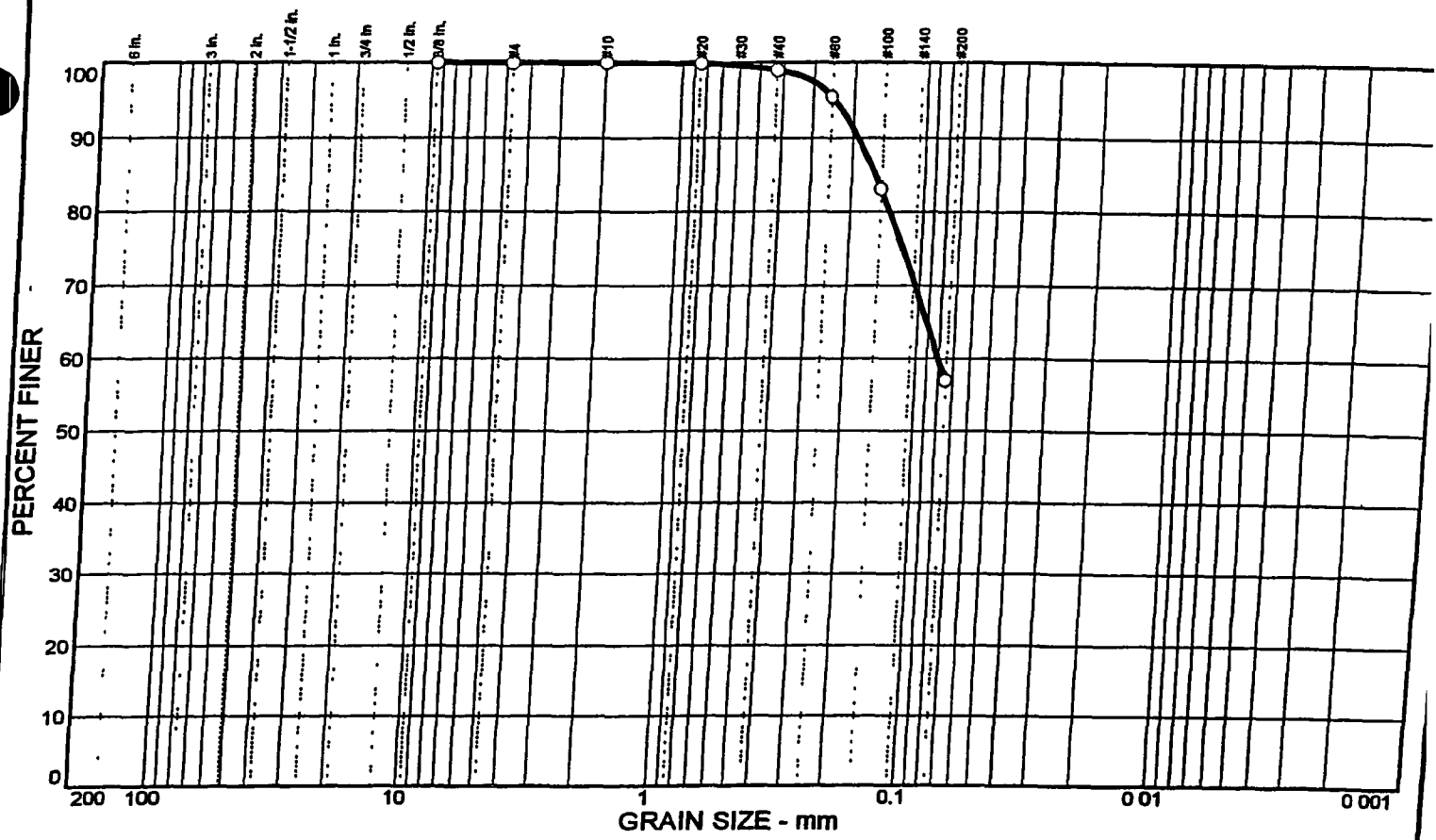
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

JOHN A. UNTERSPAN, P.E.

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
o			43.0	57.0		CH	A-6(0)		

SIEVE inches size	PERCENT FINER o		
375	100.0		

	GRAIN SIZE		
D_{60}	0.0808		
D_{30}			
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER o		
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.0		
#60	95.5		
#100	83.0		
#200	57.0		

SOIL DESCRIPTION

o Light Brown and Gray Sandy CLAY

REMARKS:

o

o Source: Test Pit No. 2 in Phase III-C

Sample No.: CL-7

Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No: 40562-0-4105

JOHN A. UNTERSPAN, P.E.

Test Reports for Sand Material

MOISTURE-DENSITY RELATIONSHIP TEST

Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SC	A-3					0 %	6.9 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 103.8 pcf Optimum moisture = 14.2 %	Light Gray Slightly Clayey Fine SAND

Project No.. 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Drainage Sand Material, Test Pit Sample No. 3B
Date: 6-13-00

Remarks:
Proctor No. DS-1

MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

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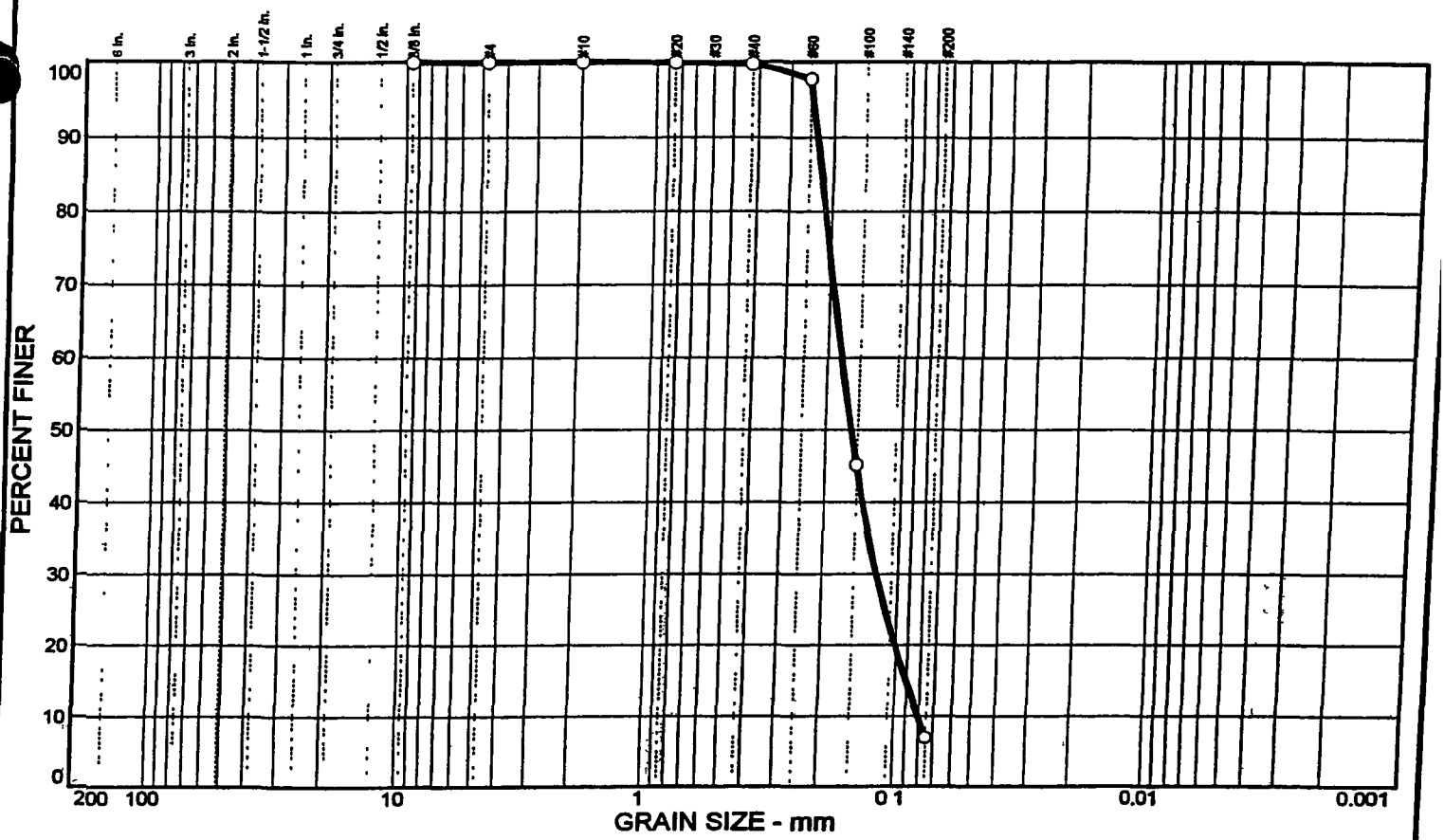
Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			93.1	6.9		SP-SC	A-3	-	

SIEVE inches size	PERCENT FINER O		
.375	100 0		

	GRAIN SIZE
D_{60}	0.176
D_{30}	0 121
D_{10}	0 0808

	COEFFICIENTS
C_c	1.03
C_u	2 18

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.9
#40	99.7
#60	97.8
#100	45.2
#200	6.9

SOIL DESCRIPTION

O Light Gray Slightly Clayey Fine SAND

REMARKS·

O Drainage Sand Test Pit, Sample No. 3B

O Source Proposed Drainage Sand

Sample No · Proctor No. DS-1

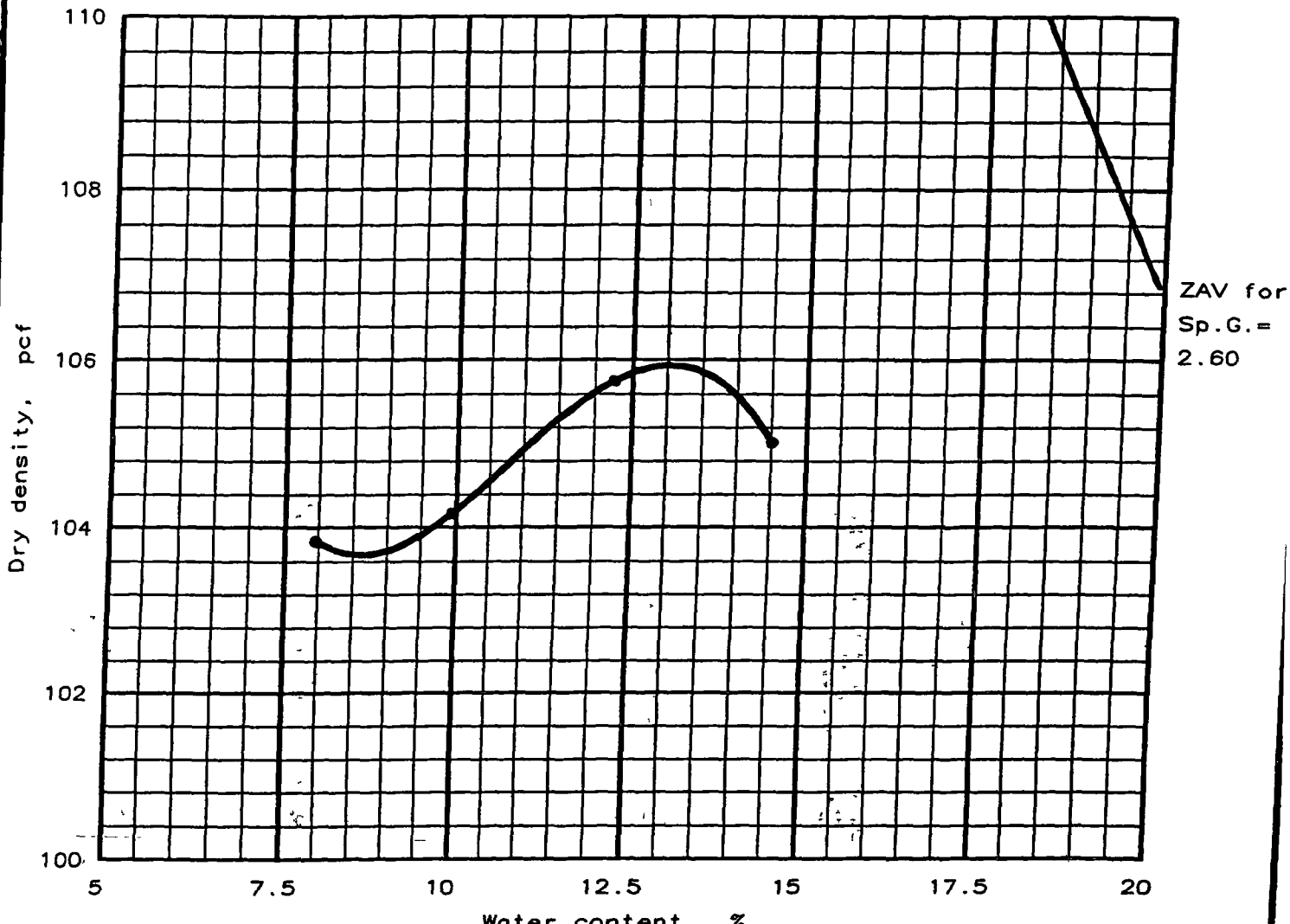
Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No · 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SC	A-3					0 %	9.6 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 105.9 pcf Optimum moisture = 13.0 %	Light Tan Slightly Clayey Fine SAND

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Drainage Sand Material, Test Pit Sample No. 1A
Date: 6-13-00

Remarks:
Proctor No. DS-2

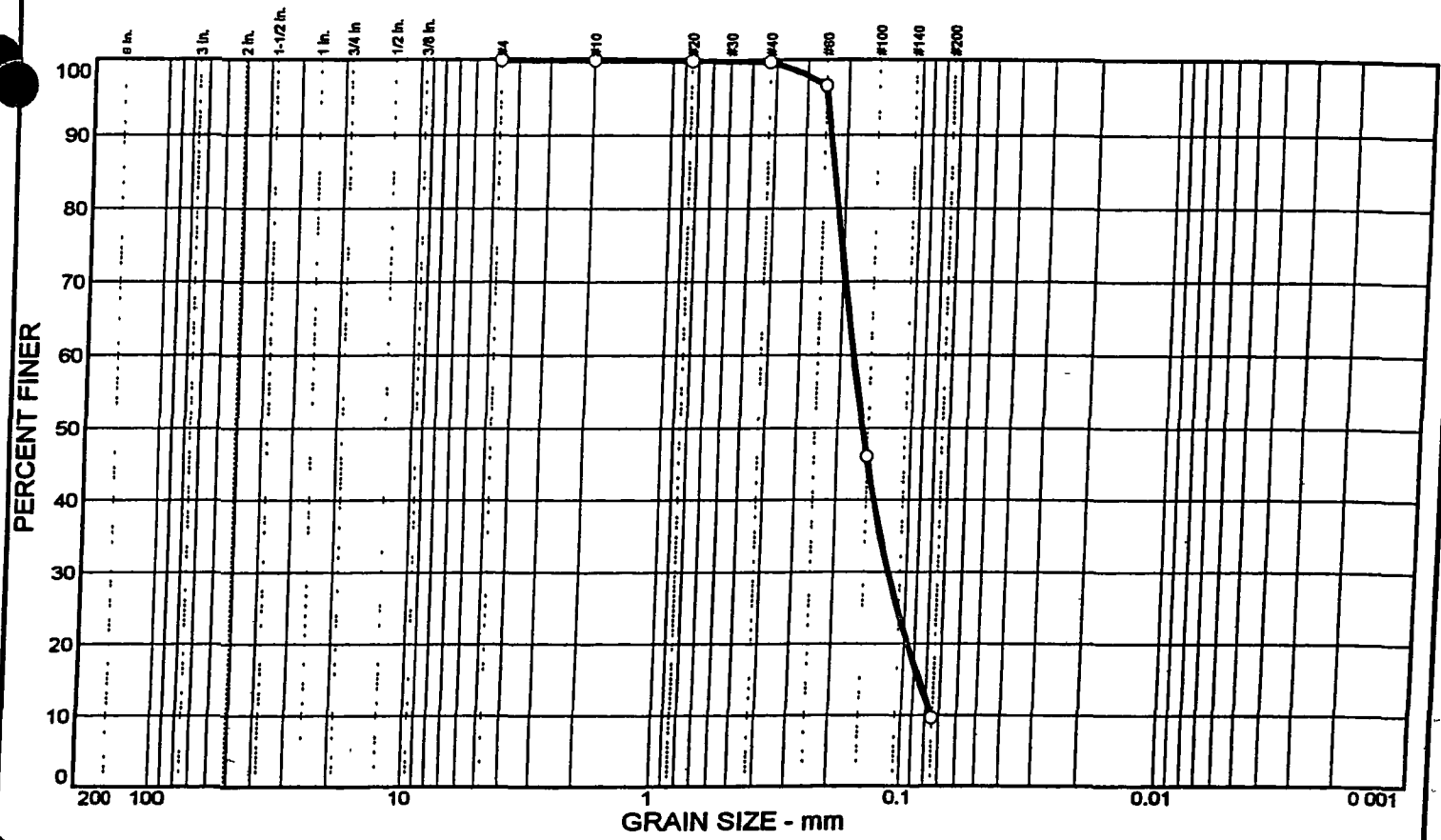
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

_____

Grain Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
O			90 4	9.6		SP-SC	A-3		

SIEVE inches size	PERCENT FINER O		

	GRAIN SIZE
D_{60}	0.176
D_{30}	0.118
D_{10}	0 0758
	COEFFICIENTS
C_c	1.05
C_u	2.32

SIEVE number size	PERCENT FINER O
#4	100.0
#10	100.0
#20	99.9
#40	99.7
#60	96.6
#100	46.0
#200	9.6

SOIL DESCRIPTION

O Light Tan Slightly Clayey Fine SAND

REMARKS:

O Drainage Sand Test Pit, Sample No. 1A

O Source Proposed Drainage Sand

Sample No . Proctor No. DS-2

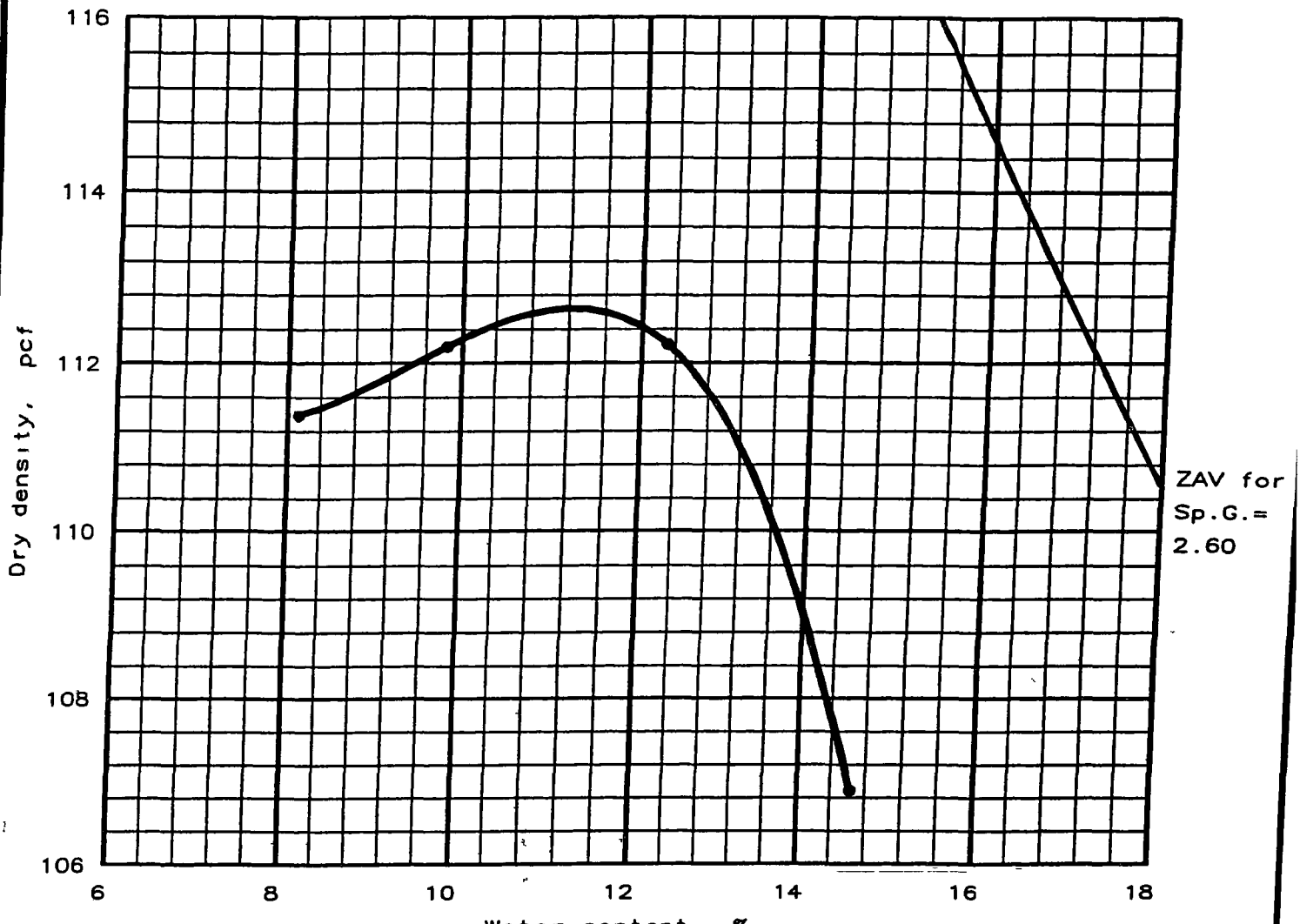
Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No · 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SC	A-2-6					0 %	12.3 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 112.6 pcf Optimum moisture = 11.2 %	Orange-Tan Clayey Fine SAND

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Proposed Drainage Sand Material, Test Pit Sample No. 6B
Date: 6-13-00

Remarks:
Proctor No. DS-3

MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

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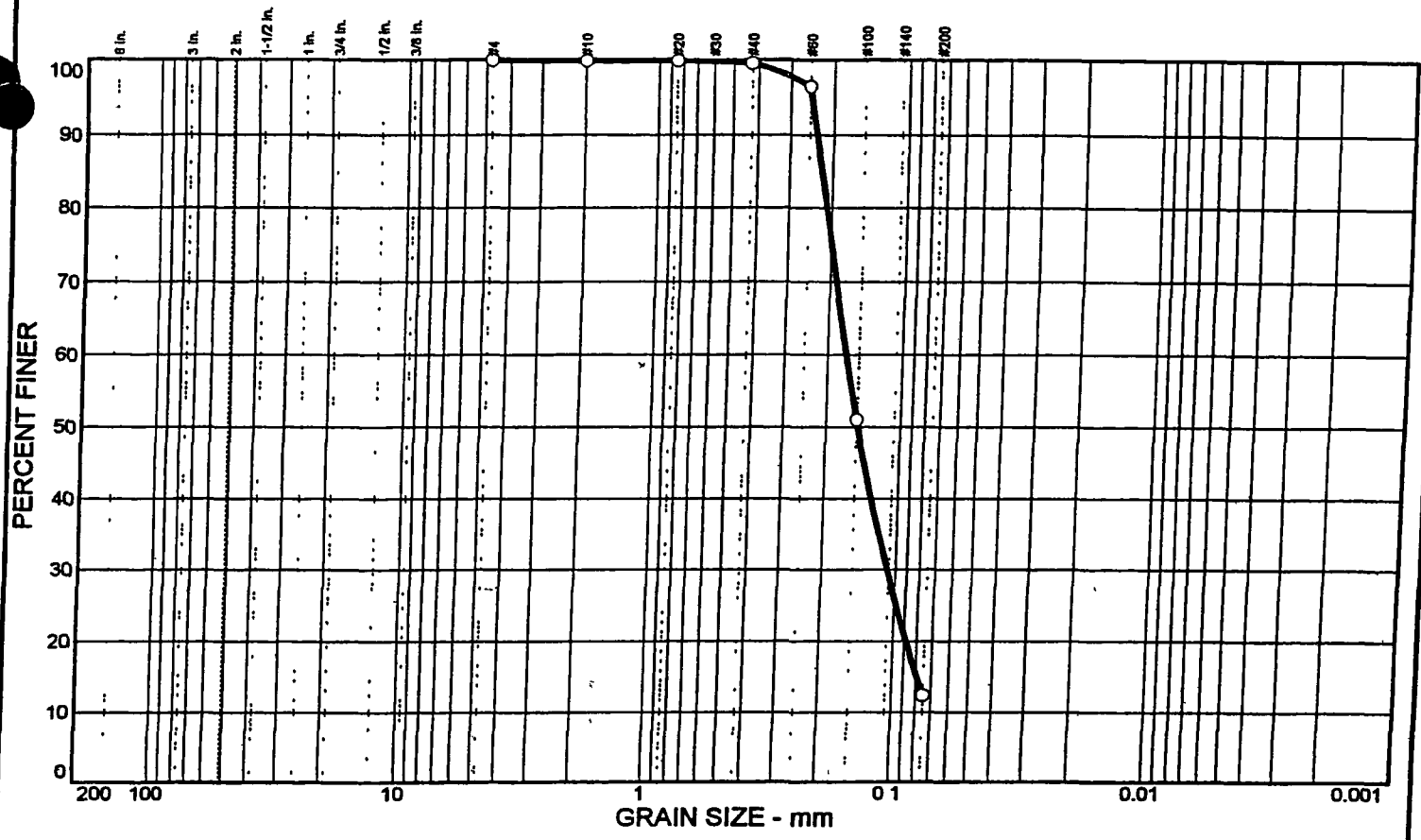
Grain Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
		87 7	12 3		SC	A-2-6(0)		

SIEVE inches size	PERCENT FINER O		

GRAIN SIZE			
D_{60}	0.168		
D_{30}	0.108		
D_{10}			

COEFFICIENTS			
C_c			
C_u			

SIEVE number size	PERCENT FINER O		
#4	100.0		
#10	99.9		
#20	99.9		
#40	99 6		
#60	96 5		
#100	51.0		
#200	12.3		

SOIL DESCRIPTION

O Orange-Tan Clayey Fine SAND

REMARKS:

O Drainage Sand Test Pit, Sample No 6B

O Source Proposed Drainage Sand Sample No Proctor No. DS-3

Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project. Trailridge Landfill

Project No · 40562-0-4105

MOISTURE-DENSITY RELATIONSHIP TEST

Test specification: ASTM D 1557-78 Method A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	SP-SM	A-3					0 %	5.5 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 110.9 pcf Optimum moisture = 11.7 %	Light Gray and Brown Slighty Silty Fine SAND

Project No.: 40562-0-4105
Project: Trailridge Landfill
Client: England Thims and Miller
Location: Fill from McClenny Pit

Date: 6-9-00

Remarks:

Proctor No. 2

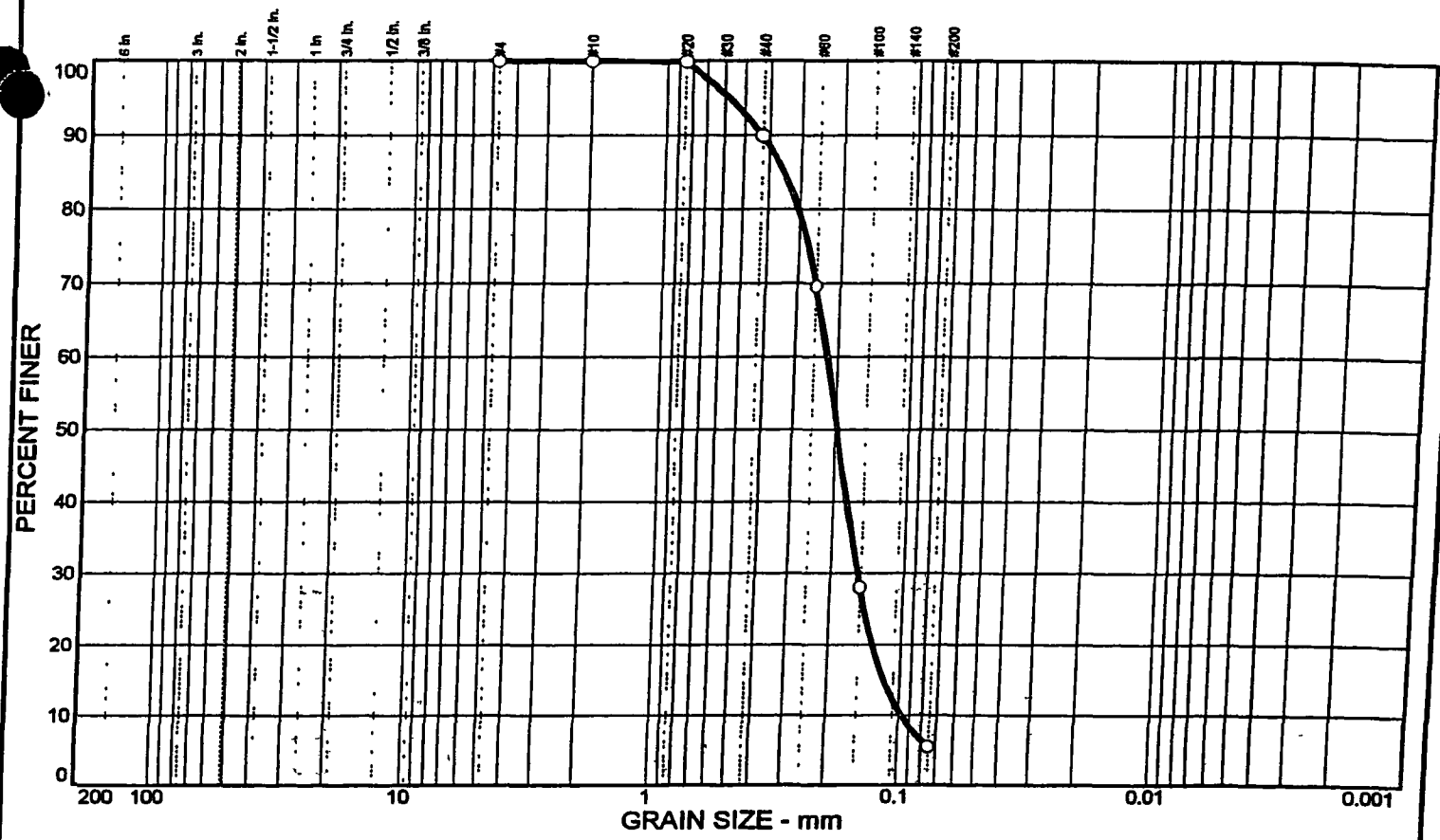
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENGINEERING INC.

Reviewed By

JOHN A. UNTERSPAN, P.E.

Grain Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
		94.5	5.5		SP-SM	A-3		

SIEVE inches size	PERCENT FINER ○		
	GRAIN SIZE		
D_{60}	0.221		
D_{30}	0.154		
D_{10}	0 0975		
	COEFFICIENTS		
C_c	1.11		
C_u	2 26		

SIEVE number size	PERCENT FINER ○		
#4	100 0		
#10	100.0		
#20	99.9		
#40	89.8		
#60	69.5		
#100	28.0		
#200	5.5		

SOIL DESCRIPTION

○ Light Gray and Brown Slighty Silty Fine SAND

REMARKS:

○

○ Source. Fill from McClenny

Sample No Proctor No. 2

Law Engineering and Environmental Services, Inc.

Client: England Thims and Miller

Project: Trailridge Landfill

Project No 40562-0-4105

JOHN A HINTERSPAN, P.E.

MAP(S)/ PLAN(S)

SCANNED

SEPARATELY