

HFR-23

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in Bldg. 9



INTRODUCTION

The Division of Conservation was asked to assist Harpers Ferry National Historical Park in revealing and documenting graffiti in Building #5 and, as time permitted, to develop methods for stabilizing the deteriorated plaster. Civil War era graffiti is visible in a few isolated areas on the second floor where the overlying paint has flaked off and in the third floor garret where it is covered with a thin wash coat, making it almost unreadable.

As the project progressed, it became clear that the amount of graffiti on the plaster walls of Building #5 was greater than anticipated, and that all aspects of the work could not be performed in the allotted 100 hours. It was agreed therefore, that the Division of Conservation staff would concentrate on revealing and documenting all the graffiti on the third floor garret walls and on revealing selected areas on the second floor to assess how much graffiti exists and what would be required to preserve it. The techniques developed for documenting the graffiti in these areas can be used for further work in this building, and others, should the park decide it is warranted.

SOLUBILITY TESTING

As the first step in revealing the graffiti, attempts were made to remove the overlying paint by testing with a number of different solvents. A representative sample of plaster, which had become dislodged from the ceiling of the garret, was used as a test piece. The objective of the test was to remove the overlying coating without disturbing the plaster surface. The test included polar and non-polar solvents, hydrocarbons, ketones, and dilute acids.

METHOD

The method used to determine solubility of the over-paint consisted of the following:

- swab the selected area with solvent
- allow the solvent to remain on the surface for approximately three minutes or until it begins to evaporate
- remove the solvent and solute with a cotton tipped applicator
- evaluate solvent efficiency by examining both the swab and plaster surface under magnification

Solvents tested:

- distilled water
- distilled water with enzymes
- denatured alcohol
- acetone
- mineral spirits
- xylene
- M-pyrol
- acetic acid 5 %
- acetic acid 10 %

RESULTS

The tests indicated that the overlying film was an unpigmented, dilute lime wash (calcium hydroxide) that did not seem to have an organic binder. With the exception of the acids, the solvents tested removed surface soils to varying degrees, but did not remove the lime wash itself. The acids did disturb, and could potentially remove, the lime wash. Difficulty in controlling the action of the acid, and the possibility of its removing the underlying graffiti, precluded its use in this application.

The original intent of the solubility test was to develop a means to safely remove the lime wash in order to reveal the graffiti bearing plaster strata. None of the solvents tested were effective in doing this; however, the test did indirectly yield another method for revealing the inscriptions. Swabbing the whitewashed surface with distilled water made it transparent so it was applied to a larger area and the graffiti was transcribed and, in many instances, photographed very successfully. When the distilled water evaporated, the whitewash once again became translucent. The whitewash aided in the preservation of the graffiti by protecting it from dirt, light, insect accretions, and, to an extent, moisture.

EXAMINATION AND DOCUMENTATION OF THE THIRD FLOOR GARRET

The sloped ceiling of the third floor garret was divided into 60cm square sections. This size seemed appropriate for both photographic documentation and sketching. The grid was made with 1/4" wide plastic tape affixed to the plaster surface with push pins at the ends and wax at intermediate locations. Each square was given a discreet number and letter designation. The squares were numbered 1-9 on the south wall and 10-18 on the north wall; the numbering began on the east side. From the top of the sloped ceiling down to the juncture of the top of the knee wall, the squares were designated "A", "B" and "C". The "C" row was 30cm in height. Each square was given a number regardless of the presence of graffiti. Graffiti was found in 30 of the 54 squares. More intensive investigation may reveal inscriptions in other blocks.

After the plaster surface was brushed and vacuumed of superficial dirt and accretions, such as mud dauber nests, the graffiti was examined under ultraviolet and high intensity incandescent light sources, as well as an infrared viewer. The ultraviolet light was successful in bringing out some of the inscriptions, however, the infrared light did not help at all in revealing the inscriptions. The most effective light source proved to be the high intensity incandescent lamp moved over the surface at various angles and distances.

PHOTOGRAPHY

Each block was photographed with a 35mm camera and ASA 400 Ektachrome slide film. The light source was a combination of ambient light from the two small garret windows and one incandescent lamp. The camera was hand held, therefore exposure time was limited. The amount and direction of light varied from one block to another depending on the amount of ambient light and the distance and angle of the single incandescent lamp. The quality of the photographs and the amount of detail recorded varied considerably. Detailed photographs of some of the more intricate drawings and inscriptions were made. In general, these were more successful than the photographs of the entire 60cm block. Test photographs of the first three blocks were taken with infrared film in an attempt to record inscriptions not visible to the unaided eye. This was not successful and was discontinued.

Re-photographing the garret, using a tripod to enable longer exposure time, photographic lights, and a smaller grid, could be more successful in documenting the graffiti.

Unfortunately time constraints precluded this being done initially. Photographing with infrared film under improved conditions may also be worthwhile since ambient and film temperature affect the image quality. It should be noted that the high temperatures in the building on the day in which the photographs were taken may have affected the images.

TRANSCRIPTION

Each square was transcribed onto graph paper 30cm square. Considerably more detail was gathered by visually examining the block under different light levels and angles than was evident in the photographs. Effort was made to accurately depict handwriting, drawings, relative size, and relative location within the block, however, the drawings were not made

precisely to scale. Emphasis was placed on transcribing the informational content. In instances where letters or words were not decipherable, a question mark in parentheses was placed over the areas.

Sketches were also made of the graffiti found on the east and west gable end walls. Much of the plaster on these walls had been disturbed or lost and only a limited amount of graffiti was revealed. These walls were not gridded into separate sections. Graffiti was found on the wood trim above the stairwell door. It could not be deciphered using the techniques and light sources we had available.

EXAMINATION AND DOCUMENTATION OF SECOND FLOOR WALLS

The scope of work on the second floor was to develop a method for revealing the graffiti and to ascertain how much graffiti existed under the opaque layers. The technique used to survey the graffiti was to expose a 60cm square area on selected walls of each room on the second floor. The block to be exposed was laid out with the center at approximately four feet, as this was thought to be the most likely location for graffiti. The rooms showed hints of inscriptions in small areas where surface coatings had flaked off the graffiti-bearing layer of plaster. The more heavily used second floor had received numerous coats of whitewash and opaque paint.

METHOD

The technique used to reveal the graffiti on the south and west walls of the southeast room was to scrape off the overlying strata with a scalpel, using a mist of water as a lubricant and as a means of bringing out the more faint inscriptions. There was relatively good cleavage between the graffiti-bearing strata and the overlying layers, possibly because a layer of grime had accumulated prior to the surface being painted. Approximately four hours was required to reveal each of the 60cm square blocks.

The characteristics of the plaster and paint on the north wall of the southeast room was significantly different. The plaster was detached and spalling in some areas of the sample block, however, in other areas it was firmly attached. Magnification revealed what appeared to be six layers of calcimine paint or pigmented whitewash. The coating immediately over the graffiti-bearing layer was more heavily pigmented than the rest.

These layers did not cleave as easily from the graffiti-bearing surface as the previous sample blocks. More water was needed, as the mechanical scraping progressed, than was used on the other sample blocks and about eight hours was required to reveal the graffiti.

The plaster and paint layers on the north wall of the northeast room were stable. A 3cm square area was selected and the paint layers were individually removed until the graffiti-bearing layer was revealed. Under six layers, a blue strata was exposed revealing a faint inscription when misted with distilled water. Beneath the blue strata was a thin whitewash

coat and then a brown pigmented plaster strata upon which was found the Civil War era inscriptions. This sample block required about 14 hours to reveal.

Preceding from the outermost layer down, the layers were characterized as follows:

1. **Blue-gray:** thin pigmented wash, brushed on, irregular application, brittle
2. **White:** brushed on, cannot be separated from the third layer
3. **Dark tan:** extremely thin wash
4. **White:** brittle, crumbles and fractures easily
5. **Dark blue-brown:** crumbles easily
6. **White:** thick, not easily disturbed
7. **Blue:** extremely sensitive, easily disturbed with water (probably calcimine paint)
8. **White:** thin, cannot be separated from the blue strata
9. **Brown:** graffiti-bearing strata, durable, not easily disturbed, irregular burnished appearance.

The sample block in the southwest room was not the full 60cm square because the layers did not cleave and the graffiti-bearing strata could not be revealed by mechanical means. Graffiti from the 1920s and 1930s could be seen on the surface of the west wall. This later graffiti was on a paint layer uniform throughout the second floor. Figurative painting was visible on the plaster surface on the east wall of the northeast room. This wall painting should be closely examined and dated if possible.

CONCLUSION AND RECOMMENDATIONS

This project documented the graffiti in the third floor garret and surveyed, through sample test blocks, the graffiti on the second floor of Building #5, Harpers Ferry National Historical Park. It was clear from the wealth of information found that the graffiti constitutes an important resource which should be preserved. The information can augment the history of the building and bring a sense of immediacy to its interpretation.

The paint and whitewash layers which covered the inscriptions have helped preserve them by protecting the surface from soiling and from exposure to light and moisture. Every test block exposed on the second floor revealed graffiti beneath. We assume that the graffiti was as widespread on the second floor as in the garret.

Mechanically revealing large areas will be time consuming and expensive. The characteristics and number of overlying strata vary considerably, and the time required to reveal the graffiti will vary as well. We estimate that carefully revealing 1 square foot will require between 8-12 hours. Some strata cannot be removed mechanically and other techniques will be required in these areas. Alternatively, they could be left as an undisturbed resource for future generations. The historic plaster in Building #5 can be assumed to contain significant historic information.

RECOMMENDATIONS FOR FUTURE ACTION

- Preserve the historic plaster by consolidating and re-securing it to the wood lath. Ensure that the consolidation does not prevent removing overlying paint and whitewash layers from the graffiti-bearing plaster.
- Develop techniques to preserve the exposed graffiti.
- Reveal the graffiti-bearing strata only if it is to be fully documented and preserved.
- Provide the proper environmental conditions for preservation of the plaster and lath. The foremost concern is to protect against leaks and mechanical damage during construction or building restoration. Of secondary concern is to avoid over-heating the building, resulting in the desiccation of lath and plaster.

Transcriptions from South Wall

Third Floor

Building #5

1A

Benjamin
Box

Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									



No Graffiti Discernible

2A

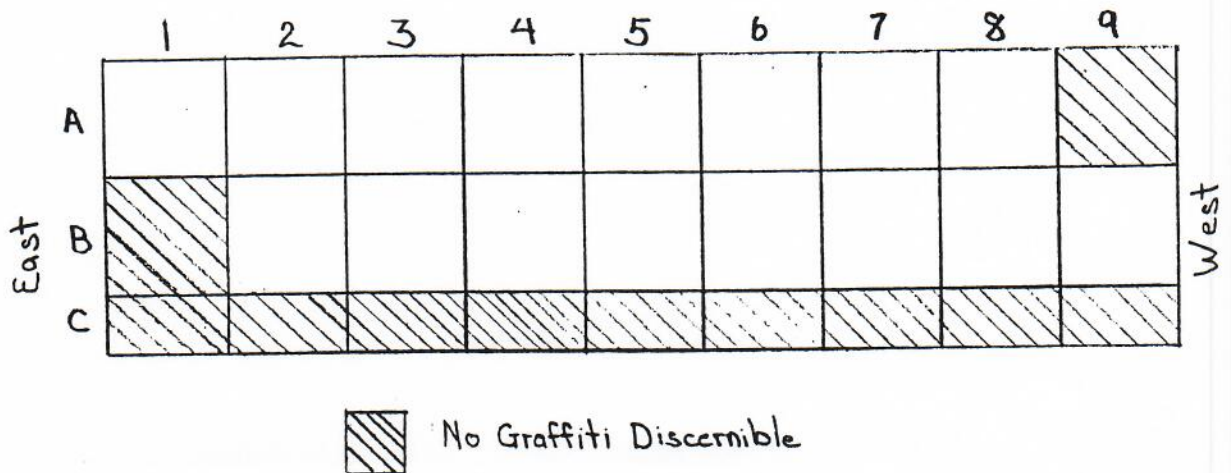
Benjamin Harris Jr
Baxter Fire Zouave

James Dougherty
Co G Baxter
Zouave (?)

72 (?) ✓

Charles L Ha (?)
(?) P.F.Z.

Bldg. 5, 3rd Floor, South Gable Wall



2B

J STARR

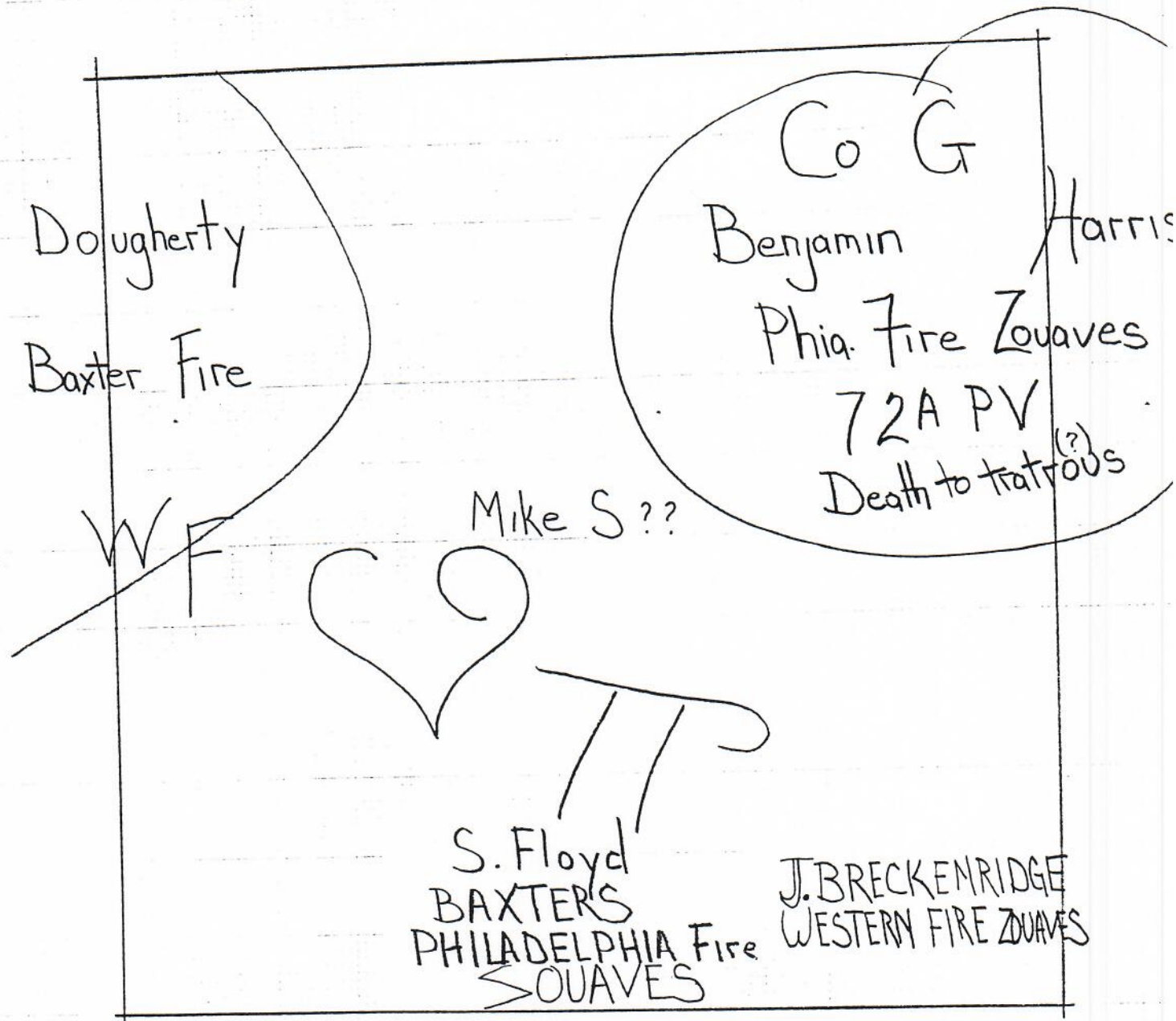
Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

East West

 No Graffiti Discernible

3A



Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

 No Graffiti Discernible

3B

72 PV

Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

 No Graffiti Discernible

4 A

Harris
Zouaves
traitorous

(crack)

Josiah Discey
of Philadi City
Westoun I(?) Invine Cr(?) tary
72 Regiment P.V.

Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

No Graffiti Discernible

4B



Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									



No Graffiti Discernible

5A

Michael Smith
72 rigeament
fire Zouaves

Leap

FROG

Co g Leap

Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

 No Graffiti Discernible

5B

Co J

Baxters

Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

East West

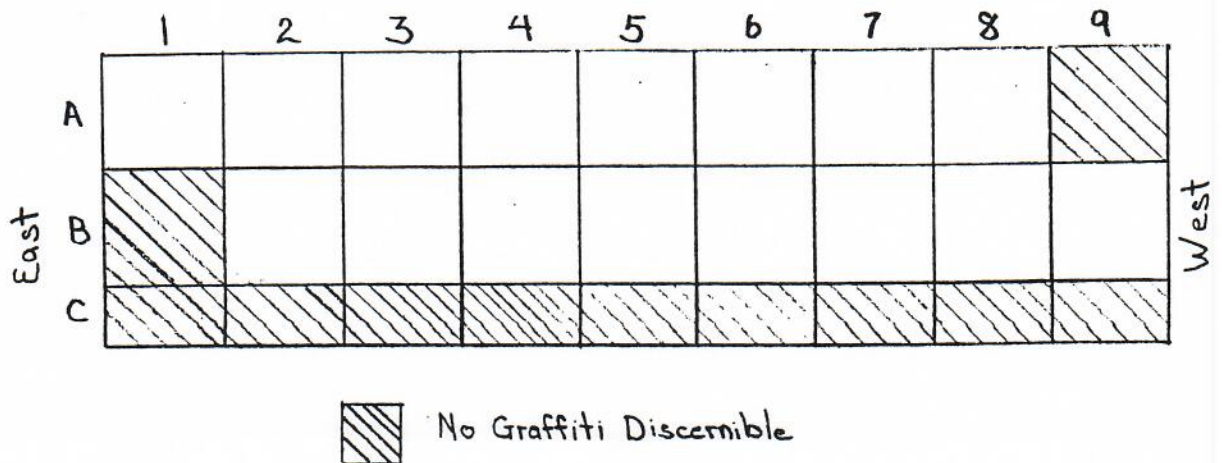
 No Graffiti Discernible

6A

Frogs Leap
Leg Leapers Frogs

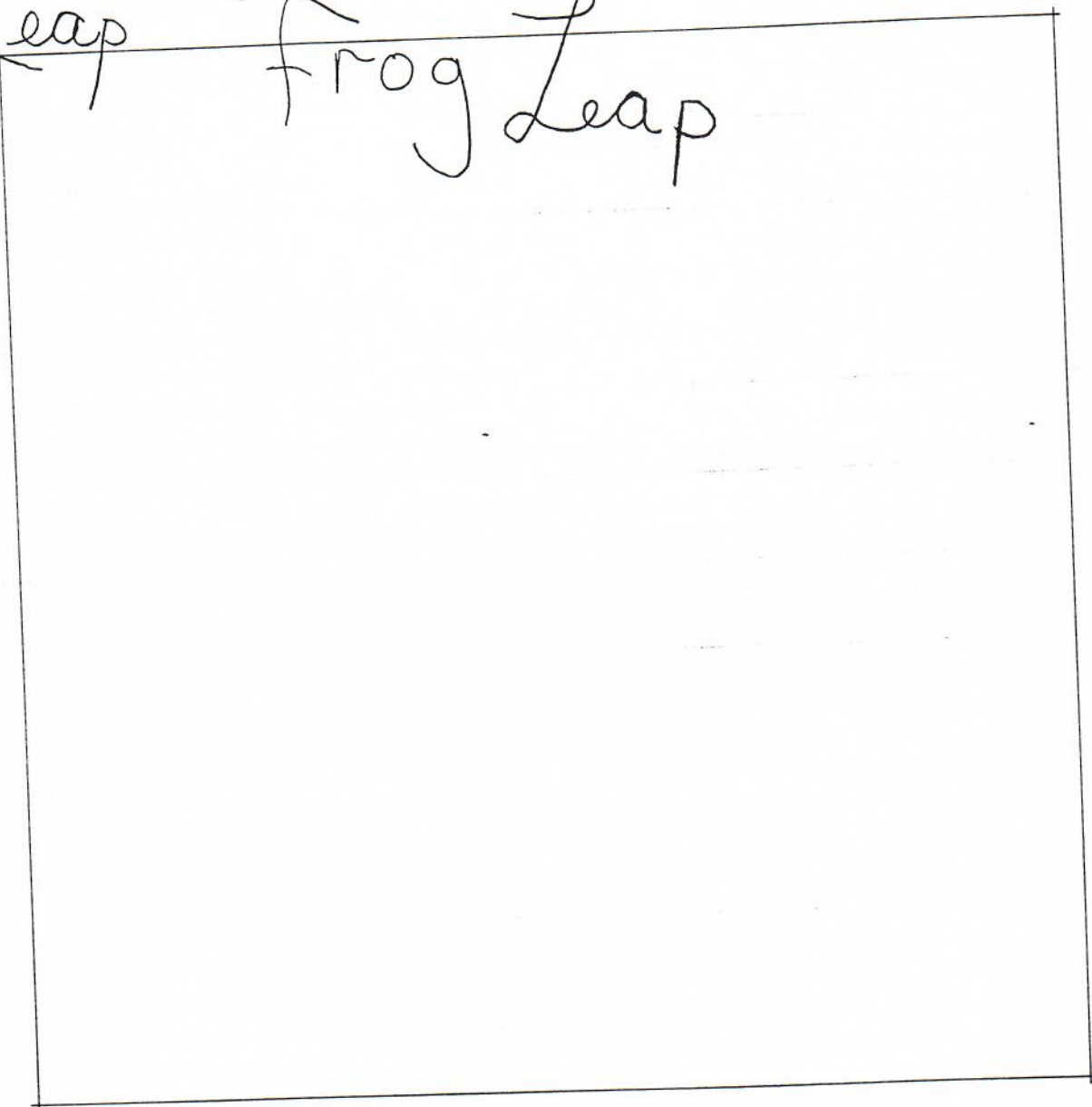
Leap Frog Leap

Bldg. 5, 3rd Floor, South Gable Wall



6 B

Leap Frog Leap



Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									



No Graffiti Discernible

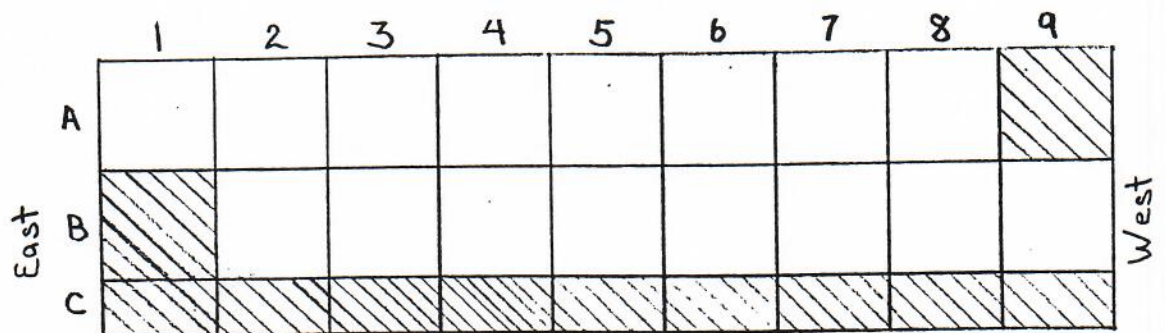
7A

Leap to Hell

Froges Leap You Sons off

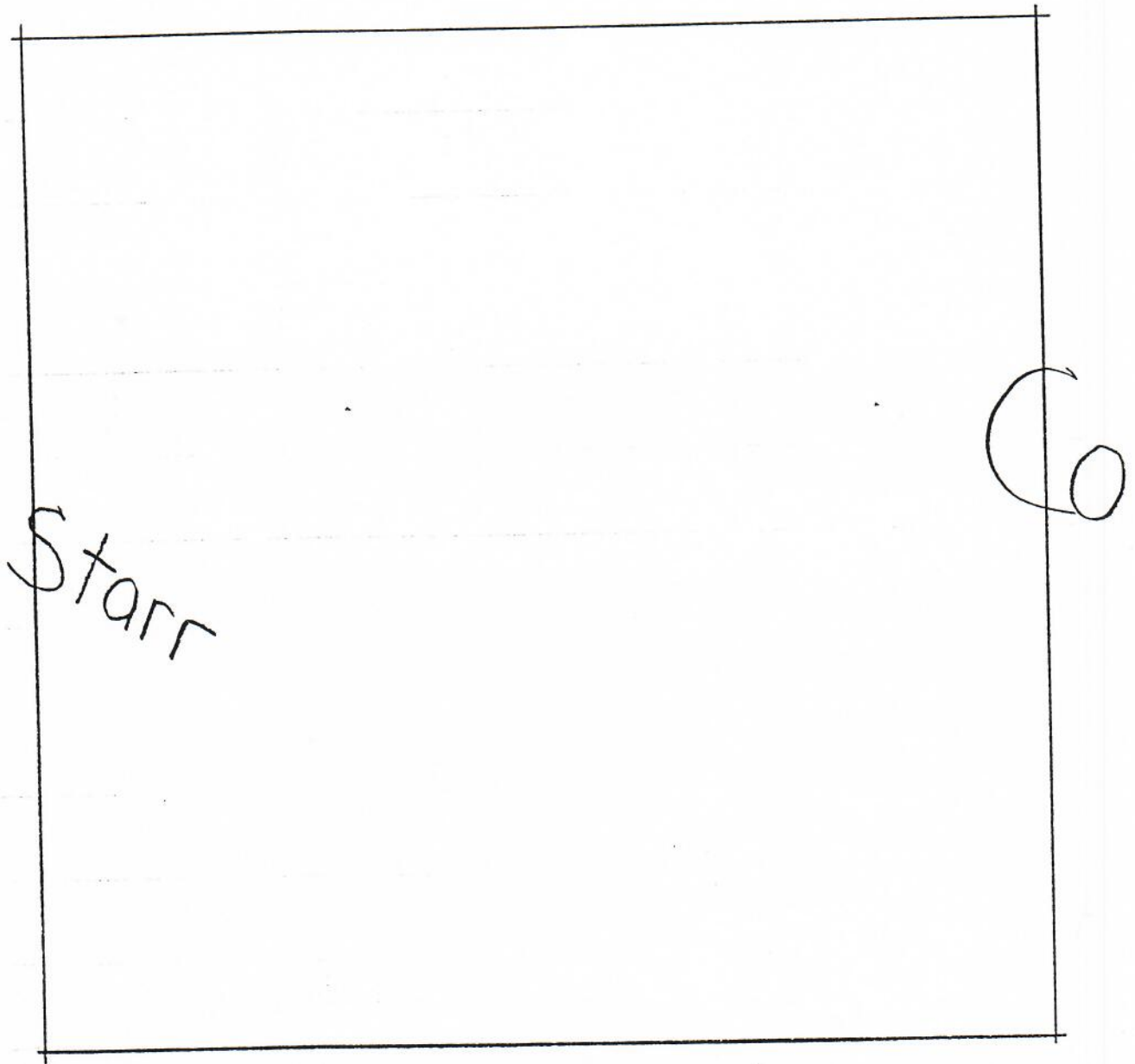
BAXTER
FIRE - SOUAVES

Bldg. 5, 3rd Floor, South Gable Wall

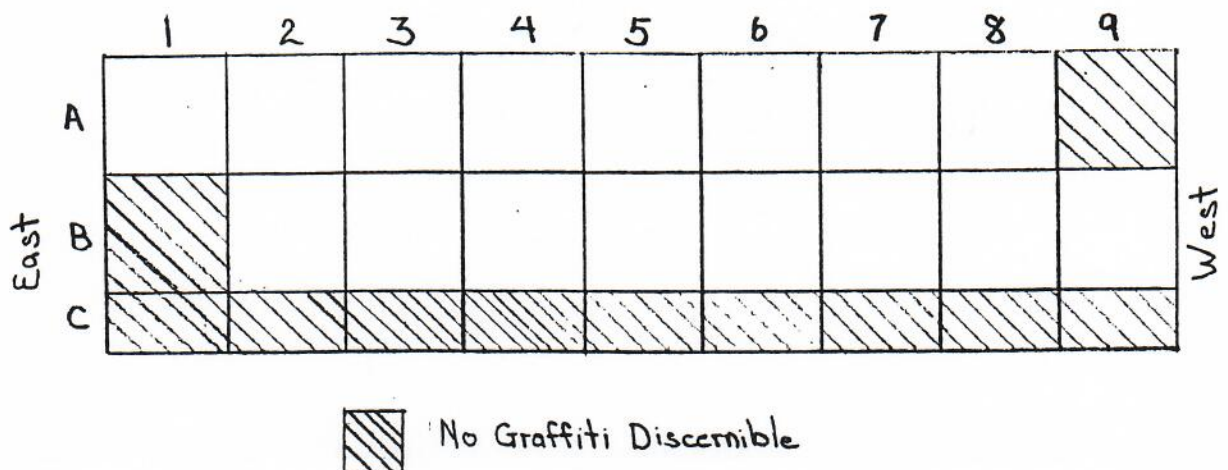


No Graffiti Discernible

7B



Bldg. 5, 3rd Floor, South Gable Wall



8A

off Bitches

J

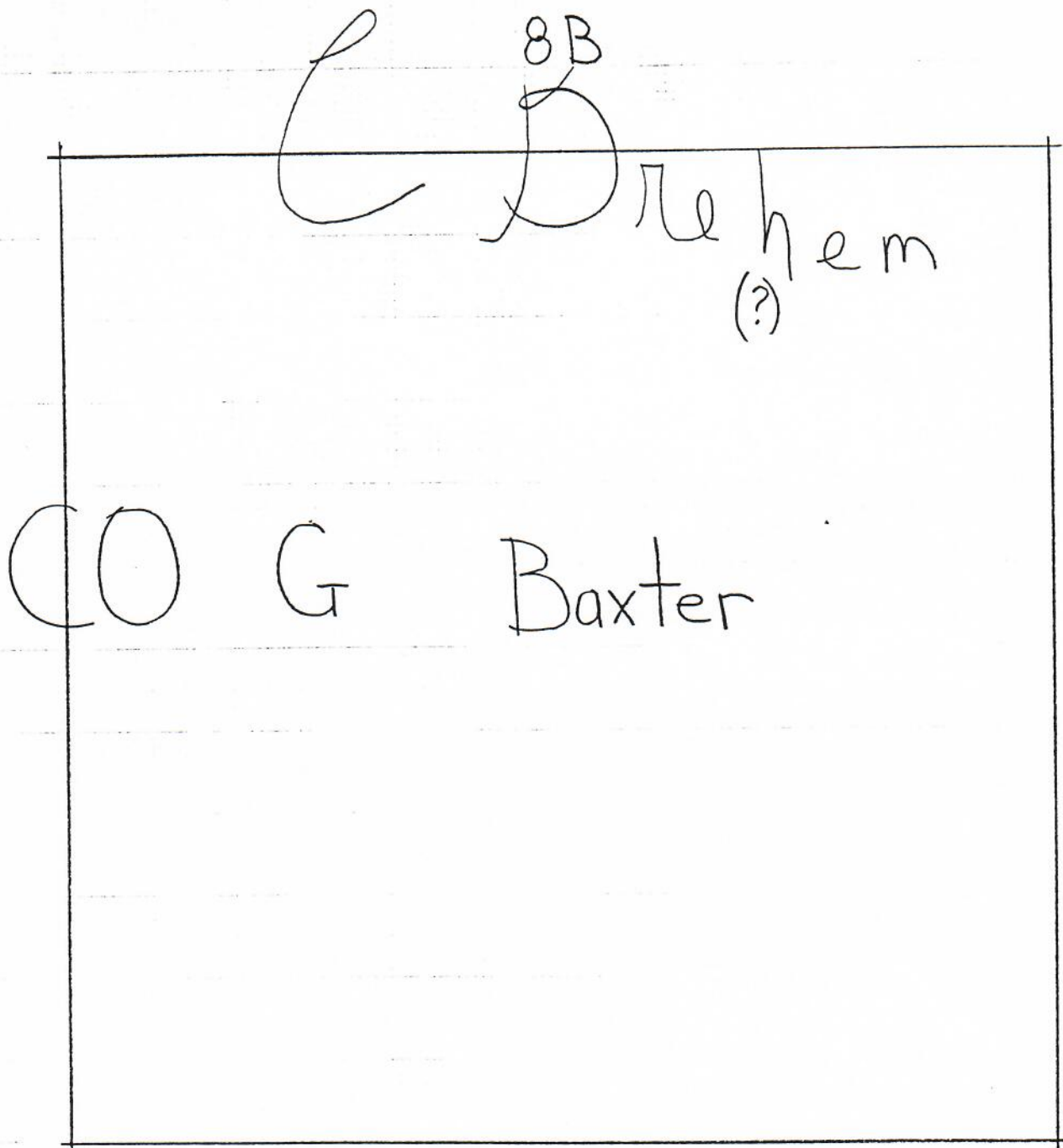
P R (?)

Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									



No Graffiti Discernible



Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

 No Graffiti Discernible

9B

(?)
empty

7r (?)

Bldg. 5, 3rd Floor, South Gable Wall

	1	2	3	4	5	6	7	8	9
A									
B									
C									

East

West



No Graffiti Discernible

Photographs of South Wall

Third Floor

Building #5

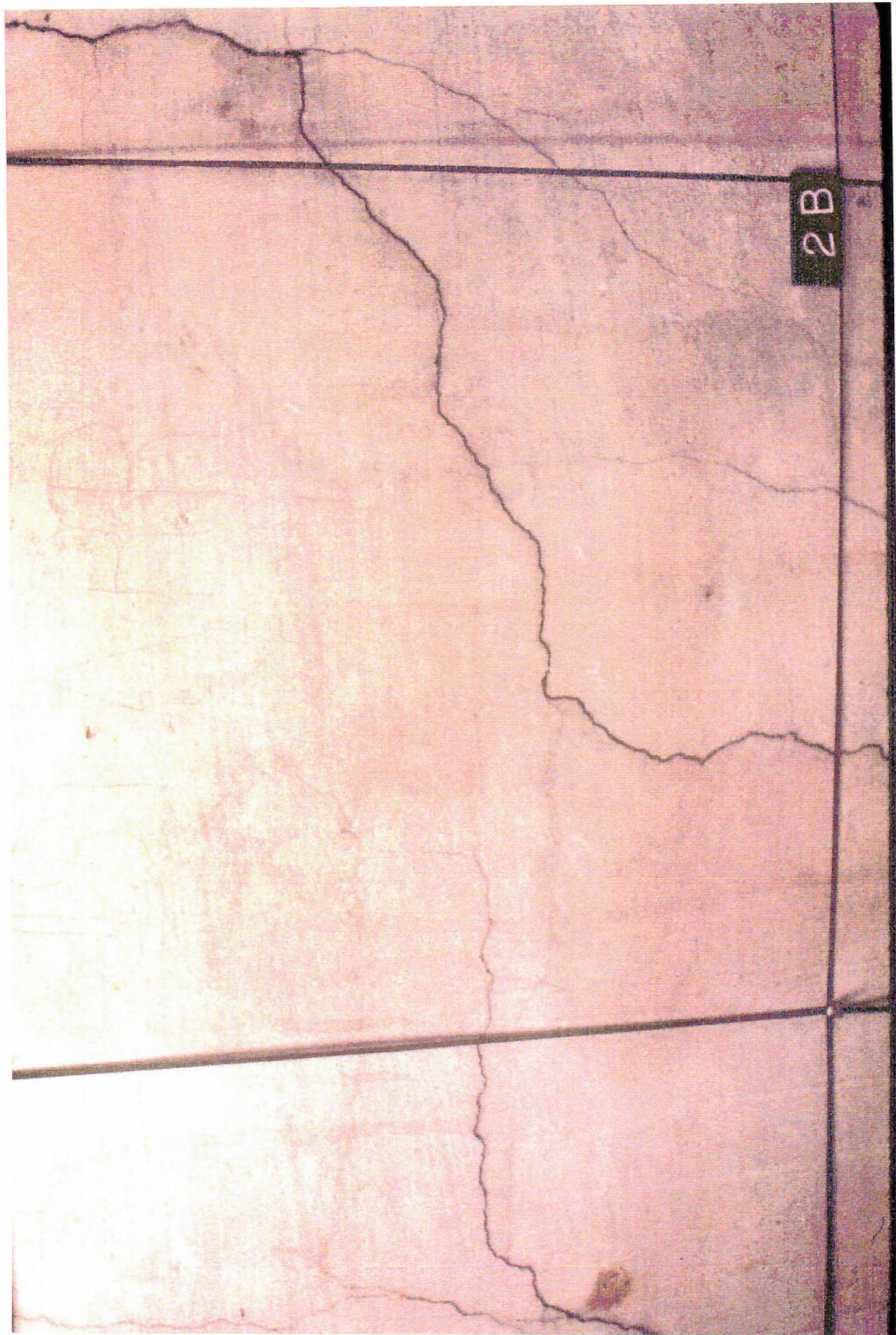






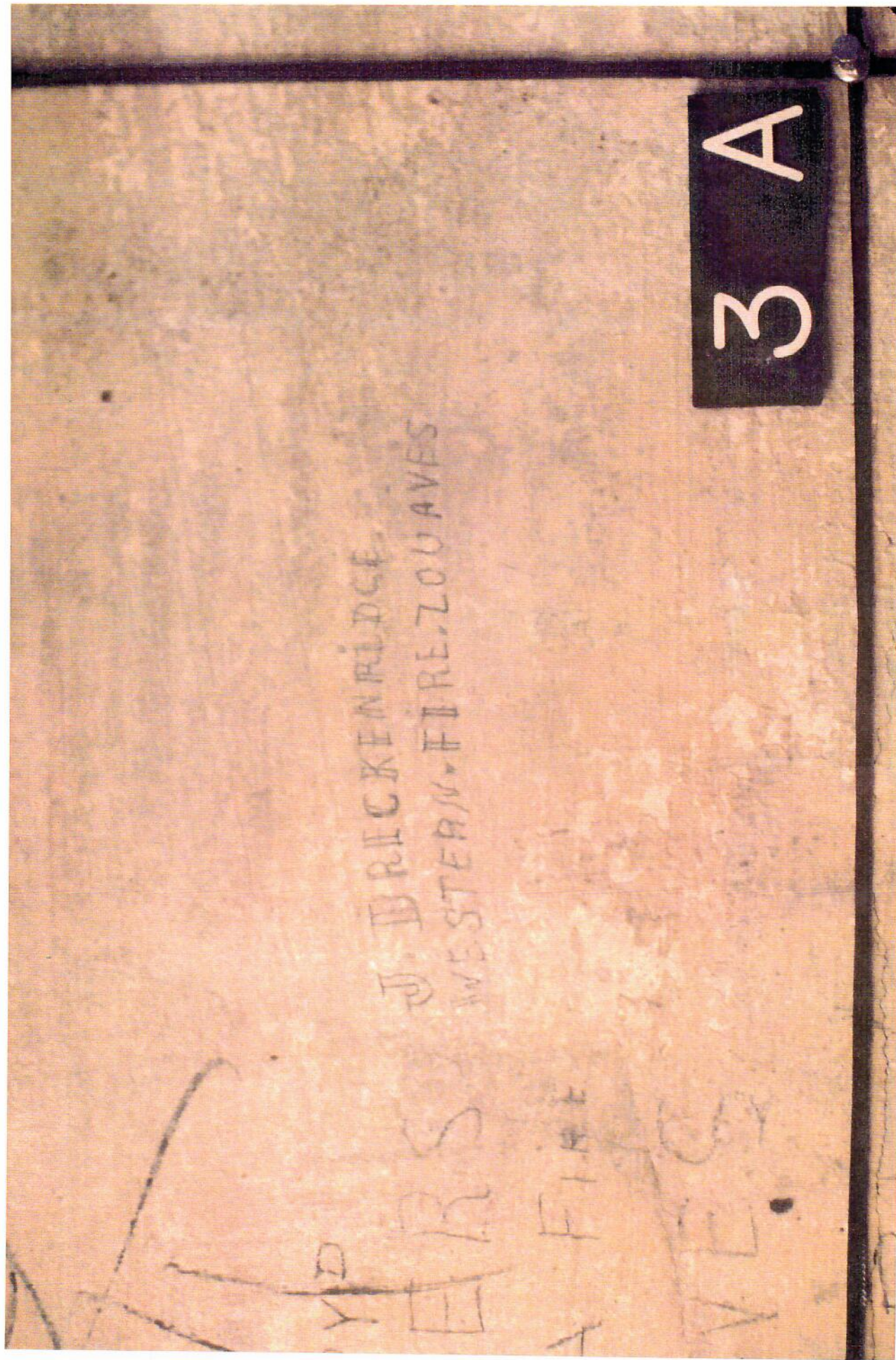
Photograph of block 2A taken with ultra violet film

2B

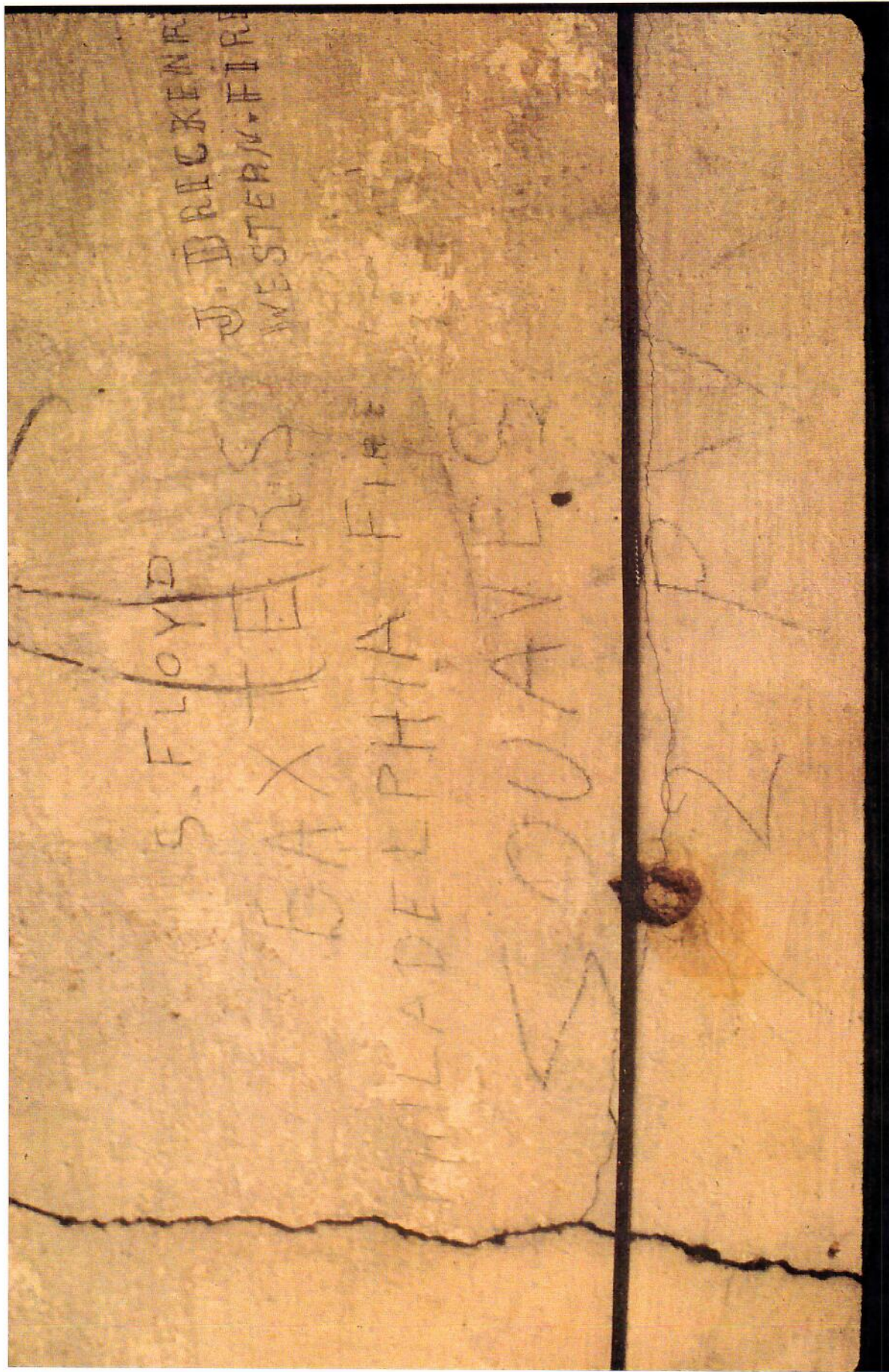




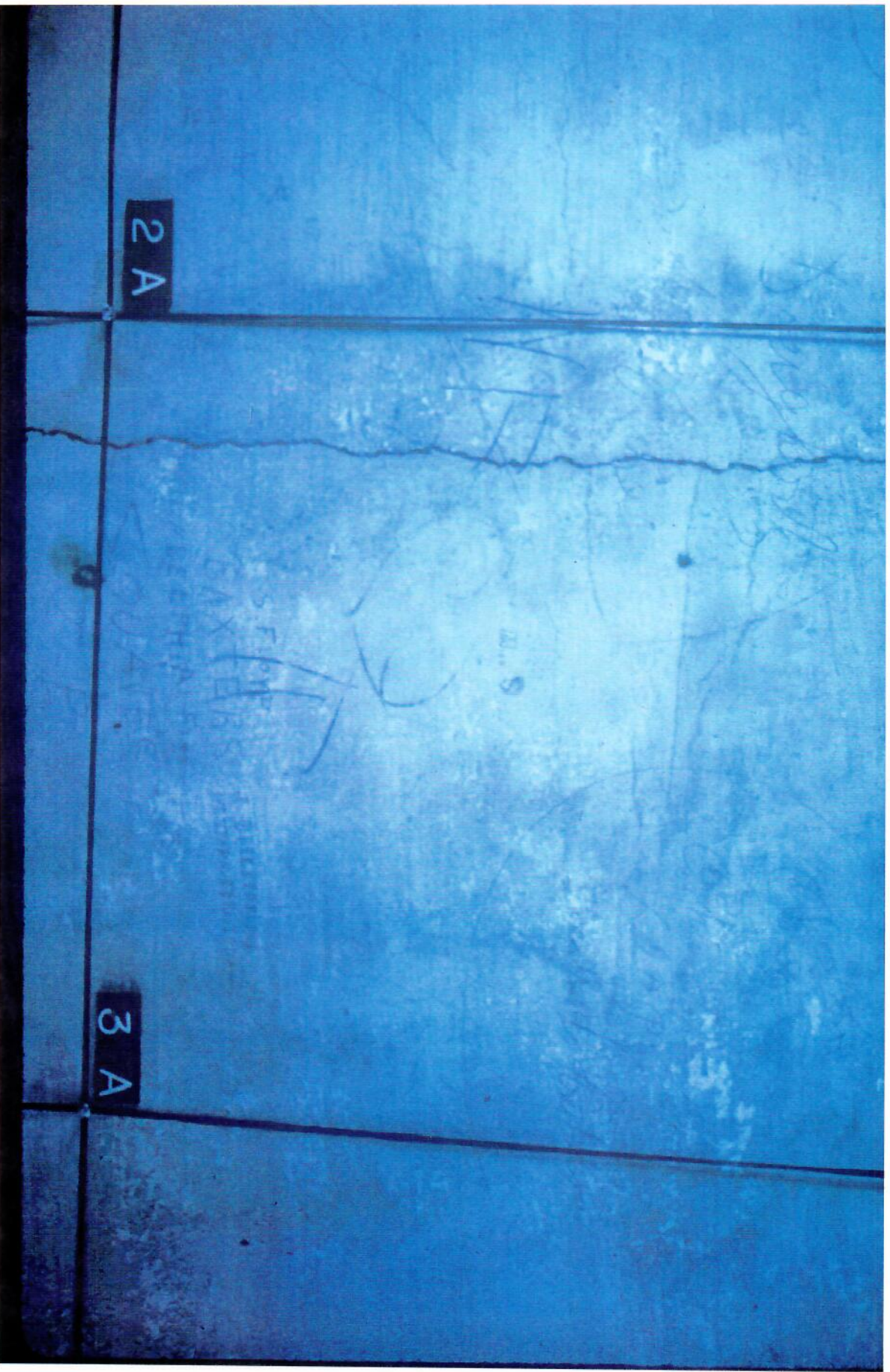
3 A



Detail from block 3A, South Wall, 3rd floor.



Detail from block 3A, South Wall, 3rd floor



Photograph of block 3A taken with ultra violet film

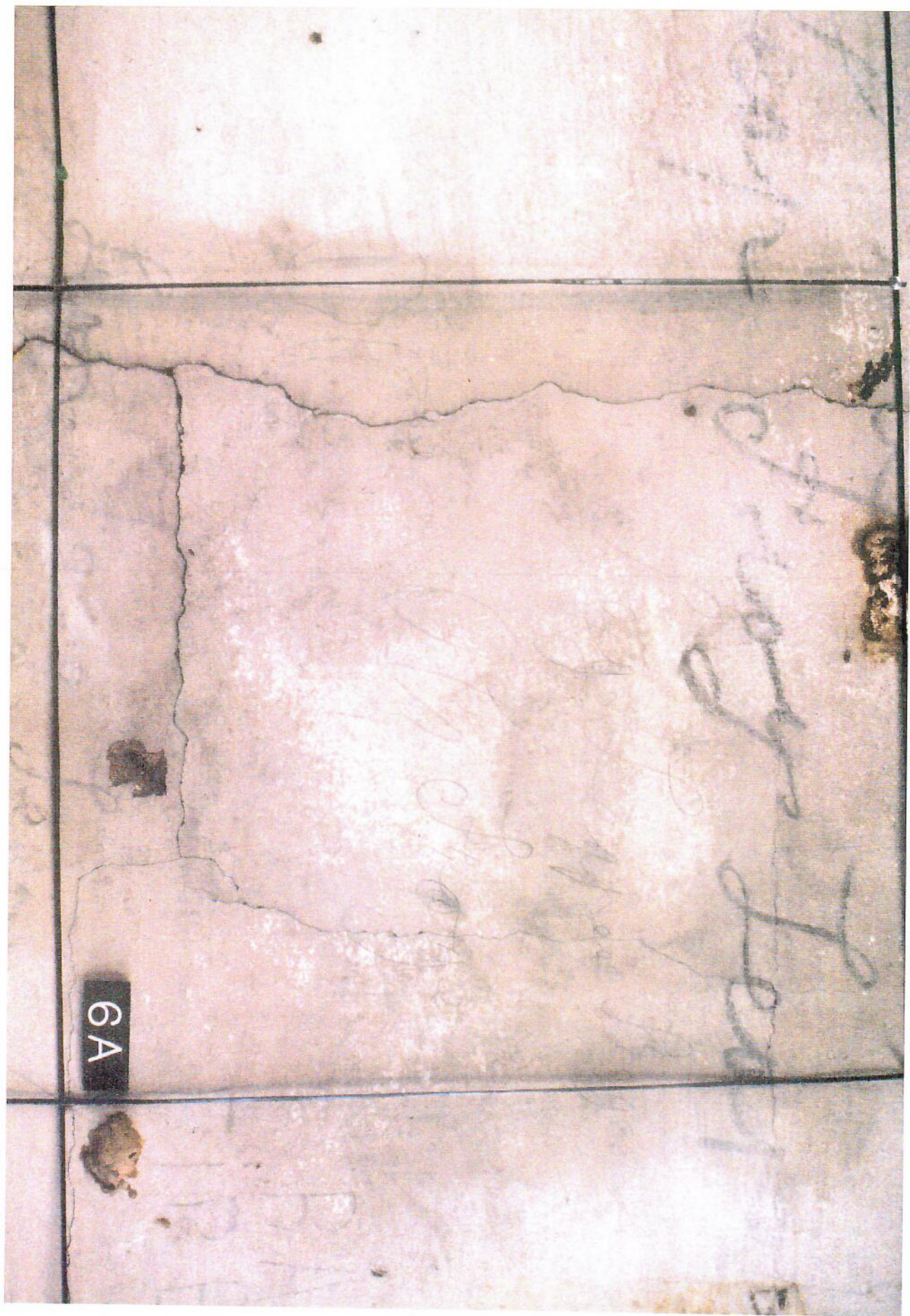
3 B



5A

Leary

6A





8A







Transcriptions from North Wall

Third Floor

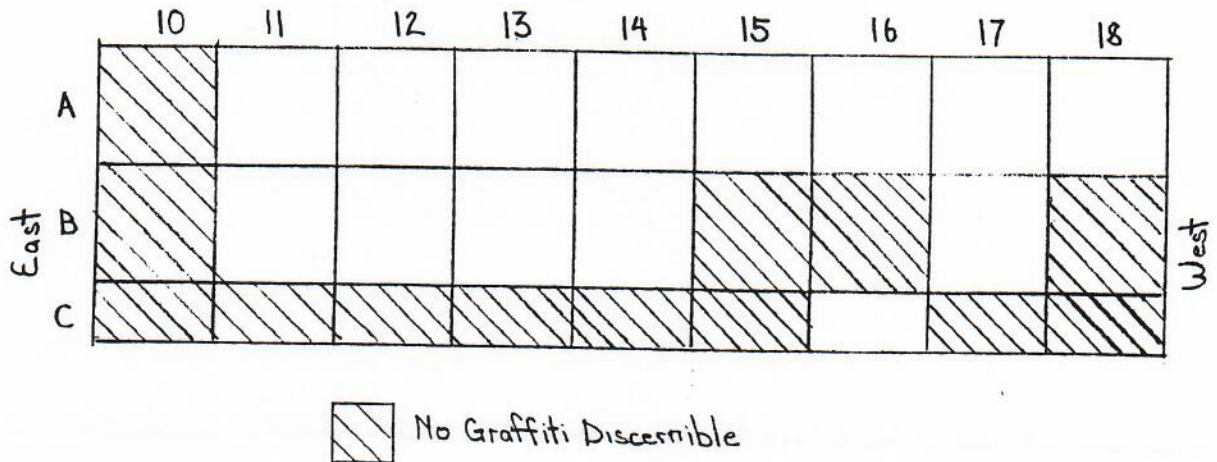
Building #5

Victor Hagemann
de Mulhouse France
Mora aux truhels

Bally
Gasco

John Henck
la G 1

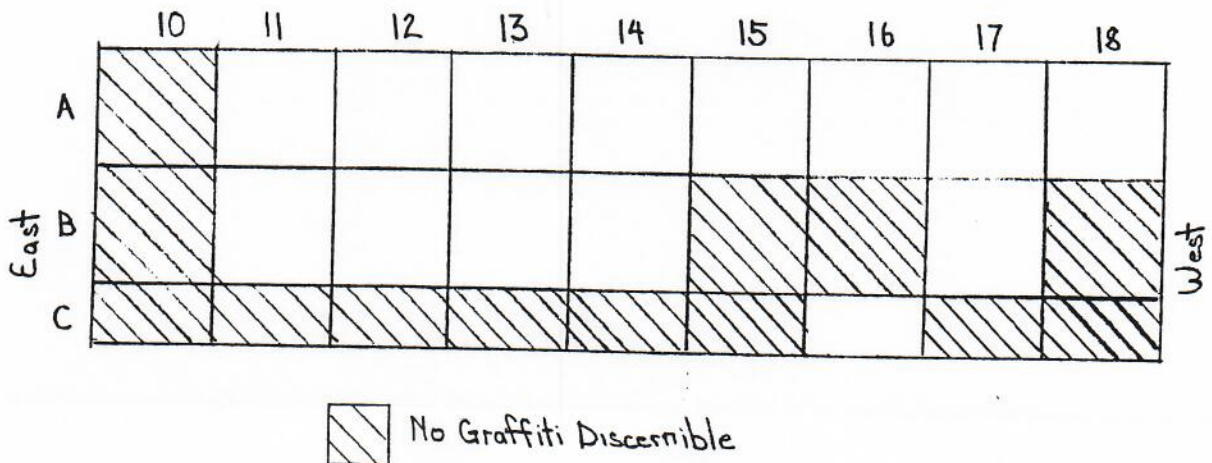
Bldg. 5, 3rd Floor, North Gable Wall



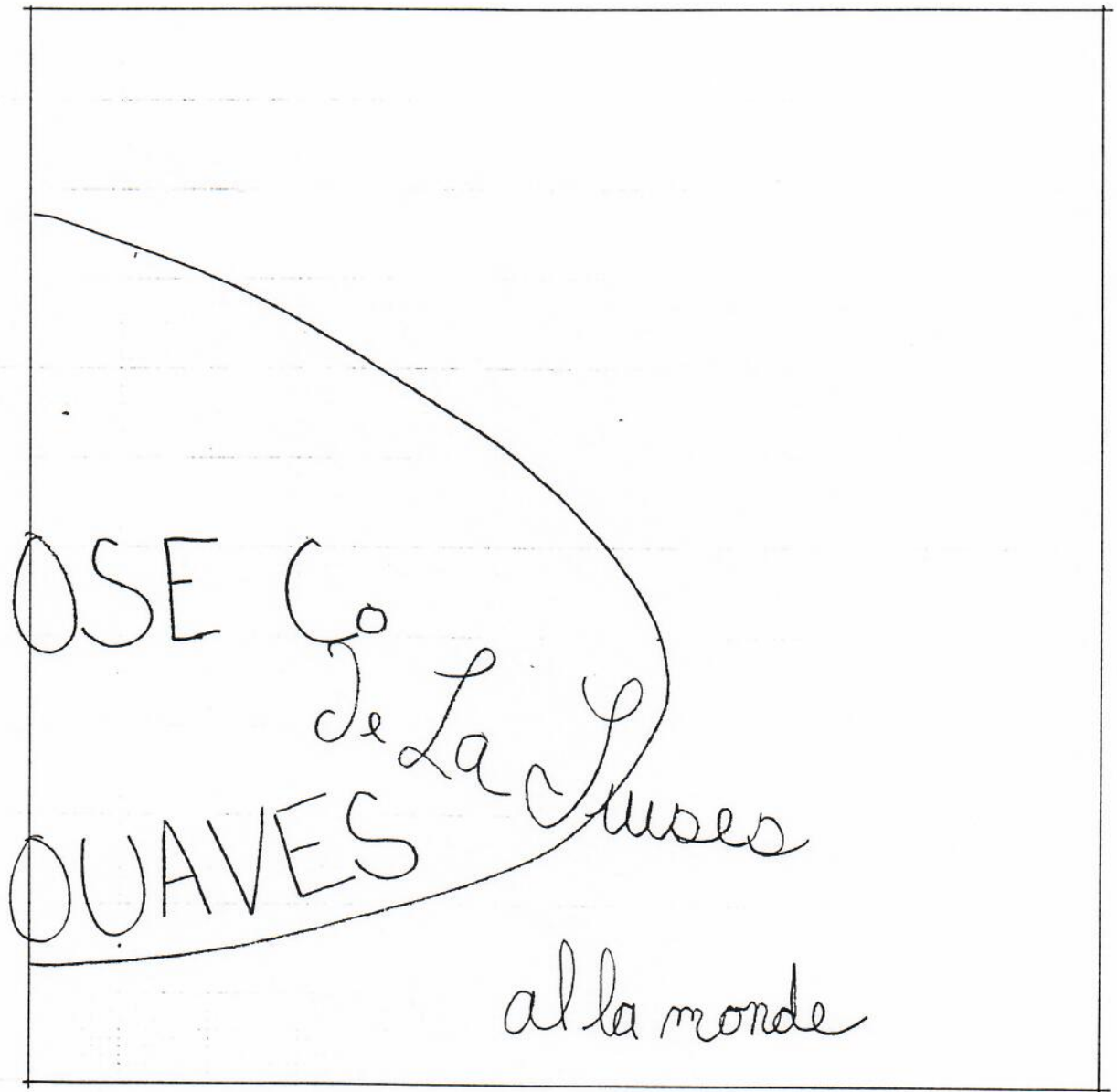
11 B

voll

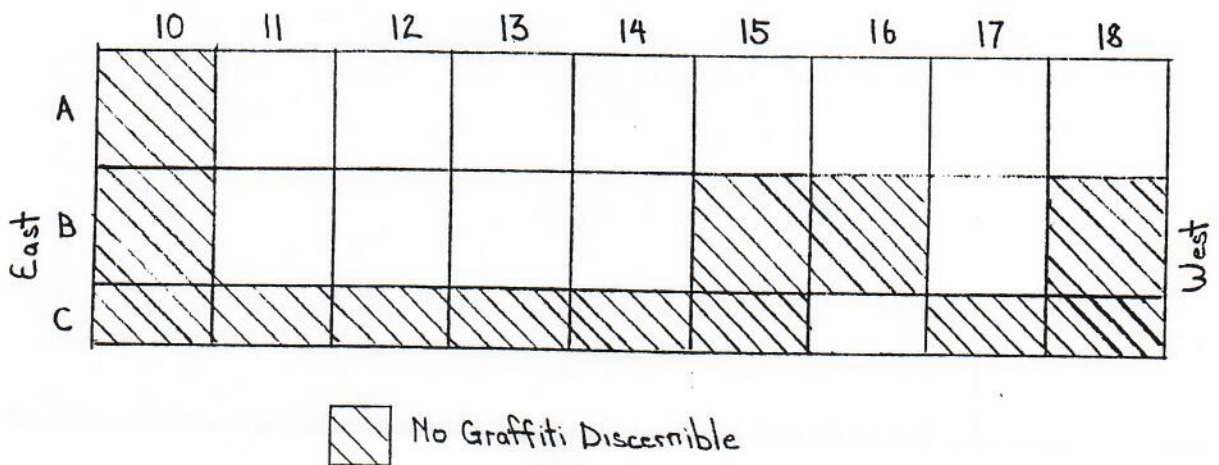
Bldg. 5, 3rd Floor, North Gable Wall



12A



Bldg. 5, 3rd Floor, North Gable Wall



12 B

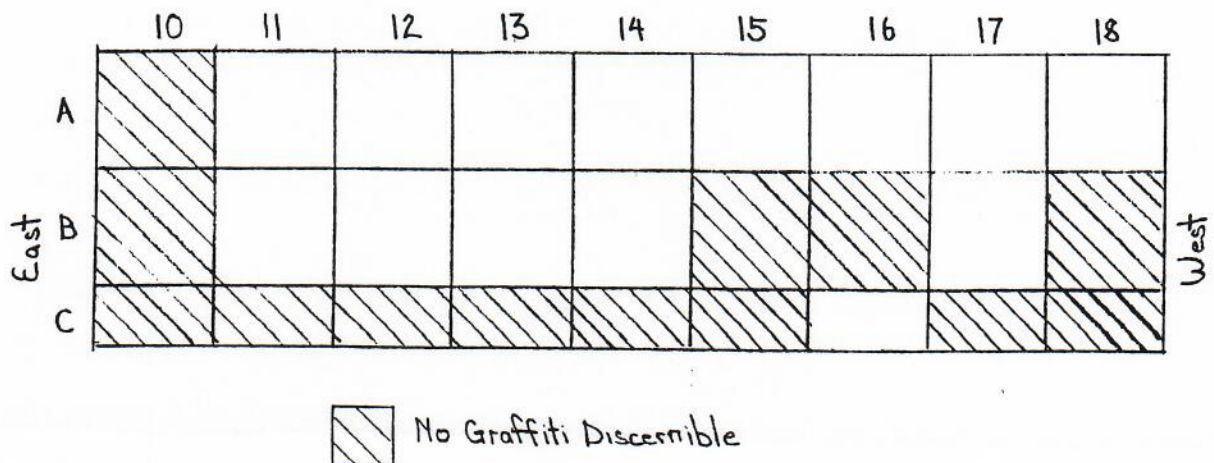
adelphia

Pennsylvania

Volunteers

Suisse

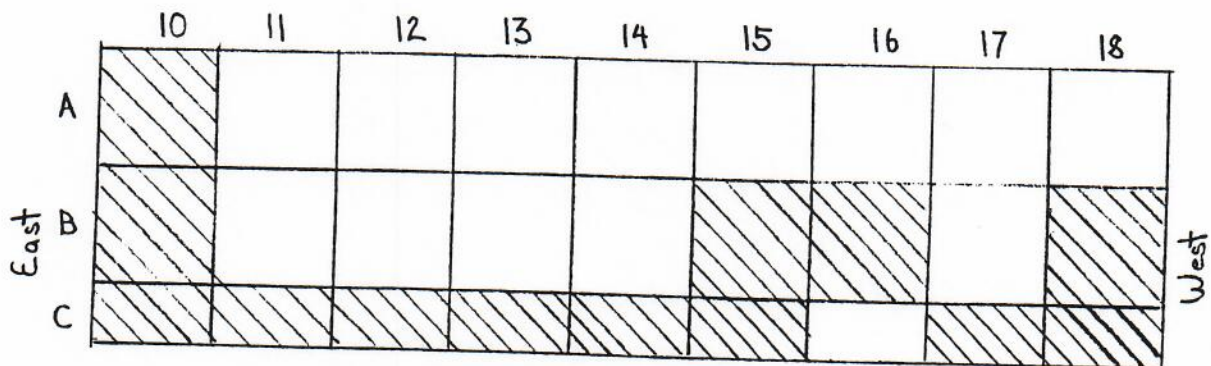
Bldg. 5, 3rd Floor, North Gable Wall



13A

CWE. CO
SHIFFLER, HOSE
BAXTERS FIRE ZONE
off Pl A

Bldg. 5, 3rd Floor, North Gable Wall



 No Graffiti Discernible

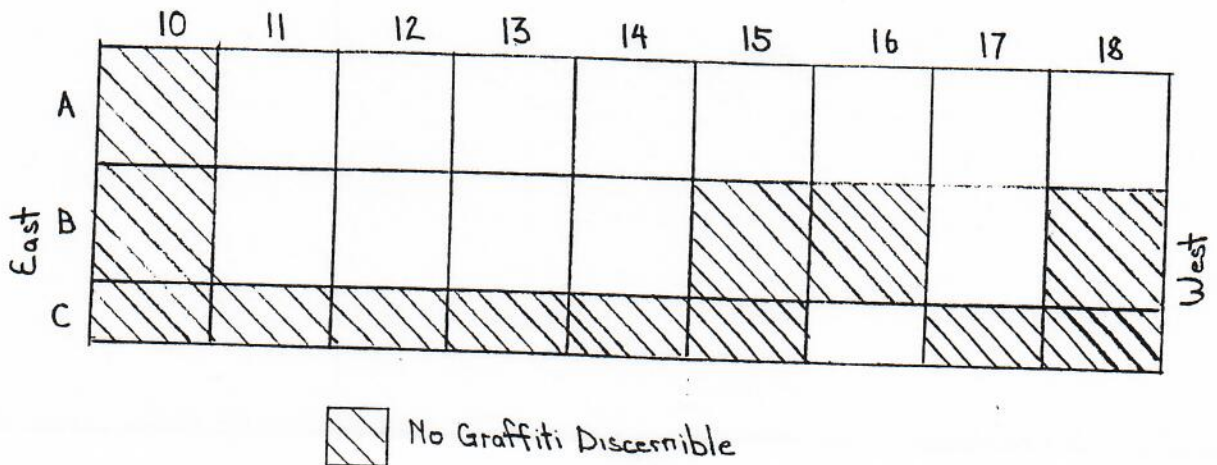
13B

off Philade

72 Pigment
AA
de Le

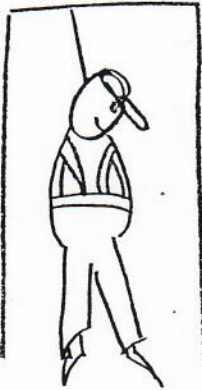
47

Bldg. 5, 3rd Floor, North Gable Wall

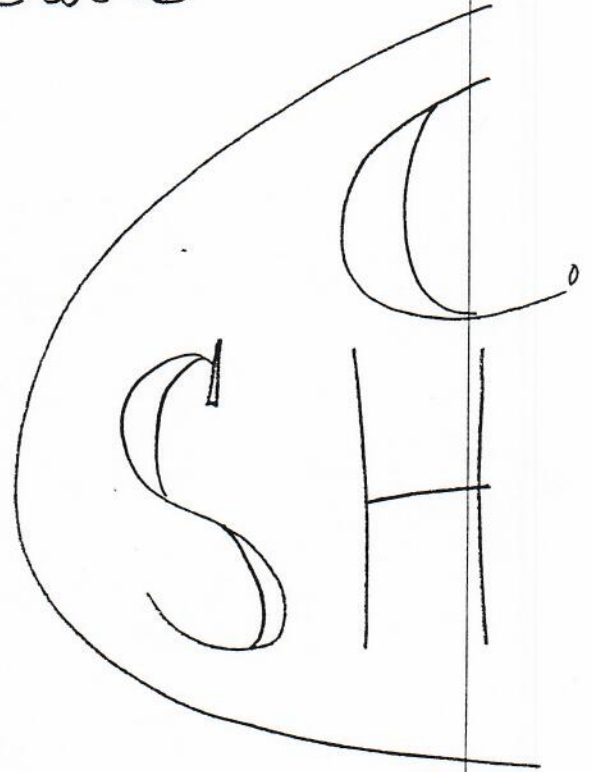


14A

Smith last of Poor Jeff Davis

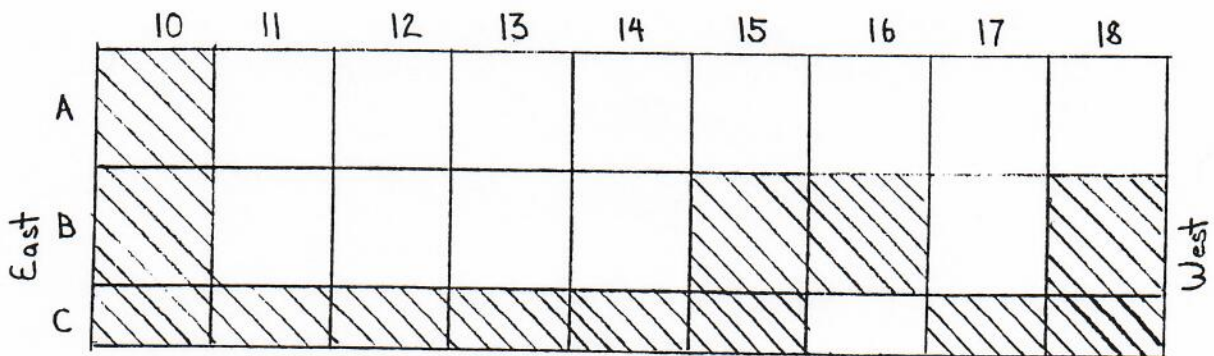


Michael
Smith



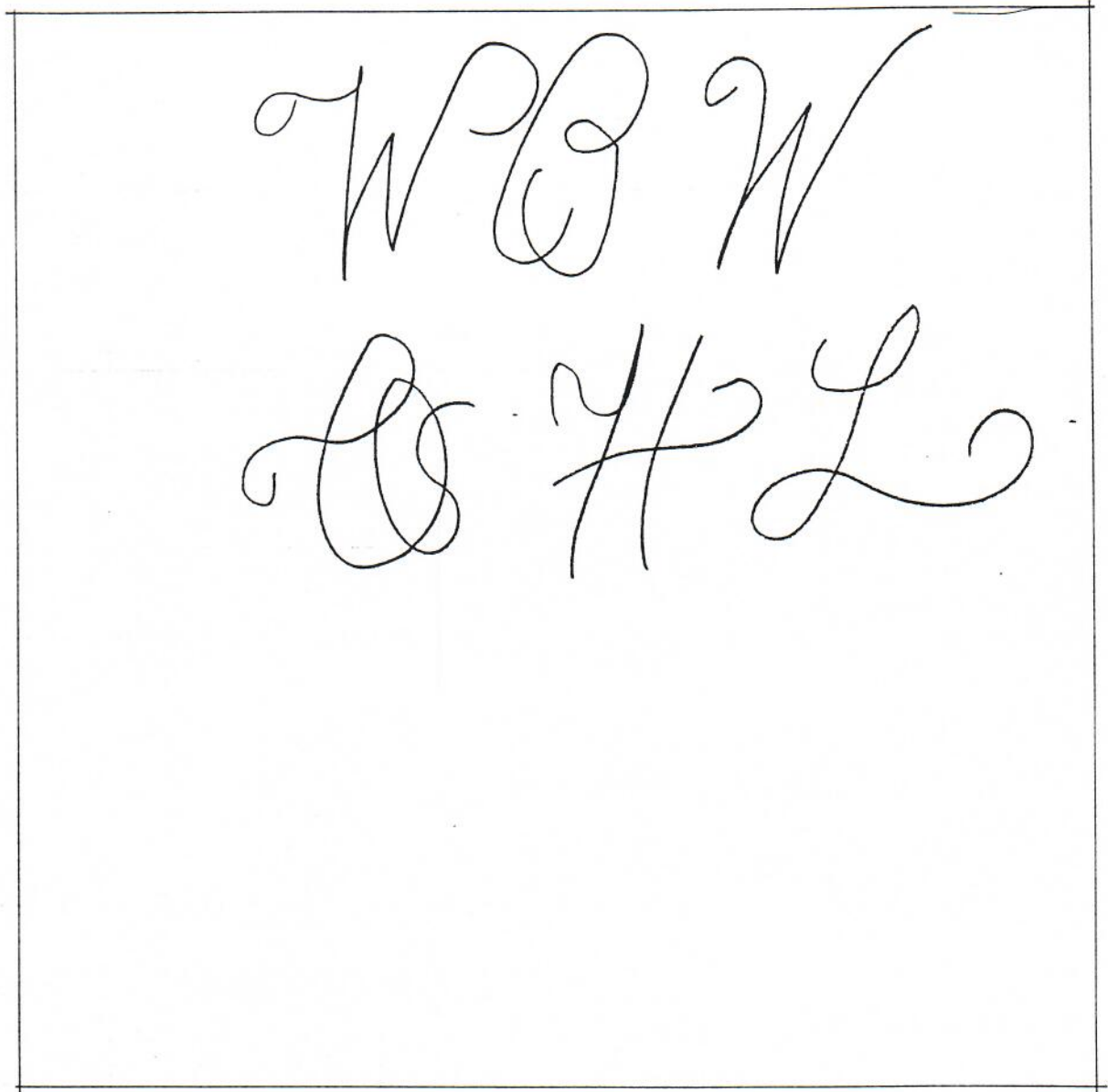
Prison

Bldg. 5, 3rd Floor, North Gable Wall

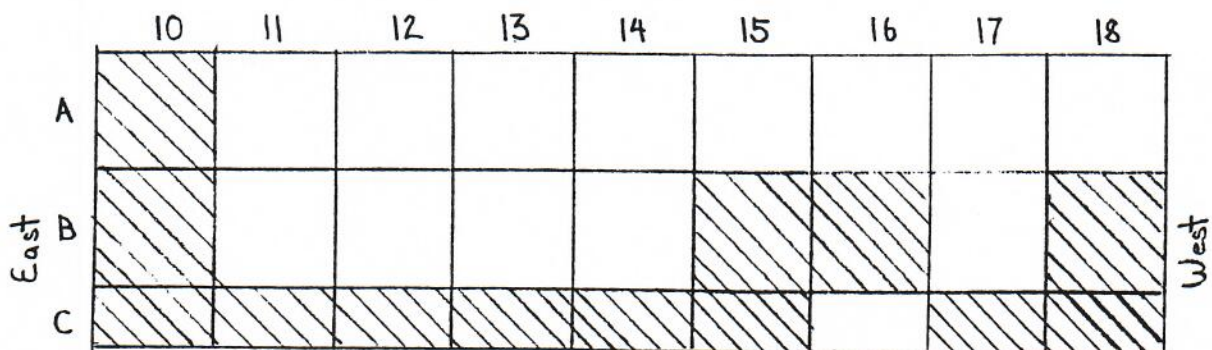


No Graffiti Discernible

14 B



(note: inscriptions are in red)
Bldg. 5, 3rd Floor, North Gable Wall

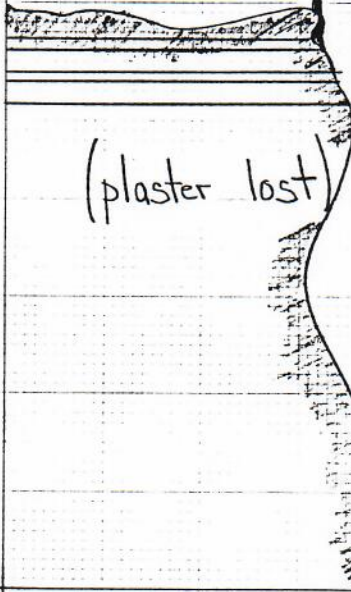


 No Graffiti Discernible

15A

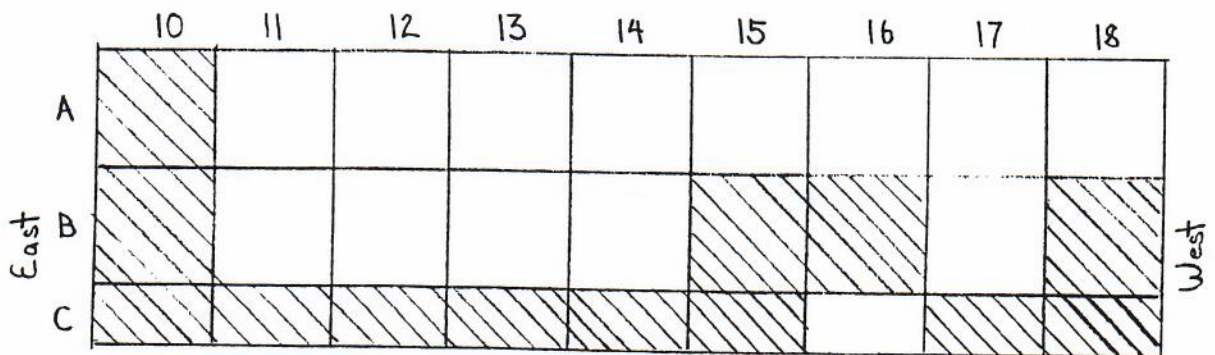
Michael
Smith

Mich



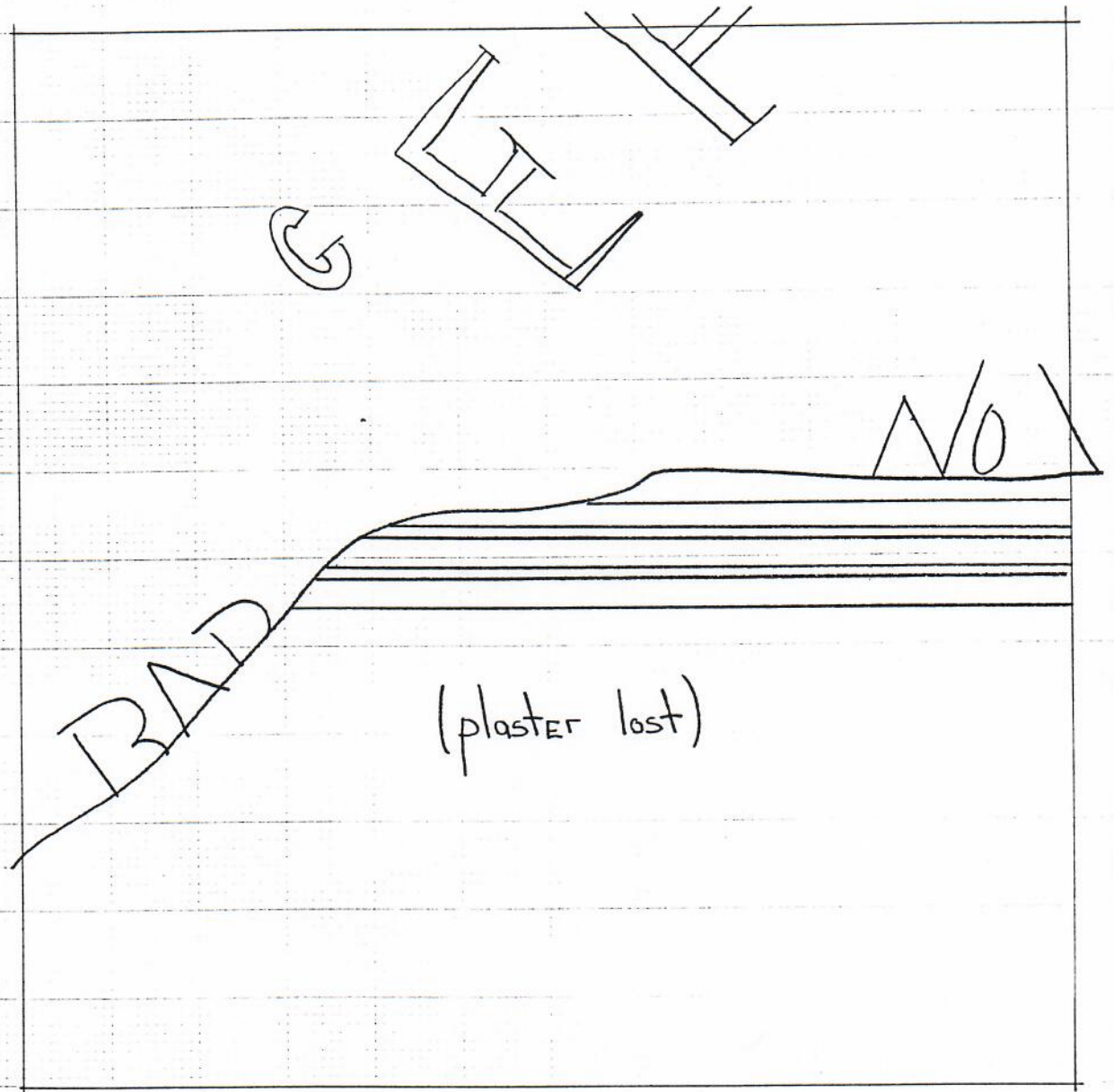
Joan

Bldg. 5, 3rd Floor, North Gable Wall

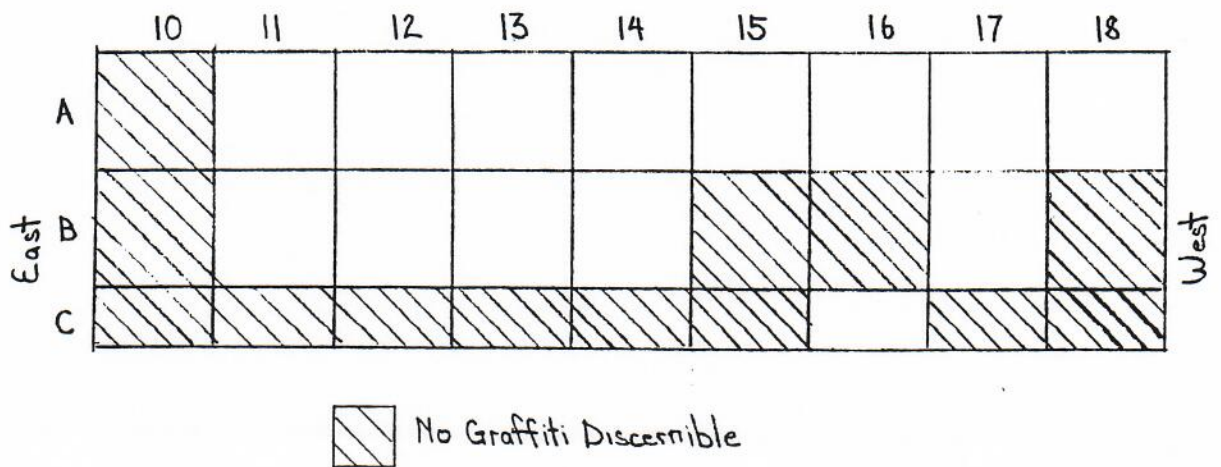


 No Graffiti Discernible

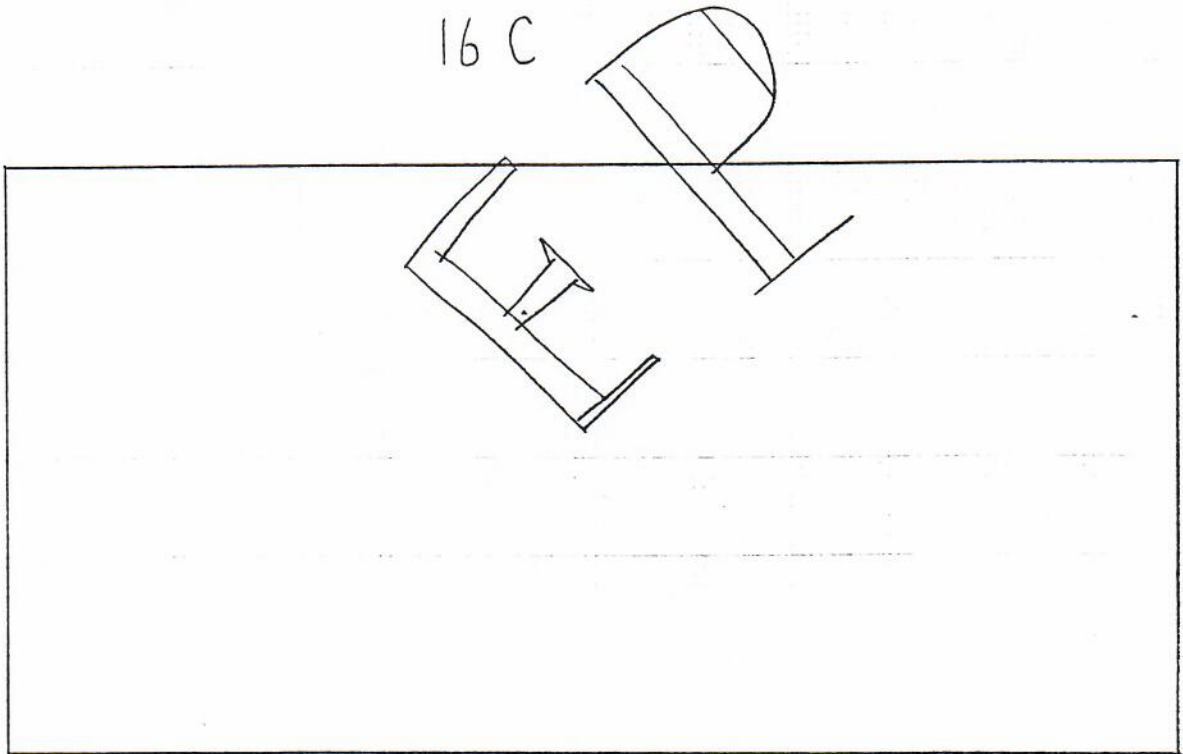
16A



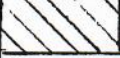
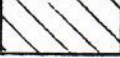
Bldg. 5, 3rd Floor, North Gable Wall



16 C



Bldg. 5, 3rd Floor, North Gable Wall

	10	11	12	13	14	15	16	17	18
A									
B									
C									

East

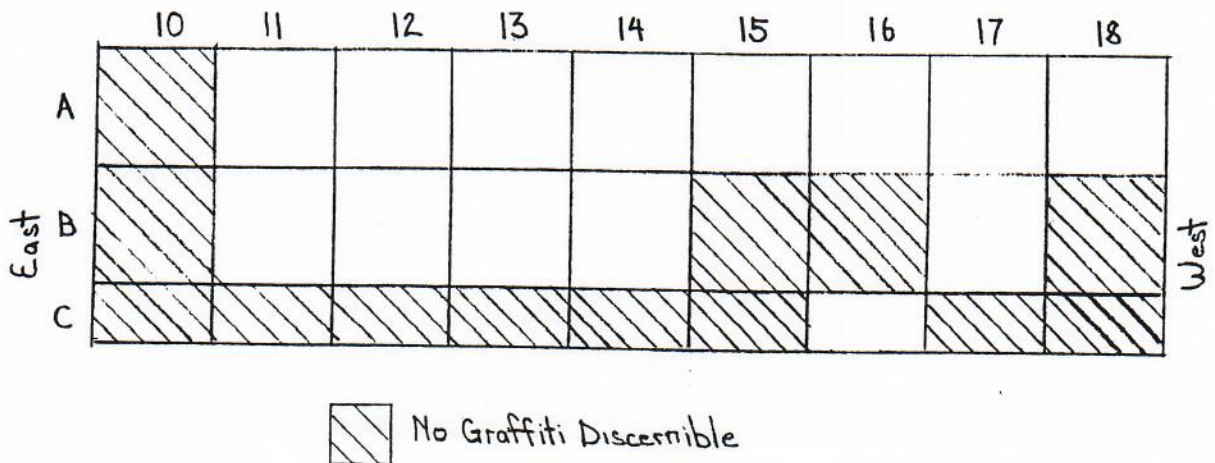
West

 No Graffiti Discernible

17A

John Hank C. G.
Baxter Fire Insurance Company
Itun

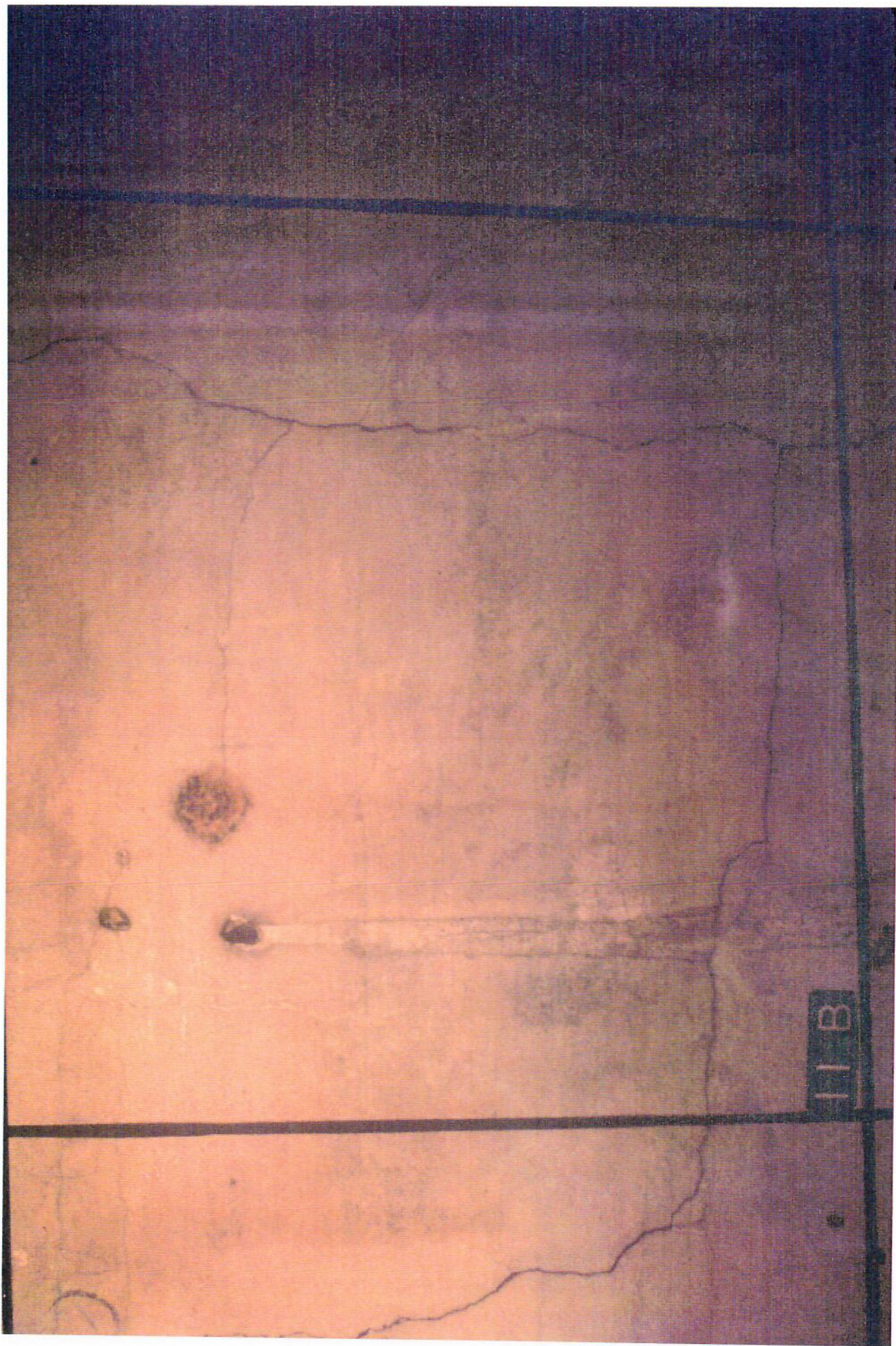
Bldg. 5, 3rd Floor, North Gable Wall

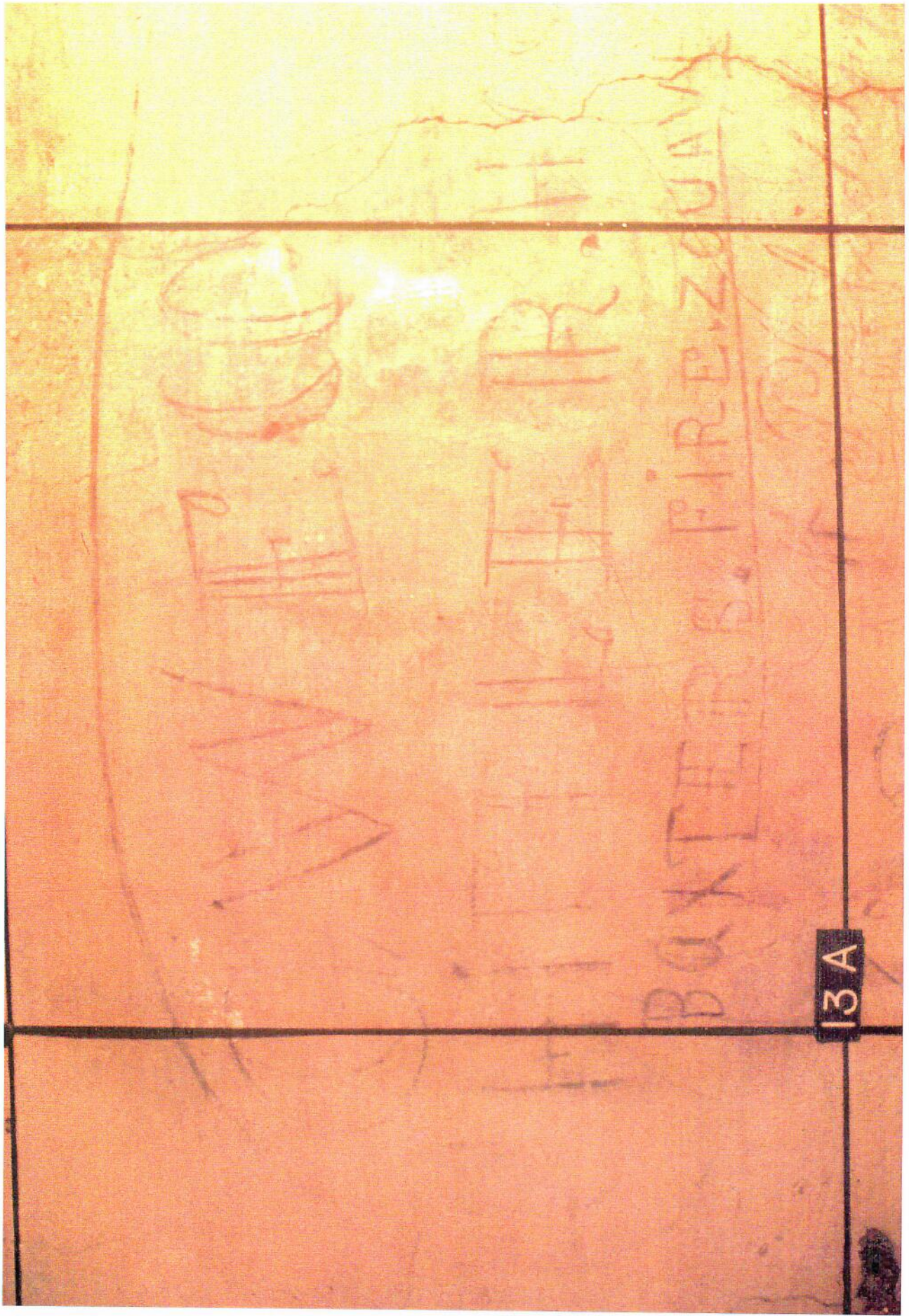


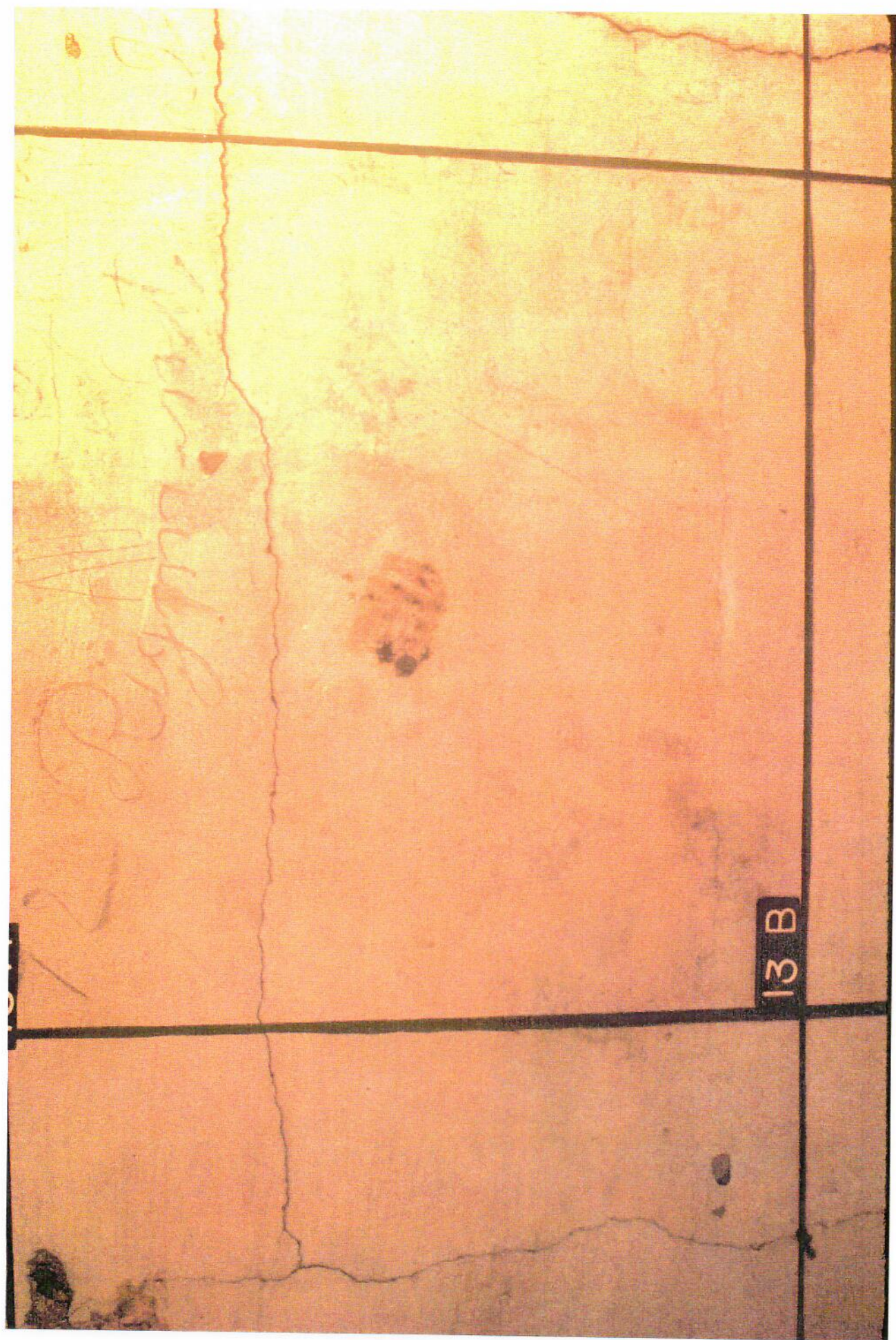
Photographs of North Wall

Third Floor

Building #5

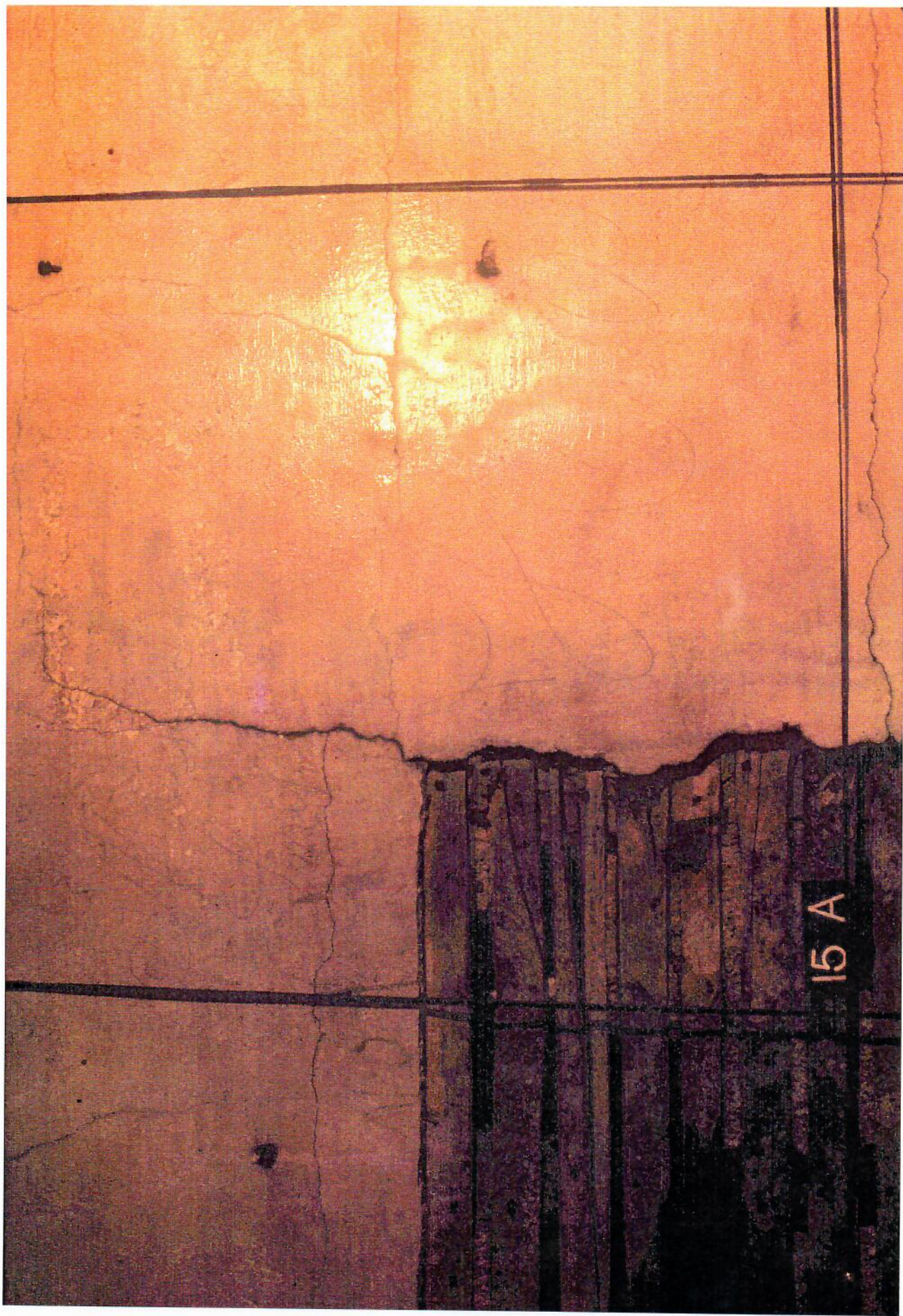


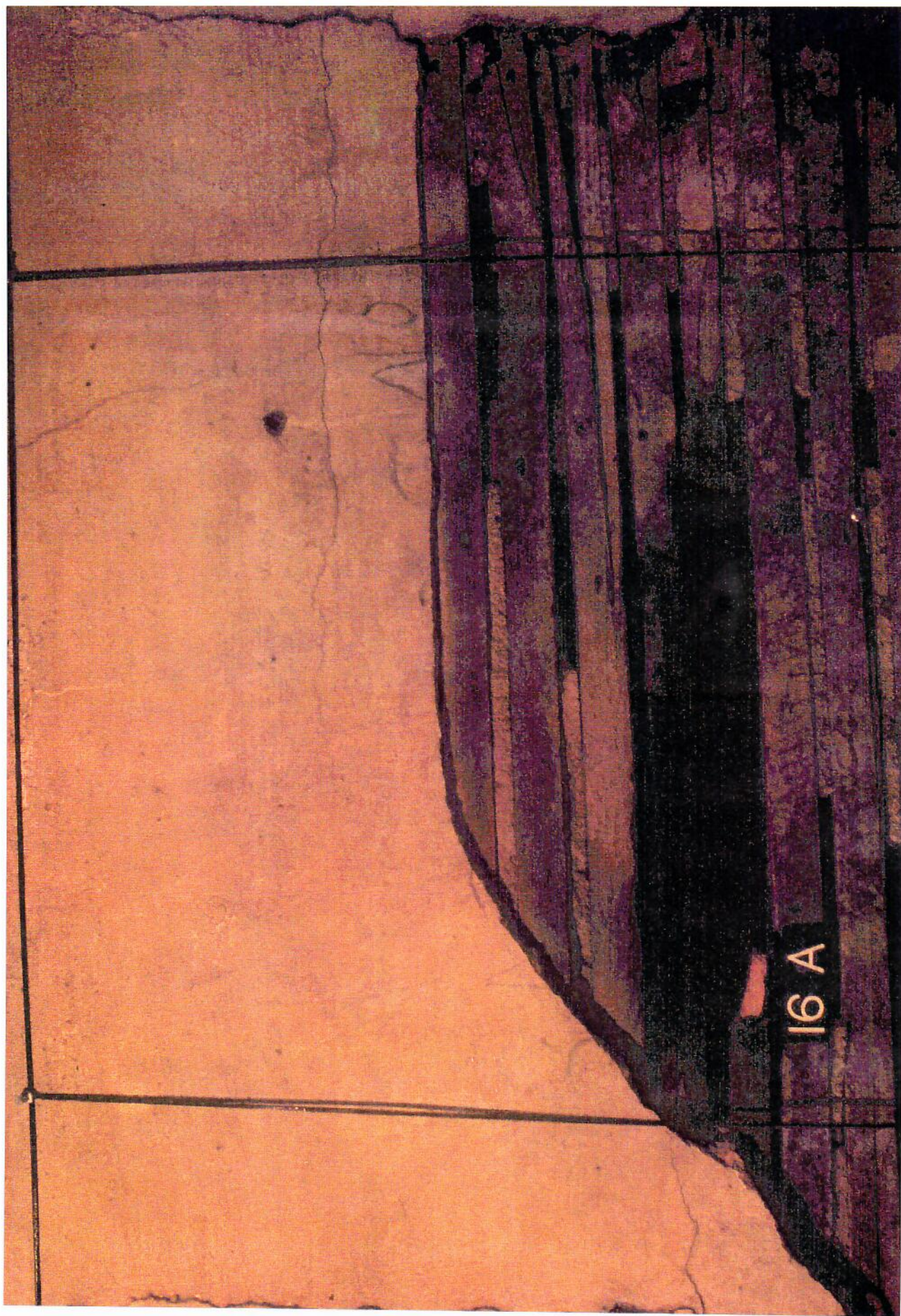


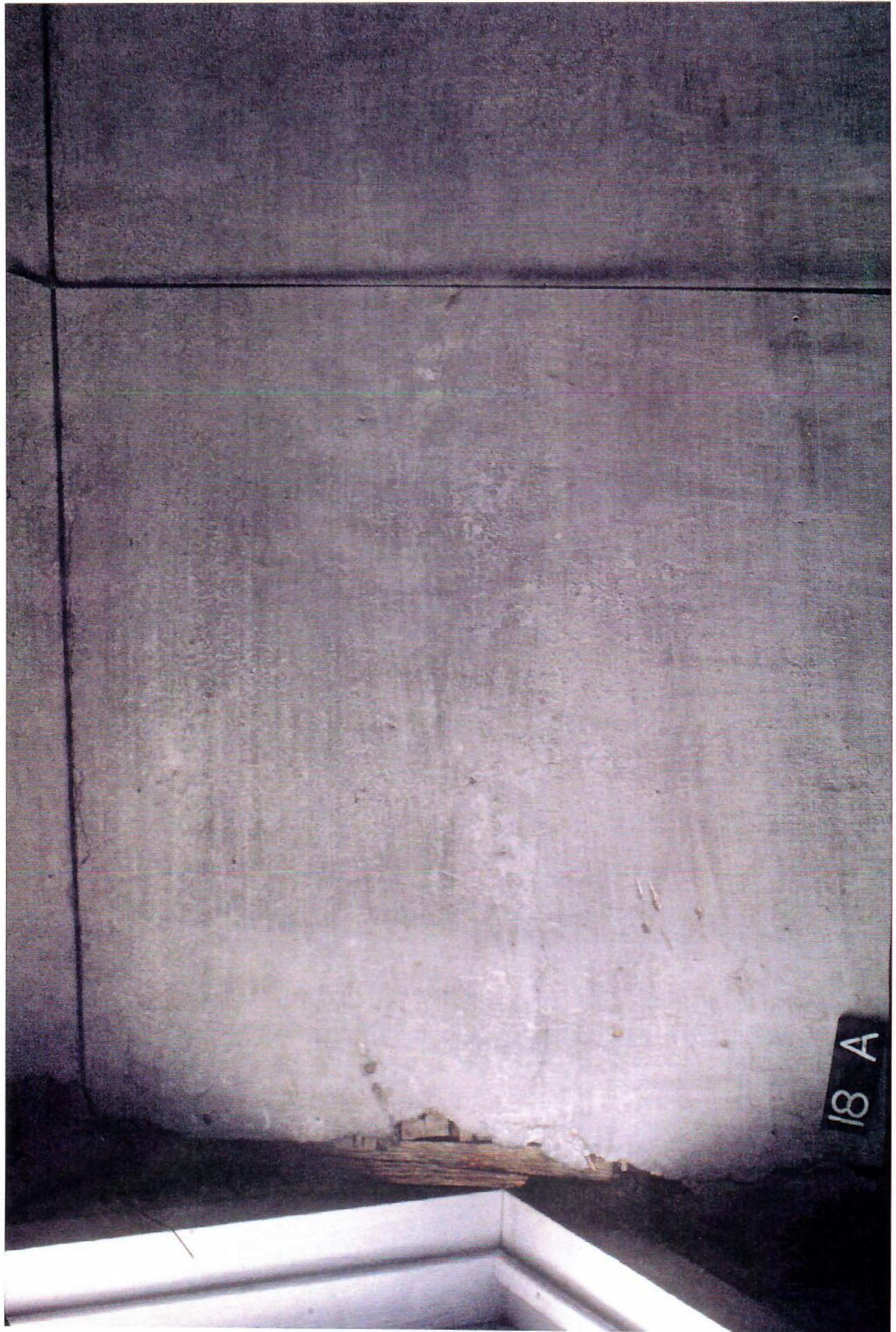


14 A

14 B







Photographs of Sample Blocks

Second Floor

Building #5



Detail of sample block on South Wall, S.E. room, 2nd floor. Graffiti bearing plaster being misted with distilled water to reveal obscure inscriptions

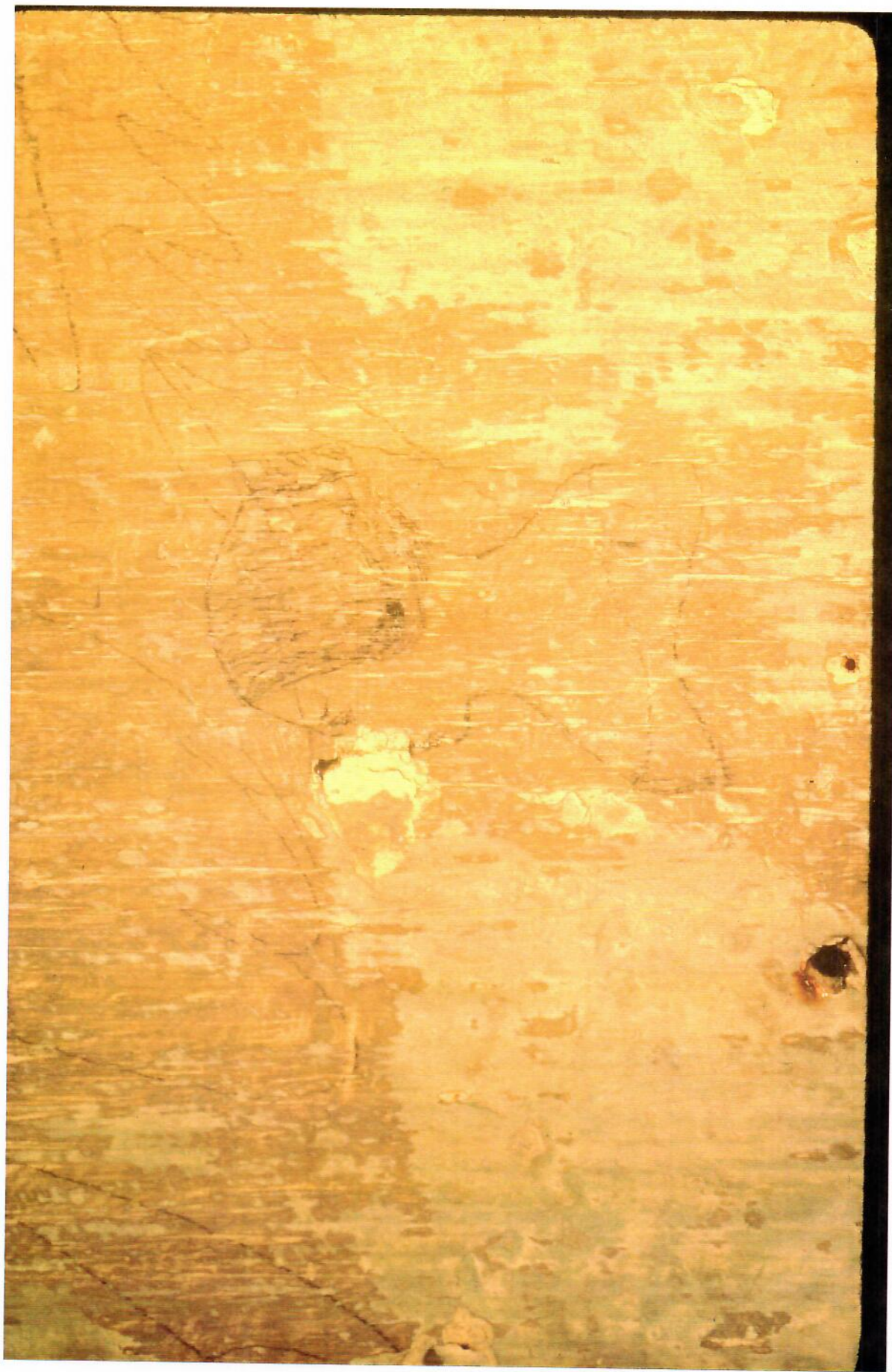


Detail of sample block on South Wall, S.E. room, 2nd floor. White wash coating which covers equestrian figure being mechanically removed.





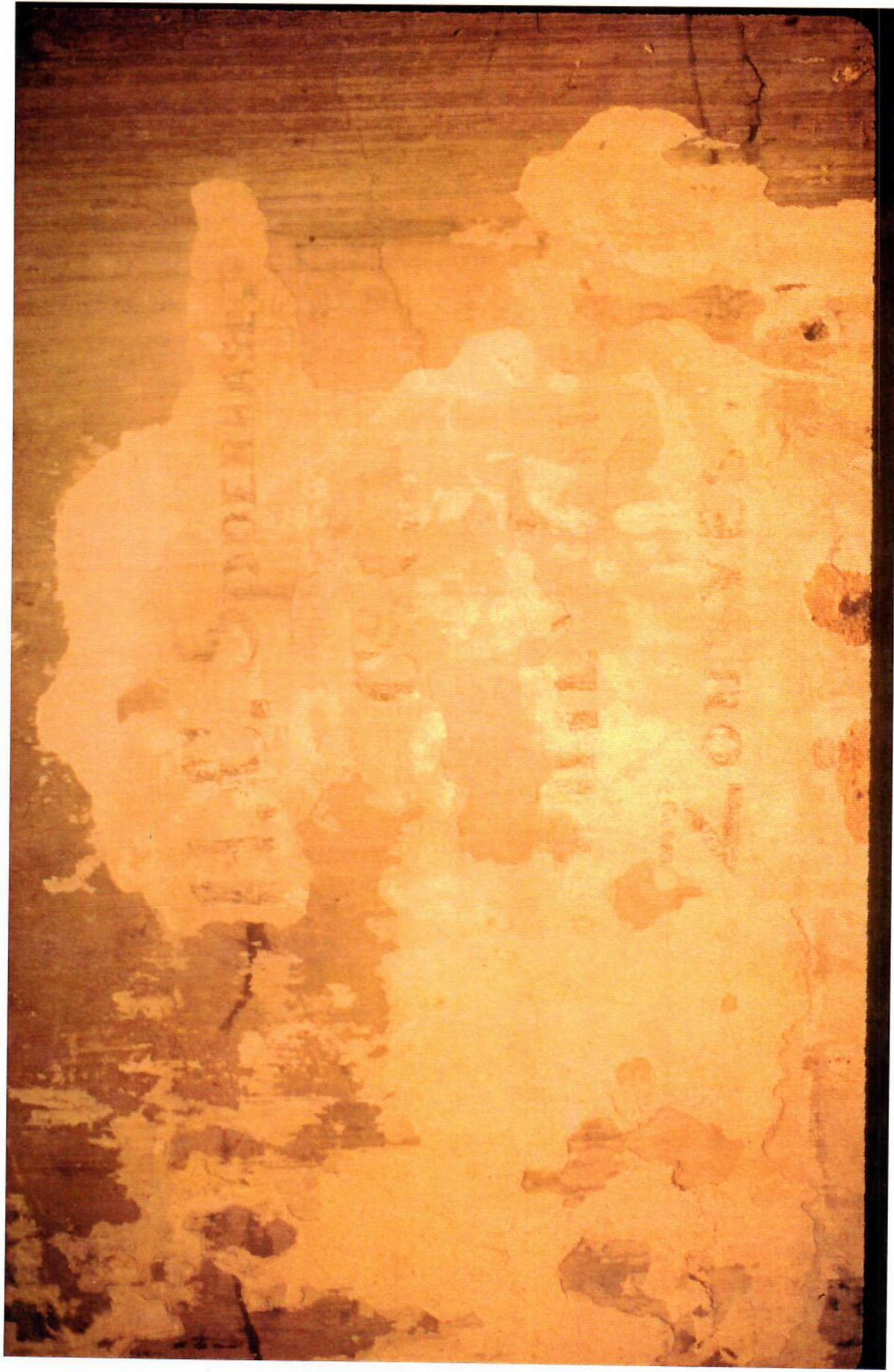
Sample block on North Wall, S.E. room, 2nd floor. Faint inscription reads "Geo. Washington"



Detail from North Wall, N.E. room, 2nd floor. Female portrait, appears to be executed in pen and ink.



Detail from North Wall, S.E. room, 2nd floor. Image of American flag with inscription above reads "Our Flag"



Detail from West Wall, S.E. room. Graffiti revealed as a result of natural separation between plaster and overlying layers of paint.



Detail of sample block on South Wall, S.E. room, 2nd floor. Drawing of equestrian figure with cinched waist, "Jeff Davis" inscribed above.

N WAI 2FL

NE RM

B5

AMPLE BLOCK #5



Detail from sample block, North Wall, N.E. room, 2nd floor.