31927

JOHNSON * FREY * TURZAK GROUP INC

PLANNING DESIGN CONSULTING

CA5499

ENGINEERING • BUILDING PLANS • CONSTRUCTION • INSPECTION SERVICES

Innovative Planning and Design

FOUNDATION CERTIFICATION REPORT
SOSA RESIDENCE
152 SW NIGHTSHADE DRIVE
LAKE CITY, FLORIDA 32024

PREPARED FOR:

CHAMPION FOUNDATION REPAIR SYSTEMS
8504 ADAMO DRIVE – SUITE 140G
TAMPA, FLORIDA 33619
PHONE: 813-622-6454
FAX: 813-622-6614

PREPARED BY:

JOHNSON-FREY-TURZAK GROUP, INC.
5405 WATER STREET
NEW PORT RICHEY, FLORIDA 34652
PHONE: 727-848-2921
FAX: 727-847-9391

MAY 21, 2014
FOUNDATION CERTIFICATION REPORT
JOB #14-3258

NARRATIVE:

This information was compiled to prepare the report for the foundation remediation at 152 SW Nightshade Drive – Lake City, Florida 32024

Upon completion of the project, as coordinated by the contractor, we reviewed the foundation system at the exterior of the house and commented on the construction progress for the remediation.

This review was conducted using standard techniques of readily accessible areas of the building. There are no warranties of any type, either expressed or implied for the information contained in this report. It is understood and agreed that an inspection will be of readily accessible areas of the residence and is limited to visual observation of apparent conditions existing at the time of the inspection only. Latent and concealed defects and deficiencies are excluded from the inspection; so as to equipment, as these items and systems were not, or will not be, dismantled. Conditions that exist beyond visual inspection are not covered by this report, such as foundations, footers and subsoil conditions. Maintenance, repairs or correction of items are discussed, but they are not a direction to the repairs, but only to items as a punch list for corrective action. This report is not a compliance inspection or certification for past or present governmental inspectors having jurisdiction.

The report does not address and is not intended to address the possible presence of, or danger from, potentially harmful substance and environmental hazard as required by a "Phase 1 Inspection" included, but not limited to radon gas, lead paint, asbestos, urea formaldehyde or any toxic or flammable chemicals. The report does not cover the presence or absence of rodents, termites, or other insect or any solar systems or sinkholes.

It shall be agreed that Johnson-Frey-Turzak Group, Inc. and its employees, agents and associates assume no liability or responsibility for the cost of repairing or replacing any reported effects or deficiencies, either current or arising in the future, for any property damage, consequential damage or bodily injury of any nature. This inspection and report are not intended to be used as a guarantee or warrantee, expressed or implied, regarding the adequacy, performance or condition of any inspected structure or equipment, item or systems.

This review and report were performed and prepared for your exclusive use and possession. As an independent building inspection consultant and Engineer, I have no vested or any other interest in the outcome of this report. Our evaluation and report are objective, unbiased and impartial.

Any litigation pertaining to this report, excluding action by Johnson-Frey-Turzak Group, Inc. to enforce payment of our professional invoice(s), must be filed within one (1) year from the accrual of the cause of action, notwithstanding any statutory provision to the contrary. In the event of litigation brought against Johnson-Frey-Turzak Group, Inc., any judgment that is obtained shall be limited as to that amount and shall not exceed the invoiced amount paid for professional services rendered for this report.

All questions in dispute regarding the contents of this report shall be submitted to arbitration in accordance with the current provision of the arbitration procedure of the American Arbitration Association. In the event action is instituted by arbitration or litigation to enforce the terms of this agreement, it is agreed that any award of judgment shall include reasonable attorney's fees to the prevailing party and shall include all costs in connection with the enforcement of this agreement and the terms herein by arbitration and/or litigation.

INSPECTION REPORT:

EXTERIOR:

Florida Testing & Environmental, Inc. completed a sub-surface investigation and report in August, 2012. Included in the report are Standard Penetration Test (SPT) borings with a depth of approximately 50 to 70 feet.

The method of remediation is by the use of pilings or piers which extend the load of the foundation downward to a stable dense level. The capacity of the underpins would be rated at six (6) tons.

To reinforce the existing foundation, shallow grouting was completed. The foundation of the residence was stabilized through the installation of pressure compaction grouting at the shallow depth of approximately 5' to 10' spaced at 2' to 5' apart. The perimeter of the house was shallow grouted.

The entire project was completed, including underpin piers and shallow grouting, and found to be in compliance with the parameters of good construction practices.

CONCLUSION:

All the construction efforts and excavation of activities were conducted within the principles and practices of good construction techniques. The foundation system of the house was reconstructed, as closely as possible, to the original building elevations. The remediation program that was developed for this project was based on the geological data supplied by Florida Testing & Environmental, Inc. The hand auger and SPT boring logs were analyzed to develop the remediation program. The purpose of the entire construction program was to eliminate or reduce the voids beneath the foundation and seal up the earthen material beneath the foundation and/or foundation system. The structure has been stabilized in accordance with the design parameters. In compliance with Florida Statutes, Section 627.707, this report was prepared under the supervision of a Registered Professional Engineer whose field of expertise is Geo-Technical Engineer.

It is our opinion that, through this construction program, the foundation system of the house should now fulfill all the acceptable loading and design parameters.

Sincerely submitted,

Oliver J. Turzak, VP/Engineering 5/22/14
PE #18230
JOHNSON-FREY-TURZAK GROUP, INC.

cc: Champion Foundation Repair Systems

Design is intended to stabilize the foundation in the area presently affected by settlement.

A COURSE OF ANGLED INJECTION RODS SPACED @ 2'-5' APART AND 2'-5' DEEP SET UNDER EXISTING FOOTER. LOW SLUMP COMPACTION GROUT PRESSURE INJECTED TO ENGINEER'S SPECIFICATIONS.

SPREADER BEAM L 6 X 6 X 1/2" X 3'-0"

JOB : 152 SW NIGHTSHADE DR.
SHEET NO. : S-1 OF 1
CALCULATED BY : OJT DATE 4/21/14
CHECKED BY : DATE
SCALE : 1/8" = 1'-0"

REVISED 5/21/14

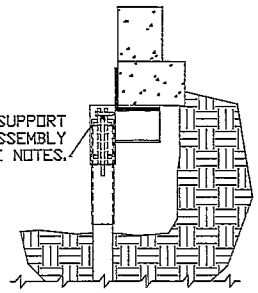
DESIGN DATA
WIND = 145 M.P.H. (3 SEC. GUST)
EXPOSURE "B"
IMPORTANCE FACTOR 1.0

SHALLOW INJECTION RODS ☐

SOSA RESIDENCE

SPT-1

CUSTOM SUPPORT BRACKET ASSEMBLY SEE NOTES.

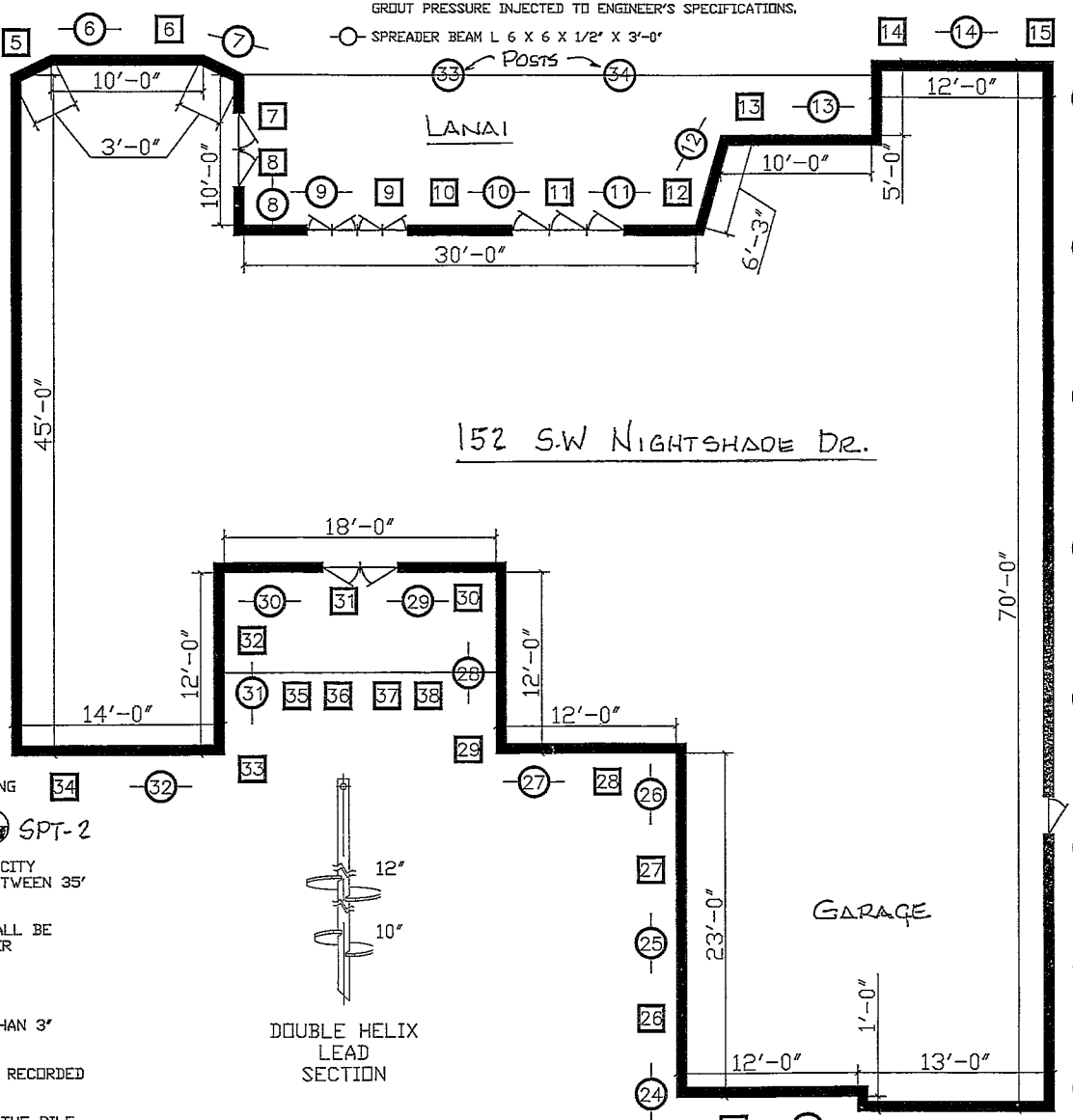


CUSTOM BRACKET

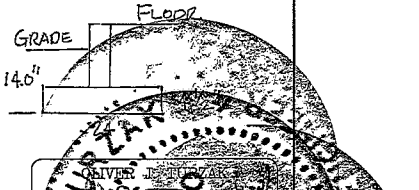
4.5" ø Guide PIPE

2 7/8" ø PIER PIPE

DETAIL VIEWS
N.T.S



NOTE.
STEMWALL FOUNDATION



GENERAL NOTES

1. THIS SPECIFICATION IS BASED ON THE BORING LOGS OF : FTE
   PROJECT # : 12-13874
   DATED : AUGUST 2012
2. PIERS SHALL BE A MINIMUM OF 6 TON CAPACITY GOING TO AN EXPECTED TERMINAL DEPTH BETWEEN 35' AND 75'
3. AFTER PILING IS IN PLACE FOUNDATION SHALL BE LIFTED TO CLOSE TO ORIGINAL GRADE, UNDER DIRECTION OF THE UNDERSIGNED ENGINEER.
4. ⊗ INDICATES PIER LOCATIONS.
5. PIER BRACKETS TO BE MOUNTED NO MORE THAN 3" OUTSIDE FACE OF WALL.
6. DEPTHS AND JACKING PRESSURES SHALL BE RECORDED BY CONTRACTOR.
7. SATISFACTORY PERFORMANCE OCCURS WHEN THE PILE HOLDS A MINIMUM OF 20,000# FOR 15 MIN. WITHOUT FURTHER JACKING.

SPT-2

DOUBLE HELIX LEAD SECTION

I HEREBY CERTIFY THAT I HAVE REVIEWED THE ATTACHED DESIGN AND FOUND IT TO BE IN COMPLIANCE WITH THE FBC 2010

JOHNSON *FREY*
TUZAK GROUP INC
Site & Building Design
Inspection
Residential/Commercial
Industrial
Management
5405 WATER ST.
NEW PORT RICHEY, FL 34652
PH. (727) 848-2921
FAX (727) 847-9391

Champion FOUNDATION REPAIR

8504 E. Adamo Dr
Tampa, FL 33619

Phone (813) 622-6454
Fax (813) 622-6614

Geotechnical Report?	Date	Engineering Firm	Engineer	Number of Piers
Yes	8/20/2012	FTE	Turzak	34

Pier Installation Log & Shallow Grout Bulb Report

Job Address
152 SW Nightshade Drive
Lake City, FL 32024

Project Number
H-13-473

Start Date: 5/5/2014

End Date: 5/16/2014

Crew Chief: Ronald Watson

Pier Number	Section Lengths	Final Depth	Final Driving Pressure	Elevation Recovered
#1	5-7 Foot Sections	49 Feet	2500 PSI	Lift 1/16"
#2	5-7 Foot Sections	30 Feet	2500 PSI	Lift 1/16"
#3	5-7 Foot Sections	37 Feet	2000 PSI	Lift 1/16"
#4	5-7 Foot Sections	25 Feet	2900 PSI	Lift 1/16"
#5	5-7 Foot Sections	41 Feet	2000 PSI	Lift 1/16"
#6	5-7 Foot Sections	30 Feet	2000 PSI	Lift 1/16"
#7	5-7 Foot Sections	37 Feet	2000 PSI	Lift 1/16"
#8	5-7 Foot Sections	41 Feet	2000 PSI	Lift 1/16"
#9	5-7 Foot Sections	44 Feet	2000 PSI	Lift 1/16"
#10	5-7 Foot Sections	30 Feet	2000 PSI	Lift 1/16"
#11	5-7 Foot Sections	30 Feet	2000 PSI	Lift 1/16"
#12	5-7 Foot Sections	37 Feet	2000 PSI	Lift 1/16"
#13	5-7 Foot Sections	23 Feet	2900 PSI	Lift 1/16"
#14	5-7 Foot Sections	39 Feet	2600 PSI	Lift 1/16"
#15	5-7 Foot Sections	36 Feet	2800 PSI	Lift 1/16"
#16	5-7 Foot Sections	37 Feet	2200 PSI	Lift 1/16"
#17	5-7 Foot Sections	38 Feet	2300 PSI	Lift 1/16"
#18	5-7 Foot Sections	14 Feet	2900 PSI	Lift 1/16"
#19	5-7 Foot Sections	30 Feet	2000 PSI	Lift 1/16"
#20	5-7 Foot Sections	44 Feet	2200 PSI	Lift 1/16"
#21	5-7 Foot Sections	31 Feet	2200 PSI	Lift 1/16"
#22	5-7 Foot Sections	25 Feet	2400 PSI	Lift 1/16"
#23	5-7 Foot Sections	36 Feet	2300 PSI	Lift 1/16"
#24	5-7 Foot Sections	49 Feet	2200 PSI	Lift 1/16"
#25	5-7 Foot Sections	14 Feet	2900 PSI	Lift 1/16"
#26	5-7 Foot Sections	31 Feet	2200 PSI	Lift 1/16"
#27	5-7 Foot Sections	14 Feet	2500 PSI	Lift 1/16"
#28	5-7 Foot Sections	31 Feet	2000 PSI	Lift 1/16"

CONCRETE COMPANY: CEMEX PAGE 2 OF 2

#29	5-7 Foot Sections	14 Feet	2500 PSI	Lift 1/16"
#30	5-7 Foot Sections	14 Feet	2500 PSI	Lift 1/16"
#31	5-7 Foot Sections	45 Feet	2800 PSI	Lift 1/16"
#32	5-7 Foot Sections	52 Feet	2800 PSI	Lift 1/16"
#33	5-7 Foot Sections	23 Feet	2900 PSI	Lift 1/16"
#34	5-7 Foot Sections	23 Feet	2900 PSI	Lift 1/16"

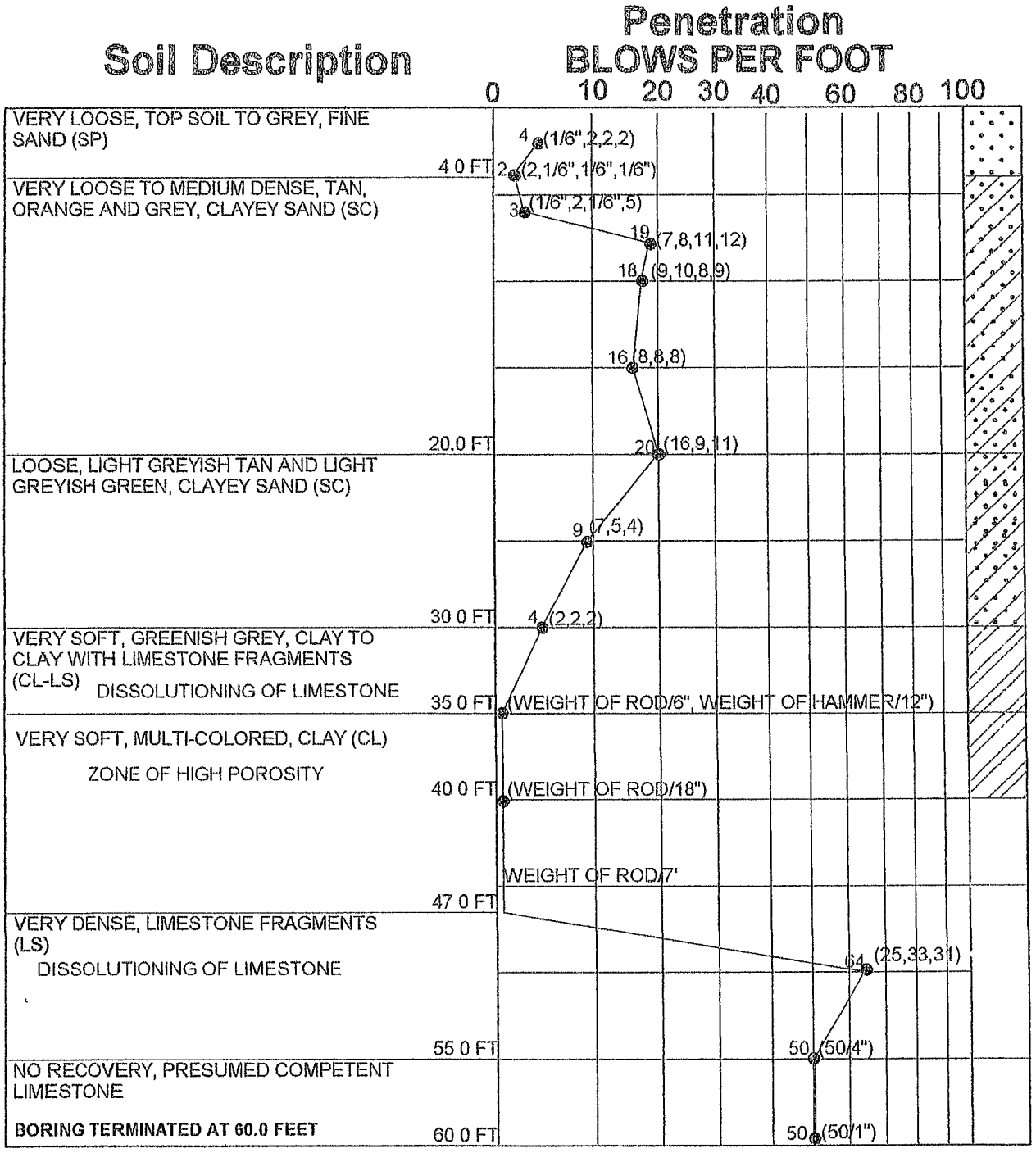
CONCRETE COMPANY: CEMEX PAGE1 OF 2

INSPECTION POINT	LINE PRESSURE	MAX PRESSURE (PSI)	STROKES PER MINUTE	STROKES PER POINT
1	150	200	12	7
2	100	250	12	8
3	150	200	12	7
4	150	250	12	8
5	150	200	12	7
6	100	250	12	7
7	100	200	12	9
8	100	200	12	8
9	150	250	12	10
10	150	250	12	8
11	150	200	12	8
12	150	200	12	8
13	150	200	12	9
14	150	250	12	7
15	150	250	12	8
16	150	250	12	9
17	150	200	12	7
18	150	250	12	9
19	100	200	12	7
20	150	250	12	9

21	150	250	12	9
22	100	200	12	8
23	100	200	12	8
24	150	250	12	9
25	150	250	12	8
26	150	250	12	8
27	150	250	12	9
28	100	250	12	10
29	150	250	12	8
30	150	250	12	7
31	100	200	12	8
32	150	250	12	9
33	150	250	12	7
34	150	250	12	7
35	100	200	12	9
36	100	250	12	9
37	150	250	12	8
38	100	200	12	9

TOTAL GROUT (YARDS) 3

GENERALIZED SUBSURFACE PROFILE



NOTE 100% LOSS OF CIRCULATION AT 37 0 FEET

Project: SOSA RESIDENCE

Client: MARSHALL, THOMAS, BURNETT

Address: LAKE CITY, FLORIDA

Ground Water: UNKNOWN

Project No. 12-13874 Page 1

Date: AUGUST 2012 Boring No.: SPT-1

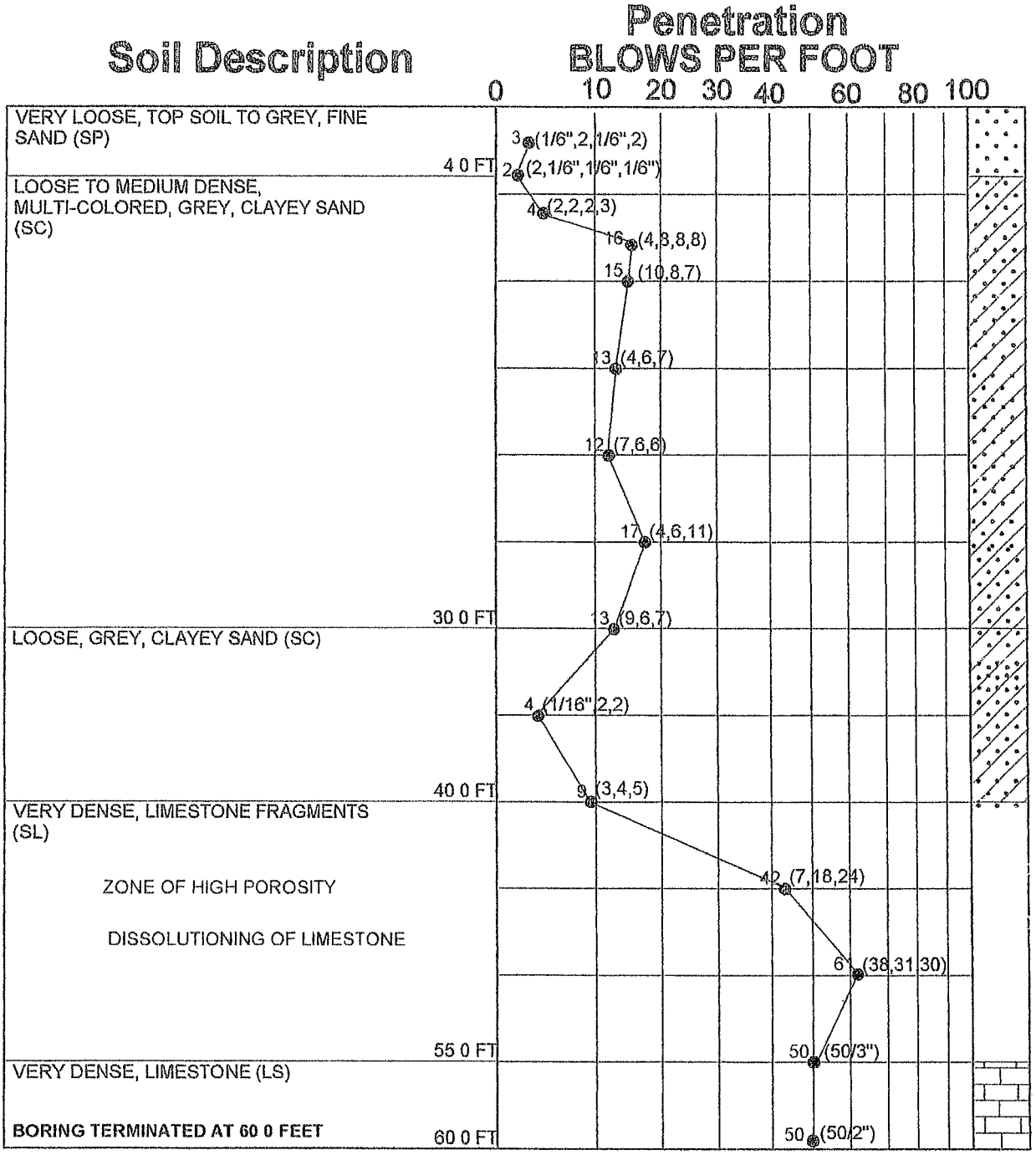
Boring and Sampling meet ASTM D-1586 Core Drilling meets ASTM D-2113

Penetration is the number of blows of 140 pound hammer falling 30 inches required to drive 1.4 inch I.D. sampler 1 foot.

FTE

Florida Testing & Environmental, Inc.

GENERALIZED SUBSURFACE PROFILE



NOTE 100% LOSS OF CIRCULATION AT 37 0 FEET

Project: SOSA RESIDENCE

Client: MARSHALL, THOMAS, BURNETT

Address: LAKE CITY, FLORIDA

Ground Water: UNKNOWN

Project No. 12-13874 Page 1

Date: AUGUST 2012 Boring No.: SPT-2

Boring and Sampling meet ASTM D-1586 Core Drilling meets ASTM D-2113

Penetration is the number of blows of 140 pound hammer falling 30 inches required to drive 1.4 inch I.D. sampler 1 foot.

FTE

Florida Testing & Environmental, Inc.

Champion
FOUNDATION REPAIR

I, Jaime Wester and Michael Mosher, owners of Champion Foundation Repair give Christopher Justice permission to conduct business for Champion Foundation Repair in Columbia County; Including, but not limited to, pulling permits, picking up permits, closing permits, and registering Notice of Commencements.

Jaime Wester,
Owner Champion Foundation Repair

5/2/2014
Date

Michael Mosher,
Owner Champion Foundation Repair

5/2/2014
Date

Signature of Notary

5/2/2014
Date

JULIE WILSON
MY COMMISSION # EE221202
EXPIRES July 31, 2016
(407) 398-0153 FloridaNotaryService.com

Champion Foundation Repair

8504 E Adamo Dr Suite #140 G Tampa, Florida

813-622-6454 (Phone) 813-622-6614(Fax)

To: Jessica Bowey

CHAMPION FOUNDATION REPAIR LLC
8504 Adamo Dr. Ste 140 G
Tampa, FL 33619

4861
63-466/631

DATE 4-24-14

PAY TO THE ORDER OF BCC $ 15.00

Fifteen dollars 00/100 DOLLARS

Security Features Details on Back.

REGIONS

FOR Nightshade

⑈0000486 1⑈ ⑆063104668⑆ 0161444707⑈

002398

BUILDING DEPARTMENT
COLUMBIA COUNTY FLORIDA
135 NE HERNANDO AVENUE • PHONE 386-758 1008
LAKE CITY, FLORIDA 32055

DATE 4-28 20 14

RECEIVED FROM Champion foundation Repair, LLC

DOLLARS $ 15.00

→ Application ☒ No 1404-165 (Sally Sosa)
Pre-Inspection ☐
Service Charge ☐
Re-Inspection ☐

Cash or Check 4861

BOARD OF COUNTY COMMISSIONERS

BY

I will call when the permit is ready to be picked up.

Thanks,

Laurie

ph: 386-758-1007

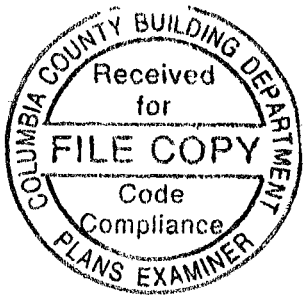
AUG 2 2012

Florida Testing & Environmental, Inc.

P.O BOX 5603 • LAKELAND, FLORIDA 33807-5603 • TELEPHONE (863) 648-1000 • FAX (863) 648-4799

August 20, 2012
FTE Project No.: 12-13874

Marshall, Thomas, Burnett
200 North Pierce Street
Tampa, Florida 33602



Attn: Mr. Jed Thomas, Esq.

Subject. Report of Settlement Investigation
Existing One Story Masonry Block House
Sosa Residence, 152 SW Nightshade Drive
Lake City, Columbia County, Florida

Dear Mr. Thomas:

As authorized through your letter dated June 20, 2012, Florida Testing & Environmental, Inc. (FTE) has completed the damage evaluation and settlement investigation for the subject property. The purpose of this exploration was to determine the stratification and engineering properties of subsurface soils beneath the subject structure as they relate to the presence or potential development of a sinkhole, in addition to commenting on other possible causes (if any) of the existing cracks by evaluating the adequacy of existing subsoils as it relates to supporting the existing structure, commenting on any soil-structure interaction problem of deficiency, and recommending remedial measures, as necessary. This report contains the results of our subsurface investigation and provides comments and findings regarding the presence or potential development of a sinkhole, stability of the subsoils and causes of subsoil deformation as well as recommended remedial measures. Additionally, this report contains our review and comments regarding the "Structural Investigation and Evaluation Report" dated August 25, 2011, the "Report of Geotechnical Investigation of the Geological Subsurface" dated November 2011, both prepared by Geohazards, Inc., as well as the peer review dated September 2011, prepared by SDII Global, Inc.

The approximate configuration of this structure with its surroundings is illustrated on the Boring Location Plan attached with this report.

This report has been prepared for the exclusive use of our client and other concerned parties for their use in evaluating the possibility of repairing this structure.

ACKNOWLEDGMENT

Florida Testing & Environmental, Inc. appreciates this opportunity to be of service to you by performing this settlement investigation service. We are available to answer any questions that may arise from report and to provide any additional services that may be needed. The undersigned may be contacted at (863) 648-1000.

Respectfully submitted,
FLORIDA TESTING & ENVIRONMENTAL, INC.

8-20-12

Sonny Gulati, P.E., R.E.P.A., C.F.E.A.
Principal
Registered Professional Engineer
Florida Registration No.40136
Registered Environmental Property Assessor No.5844
Certified Florida Environmental Auditor No.200
SG/dc

2: Marshall, Thomas, Burnett

EXECUTIVE SUMMARY

Client: Marshall, Thomas, Burnett
Mr. Jed Thomas, Esquire

FTE Job No.: 12-13874

Asset Name: Sosa Residence

Asset Location: 152 SW Nightshade Drive
Lake City, Columbia County, Florida

Inspection Date: July 5, 2012/July 30, 2012

Asset Description: The subject property is a one story masonry block house containing approximately 3,624± square feet of gross living area.

Structure Location and Damage Assessment: The subject site is located at 152 SW Nightshade Drive, Lake City, Columbia County, Florida. The site contains a one story, masonry block residence, supported on a stemwall type of foundation system. The home was built in 2006 and the Sosa's are the original owners. The subject tract containing the structure is bounded by similar houses on all sides. We have tabulated below a detailed list of deficiencies:

- Slab cracks - driveway - north end
- Slab cracks - driveway - south end
- Horizontal crack - north side of house - east of garage door
- Door trim separation - north side of house - east door entrance
- Horizontal crack - north side of house - west of east door entrance
- Horizontal crack - north side of house - near test pit
- Horizontal crack - back of house - north of north window
- Window separation - back of house - north window
- Slab crack - back of house - back porch, north end
- Window separation - back of house - back porch, east wall, north window
- Slab crack - back of house - back porch, near north french doors
- Horizontal crack - back of house - back porch, above north french doors
- Slab crack - back of house - back porch, west of north french doors
- Door trim separation - back of house - back porch, east wall, south french doors
- Slab crack - back of house - back porch, east wall, under south french doors
- Slab crack - back of house - back porch, near picture # 22
- Depressed area - back of house - south end of back patio slab

- Horizontal separation - back of house - south bay window, north end
- Window separation - back of house - south bay window, south end
- Horizontal crack - back of house - south of south bay window, near gate
- View of depression in front yard - filled in by home owner
- View of depression - northeast corner of house
- Window separation - front of house - north window
- Window separation - front of house - 2nd window from north
- Diagonal crack - front of house - above 4th window from south
- Window separation - front of house - above 4th window from south
- Horizontal separation - front of house - north front porch wall, east end
- Slab crack - front of house - under front door
- Vertical crack - front of house - south of front door, near ground
- Step crack - front of house - south front porch wall, east end
- Horizontal separation - front of house - under south spigot
- Window separation - south side of house - east window
- Horizontal crack - south side of house - east of west window
- Window separation - south side of house - west window
- Horizontal crack - south side of house - southwest corner
- Slab crack - garage - east end
- Slab separation - garage - southwest corner
- Slab crack - garage - west end
- Nail pop - garage - above fuse box, west wall
- Slab crack - garage - northwest corner
- Slab separation - garage - near picture # 47
- Ceiling trim separation - kitchen - north wall
- Tile crack - kitchen - east end, near hallway entrance
- Nail pop - east bedroom - northwest corner of ceiling
- Window separation - east bedroom - east wall
- Ceiling crack - east bedroom - above east wall

Field Activities: Florida Testing and Environmental, Inc. (FTE) has performed a floor elevation survey, conducted a thorough inspection of the property with photographs, conducted three (3) hand auger borings, excavated one (1) test pit and conducted two (2) Structural Standard Penetration Test Borings.

Conclusions: Based on the observations made, results of our field activities and the information obtained from the homeowner, we have concluded that the damage to the subject Sosa Residence is caused by the sinkhole activity. In my professional judgement, the totality of scientific data (collected by Geohazards & FTE) evaluated to render an opinion is sufficient to conclude sinkhole activity as the primary cause of distress/damage within a reasonable professional probability

Recommendations:

We believe that conclusive evidence of a sinkhole loss has been discovered, therefore we recommend the subject structure should be stabilized by pressure grouting as well as perimeter underpinning. The final remediation plan should be prepared by a registered civil (structural) engineer familiar with the contents of this report and experienced in sinkhole remediation. FTE would prepare this plan upon request.

SINKHOLE INVESTIGATION FACT SHEET

Project Information	
Project Name.	Sosa Residence
Project Location·	152 SW Nightshade Drive Lake City, Columbia County, Florida
Client Name:	Marshall, Thomas, Burnett
Structure Information	
Age of Home:	6± years
Type of Construction.	Masonry Block
Foundation Type:	Stemwall
Interior Damage:	Yes
Exterior Damage:	Yes
Surrounding Area Characteristics	
Topography:	Relatively flat
Land Use:	Residential
Approximate Age of Locality:	10 0± years
Approximate Amount of Fill:	N/A
Scope of Investigation	
Inspection Date:	July 5, 2012/July 30, 2012
SPT Borings:	SPT-1: 60.0 feet; SPT-2: 60.0 feet
Depth of Competent Limestone:	SPT-1: 55.0 feet; SPT-2: 55.0 feet
Loss of Circulation:	SPT-1: 100% at 37.0 feet; SPT-2: 100% at 42 0 feet
Void Encountered.	Yes, encountered zones of high porosity interconnected to voids and/or solution channels.
Average Groundwater Table:	Unknown
Bedrock Condition:	Weight of rod/weight of hammer conditions, systematic weakening of soil-sediment, zones of high porosity, complete loss of drilling fluid circulation and dissolving and collapsing limestone with clay infill cavities, which is not depositional.

Florida Testing & Environmental, Inc.

Existing Foundation System

A test pit was excavated at the perimeter of the house. The purpose of this exercise was to expose and evaluate the adequacy of the existing foundation system to support the subject structure. The structure is supported on a stemwall footing type of foundation system with a thickness of 4.5 inches, width of 24.0 inches and soil embedment depth of 14.0± inches.

Floor Elevation Survey

A survey of relative floor elevations was performed and is presented with this report. With reference to the survey performed within the main residence, a maximum variation of approximately 1.3± inches was observed. The highest elevation was observed in the east center portion, while the lowest elevations were observed in the northwest portion of the house.

According to the Standard Specifications for Tolerances for Concrete Construction and Materials (ACI-117-06 Section 4.4.1), issued by the American Concrete Institute (ACI) Craftsman Services-Slab on Grade, the level alignment for the tops of floor slabs is to be (+/-) 3/4 inch, with no more than ½ inch deviation within any 10 feet.

It is my professional opinion that the floor slab has undergone overall differential settlement of up to 1.3± inches, and more than ½ inch over 10 feet horizontal distance, (excessive elevation gradient) and multiple anomalous areas and will need remediation. As pressure grouting is not intended to correct floor slab elevation difference, it is recommended that the sinkhole remediation must include both cement grouting and underpinning.

Hand Auger Borings

Three (3) Shallow Hand Auger Borings were performed. The borings were conducted in accordance with the Standard Method for Soil Investigation and Sampling by Auger Methods, ASTM D1452. Visual field classification of all the soil samples was accomplished with the aid of the Unified Soil Classification System. Soil samples were obtained by simultaneously pressing and corking a hand held and operated auger into the ground. At regular intervals, the tool is withdrawn and subsoils are examined. Although, the sample is mixed, it is sufficient for identification and classification. The shallow subsoil lithology has been tabulated below:

Auger Boring No: **HAB-1**
Location: See Boring Location Plan
Existing G.W.T.: 50.0" B L.S.

Soil Lithology:
0.0 - 12.0" Orange and Grey, Clayey Sand (SC)
12.0 - 50.0" Medium Grey, Fine Sand (SP)

Boring Terminated at 50.0 inches Below Existing Land Surface.
****

Auger Boring No: **HAB-2**
Location: See Boring Location Plan
Existing G.W.T.: 50.0" B.L.S.

Soil Lithology:
0 0 - 50.0" Medium Grey, Fine Sand (SP)

Boring Terminated at 50.0 inches Below Existing Land Surface.
****

Auger Boring No: **HAB-3**
Location: See Boring Location Plan
Existing G.W.T.: 50.0" B.L.S.

Soil Lithology:
0.0 - 50.0" Medium Grey, Fine Sand (SP)

Boring Terminated at 50.0 inches Below Existing Land Surface.
****

STRUCTURAL STANDARD PENETRATION TEST BORINGS

On July 24, 2012, two (2) Structural Standard Penetration Test Borings were performed by a truck-mounted drill rig. These borings extended to a depth of 60.0 feet each below the existing land surface The SPT Borings were advanced with the use of a drilling bit in conjunction with wash water or drilling fluid. The boring locations have been illustrated on the plan attached with this report.

Representative soil samples from the test borings were obtained by means of the split-barrel sampling procedure in general accordance with ASTM specification D 1586. A copy of this procedure is included in the Appendix. The Structural Standard Penetration test results are the results of recorded blow counts with a 140 pound hammer falling freely thirty inches, driving drill rods attached to a standard 2" O.D. sampler.

In the standard manner, the sampler is seated six (6) inches into the bottom of the test hole and then advanced an additional 18.0 inches. All advancement of the sampler is accomplished by the dynamic effort of the hammer. Blows are applied until twenty four (24) inches of penetration are reached or until an excessive blow count is attained. The sampler is then removed from the test hole, opened, and the soil sample sealed in a plastic bag.

A representative of our firm maintained a field log of the soil samples recovered in the field. All the soil samples were sealed, labeled and delivered to our laboratory for further examination and classification. The soil samples were visually inspected and classified on the basis of texture and plasticity in accordance with the Unified Soil Classification System.

Finally, it is our opinion that the actual transition between soil stratas is often gradual, thereby implying that the boundaries between soil types as indicated on the attached boring logs are approximate.

SPT-1; See Boring Location Plan
During the completion of this test boring, we encountered very loose, fine sand in the upper 4.0 feet, followed by very loose to medium dense, clayey sand to 20.0 feet. Loose, clayey sand was then found to 30.0 feet, followed by very soft, clay to clay with limestone fragments to 35.0 feet. Next, we encountered very soft, clay to 40.0 feet. A 7 0 foot weight of rod was then found, followed by very dense, limestone fragments to 55.0 feet. Finally, we encountered presumably very dense, limestone which continued to the boring termination depth of 60.0 feet. **Note: 100% loss of circulation at 37.0 feet**

SPT-2: See Boring Location Plan
This test boring revealed very loose, fine sand in the upper 4.0 feet, followed by loose to medium dense, clayey sand to 30.0 feet and loose, clayey sand to 40.0 feet. Next, we encountered very dense, limestone fragments to 55.0 feet. Finally, we encountered very dense, limestone which continued to the boring termination depth of 60.0 feet. **Note: 100% loss of circulation at 42.0 feet**

PICTORIAL ILLUSTRATIONS

During our site inspection we photographed the interior and exterior of the subject structure. We have included some of these photographs which identify areas of possible concern. A brief description of each photograph has been tabulated below. The actual illustrations have been included in Appendix.

View 1. Front view of subject residence
View 2. Left side view of subject residence (south side)
View 3. Back view of subject residence (west side)
View 4. Right side view of subject residence (north side)
View 5. Test pit
View 6. View of uneven front lawn
View 7. Slab cracks - driveway - north end
View 8. Slab cracks - driveway - south end
View 9. Horizontal crack - north side of house - east of garage door
View 10. Door trim separation - north side of house - east door entrance
View 11. Horizontal crack - north side of house - west of east door entrance
View 12. Horizontal crack - north side of house - near test pit
View 13. Horizontal crack - back of house - north of north window
View 14. Window separation - back of house - north window
View 15. Slab crack - back of house - back porch, north end
View 16. View of back yard

View 17. Window separation - back of house - back porch, east wall, north window
View 18. Slab crack - back of house - back porch, near north french doors
View 19. Horizontal crack - back of house - back porch, above north french doors
View 20. Slab crack - back of house - back porch, west of north french doors
View 21. Door trim separation - back of house - back porch, east wall, south french doors
View 22. Slab crack - back of house - back porch, east wall, under south french doors
View 23. Slab crack - back of house - back porch, near picture # 22
View 24. Depressed area - back of house - south end of back patio slab
View 25. Horizontal separation - back of house - south bay window, north end
View 26. Window separation - back of house - south bay window, south end
View 27. Horizontal crack - back of house - south of south bay window, near gate
View 28. View of depression in front yard - filled in by home owner
View 29 View of depression - northeast corner of house
View 30. Window separation - front of house - north window
View 31. Window separation - front of house - 2nd window from north
View 32. Diagonal crack - front of house - above 4th window from south
View 33. Window separation - front of house - above 4th window from south
View 34. Horizontal separation - front of house - north front porch wall, east end
View 35. Slab crack - front of house - under front door
View 36. Vertical crack - front of house - south of front door, near ground
View 37. Step crack - front of house - south front porch wall, east end
View 38 Horizontal separation - front of house - under south spigot
View 39. Window separation - south side of house - east window
View 40. Horizontal crack - south side of house - east of west window
View 41. Window separation - south side of house - west window
View 42. Horizontal crack - south side of house - southwest corner
View 43. Slab crack - garage - east end
View 44. Slab separation - garage - southwest corner
View 45. Slab crack - garage - west end
View 46. Nail pop - garage - above fuse box, west wall

View 47. Slab crack - garage - northwest corner

View 48. Slab separation - garage - near picture # 47

View 49. Ceiling trim separation - kitchen - north wall

View 50. Tile crack - kitchen - east end, near hallway entrance

View 51. Nail pop - east bedroom - northwest corner of ceiling

View 52. Window separation - east bedroom - east wall

View 53. Ceiling crack - east bedroom - above east wall

REVIEW OF PREVIOUS REPORT

We have reviewed the "Structural Investigation and Evaluation Report" dated August 25, 2011, the "Report of Geotechnical Investigation of the Geological Subsurface" dated November 2011, both prepared by Geohazards, Inc., as well as the peer review dated September 2011, prepared by SDII Global, Inc. Their reports state the following:

- Geohazards has opined that the damages may be attributed to differential foundation movements, separation between the brick and stucco cladding on the exterior walls is likely the result of differential movements between the two materials. Cementitious material cracks may be caused by thermal expansion and contraction movements of the structure caused by environmental thermal and moisture cycles.

It is my professional opinion that the causes listed above are implausible in light of the fact that the house was built in 2006 and the damage was first noticed recently and is ongoing. Furthermore, the non-sinkhole activity related conclusions are not supported by the scientific data collected by Geohazards, Inc.

BASIS OF CONCLUSIONS

The basis of our conclusions are as follows:

- The subject structure is underlain by karst conditions.
- The minor differential settlement is not the cause of distress at the subject residence. The cause of the damage is deep rooted. The distress is recent and is still ongoing
- Systematic weakening of soil-sediment was encountered from 20.0 - 30 0 feet in SPT-1 and 8.0 - 40.0 feet in SPT-2.
- Dissolving and collapsing of limestone was encountered from 30.0 - 35.0 feet and 47.0 - 55.0 feet in SPT-1 and 40.0 - 55.0 feet in SPT-2.
- Weight of rod/weight of hammer conditions were encountered in SPT-1.
- 100% loss of circulation was encountered at 37.0 feet in SPT-1 and at 42.0 feet in SPT-2.
- Closed depressions which might indicate sinkhole activity were located within one mile of the subject residence.
- The subject residence is located in an area with apparent downward vertical hydraulic gradient
- The floor slab has undergone differential settlement of up to 1.3± inches. This is significant in light of geologic conditions and the fact that sinkhole activity does not usually manifest itself on the ground surface. As pressure grouting is not intended to correct floor slab elevation difference, it is recommended that the sinkhole remediation must include both pressure grouting and underpinning.
- Our review of the floor elevation survey data indicates that the elevation difference exceeds 0.5 inch over 10 feet horizontal distance (computed by modern technique) in multiple areas within the main living area of the house, and accordingly exceeds tolerances established by the American Concrete Institute.
- The main house concrete floor slab has undergone abnormal amount of differential settlement due to underlying karst conditions.

Note: **My professional opinions, within a reasonable degree of professional probability, are based on review of all the scientific data available including, but not limited to, Geohazards reports dated August and September 2011, data collected by FTE, historical aerial maps, knowledge of nearby sinkholes in the area, topographic quad map of the area, and application of statutory definitions of sinkhole, sinkhole activity, and sinkhole loss. The structure has suffered structural damage per 627.706 Florida Statute.**

SINKHOLE MITIGATION RECOMMENDATIONS

We believe that conclusive evidence of a sinkhole loss has been discovered, therefore we recommend the subject structure should be stabilized by cement grouting as well as underpinning.

Based on the results of this exploration and our past experience with sinkhole activity, we believe that it is possible to stabilize and consolidate the subsurface soils by injecting low slump grout, which is a mixture of Portland cement, sand, additives, and water into the soils. The purpose of grout injection is to seal off openings into underlying cavernous zones, fill in the void zones, consolidate the loose soils, a prevent downward migration of soil particles. We recommend that this grout material be injected at points around the entire perimeter of the structure.

Low slump grout is recommended over a more fluid grout so that material quantities may be reduced, since this material can be placed with more accuracy directly below the structure and not be permitted to flow significantly off site. The purpose of the deep grout injection is to fill in and seal zones of higher horizontal permeability, cap small fissures and breaches in the bedrock surface, and to fill in and consolidate the soft soils and the loose sands above the bedrock. Subsurface grouting should be performed by a qualified grouting contractor who has performed this service for a period of not less than five (5) years. Grouting should be done under the direction observation of the soils engineer or his representative.

The following is recommended:

- Grouting should be performed by a contractor experienced in the injection of low slump grout. Grouting should be done under the observation of a qualified soils engineer or his representative familiar with the project. This stiff grout mix is recommended to reduce the material quantities required and to minimize the volume of grout being injected into the areas not lying beneath the structure. Typically, a sand, cement, flyash grout is used, having a slump of 4.0 to 6.0 inches to facilitate flow This grout should attain a nominal compressive strength of 2000 pounds per square inch after 28 days.

- We recommend that the injection points be positioned 8.0 to 10.0 feet apart around the entire perimeter of the house. The points should be installed straight and at approximately a 15° angle alternately, as to assure that the grout is directed under the structure. The injection points should be installed to a depth of 60.0± (estimated) feet below existing grade.

Due care must be exercised to ensure that each grout injection point should be installed, into the uncorroded bedrock mass, a distance of at least 2.0 feet. The purpose of this is to confirm that the injection point termination is not in a rock lense.

Grouting shall be halted when movement of the land surface (heave or settlement) is detected and the injection point should be raised to the next increment. Grout injection shall continue in the injection point unless a total ground movement of one quarter inch is detected. If a ground movement of one quarter inch or more is detected, the grout point should be terminated, and adjacent injection locations shall not be treated, until a minimum of 24.0 hours has elapsed.

UNDERPINNING

The underpinning process involves the installation of a series of steel pin piles under the foundation as well as within the interior of the structure. The pins are usually 3 inch round pipe. The pin piles are installed down through the unstable soils to a more competent stratum of rock. We believe the depths should be on the order of 60.0± (estimated)feet. A steel bracket is then welded to the top of the pin pile and attached to the footing or slab.

The area surrounding the pin pile and steel bracket is then grouted with a high strength cement based grout which will secure the piles to the structure. This process will serve to stabilize the structure even if continued consolidation should occur.

Monitoring Program

Monitoring of the site and adjacent structure shall be provided by the foundation grouting contractor during this operation. This is necessary to ensure that no abnormal lifting of floor slabs, walls, columns, or other elements of the adjacent structures occurs during the deep grouting program. The geotechnical engineer shall be advised of any movements in excess of the limits stated previously herein.

A qualified geotechnical engineer familiar with this project should be retained to review and approve the work plan of the grout injection contractor, to monitor the grout injection activities, to document injection locations, depths, and quantities and to recommend modifications in the injection program, when necessary, based on our observations.

Upon completion of the underground stabilization program, we recommend underpinning to commence within 30 -45 days. A series of settlement monitoring points should be placed and surveyed by technical personnel to determine if any movement is occurring during this time period. Furthermore, we recommend that all structural and/or cosmetic repairs should be made to the structure approximately 8 weeks after the completion of sinkhole remediation.

IT IS RECOMMENDED THAT THE PLACEMENT OF THE PRESSURE GROUTING INJECTION POINTS AS WELL AS THE UNDERPINS SHOULD BE PREPARED BY A REGISTERED CIVIL (STRUCTURAL) ENGINEER FAMILIAR WITH THE CONTENTS OF THIS REPORT AND EXPERIENCED IN SINKHOLE REMEDIATION, TO OBTAIN PERMIT FOR REMEDIATION.

LIMITATIONS

The detection and stabilization of sinkholes is not an exact science. Therefore, our best judgment and consideration of economic factors were used in making recommendations for this site. The recommended method of subsurface improvement will reduce the potential of any adverse effects of this unique underground condition at the specific problem area.

However, this subsurface improvement method does not represent any guarantee but does provide a reasonable assurance within a reasonable degree of professional probability, that future subsidence will not occur within the problem area, nor at any other location.

STATEMENT OF COMPLIANCE WITH FLORIDA STATUE SECTION 627.707

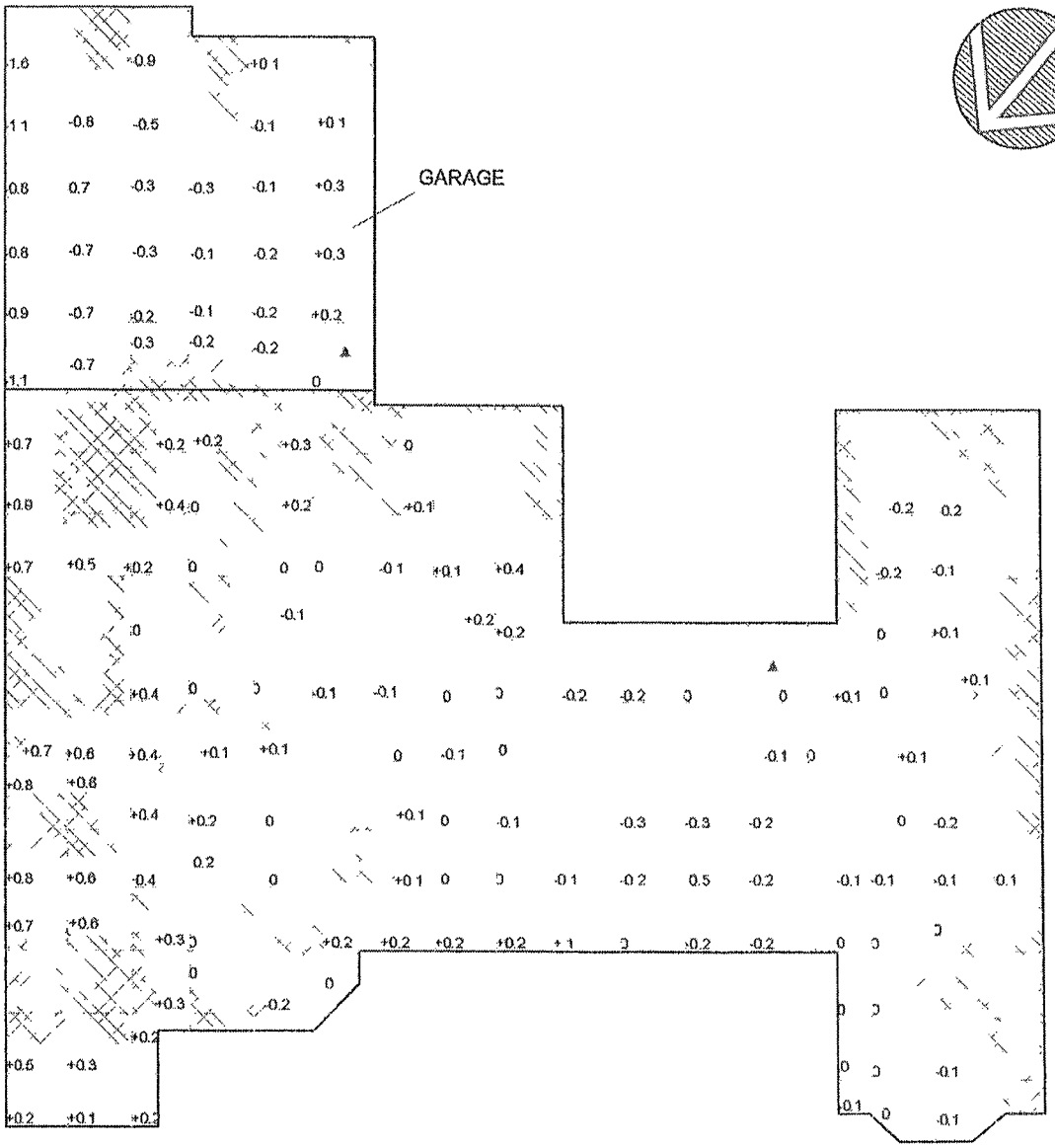
The individual responsible for conducting this study is Mr. Sonny Gulati, P.E., who is registered under the rules of Florida Statute, Section 471.015, as a Professional Engineer, in the discipline of Civil Engineering. Furthermore, Mr. Gulati's main area of expertise and experience is in the Geotechnical Engineering specialty of the Civil Engineering discipline.

In our professional opinion, the scope of work included with this analysis is sufficient to evaluate sinkhole activity as the primary cause of distress/damage within a reasonable professional probability.

COST ESTIMATE

In our professional opinion, the subject structure would need to be stabilized by the use of a system consisting of cement grouting and underpinning. Underpinning is a method of stabilizing a structure by installing steel pin piles down through the unsuitable stratas of soil to a more competent rock layer. The pin piles are then secured to the existing building foundation. We recommend that a pin pile should be installed on 8.0 - 10.0 ft. centers around the entire perimeter of the house. The cement grouting technique consists of mixing Portland cement, sand, additives, and water into the soils. The purpose of grout injection is to seal off openings into underlying cavernous zones, fill in the void zones, consolidate the loose soils, a prevent downward migration of soil particles. We recommend that this grout material be injected at points around the entire perimeter of the structure at pre-described locations.

Installation of Grout Injection Points	$28,680.00 to $31,060.00 (Avg. $29,870.00)
Cement Grouting Stabilization (325 to 405 Cubic Yards)	$53,625 00 to $66,825 00 (Avg. $60,225.00)
Underpinning of Structure	$67,500.00
Superstructure Repair	TBD By Others
Engineering Design & Monitoring	$9,500.00
Landscaping Restoration/Fence, Etc.	$2,500.00
Contingency	5%
Total Repair Cost Range	$169,595.00± 5% Contingency +Superstructure Repairs



4'
4'

STARTING POINT

NOTE DID NOT INCLUDE PORCHES

INDICATES INACCESSABLE AREAS

NOTE: ALL ELEVATION MEASUREMENTS ARE IN INCHES

FTE *Florida Testing & Environmental, Inc.*	*DATE AUGUST 2012* *FTE PROJ # 12-13874*	FLOOR SURVEY *SOSA RESIDENCE* *152 SW NIGHTSHADE DRIVE* *LAKE CITY, FLORIDA*

Sinkhole Collapses in Areas Where the Water Table is
Above the Regolith-Limestone Contact

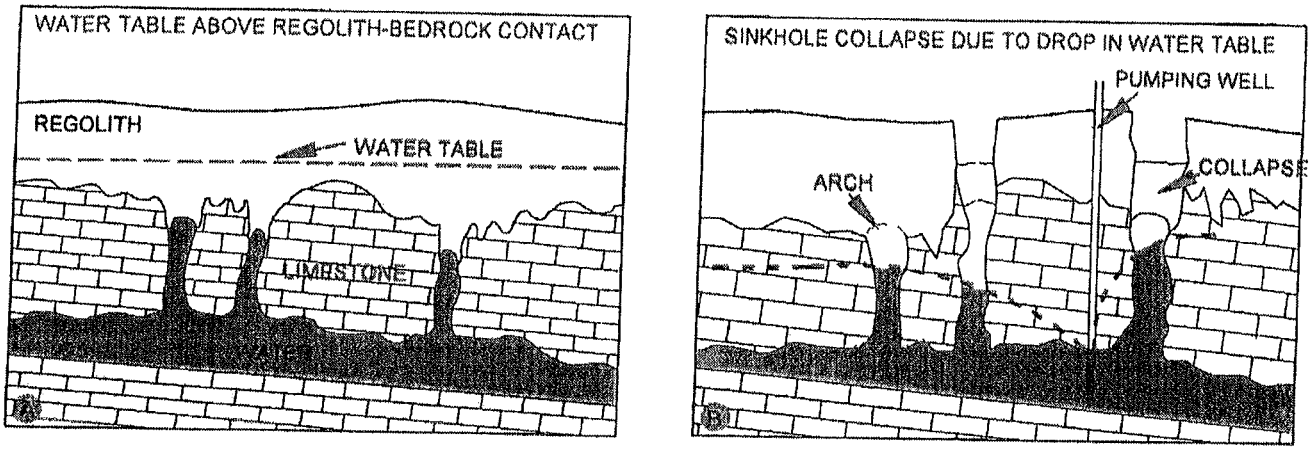


Figure 1

Sinkhole Collapses in Areas Where the Water Table is
Below the Regolith-Limestone Contact

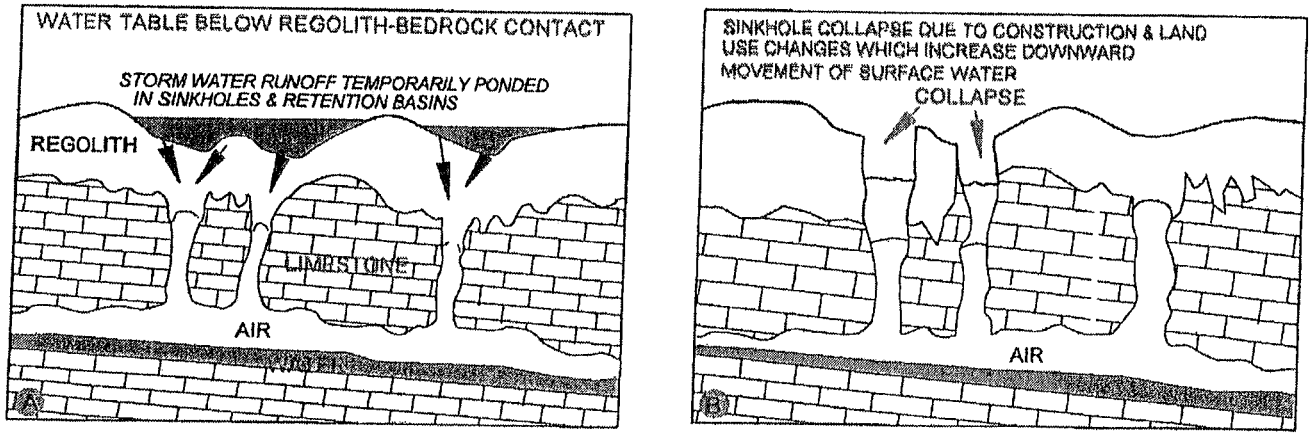
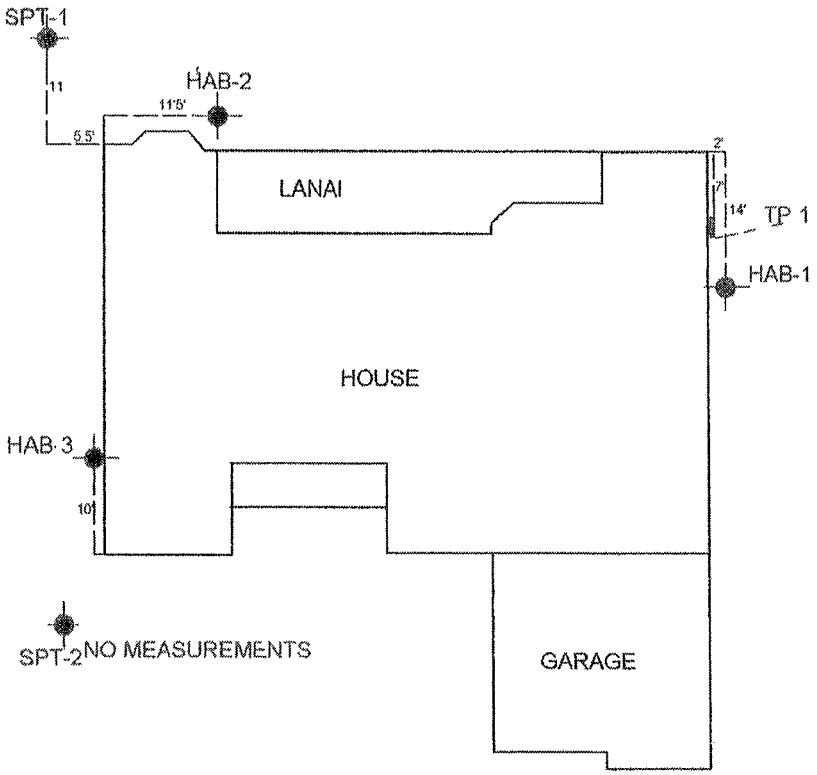


Figure 2



NOTE: ALL TEST BORINGS ARE AT LEAST 4.0 FEET AWAY FROM THOSE CONDUCTED BY OTHERS

APPROXIMATE LOCATION OF SPT BORINGS

APPROXIMATE LOCATION OF HAND AUGER BORINGS

APPROXIMATE LOCATION OF TEST PIT

SOSA RESIDENCE
152 SW NIGHTSHADE DRIVE
LAKE CITY, COLUMBIA COUNTY, FLORIDA

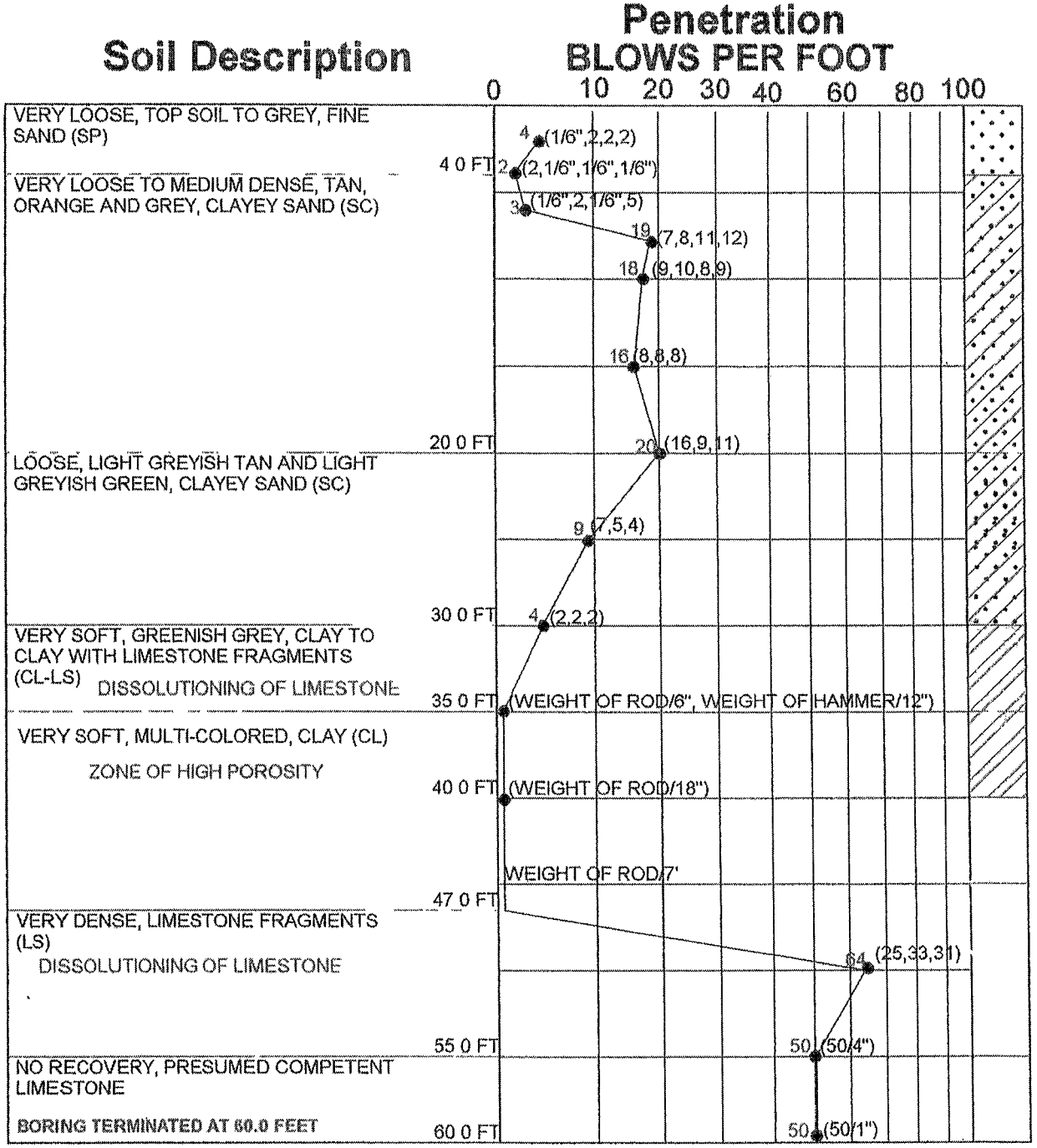
FTE
Florida Testing & Environmental, Inc.

BORING LOCATION PLAN
FTE PROJECT NO.: 12-13874
DATE: AUGUST 2012

MARSHALL, THOMAS, BURNETT

SCALE: NOT TO SCALE

GENERALIZED SUBSURFACE PROFILE



NOTE. 100% LOSS OF CIRCULATION AT 37 0 FEET

Project: SOSA RESIDENCE

Client: MARSHALL, THOMAS, BURNETT

Address: LAKE CITY, FLORIDA

Ground Water: UNKNOWN

Project No. 12-13874 Page 1

Date: AUGUST 2012 Boring No.: SPT-1

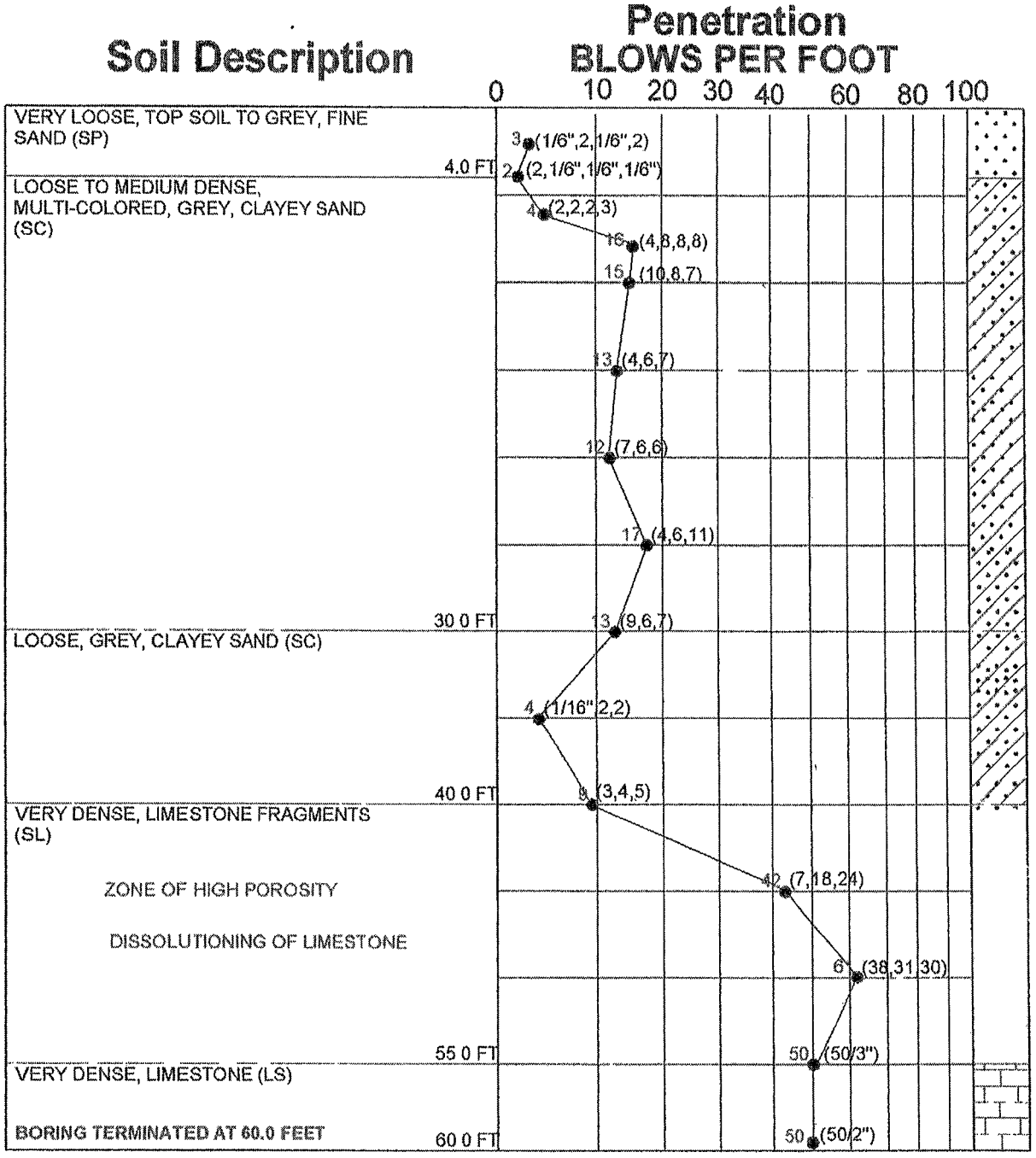
Boring and Sampling meet ASTM D-1586 Core Drilling meets ASTM D-2113

Penetration is the number of blows of 140 pound hammer falling 30 inches required to drive 1.4 inch I.D. sampler 1 foot.

FTE

Florida Testing & Environmental, Inc.

GENERALIZED SUBSURFACE PROFILE



NOTE 100% LOSS OF CIRCULATION AT 37 0 FEET

Project: SOSA RESIDENCE
Client: MARSHALL, THOMAS BURNETT

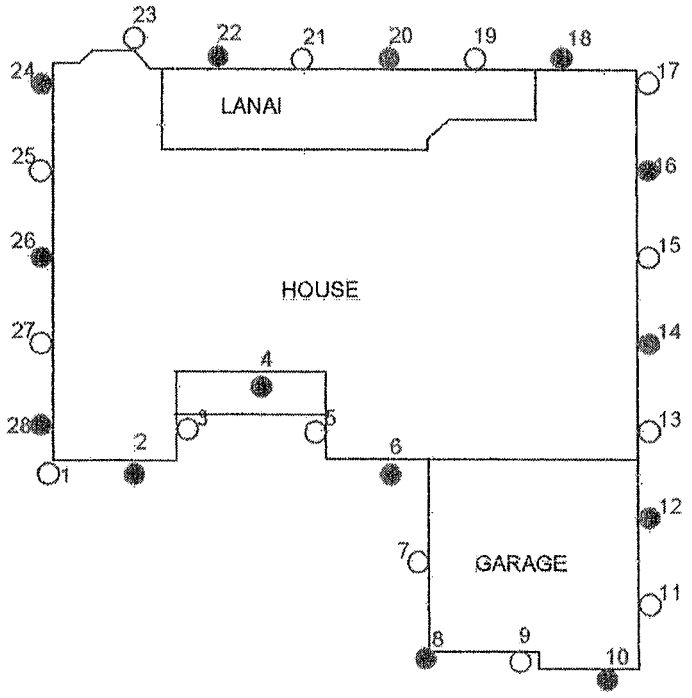
Address: LAKE CITY, FLORIDA
Ground Water: UNKNOWN

Project No. 12-13874 Page 1
Date: AUGUST 2012 Boring No.: SPT-2

Boring and Sampling meet ASTM D-1586 Core Drilling meets ASTM D-2113

Penetration is the number of blows of 140 pound hammer falling 30 inches required to drive 1.4 inch I.D. sampler 1 foot.

FTE
Florida Testing & Environmental, Inc.



A PRELIMINARY REMEDIATION PLAN HAS BEEN PREPARED FOR REMEDIATION COST ESTIMATION PURPOSES ONLY. A FINAL, MORE DETAILED REMEDIATION PLAN WILL BE PREPARED BEFORE THE REMEDIATION ACTIVITY INITIATION

EXPLANATIONS

- ● APPROXIMATE LOCATION OF STRAIGHT GROUT INJECTION POINTS
- ○ APPROXIMATE LOCATION OF ANGLED GROUT INJECTION POINTS

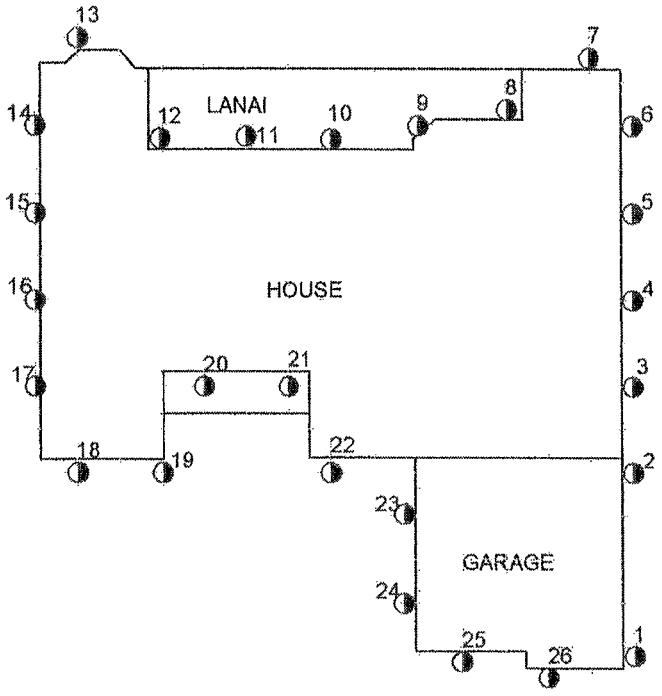
SOSA RESIDENCE
152 SW NIGHTSHADE DRIVE
LAKE CITY, COLUMBIA COUNTY, FLORIDA

FTE
Florida Testing & Environmental, Inc.

MARSHALL, THOMAS, BURNETT

GROUT INJECTION PLAN
FTE PROJECT NO 12-13874
DATE AUGUST 2012

SCALE NOT TO SCALE



A PRELIMINARY REMEDIATION PLAN HAS BEEN PREPARED FOR REMEDIATION COST ESTIMATION PURPOSES ONLY. A FINAL, MORE DETAILED REMEDIATION PLAN WILL BE PREPARED BEFORE THE REMEDIATION ACTIVITY INITIATION.

EXPLANATIONS

◑ APPROXIMATE LOCATION OF STEEL PIN PILES

SOSA RESIDENCE
152 SW NIGHTSHADE DRIVE
LAKE CITY, COLUMBIA COUNTY, FLORIDA

FTE
Florida Testing & Environmental, Inc.

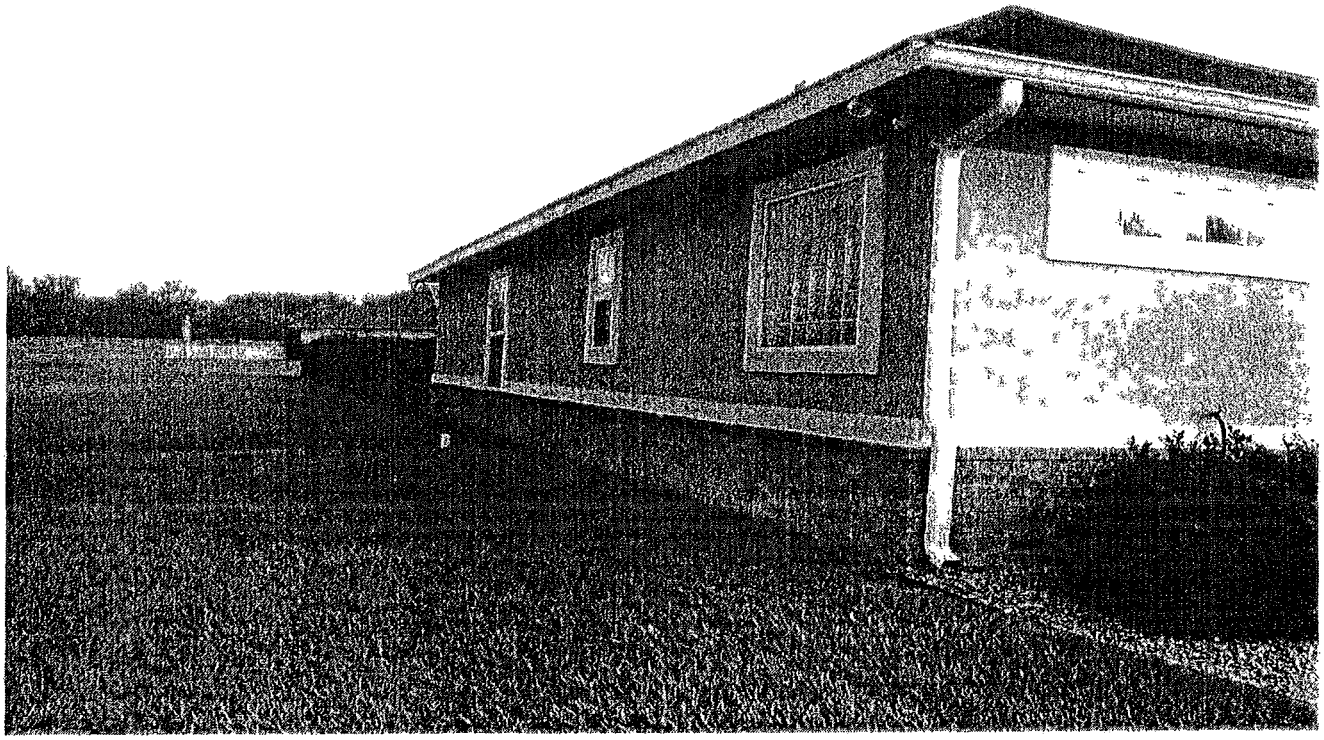
MARSHALL, THOMAS, BURNETT

PIN PILE PLAN
FTE PROJECT NO 12-13874
DATE. AUGUST 2012

SCALE NOT TO SCALE

VIEW 1: FRONT VIEW OF SUBJECT RESIDENCE

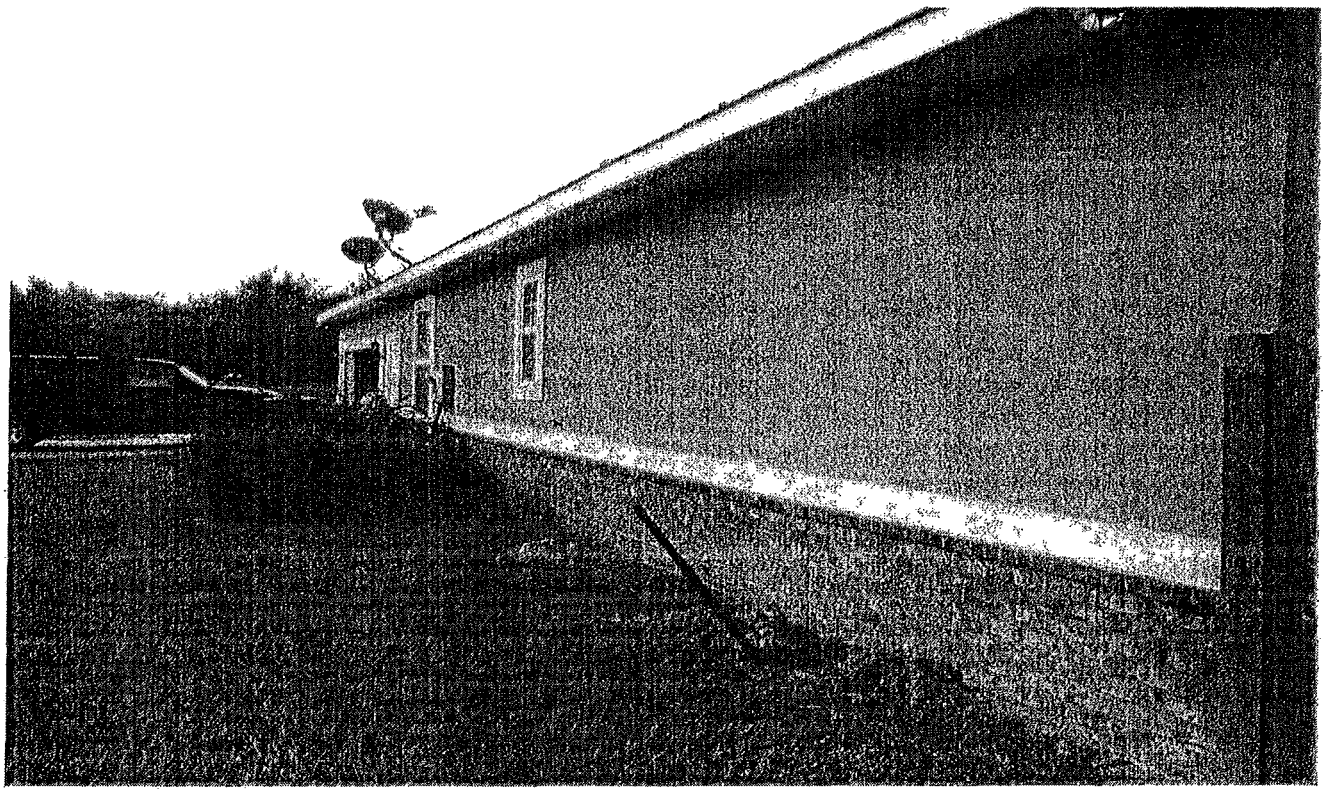
SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874



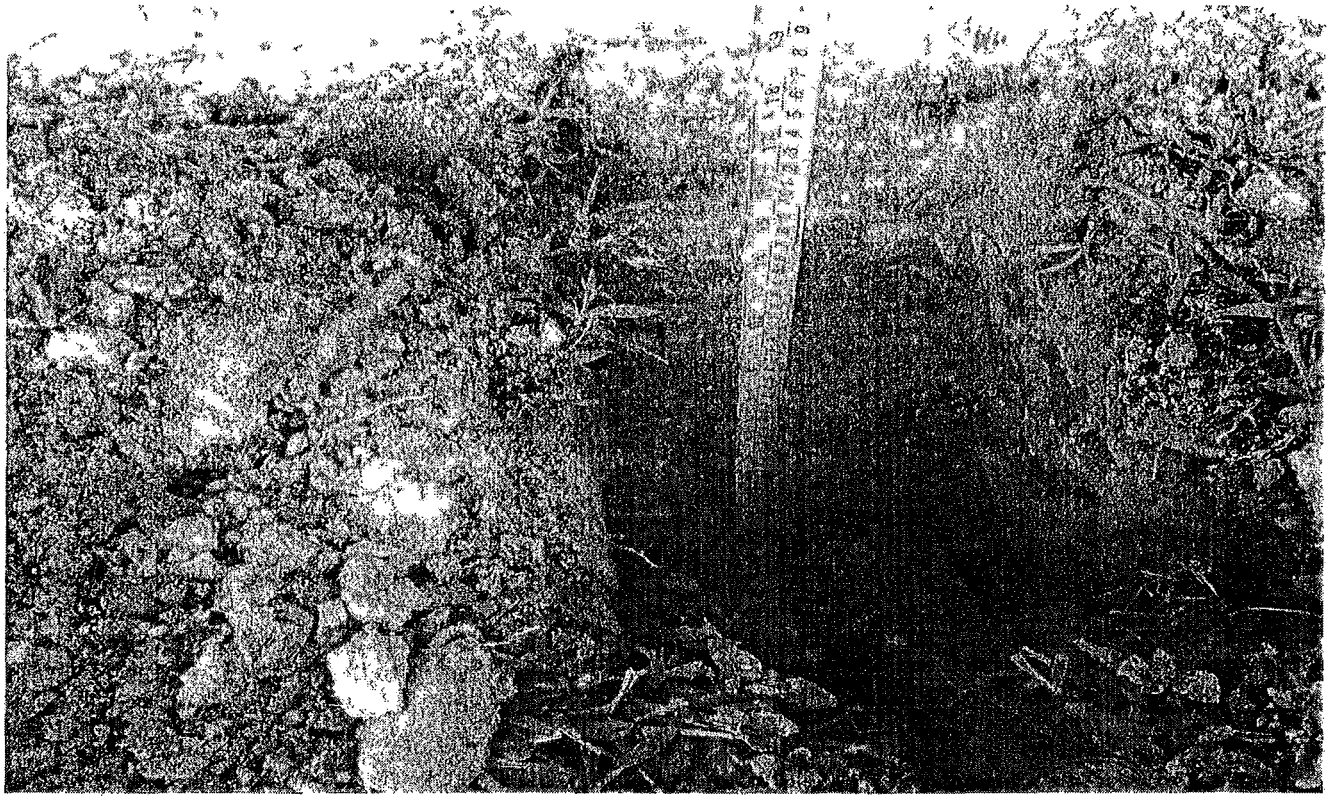
VIEW 2: LEFT SIDE VIEW OF SUBJECT RESIDENCE (SOUTH SIDE)

VIEW 3: BACK VIEW OF SUBJECT RESIDENCE (WEST SIDE)

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

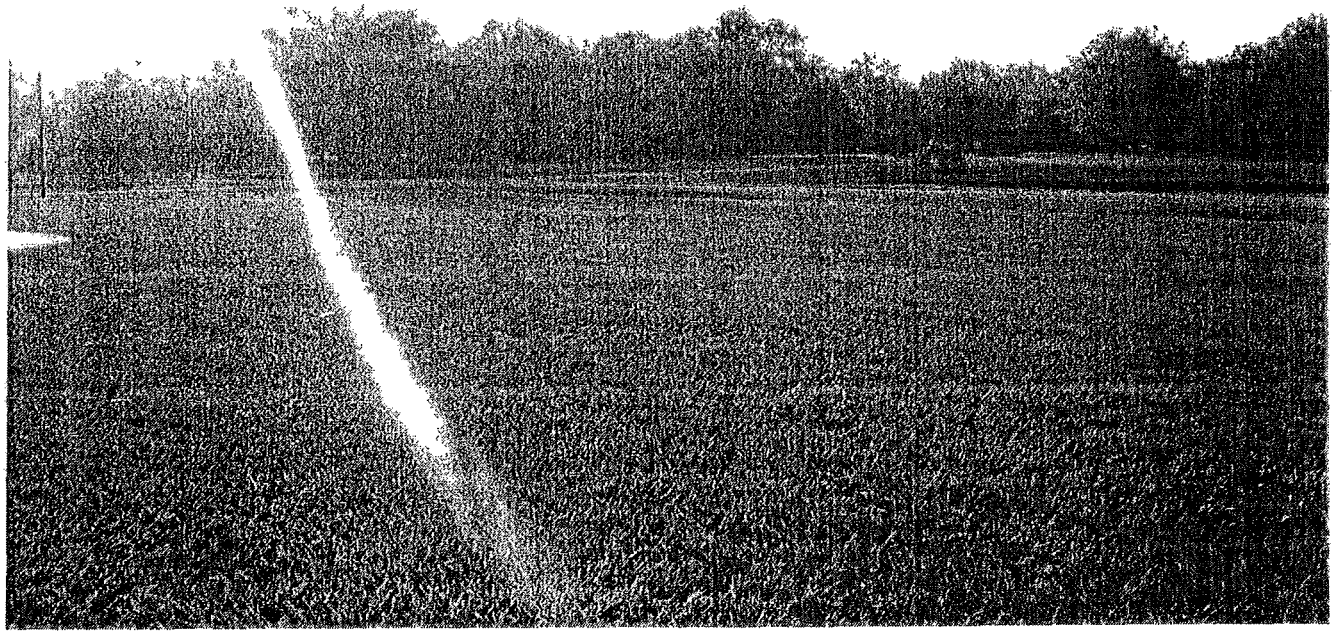


VIEW 4: RIGHT SIDE VIEW OF SUBJECT RESIDENCE (NORTH SIDE)

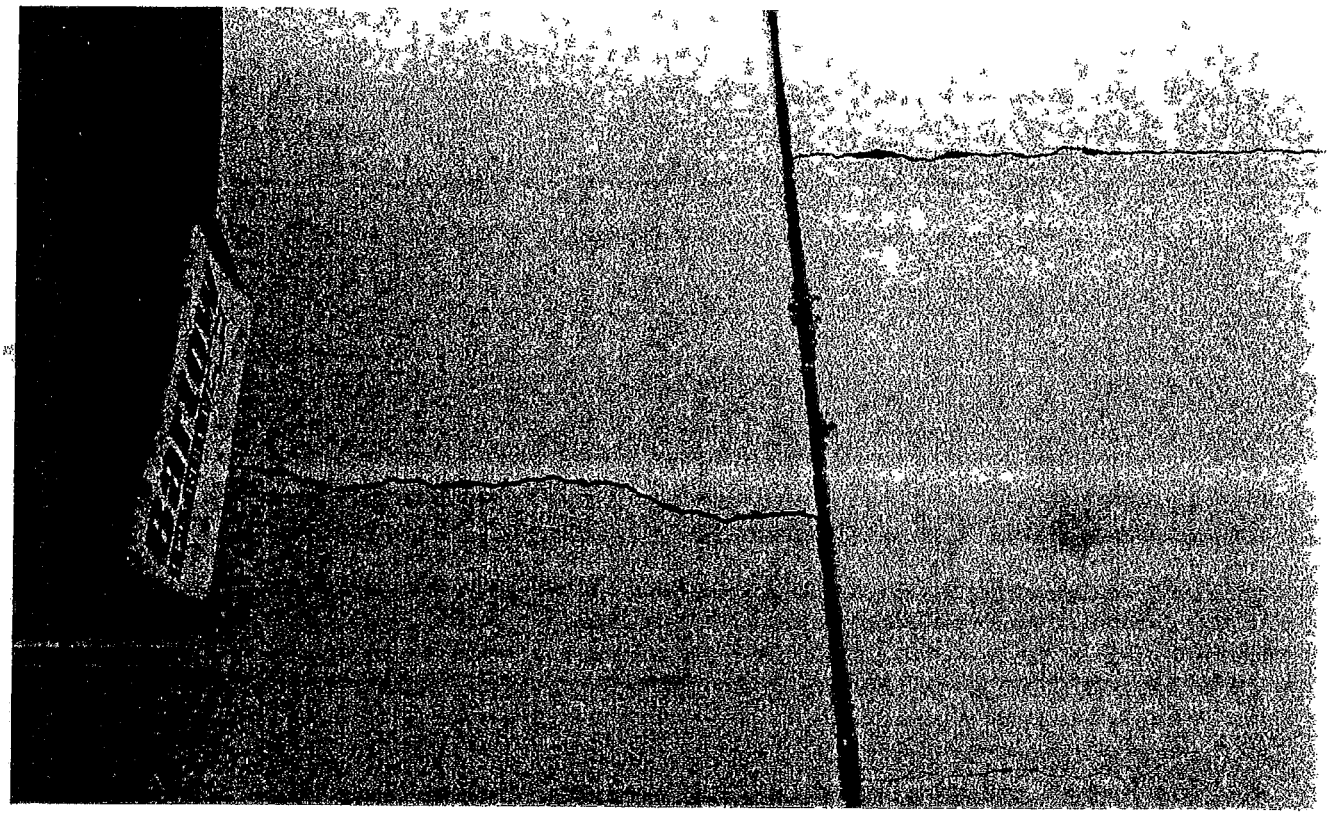


VIEW 5: TEST PIT

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO · 12-13874

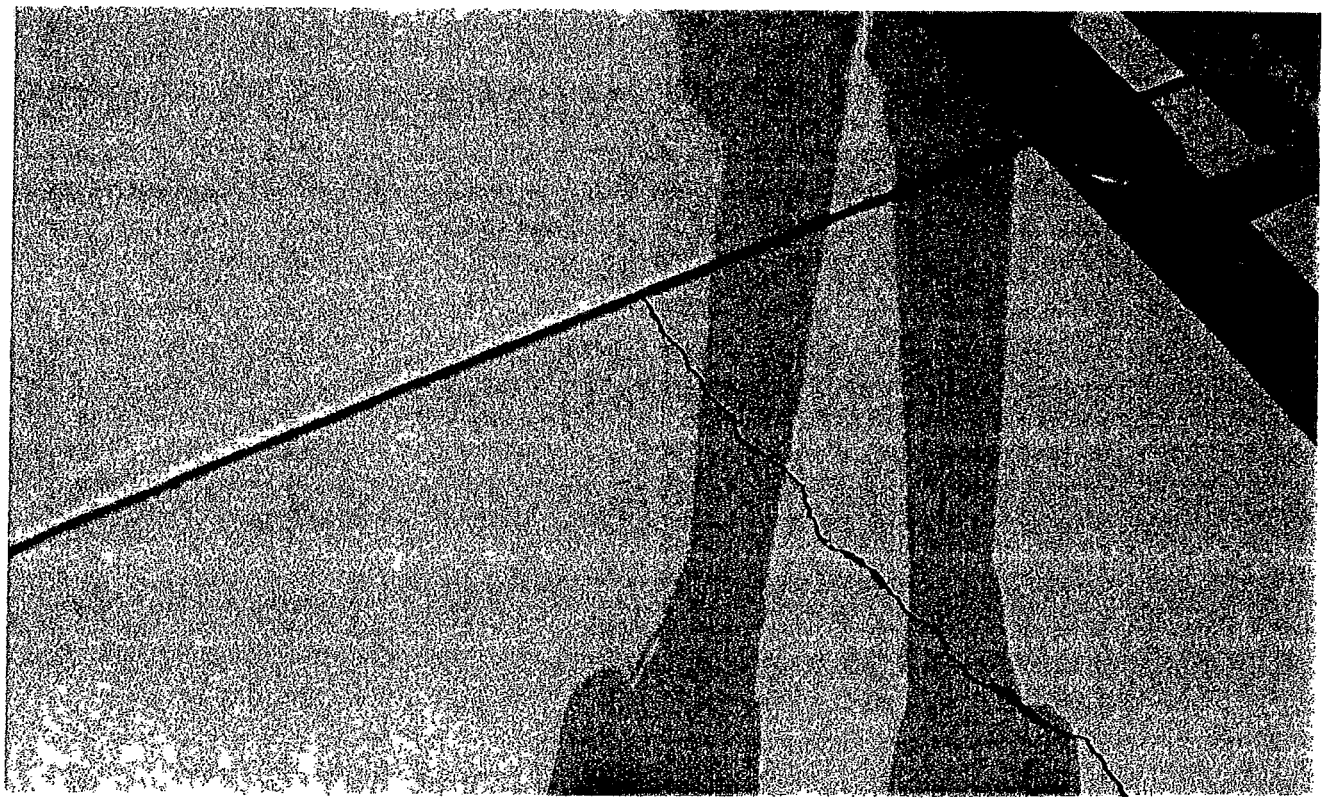


VIEW 6: VIEW OF UNEVEN FRONT LAWN

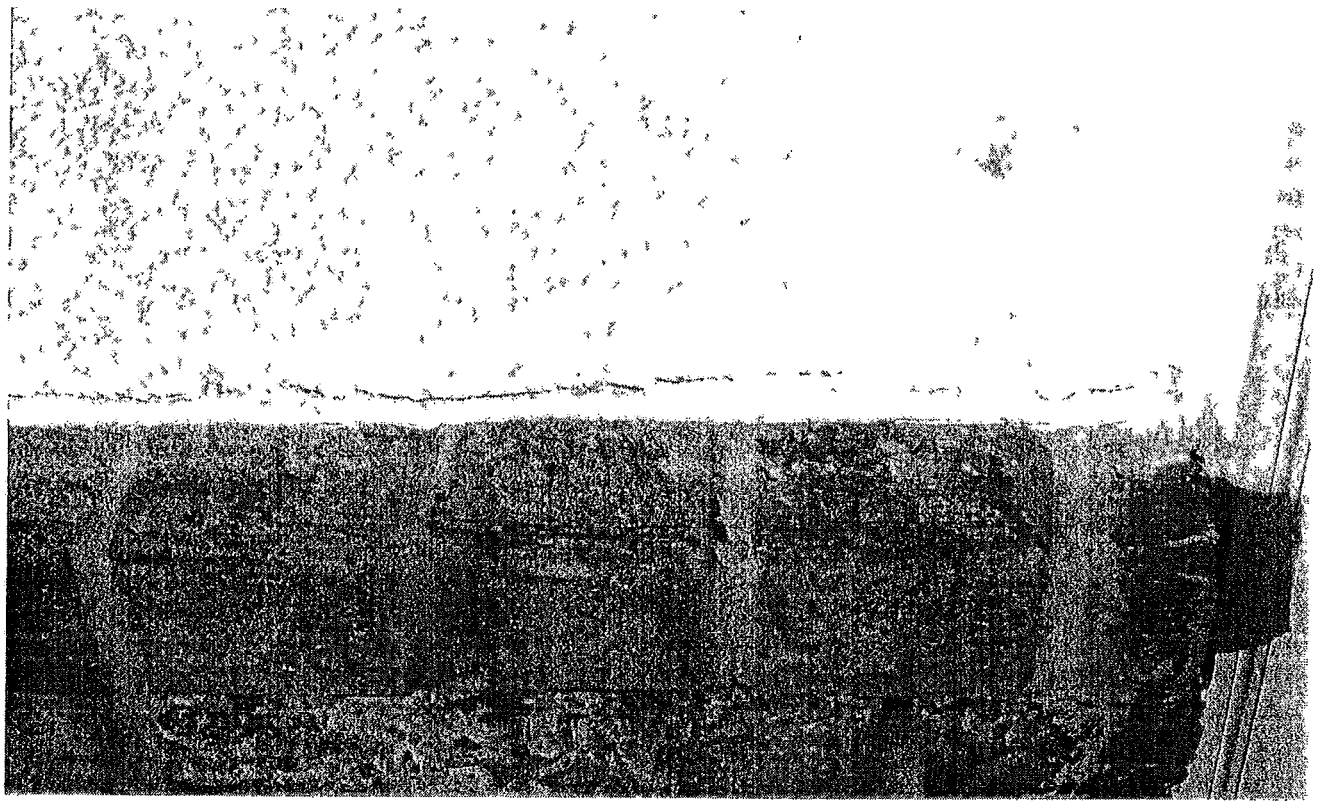


VIEW 7: SLAB CRACKS - DRIVEWAY - NORTH END

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874



VIEW 8: SLAB CRACKS - DRIVEWAY - SOUTH END



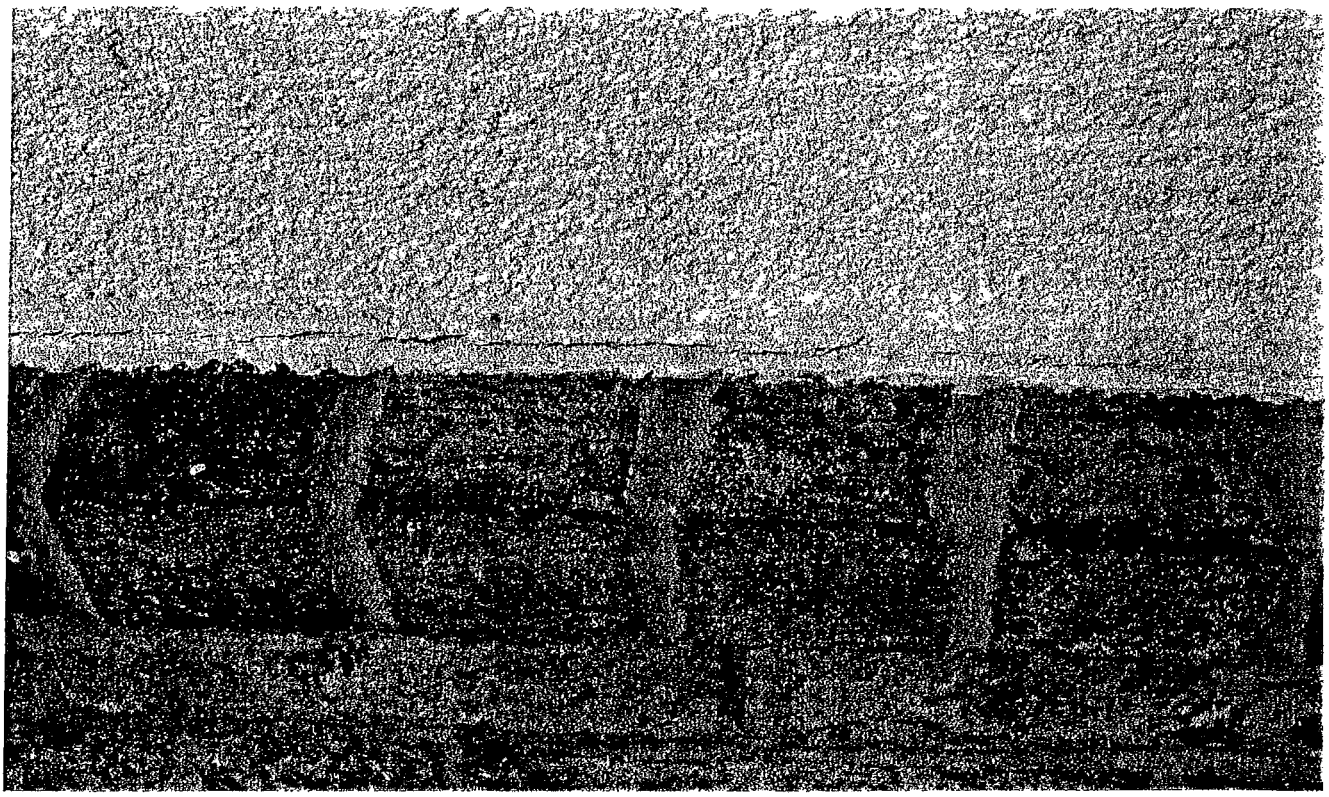
VIEW 9: HORIZONTAL CRACK - NORTH SIDE OF HOUSE - EAST OF GARAGE DOOR

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

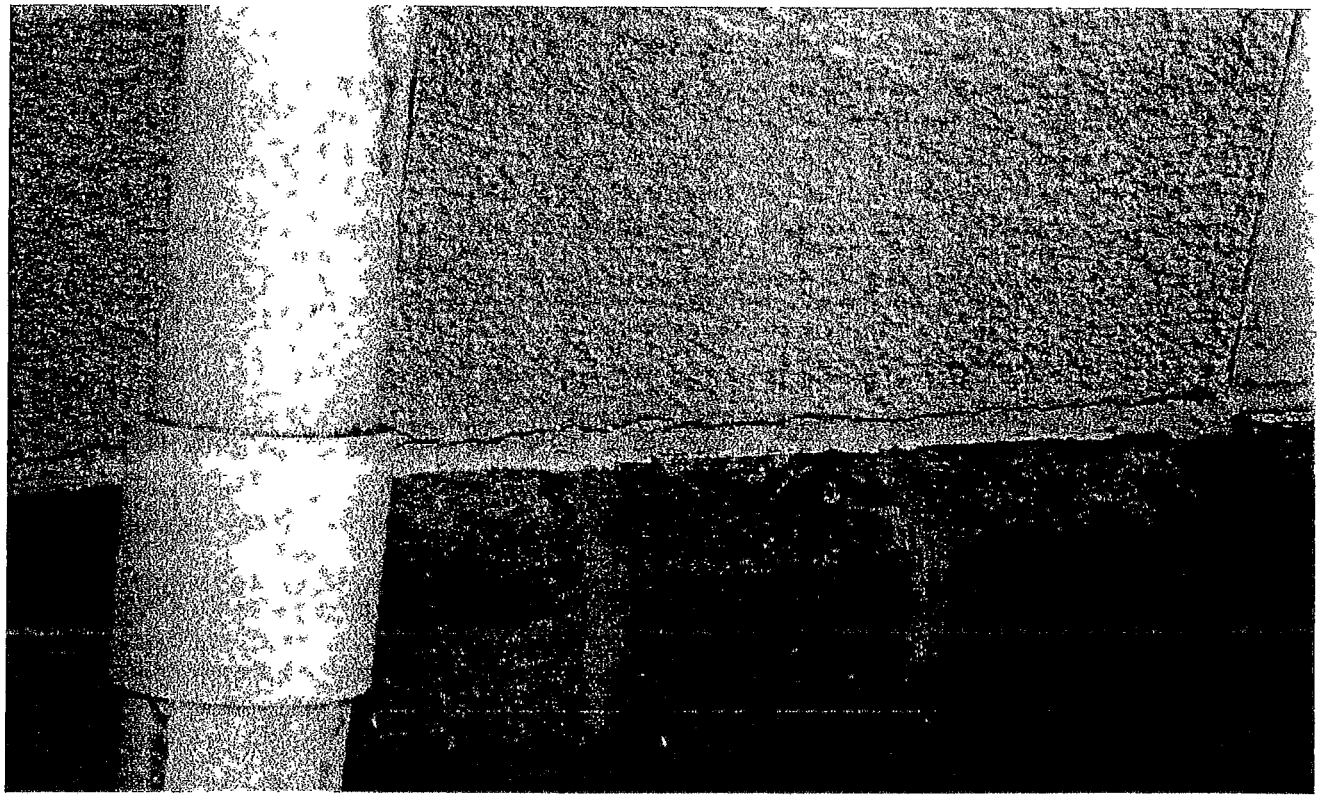
VIEW 10: DOOR TRIM SEPARATION - NORTH SIDE OF HOUSE - EAST DOOR ENTRANCE

VIEW 11: HORIZONTAL CRACK - NORTH SIDE OF HOUSE - WEST OF EAST DOOR ENTRANCE

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

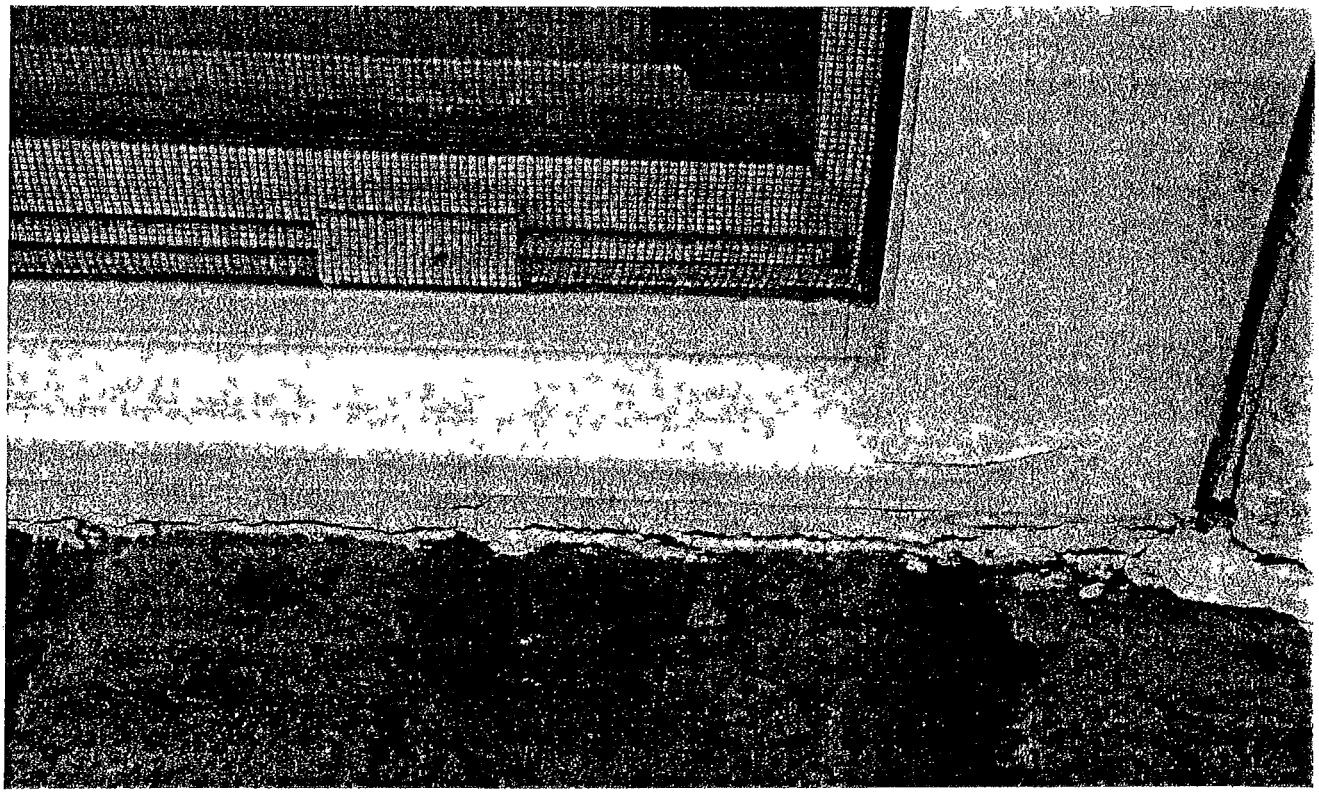


VIEW 12: HORIZONTAL CRACK - NORTH SIDE OF HOUSE - NEAR TEST PIT

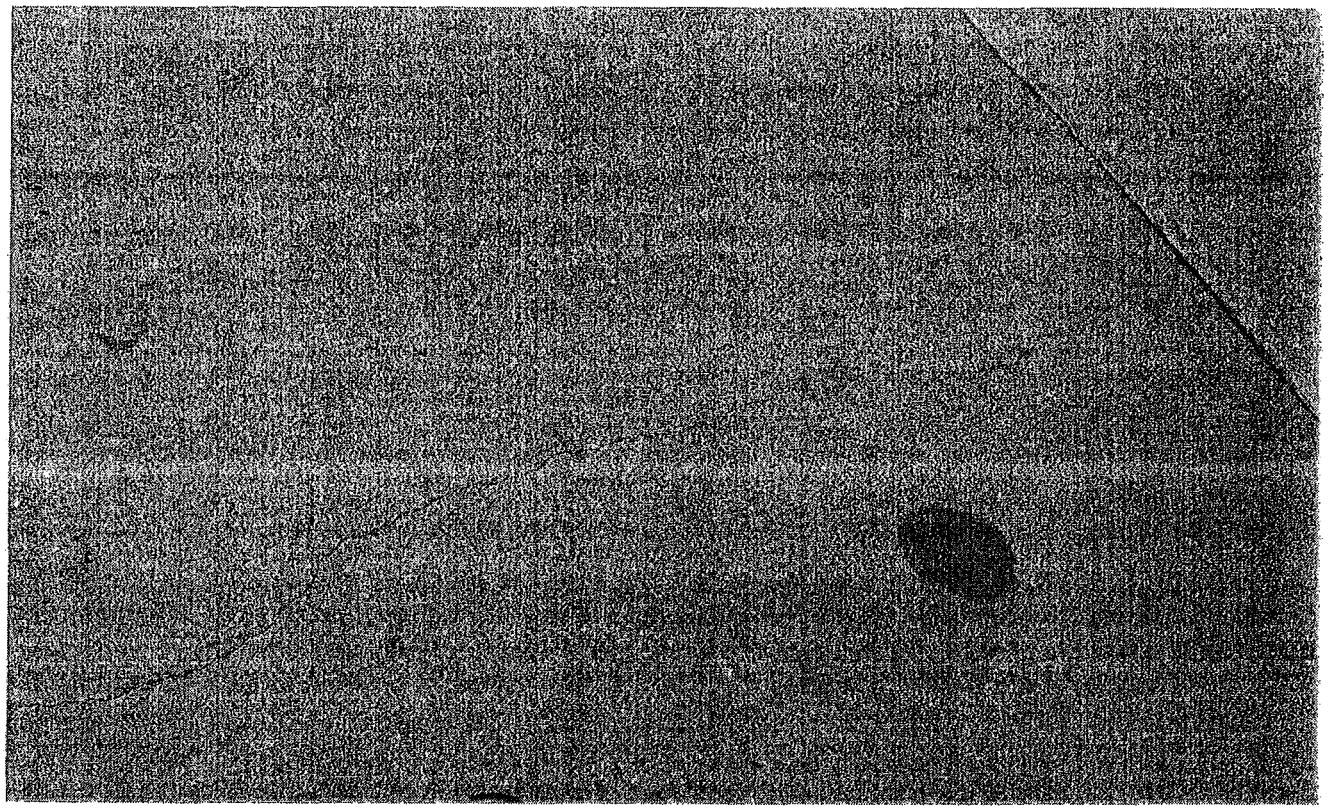


VIEW 13: HORIZONTAL CRACK - BACK OF HOUSE - NORTH OF NORTH WINDOW

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

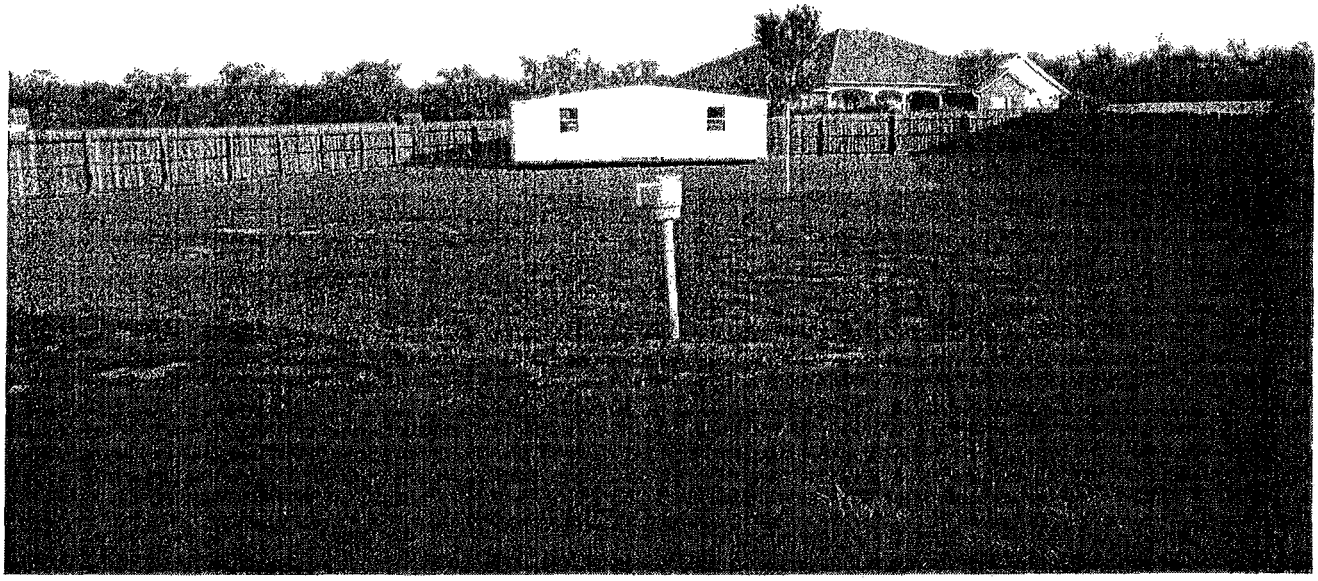


VIEW 14: WINDOW SEPARATION - BACK OF HOUSE - NORTH WINDOW

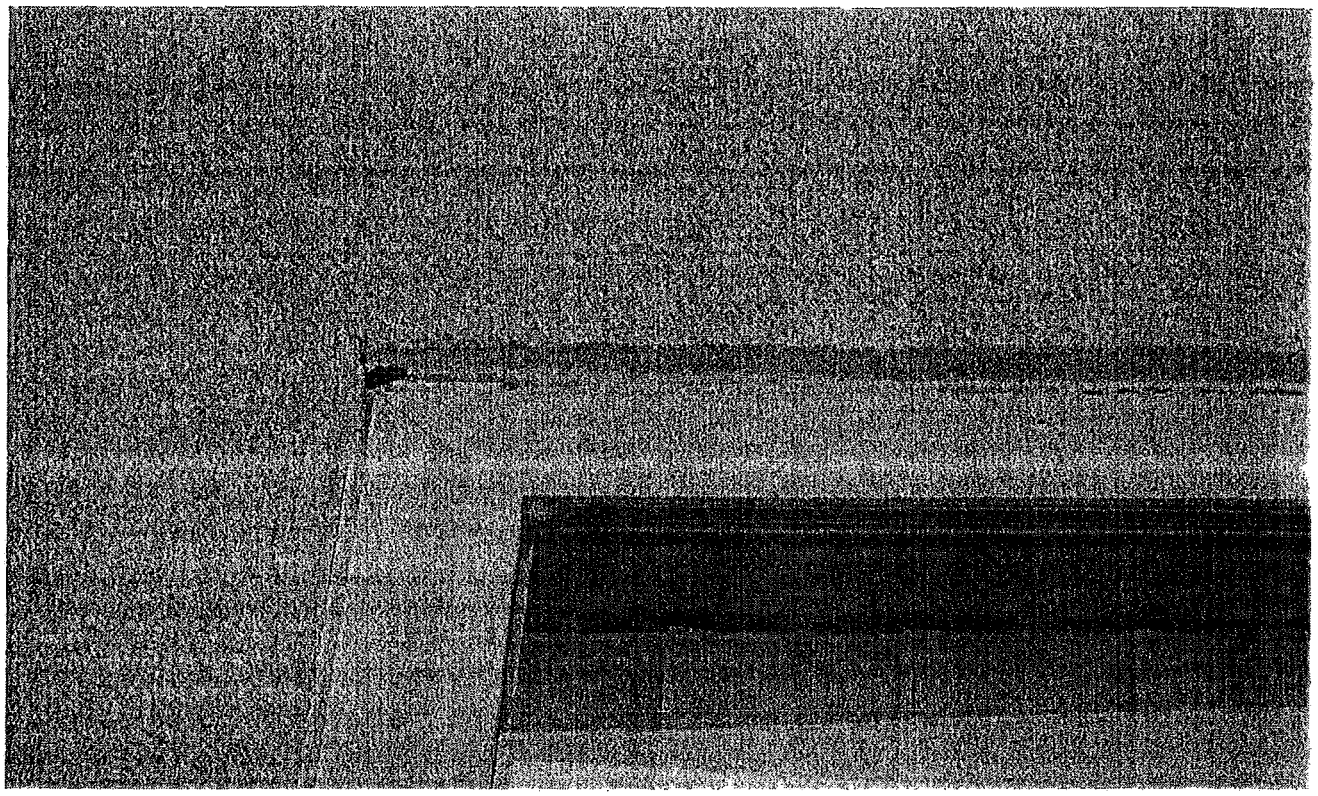


VIEW 15: SLAB CRACK - BACK OF HOUSE - BACK PORCH, NORTH END

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

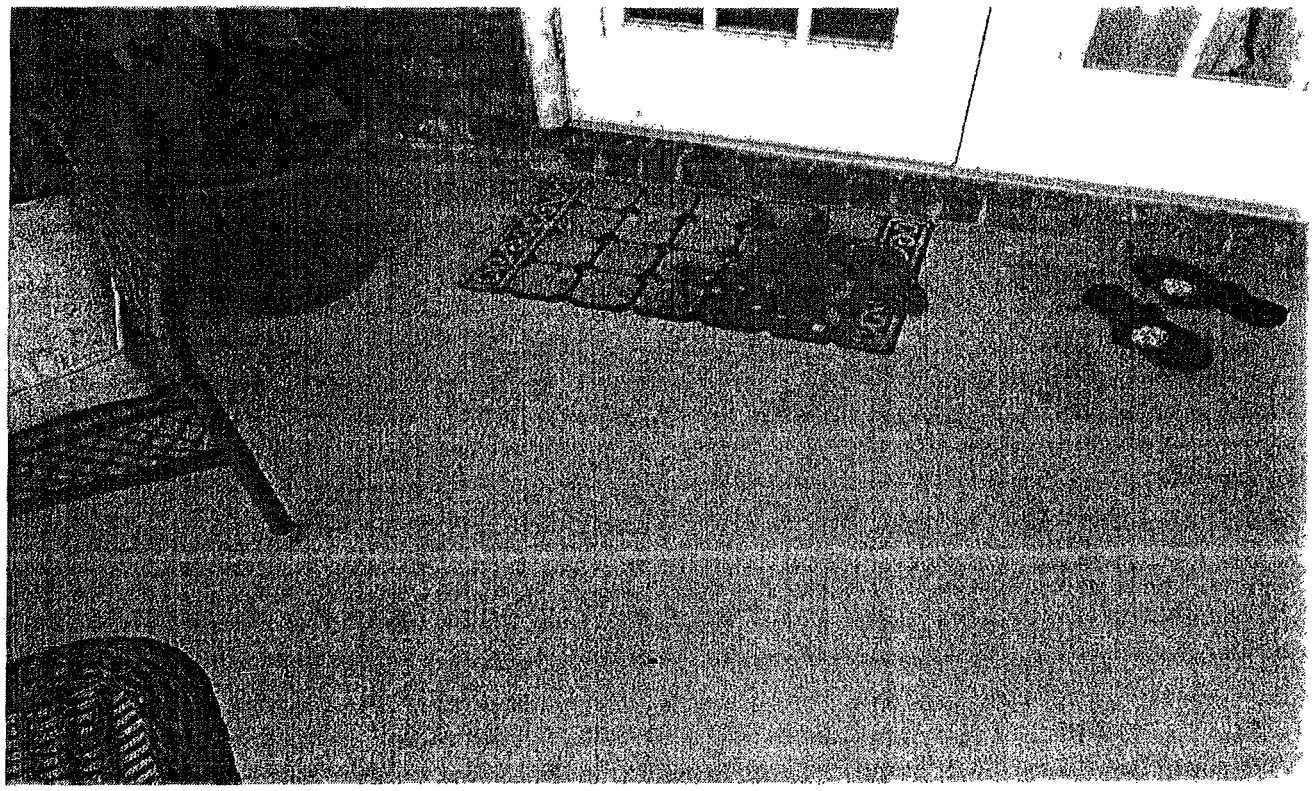


VIEW 16: VIEW OF BACK YARD

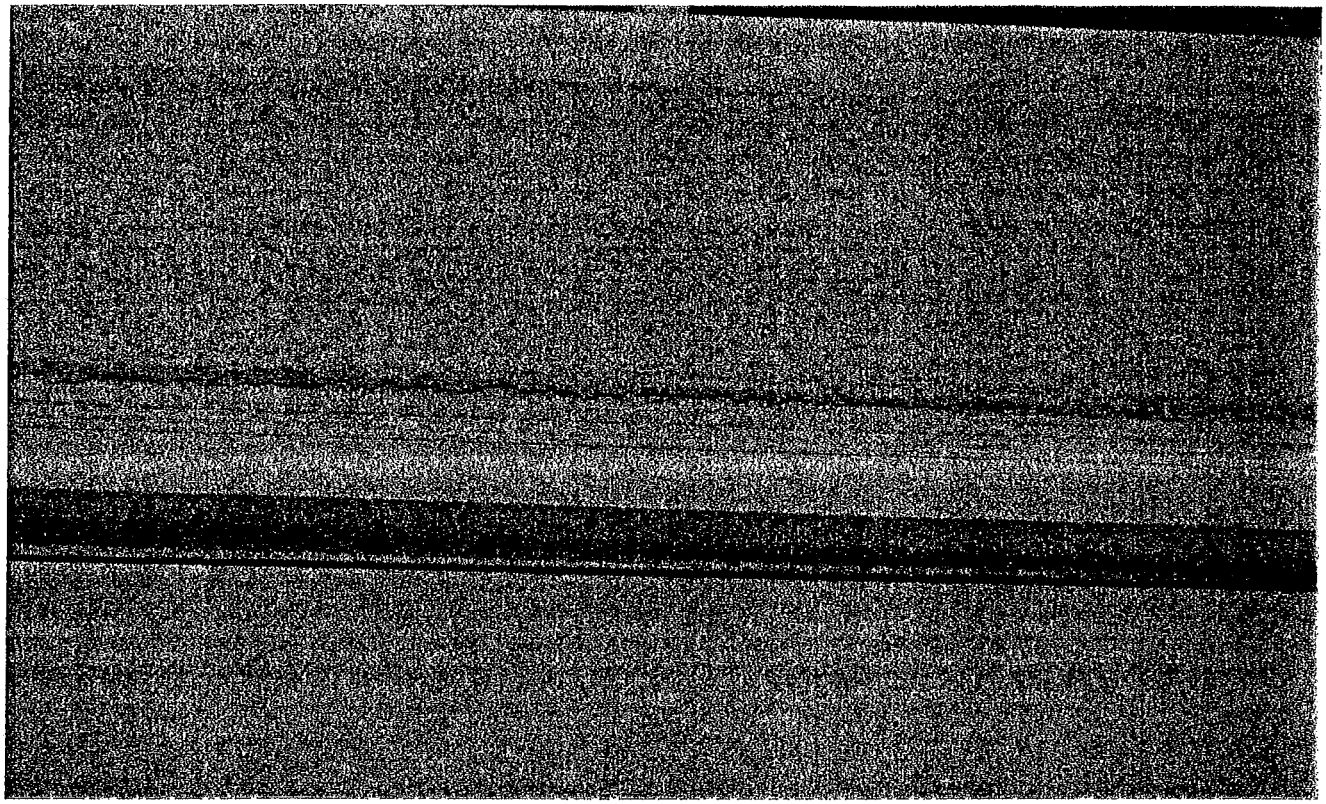


VIEW 17: WINDOW SEPARATION - BACK OF HOUSE - BACK PORCH, EAST WALL, NORTH WINDOW

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO 12-13874

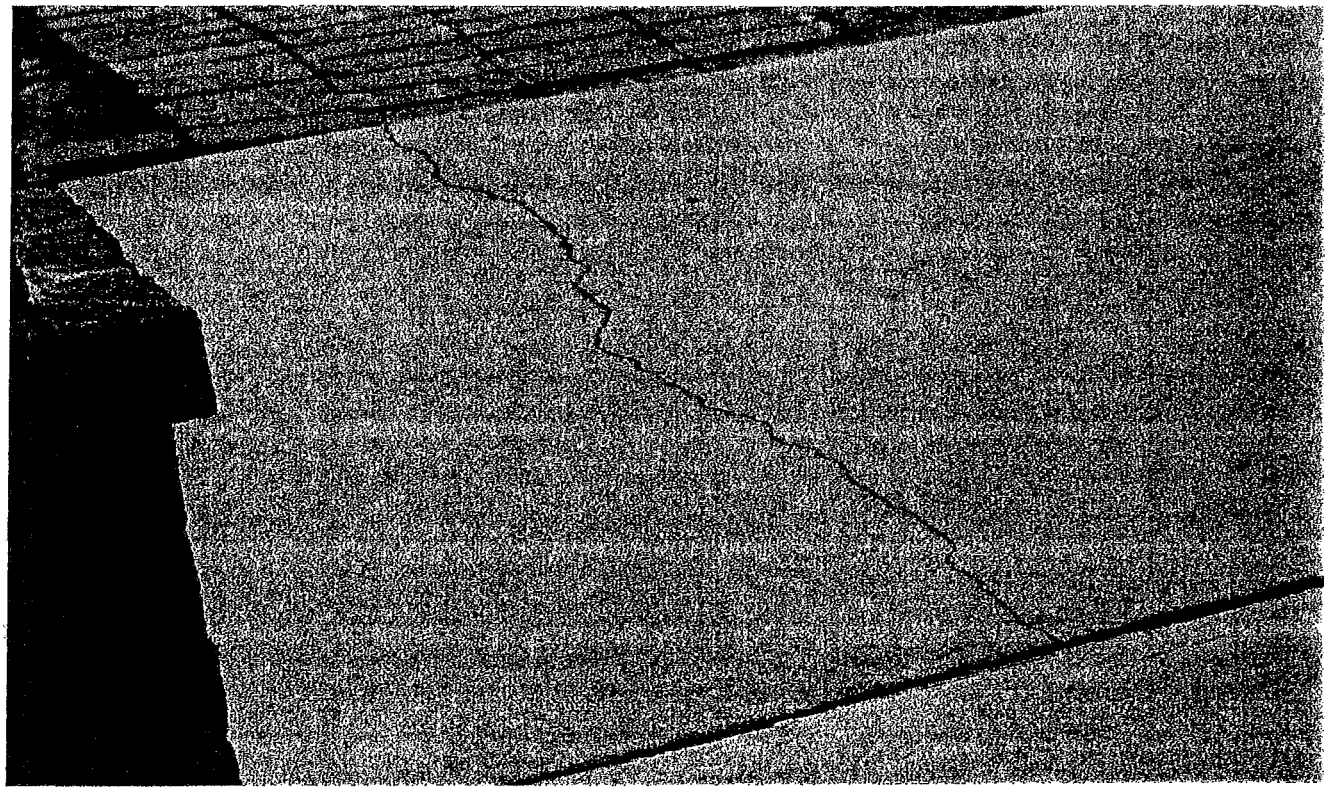


VIEW 18: SLAB CRACK - BACK OF HOUSE - BACK PORCH, NEAR NORTH FRENCH DOORS

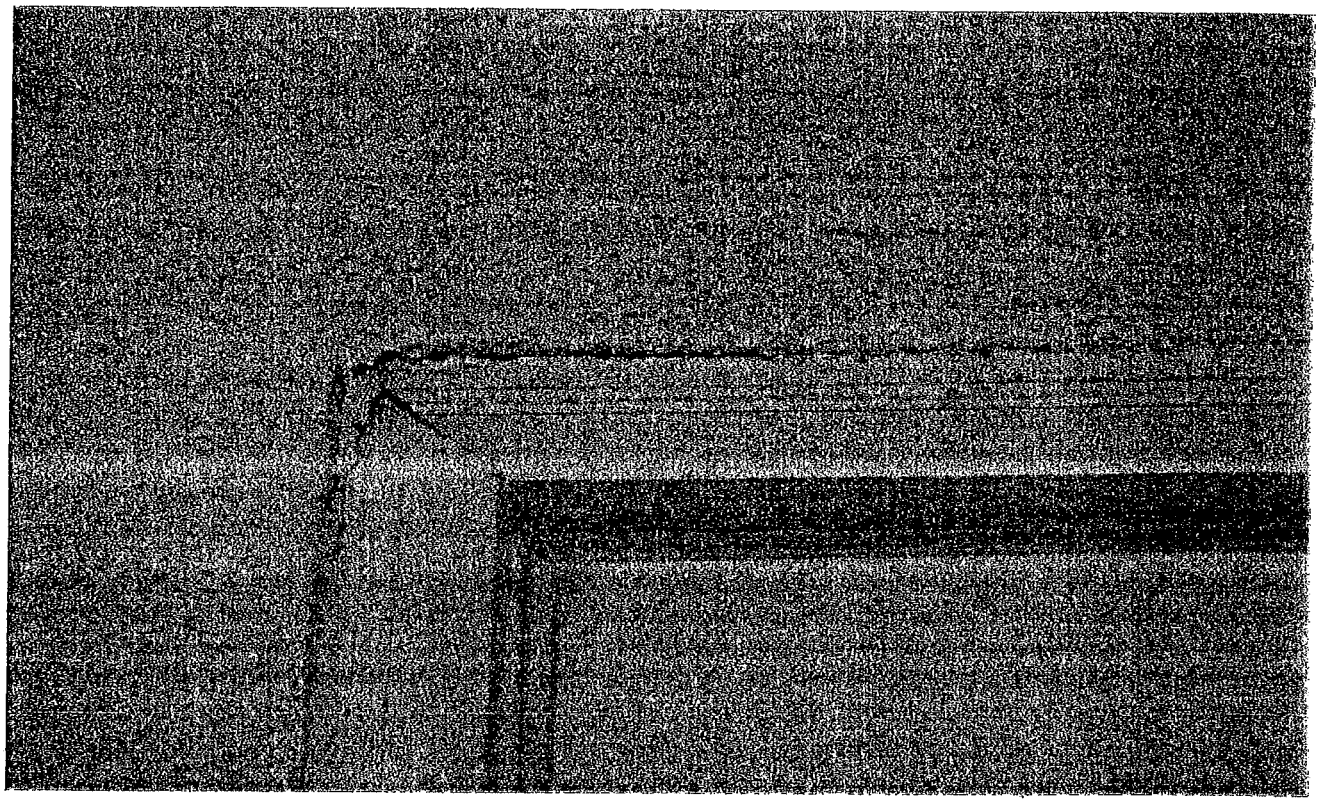


VIEW 19: HORIZONTAL CRACK - BACK OF HOUSE - BACK PORCH, ABOVE NORTH FRENCH DOORS

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

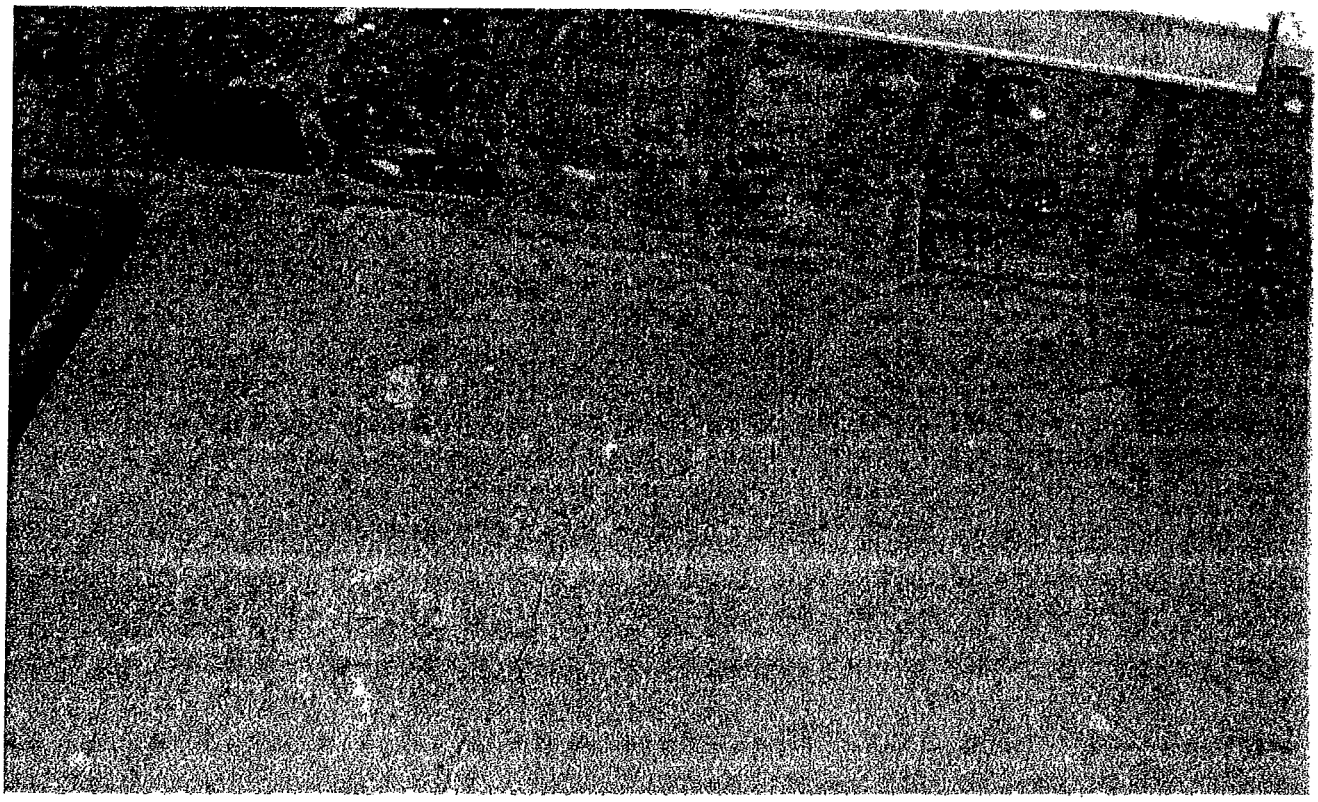


VIEW 20: SLAB CRACK - BACK OF HOUSE - BACK PORCH, WEST OF NORTH FRENCH DOORS



VIEW 21: DOOR TRIM SEPARATION - BACK OF HOUSE - BACK PORCH, EAST WALL, SOUTH FRENCH DOORS

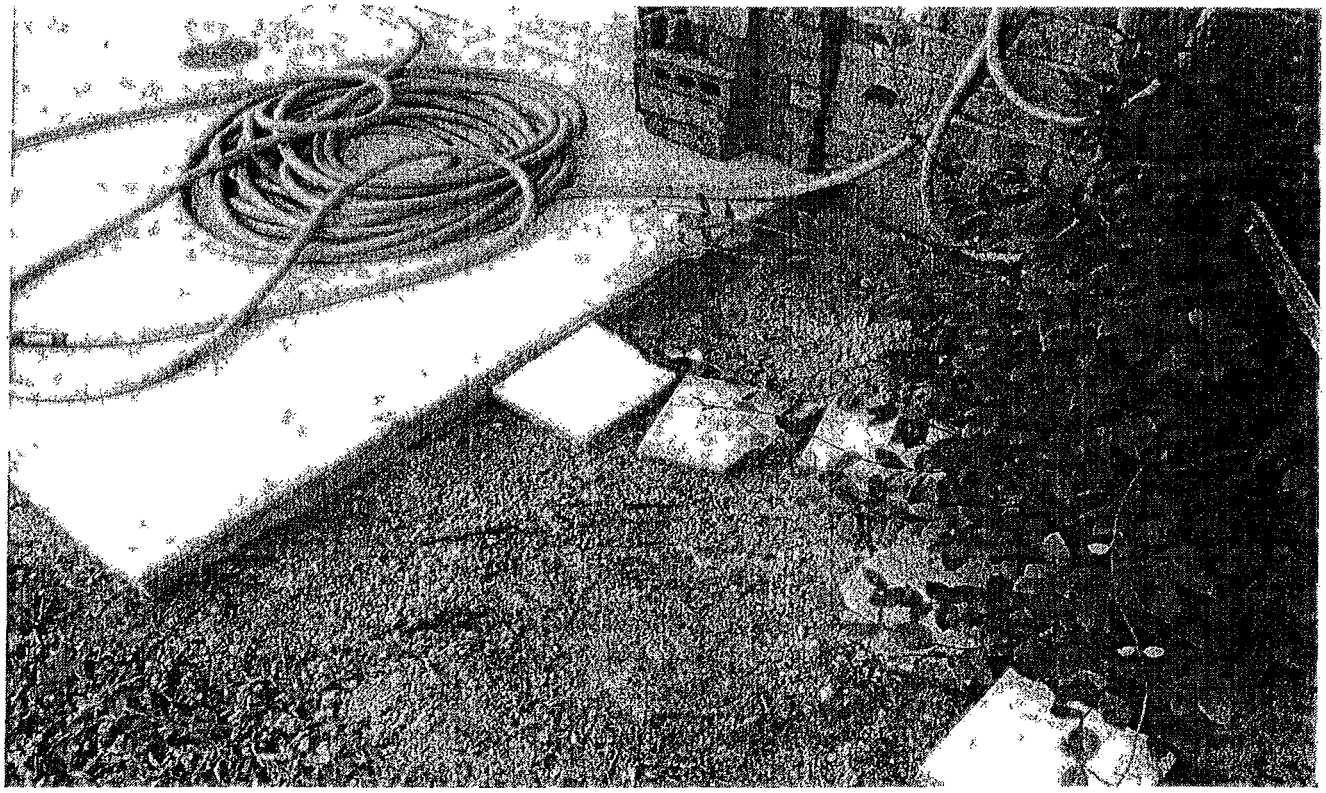
SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874



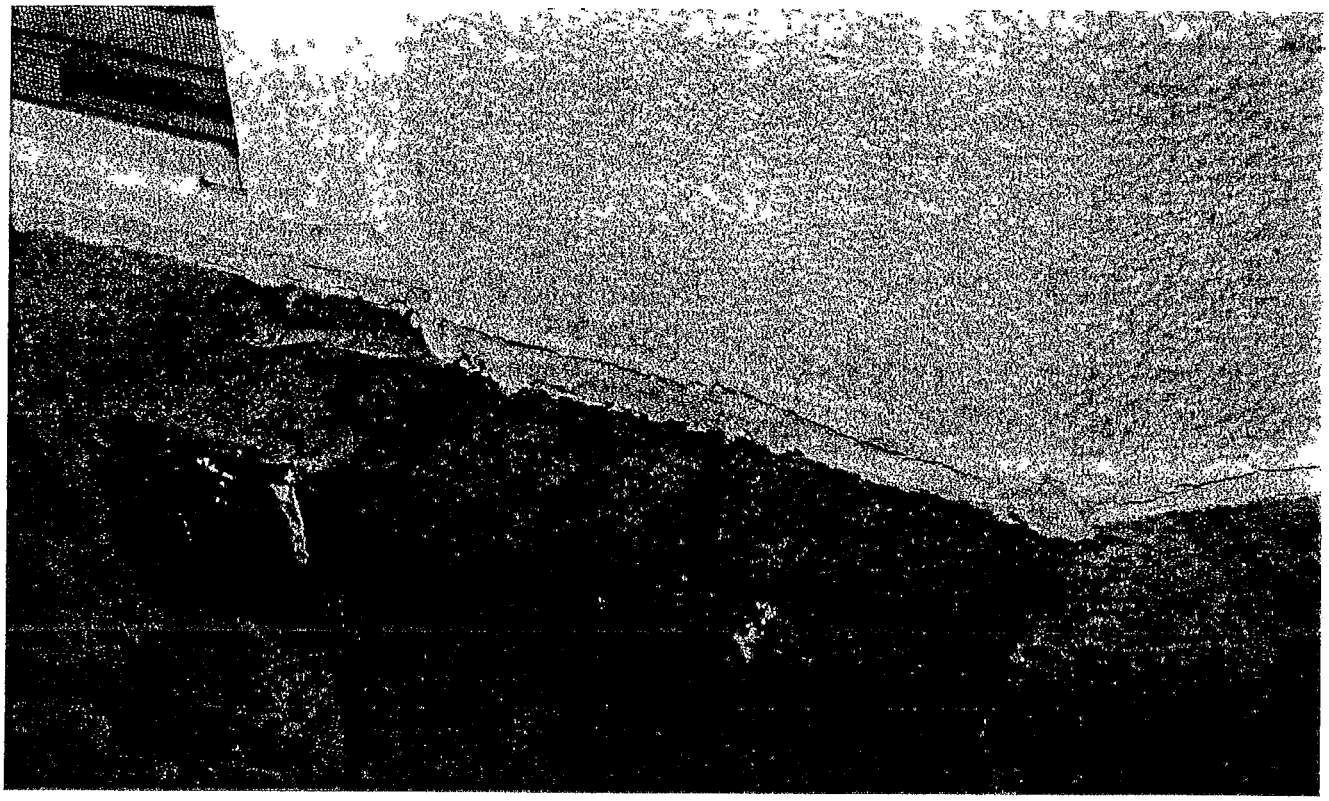
VIEW 22: SLAB CRACK - BACK OF HOUSE - BACK PORCH, EAST WALL, UNDER SOUTH FRENCH DOORS

VIEW 23: SLAB CRACK - BACK OF HOUSE - BACK PORCH, NEAR PICTURE # 22

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874



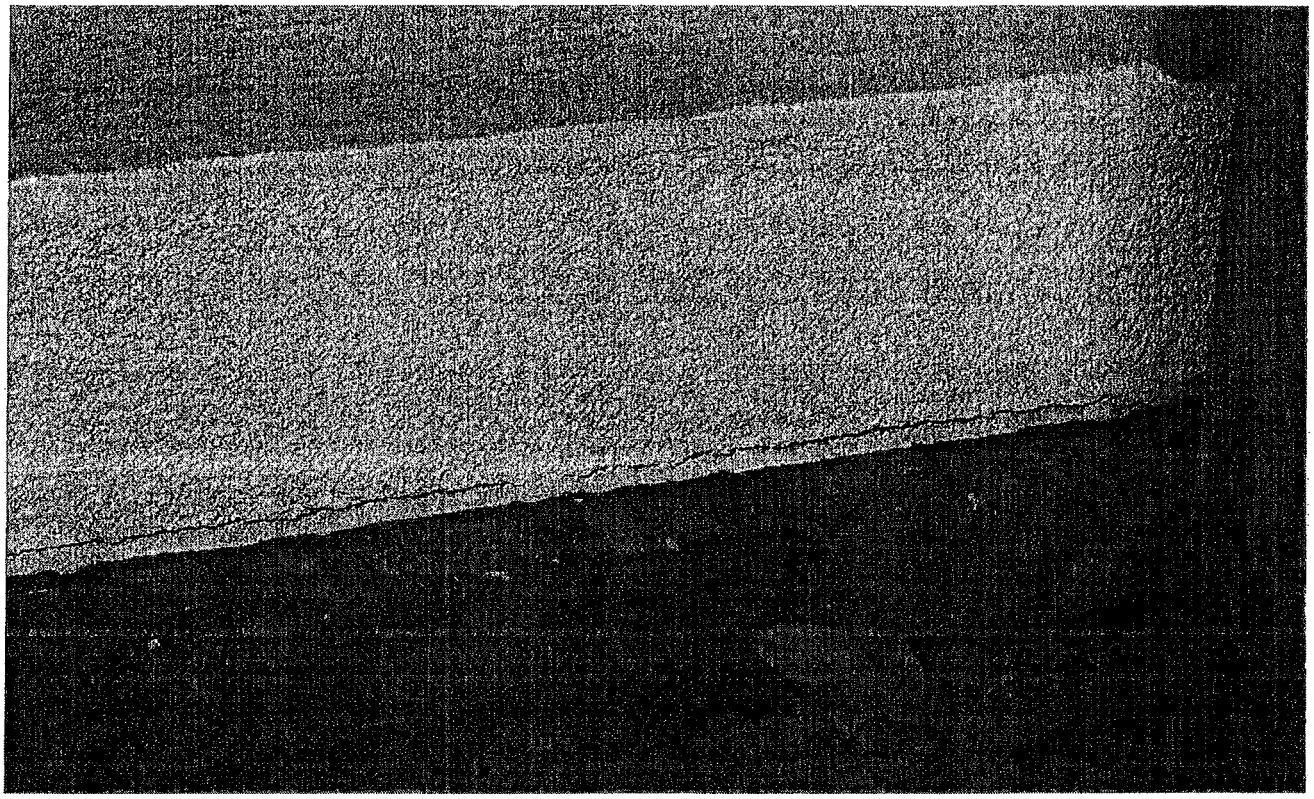
VIEW 24: DEPRESSED AREA - BACK OF HOUSE - SOUTH END OF BACK PATIO SLAB



VIEW 25: HORIZONTAL SEPARATION - BACK OF HOUSE - SOUTH BAY WINDOW, NORTH END

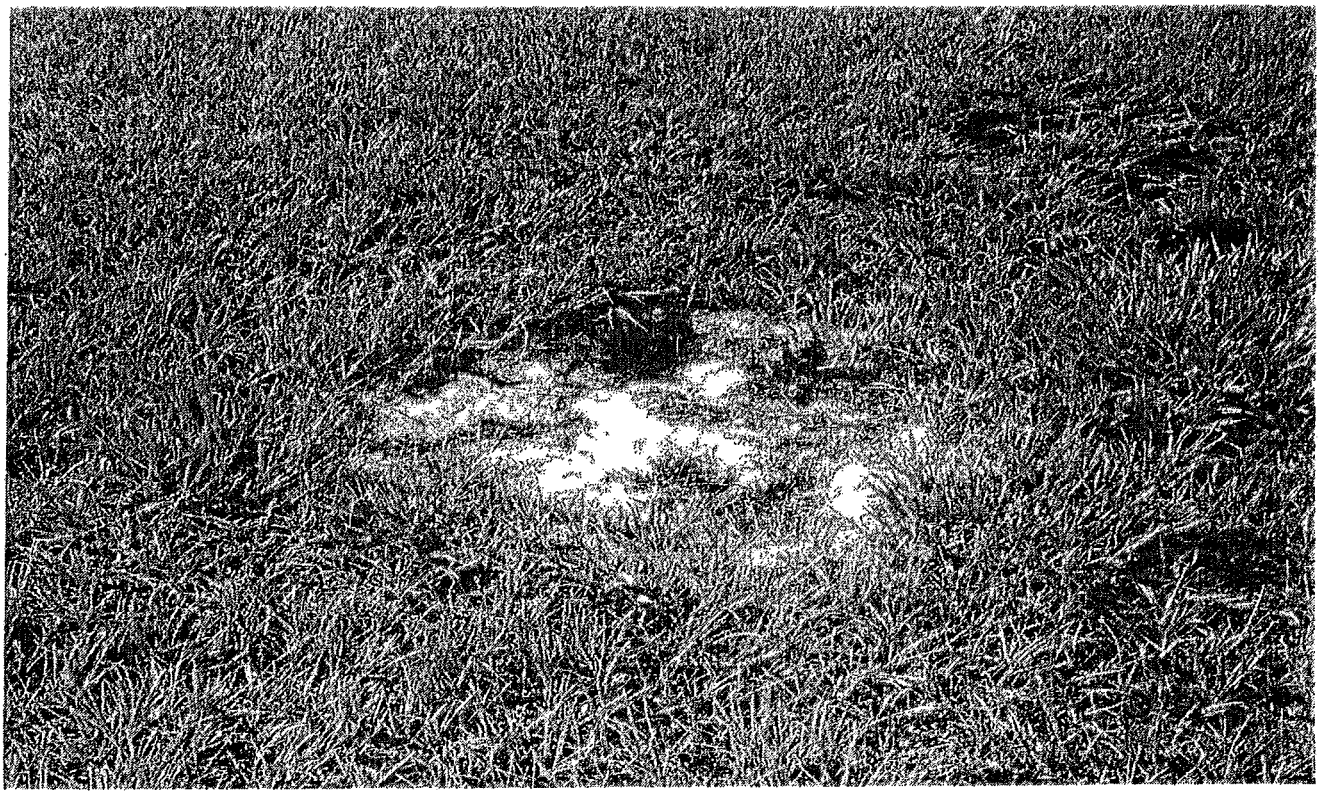
SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

VIEW 26: WINDOW SEPARATION - BACK OF HOUSE - SOUTH BAY WINDOW, SOUTH END

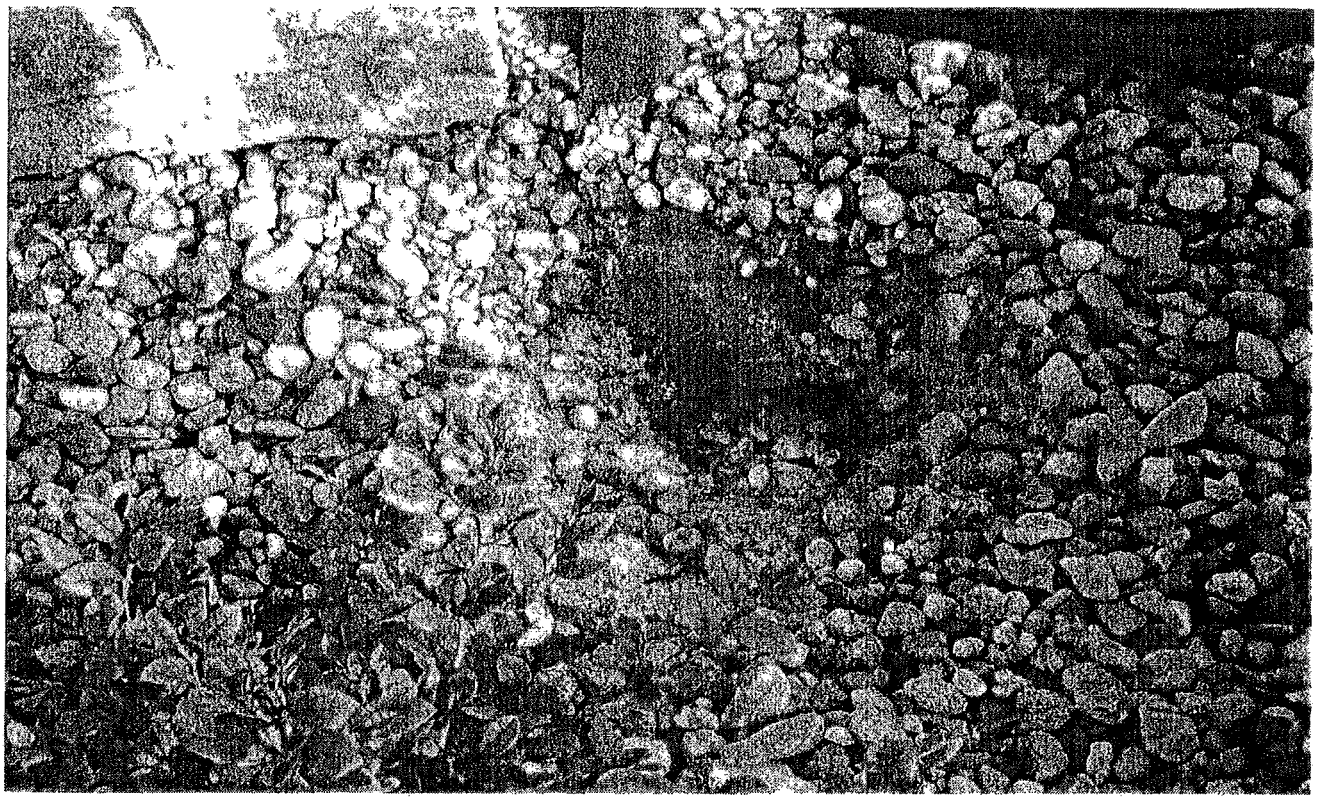


VIEW 27: HORIZONTAL CRACK - BACK OF HOUSE - SOUTH OF SOUTH BAY WINDOW, NEAR GATE

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

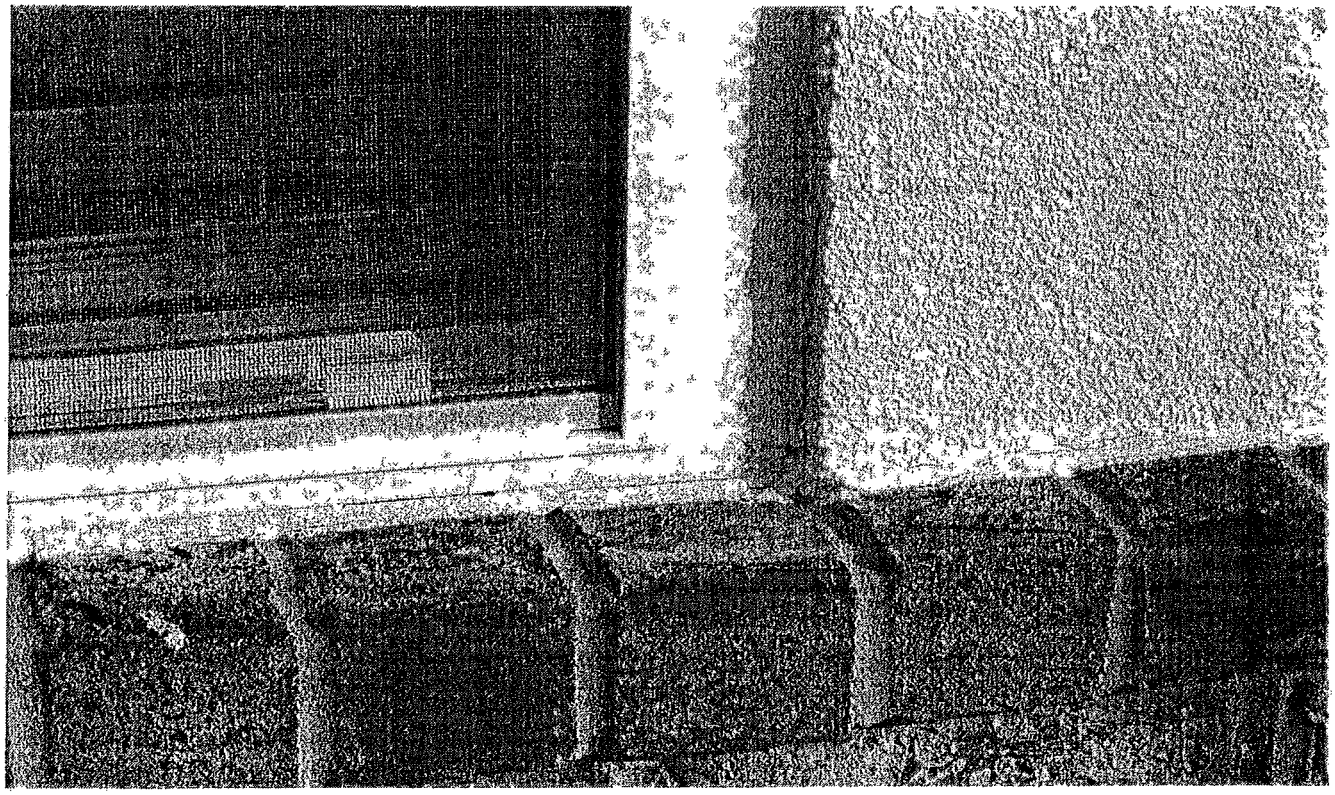


VIEW 28: VIEW OF DEPRESSION IN FRONT YARD - FILLED IN BY HOME OWNER

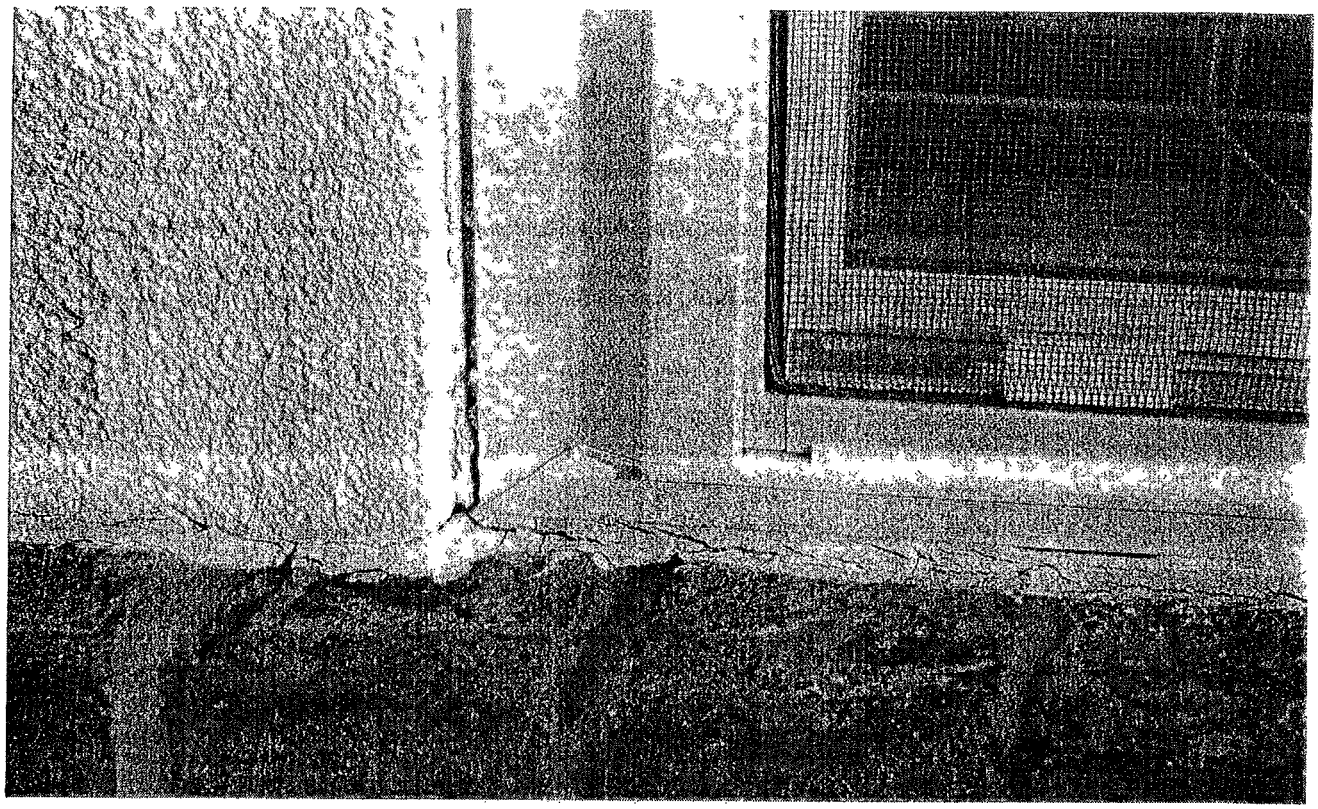


VIEW 29: VIEW OF DEPRESSION - NORTHEAST CORNER OF HOUSE

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

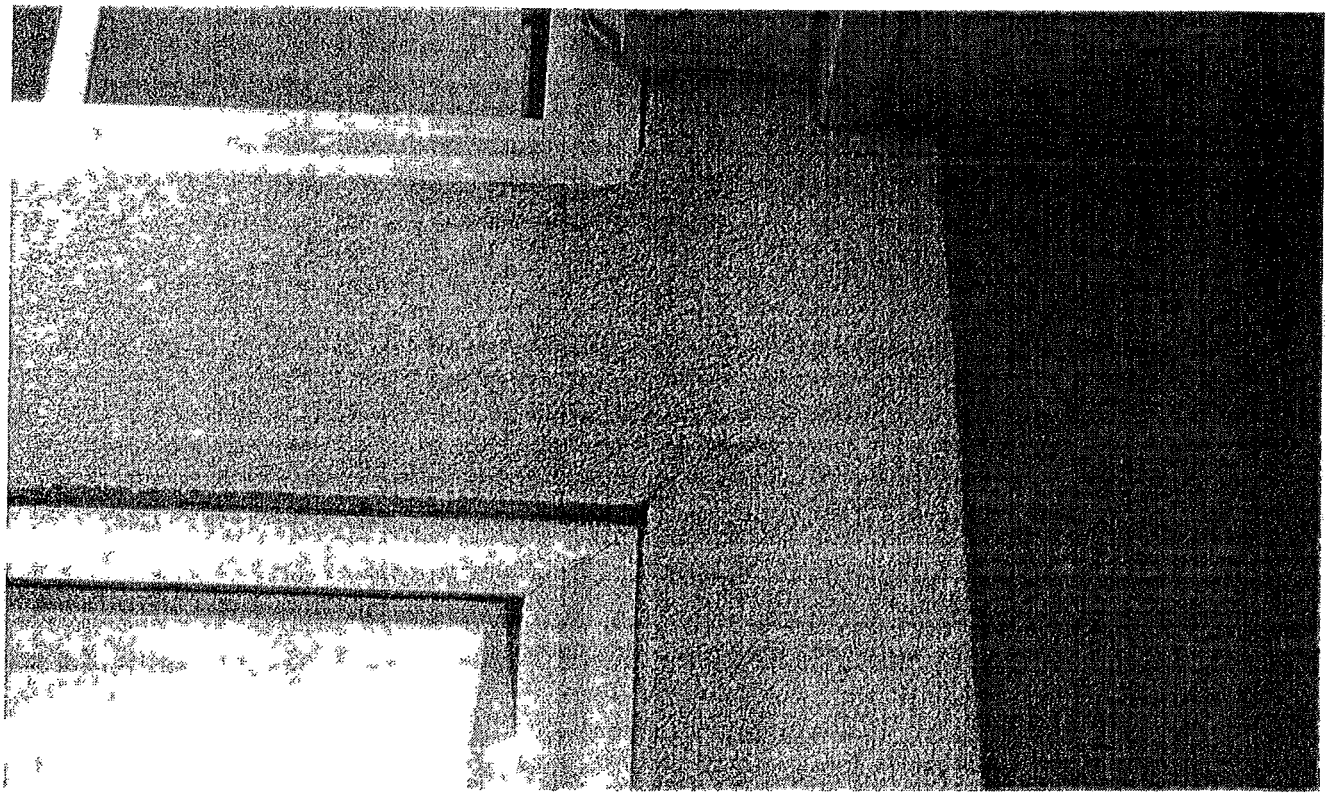


VIEW 30: WINDOW SEPARATION - FRONT OF HOUSE - NORTH WINDOW

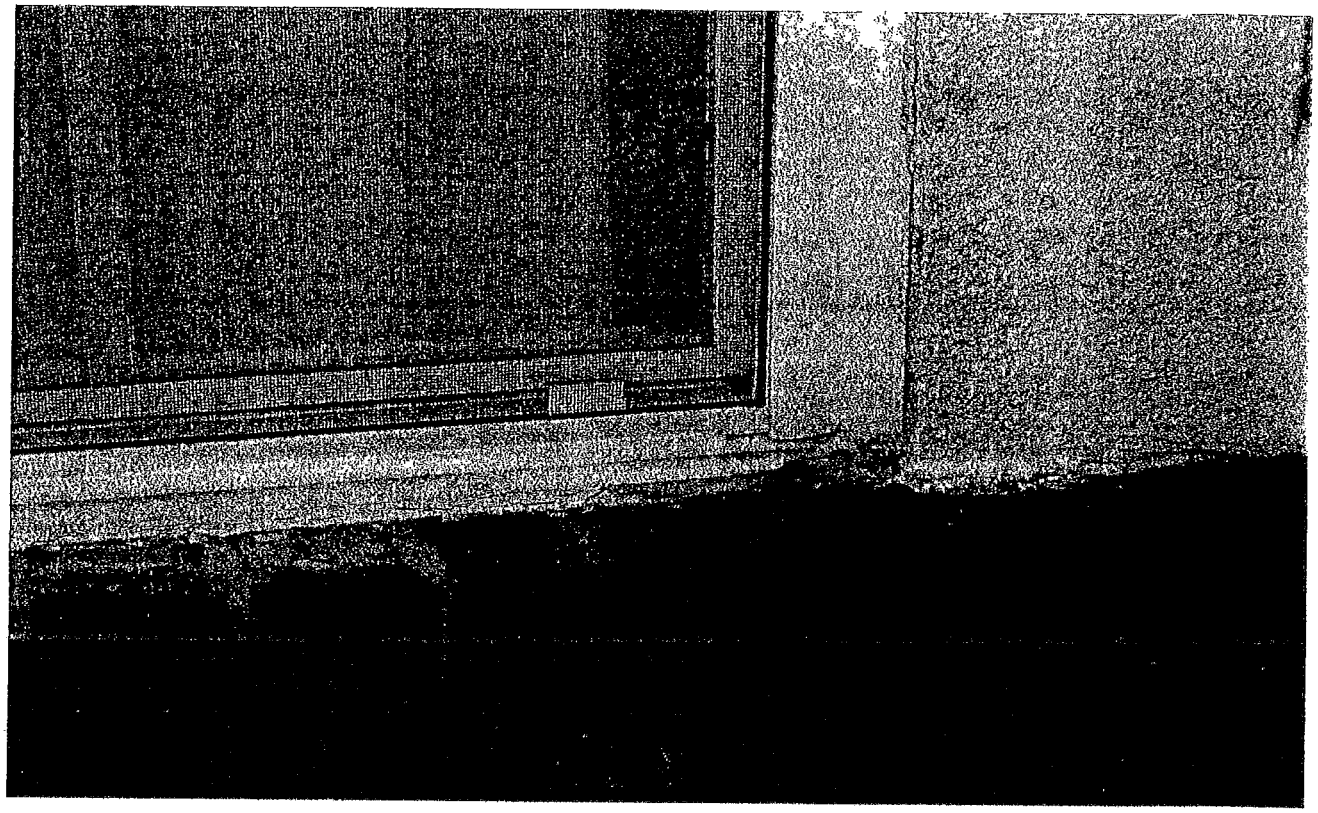


VIEW 31: WINDOW SEPARATION - FRONT OF HOUSE - 2ND WINDOW FROM NORTH

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO : 12-13874

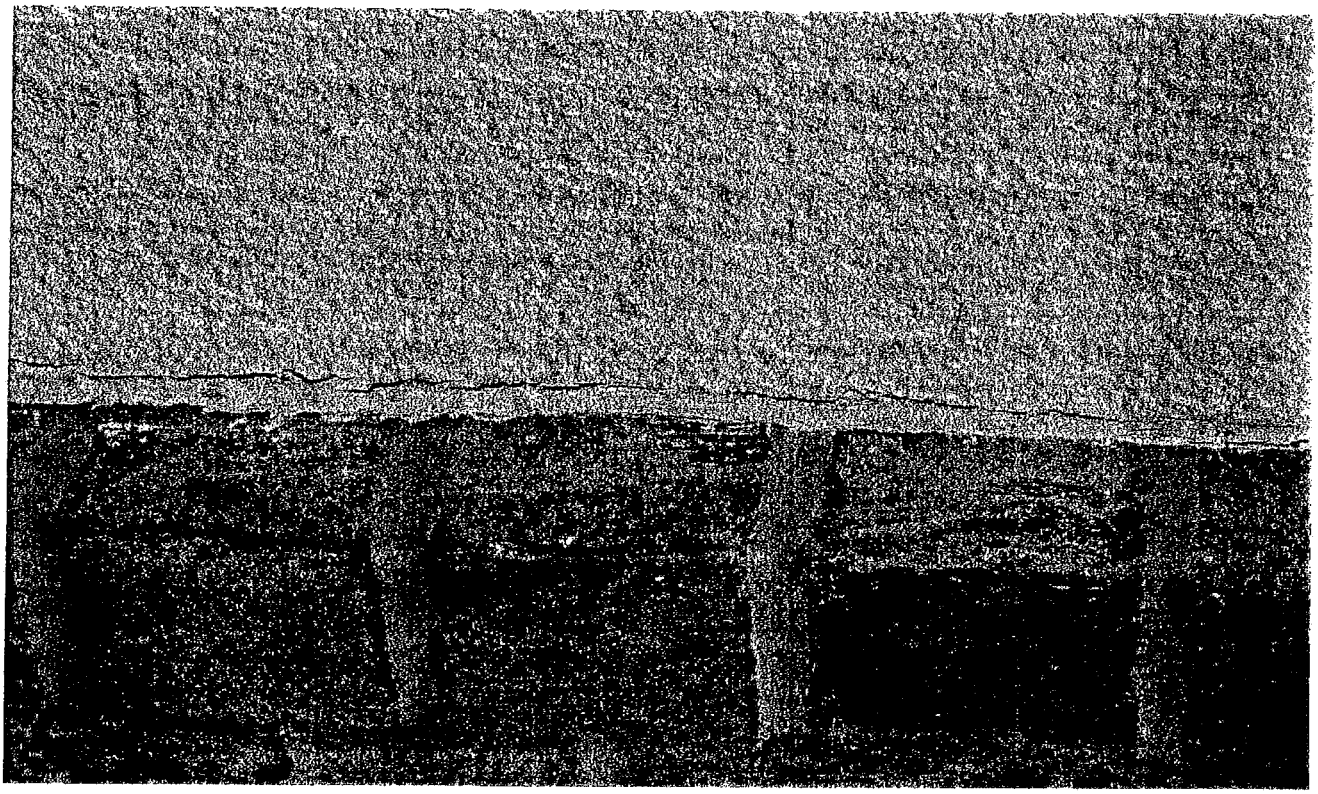


VIEW 32: DIAGONAL CRACK - FRONT OF HOUSE - ABOVE 4TH WINDOW FROM SOUTH

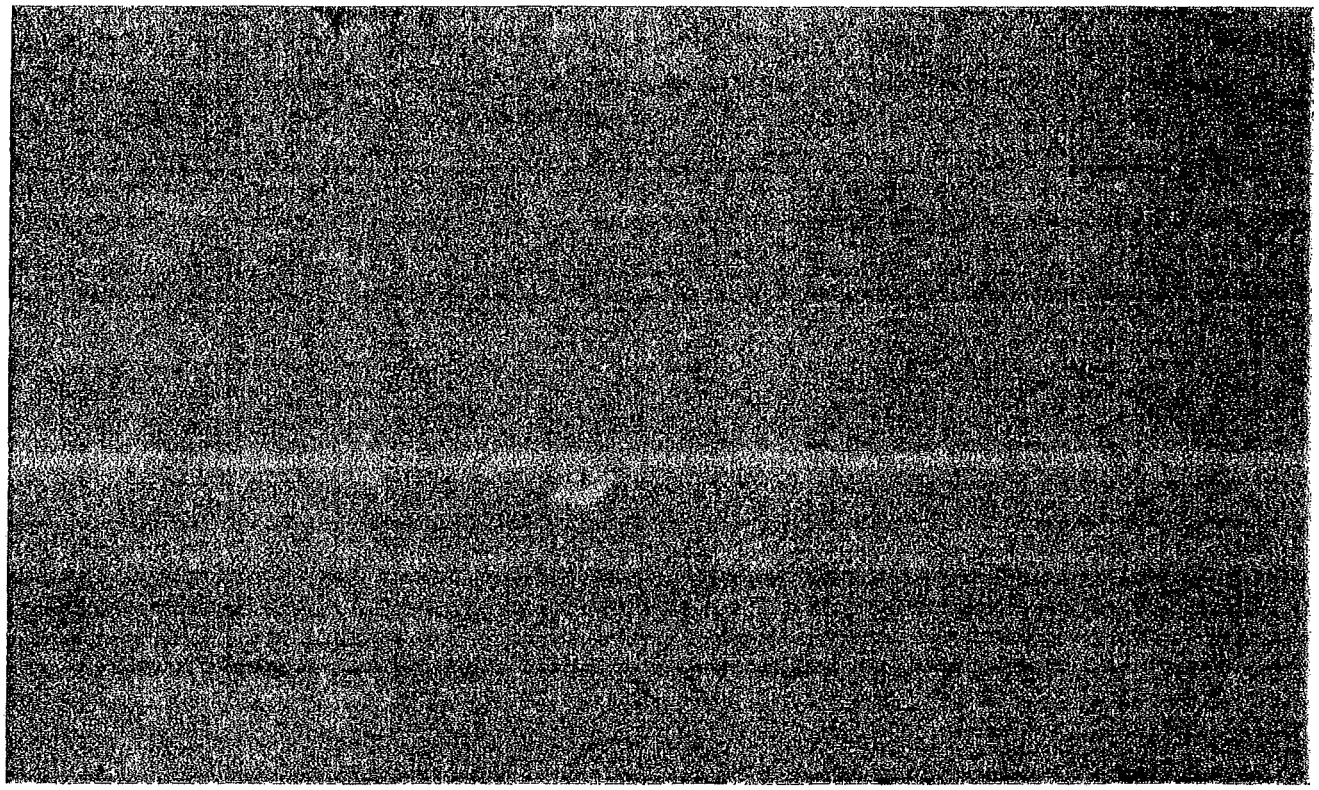


VIEW 33: WINDOW SEPARATION - FRONT OF HOUSE - ABOVE 4TH WINDOW FROM SOUTH

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

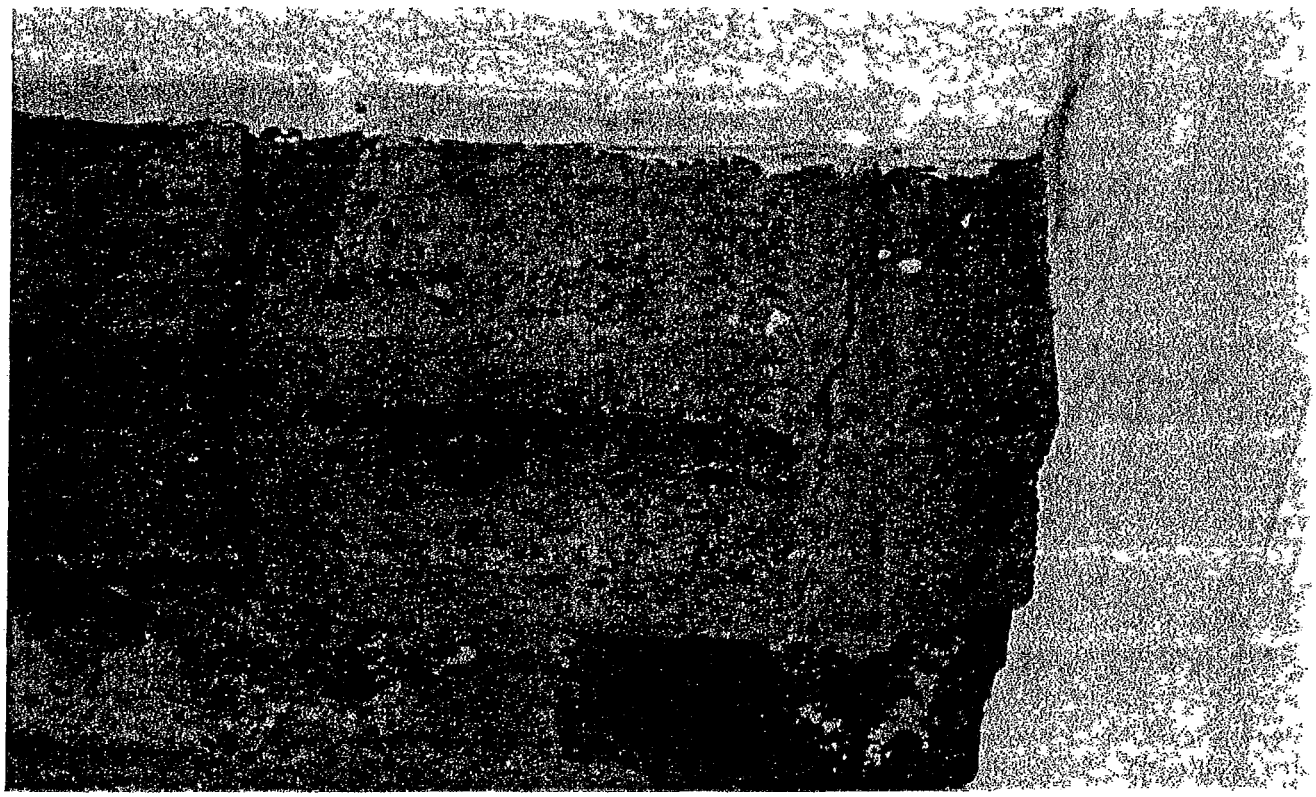


VIEW 34: HORIZONTAL SEPARATION - FRONT OF HOUSE - NORTH FRONT PORCH WALL, EAST END

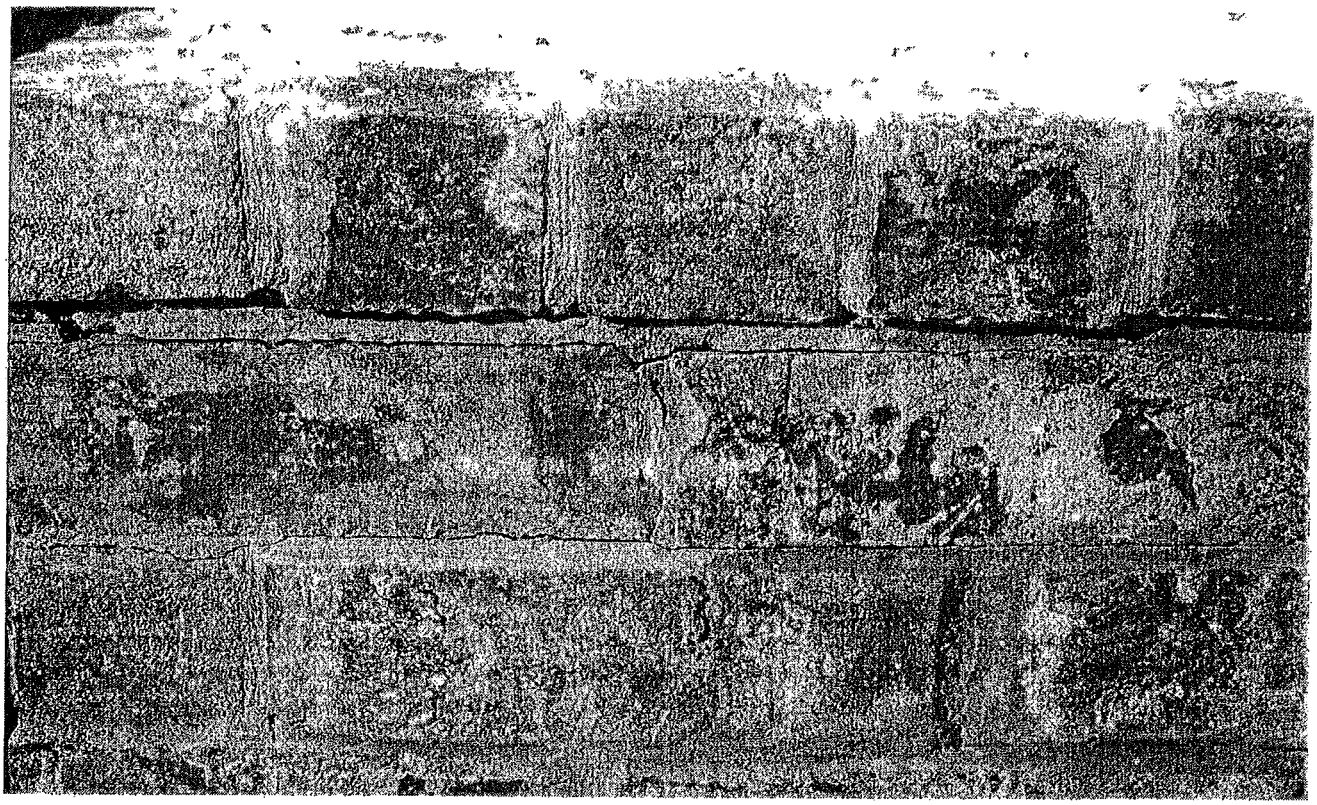


VIEW 35: SLAB CRACK - FRONT OF HOUSE - UNDER FRONT DOOR

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

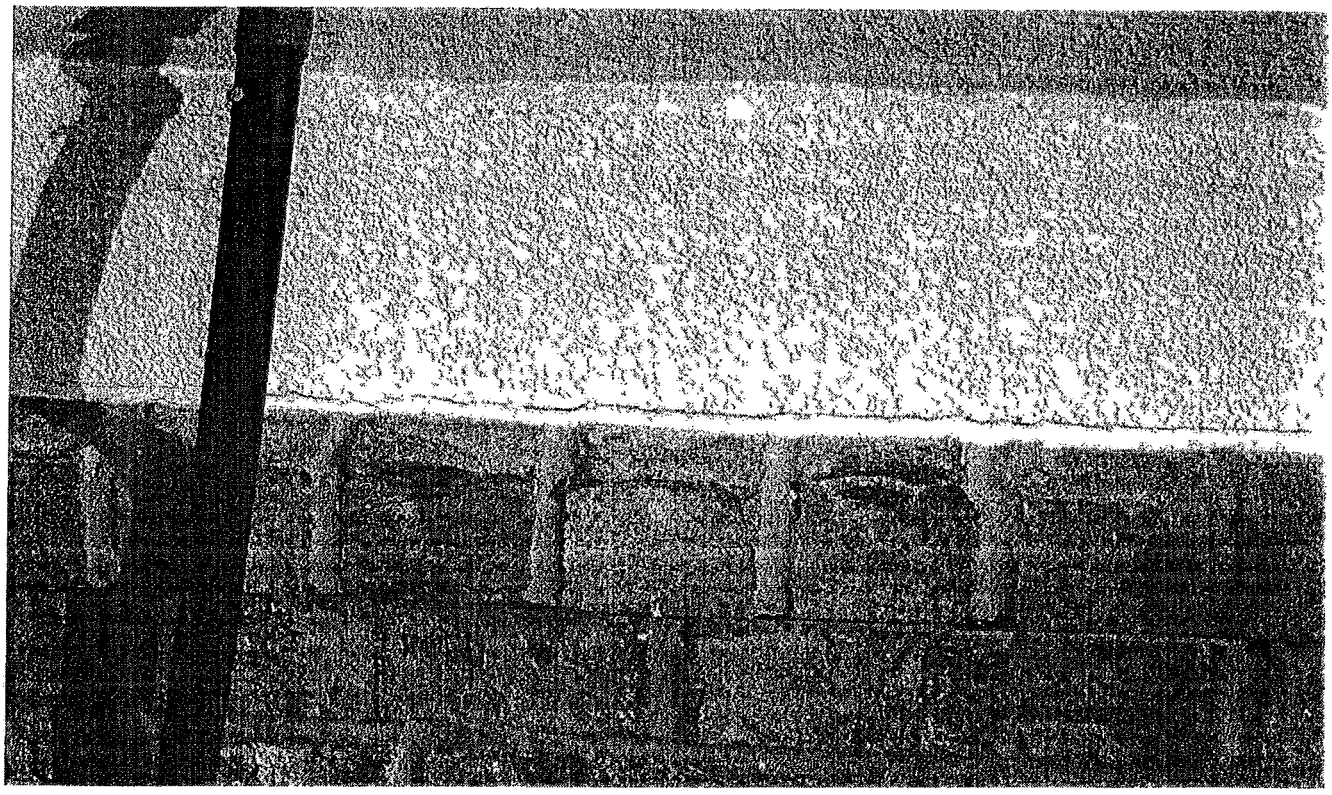


VIEW 36: VERTICAL CRACK - FRONT OF HOUSE - SOUTH OF FRONT DOOR, NEAR GROUND

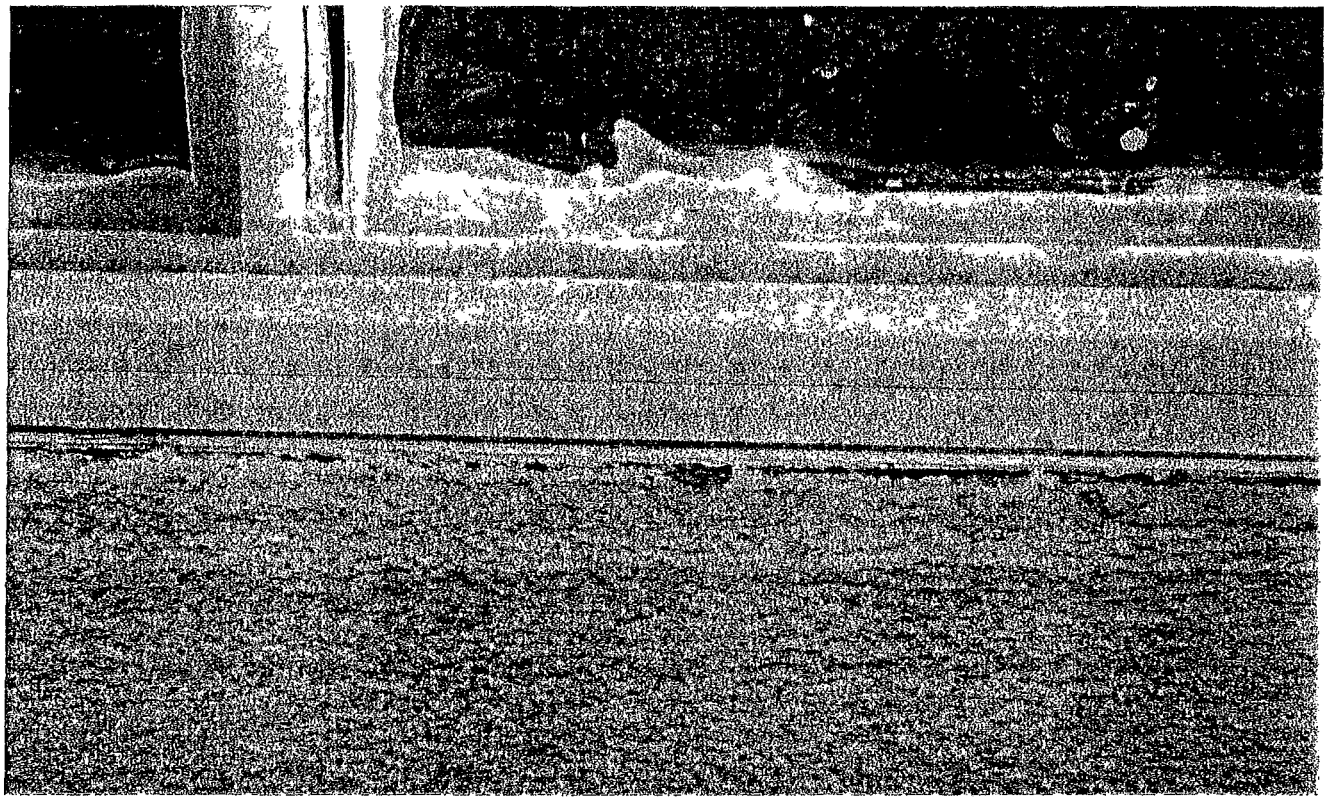


VIEW 37: STEP CRACK - FRONT OF HOUSE - SOUTH FRONT PORCH WALL, EAST END

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

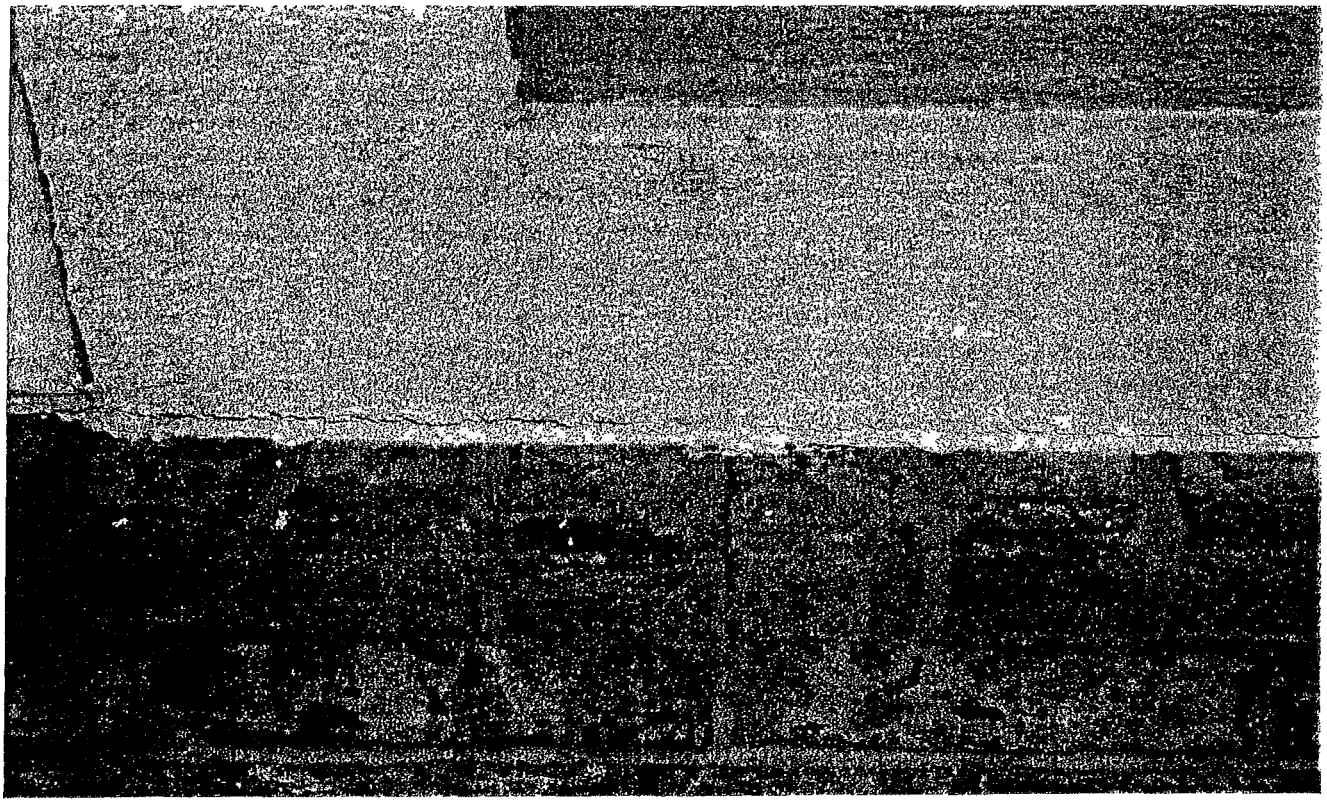


VIEW 38: HORIZONTAL SEPARATION - FRONT OF HOUSE - UNDER SOUTH SPIGOT

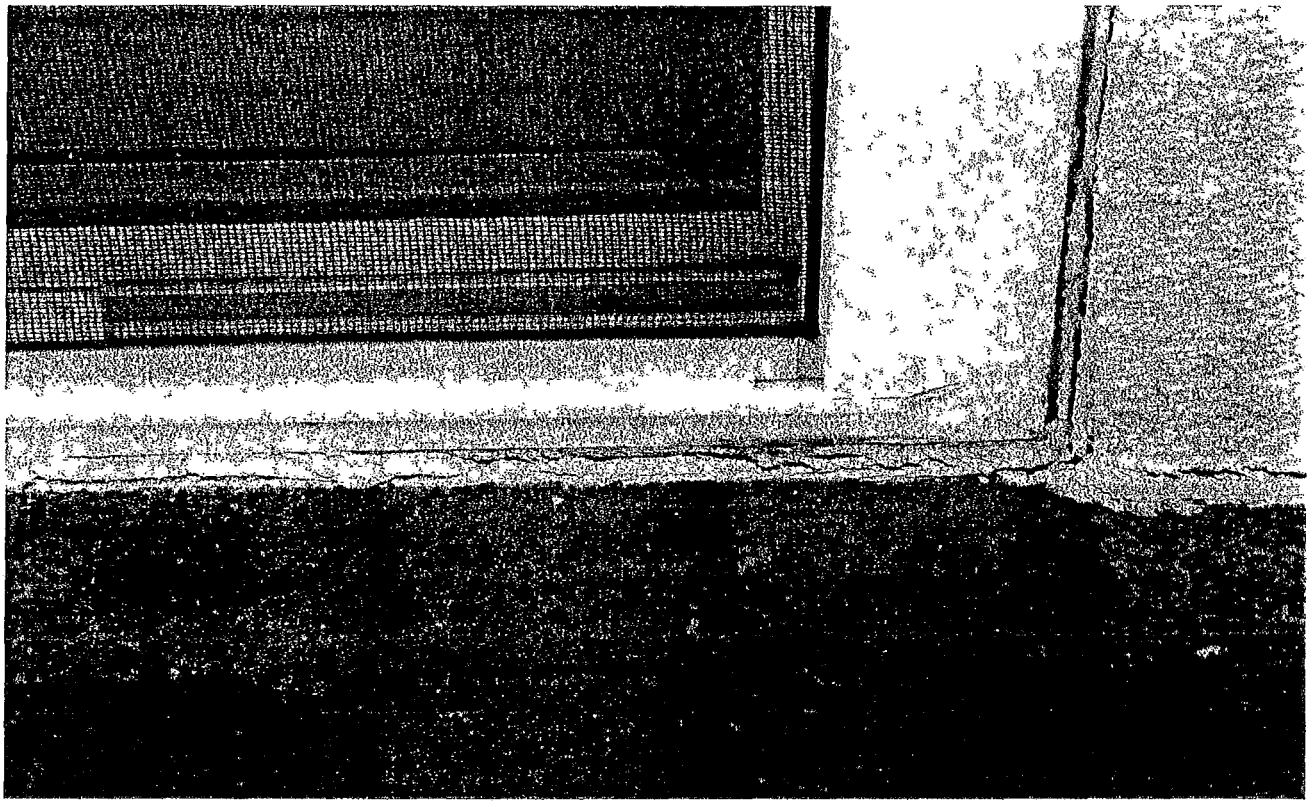


VIEW 39: WINDOW SEPARATION - SOUTH SIDE OF HOUSE - EAST WINDOW

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

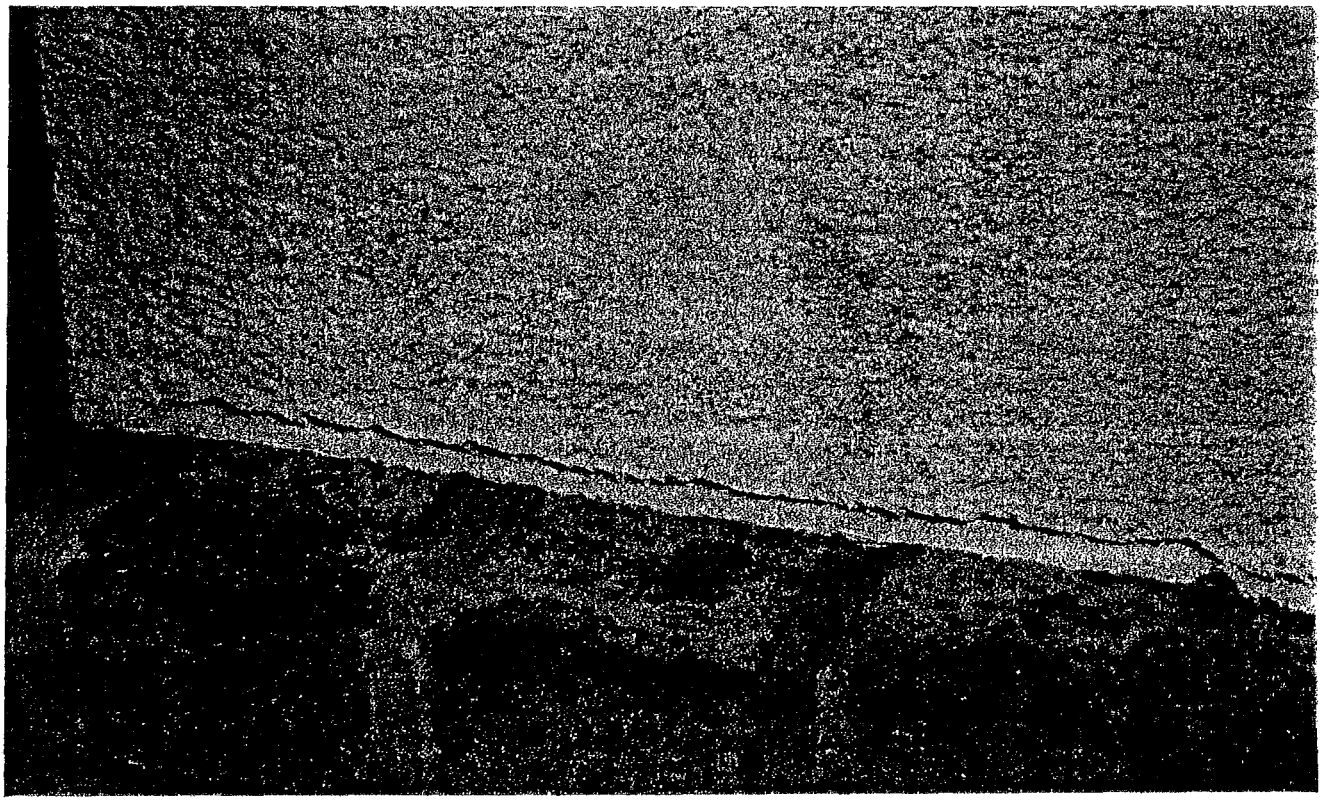


VIEW 40: HORIZONTAL CRACK - SOUTH SIDE OF HOUSE - EAST OF WEST WINDOW

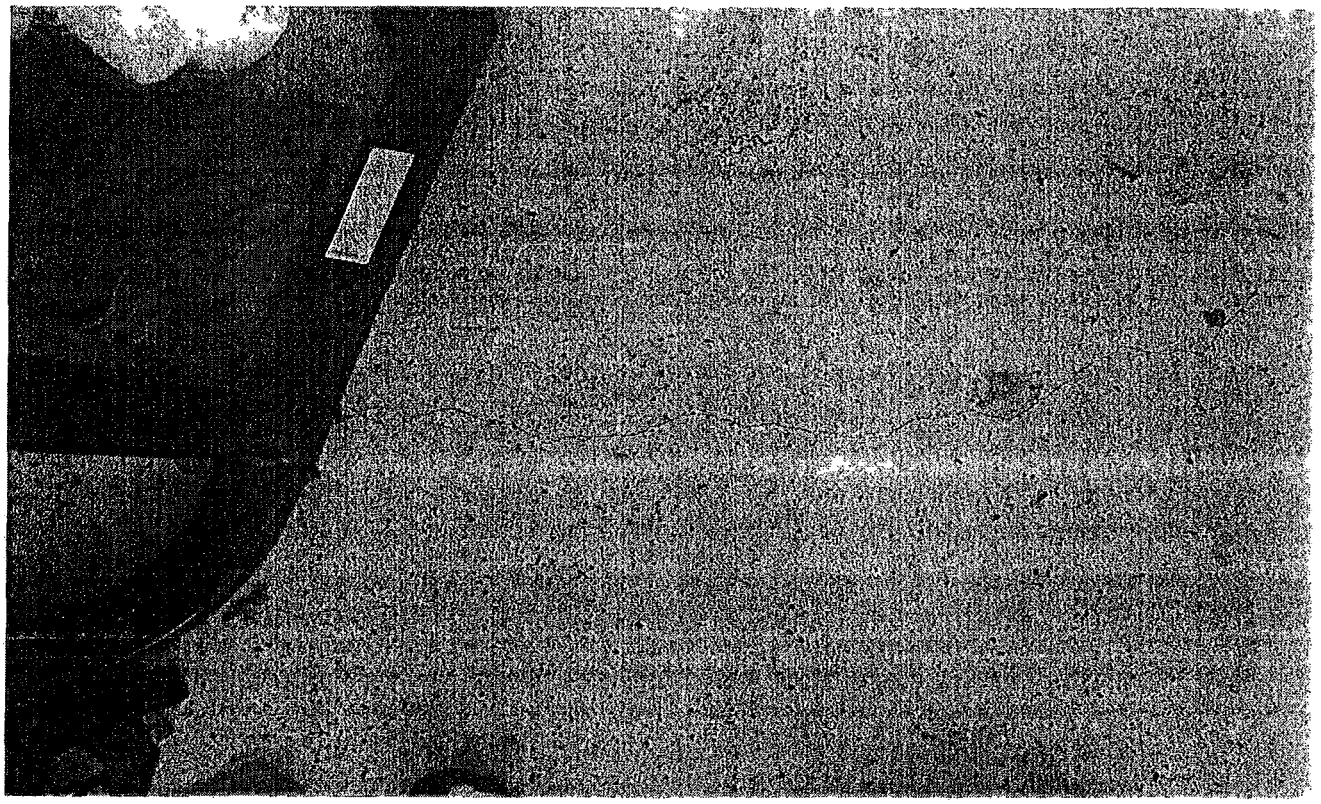


VIEW 41: WINDOW SEPARATION - SOUTH SIDE OF HOUSE - WEST WINDOW

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

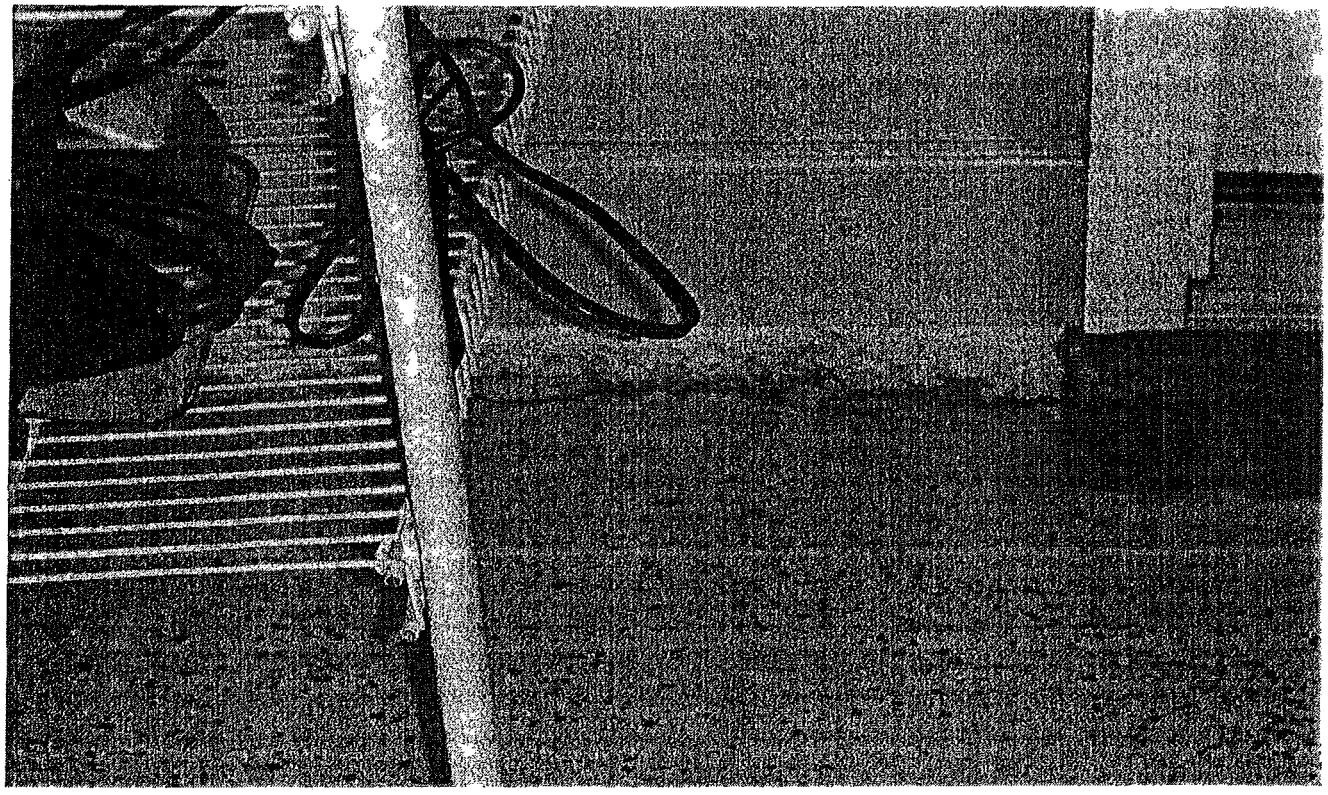


VIEW 42: HORIZONTAL CRACK - SOUTH SIDE OF HOUSE - SOUTHWEST CORNER

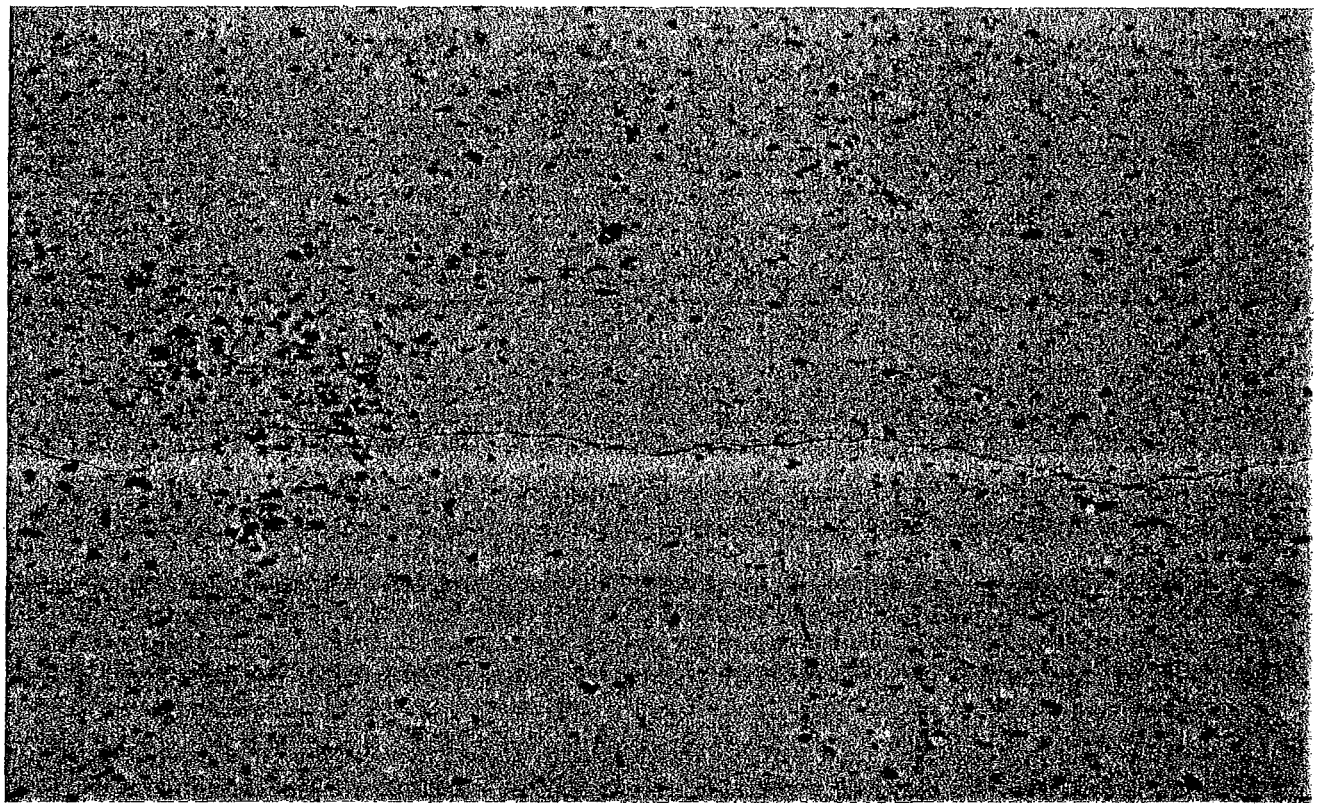


VIEW 43: SLAB CRACK - GARAGE - EAST END

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO. 12-13874

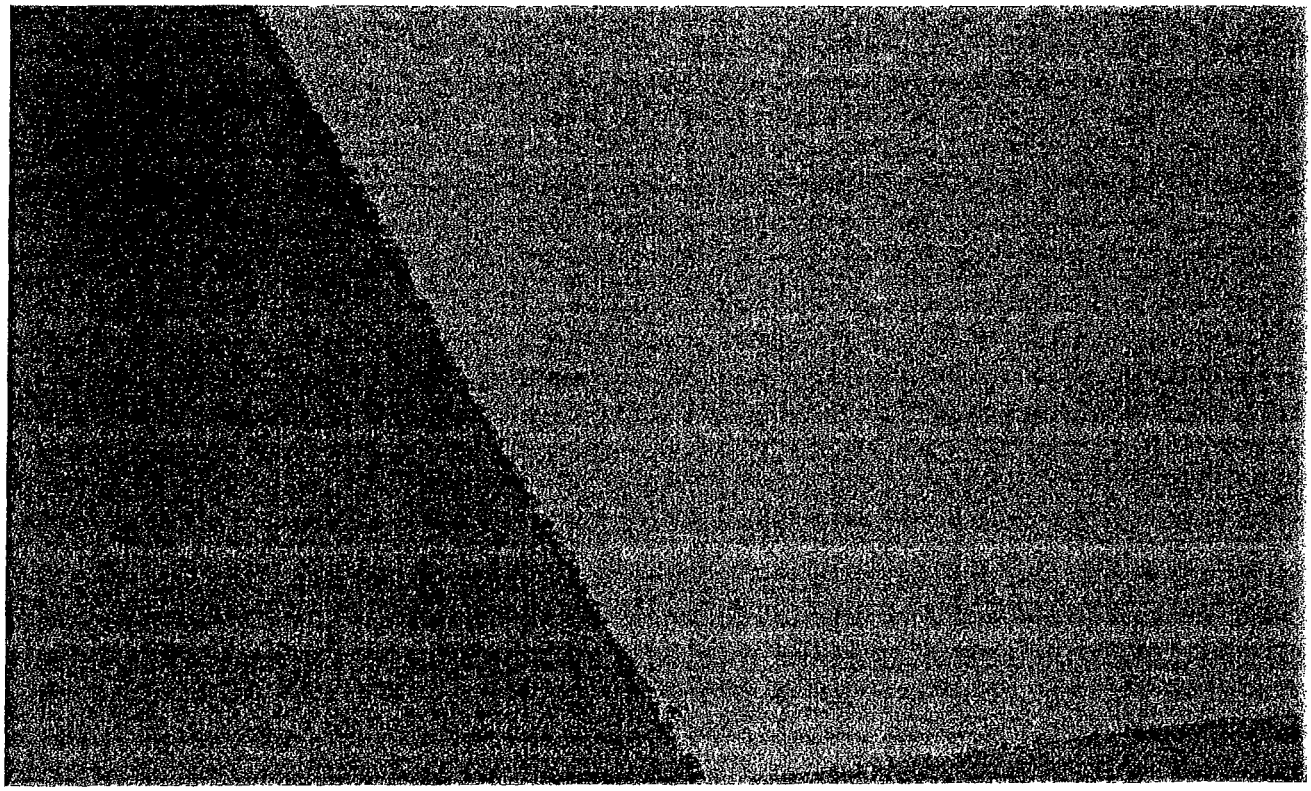


VIEW 44: SLAB SEPARATION - GARAGE - SOUTHWEST CORNER

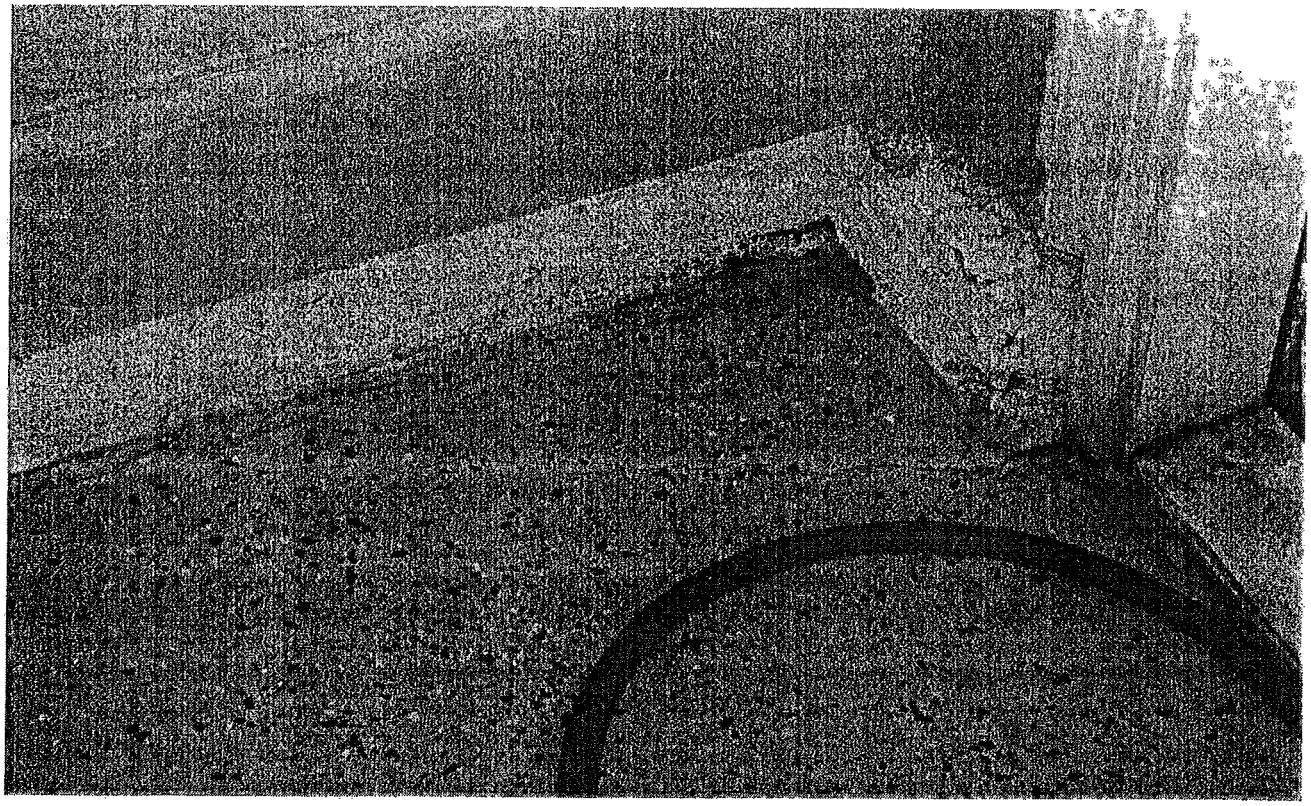


VIEW 45: SLAB CRACK - GARAGE - WEST END

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

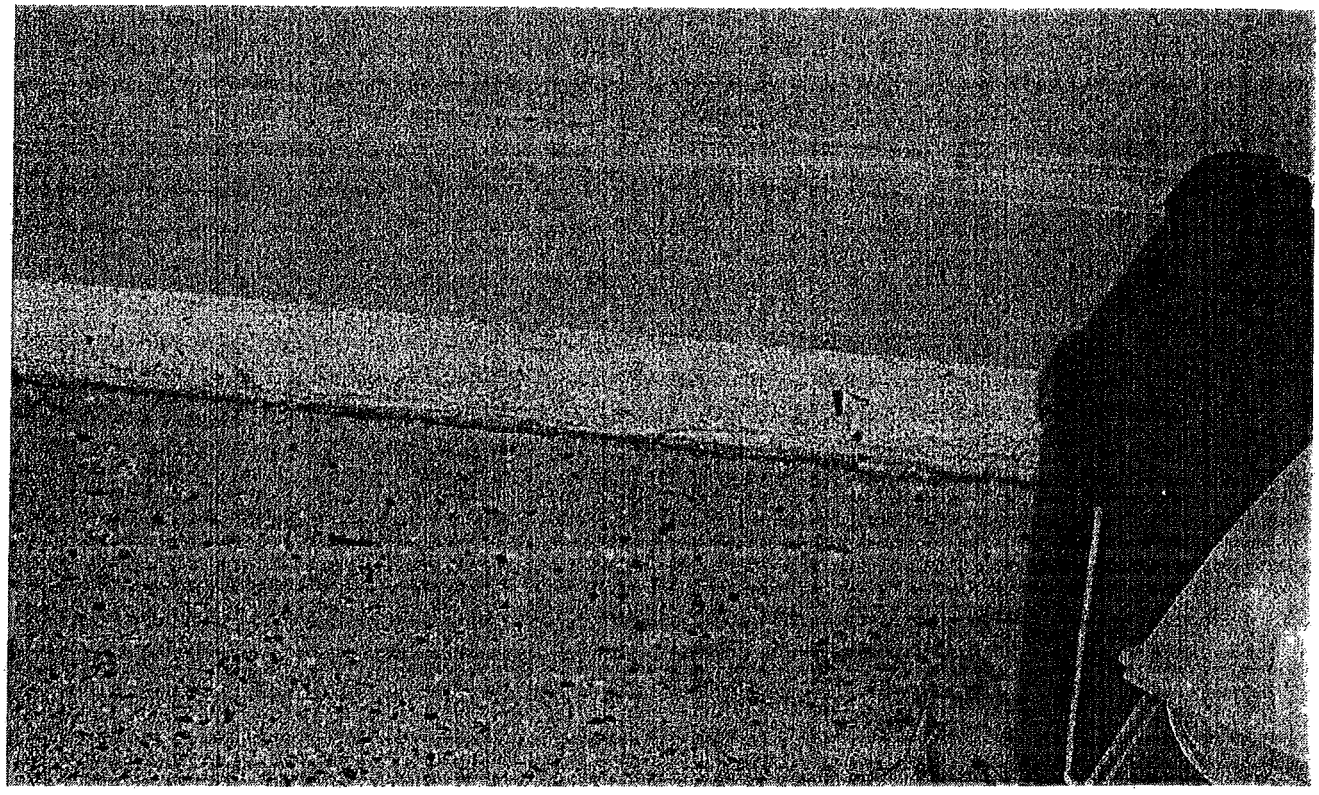


VIEW 46: NAIL POP - GARAGE - ABOVE FUSE BOX, WEST WALL

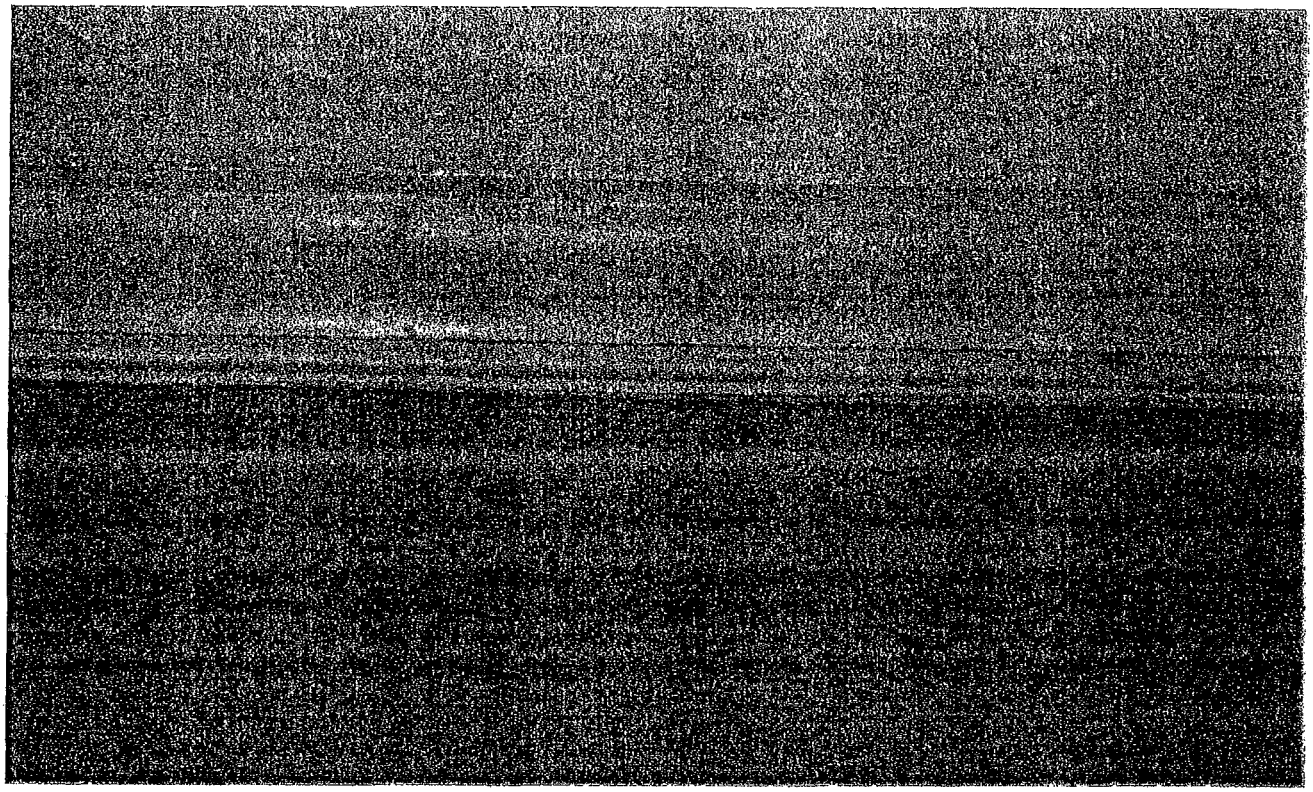


VIEW 47: SLAB CRACK - GARAGE - NORTHWEST CORNER

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874

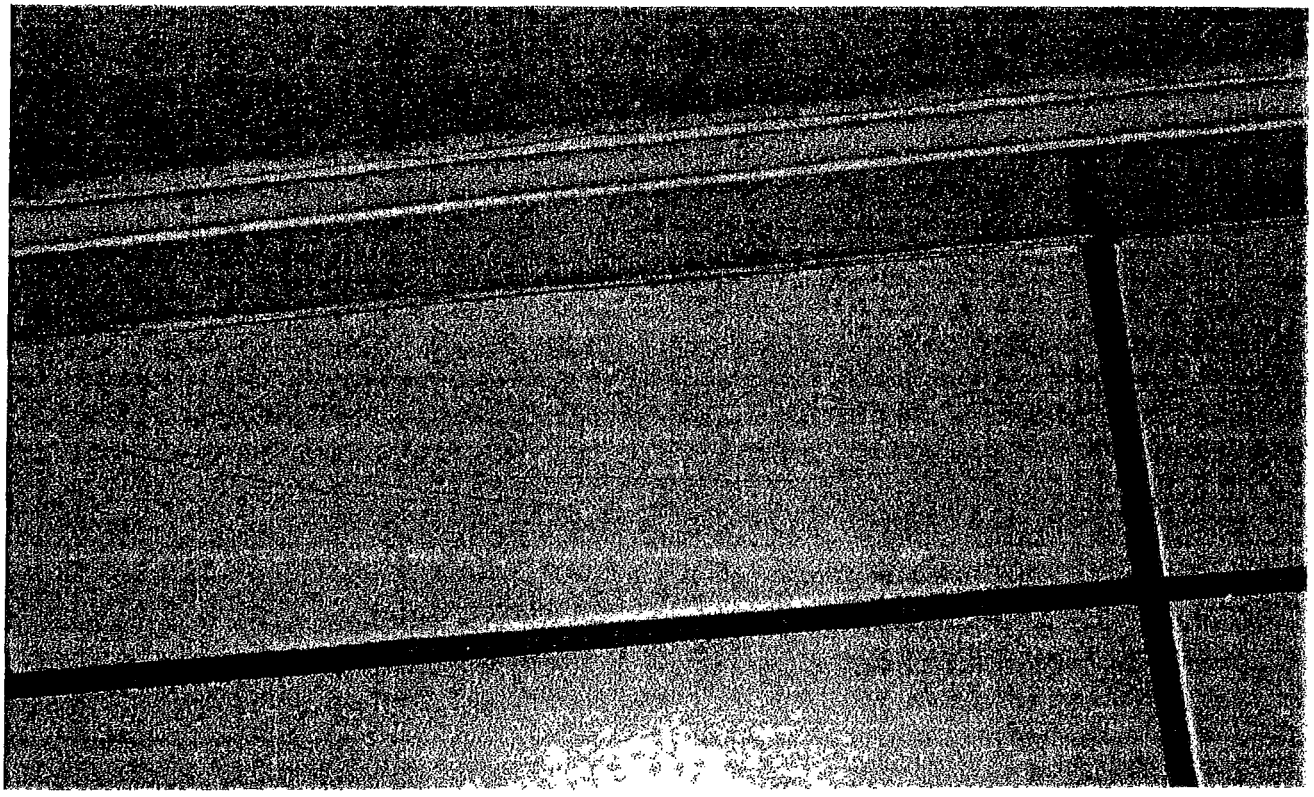


VIEW 48: SLAB SEPARATION - GARAGE - NEAR PICTURE # 47

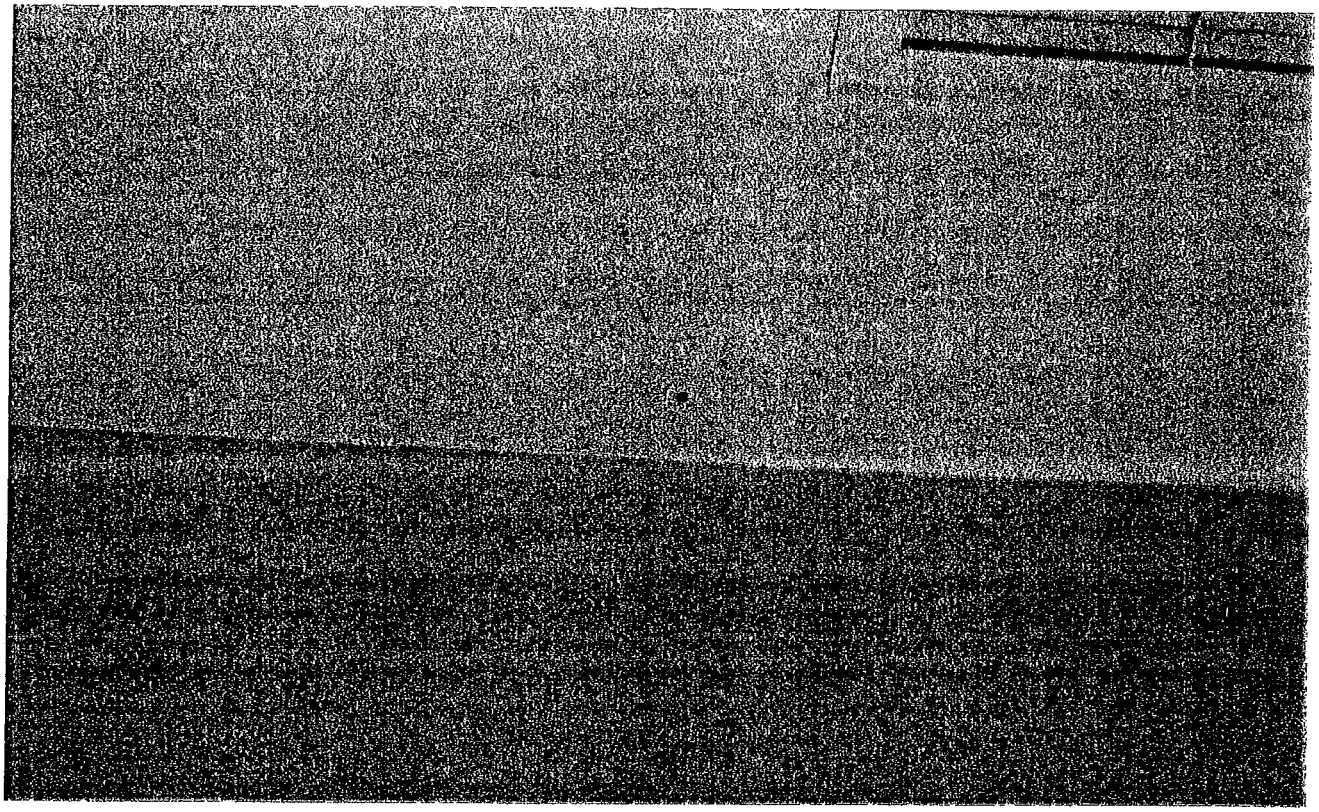


VIEW 49. CEILING TRIM SEPARATION - KITCHEN - NORTH WALL

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.. 12-13874

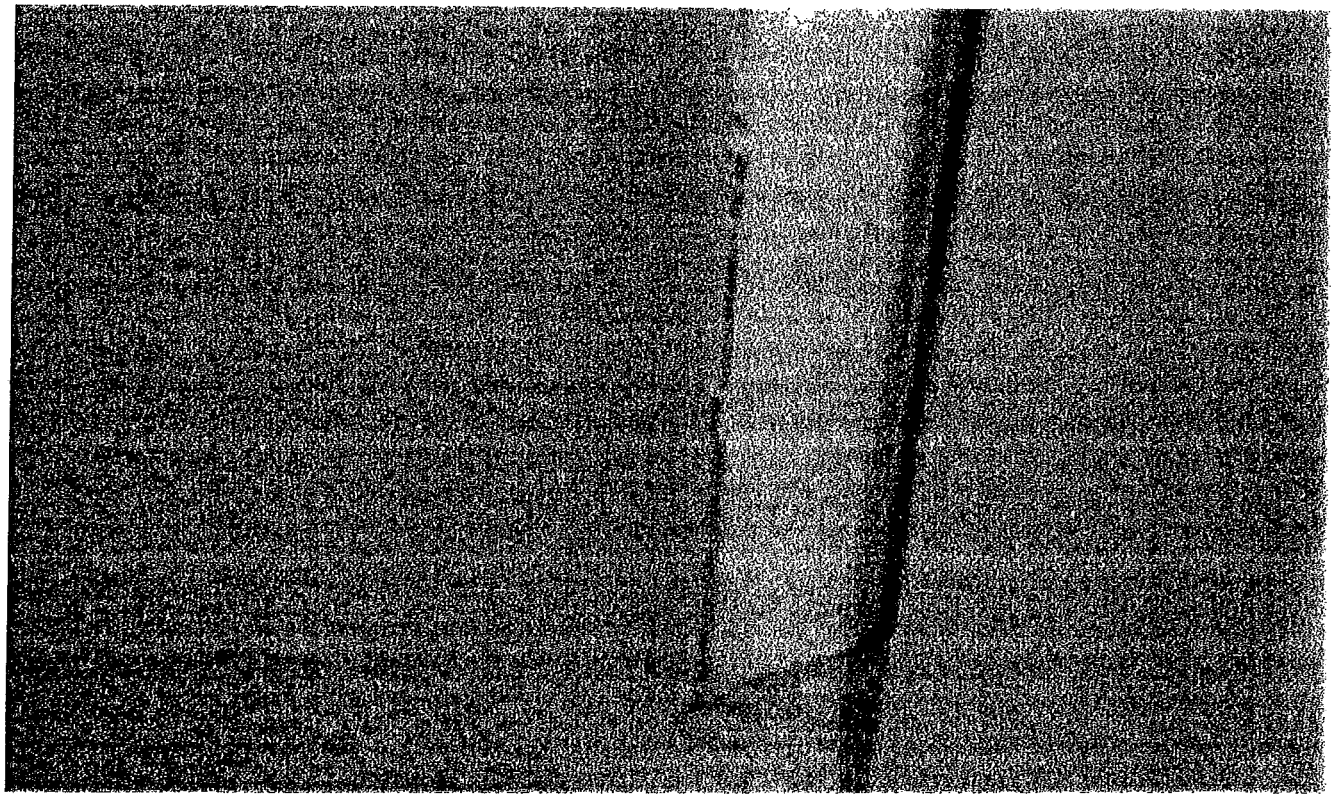


VIEW 50. TILE CRACK - KITCHEN - EAST END, NEAR HALLWAY ENTRANCE

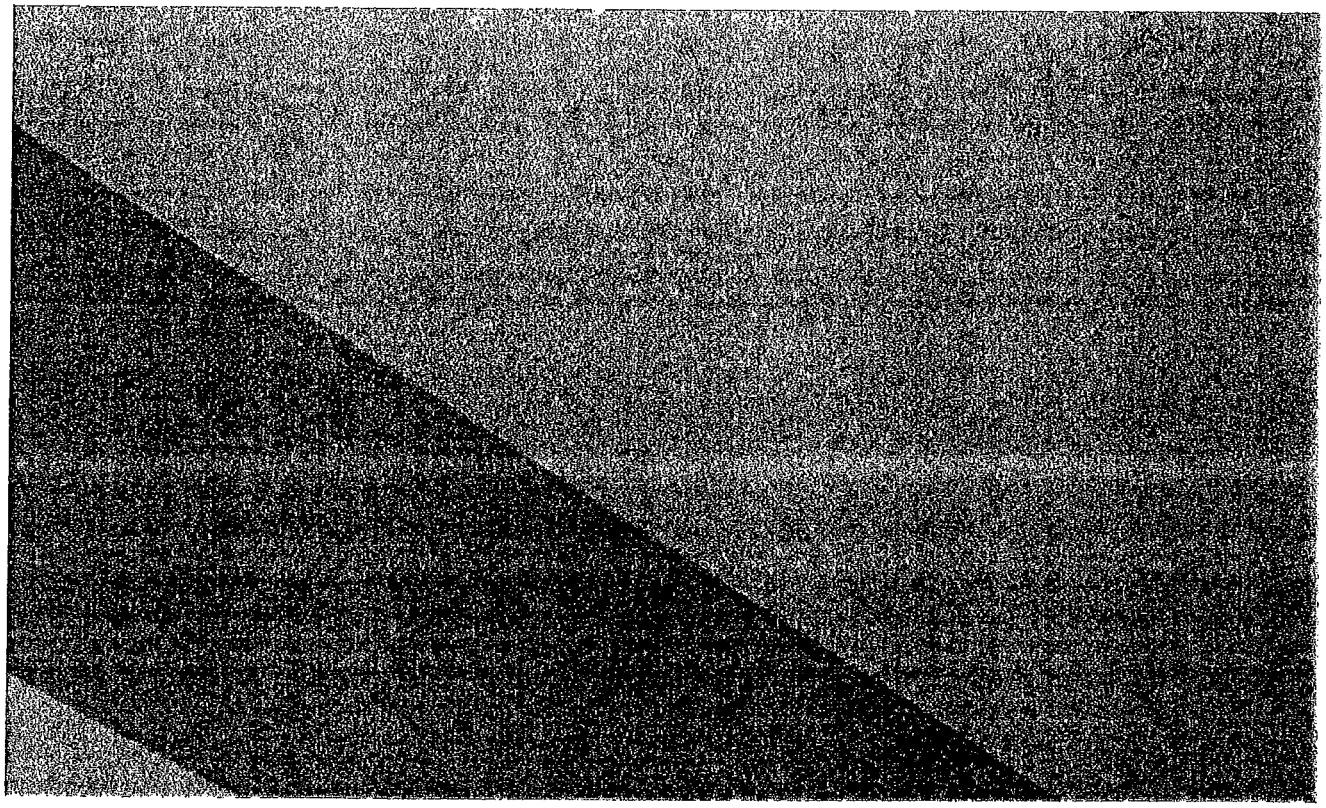


VIEW 51: NAIL POP - EAST BEDROOM - NORTHWEST CORNER OF CEILING

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874



VIEW 52: WINDOW SEPARATION - EAST BEDROOM - EAST WALL



VIEW 53· CEILING CRACK - EAST BEDROOM - ABOVE EAST WALL

SOSA RESIDENCE - LAKE CITY, FLORIDA - FTE PROJECT NO.: 12-13874