DATE 04/01/2008

Columbia County Building Permit

This Permit Must Be Prominently Posted on Premises During Construction

PERMIT
000026894

APPLICANT LISA FURR PHONE 813-241-9152

ADDRESS 3517 E. TTH AVE TAMPA FL 33605

OWNER DAVID PELHAM PHONE

ADDRESS 262 SW ANGELA TERR LAKE CITY FL 32024

CONTRACTOR KEYSTONE SUPPORTS, INC PHONE 813-241-9152

LOCATION OF PROPERTY 47 S, R 242, L ANGEA TERR, AT THE SE CORNER OF ANGELA AND SHANNON

TYPE DEVELOPMENT FOUNDATION REPAIR ESTIMATED COST OF CONSTRUCTION 55400.00

HEATED FLOOR AREA TOTAL AREA HEIGHT STORIES

FOUNDATION WALLS ROOF PITCH FLOOR SLAB

LAND USE & ZONING MAX. HEIGHT

Minimum Set Back Requirments: STREET-FRONT REAR SIDE

NO. EX.D.U. 1 FLOOD ZONE NA DEVELOPMENT PERMIT NO.

PARCEL ID 25-4S-16-03153-012 SUBDIVISION PICADILLY PARK

LOT 5 BLOCK B PHASE UNIT TOTAL ACRES 0.68

Culvert Permit No.	Culvert Waiver	Contractor's License Number	Applicant/Owner/Contractor
		CRC051408	

Driveway Connection	Septic Tank Number	LU & Zoning checked by	Approved for Issuance	New Resident
EXISTING	X08-103	LH	JH	N

COMMENTS: NOC ON FILE, NO ADDITIONS TO THE EXISTING STRUCTURE

Check # or Cash 9084

FOR BUILDING & ZONING DEPARTMENT ONLY

(footer/Slab)

Temporary Power date/app. by — Foundation date/app. by — Monolithic date/app. by

Under slab rough-in plumbing date/app. by — Slab date/app. by — Sheathing/Nailing date/app. by

Framing date/app. by — Rough-in plumbing above slab and below wood floor date/app. by

Electrical rough-in date/app. by — Heat & Air Duct date/app. by — Peri. beam (Lintel) date/app. by

Permanent power date/app. by — C.O. Final date/app. by — Culvert date/app. by

M/H tie downs, blocking, electricity and plumbing date/app. by — Pool date/app. by

Reconnection date/app. by — Pump pole date/app. by — Utility Pole date/app. by

M/H Pole date/app. by — Travel Trailer date/app. by — Re-roof date/app. by

BUILDING PERMIT FEE $ 280.00 CERTIFICATION FEE $ 0.00 SURCHARGE FEE $ 0.00

MISC. FEES $ 0.00 ZONING CERT. FEE $ FIRE FEE $ 0.00 WASTE FEE $

FLOOD DEVELOPMENT FEE $ FLOOD ZONE FEE $ CULVERT FEE $ **TOTAL FEE** 280.00

INSPECTORS OFFICE L. H. CLERKS OFFICE CH

NOTICE: IN ADDITION TO THE REQUIREMENTS OF THIS PERMIT, THERE MAY BE ADDITIONAL RESTRICTIONS APPLICABLE TO THIS PROPERTY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY. AND THERE MAY BE ADDITIONAL PERMITS REQUIRED FROM OTHER GOVERNMENTAL ENTITIES SUCH AS WATER MANAGEMENT DISTRICTS, STATE AGENCIES, OR FEDERAL AGENCIES.

"WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT."

EVERY PERMIT ISSUED SHALL BECOME INVALID UNLESS THE WORK AUTHORIZED BY SUCH PERMIT IS COMMENCED WITHIN 180 DAYS AFTER ITS ISSUANCE, OR IF THE WORK AUTHORIZED BY SUCH PERMIT IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS AFTER THE TIME THE WORK IS COMMENCED. A VALID PERMIT RECIEVES AN APPROVED INSPECTION EVERY 180 DAYS. WORK SHALL BE CONSIDERED TO BE IN ACTIVE PROGESS WHEN THE PERMIT HAS RECIEVED AN APPROVED INSPECTION WITHIN 180 DAYS.

The Issuance of this Permit Does Not Waive Compliance by Permittee with Deed Restrictions.

Columbia County Building Permit Application

For Office Use Only Application # 0804-02 Date Received 4/1/08 By LH Permit # 26894

Zoning Official N/A Date _____ Flood Zone N/A FEMA Map # _____ Zoning N/A

Land Use _____ Elevation _____ MFE _____ River _____ Plans Examiner OKJTH Date 4-1-08

Comments _____

✓ NOC □ EH ✓ Deed or PA N/A Site Plan N/A □ State Road Info □ Parent Parcel # _____

□ Dev Permit # _____ □ In Floodway □ Letter of Authorization from Contractor

□ Unincorporated area □ Incorporated area □ Town of Fort White □ Town of Fort White Compliance letter

Septic Permit No. X08-103 Fax 813-241-8343

Name Authorized Person Signing Permit Lisa Furr Phone 4/1/08

Address 3517 E. 7th ave Tampa, fl 33605

Owners Name David Pelham Phone _____

911 Address 262 SW Angela Terr Lake City fl 32024

Contractors Name Keystone Supports, Inc. Phone 813-241-9152

Address 3517 E. 7th Ave Tampa, fl 33605

Fee Simple Owner Name & Address n/a

Bonding Co. Name & Address n/a

Architect/Engineer Name & Address SDI

Mortgage Lenders Name & Address _____

Circle the correct power company – FL Power & Light – Clay Elec. – Suwannee Valley Elec. – Progress Energy

Property ID Number 24-4S-16-03153-012 Estimated Cost of Construction 55,400.00

Subdivision Name Picadilly Park Lot 5 Block B Unit ____ Phase ____

Driving Directions 47 S, (R) 242, (L) SW Angela Terr, Last Lot on the (L) at ~~cross street~~ shannon st

Number of Existing Dwellings on Property 1

Construction of foundation Repair - Underpinning Grouting est. 200cu.yds - 1100ft of drilling Total Acreage _____ Lot Size .675

Do you need a - Culvert Permit or Culvert Waiver or Have an Existing Drive Total Building Height _____

Actual Distance of Structure from Property Lines - Front _____ Side _____ Side _____ Rear _____

Number of Stories 1 Heated Floor Area _____ Total Floor Area _____ Roof Pitch _____

Application is hereby made to obtain a permit to do work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work be performed to meet the standards of all laws regulating construction in this jurisdiction.

Columbia County Property Appraiser

DB Last Updated: 3/10/2008

2008 Proposed Values

Tax Record | Property Card | Interactive GIS Map | Print

Parcel: 25-4S-16-03153-012

Search Result: 1 of 1

Owner & Property Info

Owner's Name	PELHAM W DAVID & KAYE B		
Site Address	ANGELA		
Mailing Address	5410 HOGAN DRIVE WEED, CA 96094		
Use Desc. (code)	SINGLE FAM (000100)		
Neighborhood	25416.04	**Tax District**	2
UD Codes	MKTA06	**Market Area**	06
Total Land Area	0.675 ACRES		
Description	COMM INTERS E LINE OF NE1/4 OF NW1/4 & N R/W CR-242, RUN W 224.32 FT, N 747.5 FT FOR POB, RUN W 170 FT, N 172.5 FT, E 170 FT, S 172.5 FT TO POB. (AKA LOT 5 BLOCK B PICADILLY PARK S/D UNREC) ORB 389-297, 763-683		

GIS Aerial

Property & Assessment Values

Mkt Land Value	cnt: (1)	$20,500.00
Ag Land Value	cnt: (0)	$0.00
Building Value	cnt: (1)	$83,408.00
XFOB Value	cnt: (4)	$2,432.00
Total Appraised Value		$106,340.00

Just Value	$106,340.00
Class Value	$0.00
Assessed Value	$106,340.00
Exempt Value	$0.00
Total Taxable Value	$106,340.00

Sales History

Sale Date	Book/Page	Inst. Type	Sale Vlmp	Sale Qual	Sale RCode	Sale Price
7/30/1992	763/683	WD	I	Q		$71,500.00

Building Characteristics

Bldg Item	Bldg Desc	Year Blt	Ext. Walls	Heated S.F.	Actual S.F.	Bldg Value
1	SINGLE FAM (000100)	1973	Common BRK (19)	2002	2389	$83,408.00
	Note: All S.F. calculations are based on exterior building dimensions.					

Extra Features & Out Buildings

Code	Desc	Year Blt	Value	Units	Dims	Condition (% Good)
0260	PAVEMENT-A	1973	$300.00	1.000	0 x 0 x 0	(.00)
0190	FPLC PF	2003	$1,600.00	1.000	0 x 0 x 0	(.00)
0169	FENCE/WOOD	1993	$252.00	48.000	0 x 0 x 0	AP (30.00)
0296	SHED METAL	1993	$280.00	80.000	8 x 10 x 0	AP (30.00)

Land Breakdown

Lnd Code	Desc	Units	Adjustments	Eff Rate	Lnd Value
000100	SFR (MKT)	1.000 LT - (.675AC)	1.00/1.00/1.00/1.00	$20,500.00	$20,500.00

Columbia County Building Permit Application

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

FLORIDA'S CONSTRUCTION LIEN LAW: Protect Yourself and Your Investment
According to Florida Law, those who work on your property or provide materials, and are not paid-in-full, have a right to enforce their claim for payment against your property. This claim is known as a construction lien. If your contractor fails to pay subcontractors or material suppliers or neglects to make other legally required payments, the people who are owed money may look to your property for payment, even if you have paid your contractor in full. This means if a lien is filed against your property, it could be sold against your will to pay for labor, materials or other services which your contractor may have failed to pay.

NOTICE OF RESPONSIBILITY TO BUILDING PERMITEE:
YOU ARE HEREBY NOTIFIED as the recipient of a building permit from Columbia County, Florida, you will be held responsible to the County for any damage to sidewalks and/or road curbs and gutters, concrete features and structures, together with damage to drainage facilities, removal of sod, major changes to lot grades that result in ponding of water, or other damage to roadway and other public infrastructure facilities caused by you or your contractor, subcontractors, agents or representatives in the construction and/or improvement of the building and lot for which this permit is issued. No certificate of occupancy will be issued until all corrective work to these public infrastructures and facilities has been corrected.

OWNERS CERTIFICATION: I hereby certify that all the foregoing information is accurate and all work will be done in compliance with all applicable laws and regulating construction and zoning. I further understand the above written responsibilities in Columbia County for obtaining this Building Permit.

Owners Signature

CONTRACTORS AFFIDAVIT: By my signature I understand and agree that I have informed and provided this written statement to the owner of all the above written responsibilities in Columbia County for obtaining this Building Permit.

Contractor's Signature (Permitee)

Contractor's License Number CRC051408
Columbia County
Competency Card Number_____

Affirmed under penalty of perjury to by the Contractor and subscribed before me this 31st **day of** March **20**08.

Personally known ✓ **or Produced Identification**_____

Hollace J. Michael

State of Florida Notary Signature (For the Contractor)

SEAL:

HOLLACE J. MICHAEL
MY COMMISSION # DD 437544
EXPIRES: June 6, 2009
Bonded Thru Notary Public Underwriters

Revised 11-30-07

KEYSTONE SUPPORTS, INC.

STATE CERTIFIED CONTRACTOR
LICENSE NO. CRC051408

3517 E. 7th AVENUE
TAMPA, FL 33605
(813) 241-9152 PH
(813) 241-8343 FX

RE: PERMITTING

PLEASE ALLOW CHRISTIE-ANN REEVES FDL# R120-100-82-593-0, AND LISA S. FURR FDL# F600-537-73-749-0 TO APPLY FOR AND PICK UP PERMITS UNDER MY LICENSE. MY STATE LICENSE NUMBER IS CRC051408.

IF YOU HAVE ANY QUESTIONS REGARDING THIS MATTER, PLEASE CONTACT CARL C. KIRCHENDORFER AT (813) 241-9152.

SINCERELY,

CARL C. KIRCHENDORFER

SWORN TO AND SUBSCRIBED BEFORE ME THIS 31st DAY OF March, 2008 BY Carl C. Kirchendorfer, WHO IS PERSONALLY KNOWN TO ME OR HAS PRODUCED FLORIDA DRIVER LICENSE AS IDENTIFICATION AND WHO DID NOT TAKE AN OATH.

Hollace J. Michael
NOTARY PUBLIC

HOLLACE J. MICHAEL
MY COMMISSION # DD 437544
EXPIRES: June 6, 2009
Bonded Thru Notary Public Underwriters

MY COMMISSION EXPIRES:

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 03/31/2008

PRODUCER (813)933-6691 FAX (813)932-6287
Adcock & Adcock Insurance Agency
315 W. Fletcher Ave.
Tampa, FL 33612-3414
Lisa Wallace

INSURED Keystone Supports, Inc.
3517 East 7th Avenue
Tampa, FL 33605

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Gemini Insurance Co.	
INSURER B: Auto-Owners Insurance Co.	18988
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PROJECT [ ] LOC	VIGP008235	06/30/2007	06/30/2008	EACH OCCURRENCE	$ 1,000,000
						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 50,000
						MED EXP (Any one person)	$ 5,000
						PERSONAL & ADV INJURY	$ 1,000,000
						GENERAL AGGREGATE	$ 2,000,000
						PRODUCTS - COMP/OP AGG	$ 2,000,000
B		AUTOMOBILE LIABILITY [X] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED AUTOS	4267196700	02/08/2008	02/08/2009	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
						BODILY INJURY (Per person)	$
						BODILY INJURY (Per accident)	$
						PROPERTY DAMAGE (Per accident)	$
		GARAGE LIABILITY [ ] ANY AUTO				AUTO ONLY - EA ACCIDENT	$
						OTHER THAN AUTO ONLY: EA ACC	$
						AGG	$
		EXCESS/UMBRELLA LIABILITY [ ] OCCUR [ ] CLAIMS MADE [ ] DEDUCTIBLE [ ] RETENTION $				EACH OCCURRENCE	$
						AGGREGATE	$
							$
							$
							$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				[ ] WC STATUTORY LIMITS [ ] OTHER	
						E.L. EACH ACCIDENT	$
						E.L. DISEASE - EA EMPLOYEE	$
						E.L. DISEASE - POLICY LIMIT	$
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

CERTIFICATE HOLDER

Columbia County Building Department
P.O. Box 1529
Lake City, FL 32056-1529

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
Michael Adcock/LPW

STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD (850) 487-1395
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

KIRCHENDORFER, CARL CHRISTOPHE
KEYSTONE SUPPORTS INC
602 S MELVILLE AVE
TAMPA FL 33606

AC# 2783403

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CRC051408 09/06/06 068048049

CERTIFIED RESIDENTIAL CONTRACTOR
KIRCHENDORFER, CARL CHRISTOPHE
KEYSTONE SUPPORTS INC

IS CERTIFIED under the provisions of Ch.489 FS.
Expiration date: AUG 31, 2008 L06090601036

DETACH HERE

AC# 2783403

STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD **SEQ#**L06090601036

DATE	BATCH NUMBER	LICENSE NBR
09/06/2006	068048049	CRC051408

The RESIDENTIAL CONTRACTOR
Named below IS CERTIFIED
Under the provisions of Chapter 489 FS.
Expiration date: AUG 31, 2008

KIRCHENDORFER, CARL CHRISTOPHE
KEYSTONE SUPPORTS INC
602 S MELVILLE AVE
TAMPA FL 33606

JEB BUSH
GOVERNOR

SIMONE MARSTILLER
SECRETARY

DISPLAY AS REQUIRED BY LAW

NOTICE OF COMMENCEMENT

Permit No. _____ **Tax Folio No.** _____

This Instrument Prepared By: Karla Christmann **Address:** 3517 East 7th Avenue, Tampa, FL 33605

The UNDESIGNED hereby gives notice that improvements will be made to certain real property, and in accordance with Section 713.13 of the Florida Statutes, the following information is provided in this **NOTICE OF COMMENCEMENT.**

1) **Description of Property**

a) Legal Desciption: COMM INTERS E LINE OF NE 1/4 OF NW 1/4 & N R/W CR-242, RUN W 224.32 FT, N 747.5 FT FOR POB, RUN W 170 FT, N 172.5 FT, E 170 FT, S 172.5 FT TO POB (AKA LOT 5 BLOCK B PICADILLY PARK S/D UNREC) ORB 389-297, 763-683

b) Job Address: 262 SW ANGELA TERRACE, LAKE CITY, FLORIDA

2) **General Description of Improvements**

a) FOUNDATION REPAIRS

3) **Owner Information**

a) Name & Address: KAYE B & DAVID W PELHAM 262 SW ANGELA TERRACE, LAKE CITY, FL

b) Name & Address of fee simple titleholder (if other than owner):

c) Interest in Property: Property Owner

4) **Contractor Information**

a) Name & Address: Carl C. Kirchendorfer, KEYSTONE SUPPORTS 3517 E. 7th Ave., Tampa, FL 33605

b) Telephone No.: (813) 241-9152 Fax No. 813-241-8343

5) **Surety Information**

a) Name & Address:

b) Amount of Bond:

c) Telephone No.: Fax No.

Inst:200812006419 Date:4/1/2008 Time:2:48 PM
DC,P.DeWitt Cason,Columbia County Page 1 of 1 B:1147 P:109

CLERK CIRCUIT COURT COLUMBIA COUNTY FLORIDA

STATE OF FLORIDA COUNTY OF COLUMB
I HEREBY CERTIFY, that the foregoing is a true copy of the original filed in this office.
P. DeWITT CASON, CLERK OF COURTS
By Shaun Teagle Deputy Clerk
Date 04-01-2008

6) **Lender**

a) Name & Address:

b) Telephone No.: Fax No.

7) **Identity of person within the State of Florida designated by owner upon whom notices or other documents may be served:**

a) Name & Address:

b) Telephone No.: Fax No.

8) **In addition to himself, owner designates the following person to receive a copy of the Lienor's Notice as provided in Section 713.13(1)(b), Florida Statutes:**

a) Name & Address:

b) Telephone No.: Fax No.

9) **Expiration date of Notice of Commencement** (The expiration date is one year from date of recording unless otherwise specified.):

WARNING TO OWNER: Any payments made by the owner AFTER the exipration of the Notice of Commencement are considered improper payments under Chapter 713, Part I, Section 713.13, Florida Statutes, and can result in your paying twice for improvements to your property. A Notice of Commencement must be recorded and posted on the jobsite BEFORE the first inspection. If you intend to obtain financing, consult your lender or an attorney before commencing work or recording your Notice of Commencement.

10) X _____
Signature of Owner or Owner's Authorized Officer/Director/Partner/Manager

State of Florida
County of Columbia

x James Pelham
Print Name

The foregoing instrument was acknowledged before me on this 11 day of January, 20 08, by James Pelham

as Owner (Type of Authority, e.g. officer, trustee) for James Pelham (Name of party on behalf of whom instrument was executed).

☒ Personally Known
OR
☐ Produced Identification

Notary Signature _____

Print Name Dominick Sinopoli

AND

Verification pursuant to Section 92.525, Florida Statutes. Under penalties of perjury, I declare that I have read the foregoing and that the facts stated in it are true to the best of my knowledge and belief.

Notary Public State of Florida
Dominick Paul Sinopoli
My Commission DD487408
Expires 11/01/2009

X _____
Signature of Natural Person Signing Above in Line #10

CERTIFICATE OF COMPLETION

COLUMBIA COUNTY, FLORIDA

Department of Building and Zoning Inspection

This Certificate of Occupancy is issued to the below named permit holder for the building and premises at the below named location, and certifies that the work has been completed in accordance with the Columbia County Building Code.

Parcel Number 25-4S-16-03153-012 **Building permit No.** 000026894

Permit Holder KEYSTONE SUPPORTS, INC

Based on engineers report submitted.

Owner of Building DAVID PELHAM

Location: 262 SW ANGELA TERR, LAE CITY, FL 32024

Date: 07/07/2011

Building Inspector

POST IN A CONSPICUOUS PLACE
(Business Places Only)

• NEC Keystone, Inc. •

GROUND MODIFICATION & GEOTECHNICAL CONSTRUCTION SERVICES

3517 E. 7th Ave.
Tampa, FL 33605

Phone: (813) 248-8779
Fax: (813) 241-8343

Date: July 1, 2011

Building and Zoning
Columbia County
135 NE Hernando Ave
Suite B-21
Lake City, FL. 32055

Re: Permit #000026894 Final Inspection

I spoke to your department regarding above referenced permit. It is a 2008 permit that was never called for final inspection. It was an oversight on the part of the previous person that filled my position here at Keystone Supports and NEC Keystone.

I was told that if I would mail the signed and sealed Monitor reports to you that the final inspection would be completed.

I apologize for this oversight and thank you in advance for your assistance is resolving this issue.

Please, call me at (813)928-4870 if you have any questions.

Respectfully,

Dolores Dean

Dolores Dean
Permitting

00002689 4

SDII Global Corporation
www.sdii-global.com

4509 George Road
Tampa, FL 33634
tel 813-496-9634
fax 813-496-9664

May 12, 2008

Ms. Shirley Sebastian
State Farm Florida Insurance Company
8001 Bay Meadows Way
Jacksonville, Florida 32256

Subject: Completion Report of Grout Injection Remediation
The Pelham Residence – Lake City, Florida
Claim No. 59D167-181
SDII Project No. 3017309A

Dear Ms. Sebastian:

SDII Global Corporation (SDII) is pleased to present this report summarizing the grout injection remediation performed at the Pelham residence located at 262 Southwest Angela Terrace in Lake City, Florida. Figure 1 illustrates the project location.

BACKGROUND INFORMATION

SDII was retained by State Farm Florida Insurance Company to monitor and confirm that the grout injection was completed in substantial compliance with the recommendations made in our *"Final Report – Subsidence Investigation"* dated September 2007 SDII Project Number 3017309

The purpose of the grout injection program was to treat the suspected sinkhole conditions beneath the foundation of the home by filling subsurface voids and compacting soft subsurface soils. SDII monitored the contractor's operations during the grouting to verify compliance with the intent of our recommendations.

SUMMARY OF MONITORING SERVICES

The following summarizes the activities we observed and documented at the site:

- NEC Keystone Supports, Inc. installed 22 grout injection points around the perimeter of the residence between April 14, 2008 and April 30, 2008. Pipe depths ranged from approximately 37 to 96 feet for a total of 1,218 linear feet.

- The contractor ordered 22 truckloads containing a total of approximately 201 cubic yards of grout mix to the site. Of this quantity, approximately 194 cubic yards were injected into the subsurface.

- The grout slump tests conducted at the site indicated a range in slump of 5.0 to 6.0 inches.

Based on the above information, it is our opinion that the deep injection grouting program has been completed in substantial compliance with SDII's engineering recommendations and local grouting practices. This grouting procedure was implemented to stabilize the subsurface conditions related to sinkhole activity in the immediate vicinity of the foundation of the structure. This procedure may not preclude development of new sinkhole activity in the future, however. Table 1 in the Appendix summarizes the grout injection, including estimated grout volume injected and initial depth of each point. Figure 2 illustrates the location and numbering of the grout points.

It is SDII's understanding that cosmetic repairs will be done following the pin pile installation, which is to follow the grouting operations. Accordingly, any existing damage and/or collateral damage associated with the grouting or underpinning operations should be repaired at that time by a qualified restoration contractor.

CLOSING

SDII appreciates the opportunity to be of service to you on this project. If you should have any questions concerning the contents of this report, or if we may be of further assistance, please contact us.

Sincerely,

SDII GLOBAL CORPORATION

Thomas H. Fisher
6/29/11

Thomas H. Fisher, P.E.
Principal Engineer
Florida Registration Number 58027

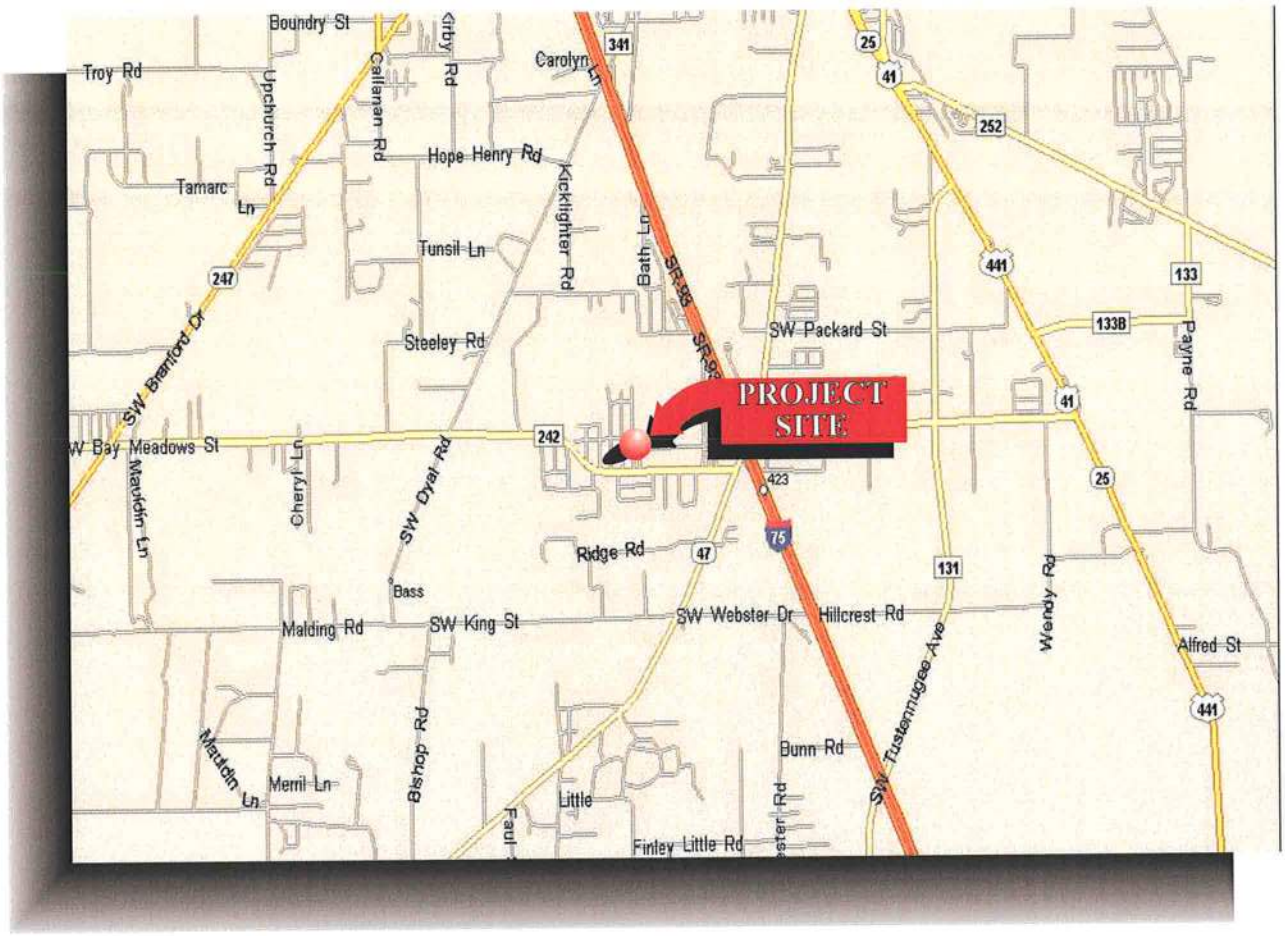
APPENDIX: Table 1 – Grout Point Injection Summary
Figure 1 – Project Site Location Map
Figure 2 – Site Plan Showing As-Installed Location Of Grout Injection Points
Selected Site Assessment Photographs

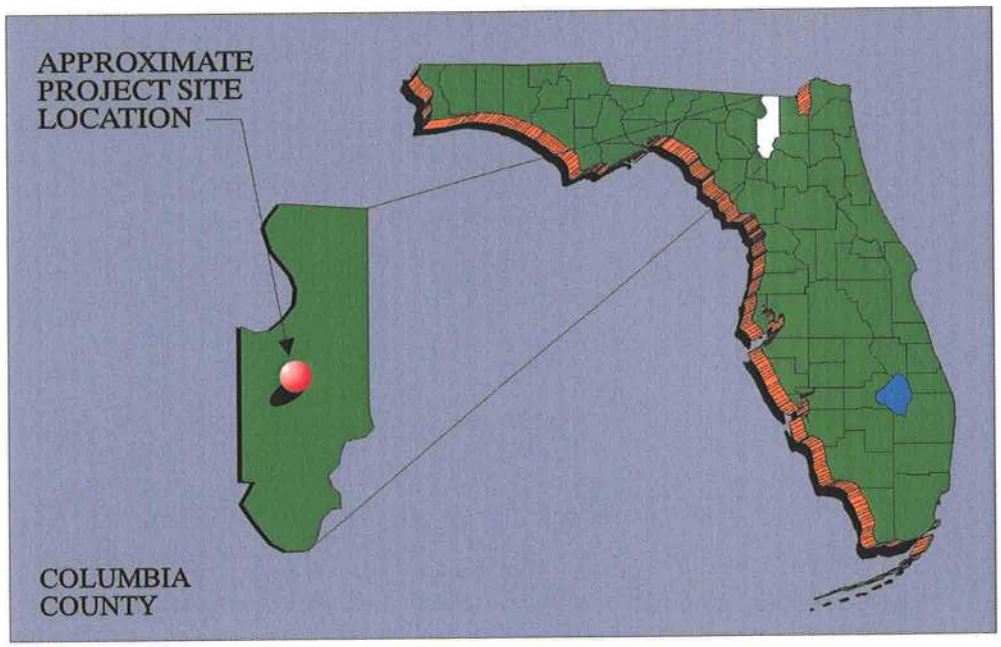
DISTRIBUTION: Addressee - 3
File - 1

APPENDIX

Table 1. Grout Point Injection Summary

Grout Point Number	Initial Pipe Depth (feet)	Approximate Grout Volume (Cubic yards)
1	41	13.5
2	57	23.3
3	46	8.6
4	37	1.2
5	41	1.6
6	65	19.1
7	42	4.3
8	77	3.0
9	78	9.4
10	83	10.6
11	96	19.4
12	77	9.5
13	38	6.2
14	44	1.1
15	43	2.2
16	46	6.6
17	37	1.2
18	75	20.0
19	42	13.1
20	72	8.9
21	39	1.2
22	42	10.0
TOTAL	1,218	194.0





N

NOT TO SCALE

STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

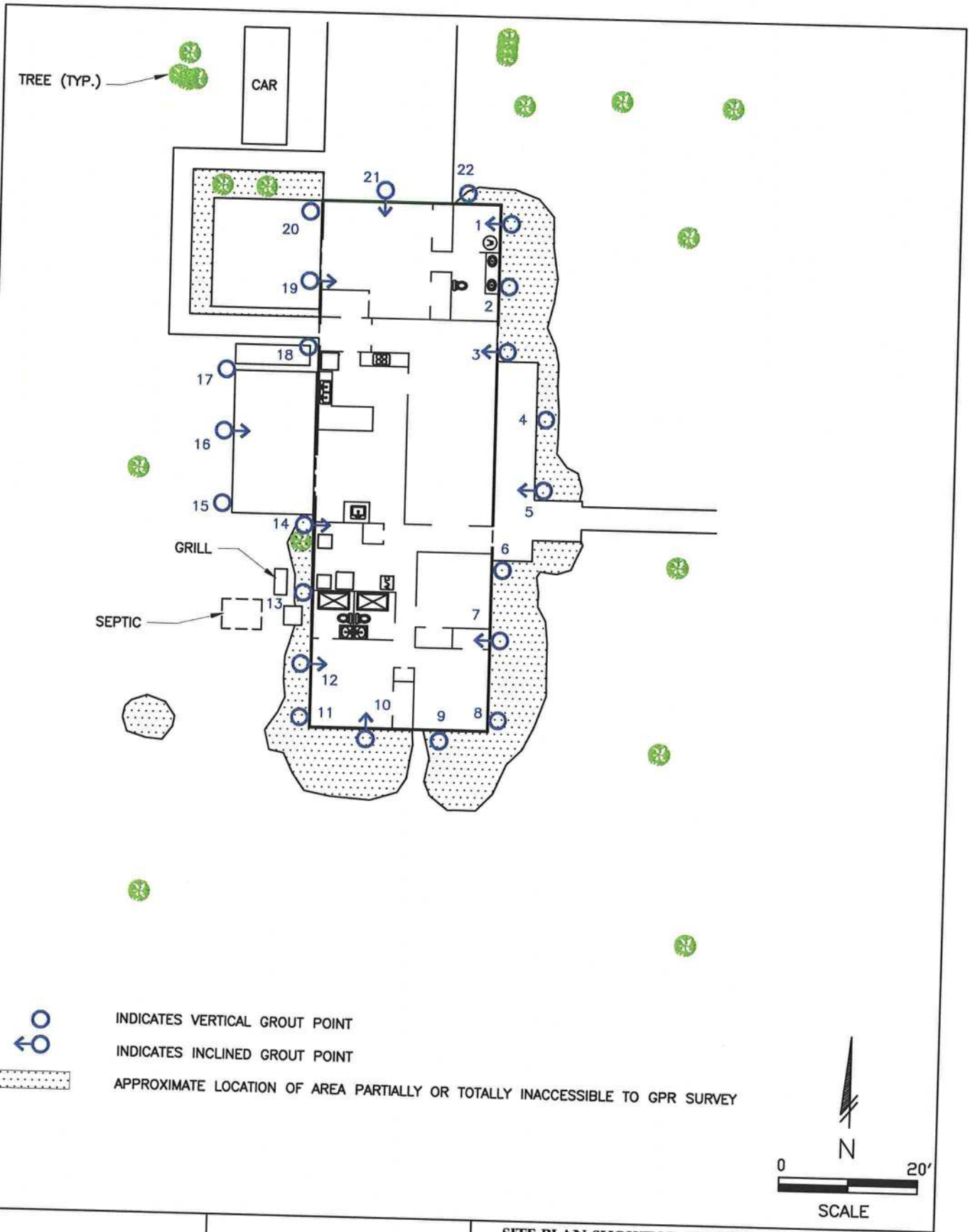
SDII GLOBAL

PROJECT SITE LOCATION MAP

PELHAM RESIDENCE
LAKE CITY, FLORIDA

DESIGNED BY:	THF	PROJECT NO.:	3017309A
CHECKED BY:	THF	DRAWING NO.:	7309-1
DRAWN BY:	JMW	DATE:	05/06/08

FIGURE 1



STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA		SITE PLAN SHOWING AS-INSTALLED LOCATION OF GROUT INJECTION POINTS		
		PELHAM RESIDENCE LAKE CITY, FLORIDA		
		DESIGNED BY: THF	PROJECT NO.: 3017309A	FIGURE
		CHECKED BY: THF	DRAWING NO.: 7309-2	2
		CREATED BY: JMW	DATE: 05/06/08	

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SDII Global Corporation
www.sdii-global.com

4509 George Road
Tampa, FL 33634
tel 813-496-9634
fax 813-496-9664

July 24, 2008

Ms. Shirley Sebastian
State Farm Florida Insurance Company
8001 Bay Meadows Way
Jacksonville, Florida 32256

Subject: Completion Report of Underpinning Remediation
The Pelham Residence – Lake City, Florida
Claim No. 59D167-181
SDII Project No. 3017309B

Dear Ms. Sebastian:

SDII Global Corporation (SDII) is pleased to present this report summarizing the underpinning remediation performed at the Pelham residence located at 262 Southwest Angela Terrace in Lake City, Florida. Figure 1 illustrates the project location.

BACKGROUND INFORMATION

SDII was retained by State Farm Florida Insurance Company to monitor and confirm that foundation repairs were made in substantial compliance with the recommendations made in our "*Final Report – Subsidence Investigation*" dated September 2007, SDII Project Number 3017309.

The purpose of the underpinning program was to stabilize the foundation of the structure. SDII monitored the contractor's operations during the underpinning to verify compliance with the intent of SDII's recommendations.

SUMMARY OF MONITORING SERVICES

The following summarizes the activities SDII observed and documented at the site:

- NEC Keystone Supports, Inc. (NEC) installed 33 steel pipe piles along the exterior of the residence and 10 steel pipe piles on the interior of the residence between July 1, 1008 and July 23, 2008. NEC installed a total of 617.4 linear feet of steel piling into the subsurface.

- Three pin piles (Nos. 44, 45 and 46) where eliminated due to as-encountered site conditions.

- The piles consisted of 3-inch diameter steel pipe and were hydraulically or manually advanced to bear on competent material. The hydraulic seating pressures for the perimeter piles ranged from 500 to 2,000 psi at the bearing depth and final seating pressures ranged from 300 to 500 psi. The tip depth of the perimeter piles ranged from 7 to 21 feet. The interior slab dowel depths ranged from 16 to 21 feet.

- The contractor used the installed underpinning piles and hydraulic rams to support the foundation and close the existing cracks on the interior and exterior of the home. The perimeter of the residence was lifted a 1/10 inch.

Based on our observations, the underpinning pile installations were documented as substantially complying with SDII's recommendations. Table 1 in the Appendix summarizes the pin pile installation. Figure 2 illustrates the location and numbering of the pin pile locations.

It is SDII's understanding that cosmetic repairs will be done following the underpinning operations. Accordingly, any existing damage and/or collateral damage associated with the underpinning operations should be repaired at that time by a qualified restoration contractor.

CLOSING

SDII appreciates the opportunity to have assisted you on this project. If you should have any questions concerning the contents of this report, or if we may be of further assistance, please contact us.

Sincerely,

SDII GLOBAL CORPORATION

Thomas H. Fisher, P. E.
Principal Engineer
Florida Registration Number 58027

APPENDIX: Table 1 – Pin Pile Installation Summary
Figure 1 – Project Site Location Map
Figure 2 – Site Plan Showing As-Installed Pin Pile Locations
Selected Site Assessment Photographs

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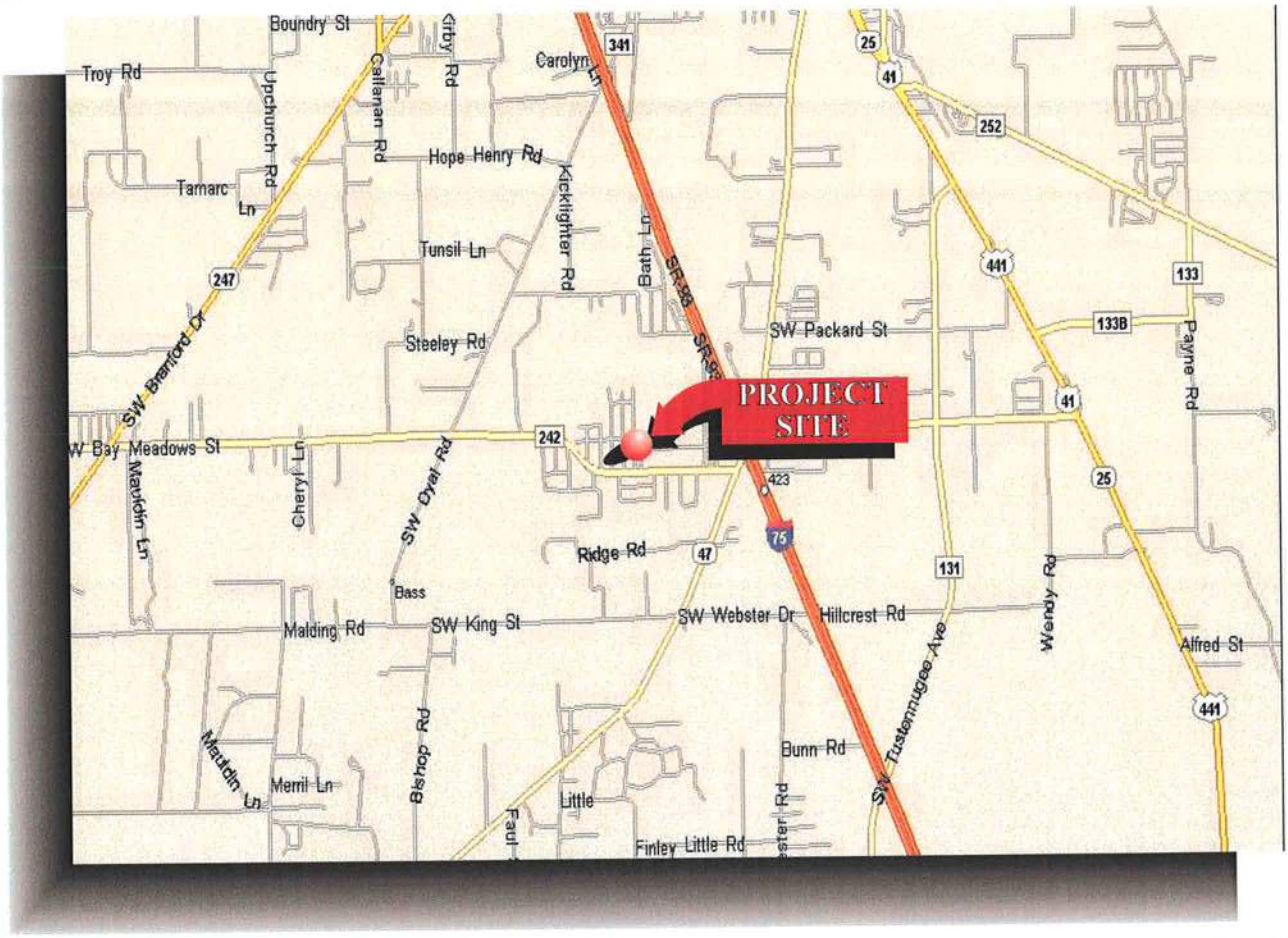
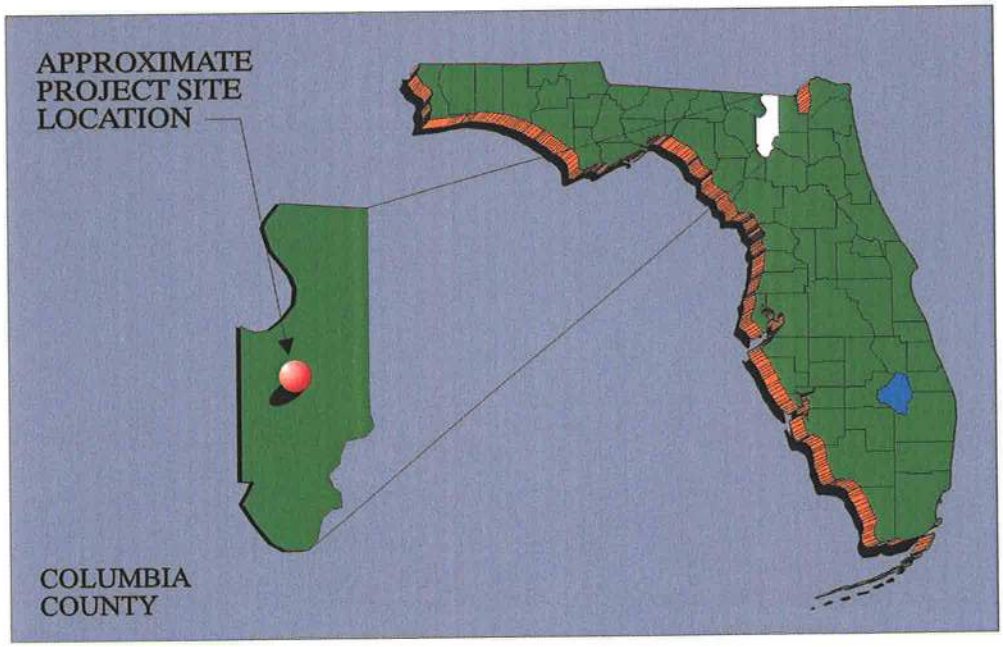
APPENDIX

Table 1. Pin Pile Installation Summary

Exterior Piles				
Pile No	**Installation Depth (Feet)**	**Installation Seating Pressure (PSI)**	**Final Lift Pressure (PSI)**	**Final Lift (Inches)**
1	15.0	1,500	500	1/10
2	21.0	1,800	500	1/10
3	13.0	1,800	500	1/10
4	11.4	2,000	500	1/10
5	20.0	1,550	500	1/10
6	18.0	1,500	500	1/10
7	17.0	1,800	500	1/10
8	16.0	2,000	500	1/10
9	19.0	2,000	500	1/10
10	14.0	1,800	500	1/10
11	12.0	1,800	500	1/10
12	9.0	1,500	500	1/10
13	11.0	1,500	500	1/10
14	10.0	1,600	500	1/10
15	11.0	1,500	500	1/10
16	9.0	1,500	500	1/10
17	9.0	1,000	500	1/10
18	9.0	950	500	1/10
19	8.0	700	300	1/10
20	8.0	500	300	1/10
21	8.0	700	300	1/10
22	7.0	800	300	1/10
23	7.0	800	300	1/10
24	12.0	1,500	500	1/10
25	16.0	1,500	500	1/10
26	16.0	1,500	500	1/10
27	15.0	1,500	500	1/10
28	16.0	1,500	500	1/10
29	17.0	1,750	500	1/10
30	11.0	1,500	500	1/10
31	11.0	1,500	500	1/10
32	15.0	1,800	500	1/10
33	15.0	1,750	500	1/10
44	(Eliminated)			
45	(Eliminated)			
TOTAL	426.4	N/A	N/A	N/A

Interior Piles				
Pile No	**Installation Depth (Feet)**	**Installation Seating Pressure (PSI)**	**Final Lift Pressure (PSI)**	**Final Lift (Inches)**
34	**21.0**	**N/A**	**N/A**	**N/A**
35	**20.0**	**N/A**	**N/A**	**N/A**
36	**17.0**	**N/A**	**N/A**	**N/A**
37	**19.0**	**N/A**	**N/A**	**N/A**
38	**16.0**	**N/A**	**N/A**	**N/A**
39	**19.0**	**N/A**	**N/A**	**N/A**
40	**21.0**	**N/A**	**N/A**	**N/A**
41	**21.0**	**N/A**	**N/A**	**N/A**
42	**20.0**	**N/A**	**N/A**	**N/A**
43	**17.0**	**N/A**	**N/A**	**N/A**
46	**(Eliminated)**			
TOTAL	**191.0**	**N/A**	**N/A**	**N/A**





N

NOT TO SCALE

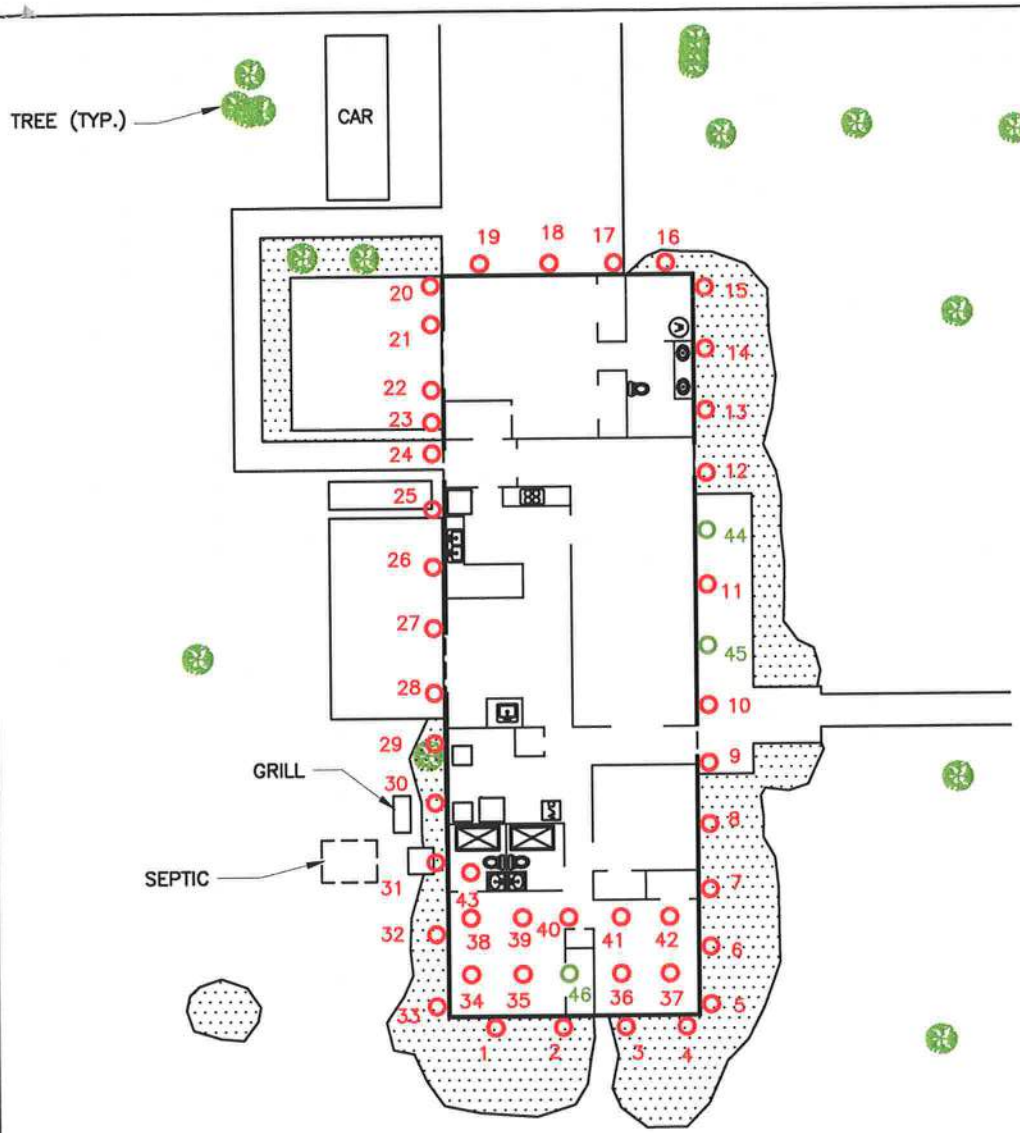
STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

SDII GLOBAL

PROJECT SITE LOCATION MAP

PELHAM RESIDENCE
LAKE CITY, FLORIDA

DESIGNED BY:	THF	PROJECT NO.:	3017309B	FIGURE
CHECKED BY:	THF	DRAWING NO.:	7309-1	1
DRAWN BY:	JMW	DATE:	07/25/08	



○ INDICATES LOCATION OF ELIMINATED PILES

⊖ INDICATES LOCATION OF PILE WITH SPREADER BEAM

○ INDICATES PILE LOCATION

APPROXIMATE LOCATION OF AREA PARTIALLY OR TOTALLY INACCESSIBLE TO GPR SURVEY

NOTES:
1) MAXIMUM PILE SPACING IS 6'-0" O.C.
2) DO NOT PLACE PILES UNDER WALL OPENINGS WITHOUT SPREADER BEAM
3) PILE ASSEMBLY TO HAVE A MINIMUM SERVICE LOAD CAPACITY OF 30 KIP
4) CONTRACTOR TO SUBMIT PROPOSED PILE SYSTEM TO SDII FOR APPROVAL

N

0 20'

SCALE

STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

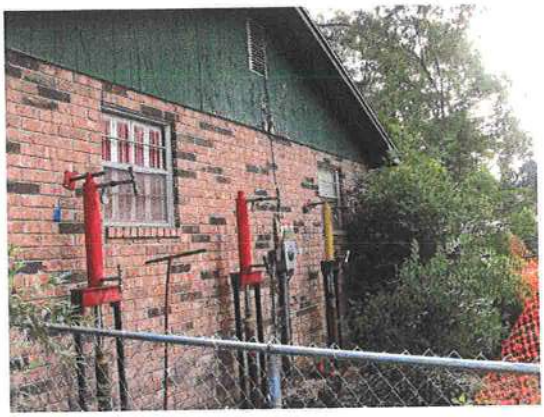
SDII GLOBAL

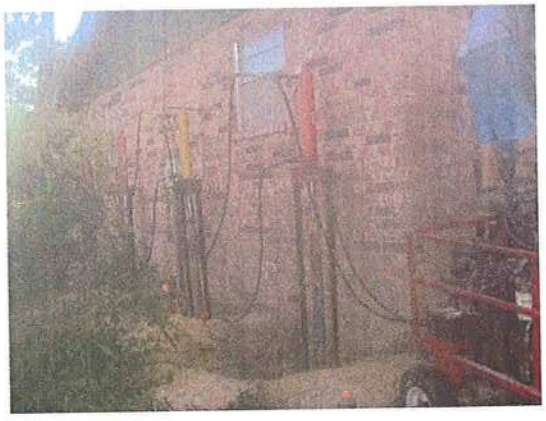
SITE PLAN SHOWING AS-INSTALLED LOCATION OF PILES

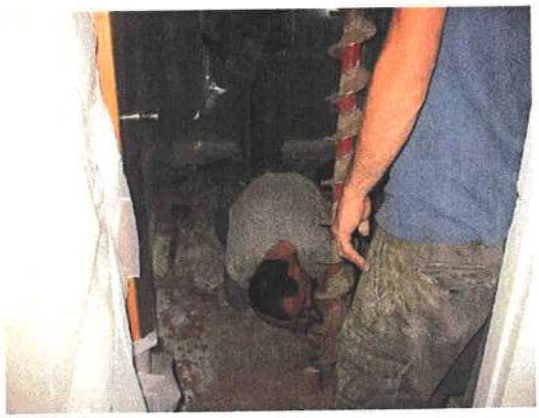
PELHAM RESIDENCE
LAKE CITY, FLORIDA

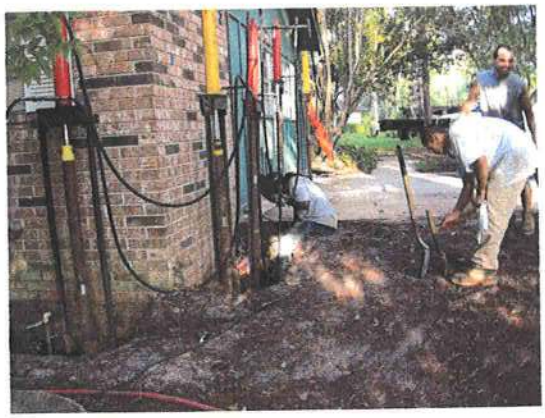
DESIGNED BY:	THF	PROJECT NO.:	3017309B	FIGURE 2
CHECKED BY:	THF	DRAWING NO.:	7309-2	
CREATED BY:	JMW	DATE:	08/25/08	


NEC Keystone, Inc.









SUBSIDENCE INVESTIGATION
Claim Number: 59D167-181

PELHAM RESIDENCE
262 SOUTHWEST ANGELA TERRACE
LAKE CITY, FLORIDA

Prepared For:

STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

Prepared By:
SDII GLOBAL CORPORATION
SDII Project Number: 3017309

SEPTEMBER 2007

September 28, 2007

Ms. Shirley Sebastian
State Farm Florida Insurance Company
8001 Bay Meadows Way
Jacksonville, FL 32256

Subject: Final Report – Subsidence Investigation
Pelham Residence - Lake City, Florida
Claim Number 59D167-181
SDII Project No. 3017309

Dear Ms. Sebastian:

SDII Global Corporation (SDII) is pleased to submit this final report of our subsidence evaluation for the above referenced project. When conducting a subsidence investigation, SDII follows the general sinkhole-investigation protocols included in Chapter 627.707 Florida Statutes and described in "Geological and Geotechnical Investigation Procedures for Evaluation of the Causes of Subsidence Damage in Florida" (Florida Geological Survey, Special Publication No. 57, 2005).

Presented herein are the findings and conclusions of our investigation including geologic, geotechnical, and structural evaluations of the cause(s) of damage to the Pelham residence. These evaluations are based on an extensive data collection and interpretation effort by our technical staff who have been trained in Florida subsidence investigation techniques and data interpretation, and supervision and review by the senior professionals who have signed and sealed the report. As the person responsible for training and assuring the quality of our investigations, I monitor all investigations and reports.

SDII appreciates the opportunity to have assisted State Farm Florida Insurance Company on this project. The senior professionals who developed the opinions herein and signed the report and I are always available to help. If you have any questions or comments concerning this report, please contact us.

Sincerely,

SDII GLOBAL CORPORATION

Sam B. Upchurch, Ph.D., P.G.
Vice President and Principal Geologist

EXECUTIVE SUMMARY

State Farm Florida Insurance Company retained SDII Global Corporation (SDII) on July 25, 2007 to conduct a subsidence investigation at the Pelham residence in Lake City, Florida. The purpose of the investigation was to determine the existence of sinkhole activity and a consequent sinkhole loss as defined by Chapter (§) 627.706 Florida Statutes at the residence.

The existence of sinkhole activity was investigated in accordance with the requirements of §627.707 Florida Statutes following standard methods (Appendix A). The following methods were utilized in our investigation:

- A site inspection and homeowner interview were completed to identify local conditions, damage, history of the structure, homeowner concerns, and details of the construction of the house.
- A ground penetrating radar survey and electrical resistivity testing were conducted to identify anomalous subsurface areas.
- One test pit was excavated to observe foundation construction and geometry directly.
- Hand auger borings and push penetrometer soundings were advanced to determine the composition and strength of subsurface materials near the foundation.
- Standard Penetration Test (SPT) borings were advanced to characterize the relative stability of soils and deeper geologic conditions.
- Laboratory testing of soils was performed to identify deleterious soil types and for quality control of soil and geologic materials classification.
- Relative floor elevation contour mapping was completed to identify anomalous floor elevation trends and establish a baseline contour map of the existing floor elevation.
- A structural assessment was completed to identify construction methods and structural deficiencies related to the potential causes of observed conditions.

It is SDII's professional opinion that sinkhole activity as defined by §627.706 Florida Statutes cannot be ruled out at the Pelham residence. The pattern of declining N values above limestone in the boring profiles may suggest a potential for raveling. **Furthermore, based on the data presented herein, it is SDII's professional opinion within reasonable probability that a sinkhole loss, as described by §627.706 has occurred at the Pelham residence.**

The damage to the residence is the direct and/or collateral result of differential movement of the foundation.

SDII recommends that the sinkhole conditions be remediated through the use of grout injection. Following the grout injection it is our recommendation that the foundation of the residence be stabilized through the installation of underpinning piles around the perimeter of the structure.

The following report details the basis of these findings and SDII's recommendations. A list and definitions of terms utilized in this report is provided in the Glossary.

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APPENDIX

1.0 INTRODUCTION

1.1 Background

SDII Global Corporation (SDII) was retained by State Farm Florida Insurance Company to conduct a subsidence investigation in accordance with §627.707 Florida Statutes at the Pelham residence in Lake City, Florida. The purpose of the investigation was to determine the existence of sinkhole activity and a sinkhole loss as defined by §627.706 Florida Statutes at the residence. This report provides the results of the subsidence investigation.

1.2 Scope of Work

The following methods were used during the investigation to determine the existence of sinkhole activity at the residence.

- The residence was inspected to determine the nature and extent of reported damage and to observe existing conditions across the property.
- The homeowner was interviewed to obtain the timeline for the damage, chronology of construction, ownership of the structure, and background information relative to potential causes of damage to the structure.
- Available published data were reviewed regarding general geologic and hydrogeologic conditions in the area of the residence.
- A ground penetrating radar (GPR) survey was conducted inside and outside of the residence to determine the presence of anomalous soil conditions that might be indicative of karst activity, buried debris, or otherwise disturbed or unusual subsurface conditions.
- A two dimensional electrical resistivity (2DER) investigation was conducted in order to investigate subsurface conditions.
- Hand auger borings and push penetrometer soundings were advanced to determine the composition and strength of subsurface materials near the foundation.
- Standard penetration test (SPT) borings were advanced to determine the relative strengths of soils and to characterize deep geologic conditions.
- Representative soil and geologic material collected from the hand auger and SPT borings were analyzed in the laboratory to confirm visual interpretations and further characterize the properties of the materials.
- One test pit was excavated to observe foundation construction and geometry directly.
- Relative floor elevation contour mapping was completed to identify anomalous floor elevation trends and establish a baseline contour map of the existing floor elevation.

- A structural assessment was completed to identify construction methods and structural deficiencies related to the potential causes of observed conditions.

- This final report was prepared to summarize the results of the field investigation and structural assessment. This report provides conclusions concerning the existence of sinkhole activity as defined by Florida Statutes and the cause of the reported damage to the structure.

1.3 Definitions

In 2005 and 2006, the Florida Legislature revised §627 Florida Statutes, including the sections that pertain to sinkhole definitions and investigations. SDII adheres closely to these definitions and protocols when investigating sinkhole claims. Specifically, §627.706 F.S. includes the following definitions, which are utilized by SDII in determining the causes of damage to a structure.

According to §627.706 F.S., a "'Sinkhole' means a landform created by subsidence of soil, sediment, or rock as underlying strata are dissolved by groundwater. A sinkhole may form by collapse into subterranean voids created by dissolution of limestone or dolostone or by subsidence as these strata are dissolved."

A "'Sinkhole loss' means structural damage to the building, including the foundation, caused by sinkhole activity."

"Sinkhole activity", as defined by §627.706 F.S., "means settlement or systematic weakening of the earth supporting such property only when such settlement or systematic weakening results from movement or raveling of soils, sediments, or rock materials into subterranean voids created by the effect of water on a limestone or similar rock formation."

In addition, §627.7072 F.S. cites procedures to follow in a subsidence investigation and Florida Geological Survey Special Publication No. 57 (SP 57) lists certain protocols and investigation methods that have been found to be useful in identifying the causes of damage to structures in Florida. The tasks listed in Section 1.2 of this report were specifically chosen to address the conditions described in §627.706 F.S. and protocols described in SP 57 and Ch. 627.707 F.S.. The results of the tasks are presented below, and the methods are explained in Appendix A, which also cites appropriate standard methods for the tests.

1.4 Site Reconnaissance

Legal Description

The legal description of the property as provided by the Columbia County Property Appraiser's website is: COMM INTERS E LINE OF NE1/4 OF NW1/4 & N R/W CR-242, RUN W 224.32 FT, N 747.5 FT FOR POB, RUN W 170 FT, N 172.5 FT, E 170 FT, S 172.5 FT TO POB. (AKA LOT 5 BLOCK B PICADILLY PARK S/D UNREC) ORB 389-297, 763-683

General Site Observation

The structure is a single-family home located at 262 Southwest Angela Terrace in Lake City, Florida (Figure 1). According to information provided by the Columbia County Property Appraiser's website, the one-story structure was built in 1973. There were no reported or observed additions. The current owners have owned the home since 1992.

The ground surface sloped down toward the southeast portion of the property. The observed damage to the house consisted of cracks in the walls, floor, and ceiling of the residence. According to the homeowner, the damage was first noticed in June 2007.

A more detailed description of the observed damage is discussed in "Section 3.0 Structural Evaluation". Photographs showing representative examples of the observed damage to the structure are provided on Figure 2. A complete set of photographs taken at the property has been archived and is available upon request.

1.5 Review of Published Soils Data

The Soil Conservation Service (SCS) Soil Survey for Columbia County[1] lists the soils near the residence as Blanton fine sand, 0 to 5 percent slopes. This is a moderately well drained, nearly level to gently sloping soil on broad ridges and undulating slopes. The areas of this soil range from about 20 to 1,000 acres and are irregular in shape.

Typically, the surface layer is gray fine sand about 7 inches thick. The subsurface layer is very pale brown fine sand in the upper 30 inches and light gray fine sand in the lower 15 inches. The subsoil extends to a depth of 80 inches. In the upper 10 inches, it is light yellowish brown fine sandy loam with brownish yellow mottles; in the next 5 inches, it is very pale brown with strong brown and pale brown mottles; and in the lower part, it is light brownish gray fine sandy loam with strong brown mottles.

This Blanton soil has a water table at a depth of 5 to 6 feet most of the year. In wet seasons, a perches water table is above the subsoil for less than a month. The available water capacity is medium in the surface layer and low in the subsurface layer and subsoil. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility and the organic matter content are low.

[1] Soil Conservation Service, 1984. Soil Survey of Columbia County. U.S. Department of Agriculture

1.6 Review of Published Topographic Data and Aerial Photographs

The U.S. Geological Survey topographic map of the area[2] indicated that the estimated ground surface elevation for the site is approximately 95 to 100 feet NGVD.

Closed depressions that might indicate ancient sinkhole activity were shown on the topographic map within a mile of the house. Closed depressions do not necessarily indicate current sinkhole activity and may represent other origins of the landform.

1.7 Review of Published Hydrologic Data

The potentiometric surface of the Floridan Aquifer in the area of the residence had an estimated range from 30 to 40 feet above mean sea level.[3] This elevation range is below land surface and the apparent elevation of the water table, so there is a downward vertical hydraulic gradient.

1.8 Review of Published Regional Geologic Conditions

This regional geology section was developed from a number of regional geologic investigations and is intended to provide a context for understanding the geology of the area in which the residence is located.

The study site is located within the Northern Highlands Physiographic Province of Florida.[4] Land surface elevations in this region range from approximately 70 to 215 feet above sea level.[5] The gentle slopes of the terrain reflect the Wicomico, Sunderland, and Coharie marine terraces, which were formed by changes in sea level during the Pleistocene Epoch.

In this region, three major geologic formations have influenced the development of soils and karst. They are, in order of youngest to oldest, Plio-Pleistocene shelly terrace deposits, the Miocene Coosawhatchie Formation and the Eocene Ocala Limestone.

Throughout the region, the surface cover consists of undifferentiated Plio-Pleistocene sand, shelly sand, clayey sand and clay.[6] These sediments typically contain phosphorite, are fine to medium grained, gray to brownish in color, and poorly to moderately consolidated.

The Miocene Coosawhatchie Formation is a mixed clastic-carbonate unit composed of interbedded quartz sand, clay, and dolostone. The quartz sand is typically greenish gray, light gray, or olive gray in color, clayey, fine to medium grained, and poorly consolidated. The clay in the Coosawhatchie Formation may be light olive gray to olive gray in color, sandy, silty, calcareous or dolomitic, and poorly to moderately consolidated. The dolostone is typically sandy,

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[2] U.S. Geological Survey, 1993. Columbia Quadrangle. Washington, D.C., 1:24,000 topographic map.
[3] SRWMD, 2003. Potentiometric Map of the Upper Floridan Aquifer in the Suwannee River Water Management District, May, 2002. Suwannee River Water Management District. Live Oak, Florida.
[4] Puri, H. S. and R. O. Vernon. 1964. Summary of the Geology of Florida and Guidebook to the Classic Exposures. Florida Geological Survey Special Publication no. 5 (revised). 312 p.
[5] Healy, Henry G. 1975. Terraces and Shorelines of Florida. Florida Bureau of Geology Map Series No. 71.
[6] Scott, T. M., K. M. Campbell, F. R. Rupert, J. D. Arthur, T. M. Missimer, J. M. Lloyd, J. W. Yon, and J. G. Duncan. 2001. Geologic Map of the State of Florida. Florida Bureau of Geology, Map Series No.114.

clayey, micro to fine crystalline (dolosilt), and poorly to moderately indurated. Phosphorite is common throughout the Coosawhatchie Formation.[7]

The Eocene Ocala Limestone is a relatively pure limestone with some dolostone. The upper sections of the formation can be extensively weathered and exhibit karst features tens of feet in relief. These karst features are most frequently described pinnacles and pits in the limestone surface into which Miocene sediments or Plio-Pleistocene clastics have been deposited.

In this region, low-resistance materials and losses of drilling fluid circulation during standard penetration tests are often related to shallow weathering or erosional features at or near the epikarst, or with ancient erosional features near strata contacts. Sinkhole activity in this geologic setting is controlled largely by the thickness of the Miocene sediments that cover the limestone. This cover ranges from approximately 30 to 200 feet thick. When sinkholes do occur in this geologic setting, they may be numerous, vary in size, and open abruptly.[8]

[7] Scott, T. M. 2001. Text to Accompany the Geologic Map of Florida. Florida Geological Survey Open File Report 80.
[8] Sinclair, W. C. and J.W. Stewart. 1980. Sinkhole Type, Development and Distribution in Florida. Florida Bureau of Geology Map Series No. 110.

2.0 GEOLOGIC AND GEOTECHNICAL EVALUATION

Site specific geologic and geotechnical evaluations were used to help characterize subsurface conditions at the site. Geologic/geotechnical field tests performed at the site included:

- Ground penetrating radar (GPR) survey,
- Electrical resistivity investigation,
- Hand auger (HA) borings, and
- Standard penetration test (SPT) borings.

Results of the field tests are provided in this section. Note that the order of numbering or lettering of field tests is arbitrary and not indicative of priorities or the sequence of the investigation.

The procedures used for field sampling and testing were in general accordance with industry standards of care and established geologic and geotechnical engineering practices. Appendix A cites and discusses those methods.

2.1 Ground Penetrating Radar Survey and Electrical Resistivity Investigation Results

SDII acquired GPR data around the perimeter of the structure, as well as inside the home. The exterior GPR survey was performed along transect lines established on an approximate 10-foot by 10-foot grid. The interior GPR survey was performed in accessible areas within the home. Figure 3 shows the locations of the GPR transect lines. Equipment settings for the GPR survey are indicated in Table 2.

GPR survey results indicated the presence of one set of reflectors on the GPR data. This reflector set was nearly horizontal and apparently continuous across a majority of the project site. This reflector set appears to correspond with an abrupt change in soil conditions, such as soil type or moisture content. The depth to this reflector set ranged from 2 to 5 feet bls.

Review of the GPR data indicated that no subsurface anomalies commonly associated with sinkhole activity were present within the surveyed areas of the project site above the limits of the radar wave penetration. However, the GPR data did indicate numerous shallow discrete reflections, likely due to the presence of roots.

A two-dimensional electrical resistivity (2DER; Appendix A) investigation was also conducted at the site. Four transects were laid out as illustrated in Figure 3. Data were collected for each transect utilizing both the dipole-dipole and Schlumberger electrode arrays. Note that electrical resistivity is sensitive to electrical interferences, so transect placement attempted to minimize interference while optimizing information content. Survey parameters and inversion results are presented in Table 3. Measured and model calculated apparent resistivity plots, along with the inverted resistivity section for each transect, are illustrated in Appendix C.

Depths of penetration in the transects ranged from approximately 15 to 23 feet bls, depending on electrode spacing and configuration, and transect length. There is generally good agreement

between results for each array type for each line. Overall quality of the 2DER data is generally good, as evidenced by the high number of data points retained in the inversion and the low RMS errors (see Table 3). The results of the 2DER transects indicate a decrease in resistivity with depth, possibly due to an increase in moisture content, a change in soil conditions, or both.

Review of the 2DER data indicated that no subsurface anomalies commonly associated with sinkhole activity were present within the surveyed areas of the project site above the survey depth of penetration. The apparent low-resistivity features observed in the data collected from the southwest portion of the property are artifacts of electrical interference due to the proximity of the septic tank and drain field.

2.2 Hand Auger Boring and Push Penetrometer Sounding Results

Hand auger borings were advanced near the foundation of the structure to observe soil conditions and collect soil samples. The locations of the borings are shown on Figure 4. Hand auger boring logs are provided in Appendix B.

The hand auger boring data indicated that the soils at the site were not consistent with the mapped soil type as shown in the County soil survey (Section 1.5), encountering poorly graded sand with silt, sand, poorly graded sand with clay, and clayey sand (SP-SM, SP, SP-SC, and SC). Additionally, two shovel test excavation pits performed along the south side of the structure encountered concrete and brick debris.

The water table was not encountered in hand auger borings HA-1, HA-3, HA-4, or HA-5. The water table was encountered at 3 feet bls in hand auger boring HA-2.

Push penetrometer tests were performed to depths of 1 to 4 feet bls in the hand auger borings to indicate the relative resistances of shallow soils. The push penetrometer test results indicated soil resistance values of 25 to 40 kg/cm^2. The tests indicate loose soil conditions.

2.3 Standard Penetration Test Results

SPT borings were located in three areas of the project site as shown on Figure 4. The borings were located near damage to the house. The lithologies, blow counts, and drilling conditions from each SPT boring are illustrated in Appendix D. Refer to the Glossary for the meanings of terms used on the boring logs.

The SPT boring data indicate that the site geology is somewhat consistent with the regional geology (see Section 1.8) with sand, clayey sand and clay overlying limestone. Strata thicknesses and depths to limestone varied somewhat among the borings. The final depths of the borings ranged from 36 to 65 feet bls.

The N values in B-1 gradually fluctuated throughout the boring with subtle declines between 15 and 45 feet bls. Clay was first encountered at 8 feet bls. Limestone was first encountered at 53.5 feet bls. A loss of drilling fluid circulation occurred within the limestone at 55 feet bls in B-1. There was no weight-of-rod/hammer strength material encountered in B-1.

The N values in B-2 generally increased with depth to 25 feet bls. Below 25 feet bls, the N values decreased as the clay content increased. The N values again increased after limestone was encountered at 38 feet bls. There was a loss of drilling fluid circulation at the top of the limestone at 38 feet bls in B-2. There were no weight-of-rod/hammer events in B-2.

The N values in B-3 remained constant through sand and clay-rich material. Below 34 feet bls, the N values increased through limestone with chert to the termination depth of the boring at 36 feet bls. No weight-of-rod/hammer events were encountered in B-3. No loss of drilling fluid circulation occurred in B-3.

The SPT boring data indicate that sinkhole activity cannot be ruled out at the site. The pattern of declining N values above limestone in the boring profiles may suggest a potential for raveling.

2.4 Laboratory Soil Analysis

Laboratory analyses of soils are used to determine the suitability of the soil for construction and load bearing as well as for quality-control purposes. The analytical methods for laboratory tests included in this investigation are summarized in Appendix A. Results from the tests are provided in Appendix E.

Representative soil samples were obtained from hand auger boring HA-5 (Figure 4) and analyzed for percent retained on the No. 40 sieve, percent passing the No. 200 sieve, and natural moisture content. The laboratory data indicated that the samples were clayey sand (SC) with approximately 16 to 17 percent fines contents. The clay or silt-sized fractions were not present in quantities sufficient to indicate a concern for soil suitability.

Soil samples from hand auger borings HA-1 through HA-5, and from SPT borings B-1 thru B-3, were analyzed for expansive characteristics using the Atterberg limits and compared to the Army Corps of Engineers classification system (Appendix A and Table A-1). The laboratory data indicated that some of the clay-rich soils have the potential for expansive behavior. Based on the results of the Atterberg limits tests, the analyzed materials were classified as having low to marginal expansive behavior.

The soil sample taken from B-1 was further analyzed for grain size using hydrometer methods (Appendix A) to better define the silt and clay content. The sample collected for hydrometer analysis was obtained from depths ranging from 8 to10 feet bls. The clay-size fraction was approximately 54 percent.

Based on these analyses, activity can be calculated by:

Activity = Plasticity Index / weight percent finer than 2 microns.

The sample exhibited an activity of 0.52. The activity is compared to the clay fraction within the sample to obtain an accurate swelling potential for the soil sample. The Soil Swelling Potential diagram (Appendix A) compares the soil sample activity to the clay content, and depicts swelling potential of the soils within graphical regions on the diagram. Based on this graphical depiction, the sample had a medium to high swelling potential.

2.5 Geologic and Geotechnical Evaluation Summary

The SPT boring data indicate that sinkhole activity, as defined by §627.706 Florida Statutes, cannot be ruled out at the site. The pattern of declining N values above limestone in the boring profiles may suggest a potential for raveling.

3.0 STRUCTURAL EVALUATION

3.1 Scope of Structural Evaluation and Overview of Site Conditions

The purpose of the visual, structural assessment of the Pelham residence was to help determine the probable causes that have contributed to the damage of the residence. In addition, the structural assessment provides critical information in determining the appropriate remedial actions for structures that may have been damaged by sinkhole activity. The homeowner, Mrs. Pelham, was present during the field portion of the assessment.

According to information provided by the Columbia County Property Appraiser's website, the single-story structure was built in 1973. There were no reported or observed additions. The structure faces generally south and is constructed of wood exterior, load-bearing walls clad with brick veneer. The floor of the residence consists of a soil-supported, concrete slab-on-grade. The main roof structure was gable in design and was covered with asphalt shingles.

A test pit (TP) excavation was performed along the perimeter of the main structure to directly observe the foundation construction and geometry. For the approximate location of the test pit excavation see Figure 4.

The results of TP-1 indicate that the foundation of the structure consists of a masonry block stem wall on a continuous strip footing. The footing measured approximately 8 inches thick by an estimated 16 inches wide and the bottom of the footing was 21 inches bls. The stem wall was 36 inches in height and was offset 4 inches on the footing. The floor of the structure was a concrete slab-on-grade. The top of the slab was 23 inches above the existing ground surface.

3.2 Summary of Structural Damage

The following paragraphs summarize the damage noted during the investigation. Approximate locations and photographs representative of the damage are illustrated in Figure 2.

SDII observed a crack above the doorway leading to the southwestern bedroom. There was distress to the drywall at the northeast corner of the living room and the southwestern bedroom. SDII noted cracks at the entrance to the master bedroom at the northern portion of the residence.

There were cracks in the ceiling in the family room ranging from hairline to $1/16^{th}$ inch in separation. SDII observed a separation at the wall/ceiling interface in the southeast bedroom. The slab in the southeast bedroom at the southeast and southwest corners has separated from the baseboard. The slab in bedroom number two at the southwest corner has separated from the baseboard. There was no reported or observed damage on the exterior of the residence.

The concrete driveway has cracked in half and caused a lateral offset that ranges from ½ inch to one inch in separation. The concrete walkway on the western side had two lateral offsets ranging from 1 ½ inch to 2 inch in separation.

3.3 Relative Floor Elevation Contour Map

The data for a relative floor elevation contour map were collected on August 7, 2007. The methods used to evaluate the floor configuration are described in Appendix A.

The floor elevation map indicated that there was a total elevation difference of approximately 3.0 inches across the floor slab of the main living area of the residence. There was a slope of approximately 2.1 inches over a span of 15 feet recorded descending toward the southern portion of the structure. It is important to note that this slope corresponds to the extensive damage observed in the southern portion of the residence. This correlation indicates that differential foundation movement has occurred at this portion of the structure.

The floor elevation map indicated that there was a total elevation difference of approximately 1.1 inches across the floor slab of the master bedroom at the northern portion of the residence. The highest elevation was recorded at the central portion of the floor slab and the floor elevations generally decreased in a radial pattern toward the exterior walls. Based on the magnitude and pattern of elevation change, it is the opinion of SDII that this portion of the residence has experienced differential movement of the foundation. The floor elevation differential in the adjacent laundry room was minimal.

Figure 5 depicts the contour map showing the relative elevations of the floors. Where carpeting, wood, tile, or other floor coverings exist, corrections have been made to obtain the top of slab elevations.

3.4 Evaluation of Structural Damage

The observed damage on the exterior and interior of the residence is consistent with either the direct result or the collateral effect of differential movement of the foundation. The direct result of differential movement of the foundation occurs when a portion of the structure is damaged directly due to a loss of support of underlying soils. The collateral effect occurs when stresses resulting from uneven foundation settlement are redistributed through the structure. Differential movement results in the cracking of concrete, masonry and drywall, and in some cases results in the sloping of the floor slab. See Section 2.0 "Geologic and Geotechnical Evaluation" for further discussion of deleterious soil conditions encountered at the site that may have initiated the differential movement of the foundation.

3.5 Summary of Structural Evaluation

It is the professional opinion of SDII that the damage to the residence is the direct and/or collateral result of differential movement of the foundation.

3.6 Remedial Recommendations

The geologic and geotechnical investigations concluded that sinkhole activity is occurring at the site. It is our recommendation that the subsurface soils be stabilized to minimize further subsidence damage. Stabilization should be accomplished through grout injection to compact and

densify the sandy soils beneath the residence. Grout injection is also intended to seal the top of the limestone surface to minimize future raveling.

The grout stabilization should incorporate 22 injection points spaced approximately 10 feet on center around the perimeter of the structure. The grout points should be vertical and inclined as shown on Figure 6.

The depth of grouting, based on the field boring logs is likely to vary from approximately 45 to 60 feet. Typical compaction grout mix with a slump between 4 and 6 inches should be used, pumped at slow enough rates such that the grout will densify and not merely hydro-fracture the soil. The elevation of the structure should be monitored continuously during the grouting process to minimize unnecessary upward movement.

The total quantity of grout required can vary based on site conditions, but is likely to be between 200 and 275 cubic yards (cy). The estimated cost for repair is based on the higher volume of grout.

Following the grout injection, it is our recommendation that the foundation of the residence be stabilized through the installation of underpinning piles around the perimeter of the structure. The intent of the underpinning is to resupport the foundation/slab on piles bearing on competent material at depth. The installation of the underpinning piles will lift and support the structure and span the clay shallow soils that exist at the site. The underpinning pile assembly, including mounting bracket, is to have a minimum load capacity of 30 kips. The contractor is to submit the proposed pin pile system to SDII for approval.

It is important to note that the optimum level to which the structure can be lifted as a result of the underpinning process is a function of the structural configuration as well as the amount of long-term and irreversible stresses that have accumulated. It may not be practical to attempt to completely relevel the structure, as excessive collateral damage may result. It is our recommendation that the structure be carefully monitored during the lifting process. It should be noted that the contractor is responsible for the means and methods of construction.

The underpinning piles should be installed around the perimeter of the house. These piles should be driven, hydraulically advanced or drilled to bear on competent material at depth. Alternate pile installation methods must be submitted to SDII for approval. The depth of underpinning is estimated to be approximately 45 to 60 feet. Pile spacing should be approximately 6 feet on center. Approximate pile locations are shown on Figure 7. These locations will require adjustment by the Contractor based on site conditions.

A list of estimated quantities for repair is provided below. It does not include estimates for engineering supervision during remediation, nor does it include estimates for cosmetic repairs, which should be estimated by a qualified insurance adjustor or contractor. Cosmetic repairs should be postponed for 30 days after the installation of the steel pin piles to allow any final ground movement to occur.

A. Install grout pipes: 22 @ 50 feet (avg)

B. Grouting: 275 cy

C. Install pin piles: 34 exterior piles and 11 interior piles

D. Site Restoration

Continuous monitoring by SDII personnel during remediation is suggested to verify compliance with these recommendations and to make necessary adjustments to the remediation program due to unforeseen site conditions.

4.0 CONCLUSIONS

It is SDII's professional opinion that sinkhole activity as defined by §627.706 Florida Statutes cannot be ruled out at the Pelham residence within reasonable probability. The pattern of declining N values above limestone in the boring profiles may suggest a potential for raveling. Furthermore, based on the data presented herein, it is SDII's professional opinion within reasonable probability that a sinkhole loss, as described by §627.706, has occurred at the Pelham residence.

The damage to the residence is the direct and/or collateral result of differential movement of the foundation.

SDII recommends that the sinkhole conditions be remediated using grout injection to increase the density of the soils and cap the limestone. Following the grout injection, it is our recommendation that the foundation of the residence be stabilized through the installation of underpinning piles around the perimeter of the structure. SDII also recommends that the remediation program be monitored in order to verify that it is completed in accordance with our recommendations.

5.0 LIMITATIONS

5.1 Ground Penetrating Radar

According to ASTM D6429, GPR is the preferred method for investigating "voids and sinkholes". This is because the method provides high-resolution data with a minimum of interferences. GPR has been used in similar investigations to help identify shallow subsurface conditions that are frequently associated with karst features. In many cases, a GPR investigation has resulted in the identification and mapping of the boundaries of karst features and has helped characterize their size and geometry. However, this method is limited to the ability of the GPR unit to collect interpretable data at the project site. There is a possibility that karst features may exist at the project site and not be detected by the GPR technique due to small size, subsurface soil conditions, or the occurrence of such karst features below the depth of penetration of the GPR signal. Note that many GPR anomalies are not sinkhole or karst features. The presence of an anomaly should not be construed to reflect sinkhole activity simply because of its existence.

5.2 Electrical Resistivity

Electrical resistivity (ER) is a geophysical exploration tool that is used to detect lateral and vertical variability in the shallow subsurface. The method involves setting up an array of metal electrodes that are inserted into the ground at regular intervals. As electrical current is passed between two electrodes a potential difference (a measure of how readily the current flows through the ground) is measured between two other electrodes. This potential difference depends on how good the soil is as an electrical conductor (the inverse of conductivity is resistivity). The potential difference is related to an apparent resistivity value based on the geometry of the current and potential electrodes during a particular measurement. There are three different electrode configurations that are commonly used in ER investigations. These configurations, Wenner, Schlumberger, and dipole-dipole, provide different data configurations and assist in interpretation of subsurface conditions.

In order to generate a two-dimensional view of apparent resistivity, measurements are obtained at a variety of electrode spacings and positions along traverses. The maximum depth of penetration is generally related to the maximum electrode separation achieved in a given survey. The two-dimensional sections developed by ER utilizing multiple electrode arrays are called 2-D electrical resistivity (2DER) sections.

ER is considered a secondary method for detection of "voids and sinkholes" (ASTM D 6429). Unlike GPR, ER has the capability of penetrating clay- and organic-rich soils, so ER presents some advantages over GPR. Use of ER, therefore, depends on site-specific needs and geologic conditions.

As required by ASTM Method D 6429, following an ER survey, the apparent resistivity data are processed utilizing a method called inversion to obtain a picture of the resistivity distribution in the subsurface. Resistivity depends on the types of geologic materials present, saturation levels, and the presence of man-made materials (i.e. house foundation, buried debris, etc.). Some degree of pre-processing of the apparent resistivity data is also usually done, to filter out noise in the

data resulting from difficulties encountered in the field (i.e. poor connection between the ground and electrodes). The quality of an inversion is evaluated based upon an RMS (root mean squared) error; generally an RMS error of less than 5 % indicates a good result. In practice, RMS errors are often much larger, due in large part to less than ideal field conditions.

ER methods can be used to detect unusual soil conditions (anomalies) in the shallow subsurface. These anomalies *may* reflect sinkhole conditions, underground utilities and structures, changes in soil composition, water content, or orientation, and many other conditions. As needed, SDII investigates these anomalies directly by standard penetration testing, cone penetrometer, or we place a boring between the anomaly and structure in order to determine if conditions represented by the anomaly extend to the structure.

ER methods are described in ASTM (American Society for Testing and Materials) Methods D 57 and 6431.

5.3 Standard Penetration Test and Hand Auger Borings

The determination of soil type and conditions was only done from the ground surface to the maximum depth of the borings. Any changes in subsurface conditions that occur between or below the borings would not have been detected or reflected in this report.

The maximum depth of hand auger borings is 10 feet bls unless otherwise noted.

Soil classifications are based upon identifiable textural changes, color changes, changes in composition, or changes in resistance to penetration at the intervals from which such samples were collected. Abrupt changes in soil type, as reflected in boring logs and/or cross sections, may actually represent gradual transitions.

Depth to the water table is based upon observations made while advancing hand augers and SPT borings. This depth is an estimate and does not reflect the annual or extreme variations that occur in this area due to fluctuations in rainfall, pumpage, and rates of evapotranspiration. Low permeability soils or sediments may not allow water to freely enter the borehole and, therefore, the water table may not be evident or it may only represent a transient condition. The depths are estimated from the immediate land surface, which is not surveyed or tied to a known reference elevation.

5.4 Site Figures

The measurements used for the preparation of the figures in this report were made with a fiberglass measuring tape or measuring wheel. Such measurements are usually accurate to within ±5 percent. Right angles were estimated from existing exterior walls at the house; such angles are usually accurate to within 5 degrees. Figures in this report were not prepared by a licensed land surveyor and should not be interpreted as such.

5.5 Conditions Described in this Report

Subsurface conditions and the construction and damage to the structure(s) investigated by SDII are subject to change. The conditions described in this report are, to the best of our knowledge, current at the time of the investigation, and they may not reflect historical or post-investigation conditions.

5.6 Use of This Report

This report was prepared for the exclusive use of State Farm Florida Insurance Company and its assigns. Use by persons or groups without the permission of State Farm Florida Insurance Company is not authorized.

6.0 ENDORSEMENTS

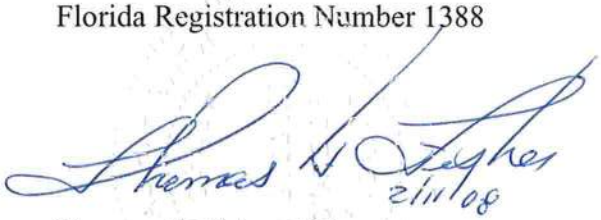
6.1 Compliance with Florida Statute Title XXXVII Chapter 627.7073

This report followed the Statutory requirements that it be prepared by an individual qualified to determine the existence of sinkhole activity and that the tests performed be of sufficient scope to eliminate sinkhole activity as the cause of damage. SDII certifies that this investigation was of sufficient scope to determine the cause(s) of damage within a reasonable probability as specified in §627.7073 Florida Statutes.

In accordance with Florida Statutes, the following individuals, who are licensed to practice in the State of Florida and are Principals of SDII, have supervised this investigation and report.

SDII GLOBAL CORPORATION

Monica L. Fowler, P.G.
Senior Geologist
Florida Registration Number 1388



Thomas H. Fisher, P.E.
Professional Engineer (Structural)
Florida Registration No. 58027

TABLES

Table 1

Chronology of Field Testing

Type of Field Test	Details	Date of Data Collection
Ground Penetrating Radar	Appendix A	August 7, 2007
Electrical Resistivity	Appendix A	August 17, 2007
Test Pit Excavation	Appendix A	August 7, 2007
Hand Auger Borings	Appendix A & B	August 7, 2007
Standard Penetration Testing	Appendix A & C	August 24, 2007
Relative Floor Elevation Contour Map	Appendix A & Figure 5	August 7, 2007

Table 2

GPR Instrument Settings

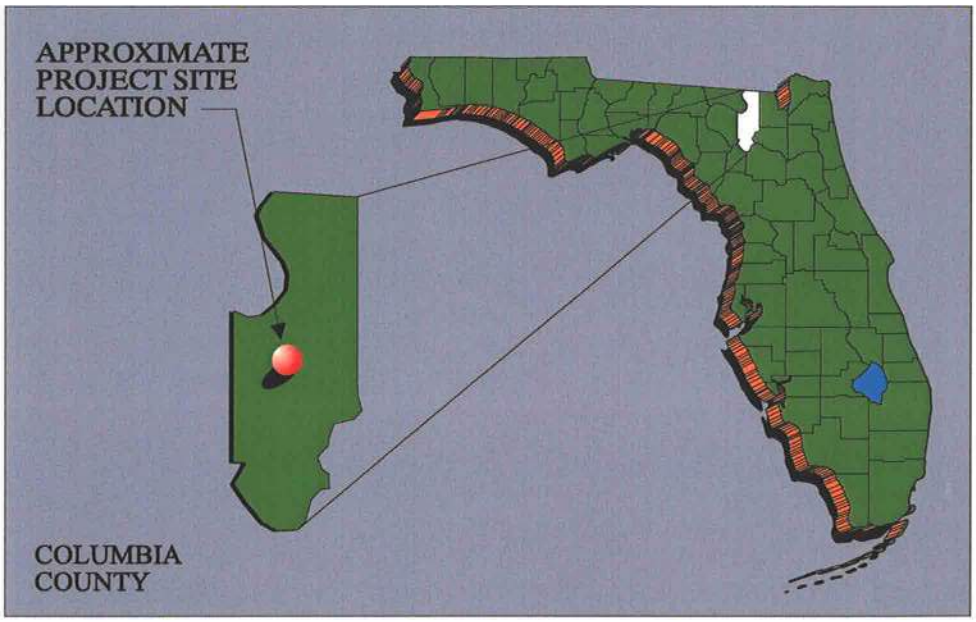
GPR Transects	Antenna Frequency (megahertz)	Time Range (nanoseconds)
Outside of Structure	200	110
	500	50
Inside of Structure	500	50

Table 3

2DER Survey Parameters and Inversion Results

ER Profile	Number of Electrodes	Electrode Spacing (ft)	Array Type	Total Data Points	Data Points Retained	RMS Error (%)
1D	24	4	Dipole-dipole	319	296	5.13
1S	24	4	Schlumberger	121	102	3.13
2D	19	4	Dipole-dipole	186	175	3.89
2S	19	4	Schlumberger	72	68	3.77
3D	18	4	Dipole-dipole	163	150	4.87
3S	18	4	Schlumberger	64	58	3.69
4D	21	4	Dipole-dipole	235	209	4.85
4S	21	4	Schlumberger	90	79	3.76

FIGURES



N

NOT TO SCALE

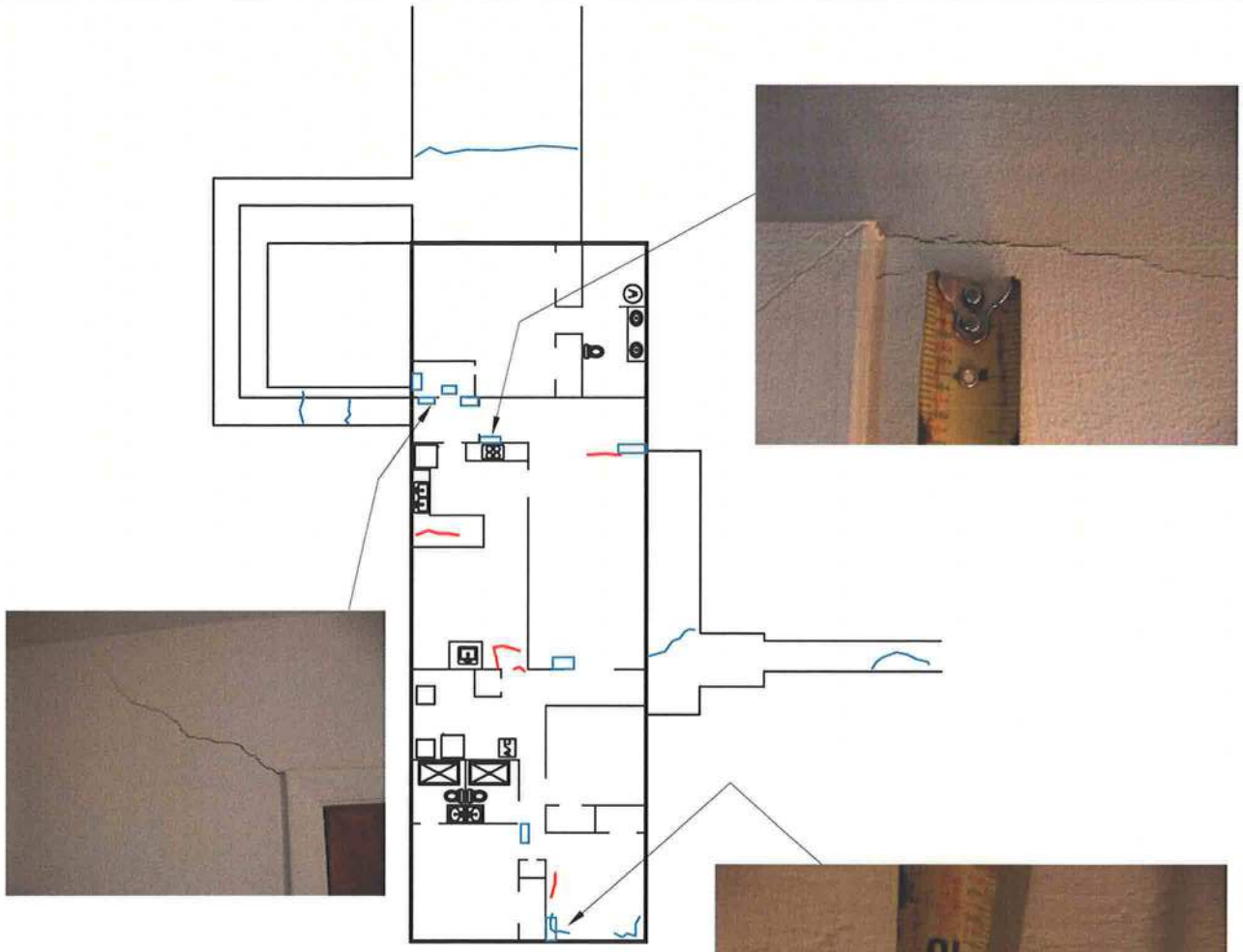
STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

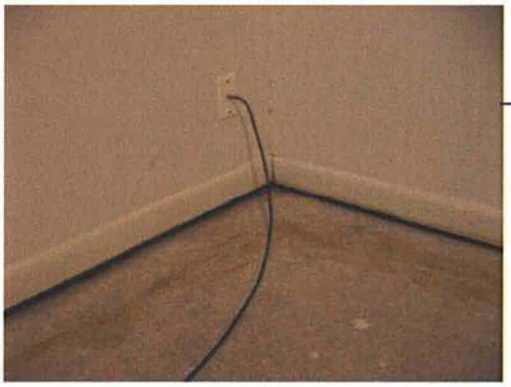
SDII GLOBAL

PROJECT SITE LOCATION MAP

PELHAM RESIDENCE
LAKE CITY, FLORIDA

DESIGNED BY:	MDZ	PROJECT NO.:	3017309	FIGURE 1
CHECKED BY:	SU	DRAWING NO.:	7309-1	
DRAWN BY:	JMW	DATE:	08/22/07	





APPROXIMATE LOCATION OF CRACKING/SEPARATION ON WALLS

APPROXIMATE LOCATION OF CRACKING/SEPARATION IN CONCRETE SLAB

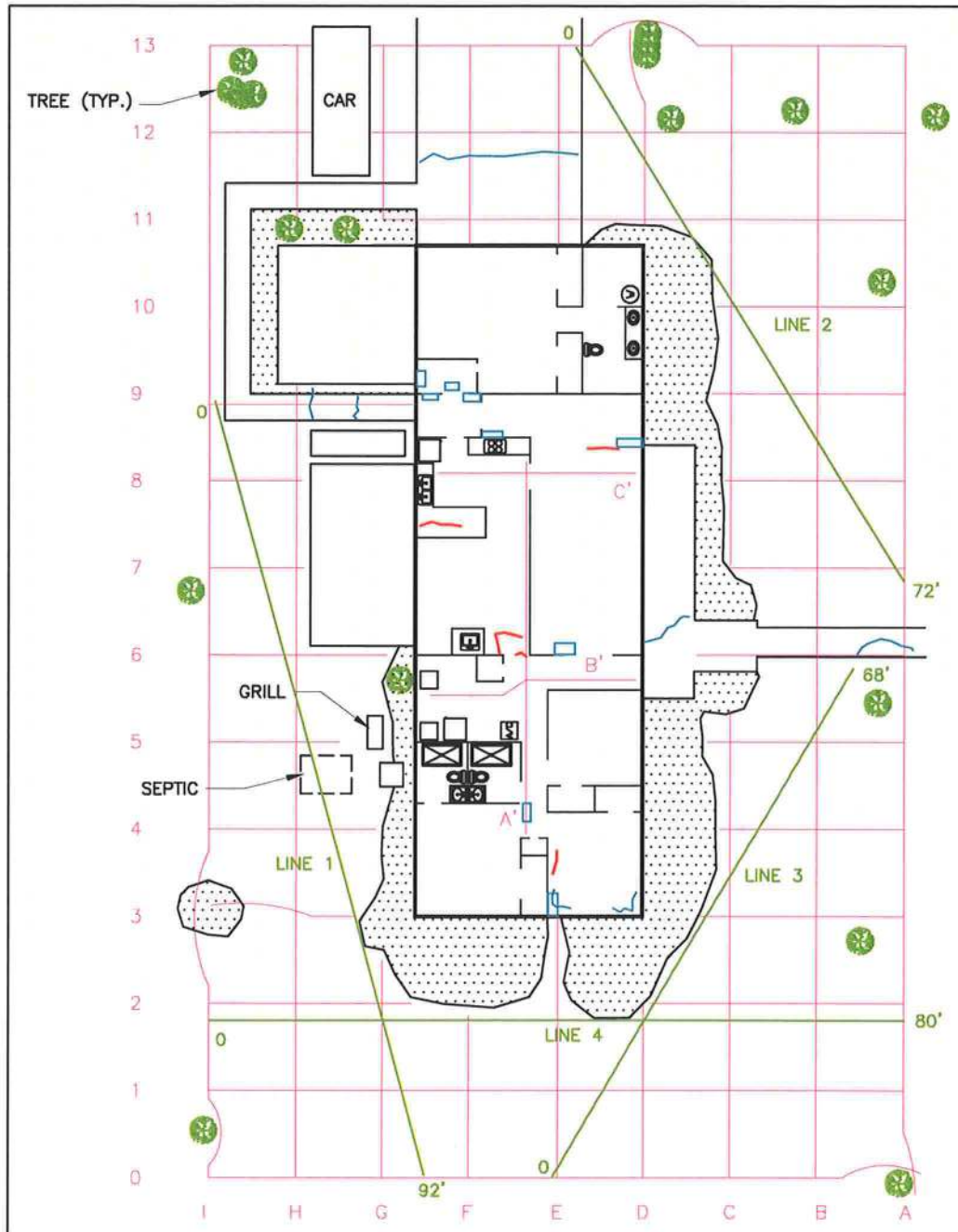
APPROXIMATE LOCATION OF CRACKING IN CEILING

N

0 20'

SCALE

STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA	SDII GLOBAL	SITE PLAN SHOWING APPROXIMATE LOCATION AND EXAMPLES OF OBSERVED DAMAGE PELHAM RESIDENCE LAKE CITY, FLORIDA	
		DESIGNED BY: MDZ CHECKED BY: SU CREATED BY: JMW	PROJECT NO.: 3017309 DRAWING NO.: 7309 -2 DATE: 08/22/07
			FIGURE 2



APPROXIMATE LOCATION OF GPR TRANSECT LINE
APPROXIMATE LOCATION OF SUBSURFACE ANOMALY WITH DESIGNATION
APPROXIMATE LOCATION OF AREA PARTIALLY OR TOTALLY INACCESSIBLE TO GPR SURVEY
APPROXIMATE LOCATION OF CRACKING/SEPARATION ON WALLS
APPROXIMATE LOCATION OF CRACKING/SEPARATION IN CONCRETE SLAB
APPROXIMATE LOCATION OF CRACKING IN CEILING
APPROXIMATE LOCATION OF ER ANOMALY
APPROXIMATE LOCATION OF ER LINE

N

0 20'

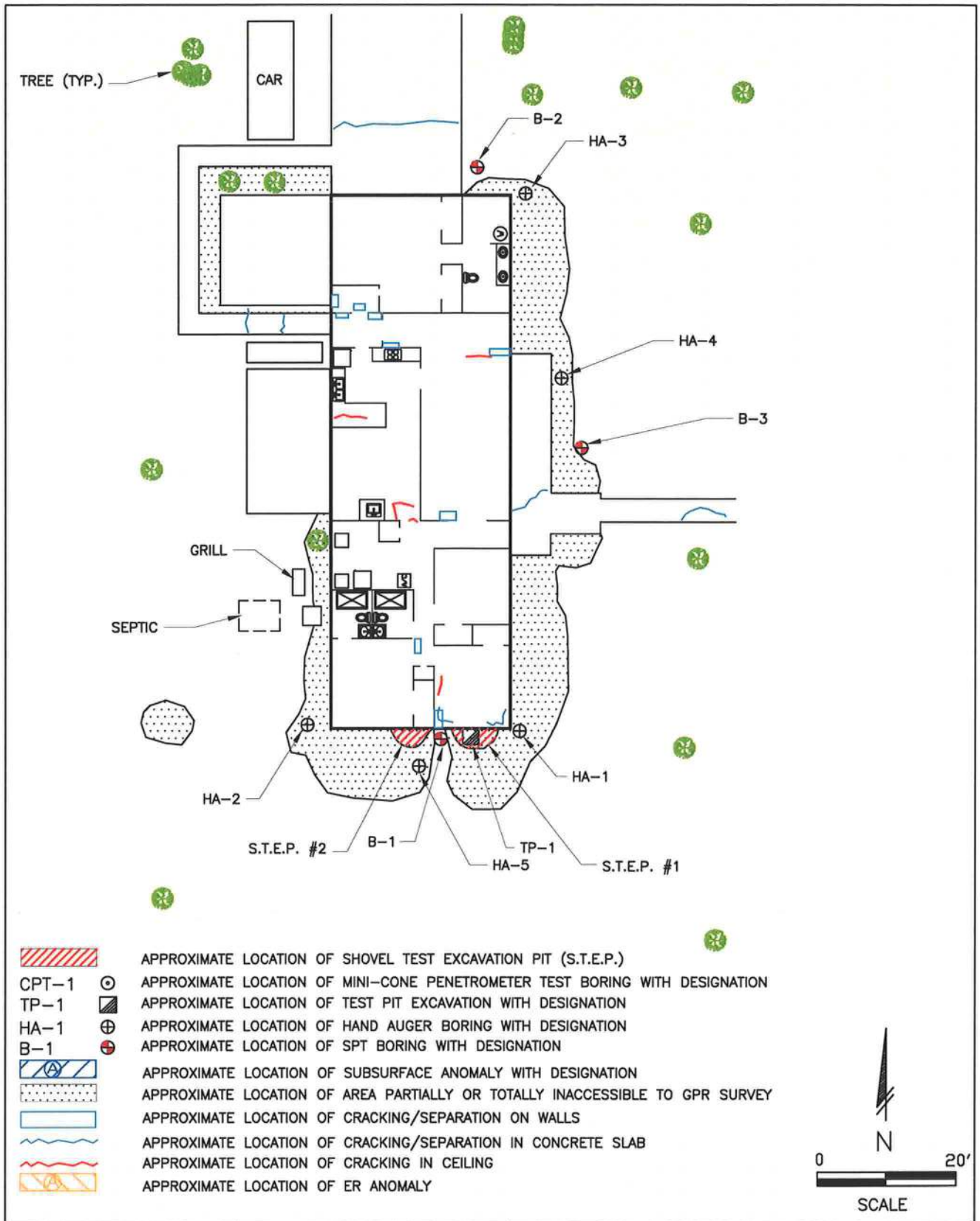
SCALE

STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA

SITE PLAN SHOWING APPROXIMATE LOCATION OF GPR SURVEY AND RESULTS

PELHAM RESIDENCE
LAKE CITY, FLORIDA

DESIGNED BY:	MDZ	PROJECT NO.:	3017309	FIGURE 3
CHECKED BY:	SU	DRAWING NO.:	7309 -3	
CREATED BY:	JMW	DATE:	08/22/07	

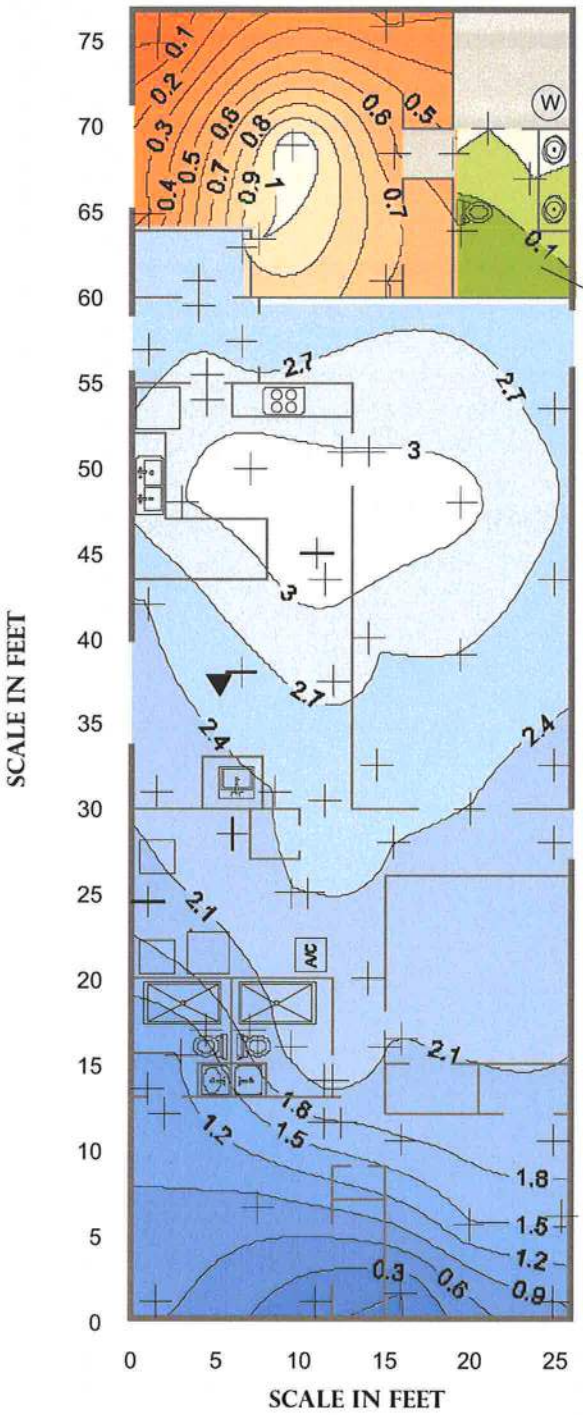


STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA

SITE PLAN SHOWING APPROXIMATE LOCATION OF FIELD TESTS

PELHAM RESIDENCE
LAKE CITY, FLORIDA

DESIGNED BY:	MDZ	PROJECT NO.:	3017309	FIGURE
CHECKED BY:	SU	DRAWING NO.:	7309-4	4
CREATED BY:	JMW	DATE:	08/22/07	



\+ INDICATES POINT OF MANOMETER DATA COLLECTION

▼ APPROXIMATE LOCATION OF MANOMETER

FFE FINISHED FLOOR ELEVATION OF MAIN LIVING AREA

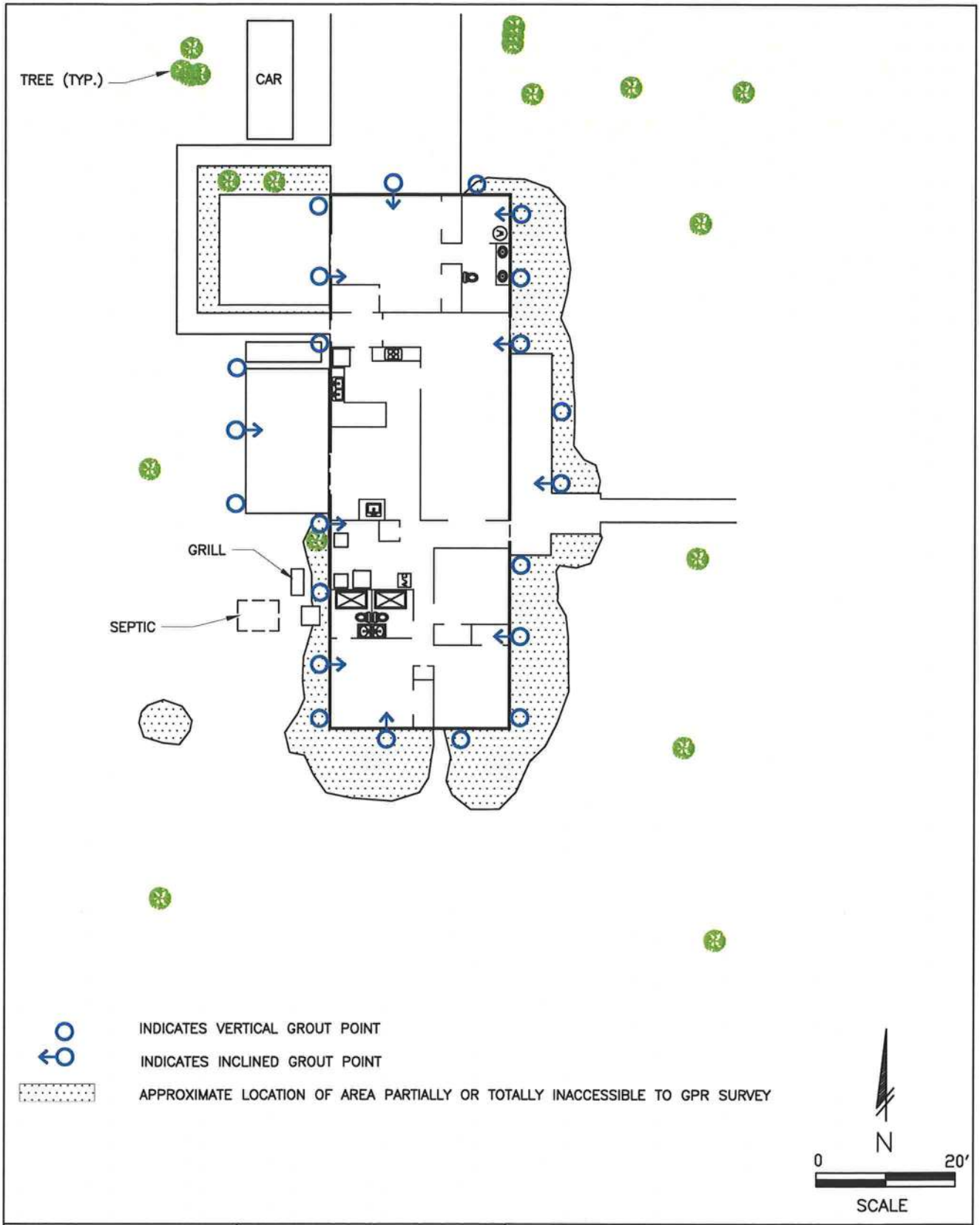
STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

SDII GLOBAL

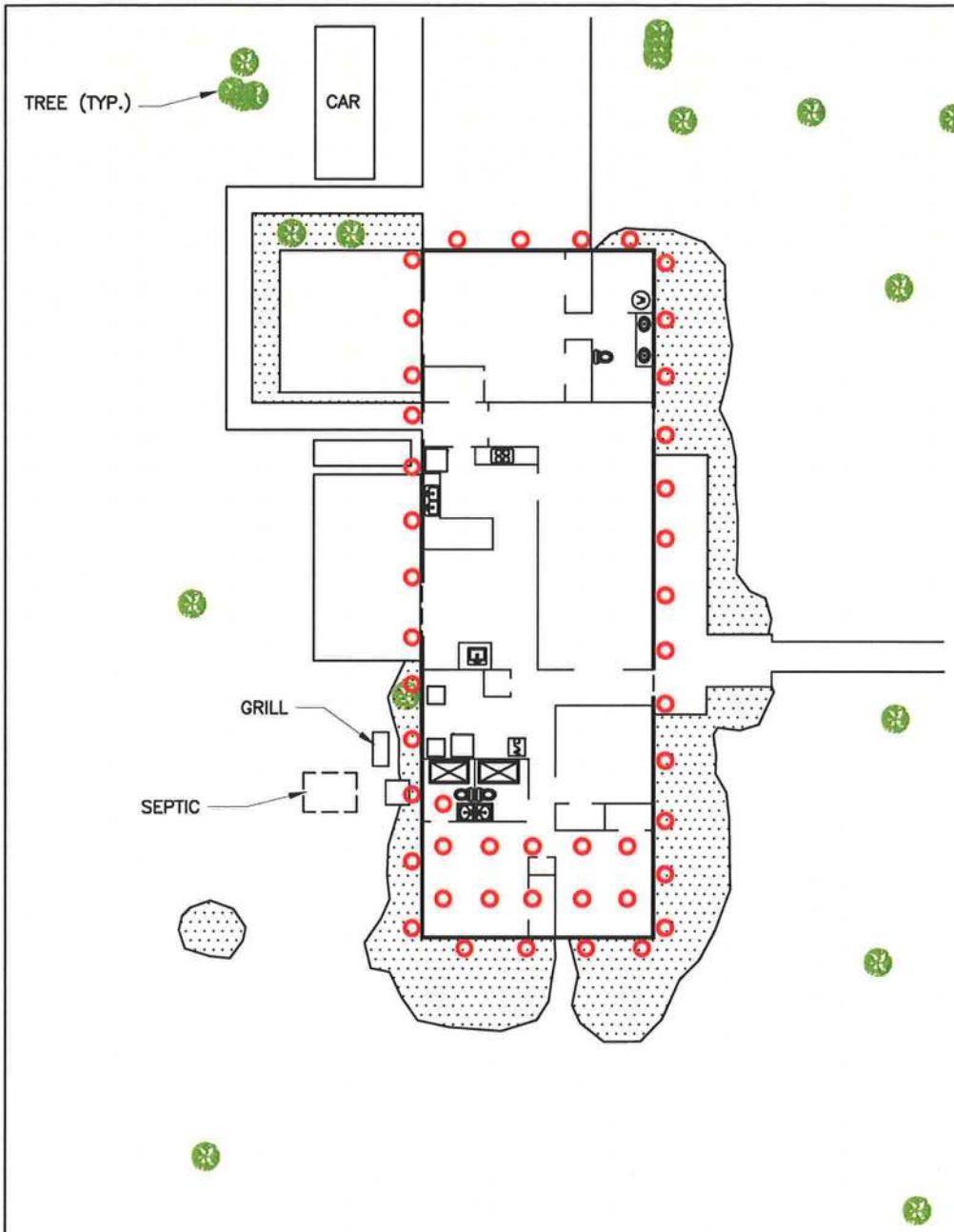
RELATIVE FLOOR ELEVATION CONTOUR MAP

PELHAM RESIDENCE
LAKE CITY, FLORIDA

SURVEYED BY:	LL	PROJECT NO.:	3017309	FIGURE 5
CHECKED BY:	THF	DRAWING NO.:	7309-5	
DRAWN BY:	OVS	DATE:	08/16/07	



STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA		SITE PLAN SHOWING APPROXIMATE LOCATION OF GROUT INJECTION POINTS		
		PELHAM RESIDENCE LAKE CITY, FLORIDA		
		DESIGNED BY: THF	PROJECT NO.: 3017309	FIGURE 6
		CHECKED BY: THF	DRAWING NO.: 7309-6	
		CREATED BY: JMW	DATE: 08/22/07	



INDICATES LOCATION OF PILE WITH SPREADER BEAM

INDICATES PILE LOCATION

APPROXIMATE LOCATION OF AREA PARTIALLY OR TOTALLY INACCESSIBLE TO GPR SURVEY

NOTES:
1) MAXIMUM PILE SPACING IS 6'-0" O.C.
2) DO NOT PLACE PILES UNDER WALL OPENINGS WITHOUT SPREADER BEAM
3) PILE ASSEMBLY TO HAVE A MINIMUM SERVICE LOAD CAPACITY OF 30 KIP
4) CONTRACTOR TO SUBMIT PROPOSED PILE SYSTEM TO SDII FOR APPROVAL

N

0 20'

SCALE

STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA

SITE PLAN SHOWING APPROXIMATE LOCATION OF PILES

PELHAM RESIDENCE
LAKE CITY, FLORIDA

DESIGNED BY:	THF	PROJECT NO.:	3017309	FIGURE
CHECKED BY:	THF	DRAWING NO.:	7309-7	7
CREATED BY:	JMW	DATE:	08/22/07	

APPENDICES

APPENDIX A

EXPLANATION OF METHODS

Ground Penetrating Radar

Ground penetrating radar (GPR) is a geophysical exploration tool that is used to detect shallow conditions in the soils adjacent to, and with appropriate conditions, underlying a structure. The method involves towing an antenna that generates a signal in the radar frequency range. This signal penetrates the soil and, upon encountering changes in soil conditions, a portion of the signal is reflected back to the antenna. By measuring the two-way travel time of this signal as it returns from a reflector, the general configuration of soil horizons can be mapped. The depth of penetration and quality of the data depend on the subsurface materials.

GPR methods are used to detect unusual soil conditions (anomalies) in the shallow subsurface. These anomalies *may* reflect sinkhole conditions, underground utilities, changes in soil composition, water content, or orientation; and many other conditions. SDII tests these anomalies directly by standard penetration testing, cone penetrometer, or we place a boring between the anomaly and structure in order to determine if conditions represented by the anomaly extend to the structure.

GPR methods are described in ASTM (American Society for Testing and Materials) Method D6432.

Electrical Resistivity Reconnaissance

ASTM Method D-6429 (Standard Guide for Selecting Surface Geophysical Methods) indicates that ground-penetrating radar (GPR) is the primary method suggested for sinkhole investigations. Electrical resistivity is recommended by ASTM as a secondary investigation tool because the method has the potential for exploration at somewhat greater depths than GPR may be able to penetrate, especially where clay or organics may interfere with the radar signals. Electrical resistivity, however, is prone to interferences that may limit its usefulness.

Electrical resistivity is a geophysical investigation tool wherein an electrical current is passed through the soil by current electrodes, and measurement electrodes inserted in the ground measure the resistance of the soil materials to current flow. Resistivity is the reciprocal of electrical conductivity. Because the electrical current passes between the two current electrodes in three dimensions, currents that pass vertically measure conditions in a vertical plane of the transect while currents that move horizontally may encounter out-of-plane interferences, such as might be caused by the foundation of the house, pipes and culverts, underground electrical service, and other features. These interferences can be mistaken for anomalies without careful analysis.

SDII utilizes a method where a line of electrodes is placed across the area of interest and data are collected from all possible combinations of current and measuring electrodes. The results of the

electrical resistivity reconnaissance are depicted in two dimensions – a cross section slice through the earth. Features off to the side of the resistivity transect are depicted as being in the plane of the cross section with the distance from the electrodes to the interference dictating the apparent depth of the feature on the cross section. Therefore, careful interpretation by a trained professional of the resistivity data is required.

SDII utilizes 2-dimensional electrical resistivity (2DER) to search for anomalous subsurface conditions when there is a need for additional exploration because of clays, organic-rich soils, or other conditions where 2DER is advantageous. A state-of-the-art, multichannel, computer served resistivity system is utilized. As required by ASTM D-6429, the data are post-processed using a software program that produces three diagrams, which are explained below. The instrument is a Supersting R8/IP Multi-channel Resistivity Imaging System and the data inversion software is EarthImager 2D (Advanced Geosciences, Inc.).

The data are presented as three cross-section like panels in this report. The top panel reproduces the resistivity data as collected in the field. The middle panel illustrates how the computer model reproduces the data after inversion, and the bottom panel is a representation of geologic conditions in the subsurface as interpreted by the computer model. The bottom panel is used to identify anomalous subsurface conditions that cannot be attributed to cultural interferences. The RMS (root mean squared) term indicated on this panel in the figures represents the percentage of the raw data that could not be accounted for in the computer model. It reflects uncertainty and can be used to estimate the reliability of the data.

The 2DER transects in Appendix C are labeled according to the type of electrode configuration. Transect names that end with "D" reflect dipole-dipole arrays and "S" indicated Schlumberger array. Where necessary, terrain effects are accounted for in the Inverted Resistivity Section. Terrain elevation differences were estimated relative to the transect line. Elevations represented in the Inverted Resistivity Section are relative and reflect depth.

Hand Auger Borings

Hand auger borings are utilized to collect soils near the foundation of the structure and in areas where sampling of the soils in the shallow subsurface is prudent. The hand auger consists of bucket-type sampler and an extendable handle. The bucket sampler has sharpened tines designed to cut into the soil. The soil passes through the tines and into a 3-inch cylindrical container from which the sample is removed. Soil samples are collected in increments of 6 inches. Soil samples are placed into containers and labeled for classification in the laboratory.

Hand auger borings are collected according to ASTM Method D1452.

Test Pit Excavations

Test pits are excavated at the foundation of investigated structures. If additions have been added to the house, or if the investigator has reason to expect that the foundation vary around the structure, more test pits will be excavated. The investigator excavates to the bottom of the

foundation, notes the manner of foundation and slab construction, and takes measurements where possible.

There are no published standards for test pit excavation.

Push (Hand) Penetrometer Measurements

The hand penetrometer measures the force required to thrust a probe into the soil. The hand penetrometer has been in use for many years, and experience has shown that there is a strong correlation between penetrometer readings and the bearing strength of the soil. The force required to advance the penetrometer is measured in mass per unit area.

There is no standard method for the hand penetrometer.

Standard Penetration Testing

The Standard Penetration Test (SPT) is the most widely used method for testing the strength (bearing capacity) of a soil. SPT is a standard method that involves driving a split spoon sampler into the soil by dropping a 140 lb. hammer 30 inches onto an anvil connected to the drill string. The number of hammer blows required to drive the spoon in 6-inch increments is counted (these are termed blow counts). For an 18-inch spoon, there are three blow count measurements, which are recorded as $n_1/n_2/n_3$ (i.e., 3/4/15). The blow count for the first 6 inches (n_1) is considered a "seating" blow count and is not considered a meaningful measurement. The seating blows set the spoon and cause the spoon to pass through any materials that have fallen into the hole or that have been disturbed by drilling. The second and third blow counts (n_2 and n_3) are summed ($N = n_2 + n_3$) to produce the N value. N is measured in blows per foot of penetration. If a 24-inch spoon is used, the second and third counts are used to calculate N. The fourth 6-inch interval is for added information and sample recovery; the count is not part of the N determination.

The split spoon is a hollow cylinder 2 inches in outside diameter and 1.5 inches inside. The spoon is split in half along its length (18 or 24 inches) so that the soil can be recovered after the spoon is retrieved. The spoon is broken open, and the soil can be easily extracted from the spoon for characterization.

It is possible to conduct SPT continuously above the water table if the soils do not cave into the borehole and if ASTM methods are properly followed. Unless there is a risk of encountering buried utilities or caving is probable, SPT measurements are usually taken continuously to a depth of 10 feet. If encountering a utility is a concern, the first few feet of the borehole may be hand augered. If caving is a problem, the SPT method utilizes drilling mud (a clay-water suspension) to stabilize the walls of the borehole. Typically, at 10 feet depth or when the water table is encountered, caving is a concern and mud rotary boring begins.

Rotary wash boring utilizes a rotating drill bit to cut through the soil. Drilling mud is flushed down the center of the drill pipe and bit (drill string), and it rises back to the drilling tub at the land surface where it is recirculated into the drill string. The mud cools the bit, stabilizes the borehole walls, and flushes cuttings out of the hole. The ASTM method calls for drilling by rotary wash methods for 3.5 feet, then using the split spoon to determine blow counts and collect

soil samples for the next 1.5 feet. Therefore, once mud rotary drilling is necessary, one N value is collected per 5-foot interval.

SDII utilizes a unique method to track and document circulation of drilling fluid. The Glossary defines the terms used to note the condition of circulation, and the SPT boring logs (Appendix C) present the relevant data for each borehole. We track two conditions: fluid return to the surface from the borehole and loss of fluid from the borehole into surrounding strata.

If the drill bit becomes clogged or if the clay content of the drilling fluid is high enough to increase the fluid viscosity and prevent the pumps from circulating the liquid, circulation may be reduced or eliminated. Loss of drilling fluid movement for these reasons does not suggest the presence of cavities or other sinkhole-related phenomena because the volume of drilling fluid in the system does not change. SDII's boring logs state the initial flow of drilling fluid through the system and then track any reductions in flow in order to separate loss of return of the mud to the surface from within the borehole from loss of the fluid from the borehole into the surrounding strata.

If the drilling fluid flows out of the borehole into the surrounding strata, drilling fluid is lost. This is known as a loss of drilling fluid circulation and the rate at which the fluid flows out of the borehole into the surrounding strata can be used to understand the nature of the permeable zone into which the liquid flows. If the permeable zone is a cavity or contains large pores, loss of fluid circulation is rapid. If the fluid is lost from the borehole slowly, it is probably moving into sand or other materials that are permeable but not characterized by pore spaces large enough to take rapid movement of a viscous fluid. The terms used to document losses of circulation are defined in the Glossary, and the data are presented on the boring logs Appendix C).

At the beginning of each use of the split spoon, the drill string will be placed in the borehole and allowed to rest on the bottom of the hole for a few seconds. If the drill string sinks or drops under its own weight, a "weight-of-rod" (WOR) event occurs, and WOR-strength materials have been encountered. After sufficient time is provided with the spoon resting in the hole, the weight of the hammer is added to the static load. Again, the rod, spoon, and hammer may sink or drop to cause a "weight-of-hammer" (WOH) event. WOR and WOH events may reflect voids, disturbed material, or soft soils. The longer the drill string the more weight is placed on the soils and the less meaningful is the WOR or WOH event as a diagnostic tool.

The rapidity of the decline during a WOR or WOH event assists in understanding the nature of the material through which the drill string passes. As a result, SDII utilizes a unique method for describing WOR or WOH events. For example, a rapid WOR or WOH event is more likely to reflect penetration of a void (or extremely weak strata) than is a slow downward movement of the drill string. The terms used to denote the rapidity of movement of the drill string during a WOR or WOH event are defined in the Glossary, and the borehole-specific data are presented in the right hand column of each SPT boring log (Appendix C).

ASTM Method D1586 governs the SPT process.

Dynamic Cone Penetrometer Test

The dynamic cone penetrometer (DCPT) is a hand-held penetrometer that operates in a fashion similar to the SPT. The cone point is seated 2 inches into the undisturbed bottom of the auger hole to be sure that the cone is completely embedded. The cone point is then driven 1-3/4 inches into the soil using the ring weight hammer falling 20 inches. The blow counts required for the 15 lb. hammer to drive the cone can be directly correlated to the blow counts and N value obtained by SPT. Therefore, the DCPT is a method of choice for testing the strength of shallow soils near foundations, in closely confined spaces, or where there is some risk of soil collapse. Empirical correlations between the cone penetrometer and ASTM D1586 (Penetration Test and Split-Barrel Sampling of Soils) on a blow-count basis are used to develop N values for each of the tests.

There is no ASTM method for DCPT, but ASTM Special Technical Publication No. 399 reviews the instrument and the correlation with SPT blow counts.

Cone Penetrometer Tests

SDII utilizes two versions of friction cone penetrometers. One, the cone penetrometer, utilizes a standard cone that, because of its size, is inserted by a hydraulic ram installed on a heavy object for resistance. The second, a "mini-cone" penetrometer, utilizes a smaller cone and can be inserted with a ram mounted on a small vehicle or anchored to the house. While it is more portable, the depth of penetration may be limited when using the smaller cone penetrometer. ASTM methods have been developed for the cone but not for the smaller mini-cone penetrometer. The data from the two methods are comparable and are interpreted the same way.

On both systems, the cone includes two sensors. The tip sensor measures the resistance of the soil being penetrated to insertion of the cone. The second sensor, which is a sleeve on the side of the cone just above the tip, measures the frictional resistance of the soil against the sides of the cone. The friction ratio (sleeve resistance divided by tip resistance, expressed as a percentage) is especially useful for identification of raveling conditions in soils. The advantages of use of both types of electronic friction cone systems are ability to identify raveling zones and collection of continuous data with depth. The resistance data from the cone penetrometer can be correlated to N values obtained from SPT. The disadvantage of cone penetrometer testing is that soil samples cannot be collected. For this reason SPT is the primary investigation method used by SDII.

ASTM Method D5778 governs use of the cone penetrometer. The results of comparisons of the results of the smaller mini-cone with the cone penetrometer show that the smaller system provides directly correlated strength measurements. Since the friction ratio is a ratio, not a resistance measurement, it can be directly used for sinkhole evaluation and is not subject to any uncertainties or concerns associated with correlation of the mini-cone penetrometer to the cone penetrometer method.

Relative Floor Elevation Map

If it is determined that the elevation pattern of the floor can provide meaningful information about the causes of damage to a structure, a floor elevation map is prepared. The floor elevation

map involves laying out a grid inside the house. SDII staff does not move furniture and other objects, so the grid is limited to accessible areas. A manometer is then used to determine relative elevations to the nearest 0.1-inch accuracy. The floor elevation pattern is represented by a contour map showing relative elevation.

Normally accepted construction tolerance for the "levelness" of concrete floor slabs is 1 inch in 20 feet. This translates to approximately 1/4 inch in 5 feet. SDII recommends that a floor slab elevation map be created if initial site data indicates a slope in excess of 1/4 inch in 5 feet.

The resulting map is not prepared by a licensed surveyor and is not to be considered as a survey as regulated by §472 Florida Statutes. There is no standard method for floor elevation map preparation.

Soil Classification

All formal descriptions of soil types, colors, compositions, textures, and other properties are completed in SDII's soils laboratory. The classification process follows ASTM methods and utilizes Unified Soil Classification System (USCS) notation. SDII includes both geologic and USCS descriptions in its soil characterization in order to assist in determination of the origin of each soil type and geologic material and determine the engineering properties of the soil.

For visually classified soils, ASTM Method D2488 is utilized. Method D2487 is utilized for soils that have been subject to Atterberg Limits and gradation (grain size) analysis.

Particle Size Analysis (Gradation Analysis)

Particle size analyses are performed in SDII's soils laboratory. The simplest method used is wash gradation using the 200-mesh U.S. Standard Sieve. This separates the particles coarser than 0.075 mm from the finer materials. The proportion of the soil fraction finer than the 200-mesh screen (-200 fraction) is utilized in the USCS soil classification system. For a full grain size or gradation curve of sand-sized materials, the dried sandy soil is passed through a nest of sieves. If grain size data are needed on fine sand, silt, and clay fractions, the hydrometer method is utilized.

Appropriate grain size or gradation data are obtained by use of ASTM Method D422. The -200 fraction is determined according to ASTM Method D140.

Moisture Content, Organic, and Ash Content

For determination of the moisture content of a soil, the soil sample is oven dried, and the weight loss is attributed to the mass of moisture lost from the sample. The moisture content is calculated by dividing the weight of water in the sample by the dry weight of the soil and then multiplying by 100 to obtain a percentage. The organic and ash contents are determined by loss of weight upon destruction of the organic material in a furnace. The organic content is the percentage of mass of the dried sample lost upon destruction, and the percent ash is the weight of dry solids after organic destruction divided by the dry weight of the sample with organics included. This measurement is also expressed as a percentage.

The percentages of moisture, organics, and ash are determined according to ASTM Method D2974. ASTM Method 2216 also governs moisture content measurements.

Atterberg Limits Data

Atterberg Limits data (Liquid Limit, Plastic Limit, and Plasticity Index) are determined by measuring the moisture content of a fine-grained soil sample at which it ceases to be plastic and becomes semi-solid (Plastic Limit) and at which it becomes liquid (Liquid Limit). The Plasticity Index is the difference between the two measurements.

Atterberg Limits data are obtained using ASTM Method D4318.

Damage as a result of shrinking and/or swelling may occur when clayey soils are found to depths up to approximately 20 feet below the land surface.[9] At clay depths over approximately 5 feet below land surface damage typically results from shrinkage. The zone where clay shrinks and/or swells is known as the *active zone*.

The U.S. Army Corps of Engineers has developed a classification system for potentially expansive soils.[10] This classification system, which is based on the Atterberg Limits data, is shown in Table A-1.

Table A-1

Classification of Expansive Soils Using Atterberg Limits

Classification of Potential Swell	Liquid Limits (LL) in Percent	Plastic Index (PI) in Percent
Low	Less than 50	Less than 25
Marginal	50 to 60	25 to 35
High	Greater than 60	Greater than 35

From U.S. Department of the Army USA, 1983. Foundations in Expansive Soils., TM 5-818-7, p. 4-1.

Activity Determinations

In order to classify fine-grained soils (silt, clay) and clay-rich sands as to expansive properties, the activity is calculated by dividing the Plasticity Index by the percent of the soil finer than 0.002 mm (the clay fraction). The activity is plotted against the percent clay (<0.002 mm) on a

[9] Schmertmann, J.H., and D.K. Crapps, 1980. Slope effects on house shrink-swell movements. Journal of the Geotechnical Engineering Division, American Society of Civil Engineers, v. 106, No. ST12, pp. 1327-1343.
[10] Department of the Army USA, 1983. Foundations in Expansive Soils. Washington, DC, TM 5-818-7, Chapter 4.

graph (Swelling Potential Diagram) developed by Seed et al.[11]. The approximate swelling potential is determined by the position of the point on this graph.

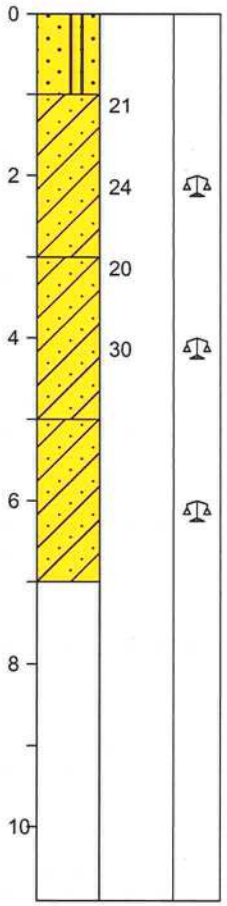
There is no ASTM method for calculation and use of activity, but most geotechnical engineering textbooks and Seed et al. present the method.

[11] Seed, H.B., R.J. Woodward, Jr., and R. Lundgrin, 1962. Prediction of swelling potential for compacted clays. Journal of Soil Mechanics, Vol. 88 (SM3), pp. 53-87.

APPENDIX B

RESULTS OF THE HAND AUGER BORINGS

HA-5



POORLY GRADED SAND WITH SILT (SP-SM)
Gray (10YR 5/1) fine to medium quartz sand with silt

CLAYEY SAND (SC)
Brownish-yellow (10-6/6) clayey fine to medium quartz sand with orange oxide staining

CLAYEY SAND (SC)
Yellowish-brown (10YR 5/8) clayey fine to medium quartz sand with orange oxide staining

CLAYEY SAND (SC)
Gray (10YR 6/1) clayey fine to medium quartz sand

Water table not encountered

TOB @ 7.0 ft. bls Refusal in clayey sand

APPROX WATER TABLE APPROX SEASONAL HIGH WATER TABLE APPROX ANALYZED SOIL HORIZON TOB TERMINATION OF BORING

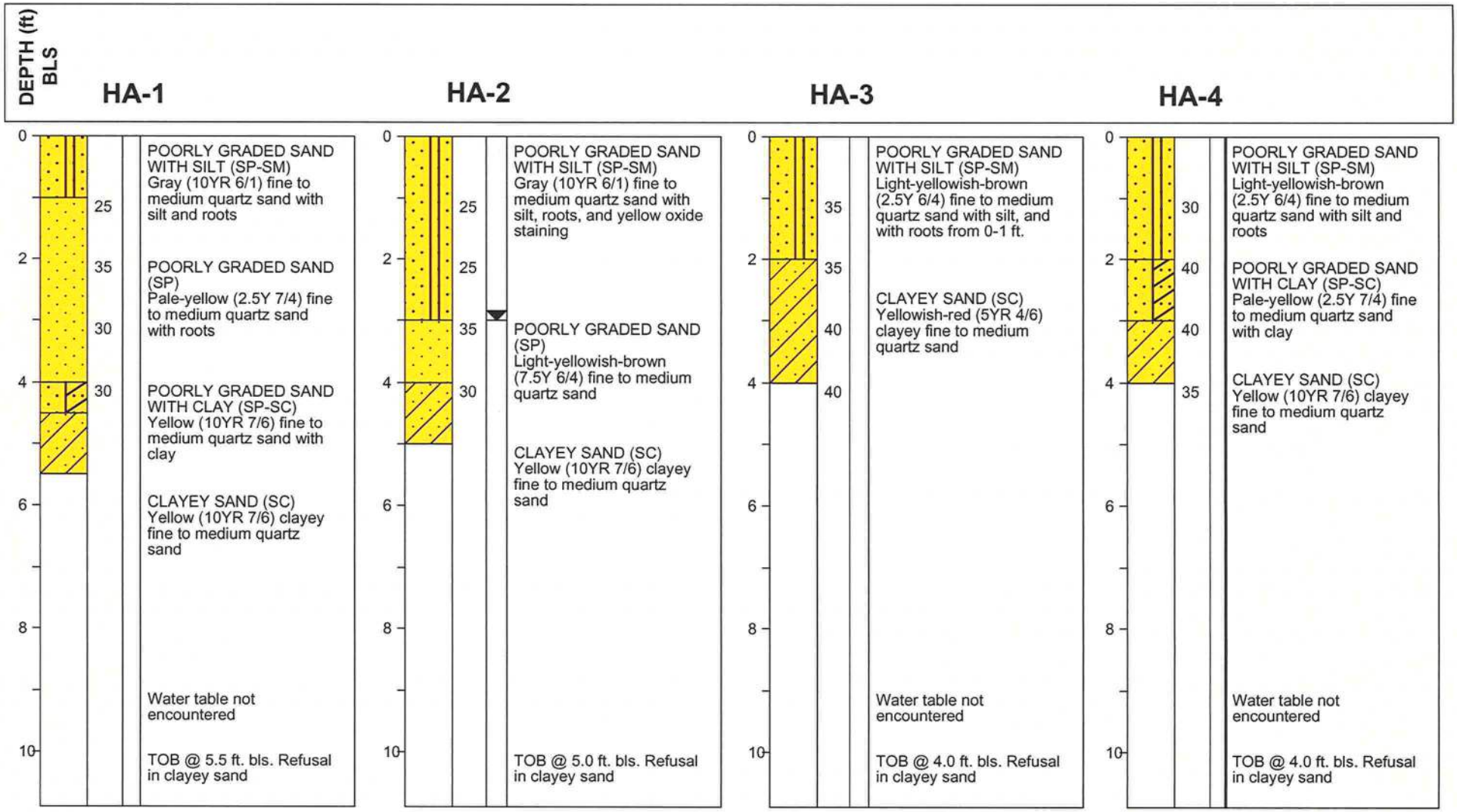
NOTE:
SECOND COLUMN FROM LEFT INDICATES APPROXIMATE PUSH PENETRATION VALUES IN Kg/cm2 (WHERE APPLICABLE)

STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

HAND AUGER BORING LOGS

SITE NAME: PELHAM RESIDENCE
SITE LOCATION: LAKE CITY, FLORIDA

DESIGNED BY:	MDH	PROJECT NO.:	3017309	HAND AUGER 5
CHECKED BY:	MDH	BORING DATE:	09/20/7	
DRAWN BY:	MLF	PAGE NO.:	1 OF 1	



⧗ APPROX WATER TABLE ⧖ APPROX SEASONAL HIGH WATER TABLE ⚖ APPROX ANALYZED SOIL HORIZON TOB TERMINATION OF BORING

NOTE:
SECOND COLUMN FROM LEFT INDICATES APPROXIMATE PUSH PENETRATION VALUES IN Kg/cm2 (WHERE APPLICABLE)

STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

SDII GLOBAL

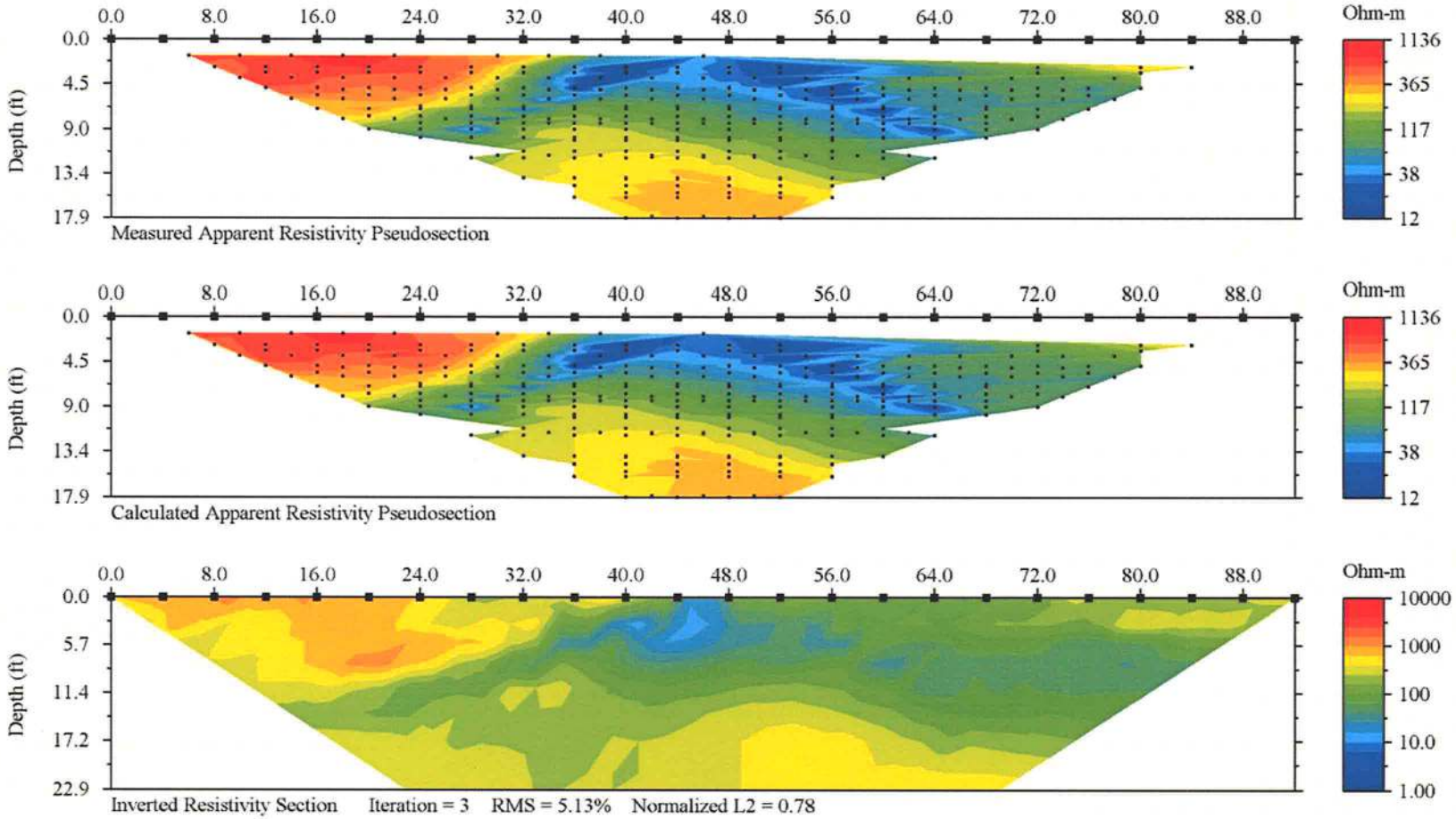
HAND AUGER BORING LOGS

SITE NAME: PELHAM RESIDENCE
SITE LOCATION: LAKE CITY, FLORIDA

DESIGNED BY:	MDH	PROJECT NO.:	3017309	HAND AUGER 1 thru 4
CHECKED BY:	MDH	BORING DATE:	08/07/07	
DRAWN BY:	MLF	PAGE NO.:	1 OF 1	

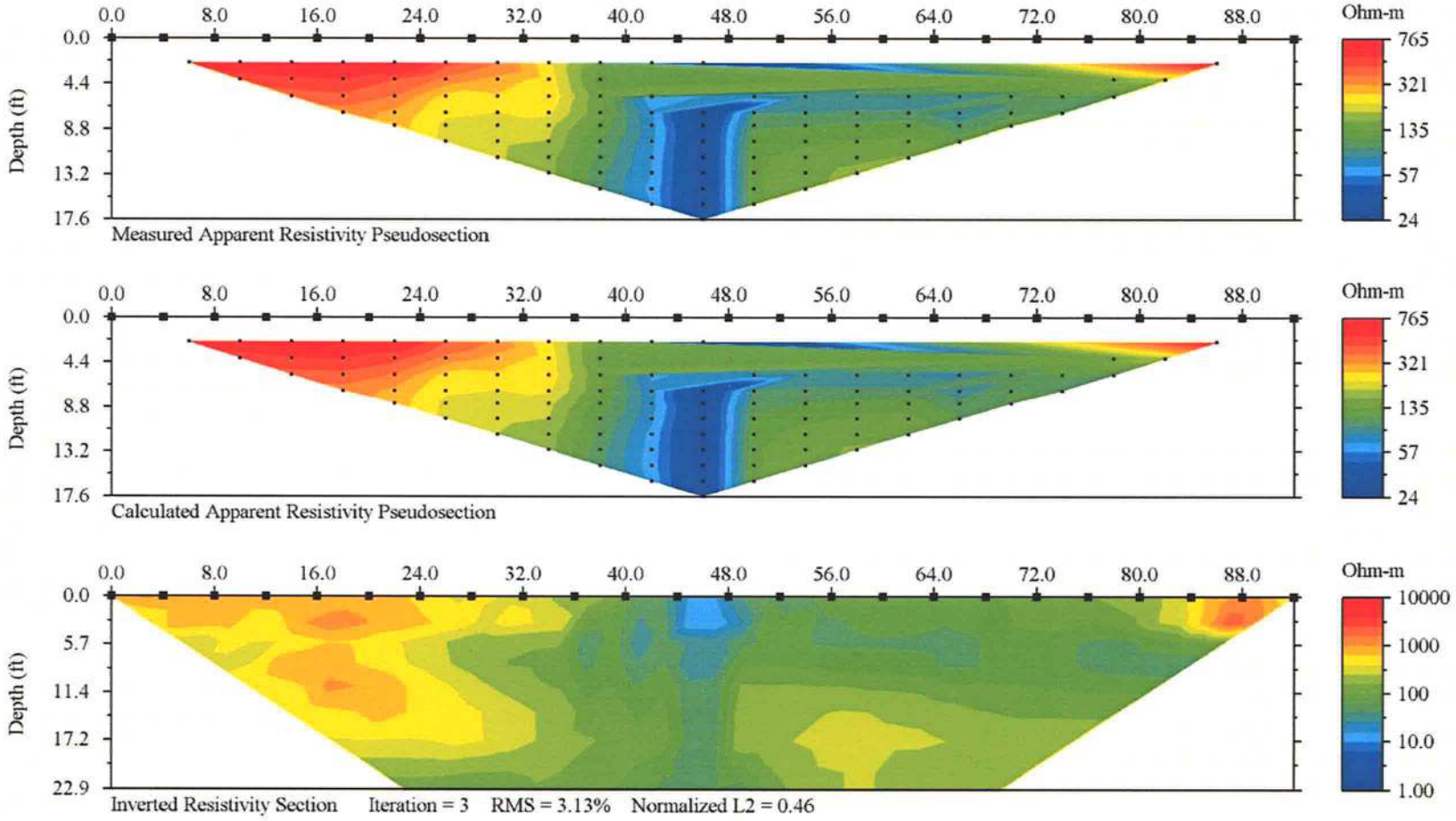
APPENDIX C

ELECTRICAL RESISTIVITY (2DER) TRANSECTS



Line -1D

State Farm Florida Insurance Company Jacksonville,Florida	SDII GLOBAL	**RESISTIVITY** **SITE NAME: Pelham residence** **SITE LOCATION Lake City, Florida** **PROJECT NO: 3017309** **PROBED DATE: 08/ 17/2007** **Page 1 of 8**



Line -1S

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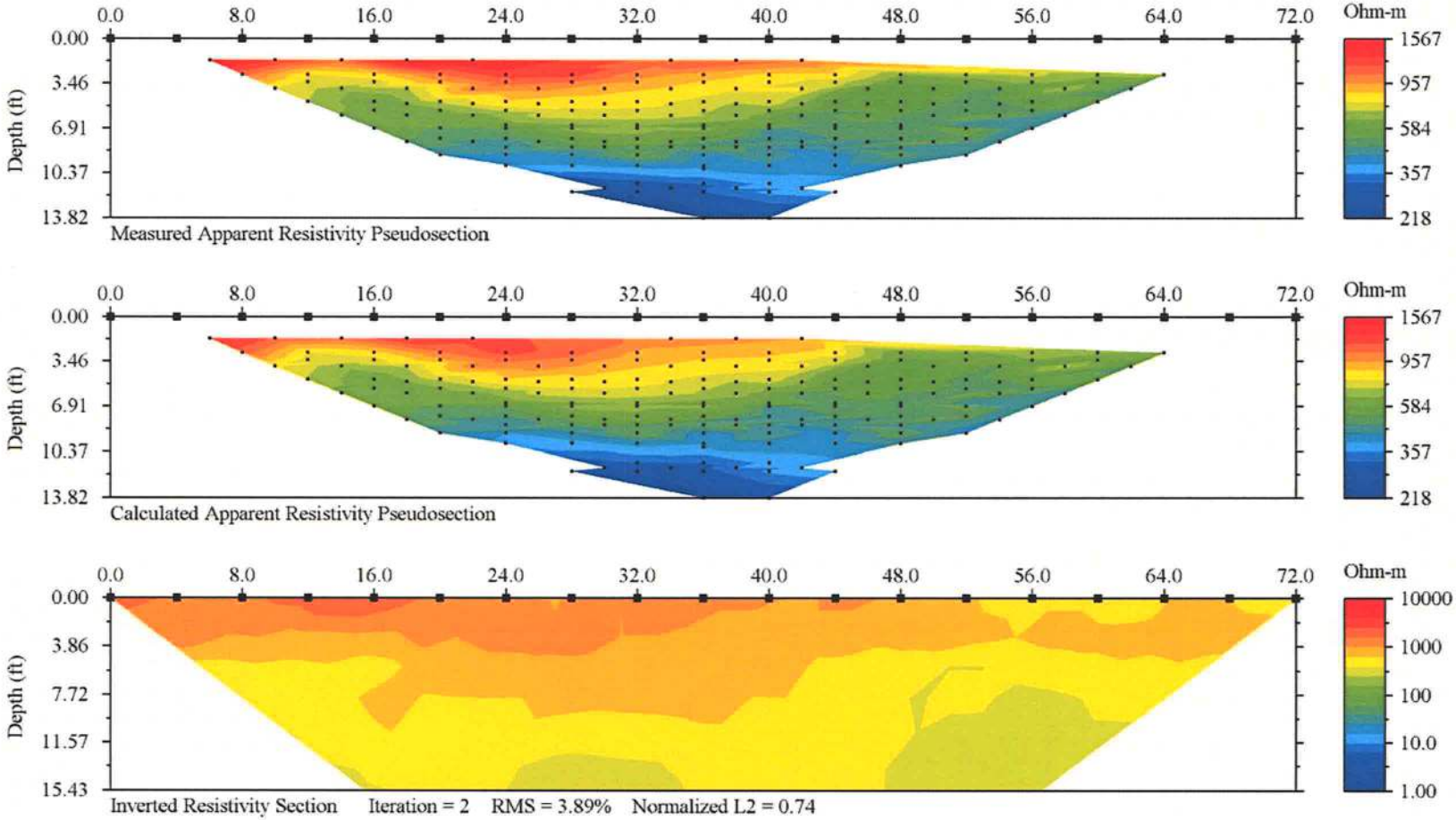
		SITE LOCATION Lake City, Florida
		PROJECT NO: 3017309
		PROBED DATE: 08/ 17/2007
		Page 2 of 8



Line -2D

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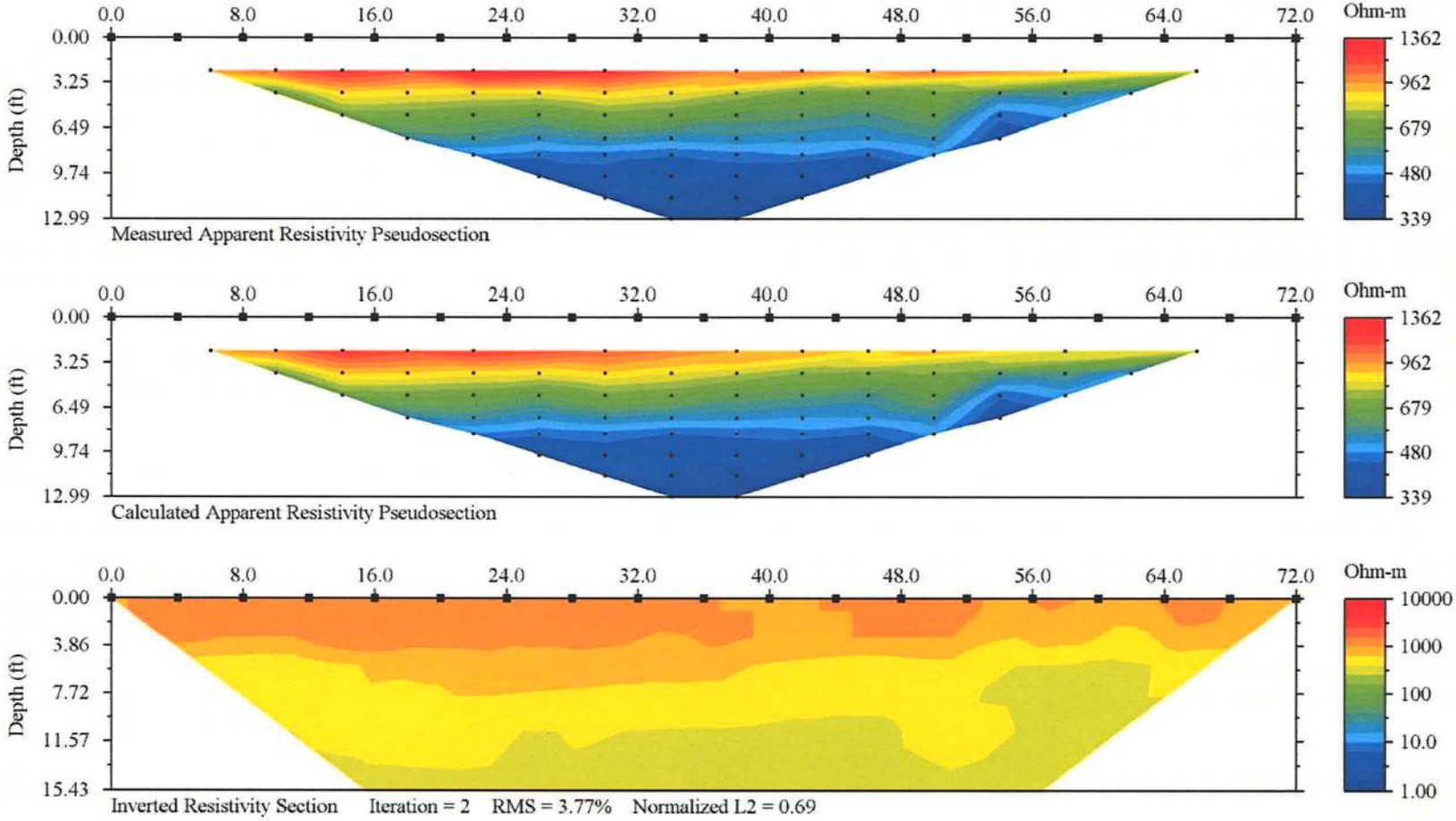

Line -2S

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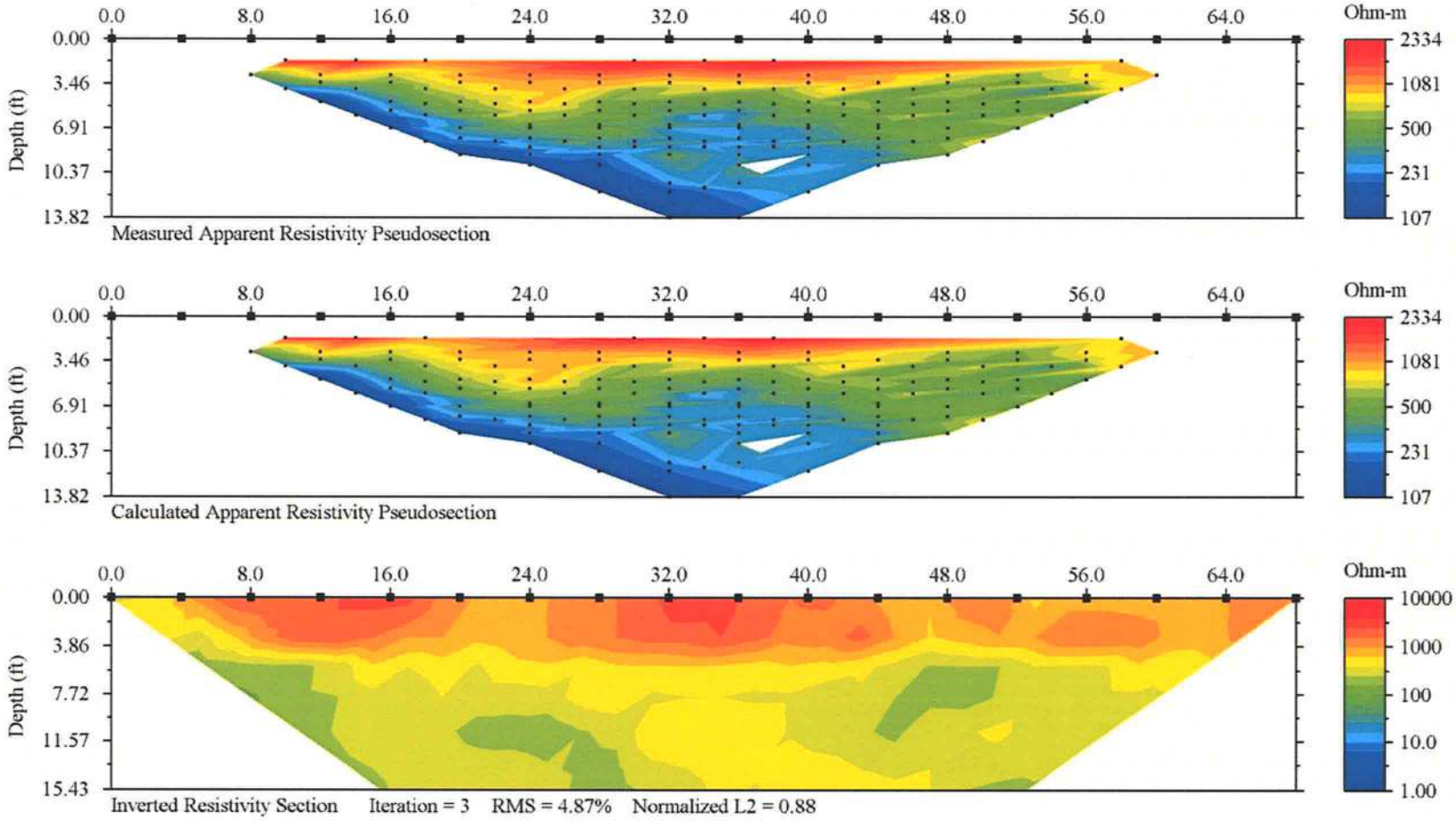
		SITE LOCATION Lake City, Florida
		PROJECT NO: 3017309
		PROBED DATE: 08/ 17/2007
		Page 4 of 8



Line -3D

State Farm Florida Insurance Company Jacksonville,Florida		**RESISTIVITY**
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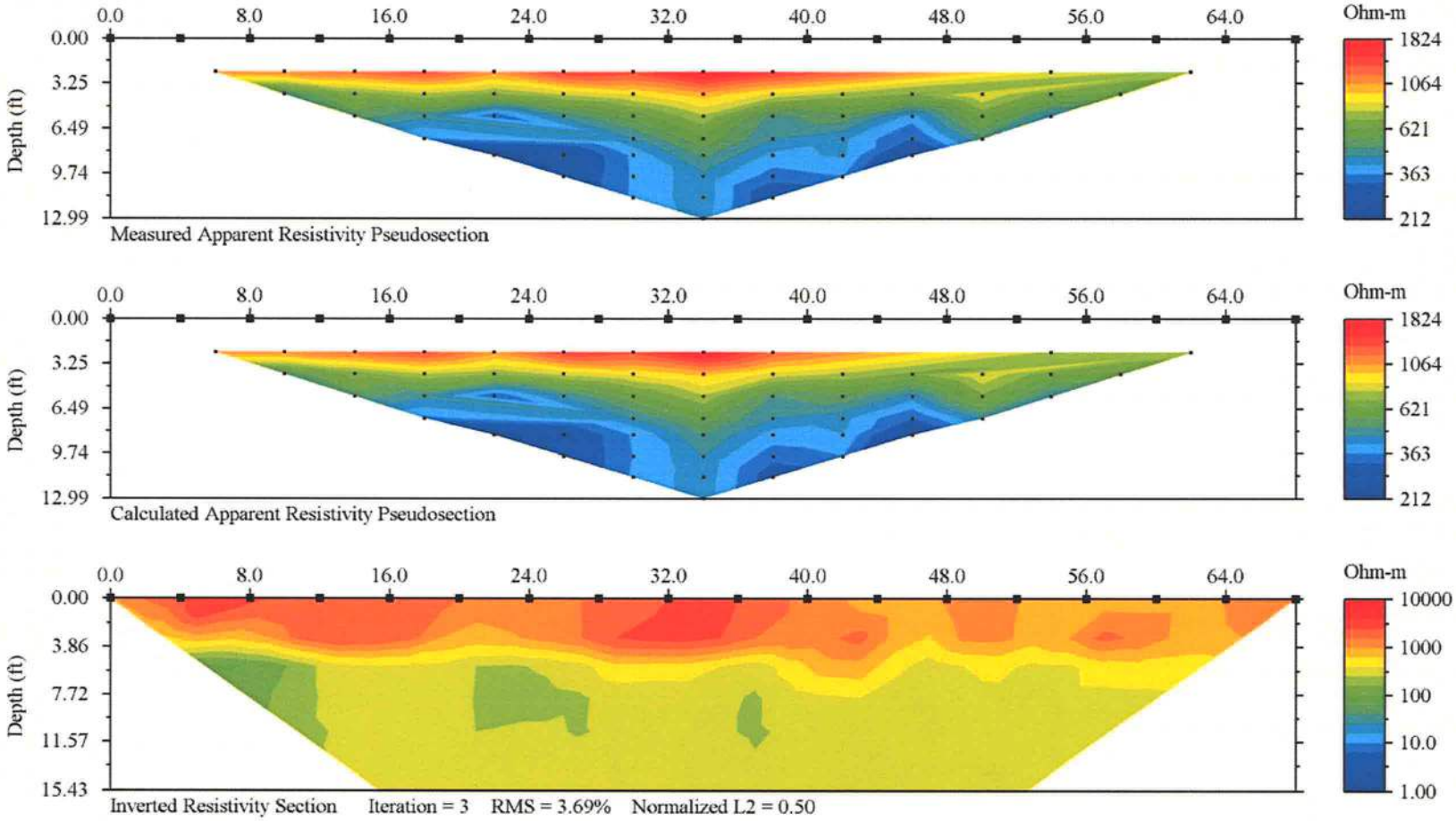
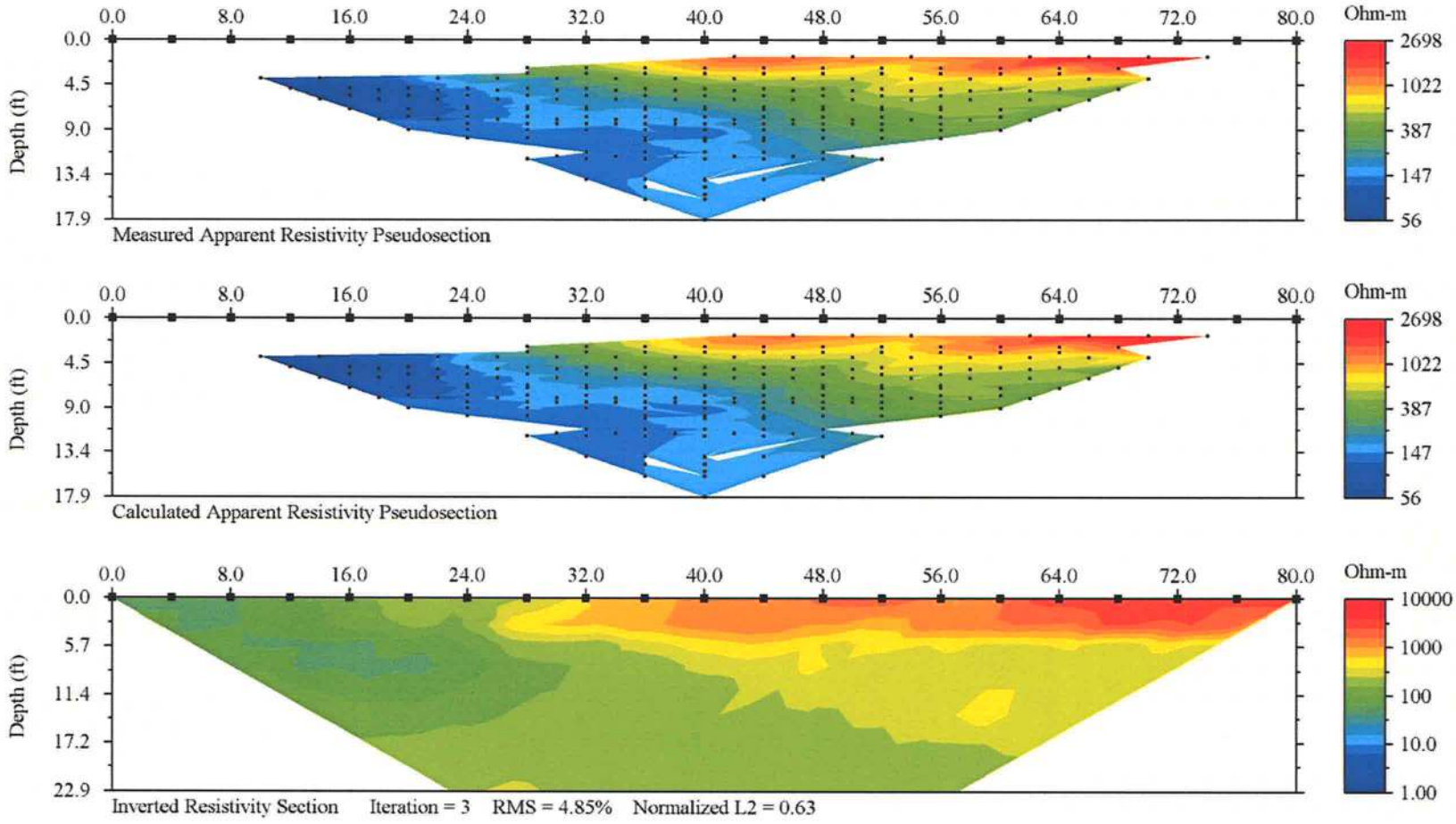
		SITE LOCATION Lake City, Florida
		PROJECT NO: 3017309
		PROBED DATE: 08/ 17/2007
		Page 5 of 8



Line -3S

State Farm Florida Insurance Company Jacksonville,Florida	SDI GLOBAL	**RESISTIVITY** **SITE NAME: Pelham residence** **SITE LOCATION Lake City, Florida** **PROJECT NO: 3017309** **PROBED DATE: 08/ 17/2007** **Page 6 of 8**



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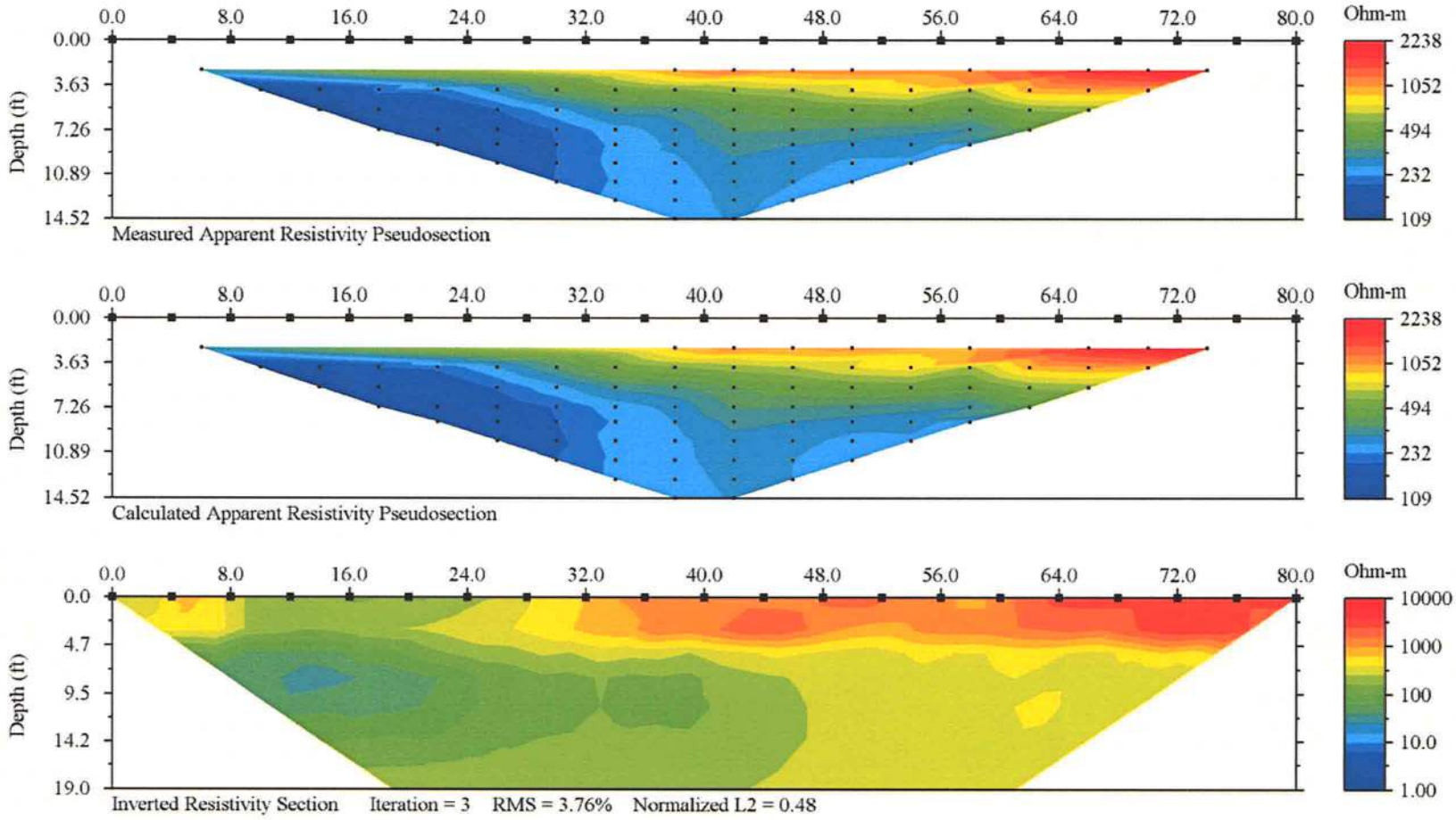
State Farm Florida Insurance Company Jacksonville,Florida	SDII GLOBAL	**RESISTIVITY** **SITE NAME: Pelham residence** **SITE LOCATION Lake City, Florida** **PROJECT NO: 3017309** **PROBED DATE: 08/ 17/2007** **Page 7 of 8**

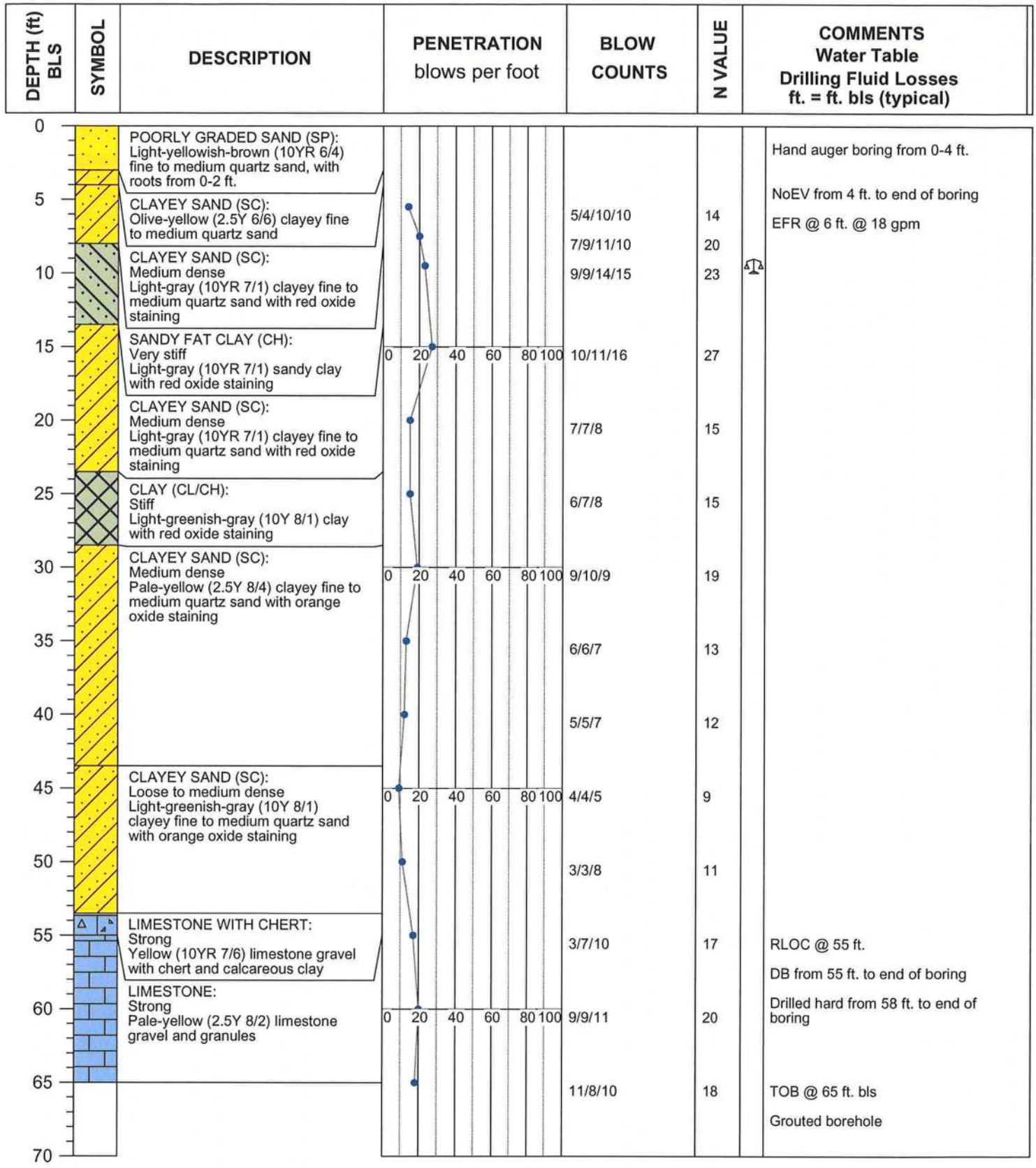


Line -4S

State Farm Florida Insurance Company Jacksonville,Florida	SDII GLOBAL	**RESISTIVITY** **SITE NAME: Pelham residence** **SITE LOCATION Lake City, Florida** **PROJECT NO: 3017309** **PROBED DATE: 08/ 17/2007** **Page 8 of 8**

APPENDIX D

SPT BORING LOGS



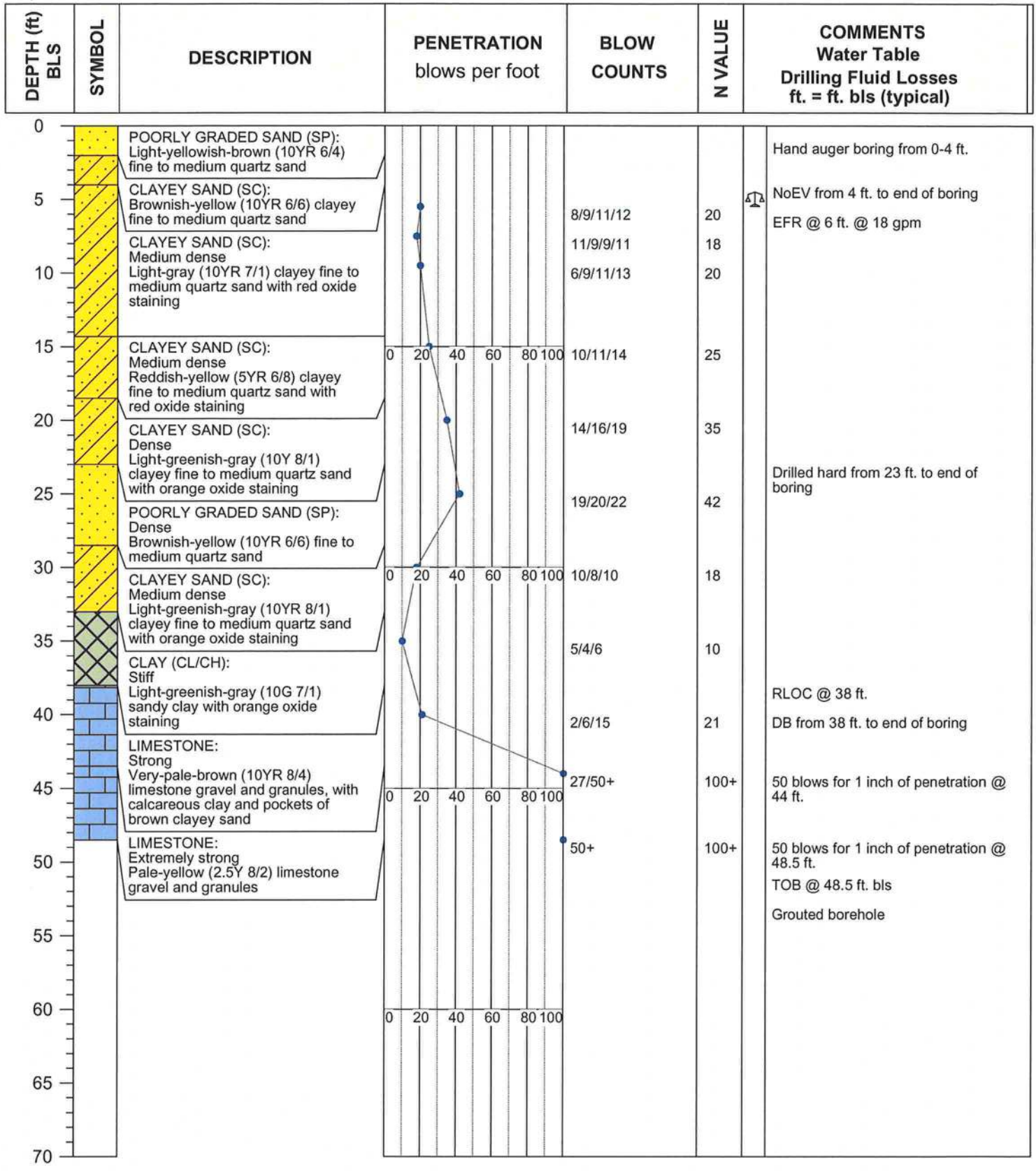
STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA

SDII GLOBAL

SPT BORING LOG

SITE NAME: PELHAM RESIDENCE
SITE LOCATION: LAKE CITY, FLORIDA

DESIGNED BY:	MDH	PROJECT NO:	3017309	BORING B-1
CHECKED BY:	MDH	BORING DATE:	08/24/07	
DRAWN BY:	MLF	PAGE NO.:	1 OF 1	

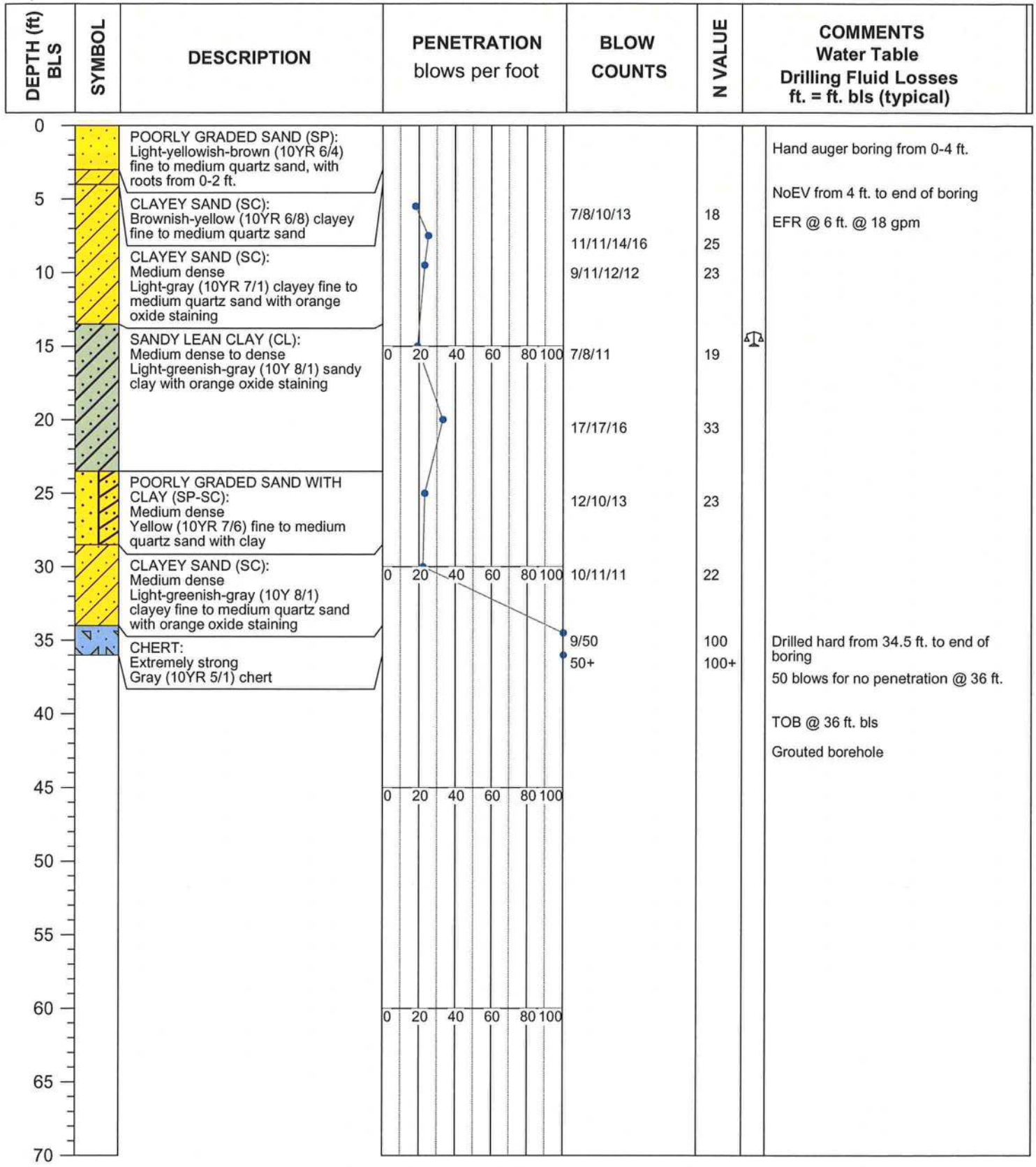


STATE FARM FLORIDA INSURANCE COMPANY JACKSONVILLE, FLORIDA

SPT BORING LOG

SITE NAME: PELHAM RESIDENCE
SITE LOCATION: LAKE CITY, FLORIDA

DESIGNED BY:	MDH	PROJECT NO:	3017309	BORING B-2
CHECKED BY:	MDH	BORING DATE:	08/24/07	
DRAWN BY:	MLF	PAGE NO.:	1 OF 1	



STATE FARM FLORIDA INSURANCE COMPANY
JACKSONVILLE, FLORIDA

SPT BORING LOG

SITE NAME: PELHAM RESIDENCE
SITE LOCATION: LAKE CITY, FLORIDA

DESIGNED BY:	MDH	PROJECT NO:	3017309	BORING B-3
CHECKED BY:	MDH	BORING DATE:	08/23/07	
DRAWN BY:	MLF	PAGE NO.:	1 OF 1	

APPENDIX E

SUMMARY OF LABORATORY SOIL ANALYSIS

SDII Global Corporation

DATE: August 20, 2007

PROJECT NUMBER: 3017309

PROJECT NAME: PELHAM RESIDENCE

REPORT OF ATTERBERG LIMITS, NATURAL MOISTURE CONTENT, PERCENT RETAINED ON No. 40 SIEVE, PERCENT PASSING No. 200 SIEVE, ORGANIC CONTENT AND EXPANSION INDEX

ASTM D421, D422, D653, D698, D854,D1140, D2216, D2974, D4318, D4753, D4829

Boring Number	Depth (ft)	Lab Sample Number	Liquid Limit	Plastic Limit	Plasticity Index	Natural Moisture Content (%)	Percent Retained on #40 Sieve	Percent Passing #200 Sieve	% Organics (By Weight)	Expansion Index
HA - 1	4.5-5.5	788	32	18	13	21.0%	1.5%	39.9%	N/T	N/T
HA - 2	4-5	789	21	14	7	20.0%	1.6%	33.0%	N/T	N/T
HA - 3	2.5-4	780	28	17	11	18.7%	1.6%	36.5%	N/T	N/T
HA - 4	4-5	791	33	19	14	17.7%	1.2%	34.9%	N/T	N/T
B - 1	8-10	832	54	26	28	28.3%	1.2%	58.6%	N/T	N/T
B - 2	4-5	833	38	18	20	15.8%	1.0%	37.7%	N/T	N/T
B - 3	13.5-14.5	834	38	19	19	25.0%	0.0%	50.6%	N/T	N/T
HA - 5	3-5	914	N/T	N/T	N/T	15.0%	1.9%	16.7%	N/T	N/T
HA - 5	6-7	916	N/T	N/T	N/T	15.4%	2.0%	15.7%	N/T	N/T
HA - 5	5-6	915	27	19	8	16.9%	1.5%	36.5%	N/T	N/T

Notes:

N/P - Nonplastic N/T - Not Tested

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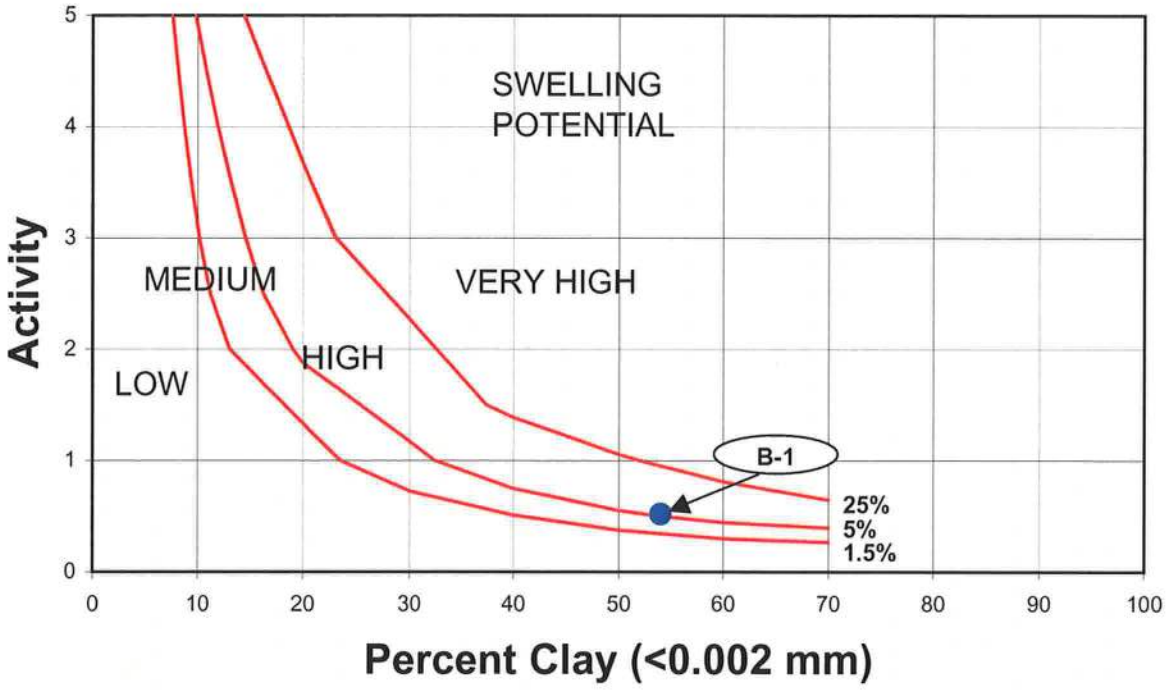
Florida Registration Number 1388

SOIL SWELLING POTENTIAL

Project Name: PELHAM RESIDENCE
Project Number: 3017309
Date: August 31, 2007
Tested By: AC

SDII Global Corporation

Lab Sample Number	Boring Number	Depth of Sample (feet)	Coarse Particle Diameter	Fine Particle Diameter	Pct. Finer (A)	Pct. Finer (B)	Interpol. Pct. Finer at 2u	Plastic Limit	Liquid Limit	Plasticity Index	Activity
832	B-1	8-10	0.0027	0.0011	54	54	54.00	26	54	28.0	0.52



(Diagram modified from Seed, H.B., R.I. Woodward, Jr., and R. Lundgren, 1962. Prediction of swelling potential for compacted clays. Journal of Soil Mechanics, Foundation Division, American Society of Civil Engineers, vol. 88 (SM3), pp. 53-87)

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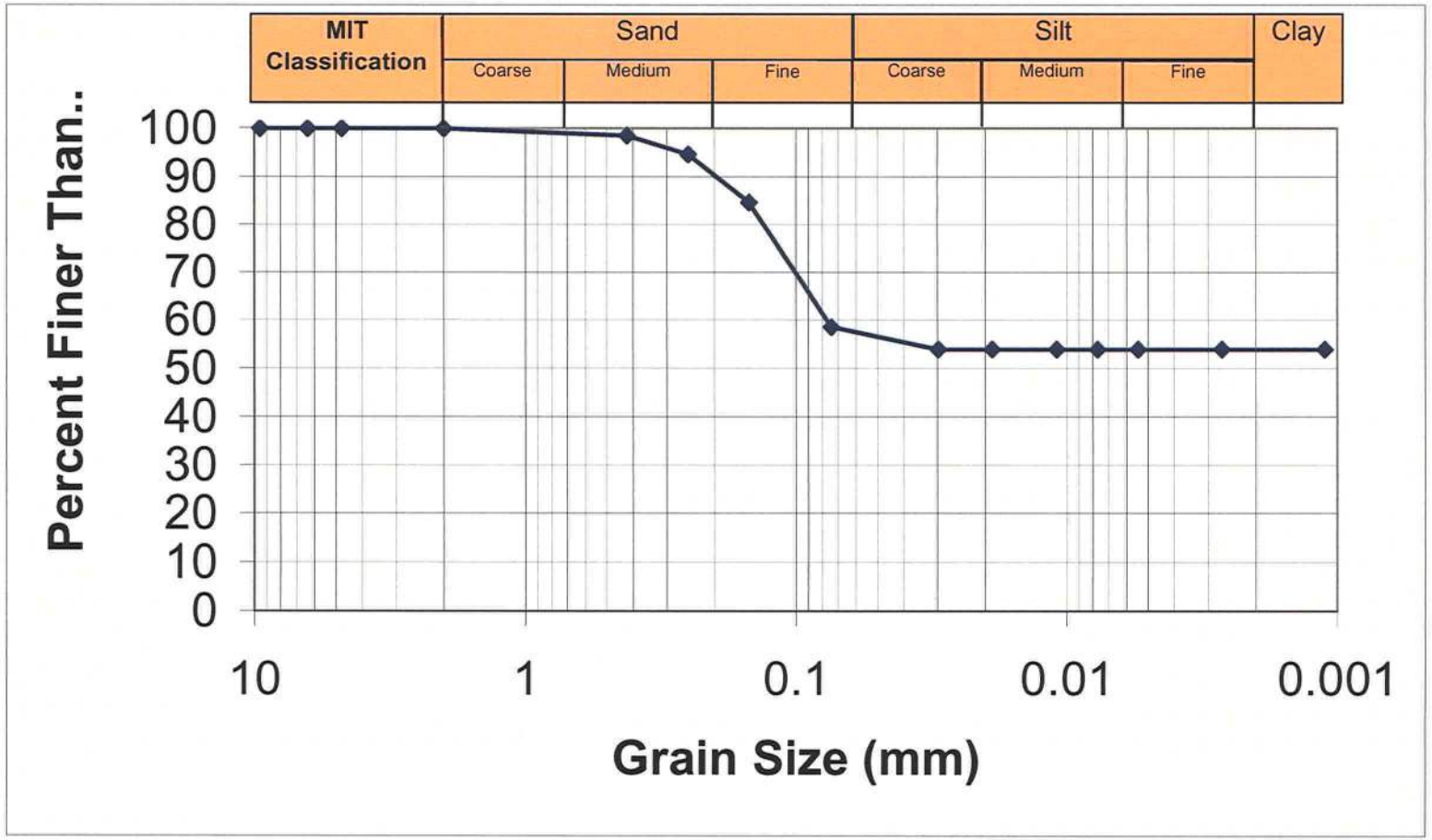
Grain Size Distribution Curve

Lab Sample No.: 832
Tested By: AC
Boring No.: B-1
Sample Depth (feet): 8-10

SDII GLOBAL CORPORATION

Date January 0, 1900
Project Name: PELHAM RESIDENCE
Project Number: 3017309



Percent Sand (>0.0.65 mm)
41.4
Percent Silt (0.065 - 0.002 mm)
4.6
Percent Clay (<0.002 mm)
54.0
Percent Clay (<0.005 mm)
54.0

Coarse Particle Diameter
0.0027
Fine Particle Diameter
0.0011

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GLOSSARY