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# PHYSICAL PROTECTION WORKBOOK

## U.S. DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT

### CASAMERO SITE-PHASE III

(AR-NM-01-144) ALBUQUERQUE DISTRICT

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PHYSICAL PROTECTION WORKBOOK

**casamero site**

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NEW MEXICO STATE OFFICE  
DIVISION OF TECHNICAL SERVICES  
BUREAU OF LAND MANAGEMENT  
U.S. DEPARTMENT OF THE INTERIOR  
SANTA FE, NEW MEXICO 87501

SEPTEMBER, 1978





CASAMERO SITE  
(AR-NM-01-144)

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## Preface

This workbook has been prepared to satisfy the request and needs of the District. The Phase I workbook was prepared by Cheryl Ferguson, Nena Powell and aided by Tim Valder. Phase II, the implementation phase of the field work was initiated by Eliger Stauber and Tony Lutonsky who supervised the physical protection crew composed of Earl Johnson, Kee Johnson, Bobby Johnson and Donald Harrison. This Phase III documentation workbook was prepared and supervised by Curtis Lester with the archaeological documentation prepared by Earl Neller. Leo Flynn shared his knowledge and expertise. Michael Solan and Harold Payne reviewed the report and drawings making valuable suggestions. Doris Herrera and Jackie Morales shared the task of converting the scrawl into a typed workbook.

Abstract

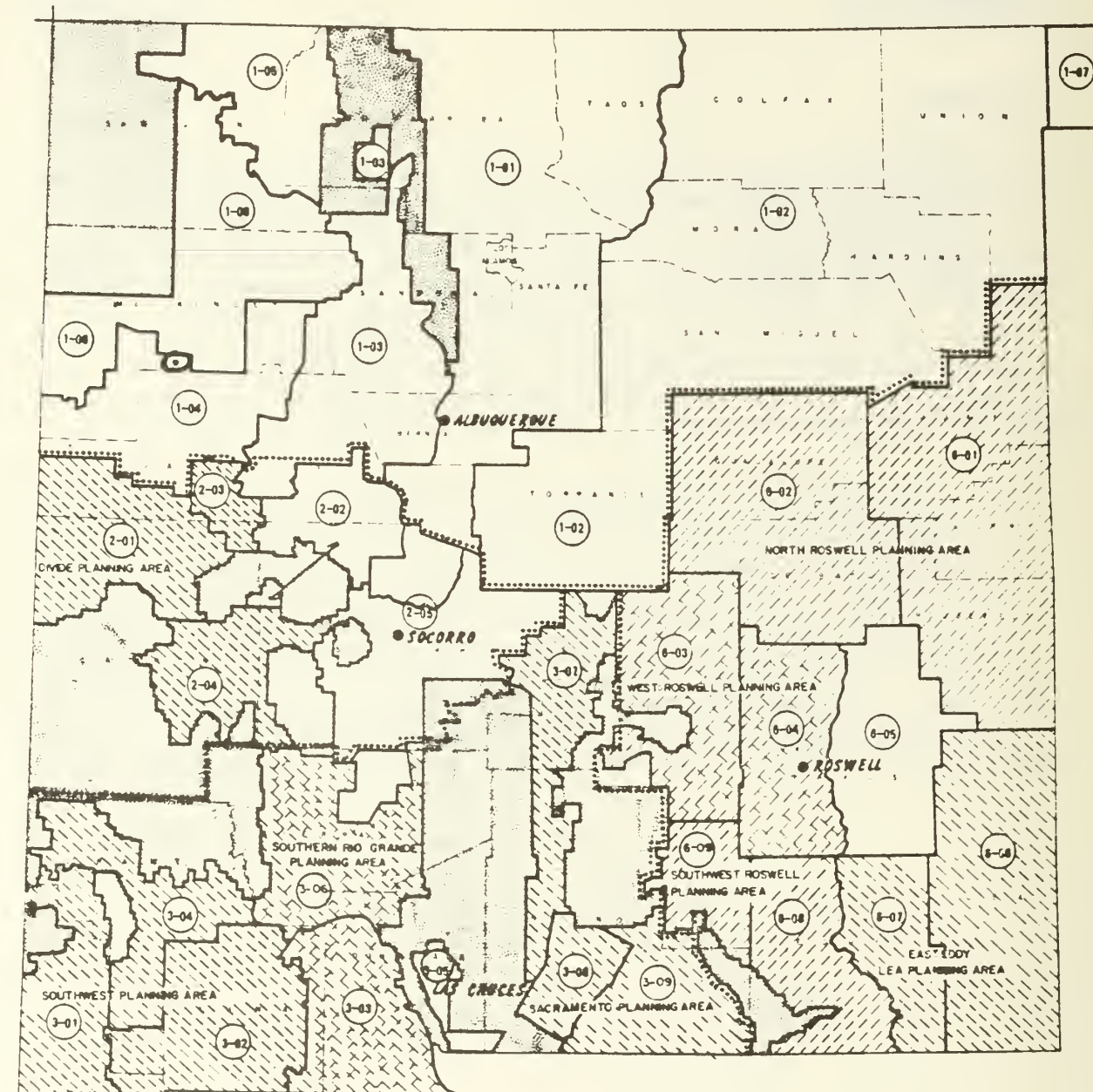
The stabilization of Casamero Ruin was accompanied by excavation along some of the walls. Artifacts were collected from the fill, and notes were taken on the provenience of the finds and their stratigraphic context. Our laboratory analysis of the artifacts confirmed the results of previous archaeological research, while supplying some new information as well. Casamero Ruin was inhabited from A.D. 1050-1125+ by the same culture group that was flourishing in Chaco Canyon at that time. Wood from a fallen roof beam was dated by the Laboratory of Tree-ring Research at A.D. 1041±vv. Ceramic analysis indicated much of the pottery came from other pueblos, including settlements in the Puerco and Chaco drainages.

The site is important to southwestern archaeologists because it is a good example of a "Chacoan Outlier," an archaeological site associated with Classic Period sites in Chaco Canyon (Bonito Phase) but located in outlying areas peripheral to the canyon. It is particularly useful for research on the cultural systems of the Classic Period because of its small size and short habitation span. The archaeological evidence at Casamero is not obscured by the complexity present at larger sites or the confusing array of artifacts often found at sites occupied for several centuries where chronological patterns blend and mix. Important parts of this site remain unexcavated, including the Great Kiva, and could contain abundant cultural remains and other important archaeological data.

CASAMERO SITE  
(AR-NM-01-144)

Site Maps

1. District
2. Site Location Map
3. Contour Map
4. Floor Plan (1967)
5. Floor Plan (1975)
6. Kiva (1975)



**LEGEND**

- PLANNING AREAS
- ADMINISTRATIVE BOUNDARY
- DISTRICT OFFICE
- PLANNING UNIT BOUNDARY
- PLANNING UNIT NUMBER
- SITE LOCATION

**ALBUQUERQUE DISTRICT    SOCORRO DISTRICT**

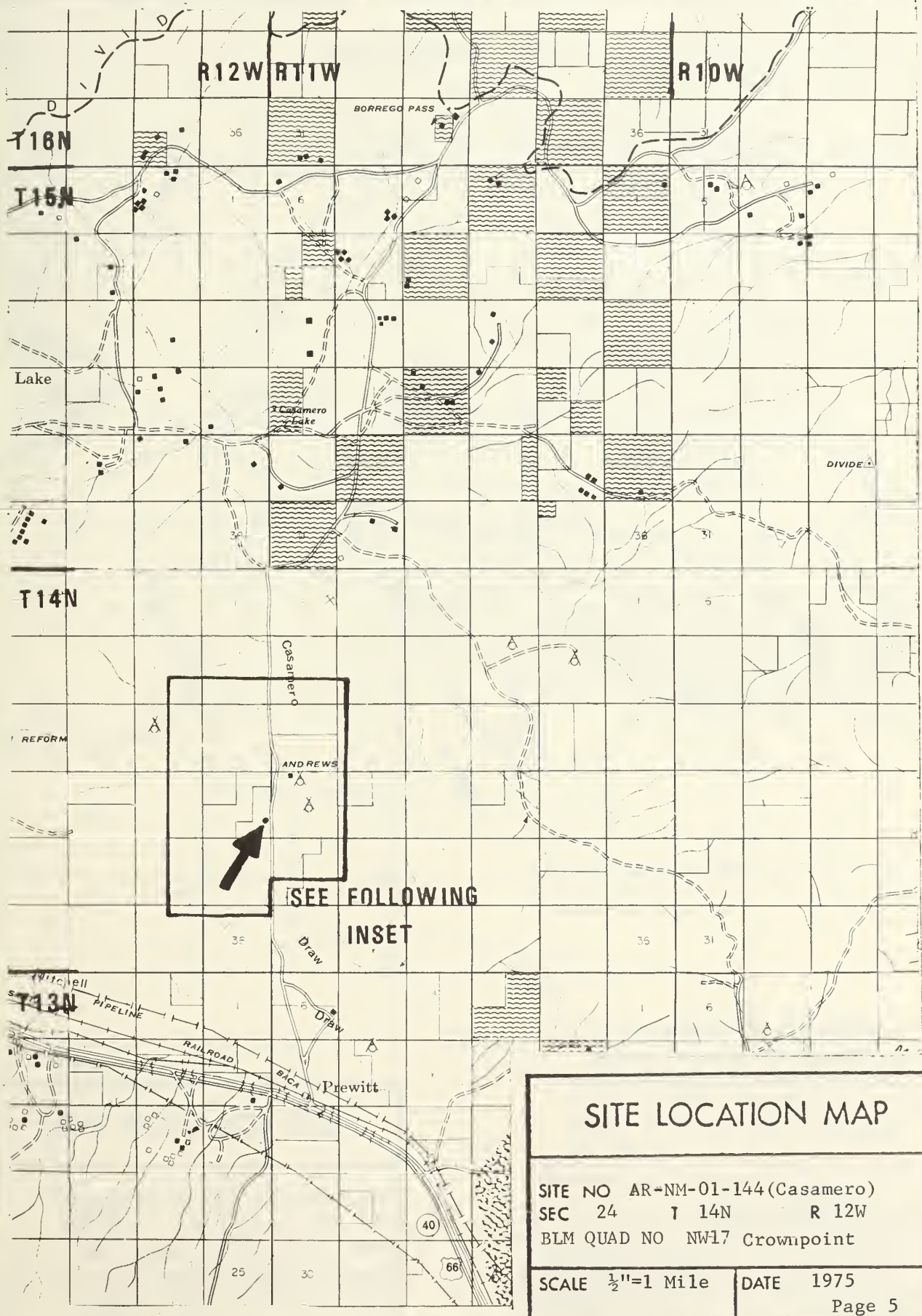
Rio Grande	1-01	Quemado	2-01
Namias	1-02	Ladron	2-02
Cabezon	1-03	Malpais	2-03
Grants	1-04	Driveway	2-04
San Juan	1-05	Station	2-05
Chaco	1-06		
Oklahoma	1-07		

**LAS CRUCES DISTRICT    ROSWELL DISTRICT**

Gila	3-01	Llano	6-01
Hermanos	3-02	Pecos	6-02
Los Uvas	3-03	Lincoln	6-03
Grant	3-04	W Chaves	6-04
Organ Mtn	3-05	E Chaves	6-05
Caballo	3-06	Lea	6-06
Alamogordo	3-07	E Eddy	6-07
McGregor	3-08	W Eddy	6-08
Wasa	3-09	SW Chaves	6-09

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	
<b>ALBUQUERQUE DISTRICT</b> <b>CASAMERO RUIN (AR-NM-01-144)</b> <b>MCKINLEY COUNTY-PLANNING AREA-1-04 GRANTS</b>	
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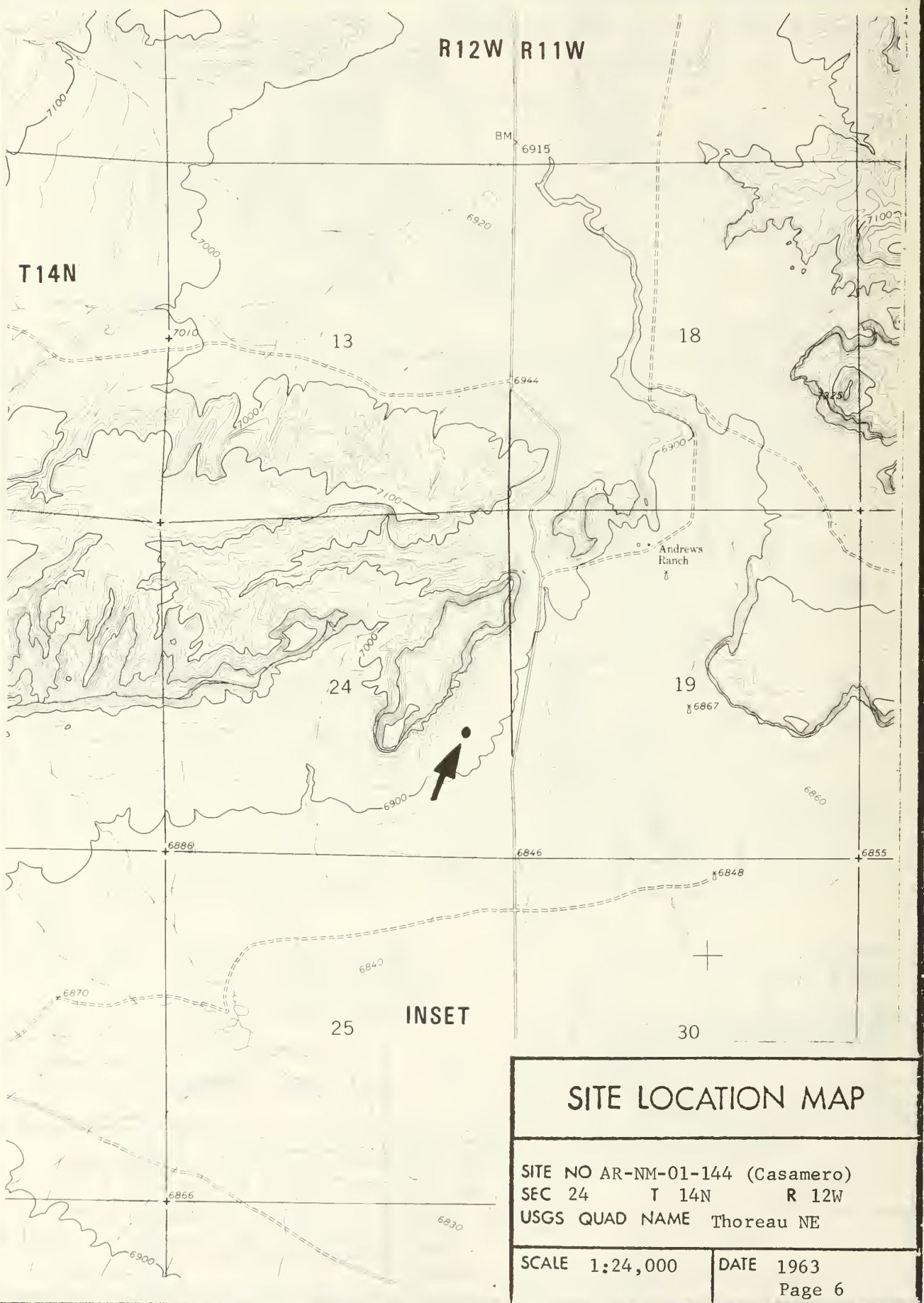


## SITE LOCATION MAP

SITE NO AR-NM-01-144 (Casamero)  
 SEC 24 T 14N R 12W  
 BLM QUAD NO NW17 Crownpoint

SCALE 1/2" = 1 Mile

DATE 1975



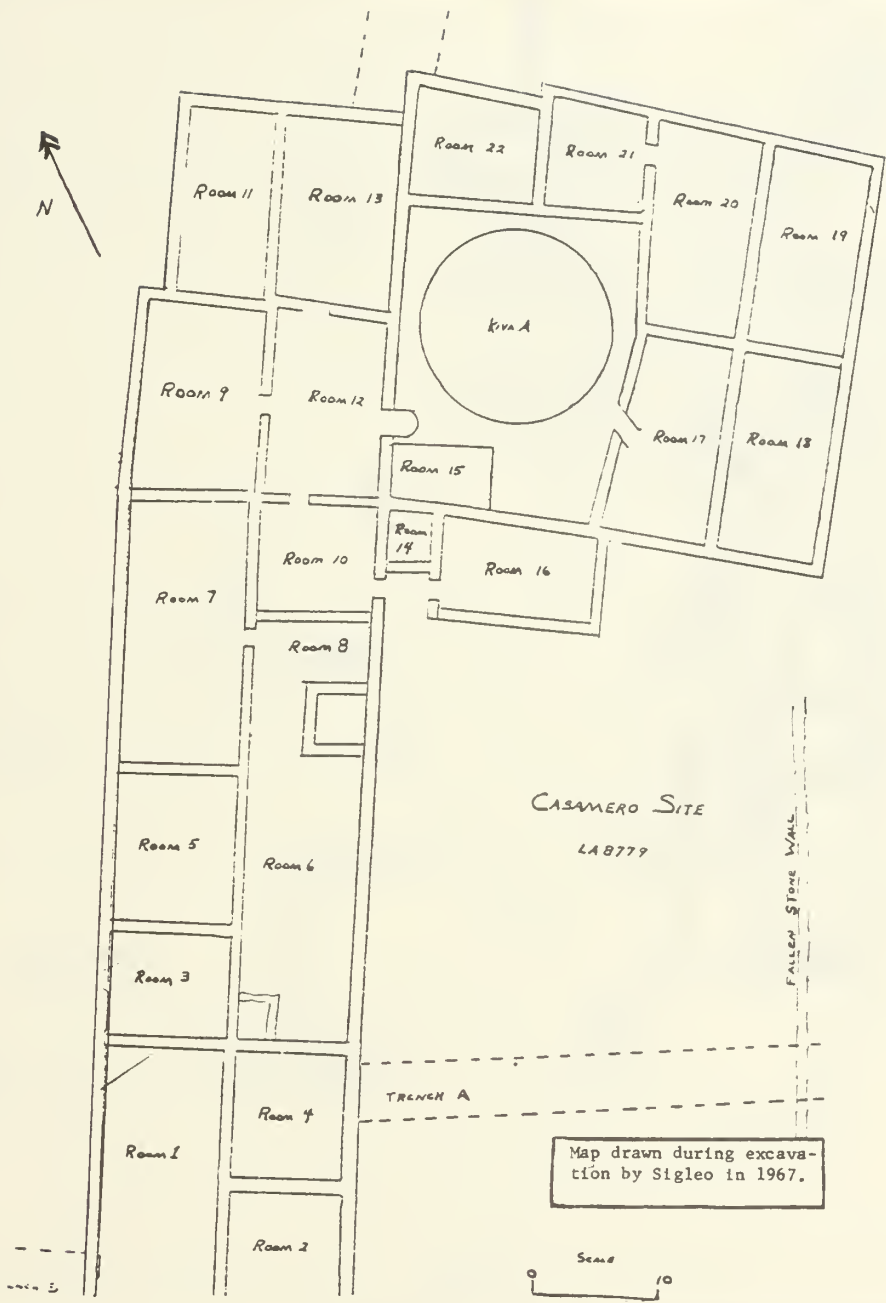
**SITE LOCATION MAP**

SITE NO AR-NM-01-144 (Casamero)  
 SEC 24 T 14N R 12W  
 USGS QUAD NAME Thoreau NE

SCALE 1:24,000

DATE 1963  
 Page 6

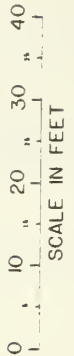
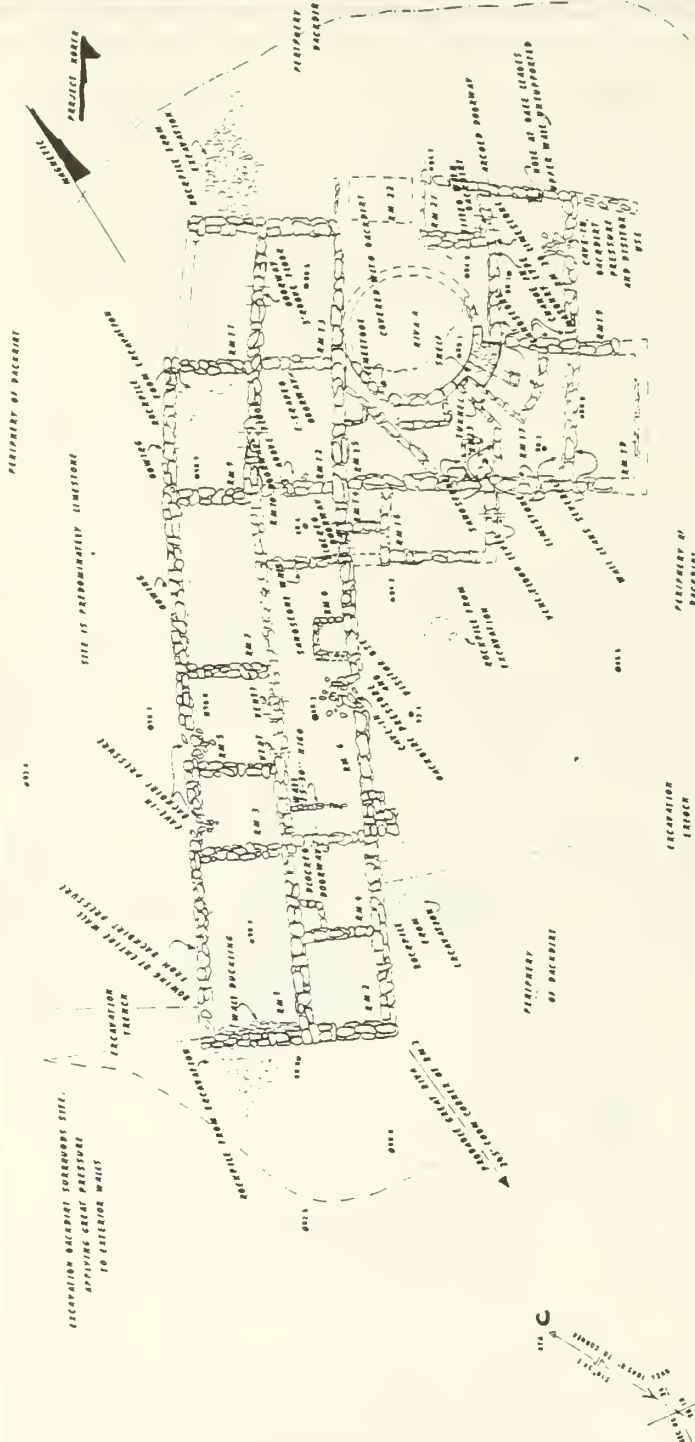




Map drawn during excavation by Sigleo in 1967.



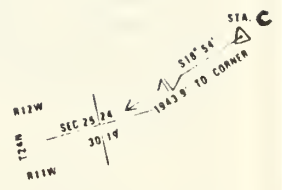
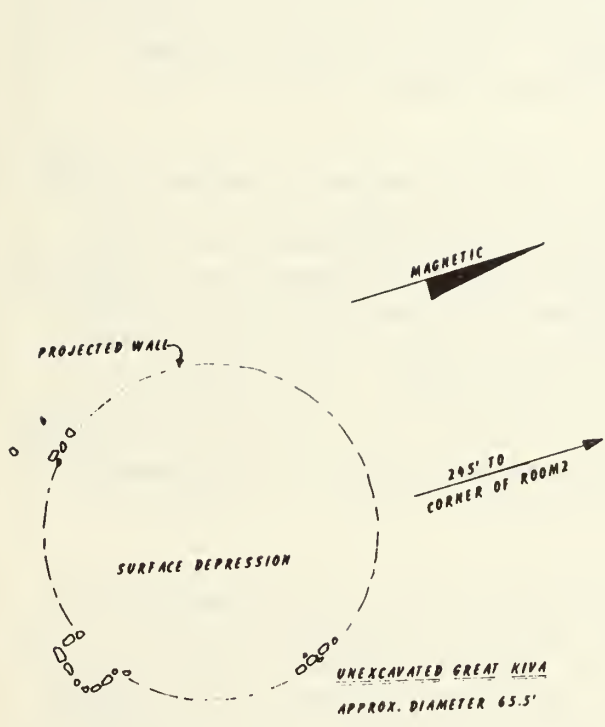
U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO CASAMERO RUIN (AR-NM-01-174) PLAN DRAWN BY SIGLEO IN 1967	
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SCALE <u>AS SHOWN</u>	
DATE <u>1967 : 8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	PLATE <u>7</u>



**NOTES:**

ELEVATIONS ARE FROM BENCH. RELATIVE TO ONE ANGLE. AND MEASURED IN FEET.

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CASAMERO RUIN (AR-NM-01-144) PLAN VIEW	
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CHECKED <u>CL</u>	APPROVED _____
SCALE <u>AS SHOWN</u>	
DATE <u>11/75</u> : <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	<u>PLATE B</u>



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) PLAN VIEW KIVA (OLD SITE NO - AR-30-01-144)	
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SCALE AS SHOWN	
DATE <u>11/75</u> : <u>8/78</u>	SHEET ____ OF ____
DRAWING NO. _____	PLATE <u>9</u>

## INFORMATION

1.0 GENERAL Casamero (also LA 8779) is a small Chaco related masonry site on the talus slope east of Ojos Tecolote Mesa. It is L-shaped and consists of about twenty-three rooms and two kivas. The smaller kiva is incorporated within the room block. a probable Great Kiva lies about 245 feet south of the room block. Occupied from approximately 1050 A.D. to somewhat later than 1100 A.D., during Pueblo II and III times, it is similar in pottery types, room size, and masonry type to sites of Chaco Canyon, which is sixty miles to the north. Walls are carefully faced on both sides and are primarily of limestone with occasional sandstone. Courses of large blocks alternate with layers of chinking, giving a banded effect (Photos 1-10).

Most of Casamero has been excavated. Non-professional digging in 1963 and 1966 took material from rooms 2, 4, the southern half of 6, the lower levels of 7, and various portions of the northeast section of the site. Excavations by the Cottonwood Gulch Foundation were conducted here for purposes of instruction during the summers of 1966 and 1967. Under Bureau of Land Management permit, they were supervised by Anne Colberg Sigleo, then the University of New Mexico. Excavation of rooms 1, 3, 5, 7, 8, 9, 10, 12, 14, 15, 16, Kiva 'A', and the northern half of 6 were completed. Recovered ceramics were primarily Gallup B/W, Prewitt B/W, and Escavada B/W. Artifacts are stored in the Maxwell Museum of Anthropology of the University of New Mexico. Reports are listed below.

Ojos Tecolote Mesa, immediately west of the site, was the main source of building material. It is Entrada Sandstone capped by Todilto Limestone. The valley to the east is underlain by the Chinle formation. Pintada Spring, on the west side of the mesa, is located in a shallow cave. Desert Juniper (*Juniperus Utahensis*), narrow leaf yucca (*Yucca Navajoa*), and a variety of grasses grow in the area. Deer, coyote, rabbit, and various other rodents can be seen occasionally.

1.1 LOCATION The site lies in the NE quarter of the SE quarter of Section 24, Township 14 N., Range 12 W. It is 4.3 miles north of the railroad crossing at Rrewitt, New Mexico. Prewitt lies upon Highway 66-140.

## 1.2 REFERENCES

- 1) Colberg, Anne M.

1966; "Casamero Site, LA 8779: Preliminary Report of the work completed in 1966"; University of New Mexico, unpublished manuscript; Bureau of Land Management Ruin Stabilization Files; New Mexico State Office, Santa Fe.

2) Sigleo, Anne Colberg

1967, "Casamero Site, LA 8779: Preliminary Report of the Work Completed in 1967"; University of New Mexico, unpublished manuscript; Bureau of Land Management Ruin Stabilization Files; New Mexico State Office, Santa Fe.



STABILIZATION WORKPLAN

2.0 WORK SCHEDULE Due to the complexity of this site, the work schedule is very detailed. The chronological sequence should be followed to the extent practicable.

Sequence of Operations:

- 2.1 Removal of unconsolidated material
- 2.2 Establishment of wall alignment
- 2.3 Reconstruction
- 2.4 Grouting of masonry
- 2.5 Capping of walls
- 2.6 Backfilling and drainage

2.1 REMOVAL OF UNCONSOLIDATED MATERIAL This operation is necessary because excavation was, unfortunately, not followed by backfilling or any attempt to save the site. The spoils material that was shifted from rooms during the 'dig' is presently in an unconsolidated state and putting great and unequal pressure upon walls, causing them to lean, shift, bow, and cave in (Photos 11-19). This material must be removed before subsequent stabilization operations can proceed.

Each room will require attention. This will vary from simple debris removal to considerable effort in the Kiva (Photos 18, 19). Particular attention is needed for the sub-floor excavation in rooms 1, 3, & 6. These excavations exposed the wall foundations, thus placing the structural integrity of the walls in jeopardy. The holes must be cleaned, the wall foundations stabilized, and the hole backfilled with a densely compacted material.

2.2 ESTABLISHMENT OF WALL ALIGNMENT Haphazard placement of spoil material has made wall identification extremely difficult. This is the case especially along the west wall of rooms 1, 3, 5, 7 and 9, inasmuch as the spoil material is slipping over the top of the walls and into the rooms (Photos 11-13). The south wall of room 1 is barely recognizable, however the wall is there, according to the excavation report. The same situation exists along many walls on the east and northeast sides of the site (Photo 20). These alignments must be established before grouting and capping operations can proceed.

Excavations needed for determination of exact wall locations and configurations must be performed under the careful supervision of the Team Archaeologist.

2.3 RECONSTRUCTION Reconstruction must be kept to a minimum, and will include only those areas that have a degrading effect on the structural integrity. Specific examples include: (1) the terminus of Trench "A", which is located in the east wall of room 4 (Photo 21); (2) the terminus of Trench "B", which is located in the west wall of room 1 (Photo 22); (3) sluffing of the west wall in rooms 3 and 5 (Photos 12, 13, 15);

(4) cave-in of the east walls of rooms 6 and 20 (Photos 16, 17); (5) lintel failure in the ventilator ports of the wall between rooms 5 and 1 (Photo 23); (6) lintel failure in the doorway in the east wall of room 12; and (7) a hole in the base of the north wall of room 20 (Photo 24). Other areas needing attention will undoubtedly be exposed during the accomplishment of steps described above.

Particular areas will require close inspection in order to determine that structural stability is adequate to proceed with step 2.6 (backfill and drain). Among these are: (1) the upper 1/3 of the north wall in room 1 (Photo 25); (2) the upper portion of the east end of the north wall in room 2 (Photo 26); (3) the entire north wall (badly eroded) of room 8 (Photo 27); (4) the severely leaning east wall in room 17 (Photo 28); (5) the tunnel which connects room 17 to the Kiva (Photo 29); and (6) the badly eroded walls of room 20. Dependent upon the outcome of this inspection, further reconstruction may be deemed necessary before proceeding with the backfill operation.

2.4 GROUTING OF MASONRY Grouting will be accomplished with minimal destruction of the original fabric. The existing masonry will be cleaned of loose material and the surfaces dampened to aid in the bonding and curing of a stabilized adobe grout. Additives and target mix proportions are covered under 2.7 (Materials) of this workbook.

There are approximately 635 linear feet of exposed wall. It is not reasonable to assume that the entire surface of each wall would be grouted. Therefore, this plan calls for a concentrated grouting effect on the upper two feet of the wall, or, that zone most susceptible to damage from "frost-heave" and/or those surfaces that will be exposed after completion of the backfill operation. Grouting of the lower portion (surfaces that will be covered) will be done only as a structural stabilizing feature.

Delineation of concentrated and minimal grouting zones will be clearly made when the grouting operation is started on each room.

2.5 CAPPING OF WALLS Approximately 635 linear feet of wall will require capping. This stabilization technique will bond two more upper courses of masonry to the existing wall. Capping adobe mortar will incorporate an adhesive bond to increase adhesive qualities. Horizontal wall surfaces will be capped with two courses of stone. Walls having vertical irregularities will have, at most, one stone's length added to the exposed end (see figures 1 and 2). Fall rock will be used. Surface slopes will provide moisture runoff. Visible grout will be matched to the existing fabric.

2.6 BACKFILLING AND DRAINAGE The backfill operation will require placement and compaction of approximately 480 cubic yards of material. Approximately 250 cubic yards are available in the spoils berm left from excavation. Therefore, approximately 230 cubic yards of import material will be needed to complete the outlined stabilization. This plan call for

the backfill material to be hand placed and then compacted by both hand tampers and mechanical compactors. The import material will be placed in the lower portion of the structure, leaving the material from the spoils berm for placement in the upper portion.

The following procedure will be followed during the backfilling operation:

Step 1. Define the limits of archaeological excavation by placement of a non-biodegradable material (perforated sheet plastic, electrical conduit marking tape etc.) on each room floor

Step 2. Place a six to eight inch layer of soil over the entire floor. Steps 1 and 2 must be done on both sides of all free standing masonry simultaneously. DO NOT place and compact material on only one side of a free standing wall.

Step 3. Begin compacting material in the center and work toward the walls. This operation will be typical to each layer of material placed.

Step 4. Place and compact subsequent six inch to eight inch layers until the desired elevation is reached. The Team Leader is cautioned to maintain equilibrium (in the compactive effort) on both sides of all free standing walls.

All rooms will be backfilled in the same manner. However, rooms 12 and 13 will require special treatment. The express purpose of this 'special treatment' is an attempt to save the adobe plaster that remains on the walls (Photo 30). This attempt will include a zoning backfill technique, whereby the fill material that is placed against remaining plaster will be free of organic material and clay (blowsand). This material will liberally cover the periphery of the plaster and extend one foot into the backfill.

The backfill operation, when completed, will include careful shaping and grading in order to provide site drainage. It may be necessary to breach certain walls. However, this action will be kept to a minimum.

2.7 MATERIALS The adobe mortar will be made of native material and includes a 3% by weight mixture, milky white in color and called "leche" by the stabilization team. The mixture is made of original adobe material (92% by weight), linseed oil (6% by weight), and plasticizer (3% by weight). Viscidity of adobe particles is greatly increased by the adhesive bond material (92% by weight), linseed oil (6% by weight), and plasticizer (3% by weight). Viscidity of adobe particles is greatly increased by the adhesive bond material, and pliability is added with the plasticizer. Linseed oil is suspected, also, of adding a degree of flexibility to the adobe. Ingredient proportions were established on the basis of a series of tests designed to reveal maximum potential for erosion prevention.



CASAMERO SITE  
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The stabilized mixture possesses several advantages over commercial grout. It is easily mixed and by-passes the peculiarities and uncertainties of commercial production. Additionally, it is much closer to the original site material in color, texture, and behavior. Although stabilized adobe may not be as strong as commercial grout, it is more consistent with Bureau of Land Management policy in altering the ruin as little as possible and retaining original appearance.

Fall rock is abundant and should be sufficient for reconstruction and capping operations. If more is needed, it can be taken from Ojos Tecolote Mesa behind the site, or carefully matched limestone and sandstone will be imported from elsewhere.

Clean blowsand, free from clay and organic materials, will be imported for backfilling near wall plaster. It will not adhere to the plaster when moist.

## STABILIZATION COMPLETED

2.1 REMOVAL OF UNCONSOLIDATED MATERIAL- Unconsolidated spoils material was removed from both sides of walls that were leaning, bowing, shifting, or caving in before stabilization operations took place. Removal of spoils material took place in every room and great attention was given to the kiva.

2.2 ESTABLISHMENT OF WALL ALIGNMENTS- Because of the haphazard placement of spoils material, wall identification was extremely difficult. Trenches were dug on both interior and exterior sides of all walls that were reported to have been dug in 1963 and 1966-1967. Minimal excavation took place, but in most cases, the trenches were 18"-24" wide, exposing enough of the wall so that repairs and reconstruction could be made with minimal destruction. While excavations were being performed, the Team Archaeologist was on hand for careful supervision of exact location of walls.

2.3 RECONSTRUCTION- Reconstruction was kept to a minimum and included only those areas that had a degrading effect on the structural integrity and stability of the site. Specific examples include: (1) In Trench A and Trench B, that were dug during the excavation in 1966 by Anne Sigleo, were placed some perforated plastic to show the present level, then was backfilled. (2) The west walls of Rooms 3 and 5 were in dire need of reconstruction because of back dirt pressure causing cave-ins. After establishment of exact wall locations, all loose material was removed from the areas and grouting and capping procedures began. The original west wall of Rooms 3 and 5 leaned too much to repair, so it was reconstructed (See Photos 31 and 32). The walls were reconstructed with limestone fall rock located on the site, and stabilized adobe. The walls were then capped and grouted with a minimum of two courses of masonry to the existing horizontal walls. (3) The east walls of Rooms 6 and 20 also were in need of repair and reconstruction because of back dirt pressure and continued visitor use causing the walls to collapse and cave in. The walls, as in Rooms 3 and 5, were reconstructed of limestone fall material located in and around the site, and securely stabilized with stabilized adobe. The walls were then capped and grouted with a minimum of two courses of masonry to the existing horizontal walls (See Photos 33 and 34). (4) The lintel located in the ventilator ports of the wall between Rooms 5 and 6 was repaired (See Photos 35, 36 and 36A). (5) Above the doorway located in the east wall of Room 12, there was lintel failure. This was repaired. (6) Before repairs could be made on the hole in the base of the north wall of Room 20, a pit was dug on the inside of the wall to expose the hole. The area was cleaned of all loose material and was repaired with fall rock located on the site (See Photo 37).

Each room will be discussed individually at this time as to repairs and reconstruction that took place.

Room 1: Room dimensions: north wall, 9'4"; south wall, 9'3"; west wall, 21'5"; and east wall 20' 4". All four walls are of Type A masonry which will be defined at the end of this section. Trenches were dug along the entire length of the south and west walls to expose the walls and define their exact locations. The trench along the south wall was dug to a depth of 47" SD1\*. The cultural strata began at 38" SD1. The trench along the west wall had three different depths. The southern portion of the trench was 94" long, dug to a depth of 44" SD1. The middle portion was 91" long, dug to a depth of 35" SD1. The northern portion was 92" long, dug to a depth of 17" SD1. The cultural strata began at 29" SD1. All trenches were 18"-24" wide. In the east wall, a door, which is not shown on the map, was discovered by the team during excavation. It was located 91"-135" south from the northeast inside corner. There is still a height of 11" remaining of the door, which appears to have been altered by inhabitants during remodeling (See Photo 38). Both the west and south walls were buckling so badly that they could not be repaired, but had to be reconstructed.

According to Sigleo, who excavated the room in 1966, the room had two stories with a fireplace and a scarcity of artifacts. She reported that she dug a sub-floor trench, 4'x 2' in one of the corners, but she didn't specify which one.

Room 2: Room dimensions: north wall, 9'3"; south wall, 9'2"; west wall, 9'8"; and east wall, 9'6". All four walls are of Type A Masonry. A trench was dug along the exterior south wall, measuring 67" long from the southwest corner eastward. There were no major repairs to be done, yet the walls were cleared of all loose material and grouted in specific areas to insure stability to the walls. The room was excavated in 1963 by Elam (potter). The trench was dug to a depth of 41" SD1, and was 18"-24" wide.

Room 3: Room dimensions: north wall, 9'3"; south wall, 9'2"; west wall, 8'0"; and east wall, 8'1". All walls are of the Type A masonry. The west wall of Room 3 was the only wall in need of attention. As was mentioned above, the wall leaned too much to repair so it was reconstructed (See Photo 31). A trench was dug along the entire length of the exterior west wall to a depth of 44" SD1. The trench was 18"-24" wide. The cultural strata began at 16" SD1. This room is 2 stories with no floor or wall features. It was probably a storeroom according to Sigleo's 1966 excavation report.

\*SD stands for sub-datum locations, which will be printed at the end of this section (Reconstruction 2.3).

Room 4: Room dimensions: north wall, 9'4"; south wall, 9'5"; west wall, 10'2"; and east wall, 9'10". All walls are of Type A masonry. During stabilization procedures a crawl space or vent was discovered in the east wall. This is not shown on the map. It runs from 11" to 22" north of the southeast interior corner measuring 11" wide. The depth is 49"-57" SD1, that is 14"-22" below the finished wall surface being 8" in height (See Photo 39). According to Sigleo, there is a stone-lined "firebox" in the center of the east wall. As the map shows, there is a storage bin in the southwest interior corner and a blocked doorway in the north wall. The room was excavated in 1963 by Elam (potter).

Room 5: Room dimensions: north wall, 9'2"; south wall, 9'1"; west wall, 11'3"; and east wall, 11'3". All walls are of the Type A masonry. The west wall was the only wall in need of attention. As was mentioned above, the west wall had to be completely reconstructed from near the base upward. The original wall leaned too much to repair (See Photo 32). A trench was dug along the entire length of the exterior west wall to a depth of 44" SD1. The trench was 18"-24" wide. The cultural strata began at 16" SD1. This room is 2 stories and was probably a corn grinding room, according to Sigleo's excavation report in 1966. There was also an adolescent male burial found.

Room 6: Room dimensions: north wall, 4'3"; south wall, 9'1"; west wall, 23'0"; and east wall, 23'0". All walls are of the Type A masonry. The north  $\frac{1}{2}$  of Room 6 was excavated by Sigleo in 1966. The south  $\frac{1}{2}$  was excavated by Elam (potter) in 1963. The room is one story indicated by a scarcity of rocks and narrowness of the walls. The storage bin located in the southwest corner is approximately 4' square. The walls had no foundations; they were built directly on the floor of the room. At this point there is a projecting rock wall used as a shelf, located 5' above the floor. Sub-floor trenches were dug by Sigleo, 4'x 2', in the corner in order to study the wall. There is a slight curve at the bin's northeast corner which greatly increases the stability of the existing bin wall. The curve is 47" from the west wall of Room 6. The bin wall is approximately 10" wide. A step was discovered on the north side of the existing bin wall. It is 17" wide and begins 16" east of the west wall of Room 6. When stabilization procedures began, a trench was dug along the entire length of the exterior east wall to a depth of 52" SD2. The trench was 18"-24" wide. The cultural strata began at 40" SD2. As was mentioned near the beginning of this section, the east wall was in need of repair because of cave-in. The wall was repaired where it once caved in (See Photo 33). There is a blocked doorway 9"-27" south of the bin which separated Room 6 from Room 8, and which also is not shown on the map. It extends from the top of the finished wall to 22" below it (See Photo 40).

Room 7: Room dimensions: north wall, 8'8"; south wall, 9'0"; west wall, 20'6", and east wall, 20'2". All walls are of the Type A masonry. A trench was dug along the entire length of the west wall which was bowing because of back dirt pressure. The west wall was not reconstructed.



The depth of the trench was 32" SD3 with a width of 18"-24". In the east wall, there is a door, which is not shown on the map. The door, which connects with Room 8, is 111"-133" south from the northeast interior corner; 19½" of its height remains. It began 50" above the floor (See Photo 41). The upper levels of Room 7, which was a trash room, were excavated in 1966 by Sigleo. The lower levels were excavated by Elam (potter) in 1966 where a child was recovered in the northwest corner, and was taken by Elam.

Room 8: Room dimensions: north wall, 8'6"; south wall, 4'3"; west wall, 9'4"; and east wall, 9'3". The south, west, and east walls of Room 8 are of the Type A masonry and the north wall is of the Type B masonry, which is defined at the end of this section. Room 8 is one story with a doorway built in the west wall, which is not shown on the map (See Photo 42). The masonry corn bin attached to the east wall is 4'x 4'6" x 3' high. The floor of the bin is plastered. The south wall which is of the Type A masonry, was built first (See Photo 43). There are two floor levels 2"-4" apart. They are both well plastered. The bottom floor had a firebox under the north wall of the bin, according to Sigleo. The north wall was built later revealing a Type B. masonry, which utilized sandstone rock instead of the predominant limestone material (See Photo 44). Rooms 8 and 10 were once one room until the sandstone wall was built. The south wall of the bin was reconstructed to a height of 13" near its junction with the east wall of the room. The southwest corner of the bin is 40".

Room 9: Room dimensions: north wall, 8'11"; south wall, 9'2"; west wall, 15'2"; and east wall, 14'6". All walls are of the Type A masonry. A trench was dug along the entire length of the exterior west wall to a depth of 32" SD3, with a width of 11"-24". The cultural strata began at 18" SD3 from the top of the wall. In the west wall there was a plugged vent that was discovered during stabilization procedures. This vent is not shown on the map (See Photo 45). The vent is located 0-12" north from the southwest interior corner. Room 9 is 2 stories with no floor features according to Sigleo. The only other wall feature is a door in the center of the east wall measuring 22" wide and 25" high. The sill is 3' above the floor.

Room 10: Room dimensions: north wall, 8'5"; south wall, 8'6"; west wall, 8'2"; and east wall, 8'4". The north, west and east walls are of Type A masonry and the south wall, which was added on later is of Type B masonry. The top levels of Room 10 was excavated in 1966 by Sigleo. The remainder was excavated in 1967 by Sigleo. The room is one story with no floor features. There are two doorways in this room, one in the east wall and one in the north wall. The east doorway is 2' from the south wall, measuring 22" across. The sill is 1' above the floor, which opened onto the plaza. The north doorway is located near the center of the wall measuring 21" across. The sill is 8" above the floor.

Room 11: This room was not excavated, so there is no information from Sigleo concerning room dimensions. During stabilization procedures, trenches were dug along the entire length of the exterior west wall and north wall. The depth of the trench along the west wall was 58" SD3 with a width of 18"-24". The cultural strata began at 48" SD3. The trench along the north wall was 5' in length east from the northwest corner, measuring to a depth of 50" SD3. The cultural strata began at 45" SD3. The walls exposed as a result of the trenches vary from those conjectured in the map. The west wall is contiguous with Room 9. There were two vents discovered during stabilization in the east wall that are not shown on the map (See Photo 46). One is 6"-17" from the southeast inside corner with a 9-25" height from the surface of the finished wall, which is associated with the second story. The other is 8"-18" from the northeast inside corner. The complete height is not present, but it is associated with the second story.

Room 12: Room dimensions: north wall, 8'9"; south wall, 8'1"; west wall, 15'2"; and east wall, 14'0". All walls are of Type A masonry. Five features were discovered during stabilization that are not shown on the map. There is a door in the east wall 60"-86" north from the southeast inside corner. A vent was also located in the east wall 0-14" north from the southeast inside corner. Two plugged vents were discovered in the west wall (See Photo 47). One was 0-14" from the southwest inside corner and the other was 17"-28" from the northwest inside corner. Another plugged vent was discovered in the east wall, 11"-24" from the northeast inside corner. This room was excavated in 1967 by Sigleo, but was not completely excavated to the floor. The room was two stories with walls and a floor that were plastered five times according to Sigleo (See Photo 48). Two of the four walls had doorways, with T-shapes occurring in the north and east walls. The doorway in the north wall is 30" high with the top part measuring 23" across and the lower part measuring 17" wide and 26" high. The sill is 13" above the floor. The doorway in the east wall opens into a semicircular area 3'4" in depth and 2' wide. The area was not completely cleared because of danger of masonry fall. The doorway is 2 feet wide at the top and tapers down to 20" wide at the bottom. The sill is 16" above the floor. There is a rectangular rock protruding between the door sill and the floor which forms a small step. The doorway in the west wall is 22" wide and 25" high. The doorway in the south wall is located near the center of the wall measuring 21" across. The storage bin east of Room 12 was dug for definition purposes to a depth of 62" SD3.

Room 13: According to the report of Anne Sigleo (1967), Room 13 was not excavated as of this date, but was probably done in 1974-75. As a result of the stabilization, there were six features discovered in this room that were not shown on the map. A door was discovered in the north wall with a remaining height of 23". The door is located 30"-49" west from the northeast inside corner (See Photo 49). A plugged door was discovered in the east wall which is located 6'-8' south of the northeast inside corner. The top of the T-shape is 5.5' to 8.4' south of the northeast corner (See Photo 50). In the west wall, two vents were discovered. One vent is located .2'-.9' north of the southwest corner and the other vent is located .7'-1.6' south of the northwest corner

(See Photo 51). Two vents were also discovered in the east wall. One vent is located .4'-1.3' north of the southeast corner, and the other is located 1.2'-2.1' south of the northeast corner (See Photo 50). All walls are of the Type A masonry.

Room 14: Room dimensions: north wall, 4'8"; south wall, 4'4"; west wall, 3'6"; and east wall, 3'7". All walls are of the Type A masonry. Room 14 was excavated by Sigleo in 1967. The room was probably used for storage of ceremonial paraphernalia.

Room 15: Room dimensions: north wall, 8'1"; south wall, 7'8"; west wall, 4'0"; and east wall, 4'7". The west wall of Room 15 is of the Type A masonry. The south wall and the diagonal northeast wall were unfaced. Room 15 is separated from a semicircular area by a low wall measuring 4" high. There is a ventilator hole 5'3" above the floor on the west wall. It is located 2" north from the south wall, measuring 13" wide and 11" high. It is connected with Room 12. After the stabilization took place, the shape of the room changed from that shown on the map. The north wall begins 50" north of the southwest inside corner and runs into the kiva (See Photo 52). The east wall begins 92" east of the southwest inside corner and also runs into the kiva (See Photo 53).

Room 16: Room dimensions: north wall, 11'7"; south wall, 12'1"; west wall, 7'5"; and east wall, 7'1". All walls are of the Type A masonry. The room was excavated by Sigleo in 1967 and according to her, the room was probably vandalized sometime earlier. Information from Sigleo's report, proves that the room is two stories. There is a firebox in the center which fell from the second story. During stabilization, trenches with a width of 18"-24" were dug to expose both the interior and exterior of the east and south walls. The trench of the east wall was 33" SD3 in length from the southeast corner northward 105" SD3. The cultural strata began at 93" SD3. The trench of the south wall was 47" from the southeast corner westward, 105" SD3 and 115" from the southwest corner eastward 82" SD3. There is a doorway in the west wall which is not shown on the map. It is located 0-22" from the southwest inside corner measuring 22" wide with a sill located 22" above the floor (See Photo 54). The door led onto the plaza directly across from the doorway of Room 10 (See map). During stabilization procedures, the southeast corner was defined and capped as conjectured on the map (See Photo 55).

Room 17: The room was not excavated by Sigleo as of 1967, therefore there is no information concerning room dimensions. The south and west wall are of the Type A masonry. The east wall is of Type B masonry. Both north and south walls of the tunnel are of Type B masonry. Also the north wall of Room 17 is of Type B masonry. The inside of the curved west wall connects with the north tunnel wall, and the north wall has lost its facing, but is considered a sandstone mixed with limestone with primarily limestone below (See Photos 56, 60, 61 and 62). A trench was dug during stabilization procedures to expose the entire length of the east wall on the interior and exterior. The trench was 27" SD4 measuring 18"-24" wide. The east wall of this room was leaning severely, but was able to be straightened (See Photo 57 and 58). Since the wall



was leaning outward, a jacked brace was set up and laid against the wall. The jacked brace which was set up in Room 18 was constructed of 2" x 4" with a jack placed in the center. Styrofoam was placed between the jack and the wall to provide flexibility to the wall (See Photo 59). During a period of approximately two weeks, the wall was emerged in about three gallons of water a day and gradually pushed inward day by day. The wall was then grouted to provide secure stability to the wall. It was then backfilled which will be discussed in section 2.6 of this workbook. A plugged doorway was discovered during stabilization procedures that is not shown on the map. The doorway is 2.3' wide on the east wall from the northeast corner. The doorway was 3.2' in height, connecting with Room 18. But since the west wall of Room 18 was refinished, the doorway is unnoticeable at the present time (See Photo 57). Perforated plastic was laid in the excavation trench before backfilling, but it was mistakenly not put down in the remainder of the room before backfilling. This 1976 level (before backfilling) is 2' above the plastic at the bottom of the excavation trench.

Room 18: This room was not excavated by Sigleo as of 1967, therefore there is no information concerning room dimensions. All walls are of the Type A masonry. Before stabilization procedures began, trenches were dug along the south and east walls. A trench was dug along the entire length of the east wall, 43" SD4 on the inside and 45" SD4 on the outside. A trench along the south wall was 5' in length from the southwest corner eastward, 40½" SD4. Both trenches were 18"-24" in width. Before stabilization, the south and east walls were undefined because of backdirt pressure and cave-in. After the trenches were dug, the south wall proved to be 90" long from the southwest inside corner (See Photo 63). The east wall is good for a length of 115" from the northeast inside corner, where it cuts off and is destroyed from there 55" to the intersection with the south wall (See Photo 63). There is a door on the north wall, that is not shown on the map. The door is located 3' to 4.9' east from the northwest inside corner (See Photo 64).

Room 19: The room was not excavated by Sigleo as of 1967, therefore there is no information concerning room dimensions. The north, south, and east walls are of the Type A masonry. The west wall is the Type B masonry. As stabilization procedures began, trenches were dug along the east, north, and west walls in order to locate exact definitions of these walls. Along the east wall, a trench was dug along the entire length of the wall on the interior which measured 44" SD4; and on the exterior, the trench runs from 32" SD4 at the southern end to 55½" SD4 at the northern end. The cultural strata began at 14½" SD4. Along the north wall, a trench was dug along the entire length of the wall, measuring on the interior, 80" SD3 and on the exterior, 87" SD3. The cultural strata began at 72" SD3. Along the west wall, a pit was dug to expose the area around the cave-in and a possible door. The pit measured 103" SD3 on the interior, and 60" x 21" horizontally. The doorway discovered as a result of stabilization, in the west wall will be discussed during discussion of Room 20 (See Photo 65). All trenches had a width of 18"-24". As a result of stabilization, the following tells of exact wall definitions that are not shown on the map. The south wall is 78" from



the southwest inside corner to the southeast inside corner (See Photo 66). The east wall is 165"-169" to the inside corners which is continuous with the east wall of Room 18 (See Photo 67 and 68). The north wall is 92" to inside corners. All walls are 18" wide (See Photo 69 and 70).

Room 20: Room dimensions: north wall, 8'3"; south wall, 8'5"; west wall, 15'8"; and east wall, 14'10". All walls except where arched doorway is, are of the Type B masonry. Where the arched doorway occurs, there is the Type A.1 masonry, which will be defined at the end of this section. The room was excavated perhaps by Elam, but an excavation date is unknown. Before actual stabilization procedures began, a trench 102" SD3 was dug along the entire length of the exterior north wall, in order to expose the wall, and the hole at the base of the north wall (See Photo 71). On the interior north wall, a pit was dug, also 102" SD3 to expose the hole. The pit was 80" long x 16" wide. The hole was repaired with sandstone slabs and grouted with stabilized adobe and chinking stones that matched with the typical architectural style of the entire wall. A pit was dug on the interior of the east wall, 104" SD3 to expose a cave-in which is possibly a door, measuring 45" long x 21" wide. The doorway discovered at the cave-in is located 5.1' to 6.9' south from the northeast inside corner on the east wall, which connects to Room 19. The arched doorway on the west wall was reconstructed (See Photo 72). Five round juniper lintels (stripped) were placed above the doorway to provide extra strength. It measured 1.6' wide x 2.5' in height. According to Sigleo, the door in the east wall was 33" high and 20" wide. The door apparently caved in after excavation took place, because of backdirt pressure and continued visitor use. Also in her notes, Sigleo reported a 21" recess in the center of the east wall, which begins 8" above the floor and continues to the top of the wall.

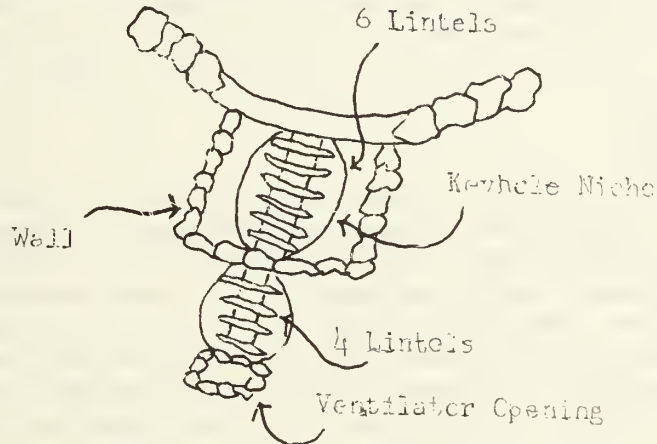
Room 21: The room was not excavated as of 1967, but perhaps was excavated in 1974 during Sigleo's short-lived return. There is no report available from that time. Before stabilization procedures began, trenches were dug along the entire length of the north and east walls. The trench running along both the interior and exterior north wall is 55" SD3. The cultural strata began at 37" SD3. The trench along the interior east wall is 50" SD3. As a result of the stabilization, all four walls are defined differently than what is shown on the map. The north wall is 86½" in length from the inside corners (See Photo 75 and 76). The east wall is 77" from the northeast inside corner (See Photo 74 and 76). The south wall is 90" from the inside corners (See Photo 75 and 76). The west wall is 88" from the inside corners and continues south to the Kiva wall and overlies it (See Photo 76 and 77). There was a plugged doorway discovered on the south wall 2.2' to 3.8' east of the southwest inside corner (See Photos 75, 76 and 77). The southwest inside corner is 41" from the interior kiva wall. The south wall is 12" wide at that point, and the kiva wall is 13" wide at that point. No perforated plastic was placed under the backfill of Room 21. All walls are of the Type A masonry.

Room 22: This room was not reported excavated as of 1967, but perhaps was done in 1974 when Sigleo returned. No report has been published as yet. Before stabilization began, trenches were dug along the entire length of the north and east walls. The trench along the north wall was 48" SD3 on the interior and 57" SD3 on the exterior. The cultural strata began at 39" SD3. The trench along the interior east wall was 41" SD3. As a result of the stabilization, all four walls are defined differently than what is shown on the map. The north wall is 101" to the inside corners (See Photo 78 and 79). The south wall is 94" to inside corners measuring 12" wide (See Photos 78 and 80). The east wall is 105" to inside corners (See Photos 78 and 81). The west wall is 104" to inside corners and extends 33" north of the northeast outside corner of Room 13 (See Photo 78 and 82). The south wall is 106" from the southeast inside corner of Room 13. The east end is the wall of the kiva also. A door was discovered in the east wall 39"-63" (3.4'-5.1') north from the southeast inside corner (See Photo 81). A ventilator shaft was discovered in the west wall located 3' to 3.7' north of the southwest corner (See Photo 82). There is no perforated plastic under the backfill of Room 22.

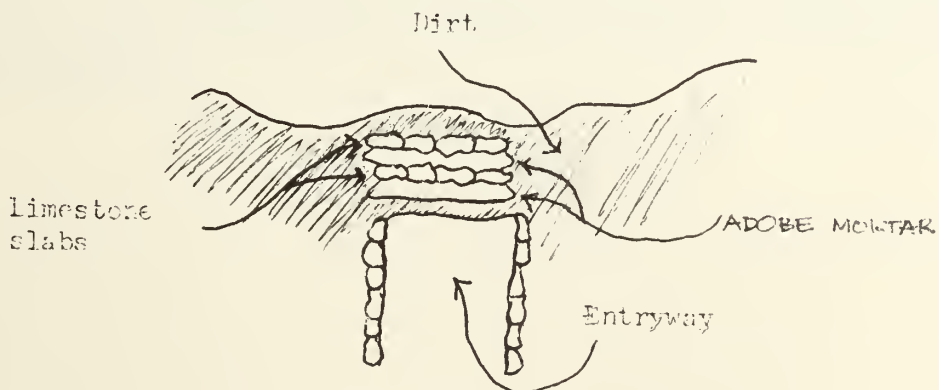
Room 23: This room was not excavated or even mapped by Sigleo. But it has been discovered that the room has been taken out by someone to about 2' below the surface of its walls (See Photo 83).

Kiva A: Kiva dimensions: north-south diameter, 14'8"; east-west diameter, 14'4". All walls of the kiva are of the Type C masonry. Sigleo excavated the kiva in 1967. She reported vital information concerning important features in the kiva that need attention. An attempt will be made at this time to discuss specific examples. On the floor of the kiva there was a ventilator opening, a deflector trench, two fireplaces (from different times) and a sipapu, all in line; N. 30° W. The opening for the horizontal portion of the ventilator shaft was 1" above the floor, measuring 15" wide and 19" high. It is capped by a limestone lintel. The ventilator shaft extended horizontally under a niche for 5'9", at which point it became vertical to the ground surface. A parallel series of juniper branches averaging 1½" in diameter spanned the short axis of the shaft. When these branches weakened, the back part of the niche collapsed. This keyhole niche is located on the southeastern side of the kiva. The trench for the deflector was 2'7" long, 3" wide, 6" deep. The firepit is 15" in diameter and 2" deep, which is plastered over by a second floor level. There was a 9" x 10" hole located along the northwest part of the wall, which had no obvious alignment. Since it was unplastered, it was believed to be a rodent hole. All walls of the kiva were plastered with fine adobe which curved sharply into the floor. The bench, which spanned the northwest 1/3 of the kiva wall, was 3' high and 17" wide. The ends of the bench were terminated by vertical walls, although a 4" wide shelf connected both ends of the bench to the niche, which was approximately the same height (See Photo 84). The diagonal entryway (tunnel) located in the south wall was in a poor state. It may

have been a secret entryway or a careless trowel. Along the southern part of the wall was a closet, measuring 5' long and 2½' wide, used to store ceremonial paraphernalia. The wall between the closet and the kiva was 7" wide with a doorway 11" wide x 2'5" high. Below the right side of the above mentioned doorway was a square plastered hole (niche) measuring 4" x 4". Another hole located 2' north of the ventilator opening was 17" long x 9" high x 16" deep, just above the floor. During stabilization procedures the kiva was exposed to a depth of 72" SD3 and the bench was at 57½" SD3. During the minimal excavation in order to define walls, the northwest quadrant immediately outside the kiva wall was dug to a depth of 31" SD3, where a shaped rock layer was found. A second ventilator shaft was discovered just south of the chamber on the south side of the kiva. The shaft is between Room 23 and Room 15 and is 1.3' x 1.3' square. The shaft is made of red sandstone blocks and thin limestone chinking, probably close to the Type B masonry. The collapsed surface of the keyhole niche in the southeast wall was rebuilt. Ten juniper lintels (round) were placed over the short axis of the ventilator shaft, then flat limestone slabs, then dirt was placed over that (See illustration).

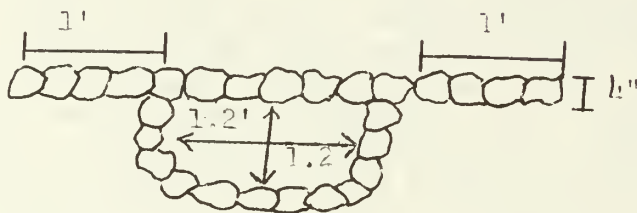


During stabilization, a flat sandstone slab was replaced over a tiny niche in the west portion of the bench. The kiva was remodeled where the wall of Room 22 forms a portion of the kiva wall. The diagonal entryway (tunnel) in the southeast portion of the kiva (just south of the keyhole niche) was stabilized thusly:





During stabilization of the eastern ventilator shaft, a row of sandstone blocks (thin and flat) was discovered formed in the wall. Looks thus:



East of this wall are larger, irregular sandstone blocks forming a rather haphazard fill. The "hole along the northwest part of the kiva wall" mentioned by Sigleo appears to be a niche. Its sides are straight and well-faced, and it was partially covered by a fragment of thin sandstone slabs. During stabilization, the sandstone slab was replaced (See Photo 86).

#### Miscellaneous Information

Adobe plaster is found in a number of rooms and the kiva. The following information describes the walls of the rooms in which adobe plaster curves from the walls into the floor: (1) the east wall of Room 1 (See Photo 38); (2) the northeast corner of Room 3; (3) the southeast corner of Room 5; (4) the east wall of Room 9; (5) all four walls of Rooms 12 and 13 (See Photos 47-51); (6) the west wall and the semi-circular chamber accompanying it of Room 15; (7) the west wall of Room 20 (See Photo 72); and (8) all walls of the kiva (See Photos 84, 85 and 86).

The following information concerns the sub-datum locations: (1) SD1, the corner of Rooms 1, 3, 4 and 6; (2) SD2, the southeast corner of Room 7; (3) SD3, the corner between Rooms 9 and 11, the east wall; (4) SD4, the southeast corner of Room 17.

The following information defines the different types of masonry found in Casamero Pueblo:

Type A masonry is primarily blue thin slabs of limestone with layered chinking stones. There is some red sandstone intermixed with a very orderly appearance.

Type A.1 masonry is similar to the above, but there is a much greater use of red sandstone.

Type B masonry is a predominant use of sandstone slabs separated by single rows of chinking stones. The sandstone slabs are typically larger than limestone used elsewhere on the site.

Type C masonry is primarily small limestone stones, with only an occasional occurrence of chinking stones and larger stones.

Note: Directions (north, south, etc.) are those established for this project and do not coincide with true compass directions (See map).

2.4 Grouting of Masonry- Grouting was accomplished with minimal destruction of the original fabric. The existing masonry was cleaned of loose material and the surfaces dampened to aid in the bonding and curing of a stabilized adobe grout. All visible grout was matched to the existing fabric. There were approximately 635 linear feet of exposed wall to be grouted. Our expectations were not to grout the entire surfaces of each wall, but to grout in a concentrated effect on specific areas that depended on a structural stability for the endurance and preservation of the site. This is to say, on most walls only the upper portion of the wall was grouted then capped. But in certain cases, where the lower portion of the wall was in need of attention, it was grouted to insure stability of the structure. Specific examples of walls that were completely reconstructed because of cave-in, bowing, or leaning, etc., have been cited in Section 2.3 (Reconstruction) of this workbook. All other walls were grouted on the upper portions of the wall, where capping procedures took place. (Discussion of capping will be in the following Section 2.5 (Capping). After a concentrated grouting effect took place on all needed areas, the walls were sprayed down with water, then an "overdue" was performed. Pocked marks are generally left after grouting is conducted. An "overdue" is one way of erasing these marks by the rubbing of the grout with a blunt stick, leaving a smoothed appearance. The walls are again sprayed down succeeding "overdue," lending a natural rain-worn appearance.

2.5 Capping of Walls- Approximately 635 linear feet of wall required capping. This stabilization technique bonded two more upper courses of masonry to the existing walls. Horizontal wall surfaces were capped with two courses of stone (See Figure 1), and walls having vertical irregularities had, at most, one stone's length added to all exposed ends (See Figure 2). Fall rock found on the site was used to fullfill this operation. The Team Archaeologist was on hand to make certain the Navajo stone masons were consistent in architectural style and specific masonry type.

2.6 Backfilling and Drainage: The backfill operation required placement and compaction of approximately 480 cubic yards of material. Approximately 250 cubic yards were available in the spoils bern left from excavation and approximately 230 cubic yards of material was imported to the site. The import material was hand-placed in the lower portions of the rooms and the kiva and the spoils material was placed in the upper portions.

The following procedure was conducted during the backfill operation.

Step 1: Before the backfill operations proceeded, a non-biodegradable material (perforated plastic sheeting) was placed on all the floors of each room and the kiva, in order to define the limits of our minimal archaeological excavation.

Step 2: After the plastic was placed on each floor, a six to eight inch layer of import material was hand-placed over the entire floor on both interior and exterior sides of free-standing walls simultaneously.

Step 3: This material was then compacted down with use of a mechanical compactor. This operation began in the center of the room and worked inward towards the walls. This operation was typical to each layer of material placed.

Step 4: Placement of materials and compaction took place in the same procedure as noted in Step 2, until the desired elevation was reached, which was within a foot of the top of all existing free-standing walls. An equilibrium in placement and compaction was maintained on both sides of the existing masonry.

All rooms and the kiva were backfilled in the same manner. However, Rooms 12 and 13 required special treatment because of the adobe plaster that remains on the walls. In an attempt to preserve this plaster, a zoning backfill technique was administered, whereby the fill material was free of organic material and clay (blowsand). This material was placed against the remaining plaster, liberally covering the periphery of the plaster and extending one foot into the backfill. This material will not adhere to the plaster when moist.

Near the end of the backfilling operation, careful attention was given to shaping and grading of the backfill material in order to provide substantial drainage patterns from the site. To provide these drainage patterns, involved careful sloping of the surface material in order to provide good moisture runoff. The material was carefully sloped so that moisture would run out of doorways and vents and not pile up against walls.

2.7 Support Actions: A sign explaining the legal protection afforded this site the Antiquities Act of 1906 and the Historic Preservation Act of 1966, was placed on the east side of the site.



Architecture. The stone walls of Casamero Ruin look so similar to walls at Classic Period (Bonito Phase) sites in Chaco Canyon that the ruin must have been built by the same group of people who built the fantastic multi-story pueblos in Chaco Canyon. Casamero is not a copy of the pueblos in Chaco. It was built for a different purpose, with different needs, but it was built by the same people, using the same techniques (Were stone masons bonafide specialists during the Bonito Phase?). Walls are built on a carefully prepared adobe/rubble foundation. The walls themselves consist of limestone slabs, carefully quarried and shaped to produce a kind of cored, veneered masonry which is structurally capable of supporting a great deal of weight, enduring a great deal of use, abuse, weathering, and requiring a great deal of labor. It's remarkable how much the limestone slabs at Casamero resemble the sandstone slabs used to build almost all Chacoan Bonito Phase ruins.

Florence Hawley Ellis (Hawley, 1938) distinguished between several masonry types in Chaco Canyon which can be identified at Casamero including Inferior Wide Banded with Core, Spalled Block with Core, and Fine Unbanded with Core (All A.D. 1100-1116). These three types were contemporaneous Unbanded with Core (all A.D. 1100-1116). These three types were contemporaneous at Chetro Ketl as they are at Casamero, and their associated construction dates imply a later construction period for Casamero than the pottery indicates, around A.D. 1100-1116. This is the same time period that Kin Ya'a was built, only 18 miles away. If not for the Red Mesa B/W, this would be a reasonable construction date for Casamero. We should keep in mind that dating based on pottery types is an approximation at best, while dating based on masonry styles is equally hazy. The cultural correlates of masonry styles have not been identified and different styles may reflect different stone masons, ethnic groups, sandstone sources, time period preferences, or the preceptual bias of modern observers (who are archaeologists).

Aside from the structure of the stone walls, other architectural features are the same as those in Chaco Canyon. I checked the linear dimensions of Casamero and found that the floor plan could have been established using a standard length of 1.66 feet, or 19.92 inches. Apparently the architect(s) and builders of Casamero had some kind of Anasazi "yardstick" to help them during construction. Dee Hudson (1972) studied standards of measurement in Chaco Canyon, isolating several standardized units including one for the west plaza of Pueblo Bonito which was 19.91 inches, identical to Casamero's standard. As Hudson's study isolated several measurement standards, this similarity implies close cultural ties between the people who built Casamero Ruin and the people who built parts of the west plaza at Pueblo Bonito, assuming more than coincidence is involved.

Usually Pueblo II ruins (Hosta Butte Phase sites in Chaco Canyon) consist of southeast facing rows of rooms, a kiva, and a trash mound. At Bonito Phase sites a plaza area enclosed by stone walls or rooms was also built. Casamero Ruin has an enclosed plaza like the Bonito Phase sites in Chaco Canyon.



CASAMERO SITE  
(AR-NM-01-144)

Normal P II, Hosta Butte Phase, pueblos average 6.5 rooms per kiva.  
Bonito Phase pueblos average 30 rooms per kiva. Casamero had approximately 20 rooms and one kiva.

Bonito Phase kivas have low benches running around the wall, thought to be used to support the roof. Casamero Ruin has such a kiva bench.

Bonito Phase sites include elaborate ceremonial structures, like the isolated Great Kivas of Casa Rinconada and Kin Nahasbas. Other isolated Great Kivas are near Penasco Blanco, Marcia's Rincon, Shabikeshchee Village, and Kin Ya'a. Casamero Ruin is 245 feet from an isolated Great Kiva. (The authenticity of Casamero's Great Kiva has been the subject of debate. Some archaeologists think it is a stock pond. These are the characteristics that suggest it is not a stock pond: 1) A fence runs through the middle of it, unlike a stock pond. 2) It is a perfect circle, unlike a stock pond. 3) Its perimeter is raised all the way around, unlike a stock pond. 4) It is not built across a drainage and has no watershed, unlike a stock pond. 5) It has no cattle trail leading up to it, nor did it ever have one, unlike a stock pond. 6) It normally does not have standing water. These are the characteristics that suggest it is a Great Kiva: 1) It is associated with a Chacoan Outlier. 4) It is similar to large depressions associated with other Anasazi sites in the Malpais area.) "Stone circles" are associated with Great Kivas in Chaco Canyon. None have been found near Casamero, but the mesa overlooking the site, where such a "stone circle" would be found has suffered extensive quarrying damage.

Bonito Phase sites are connected by "roads". Such a road has not been found at Casamero; however, our modern day dirt road follows the only route available for such a prehistoric road.

Every prehistoric structure can be described according to the amount of energy required for its construction. This energy requirement can be used as a measure of social status. It is easy to see that Casamero Ruin represents a lot more labor than other sites from the same period that are nearby. Just for purposes of comparison, I made some estimates of the labor involved in construction and the differences between the local sites. Let's say one man can build a wall one story high, two meters long, in one day. Then, for veneered masonry, let's add one day for every ten square meters of floor space to collect and prepare the shaped masonry slabs. For crude rubble and adobe construction, let's estimate one-fourth day per ten square meters of floor space to collect the masonry blocks. Let's add two days for every ten square meters to collect roofing materials and actual roof construction. Let's add one day per ten square meters for collection, preparation, and application of adobe. These are highly arbitrary figures, but if they're applied evenly to all sites, then I think the results will give a fair estimate of the relative differences in the labor required to build the different sites. My figures suggest it would take a family one week to build a three room pueblo, which is too short a time. They also show, however, that it would take twenty-five times the labor required for a one family pueblo to build a site like Casamero.

CASAMERO SITE  
(AR-NM-01-144)

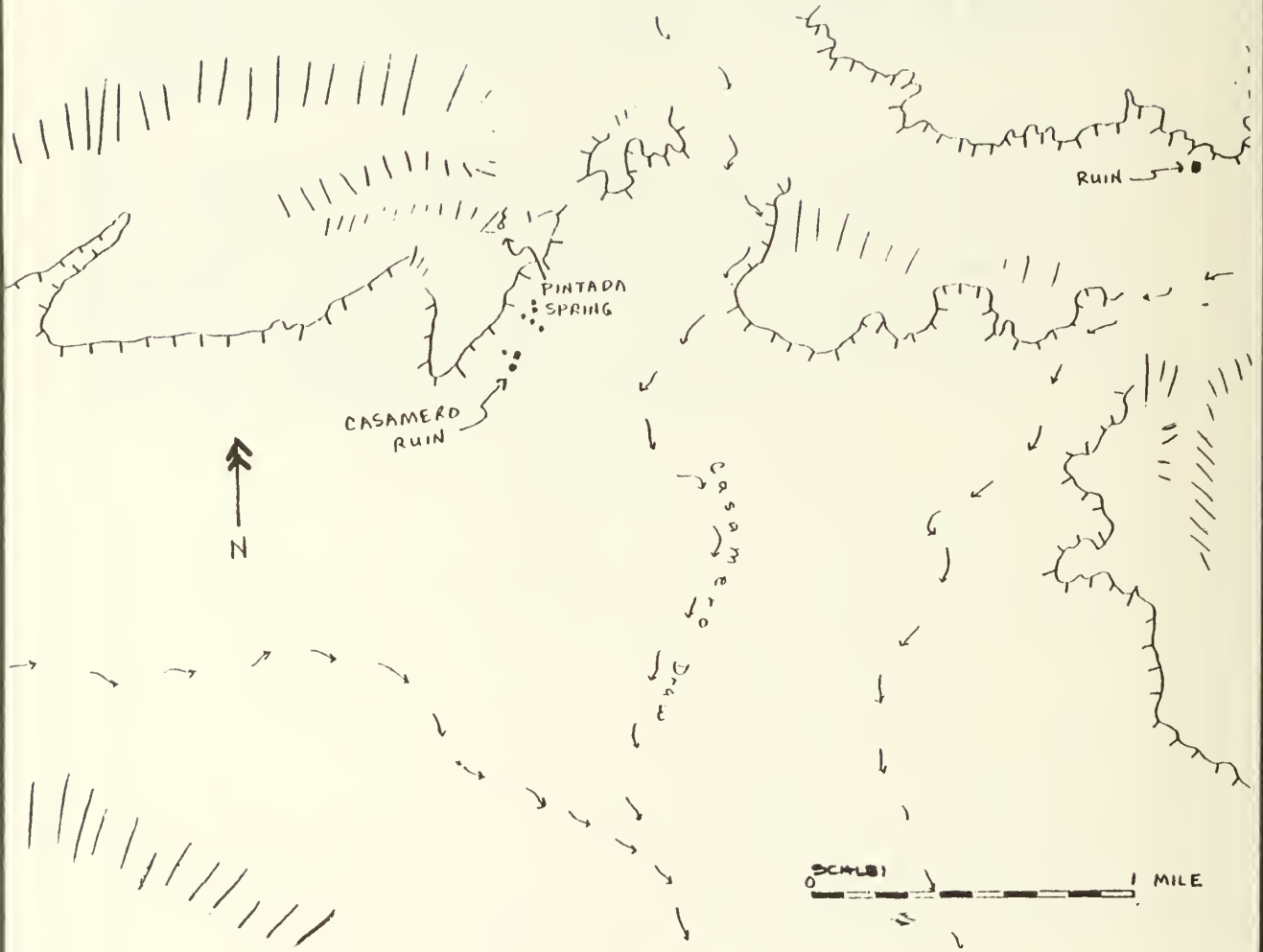
Jonathan Reyman (1971) has shown that some Anasazi architectural features reflect sophisticated astronomical knowledge. In ecological terms such knowledge has adaptive significance for agricultural peoples in the Colorado Plateau. Because the growing season is short, the time for Spring plantings needs to be known to the nearest week to avoid excessive crop failures. I have not been able to determine whether Casamero Ruin has any international astronomical orientations. The ruin as a whole has a southeastern exposure, like Hosta Butte Phase sites and unlike many Bonito Phase ruins. However, the east and west halves of Casamero have slightly different orientations, further confusing the picture.

Many of the walls in the eastern part of the ruin, including kiva walls, were constructed using shaped sandstone slabs as well as limestone. Why? Is this related to the slightly different orientation of the eastern half? Two ventilator shafts were found during stabilization, suggesting the kiva we see may have been re-modeled and may have had a different orientation originally. Why? A blocked tunnel seems to lead off from the kiva to Room 17. Why? I don't have any answers, but I have a feeling these architectural features are important clues to Anasazi culture as practiced at Casamero.

ARCHAEOLOGICAL DOCUMENTATION

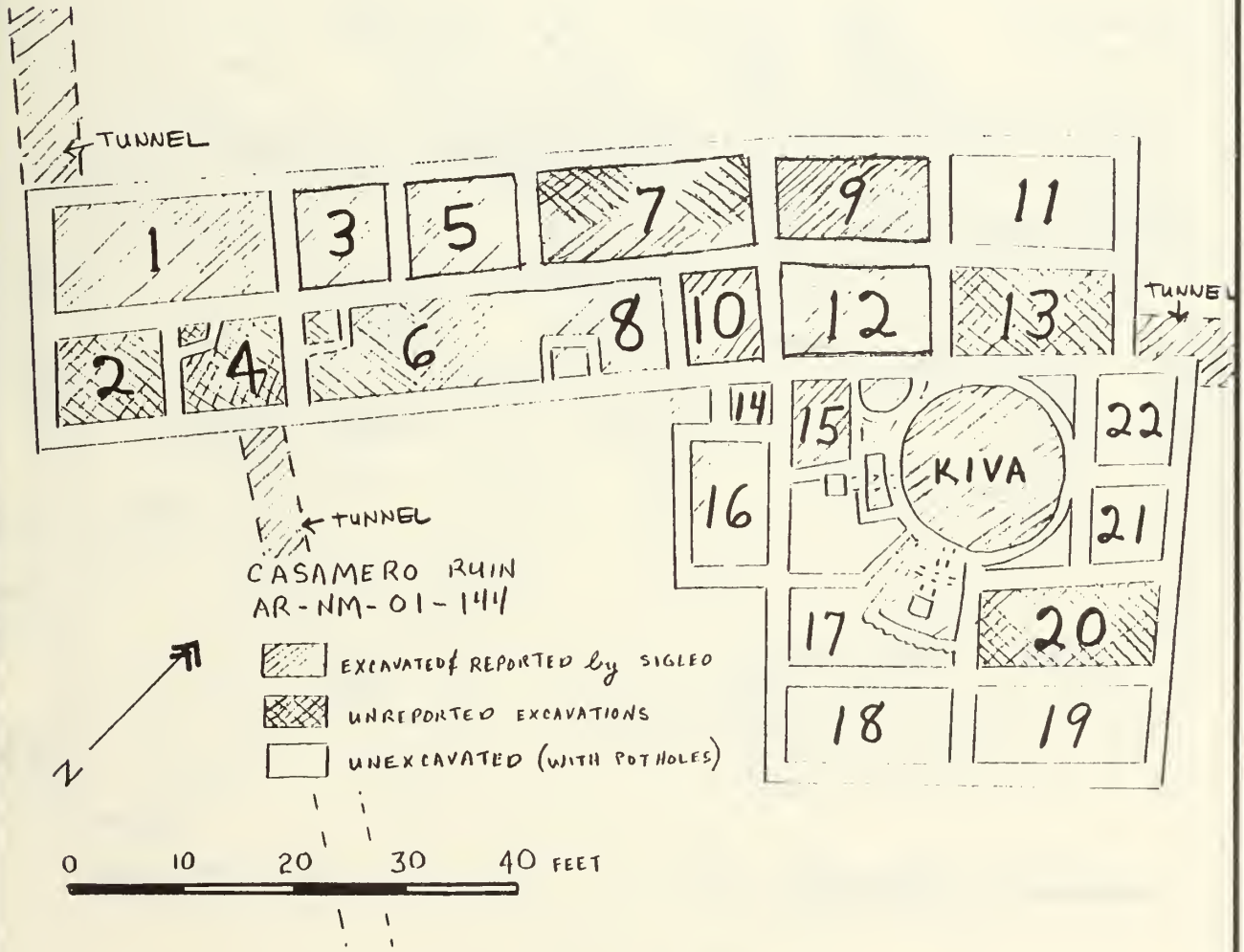
Maps

1. Overall Site Map
2. Excavation Map
3. Excavation Summary Map
4. Location of Stabilization
5. Profile Deposit Plan



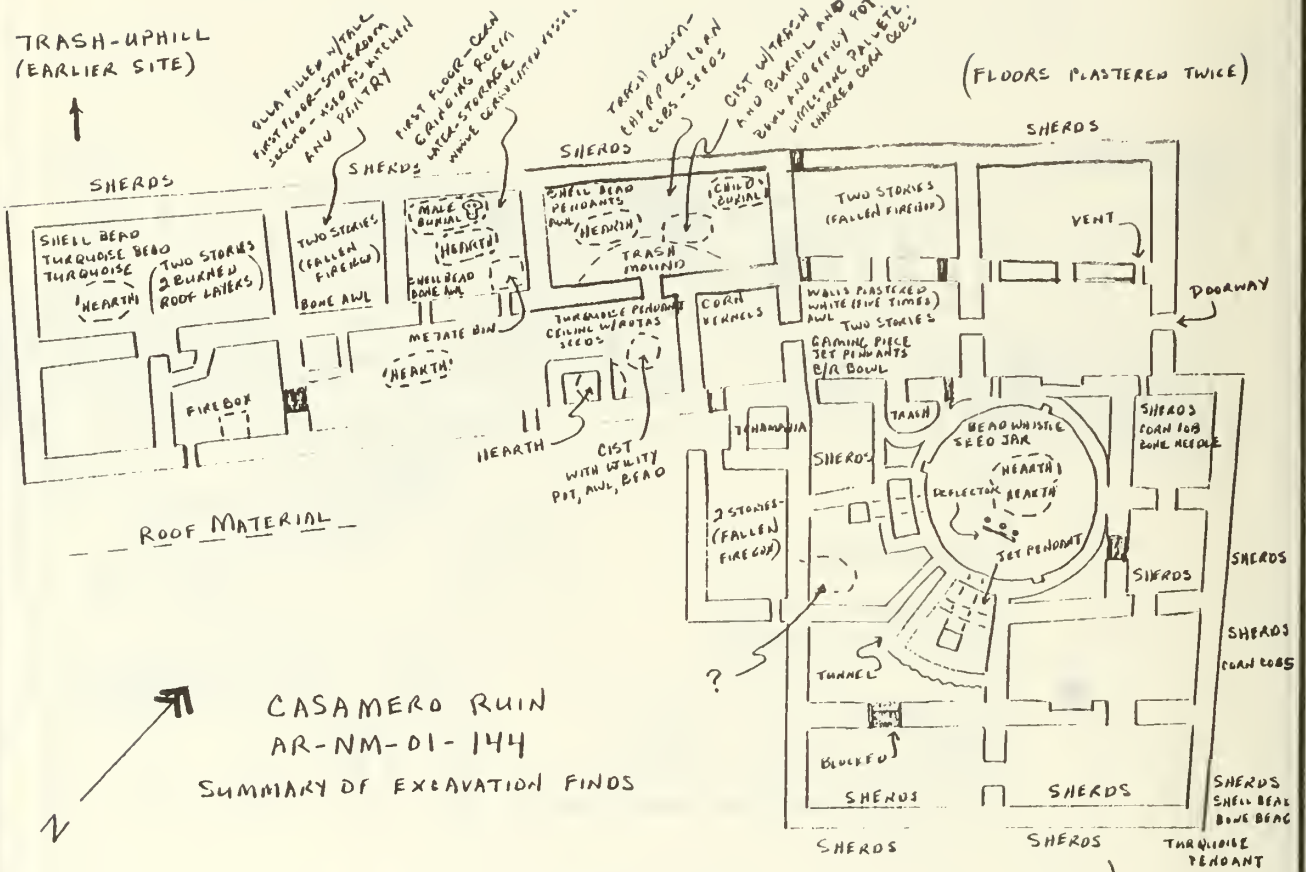
U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO CASAMERO SITE (AR-NM-01-144) OVERALL SITE MAP	
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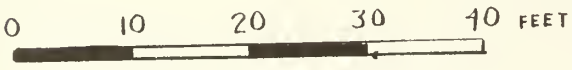
U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO CASAMERO RUIN (AR-NM-01-144) EXCAVATION MAP - ROOM NUMBERS	
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TRASH-UPHILL  
(EARLIER SITE)

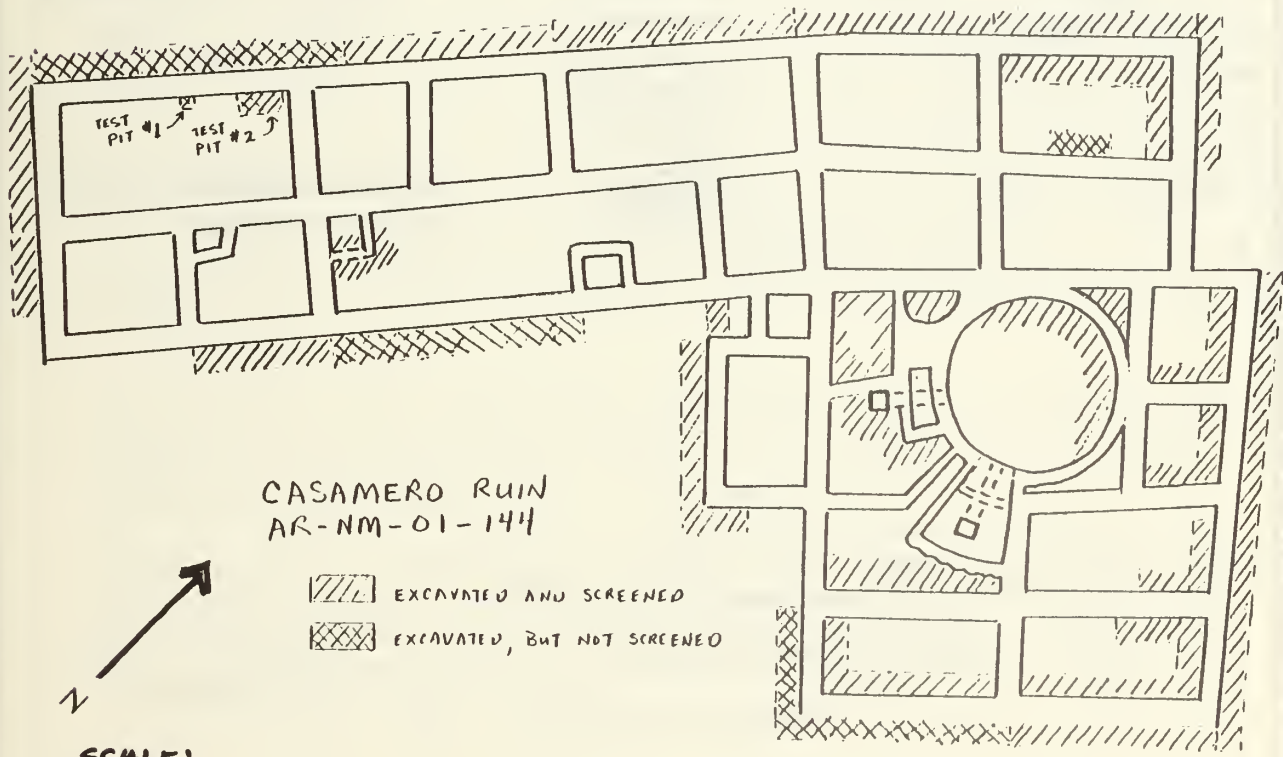


(FLOORS PLASTERED TWICE)

CASAMERO RUIN  
AR-NM-01-144  
SUMMARY OF EXCAVATION FINDS





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CASAMERO RUIN (AR-NM-01-144) SUMMARY OF EXCAVATION FINDS	
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CASAMERO RUIN  
AR-NM-01-144

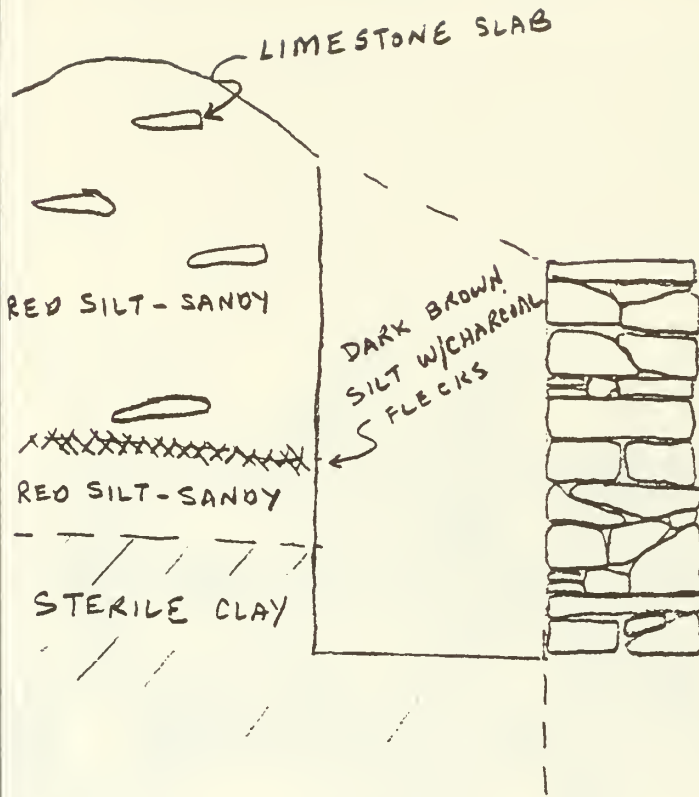


 EXCAVATED AND SCREENED  
 EXCAVATED, BUT NOT SCREENED

SCALE:  
0 10 20 30 40 FEET

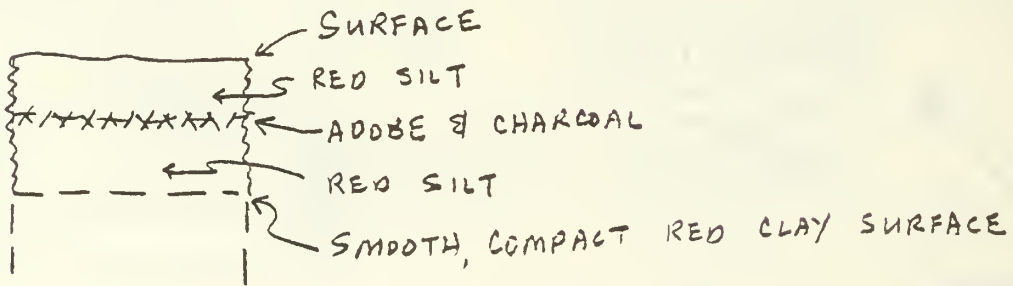


U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) LOCATION OF STABILIZATION CREWS EXCAVATION	
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DATE <u>8/78</u>	SHEET ___ OF ___
DRAWING NO. _____	PLATE 37



PROFILE OF DEPOSITS  
WEST OF ROOMS  
3 AND 5

0 20 40  
SCALE: INCHES



PROFILE OF DEPOSITS -  
DOORWAY SOUTH OF ROOM 14

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO CASAMERO RUIN (AR-NM-01-144) PROFILE DEPOSIT PLAN	
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DRAWING NO. _____	PLATE <u>38</u>



CASAMERO SITE  
(AR-NM-01-144)

Introduction. Casamero Ruin is a small pueblo related to the Classic Period "Bonito Phase" sites in Chaco Canyon National Monument (Pueblo II, Developmental Pueblo). It is located some 45 miles due south of Pueblo Bonito (Chaco Canyon), in the drainage of the Rio San Jose. The floorplan of Casamero Ruin is L-shaped and consists of twenty-two rooms and one kiva. The depression of a Great Kiva lies about 245 feet south of the room block. The site is named after the drainage in which it is found, Casamero Draw. Casamero was a Navajo leader who lived in the area in the nineteenth century.

Most of Casamero has been excavated. A. Howard Elam vandalized the site in 1963 and 1966 and took material from rooms 2 and 4, the southern half of room 6, the lower levels of room 7, and various portions of the eastern wing of the site, rooms 17, 18, 19, and 20. This material should be in Mr. Elam's possession. The Cottonwood Gulch Foundation (a summer camp) conducted excavations for instructional and recreational purposes during the summers of 1966 and 1967. The campers were supervised by Anne Sigleo of the University of New Mexico, and excavated rooms 1, 3, 5, 7, 8, 9, 10, 12, 14, 15, 16, kiva "A" (the clan kiva), and the northern half of room 6. Sigleo excavated additional portions of the site in 1974 (room 13?). The artifacts are stored in the Maxwell Museum of Anthropology at the University of New Mexico.

Anne Sigleo's reports state that Casamero was similar in pottery types, room size, and masonry type to sites in Chaco Canyon. She estimated that it was occupied from approximately A.D. 1050 to somewhat later than 1100 (Sigleo, 1966, 1967).

Casamero Ruin was stabilized by the BLM in the summer of 1967. Considerable excavation took place during stabilization operations, and this report gives the findings of that excavation and stabilization. The artifacts are in storage in the Albuquerque District Office building of the BLM.

Research Goals . I became ruins preservation archaeologist for the BLM in December 1976. Along with the job came a box containing some 2000 artifacts collected from Casamero Ruin during the previous summer. The artifacts came from midden deposits along the outside walls of the pueblo. There were no associated features. Therefore, I assumed the artifacts should provide a sample of general site characteristics, and give a basis for comparison with other sites and historic ethnographic accounts. It would be difficult to generate and test models for differential intra-site utilization (activity areas, room functions) drawing on the data. Anne Sigleo's reports provide the kinds of data we would need for that. By combining our data with that from previous excavations at Casamero Ruin, and contrasting it with data from other excavations in the Prewitt area, and comparing it with studies completed and going on in the Chaco Canyon area, we should be able to make some inferences about Anasazi culture in general, and about phenomena associated with the Classic Period in Chaco Canyon in particular.

Present day American archaeology has three aspects: 1) Description of excavations and artifacts, 2) Analogy between observations made during excavations and ethnographic observations, and 3) The scientific study of cultural processes. Description has dominated most reports which describe what was found in detail, compare it with what has been found at other sites, and drawing on current theories about human behavior make generalizations about chronology and cultural relationships. Likewise, one contribution of this report will be to describe what was found. Unfortunately, it will add very little that is new. Anne Sigleo's studies are much more comprehensive and will always be the major source of data for any study of Casamero Ruin. Our pottery sample is small, and merely supplements and confirms the pottery chronologies that have been described from numerous Anasazi sites. However, it should provide us with a good control for studies at other sites. This is because the ceramic remains at Casamero Ruin come from a single stratigraphic horizon, represent a relatively short time span, a small population, and a particular socio-economic settlement. Variability due to various kinds of culture change should be minimal. A detailed analysis and description of the pottery types from sites in the general area of Casamero Ruin have already been presented in a Laboratory of Anthropology report on the results from an intensive site survey and the subsequent excavation of 28 nearby sites (though the report is not yet available for general use). (Smith, 1964) Our sample should contain the same pottery types, though some differences may exist, if Casamero were occupied by people having different social and economic status from those in the surrounding pueblos. The non-ceramic artifacts we recovered are few, not particularly unusual, and should add little to previous knowledge. In describing archaeological features at Casamero Ruin I'll be trying to answer such questions as who were the people who lived at Casamero? (culture group?) How did they participate in the local ecosystem? Was the site occupied for only a few generations as the surface pottery indicates?

CASAMERO SITE  
(AR-NM-01-144)

In addition to providing a postscript to local archaeological studies our sample should also provide a supplement to the current research project in Chaco Canyon. How does Casamero Ruin prove or disprove theories about cultural development in Chaco Canyon? How was life at Casamero tell us about Great Kivas? These are the questions which guided my analysis of the finds at Casamero Ruin.

Methods of Data Collection. The location and extent of all excavations were determined by stabilization requirements only. In this way the BLM crew hoped to disturb the site as little as possible. Field notes were taken describing the dimensions and locations of all trenches, and the nature of the fill. Backdirt from previous excavations contained no artifacts and was discarded. Other deposits were screened and the artifacts were collected according to relevant site distinctions; i.e. by room and natural levels. Some irrelevant distinctions were also noted such as depth below an arbitrary datum.

Archaeologists usually confuse the distinction between means and ends, and many will tell you that professional archaeology can be distinguished from vandalism by the professionals' technique of digging according to arbitrary grid systems and levels, and the curation of artifacts by museums and universities. To me this is just a form of institutionalized vandalism. The purpose of archaeology is to study prehistoric cultures and cultural processes. Published reports are the desired and end-product, not the accumulation of profuse field notes and unopened boxes of artifacts. Established techniques are merely conventions, and in many cases waste valuable time, time that could be better spent elsewhere, getting control samples, doing local reconnaissance, looking at other collections, studying previous reports in the library, or conducting tests in the lab. All these comments are relevant because they provide a basis for discussing what I consider to be a major flaw in most field archaeology: the principal of postponed gratification. Most archaeologists dig as if each new site were terra incognita and no decisions should be made until we get everything together "back at the lab." This is a mistake. In the first place, we've done enough digging already to give us a pattern of general site characteristics. I know one archaeologist who can tell you what you'll find in a site, based on surface clues alone, and he'll be right 95% of the time (or should I say for 95% of the site?). We have learned something in the past 100 years. And in the second place, many excavations produce more questions than they answer, because the excavators put description before understanding. How many floors in Room #6? Is the floor in Room #6 contemporary with the floor in Room #12? Was Feature #10 a firepit? Was the mano fragment in Room #2 associated with posthole #3 or the post-occupational fill? These are questions to be answered in the field, not from field notes back in the lab. My main argument is this: we extract the maximum amount of archaeological data from a site not by resorting to the establishment of arbitrary relationships and other professional conventions, but by understanding the relevance of our observations and creating non-arbitrary relationships, relationships that reflect the processes we're studying. Depth below arbitrary datum was a time-consuming field notation which I could not use in preparing this report. Observations about site stratigraphy, though not recorded in the same meticulous detail, were more helpful. Don't misunderstand me. I'm not advocating we throw our conventional field procedures. They have their function. I merely digress to point out that our conventions sometimes impede discovery, when we waste time recording data without relevance to research problems. I apologize to those archaeologists for whom depth below an arbitrary datum is a research problem.



My approach to field archaeology is particularly germane to the problems of a ruins stabilization archaeologist confronted with a crumbling ruin. If archaeology is thought of as the science of digging up artifacts by arbitrary levels, then ruins stabilization need not involve archaeology and much time can be passed sipping pink lemonade under cool shade rocks. (Here in the desert there is a negative correlation between sites and trees.) However, when archaeology is thought of as the scientific study of past cultures, then the number of relevant observations that can be made extended far beyond the limits of the dirt and are limited only by the confines of time and the ingenuity of the archaeologist. I hope this report illustrates the potential of ruins stabilization for producing archaeological information, and the need to approach ruins stabilization like any other research project.

For many archaeological terms, common usage has established meanings quite different from the meanings employed by archaeologists. One of the most commonly used, and misused, term in any discussion of archaeology is "artifact." Artifacts are usually thought to be such things as arrowheads and pottsherds, and archaeology has been referred to as "the study of artifacts." This is true, but archaeologists give the term a much broader meaning, to include all phenomena that result from man's activities, and give us clues to the past, so that while an arrowhead is an artifact related to hunting, prehistoric settlement patterns are artifact related to hunting, prehistoric settlement patterns are artifacts of human ecological relationships, and soil profiles are artifacts of site use, environmental change, cultural stability, and so on. There is nothing associated with an archaeological site that cannot be studied for clues to ancient history, and sometimes the arrangement of things is as important as the objects themselves. That is why we have a professional responsibility to record and report all aspects of our stabilization operations, soil disturbances as well as rock wall alterations. To say that we are preserving a ruin by putting cement into rock walls while ignoring the rubble and midden deposits along these walls is to misunderstand the nature of archaeological data, and would be called by most archaeologists "destroying the site."



To say that archaeology is "the study of artifacts" is also a common misconception. Archaeology is the study of human history, and it is the study of human culture. The goal is not to fill museums with arrowheads and pots. The best place to study and understand cultural objects is in context; for archaeologists this means in the field, at the archaeological site. Analysis doesn't begin back in the lab. As in all scientific research, analysis begins with the preparation of a proposal for action, whether it be an experiment, or the stabilization of a stone wall. The reason I say this is because the observations we make and the records we keep are as detailed or as general as our understanding of relevant data and the kinds of analyses we plan to undertake. Ruins stabilization requires the same kind of preparation we need to begin field research, if we want to take our perception past

the realm of passive anticipation. Stabilizing stone walls may be the focus of our labors, but archaeology is the study of human cultures, not stone walls.

I feel these comments about archaeological method and theory are relevant because I want to use this report to show how much information can be recorded, or lost, during the implementation of a ruins stabilization project. Traditionally, stabilization reports are treated like weight-loss documents, with "before" and "after" photos, a log of time and money spent, with little recognition of the fact that archaeological data is being observed, manipulated, and destroyed. I want to use this report to show that ruins stabilization is applied, practical archaeology, and needs to be planned with research goals in mind, like any other archaeological project.

I drank my lemonade and sifted through the box of sherds and field notes. They were not enough. Additional data had been collected. No site exists as an isolated entity ("ask not for whom the bell tolls"). I made a reconnaissance of the area surrounding Casamero Ruin and recorded cultural and natural features that would be important in my understanding of life at Casamero. I also examined the Casamero collections stored in the Maxwell Museum of Anthropology in Albuquerque (for which I gratefully acknowledge the help of Marian Rodee). I examined ceramic collections from the Prewitt area stored at the Museum of New Mexico's Laboratory of Anthropology in Santa Fe (for which I acknowledge the help of Stewart Peckham). I talked to Helene Warren about her study of the ceramics in Chaco Canyon (and thank her for her help). I examined the skeletal material from Casamero in storage at Maxwell Museum (for which I acknowledge the help of Cheryl Ferguson). And the Chaco Center sent a wood sample to the Laboratory of Tree-ring Research for dating (and I thank them for this and many other favors throughout this project).



 PINYON - JUNIPER WOODLANDS  
 ARID GRASSLANDS

0 1 2 3 4 5  
 SCALE: MILES

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) NATURAL ENVIRONMENT MAP VICINITY OF CASAMERO RUIN	
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THE NATURAL ENVIRONMENT. The land around Casamero Ruin is part of a large physiographic province known as the Colorado Plateau, which more or less corresponds to the upper drainage basin of the Colorado River. It is a region of rough and broken terrain, with small steep mountainous areas, plateaus, and mesas, intermingled with steep canyon walls, escarpment, and narrow valley bottoms. Elevations range from 6500 feet to 7500 feet. In cultural terms, the Colorado Plateau is the region that was settled and dominated by the Pueblo peoples around 900 years ago, the same time when Casamero Ruin was occupied. Today, the region roughly corresponds to the home of the Navajo and the Ute Indian peoples. where it is not totally uninhabited.

Geographically, Casamero Ruin is located on the borders of three separate geographic regions: 1) the Zuni Region, roughly the upper drainage basin of the Little Colorado River including the Zuni River and the Puerco River; 2) the Eastern San Juan, especially the drainage basin of the Chaco Wash; and 3) the Rio Grande, in fact, Casamero Ruin is located in the upper drainage basin of the Rio San Jose which flows into the Rio Grande. Such a location, on the periphery of three different regions, should be reflected in the archaeology of the site.

Today, all of the drainages in the area are intermittent and usually flow only for short periods following heavy rains. The annual precipitation is low, from 10-17 inches. Summer is the rainy season, characterized by heavy thunderstorms. The last day of frost is around the first week in May in the Spring, and the first day of frost in the Fall is around the second week in October.

Most of the land is used for grazing, and it is easy to see why. Farming without irrigation is extremely hazardous. Profitable dry land crop yields would come only in years with above average precipitation. The soil is characterized by low permeability, erosion hazards, susceptibility, erosion hazards, susceptibility to flooding, and the accumulation of salts.

What is hard to understand is how the Pueblo peoples came to settle the area in the first place. We know their basic economy depended upon the farming of corn, beans, and squash, raising turkeys, supplemented by some gathering of wild plant foods and hunting such animals as rabbits, occasionally mountain sheep and antelope.

There are scattered stands of Ponderosa pine near Casamero Ruin, perhaps all that remain of a pine forest that was once more extensive. If the composition of local plant communities today are not the same as during the Anasazi occupation, then perhaps the Anasazi are responsible for initiating the changes that produced the natural environment we see now. Sediment profiles in nearby arroyos suggest changes in topsoil characteristics may have occurred since the Anasazi first tilled the soil around Casamero.

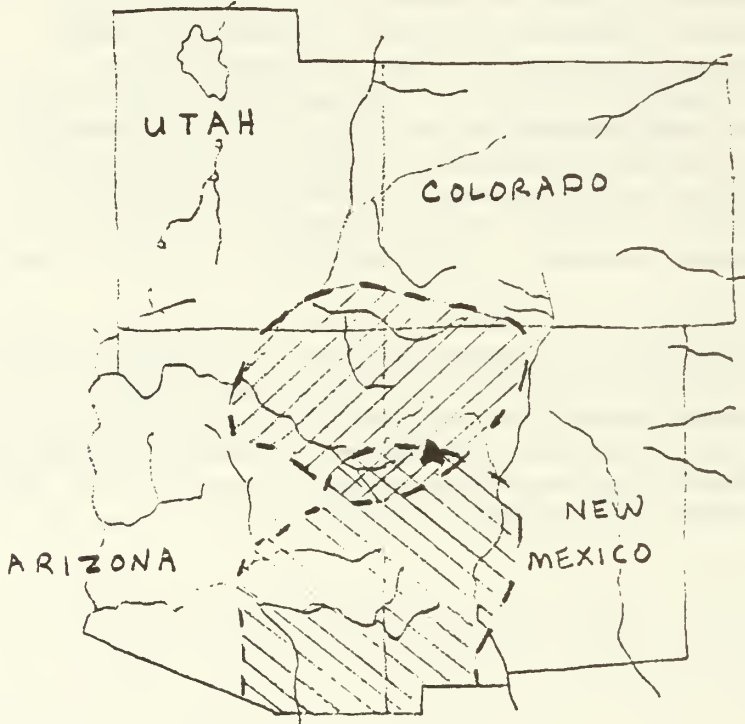
One source of information on the environments in which prehistoric man lived is the bone material recovered from archaeological sites. Not



CASAMERO SITE  
(AR-NM-01-144)

only do the bone remains give information about animals eaten by man, but also about vegetation and climate. The larger animals are of little value in environmental reconstruction, because their natural ranges extend over a wide variety of habitats. However, the range of small mammals is restricted because of restricted habitat requirements. Multi-variate analyses of skull measurements are useful in identifying small mammal bones to the species level, a necessity for environmental studies. A comparative reference collection of bones is also helpful. My analysis of the bones from Casamero was done without the benefit of either of these two research techniques and, consequently, I fail to identify bones to the degree necessary to provide proof for environmental change.

The Prewitt salvage study reported no unusual fauna and no stratigraphic differences in fauna. There was a high percentage of jackrabbit, cottontail, and prairie dog bones. Other animals identified were bighorn sheep, deer, pronghorn, pocket gopher, wood rat, knagaroo rat, white-footed mouse, silky pocket mouse, northern grasshopper mouse, pinon mouse, snake and dog. For some unknown reason, there were no birds.



CULTURAL BOUNDARIES A.D. 900-1100



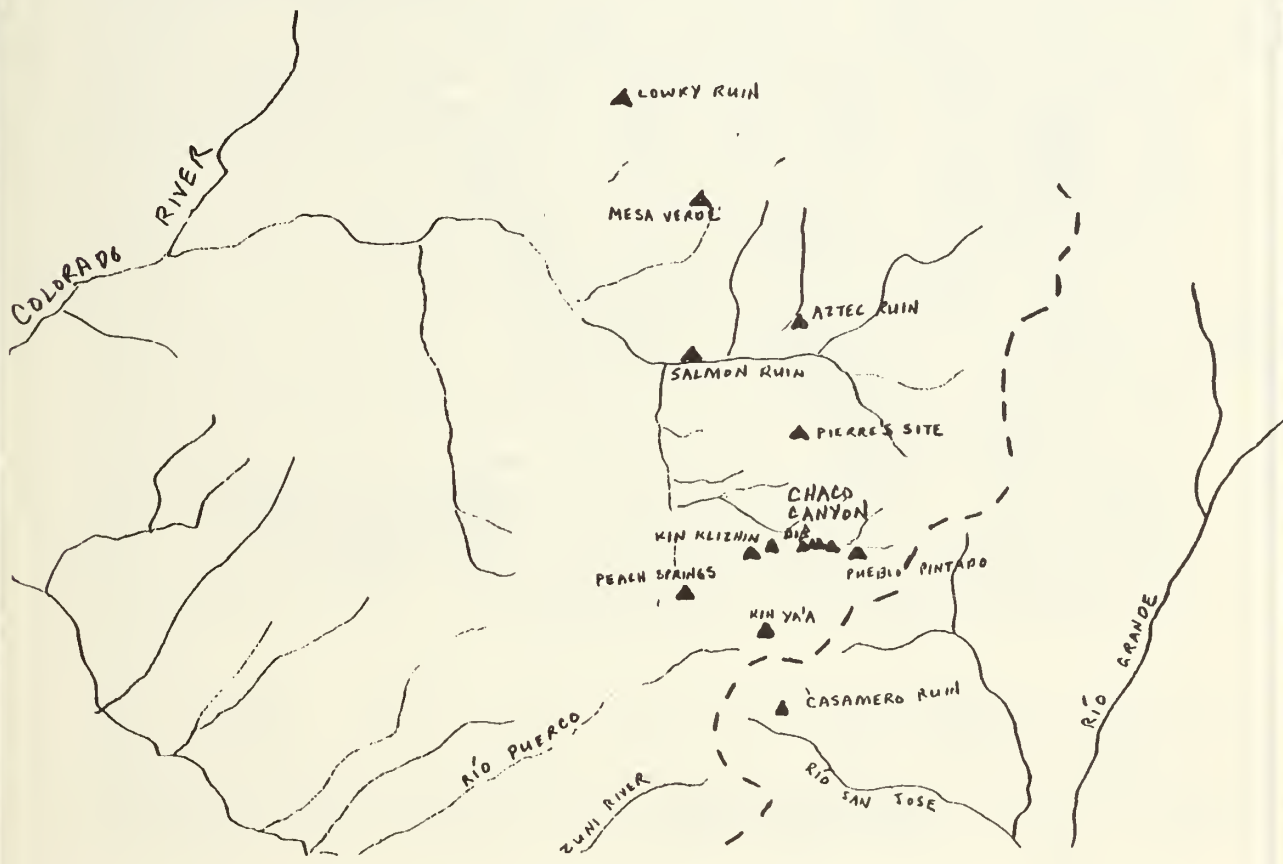
MOGOLLON



PUEBLO

▲ CASAMERO RUIN

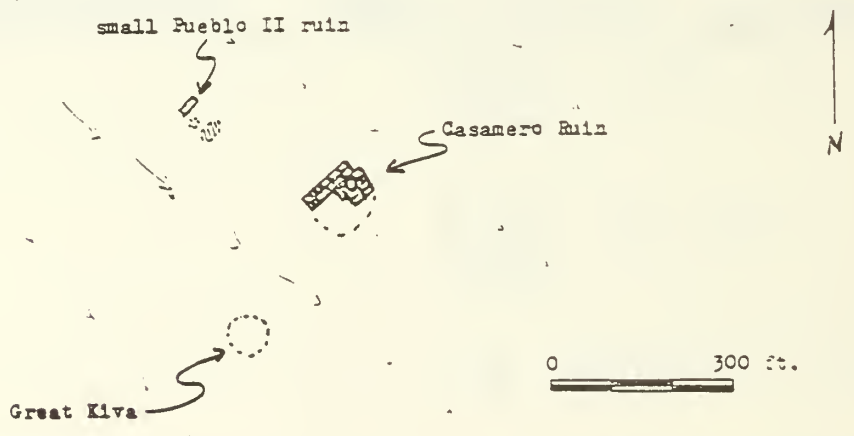
U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) CULTURAL ENVIRONMENT BOUNDARIES (900-1100AD)	
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U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE, NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) LOCATION OF CHACO CANYON AND RELATED CLASSIC PHASE SITES	
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SKETCH OF RUINS ASSOCIATED WITH CASAMERO RUIN.



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE, NEW MEXICO	
CASAMERO RUIN (AR-NM-a-144) RUINS ASSOCIATED WITH CASAMERO	
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DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	PLATE <u>50</u>



THE CULTURAL ENVIRONMENT. The period from A.D. 900-1100 was a time of population explosion, and cultural expansion, in the Southwest, particularly in the Colorado Plateau, which reached its highest human population density ever around A.D. 1100. The power and influence of the Mogollon peoples, centered in the Mimbres area to the south, was diminishing, while the power and influence of the Pueblo peoples, centered in Chaco Canyon, was growing. Mogollon pottery styles came to resemble Pueblo pottery styles, in both utility and decorated wares. Something unusual was happening in Chaco Canyon. The Pueblo people started building large, planned, multi-sorted buildings with cored, veneered masonry for the first and only time in their history. Roads branched out from Chaco Canyon to numerous other satellite communities, many of them having an unusual architectural feature known as a "tower kiva," and many of them (such as Casamero Ruin) associated with a new kind of structure known as "an isolated Great Kiva." Macaws and copper bells were imported from Mexico, along with some unusual pottery styles. Archaeologists favor two explanations for the Chaco Canyon phenomena. Some people think a powerful city-state developed, indigenous to the Chaco Canyon area, which dominated the politics, economics and religious beliefs of the Colorado Plateau. Some people think that Toltecs from Mexico invaded the area and are responsible for the cultural changes that took place.

Human Ecology. Ecology is the study of the relationships between living organisms and their environment. In order to understand the system operating at Casamero we need to review the data from the Prewitt salvage excavations, since the people who lived in those ruins were an important part of the local ecosystem.

Ceramic analysis suggested the area was occupied for a short time, from A.D. 950 to 1050. The early P II dating was probably based on the abundance of Red Mesa B/W, and seems to be too early considering the tree-ring dates. A.D. 1050 to 1150 is probably a closer approximation of the habitation period.

The sites were on low ridges overlooking the valleys, between the woods and the fields. Settlements were small, consisting of masonry pueblos with one to four rooms. A few sites were larger, with over seven rooms and a kiva. Walls were built of roughly rectangular sandstone and mud. Only three of the sites had masonry comparable to Bonito Phase sites: Prairie Dog Pueblo, Arroyo Chico Site, and Lobo Mesa Site. Prairie Dog Pueblo was the only site with prepared floors. These tiny pueblos did not conform to any particular stylistic pattern.

In contrast, the area also had people living in pithouses that closely conformed to a particular pattern. They all had prepared floors, deflectors, firepits, and sipapus. As the latest tree-ring date from the area of A.D. 1050 came from a pithouse at LA6482, we know the two kinds of housing were contemporary. The dichotomy implies two ethnic groups were in the area, one highly variable and the other uniformly clinging to tradition. In either case the people seemed to be farmers.

Ecological variables include population size and its relationship to critical resources. How many people lived at Casamero? The size of a pueblo is related to the number of inhabitants, though the range of variation is considerable. Historic pueblos average 1.9 people per room (Pierson, 1949). Using this figure, Casamero housed fifty people. However, if we make an adjustment to compensate for the high rooms/kiva ratio at Bonito Phase sites like Casamero, and try the estimate of 12 people per kiva (based on the Hosta Butte Phase ratio), we would guess that Casamero was the dwelling for 12 people, perhaps one family and their servants. The idea that Pueblo II kivas belong to family groups, rather than kinship groups such as clans, needs to be tested, but certainly fits well with the pattern in Chaco Canyon. If Casamero were the home of one family, they lived in luxury compared to the surrounding people who lived in 1-4 room pueblos and pithouses. The people at Casamero had more space, more rooms, better walls, and they didn't have to walk as far to get to the Great Kiva. Clearly, they were the local elite, probably politically as well as economically. Their association with the Great Kiva implies they were the religious leaders as well. The merchant class concept in Chaco Canyon archaeology does not apply to the pattern at Casamero, unless we can show that the Great Kiva had significance as a market center rather than a religious center. Of course, a Great Kiva would have been an ideal place for collecting religious tribute, as the Spanish cathedrals were several centuries later. The plaza area would have been more appropriate for market trading.

Based on population density, habitation in permanent dwellings, and the corn and squash in trash middens we know the local people were agriculturalists. How intensively they farmed the area we don't know, but some degree of resource deterioration and depletion probably occurred, since the land today is more suitable for grazing than farming. The period of occupation does not seem to have been long, and abandonment was probably caused by some deviation in the cultural climate rather than devastation of the natural environment. We have no evidence for new buildings or roof repairs before A.D. 1030 or after 1050. The artifact collections from the Prewitt salvage project point to no particular regional specialization that might have made the area uniquely important to the Chaco Canyon system. Is the number of hammerstones or palettes significant? This should be one of the questions addressed by future research in the area, since I'm certain the area was locked into the Chacoan system, as indicated by the rapid pace of settlement and abandonment.

Other questions about human ecology cannot be answered by our data. How can we describe the Anasazi diet? What was the relative importance of corn, squash, rabbits, and turkeys, all found at Casamero? Floatation analysis of midden samples might help answer this question.

Did local farmers irrigate their fields? What size were local Anasazi fields? Our reconnaissance of the area failed to locate field boundaries or remnants of irrigation systems. Aerial photographs might help, unless

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unless Anasazi fields are covered with silt, or totally eroded away. It's also possible that fields with regular boundaries and irrigation ditches were not part of the system.

These questions are intimately related to any study of ecological relationships and need to be answered before we can understand the human ecology of the area.

Ceramic Analysis. Pottery has become the most valuable diagnostic artifact from archaeological sites in the Southwest, documenting culture change, trade, migration, and dates of habitation. We can do this because Pueblo potters made their wares using clay from specific quarries, and certain pottery types were made by only a few families, or perhaps a few villages, who traded their wares to surrounding areas. Each pottery tradition is characterized by its distinctive clay pastes and tempering materials, and each generation of potters is characterized by its adherence to traditional norms while introducing its own innovations. When archaeologists classify pottery, they are trying to identify these pottery traditions and generational changes. Our evaluations are only approximate, since important distinguishing characteristics can be recognized only under the microscope, and we don't have one yet. Petrographic analyses are slow, and much of the basic research remains to be done, such as identifying the traditional quarries and describing their distinctive clay pastes. However, the development of this kind of laboratory technique would substantially benefit our program. In this report I classified the pottery on the basis of gross morphological characteristics, color, surface treatment, design styles, and temper. I used a small hand lens.

Two general classes of pottery were manufactured: the cooking and storage pots of everyday use, and the decorated table and ornamental vessels. It is often assumed that most of the culinary (utility) vessels on a site were made locally, because they were larger and more difficult to transport, but this is not necessarily true. In Chaco Canyon Anna Shepard decided that none of the late corrugated vessels were made locally, based on petrographic analyses showing that corrugated sherds had non-local tempering materials. Besides, some trade goods, such as salt and talc, might be transported in large utility vessels. In Room 3 of Casamero Ruin excavators found a corrugated vessel filled with talc. Our ceramic study uncovered two noteworthy observations: 1) the pottery at Casamero Ruin was made from a wide variety of pastes and tempering materials, and 2) the design styles were remarkably similar, regardless of differences in the clay body.

The ceramics indigenous to the area around Casamero Ruin have been grouped into three distinct wares (Hargrave, 1964). The dominant one is Cibola White Ware. Also present is San Mateo Gray Ware, consisting of several painted types, and Cibola Gray Ware, consisting of unpainted types only.

Cibola White Ware is made up of several types of white pottery with black-painted decoration. These are included within the Puerco-Chaco Series and consist of the following:

Kiatuthlana B/W	Pueblo I
Red Mesa B/W	Pueblo II
Puerco B/W	Pueblo I-Pueblo III
Escavada B/W	Pueblo II-Pueblo III
Gallup B/W	Pueblo III



The Gladwins, who described and named the types (1931) stated:

"The attempt to define black-on-white pottery horizons in the culture of the Little Colorado creates a situation which at once invites controversy. Our definition of types has therefore purposely been vague and no attempt has been made to draw sharp lines of cleavage; on the contrary, we believe that the evolution has been gradual and continuous." (p. 26).

Hawley revised and redefined the Gladwins' types in her presentation of Chaco District types in 1936. They were also discussed and used by Mera in 1943, and Colton and Hargrave in 1937.

Adequate descriptions of the distinguishing characteristics of each of these types in the Puerco-Chaco Series have never appeared in print. The points of difference between them need to be defined, so as to provide archaeologists with a common basis for discussion. In this report, I will try to make my pottery types as understandable as possible.

In 1964 Hargrave proposed a new series for the districts around Casamero, calling it the Prewitt Series:

White Mound B/W	Basketmaker III-Pueblo I
Kiatuthlana B/W	Pueblo I
Red Mesa B/W	Pueblo II
Grants B/W	Pueblo II-Pueblo III
Prewitt B/W	Pueblo III

Hargrave also re-examined the Chaco Canyon Series, distinguishing between Gallup and Escavada types on the basis of finishing techniques rather than painted designs, because design styles did not seem to be a reliable segregating factor. Sherds from the Casamero area which resembled Gallup B/W (named Prewitt B/W) showed a very close resemblance to that type in Chaco Canyon. In fact, sherds from the Casamero area and from Chaco Canyon could be distinguished only on the basis of temper differences. This suggested to Hargrave that during the relatively short life of Prewitt B/W a close contact existed between the Casamero area and Chaco Canyon. Hargrave also suggested that this close contact may have had some bearing on the abandonment of the Prewitt sites. He was looking at more than just similarities in ceramics. Numerous factors suggest the archaeology of the Casamero area is related to the archaeology of Chaco Canyon, and when the Chaco Canyon cultural complex declined, Casamero Ruin was abandoned.

Associated with the indigenous Cibola White Ware types (Prewitt Series) Hargrave reported and described some indigenous black-painted gray types. The gray types were basically the same as the black-painted white types, except that the white types were made with a white wash, or slip,

Hargrave thought that the omission of Laolin slip indicated an economic problem in the area, reflecting a shortage of Laolin, since omission of the slip seemed to be synchronous with an increase in the size of the jars to be painted. Omission was a general practice, sufficient for a new designation, which Hargrave called San Mateo Gray Ware, including:

Bluewater B/W	Pueblo II
Las Tusas B/G	Pueblo II-Pueblo III
San Jose B/G	Pueblo III

Hargrave's data is not available, so I have no way of knowing the abundance of San Mateo Gray wares in the Prewitt District sample, but I think I should mention that they were minimal in the Casamero Ruin sample, suggesting the people who lived there were not as deprived of scarce resources as those who lived around them.

For this study I analyzed the potsherds in several ways. 1) I classified them according to Hargrave's Prewitt District pottery types. 2) I compared the designs on the outside of vessels with those on the inside. 3) I tried to seriate the two most common decorated types according to provenience, using Anne Sigleo's data from 1966. 4) I compared the percentage of corrugated sherds in various locations. 5) And I looked at the variation in corrugated vessels rims.

I sorted the sherds using established types in order to measure the magnitude of cultural relationships with other pottery making communities, and to get an idea of the time of habitation of the site. The distribution of types sources shows that 74% of the pottery was made locally, 6% came from Pueblo peoples in the Chaco Canyon area, 20% came from Pueblo peoples in the Little Colorado drainage basin, and none came from the nearby Hohokam, Mogollon, Sinagua, Patayan, or Rio Grande cultures, and there was none made by the Toltecs in Mexico or the Mississippian peoples in the East. This would seem to indicate that the people who occupied Casamero Ruin had cultural ties with the Anasazi people to the north and west, in the drainages of the Colorado Plateau, and with no one else. Nor did their ties with the dominant city-state in Chaco Canyon provide them with much in the way of exotic vessel types, since three-fourths of their vessels were made locally. This is in contrast to the findings of A.H. Warren (1976) who identified 27 different temper types at Kin Ya's, another Chacoan Outlier just 18 miles away. However, she was using a petrographic microscope. Gross inspection of the Casamero sherds shows their paste composition to be highly variable, and perhaps a petrographic study would uncover considerably greater variety than I'm reporting here.

Many Southwestern pottery types have been assigned to various time periods based on their association with dated wooden beams, or their stratigraphic position relative to other, dated, pottery types. Our sample has several types that were not made before A.D. 1050, including Prewitt B/W, Sosi B/W, Chaco B/W, and Wingate B/R. Since these types were found in every

deposit, it seems that no trash was deposited prior to A.D. 1050. However, we found two types that supposedly were not made after A.D. 1050, including Red Mesa B/W and Bluff B/R. The Red Mesa sherds are abundant and do not seem to come from an earlier occupation because of their stratigraphic contexts. From an evolutionary perspective, marginal areas, such as the Casamero region, retain anachronistic features long after their disappearance from the dominant cultural pattern, and it would not be surprising if Red Mesa pottery designs persisted much longer in the Casamero Region than they did in Chaco Canyon or other parts of the San Juan drainage. As a matter of fact, this is what we would expect. So, our dating of Red Mesa B/W may be wrong. Perhaps some of the sherds came from heirlooms. The exact end of the occupation is difficult to determine, though we found no pottery types that began being made after A.D. 1175. Thus, our pottery data alone would indicate the site was occupied from no earlier than A.D. 1050 to no later than A.D. 1175.

We have a tree-ring date of A.D. 1041±vv from a charred roof beam from Room 8 in Casamero Ruin. This means the outermost countable ring was grown in A.D. 1041, but how many additional rings were grown before the beam was cut is unknown. What we do know is that the roof beam was not cut before A.D. 1041. So the roof in Room 8 was constructed sometime after A.D. 1041, and this supports our estimated habitation dates based on pottery types. However, the ceramic data from Casamero also suggests that not only do our Anasazi pottery types need clarification and better definition, but their dating needs to be revised.

In another study I compared the kinds of designs with their use on the interior and exterior of vessels, hoping to find a pattern which I could relate to other cultural variables. This is not a very scientific approach, but I did it anyway. I found a pattern: three-fourths of Red Mesa design were on the exterior, five-sixths of Gallup designs were on the exterior, while Sosi designs were found in equal amounts on both the exterior and interior of vessels. I don't have the foggiest idea what this pattern means. (That's what I get for being non-scientific!)

Overall, our sample contained 19% identifiable decorated black-on-white sherds. If we add to this the unidentifiable black-on-white sherds (plain, with white slip, polished) and the red wares, we find that the non-culinary sherds constitute 35% of our sample. This is a high percentage. In one study of thirty-three Pueblo II sites in northern Arizona the average amount of decorated pottery was 7%. (McGregor, 1965). In Anne Sigleo's paper on the 1966 excavations at Casamero Ruin she reported 19-23% non-culinary sherds.

Our high proportion of decorated sherds can be attributed to two factors. One has to do with the processes of pottery use and disposal. I don't know if a Pueblo household normally would have had more culinary vessels to begin with, but certainly they were used more, and took more abuse, and had to be replaced more often than decorated wares, and they were larger and broke into more pieces. Thus, corrugated sherds accumulated



in the trash dumps at a faster rate than decorated sherds. At Casamero Ruin some of the rooms were used as trash dumps, and consequently the sherd proportions from those rooms reflect the higher discard rate of corrugated sherds. Our sample comes from outside the room block, and therefore would more likely approximate the relative proportions of decorated and culinary vessels the people had at the time the site was abandoned. This conclusion, that the proportion of culinary sherds coming from the fill inside the rooms is greater than the proportion of culinary sherds coming from outside the ruin because the material in the room fills was deposited earlier, is supported by looking at the percentage of corrugated sherds from various locations, and the relative percentages of Red Mesa B/W sherds (early P II) versus Prewitt B/W sherds (late P II). More corrugated sherds are found inside the rooms than outside. More of the early style designs are found inside the rooms than outside. It should be noted that these comparisons are based on a limited sample of the room data, because we only have the results of the first season's excavations. It should be noted, then forgotten, since the whole subject is rather trivial, though as archaeologists we need to pay more attention to the processes of trash accumulation and site abandonment.

Still, the percentage of decorated vessels is high, and probably reflects a difference in social and economic status between the people who lived in Casamero Ruin and those in the nearby pueblos. Many aspects of the site contribute to this explanation: the relatively large amount of turquoise found at Casamero (one piece of turquoise found from twenty-eight excavations in the Prewitt District versus five pieces found at Casamero), the large amount of decorated sherds, the large amount of sherds with a white slip, the large number of rooms, the large size of some of the rooms, the sophisticated masonry used in wall construction, the large room-to-kiva ratio, and the adjacent Great Kiva.



Lithic Analysis. I studied the chipped stone from the stabilization excavations using the material sources code provided by A.H. Warren of the Chaco Center. Though our sample is small, apparently most of the stone tools were made using stone from local sources. The total absence of knives, drills, and points makes me question the integrity of the crew rather than derive implications for site activities.

Discussion and Conclusions. Traditional archaeology is the art of excavation and interpretation of artifacts, and might be analogous to the "worm's eye view." Such a view is appropriate and sufficient for annelids. Scientific archaeology is akin to the science of anthropology, the study of culture, and might be likened to the "bird's eye view." In order to understand the remains at Casamero Ruin we have to study the site in regards to its external relationships, both with respect to its place in a local community and with respect to its place in a regional society (Smith, 1976). We have data on the local community provided by the Prewitt highway salvage study, and data on the regional pattern provided by the numerous Chaco Canyon oriented studies.

In the casamero community we do not see a pattern of cultural evolution from campsite to pithouse to scattered pueblos to towns. Rather, cultural development begins and ends with scattered pueblos. We see a frontier community flourishing on the boundary of a prosperous society, and (presumably) dying when the capital of the nation died. We see a cultural adaptation that could not survive in terms of a few scattered pueblos. We're looking at an integrated community, and a regional society, and the people needed the resources provided by the natural environment. When something in Chaco Canyon died, so did Casamero. Technologically, I think we can say the area had the resource base to support small family farms longer than it did.

While on the one hand the cultural pattern of a local community cannot be explained without reference to the regional system, on the other hand the social organization found in a small community can be seen as a microcosm of the dominant regional hierarchy. In the Casamero area we see a hierarchy in housing, religious structures, turquoise jewelry, and ceramic resources (no shortage of white-slipped sherds at Casamero). Social stratification implies differential control over wealth and resources, Scarce resources help to structure the system. Control of religious authority can be just as effective as controlling water in the desert. Religious authority, political power, and wealth have been synonymous throughout human history. The presence of a Great Kiva at Casamero implies that religious authority was a factor in the local hierarchy. It need not have been a factor at every outlier, but its importance at Casamero would imply a similar hierarchy existed at the center of power, Chaco Canyon.

Cultural systems strive for stability, and a system of inequality is stabilized when the elite's control of wealth and resources is institutionalized. Control of religion is one way of doing this. Religious institutions usually perpetuate tradition, including political power. Power, not morality, is usually the motivating force.

In terms of resource allocation and distribution the Casamero community was probably directly responsible to the needs of the elite in Chaco Canyon, not the local population. In fact, settlement in the area was probably initiated by demands created in Chaco Canyon. Marginal areas are often peopled by younger brothers of dominant families. Settling and farming virgin lands would have been a way for powerful families in Chaco Canyon to increase their wealth, and as we all know, "no matter how wealthy, it's never enough. Besides, when overpopulation began to overtax the local Chaco Canyon resource base, powerful families would have had to colonize outlying areas just to maintain the status quo. The economic basis for colonization does not preclude the missionary flavor such an expansion probably had. In the Casamero area it would appear that the Anasazi settlers from Chaco Canyon took control of an area already sparsely settled by people living in pithouses. Unable to leave their homes, they lived side by side with the vassals of the Chacoan elite. The lives of the pithouse dwellers may have even improved somewhat, since the people from Chaco Canyon may have had advanced technological know-how or any number of things, like when to plant in the Spring to avoid crop failures, how to select seed to get a good crop next year, and which plant best relieves the symptoms of arthritis. The Casamero community probably provided a wealthy Chaco Canyon family with staples that were becoming hard to get close to home: corn, beans, squash, mountain sheep, pronghorn, firewood, and roof beams. (Remnant stands of Ponderosa suggest pine forests were more extensive in the past.) Local pottery styles confirm Chaco Canyon's dominance. Local designs are identical to those in Chaco, implying that local potters strived to please the demand in Chaco, rather than local preferences or the tastes of people to the west.

Class structure is usually related to ethnic boundaries. This is reinforced by human psychology, but it is perpetuated by cultural institutions such as marriage. It's not likely a woman from the Casamero family would ever marry someone living in one of the nearby tiny pueblos or out-dated pithouses. Marriages were probably arranged to reinforce political power and economic status. Thus, class boundaries are maintained and gene pools drift apart. When the elite are few in number, inbreeding sometimes becomes a problem. One of the burials at Casamero was the burial of "a deformed or diseased child." (Sigleo, 1967) Dental characteristics show the child was 3-5 years old when he died. The cranium exhibits advanced symptoms of a skeletal condition known as symmetrical osteoporosis. Parts of the skull are bloated and porous. This condition is thought to result from anemia caused by nutritional deficiencies, including lack of iron, vitamin B<sub>12</sub>, folic acid, and protein. Many factors working together may have resulted in nutrition problems. Cooking corn and beans in water for a long time would have destroyed 90% of the folic acid and vitamin B<sub>12</sub>. Intestinal infestations would have caused poor absorption of nutrients. (Steinbeck and Thomas, 1976). However, at Mesa Verde James S. Miles (1975) noted that the disease (symmetrical osteoporosis) affected predominantly infants and children (who presumably had the same diet as adults), and that the diseased skeletons were found in clusters (three in Juniper House, two in Mug House). While he agreed that the skeletal condition was a

symptom of erythroblastic anemia, he asserted the disease was hereditary. There were two infant burials in Room 7 at Casamero; however, A. Howard Elam destroyed or kept most of the other one, and we don't know if that baby suffered from the same disease. The condition is recessive and would tend to show up more in a small endogamous population, such as the Chacoan aristocracy.

The cultural pattern at Casamero Ruin neither confirms nor disproves theories about Toltec immigrants, colonists, or missionaries in Chaco Canyon. The people's remains seem to be a local variation of the contemporary Anasazi pattern. Exotic items such as copper bells and macaws were not found at Casamero. Someday we may discover that access to these items was not uniform throughout Chaco Canyon's elite. On the other hand, our findings suggest that class distinctions existed, and that religious authority was an important part of the social hierarchy.

Archaeological Recommendation for Management. 1) Important parts of the site have not been excavated. The Great Kiva has not been touched, and is unusual in that it does not appear to have stone walls. Only two isolated Great Kivas have ever been excavated, one in Chaco Canyon and one in Aztec. We know very little about them, and they are one of the keys to understanding the Chacoan phenomena. 2) The plaza and midden areas are largely untouched and could contain important information about activity areas, site use, and culture change. 3) A few rooms in the eastern half of the site, though vandalized, have not been excavated. 4) Some of the floors in excavated rooms contain hearths that could be sampled for archaeo-magnetic dating. I think this should be done now. 5) There are five small pueblo ruins (P II) north of the site that are untouched (BLM land). The remains of a Navajo occupation just north of the site have been obliterated and need to be documented. 7) There is a pueblo ruin on the mesa (P III) that is untouched. There are small structures nearby. (BLM land). 8) The red sandstone cliffs east of the site contain significant petroglyph panels, related to Anasazi history and the American Territorial Period. These are on private land. 9) I think the site should be developed for public enjoyment. This could include building a parking lot and picnic tables away from the site, perhaps at some distance to the southwest, removing Elam's shack, aerial photography to document current conditions in the area and isolate features not apparent from ground level, and partial restoration of Casamero to include the kiva, west room block, and the plaza. Any restoration, of course, would involve some excavation. 10) A. Howard Elam should be contacted, and the results of his illegal efforts should be documented. 11) BLM should get a final report from Anne Sigleo. I understand the report will be published by the Chaco Center, National Park Service. 12) The archaeological data preserved in the ruins mentioned above should be protected, and where possible their present condition documented in full.



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RESEARCH DATA

1. Site Orientations
2. Construction Dates
3. Room Measurements - Asasazi Standards.
4. Tree Ring Dates
5. Chipped Stone Inventory
6. Estimates Of Labor
7. Pottery Types
8. Artifact Inventory

CASAMERO RUIN -- ORIENTATIONS.

Kiva = 340°/160°

Kiva niche = 41°/221°

Walls (west room block) = 41°/221° -- 131°/311°

Walls (east room block) = 318° -- 325° -- 46°

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CONSTRUCTION DATES FOR BONITO PHASE SITES (Hayes, 1975).

1025 Pueblo Bonito  
Chetro Ketl  
Talus Unit  
1035 -----  
1045 Casa Rinconada  
Hungo Pavi  
1055 Una Vida  
Pueblo Pintado  
Penasco Blanco  
Casa Chiquita  
Pueblo Del Arroyo

CASAMERO RUIN

1065 -----  
1075 Kin Kletso  
Chimney Rock  
1085 Kin Klizhin  
Salmon Ruins  
1105 Kin Ya'a  
Wijiji  
Aztec Ruin  
Tsin Kletzin  
1115 Kin Bineola



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LIST OF ROOM MEASUREMENTS MADE FROM OUR MAP, AND CORRESPONDING  
MULTIPLES OF THE HYPOTHESIZED ANASAZI MEASUREMENT STANDARD.

<u>Anasazi</u> <u>Standard</u>	<u>English</u> <u>equivalent</u>	<u>Measurements taken from wall lengths</u> <u>(room widths) at Casamero Ruin</u>
	$1 = 1.66'$	
$51$	$= 8.3'$	8.5, 8.5, 8.5
$61$	$= 9.96'$	10.2, 10.5, 10.5, 10.0, 10.0, 10.0, 10.0, 10.2
$71$	$= 11.62'$	11.5, 11.8, 11.5, 11.8
$91$	$= 14.94'$	15.5, 15.0
$101$	$= 16.6'$	16.2, 16.5, 16.2, 17.0
$111$	$= 18.26'$	18.2, 18.0

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TREE-RING DATES FROM THE CASAMERO RUIN AREA.

LA8779	Casamero Ruin ...from burned roja, Room 8	A.D. 1041+vv
LA6383	Prairie Dog Pueblo Room 12	A.D. 1042
	(15 rooms, 2 kivas, 2 pithouses kiva	A.D. 1041
	plaza	A.D. 1034
??????	Blue Spruce Site	A.D. 934+vv
	(3 pithouses, 5 surface rooms)	
LA6482	1 pithouse, 5 surface rooms pithouse	A.D. 1050
LA6372	6 room pueblo, 2 kivas	A.D. 1045?

(Note that the latest date for the area is from a pithouse.)

CASAMERO SITE  
(AR-NM-01-144)

CHIPPED STONE FROM CASAMERO RUIN. (recovered during excavation)

FUNCTIONAL TYPES. 29 unmodified flakes  
2 flake scrapers  
1 core  
6 hammerstones

SOURCE MATERIALS. (numbers in parentheses refer to H. Warren's code)

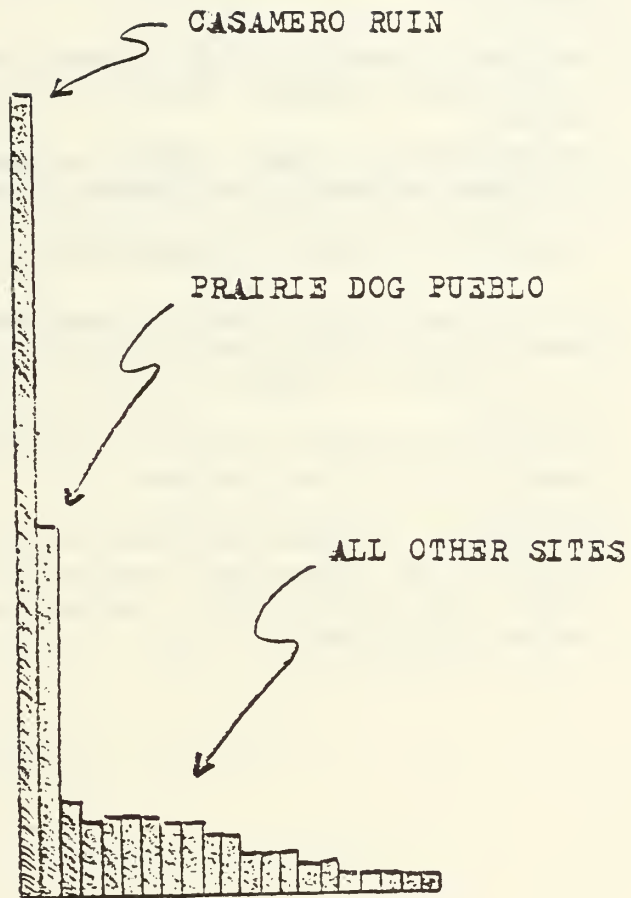
- 1 Obsidian, black, opaque, dull surface, probably from Grants Ridge area (3510)
- 2 Obsidian, black, opaque, waxy luster, glossy sheen probably from Red Hill area (3550)
- 16 Chert, yellow brown to red, with abundant black, mossy inclusions, probably from southern Zuni Mountains near Ramah, or local limestones; also found in Tertiary gravels in the Jemez Mtz. (1072)
- 9 Chert, mainly white, mottled or banded, with grays and pinks, dull luster, probably from Red Mesa Valley, also found in Four Corners area, and Colorado. (1040)
- 1 Chert, red, jasper, waxy luster, from various locations. (1060)
- 1 silicified wood, light colors, white, yellow, brown, gray, dull luster, fractures in splinters, various locations. (1110)
- 2 silicified wood, dark gray with light streaks, waxy luster, found in Menefee Formation, Nacimiento Formation, others (1112)
- 1 silicified wood, white, banded, waxy luster, conchoidal fracture, found in Nacimiento Formation gravels, other locations. (1113)
- 2 quartzite cobbles, pink, gray, coarse-grained, found in various locations. (4005)
- 3 limestone, fine-grained, gray, banded, Todilto Formation, Prewitt.

CASAMERO SITE  
(AR-NM-01-144)

ESTIMATES OF THE LABOR REQUIRED TO BUILD PUEBLO SITES IN THE  
CASAMERO REGION (in man/days)

Rooms	Area(m )	Walls(m)	Masonry(m/d)	Roof(m/d)	Adobe(m/d)	Total(m/d)
23+G.K.	600	213	226	120	60	406
17	258	170	111	52	26	189
4	16	24	16	3.2	1.6	20.8
3	12	20	13	2.4	1.2	16.6
3+2pith.	36	60	39	7.2	3.6	49.8
2	8	14	9	1.6	.8	11.4
2	8	14	9	1.6	.8	11.4
7	28	42	28	5.6	2.8	36.4
5	20	15	12.5	4	2	18.5
4	16	24	16	3.2	1.6	20.8
8	32.2	44	30	6.4	3.2	39.6
5+1pith.	32	35	25.5	6.4	3.2	35.1
4	16	24	16	3.2	1.6	20.8
8	32	44	30	6.4	3.2	39.6
6	24	34	23	4.8	2.4	30.2
8	32	44	30	6.4	3.2	39.6
2	8	14	9	1.6	.8	11.4
8	32	44	20	6.4	3.2	39.6
6	24	34	23	4.8	2.4	30.2
2	8	14	9	1.6	.8	11.4
2	8	14	9	1.6	.8	11.4





A COMPARISON OF THE LABOR REQUIRED TO BUILD ANASAZI PUEBLOS IN THE CASAMERO REGION.  
 (measured in man/day estimates)

POTTERY TYPES -- CIBOLA WHITE WARE -- CHACO/PUERCO SERIES

- Red Mesa B/W: white slip, polished, mineral paint designs include nested chevron lines, solid triangles, ticked and dotted lines, scrolls, sawteeth, squiggled lines, parallel lines; various kinds of tempers and pastes, some local, some not.
- Escavada B/W: white slip, surfaces rough, mineral paint designs usually solid elements, but hatching may be present; various kinds of temper and paste, light gray to dark gray to brown, fine-grained to coarse, smooth to rough, well indurated to crumbly, quartz grains rounded to angular, inclusions dark to light.
- Puerco B/W: white slip, polished, mineral paint designs include broad lines, solids, parallel lines pendant from rim; various kinds of temper and paste, as above.
- Gallup B/W: white slip, polished, mineral paint designs include framed hatched lines; various kinds of temper and paste.
- Chaco B/W: white slip, surfaces well smoothed and polished, mineral paint designs well executed and composed, framed fine hatched lines; clay body is fine textured and well indurated.

CASAMERO SITE  
(AR-NM-01-144)

POTTERY TYPES -- CIBOLA WHITE WARE -- PREWITT SERIES. (Hargrave, 1964)

Grants B/W      A.D. 950-1075 (should be later, E.N.)  
Rio San Jose Valley, from the continental divide  
to Bluewater

Temper: -bowls-	-jars-
20% sherds	10% sherds
8% quartz size	6% quartz sand
5% dark clay particles	1% dark clay particles

Surface: Light or no polish, rough surface,  
white slip, mineral paint

Similar to Escavada B/W

Prewitt B/W:      A.D. 975-1050 (should be later, E.N.)  
Rio San Jose Valley, from Thoreau to Grants

Temper: -bowls-	-jars-
20% sherds	10% sherds
8% quartz sand	6% quartz sand
5% dark clay particles	1% clay particles

Surface: semi-polished, smooth surface, white  
slip, mineral paint desings

Similar to Gallup B/W

POTTERY TYPES -- SAN MATEO GRAY WARE -- PREWITT DISTRICT (Hargrave, '64)

A.D. 950-1050 (should be later, E.N.)

Rio San Jose Valley

Temper: white angular sherds

quartz sand grains

black clay fragments

Surface: light polish, no white slip, mineral paint designs

Bluewater B/G similar to Red Mesa B/W

Las Tusas B/G similar to Escavada B/W

San Jose B/G similar to Gallup B/W




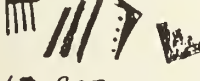
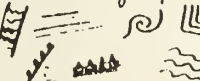


Chaco Series

Prewitt Series

San Mateo Gray Ware

RED WARES

	MINERAL PAINT			CARBON PAINT	RED WARES	
	WHITE SLIP	SLIP	NO SLIP	WHITE SLIP	MINERAL	CARBON RED SLIP
	TEMPER-SHERD / SAND	TEMPER-SHERD, SAND, DARK CLAY PARTICLES			POLISHED	
Surface - polished  A.D. 1050-1125	CHACO B/W Paste - fine textured, well indurated					
Surface - polished  A.D. 1000-1125	GALLUP B/W	PREWITT B/W	SAN JOSE B/G	DOBZSHI B/W		WINGATE B/R
Surface - rough  A.D. 1030-1175	ESCAVADA B/W	GRANTS B/W	LAS TUNAS B/G	SOSI B/W		PUECO B/R
Surface - light polish  A.D. 875-1130	PUECO B/W	PUECO B/W		BLACK MESA B/W	BLUFF B/R	
Surface - light polish 	RED MESA B/W	RED MESA B/W	BLUEWATER B/G			

U. S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
ALBUQUERQUE NEW MEXICO  
CASAMERO RUIN (AR-NM-01-144)  
POTTERY CABET. OF TYPES

DESIGNED EM RECOMM. \_\_\_\_\_  
DRAWN CL RECOMM. HP  
CHECKED CL APPROVED \_\_\_\_\_  
SCALE NONE  
DATE 8/78 SHEET \_\_\_\_\_ OF \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_ PLATE 75

CASAMERO SITE  
(AR-NM-01-144)

SHERD COUNTS FROM CASAMERO RUIN STABILIZATION EXCAVATIONS, 1976.

1177 corrugated

4 wide neck-banded

75 plain gray

276 plain decorated

378 black-on-white decorated

30 red wares

CASAMERO RUIN  
(AR-NM-01-144)

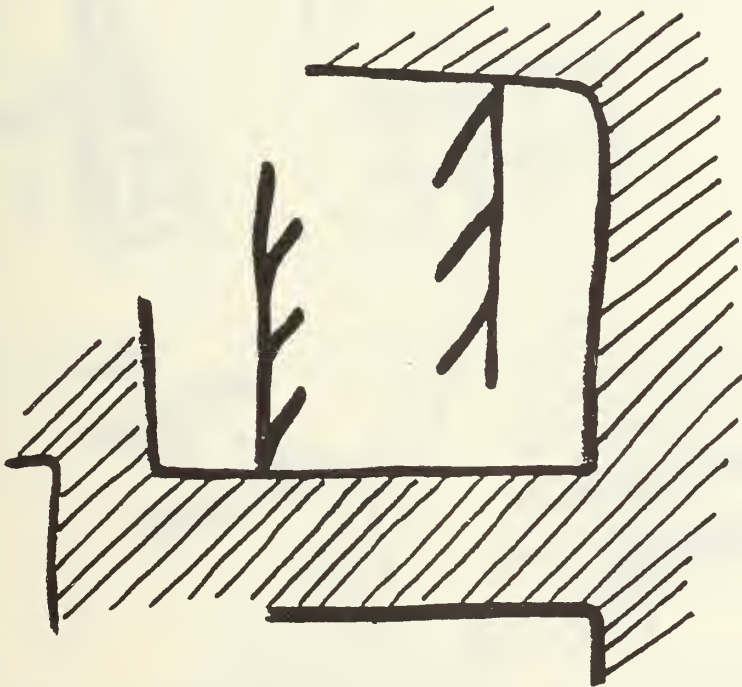
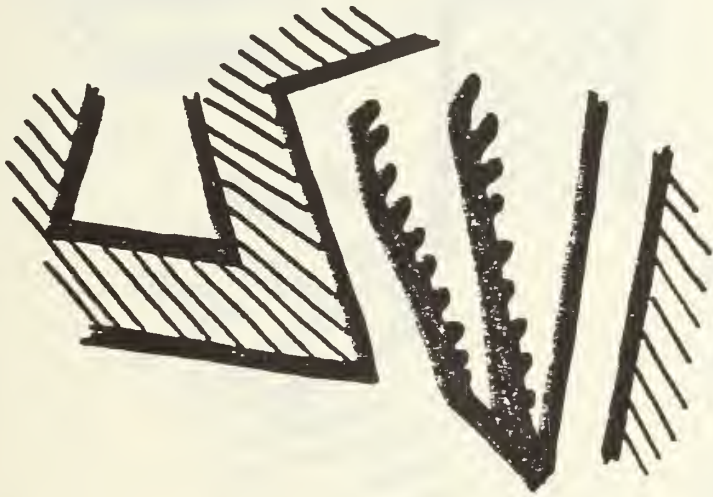
<u>%</u>	<u>sherds</u>	<u>type</u>	<u>dates</u>
39	160	Prewitt B/W	(A.D. 1040-1150)
16	66	Grants B/W	
13	55	Red Mesa B/W	(A.D. 850-1050**)
9	35	Puerco B/W	(A.D. 1000-1100)
4	15	Las Tusas B/G	
3	12	Escavada B/W	(A.D. 970-1130+)
3	11	Sosi B/W	(A.D. 1075-1200)
3	11	Woodruff Smudged	
2	10	Gallup B/W	(A.D. 1000-1125)
2	7	Bluff B/R	(A.D. 850-1000)
1	5	Wingate B/R	(A.D. 1050-1200)
1	6	Puerco B/R	(A.D. 1030-1175)
1	4	La Plata B/G	
1	3	Chaco B/W	(A.D. 1050-1125)
1	3	San Jose B/G	
-	2	Black Mesa B/W	(A.D. 875-1130)
-	2	Dogozhi B/W	
-	1	Woodruff Brown	

\*\*Casamero data indicated Pueblo I-Pueblo II designs survive considerably longer in the Casamero area.

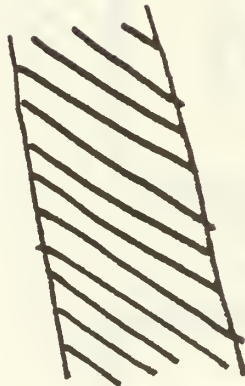
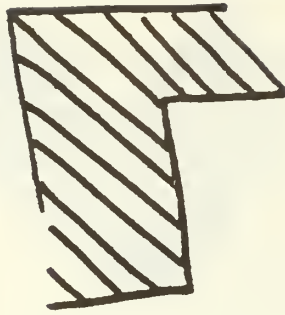
POTTERY TYPES NOT FOUND AT CASAMERO RUIN.

Wupatki B/W	A.D. 1200-1300
Tusayan B/W	A.D. 1200-1300
St. Johns Polychrome	A.D. 1175-1300
Santa Fe B/W	A.D. 1200-1350
Keyenta Polychrome	A.D. 1200-1300
Betatakin B/W	A.D. 1200-1300
Gial W/R	A.D. 1200-1400
Kiet Siel Polychrome	A.D. 1200-1300
Kowina B/W	A.D. 1200-1400
Mesa Verde B/W	A.D. 1200-1300
Pinto Colychrome	A.D. 1200-1250

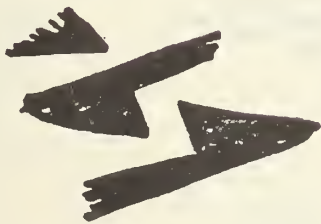
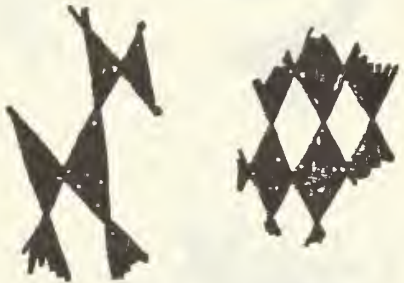
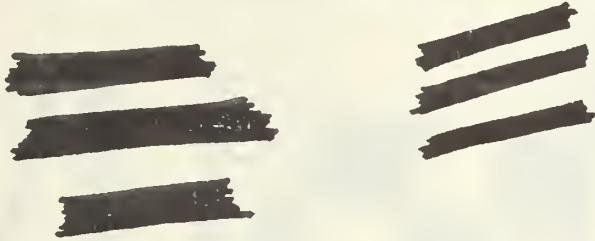




U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) GALLUP-PREWITT-SAN JOSE DESIGNS	
DESIGNED <u>EM</u>	RECOMM. _____
DRAWN <u>EM-C</u>	RECOMM. <u>[Signature]</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE _____	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	
PLATE 79	

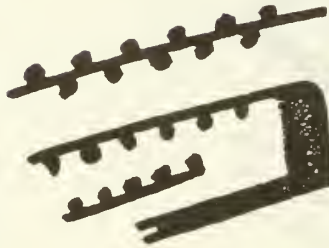
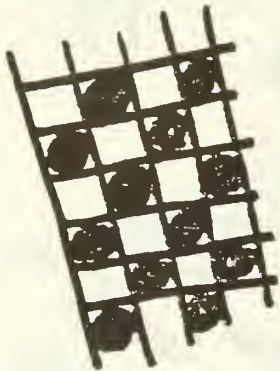


U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO CASAMUÑO RUIN (AR-NM-01-144) GALLUP-PREWITT-SAN JOSE DESIGNS	
DESIGNED <u>EN</u>	RECOMM. _____
DRAWN <u>CL EN</u>	RECOMM. <u>HJP</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE <u>NONE</u>	
DATE _____	SHEET _____ OF _____
DRAWING NO. _____	PLATE <u>80</u>



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO QUIN (AR-NM-01-144) ESCAVADA - GRANTS - LAS TUSAS DESIGNS	
DESIGNED <u>EN</u>	RECOMM. _____
DRAWN <u>EN, CL</u>	RECOMM. <u>HEP</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE _____	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	
PLATE 81	





U. S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
ALBUQUERQUE NEW MEXICO

CASAMERO RUW (AR-NM-01-144)  
RED MESA B/W DESIGNS

DESIGNED EN

RECOMM. \_\_\_\_\_

DRAWN EV/CL

RECOMM. HJP

CHIEF, DIV. OF ENG.

CHECKED CL

APPROVED \_\_\_\_\_

SCALE \_\_\_\_\_

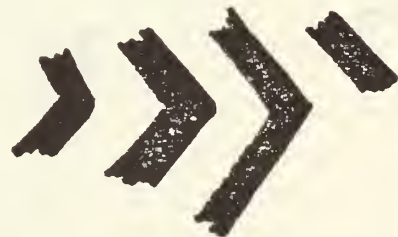
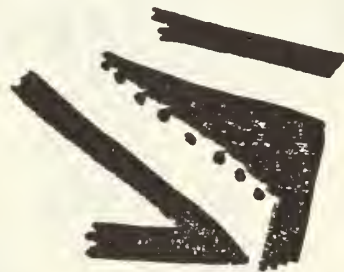
DATE 8/78

SHEET \_\_\_\_\_ OF \_\_\_\_\_

DRAWING NO. \_\_\_\_\_

PLATE 82





U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) CARBON PAINT DESIGNS	
DESIGNED <u>EN</u>	RECOMM. _____
DRAWN <u>EN, CL</u>	RECOMM. <u>HHP</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE _____	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	
PLATE <u>83</u>	

BOWL  
INSIDE)

JAR  
(OUTSIDE)

DESIGN

41

44



30

151



13

37



U. S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
ALBUQUERQUE NEW MEXICO

CASAMERO RUIN (AR-NM-01-144)  
LOCATION OF DESIGNS ON  
VESSELS

DESIGNED EN

RECOMM. \_\_\_\_\_

DRAWN EN CL

RECOMM. HAP

CHIEF, DIV. OF ENG.

CHECKED CL

APPROVED \_\_\_\_\_

SCALE \_\_\_\_\_

DATE 8-78

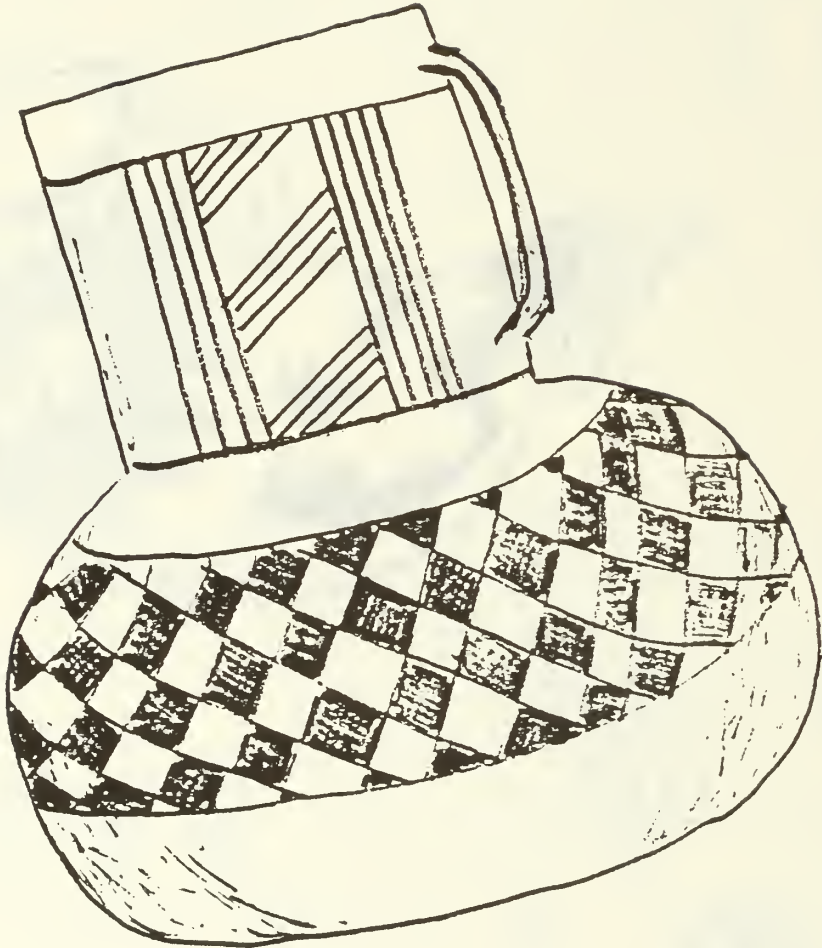
SHEET \_\_\_\_\_ OF \_\_\_\_\_

DRAWING NO. \_\_\_\_\_

PLATE 84



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-DI-144) GALLUP B/W EFFIGY VESSEL OF DISEASED INFANT. RM7	
DESIGNED <u>EN</u>	RECOMM. _____
DRAWN <u>EVCL</u>	RECOMM. <u>HP</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE _____	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	PLATE <u>B5</u>



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) PUERTO B/W PITCHER FROM CIST, RM 7 BURIAL OF DISEASED INFANT	
DESIGNED <u>EN</u>	RECOMM. _____
DRAWN <u>EN, CL</u>	RECOMM. <u>HSP</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE <u>NONE</u>	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	PLATE <u>B6</u>

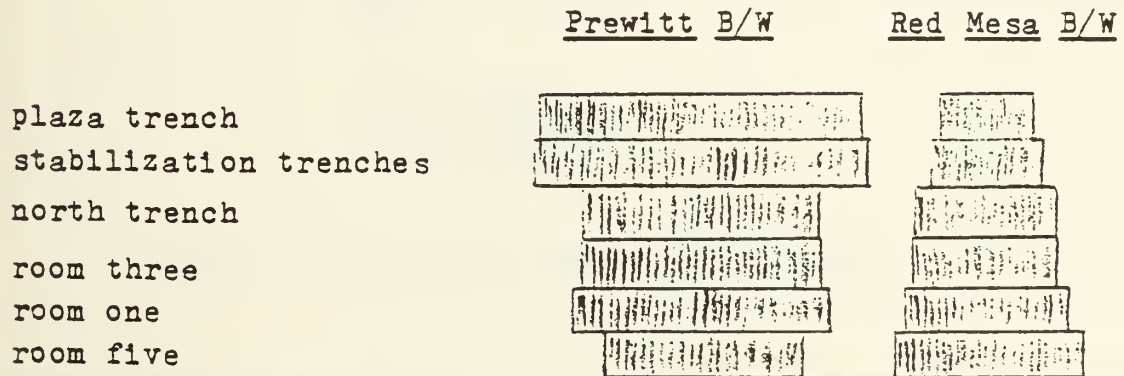


FREQUENCIES OF MOST COMMON POTTERY TYPES (based on Sigleo, 1966).  
provenience

	Red Mesa B/W	Prewitt B/W	Fescavada B/W	Grants B/W
plaza trench	10	35	4	2
stabilization trenches	55	160	12	66
north trench	5	9	3	0
room 3	18	30	11	1
room 1	76	121	17	6
room 5	16	17	6	1

(This comparison suggests that room deposits have a slightly higher percentage of the earlier style designs than the fill outside of the rooms, though the difference is slight.)

RELATIVE PERCENTAGES OF THE MOST COMMON POTTERY TYPES.

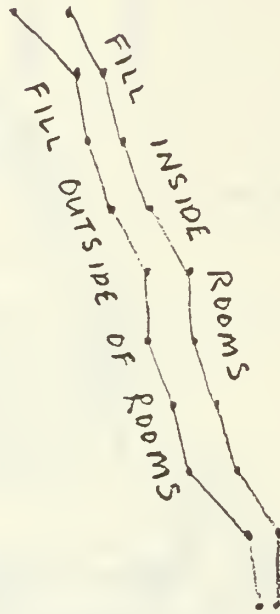


= 10% of the common decorated sherds.

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUIN (AR-NM-01-144) FREQUENCIES OF MOST COMMON POTTERY TYPES (SIGLEO 1966)	
DESIGNED <u>EN</u>	RECOMM. _____
DRAWN <u>EN CL</u>	RECOMM. <u>HP</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE _____	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____	
PLATE 87	

PERCENTAGE OF CORRUGATED SHERDS IN DEPOSITS.

Room 3  
 Room 7  
 Room 22  
 north trench  
 Room 5  
 Room 22  
 Room 20  
 Room 19  
 Room 18  
 plaza trench



0 10 20 30 40 50 60 70 80 % of total sherds

INSIDE ROOM BLOCK = 69% of sherds are corrugated

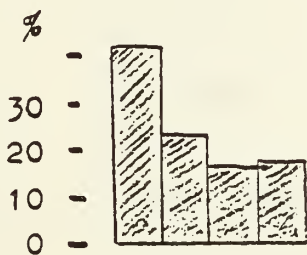
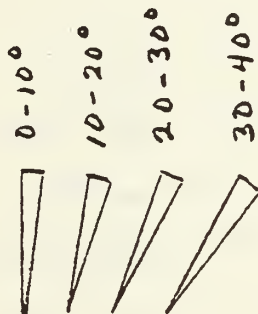
OUTSIDE ROOM BLOCK = 63% of sherds are corrugated

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMERO RUINS (AR-NM-0144) PERCENTAGE OF CORRUGATED SHERDS IN DEPOSITS	
DESIGNED <u>GN</u>	RECOMM. _____
DRAWN <u>ENCL</u>	RECOMM. <u>[Signature]</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE _____	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____ PLATE <u>82</u>	

ANGLE MEASUREMENTS ON CORRUGATED VESSEL RIMS.

angle    number of rim sherds

0-10°    27  
 10-20°    15  
 20-30°    11  
 30-40°    12



A STUDY OF CORRUGATED VESSEL RIM ANGLES.

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALBUQUERQUE NEW MEXICO	
CASAMIELO RUINS (AR-NA-01-144) ANGLE MEASUREMENTS ON CORRUGATED VESSEL RIMS	
DESIGNED <u>BU</u>	RECOMM. _____
DRAWN <u>ENCL</u>	RECOMM. <u>[Signature]</u> CHIEF, DIV. OF ENG.
CHECKED <u>CL</u>	APPROVED _____
SCALE _____	
DATE <u>8/78</u>	SHEET _____ OF _____
DRAWING NO. _____ <span style="float: right;">PLATE 89</span>	

PERCENTAGE OF CASAMERO SHERDS FROM DIFFERENT SOURCES.

<u>Local</u>	<u>Percent (%)</u>	<u>North</u>	<u>Percent (%)</u>
Prewitt B/W	39	Escavada B/W	3
Grants B/W	16	Gallup B/W	2
Red Mesa B/W	13	Chaco B/W	1
Las Tusas B/G	4		
San Jose B/G	1		
La Plata B/G	1		

<u>East</u>	<u>Percent (%)</u>	<u>West</u>	<u>Percent (%)</u>
(none)		Puerco B/W	9
		Sosi B/W	3
		Woodruff Brown	3
		Wingate B/R	2
		Puerco B/R	1
		Bluff B/R	2



CASAMERO RUIN  
(AR-NM-01-144)

ARTIFACTS FOUND DRUING THE STABILIZATION OF CASAMERO RUIN.

Kiva "A"	abraded limestone
	olivella shell bead
	discoidal shell bead
Room 11	gypsum fragments (2)
Room 15	historic glass fragment (in storage bin)
	ground black slate fragment
	unmodified flakes (3)
Room 19	unmodified flake
Room 21	travertine bead blank
	gypsum fragments (2)
	unmodified flakes (2)
	abraded travertine
	historic glass fragments (3)
	copper penny (1965)
Room 22	bone needle (5.3cm long)
	charred corn cob
	unmodified flakes (2)

ARTIFACTS FOUND IN FILL OUTSIDE OF ROOMS

- Room 3 unmodified flakes (2)
- Room 5 cobble man/hammerstone fragment ("biscuit mano")  
abraded limestone (2)  
limestone palette, abraded, with striations and peck marks  
tiny ceramic effigy (frog?) (2.8cm long)  
travertine fragment  
gypsum fragment  
pinon nut shell  
unmodified flakes (4)
- Room 7 hammerstones (2)  
unmodified flake
- Room 11 hammerstones (2)  
unmodified flakes (4)  
wood fragments (2)  
historic glass fragment  
unfired, unshaped clay vessel base with blue and green  
pigments on bottom
- Room 18 cylindrical hematite pendant  
charred wood  
abraded limestone  
unmodified flakes (3)  
rope fragment with square nails

ARTIFACTS FOUND IN FILL OUTSIDE OF ROOMS (cont.)

Room 19            abraded sandstone cone  
                      abraded pebble  
                      bone awl (bobcat tibia)  
                      unmodified flakes (3)  
                      turquoise pendant  
                      tabular bone bead (bird bone)  
                      discoidal shell bead  
                      hammerstone

Room 20            unmodified flakes (2)  
                      abraded travertine  
                      charred corn cobs (2)

ARTIFACTS WITH NO PROVENIENCE

flake scrapers (2)  
unmodified flakes (2)  
core  
abraded limestone pendant  
hammerstones (2)  
pink shale pendant  
travertine beads (2) (discoidal)  
wood fragment  
two-handed mano fragment, basalt

Photography Documentation

1. Photographs
  - a. Before Physical Protection - Phase I
  - b. During Physical Protection - Phase II
  - c. After Physical Protection - Phase III
  
2. Contract Prints - Film Strips



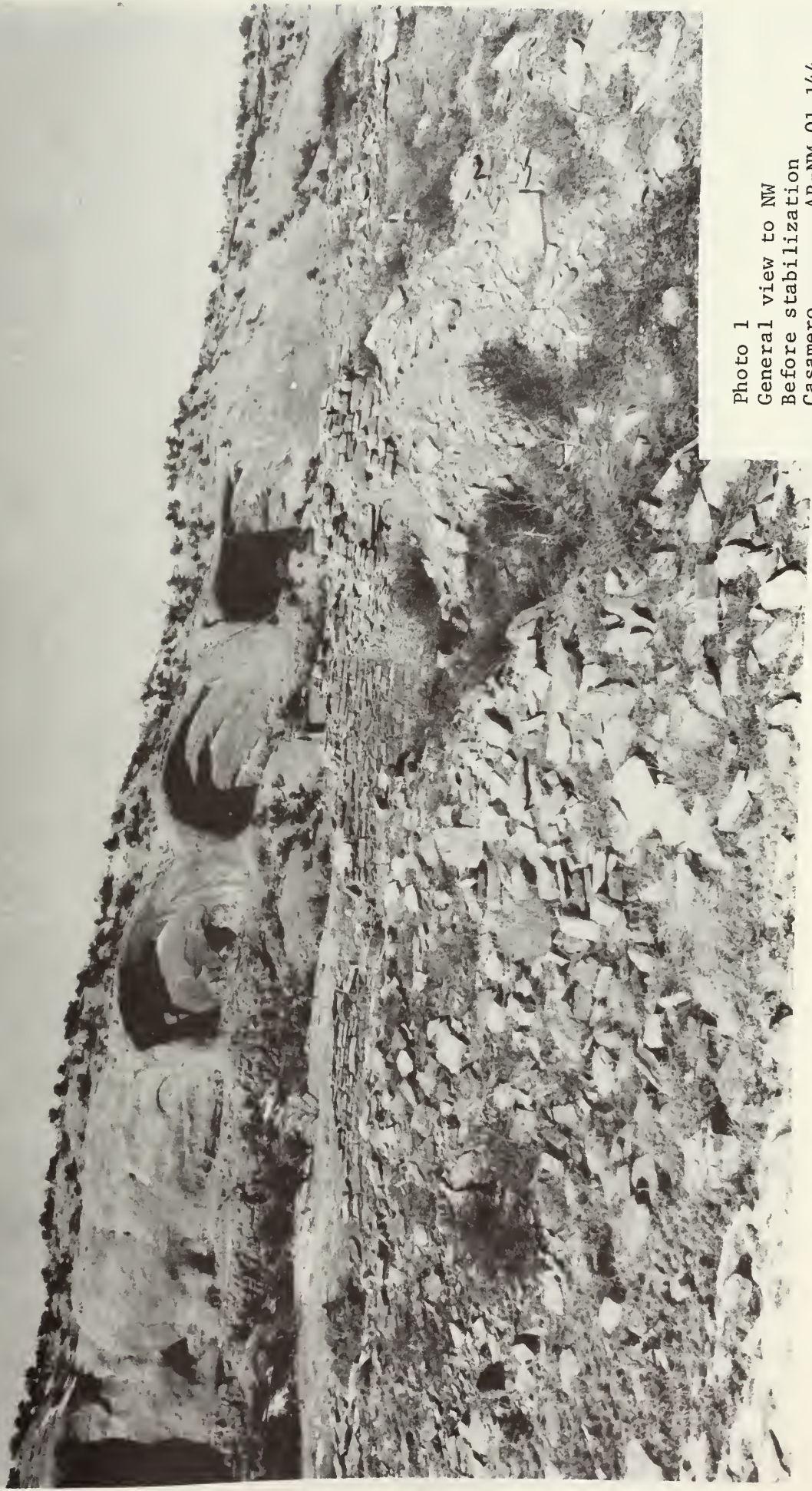


Photo 1  
General view to NW  
Before stabilization  
Casamero AR-NM-01-144





Photo 2  
General view to E  
Before stabilization  
Casamero AR-NM-01-144





Photo 3  
General view to SW  
Before stabilization  
Casamero AR-NM-01-144



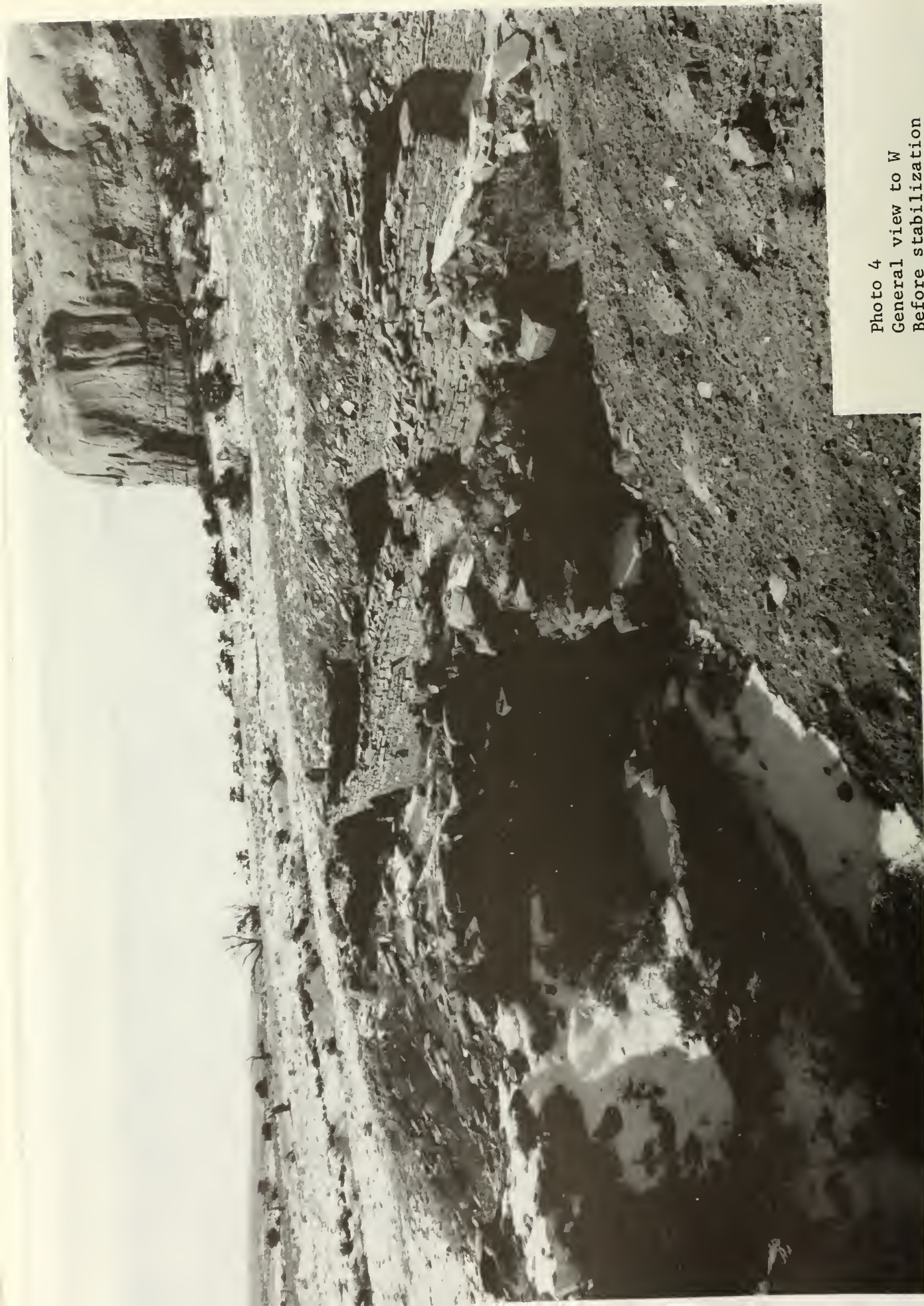


Photo 4  
General view to W  
Before stabilization  
Casamero AR-NM-01-144





Photo 5

General view to NE

Before stabilization

Casamero AR-NM-01-144





Photo 6  
General view of kiva  
Before stabilization  
Casamero AR-NM-01-144





Photo 7

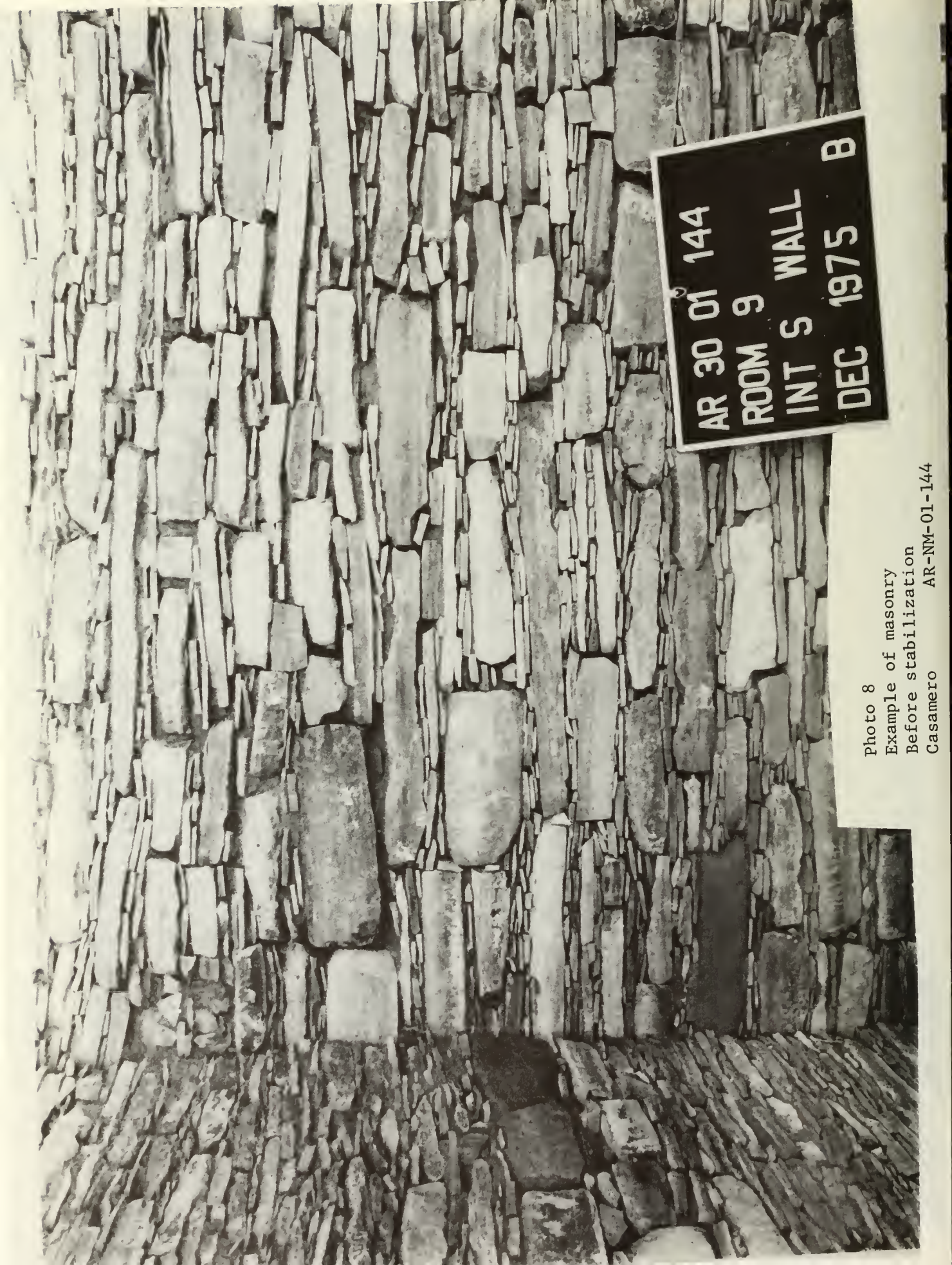
General view

Before stabilization

Casamero

AR-NM-01-144





AR 30 01 144  
ROOM 9  
INT S WALL  
DEC 1975 B

Photo 8  
Example of masonry  
Before stabilization  
Casamero AR-NM-01-144



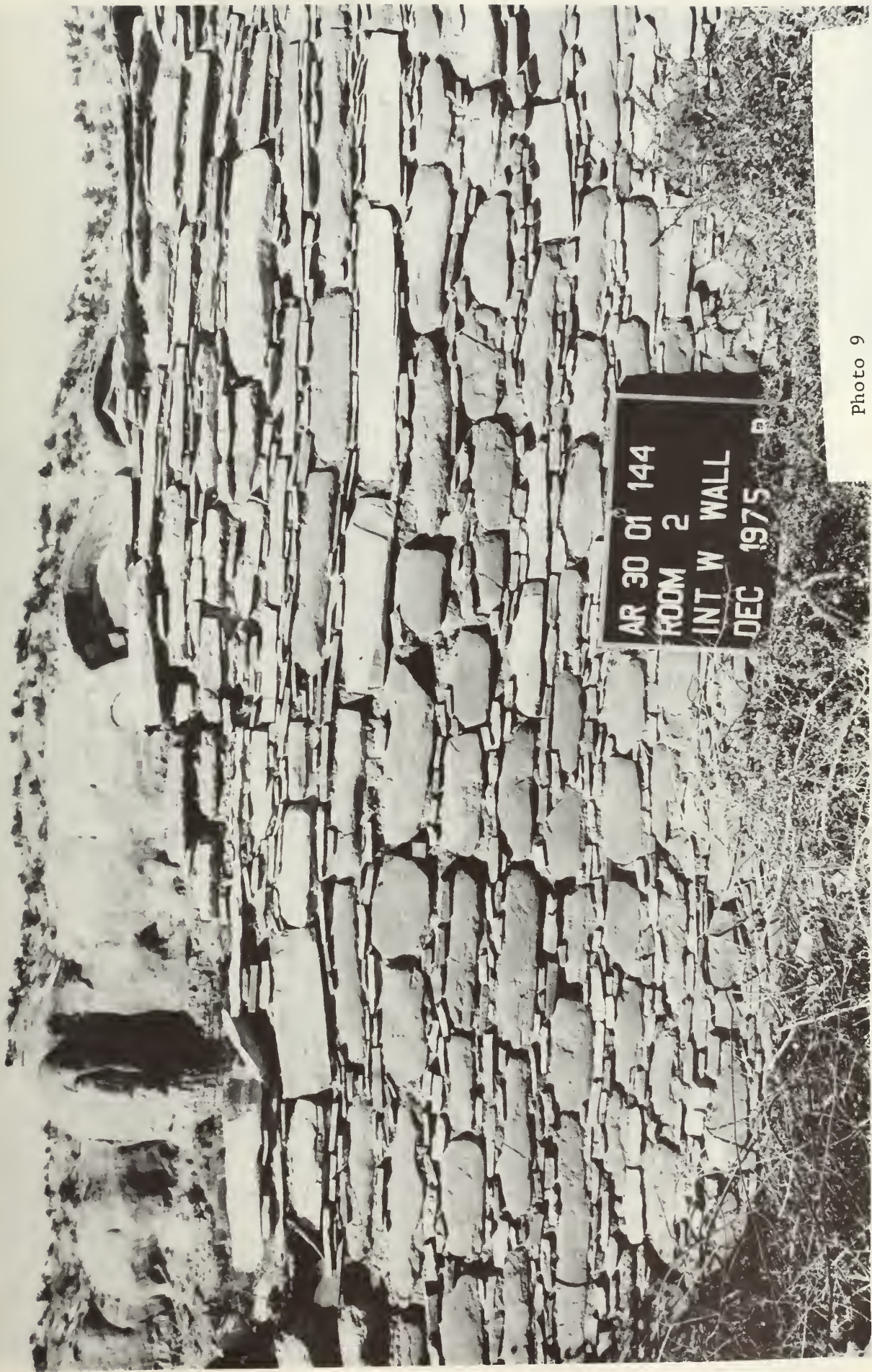


Photo 9

Example of masonry

Before stabilization

Casamero AR-NM-01-144



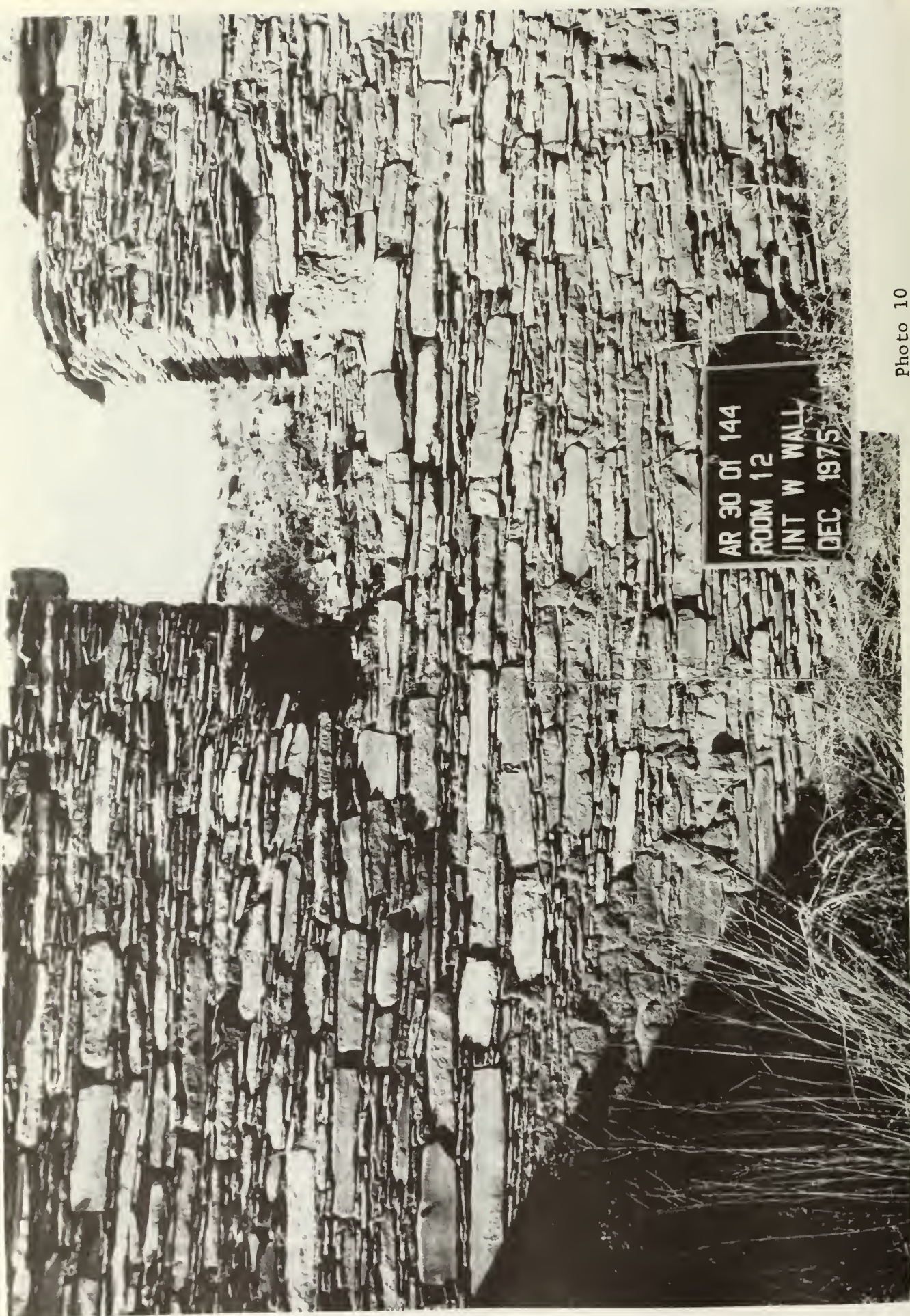


Photo 10

Example of masonry

Before stabilization

Casamero

AR-NM-01-144



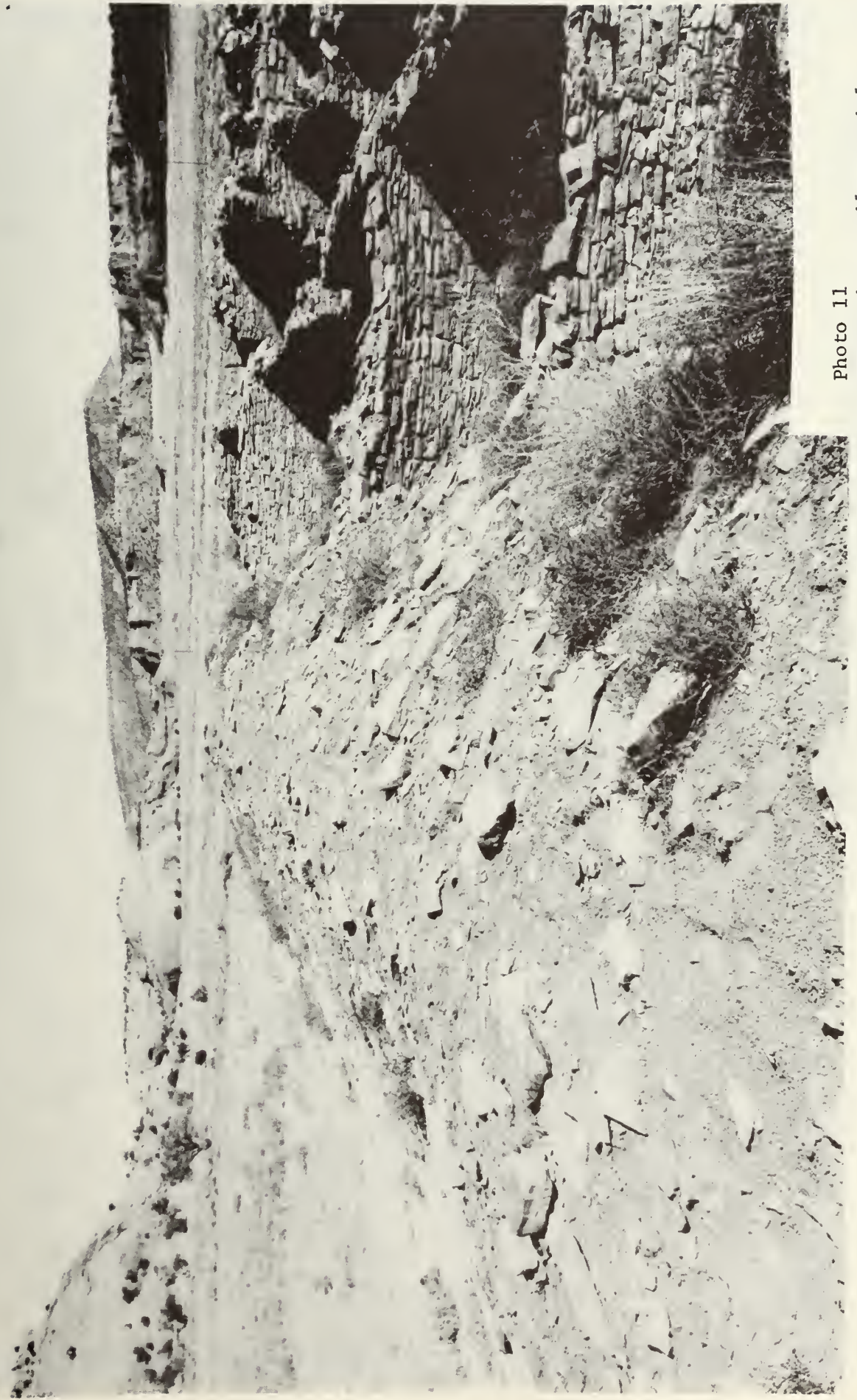


Photo 11  
Excavation spoil material,  
endangering west walls  
Before stabilization  
Casamero AR-NM-01-144





Photo 12

Excavation spoil, endangering

west wall

Before stabilization

Casamero AR-NM-01-144





Photo 13

Excavation spoil material,

endangering west wall

Before stabilization

Casamero

AR-NM-01-144



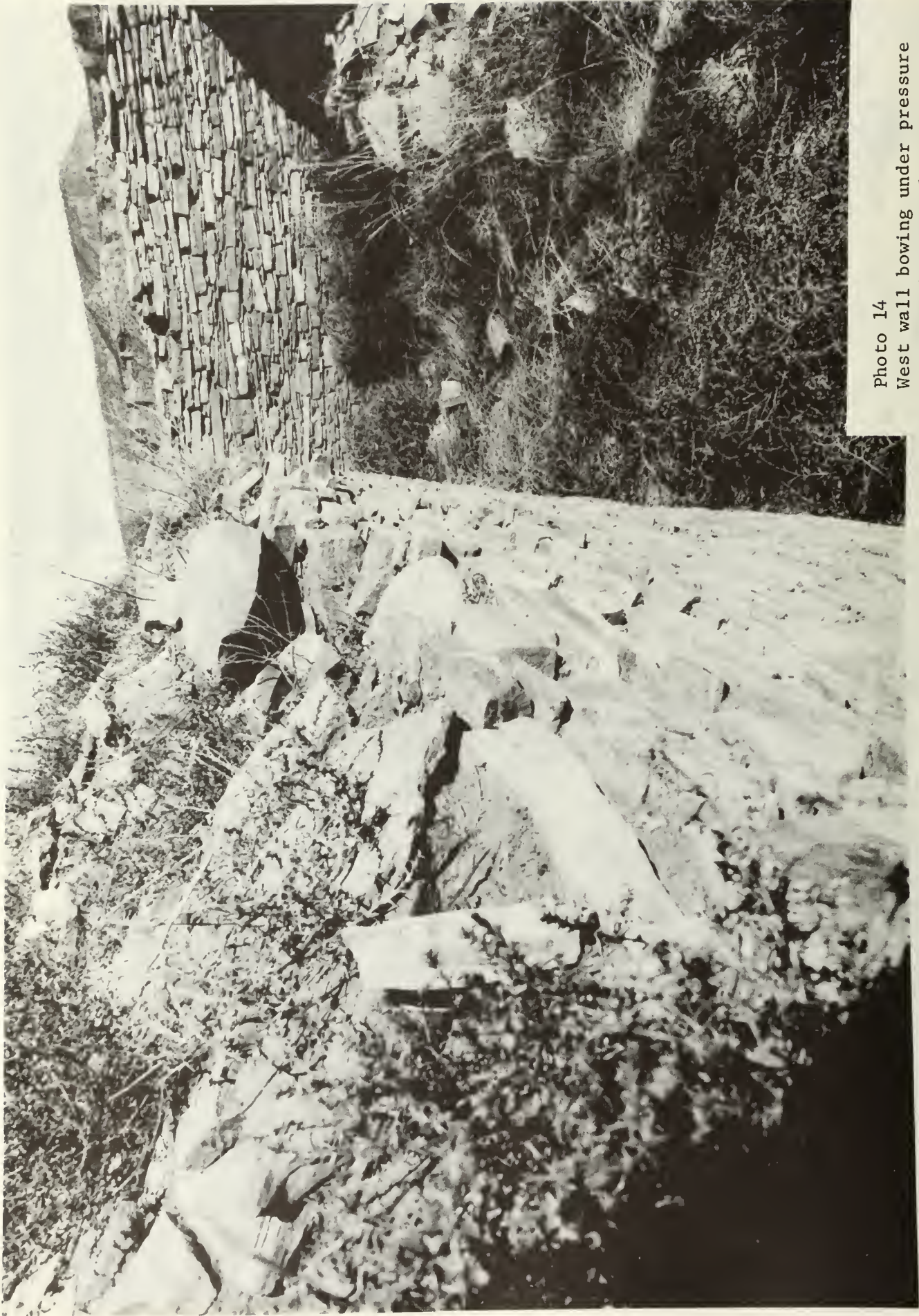


Photo 14

West wall bowing under pressure  
from spoil material  
Before stabilization  
Casamero AR-NM-01-144





Photo 15

West wall collapsing under pressure  
from spoil material  
Before stabilization  
Casamero AR-NM-01-144





Photo 16  
Cave-in of wall  
Before stabilization  
Casamero AR-NM-01-144





Photo 17  
Cave-in of wall  
Before stabilization  
Casamero AR-NM-01-144





Photo 18

Excavation spoil material causing  
unequal pressure in kiva  
Before stabilization  
Casamero AR-NM-01-144



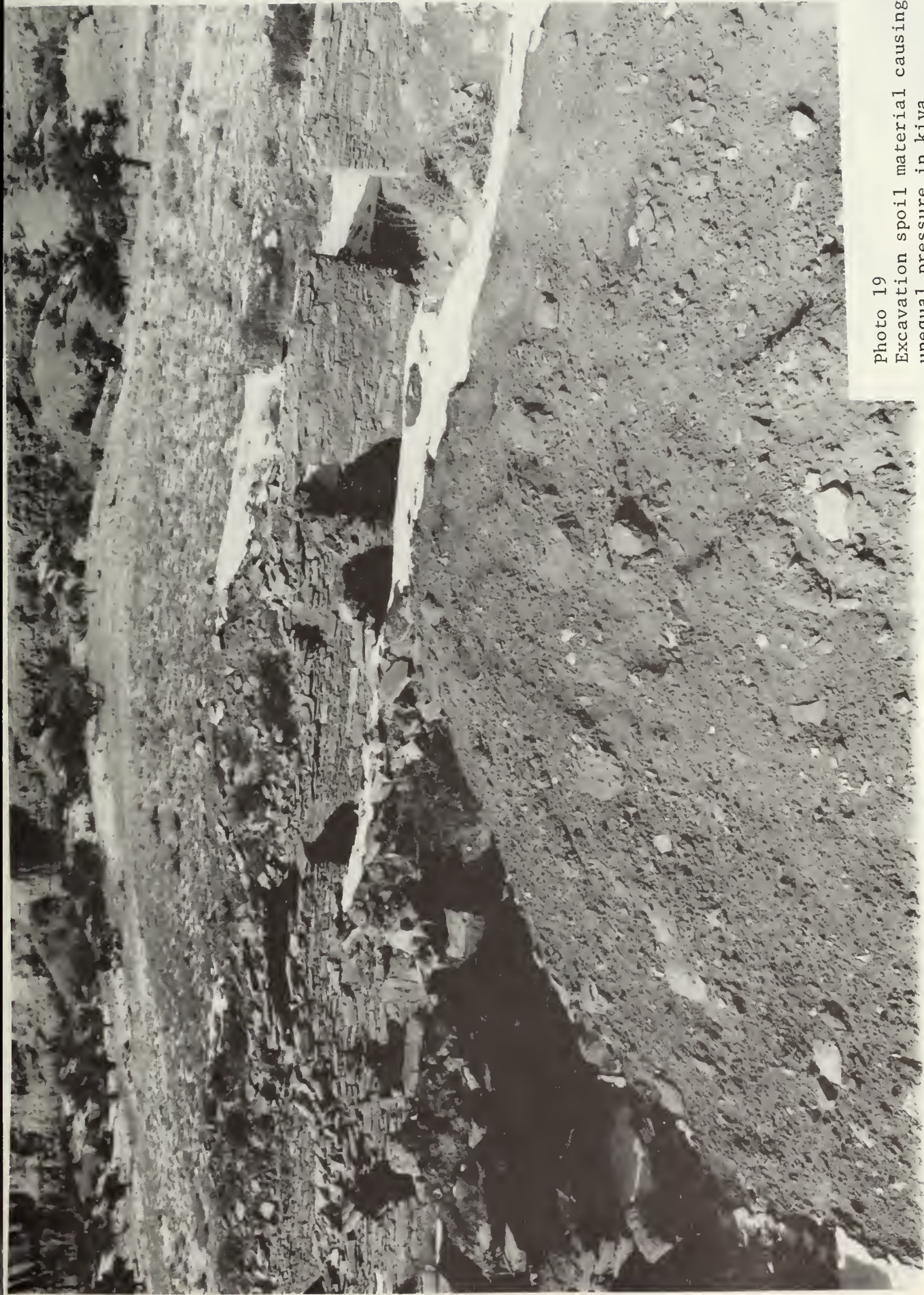


Photo 19  
Excavation spoil material causing  
unequal pressure in kiva  
Before stabilization  
Casamero AR-NM-01-144





Photo 20

Haphazard placement of spoil, wall  
definition difficult  
Before stabilization  
Casamero AR-NM-01-144



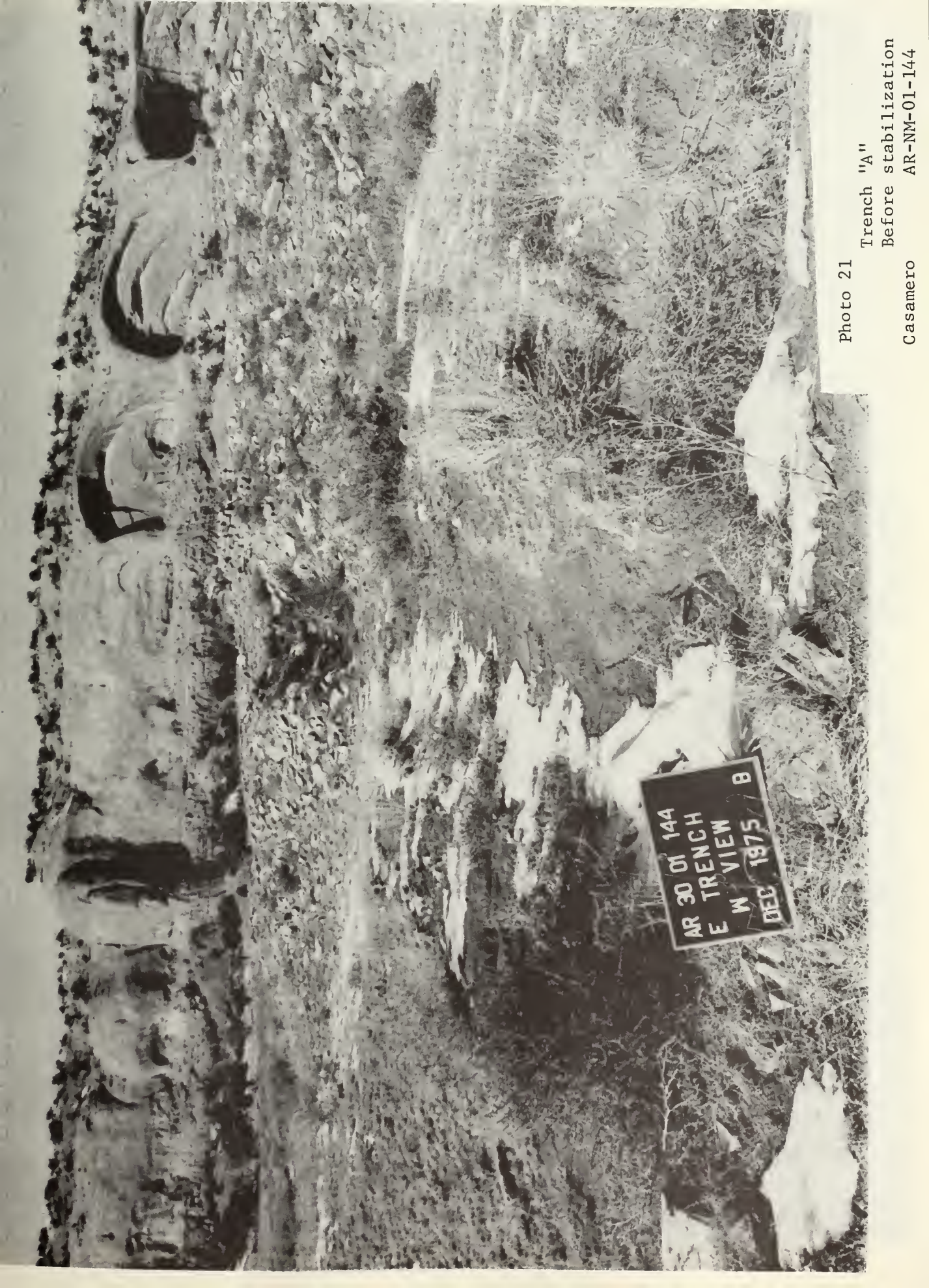


Photo 21

Trench "A"

Before stabilization

Casamero

AR-NM-01-144



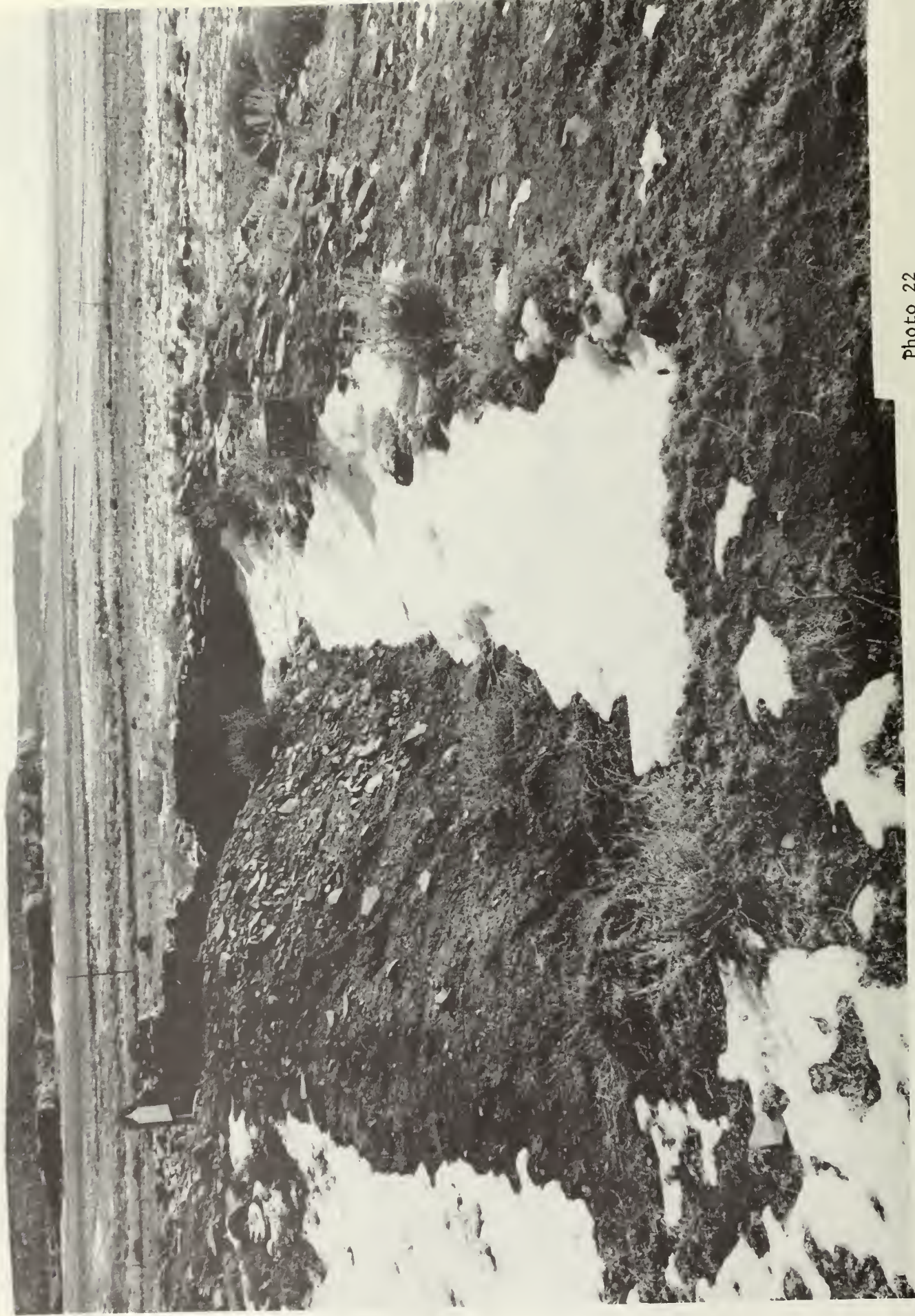


Photo 22

Trench "B"

Before stabilization

Casamero

AR-NM-01-144





AR 30 01 144  
ROOM 6  
INT W WALL  
DEC 1975 B

Photo 23

Ventilator ports  
Before stabilization  
Casamero AR-NM-01-144





Photo 24

Hole in base of wall  
Before stabilization  
AR-NM-01-144

Casamero



Photo 25

Area of questionable stability

Before stabilization

Casamero

AR-NM-01-144



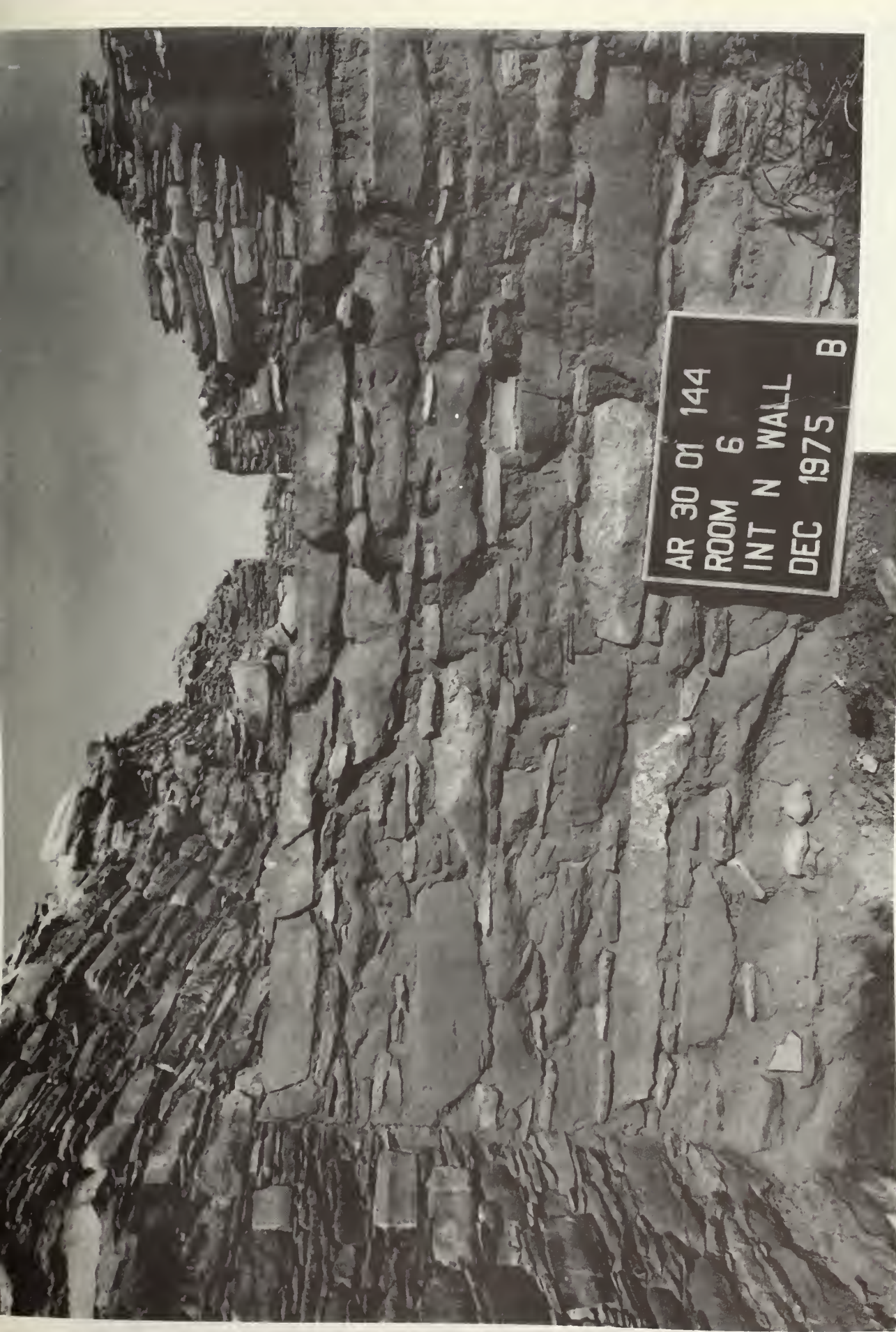


AR 30 01 144  
ROOM 2  
INT N WALL  
DEC 1975 B

Photo 26

Area of questionable stability  
Before stabilization  
Casamero AR-NM-01-144





AR 30 01 144  
ROOM 6  
INT N WALL  
DEC 1975 B

Photo 27  
Area of questionable stability  
Before stabilization  
Casamero AR-NM-01-144





Photo 28

Leaning wall, room 17

Before stabilization

Casamero

AR-NM-01-144



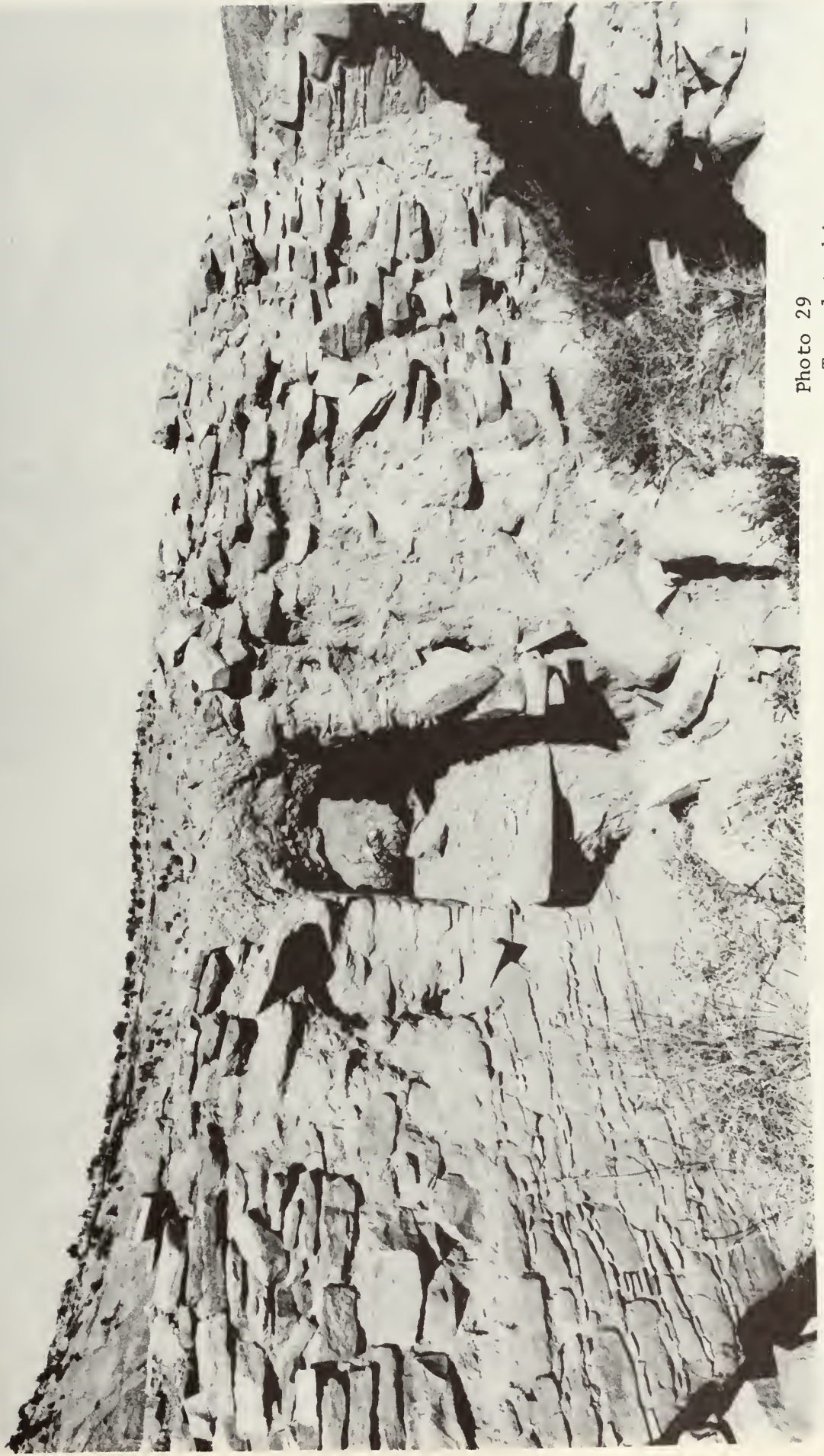


Photo 29

Tunnel to kiva  
Before stabilization  
Casamero AR-NM-01-144





AR 30 01 144

ROOM 13

INT E WALL

DEC 1975 B

Photo 30

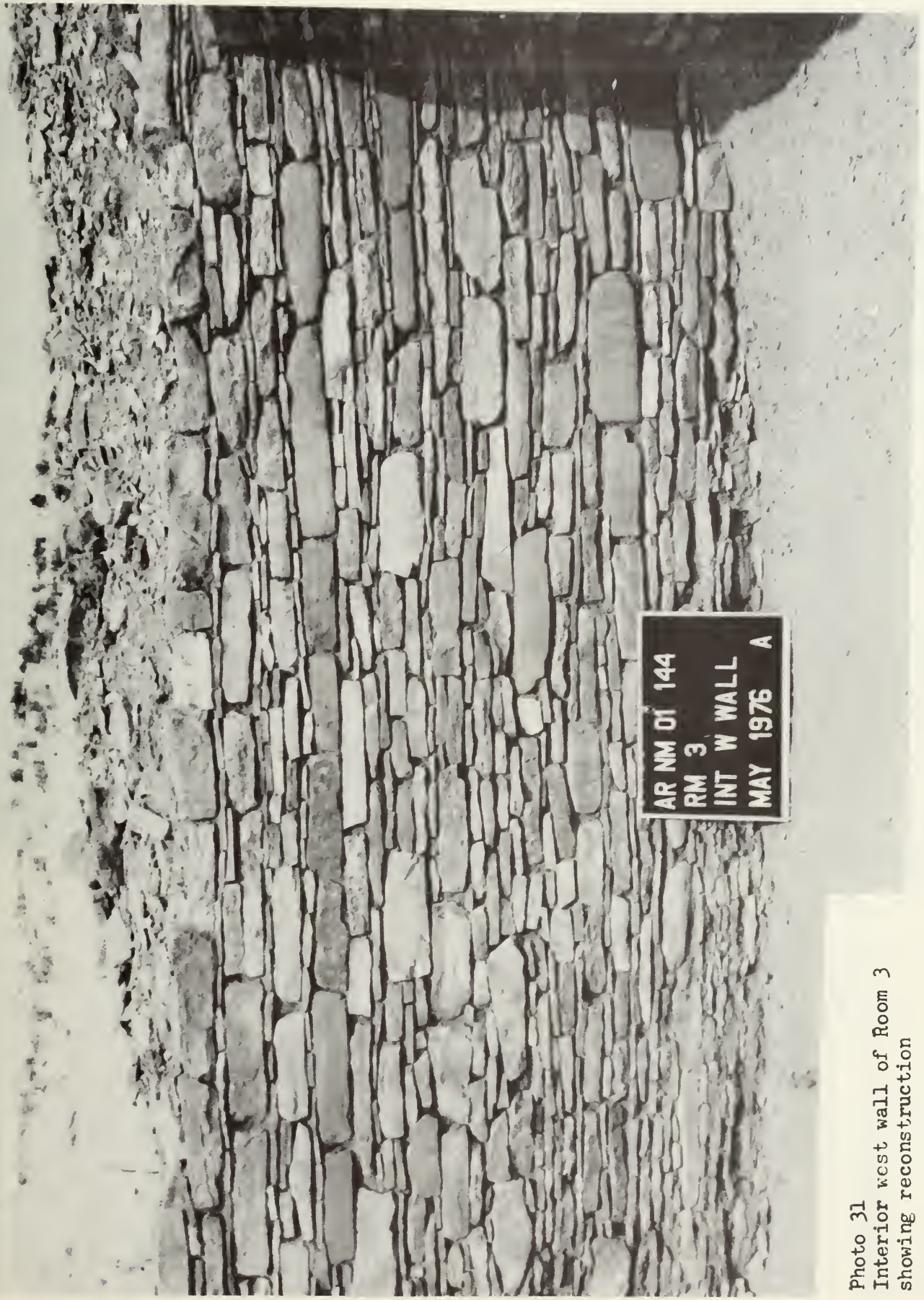
Wall plaster requiring careful  
backfilling

Before stabilization

Casamero

AR-NM-01-144





AR NM 01 144  
RM 3  
INT W WALL  
MAY 1976 A

Photo 31  
Interior west wall of Room 3  
showing reconstruction

After Stabilization  
Casamero AR-NM-01-1114



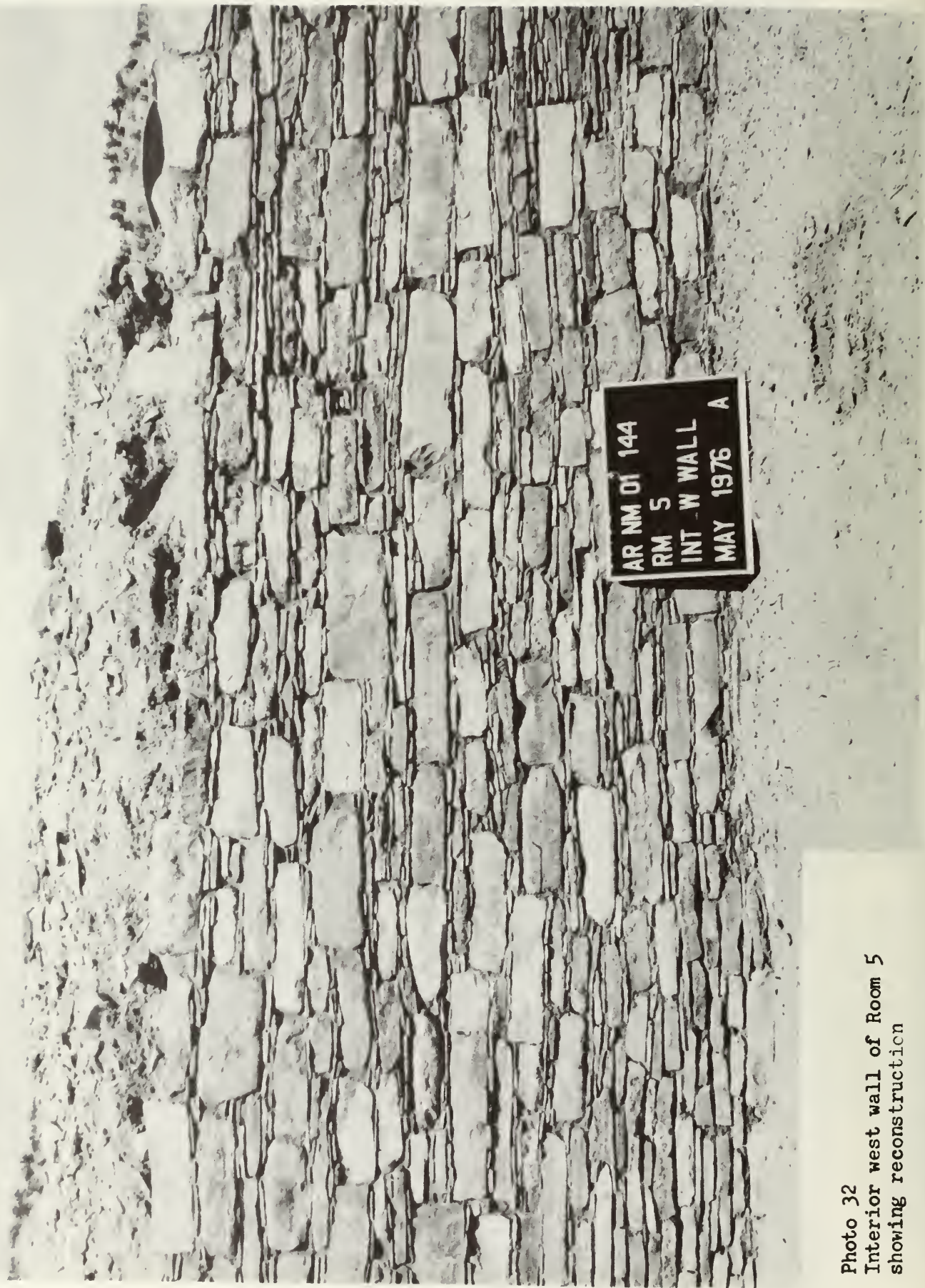


Photo 32  
Interior west wall of Room 5  
showing reconstruction

After Stabilization  
Casamero AB-NM-01-1111



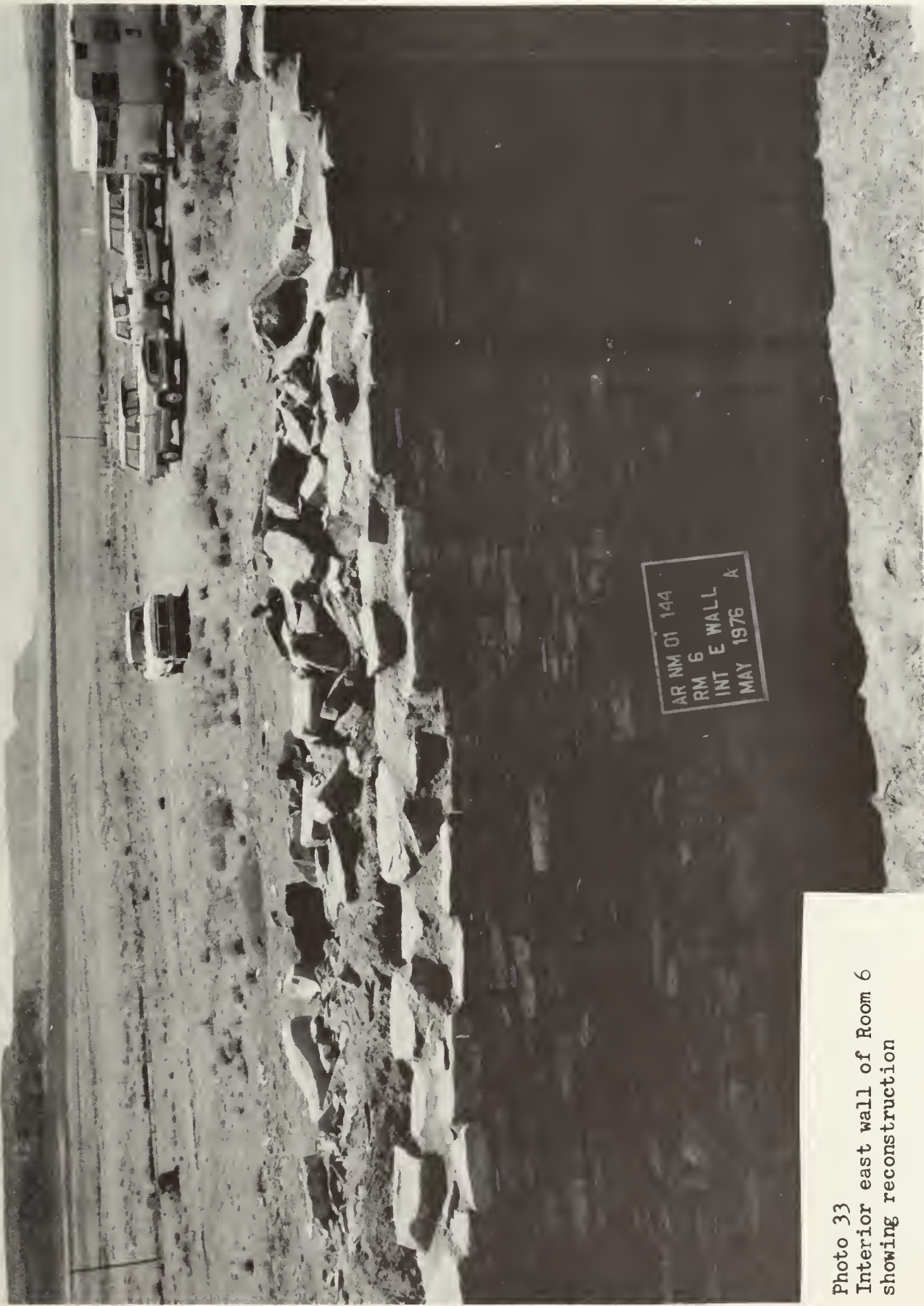


Photo 33  
Interior east wall of Room 6  
showing reconstruction

After Stabilization  
Casa mero AR-NM-01-1114



Photo 34  
Interior east wall of Room 20  
showing reconstruction

After Stabilization





Photo 35  
Showing repaired lintel in the  
interior east wall of Room 5

After Stabilization  
Casamero AR-NM-01-144





Photo 36  
Showing repaired lintel in the  
west wall of Room 6  
After Stabilization





Photo 36A  
Showing repaired lintel in the  
west wall of Room 6

After Stabilization  
Casamero AR-NM-01-114





AR NM 01 144  
RM 20  
INT N WALL  
AUG 1976 A

Photo 37  
Showing repair of the interior  
north wall of Room 20 where  
there was once a hole.  
See Before Photo



Photo 38  
Showing doorway in the interior  
east wall of Room 1. This is  
not shown on the map.

After Stabilization  
Casamero AR-NM-01-144



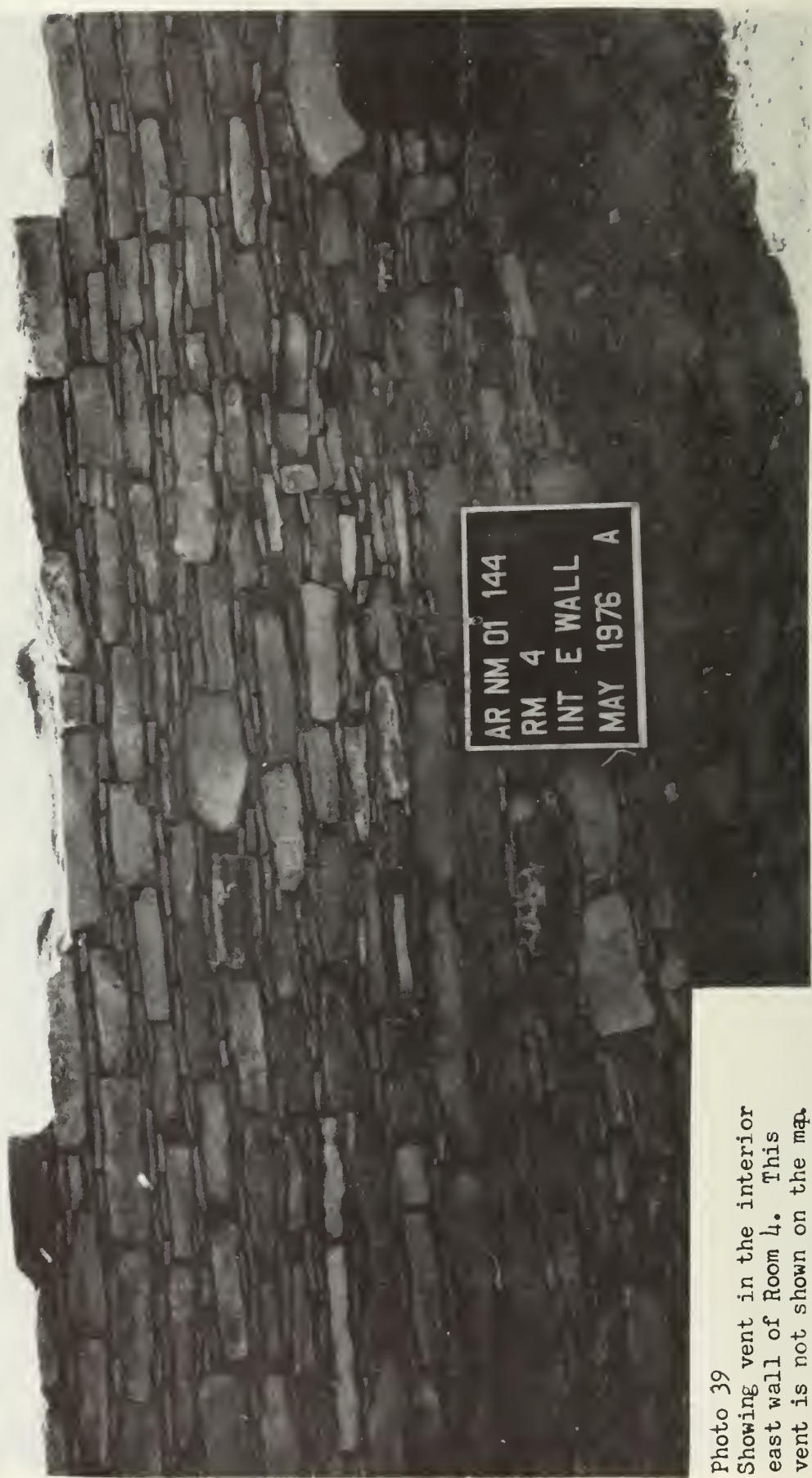


Photo 39  
Showing vent in the interior  
east wall of Room 4. This  
vent is not shown on the map.

After Stabilization



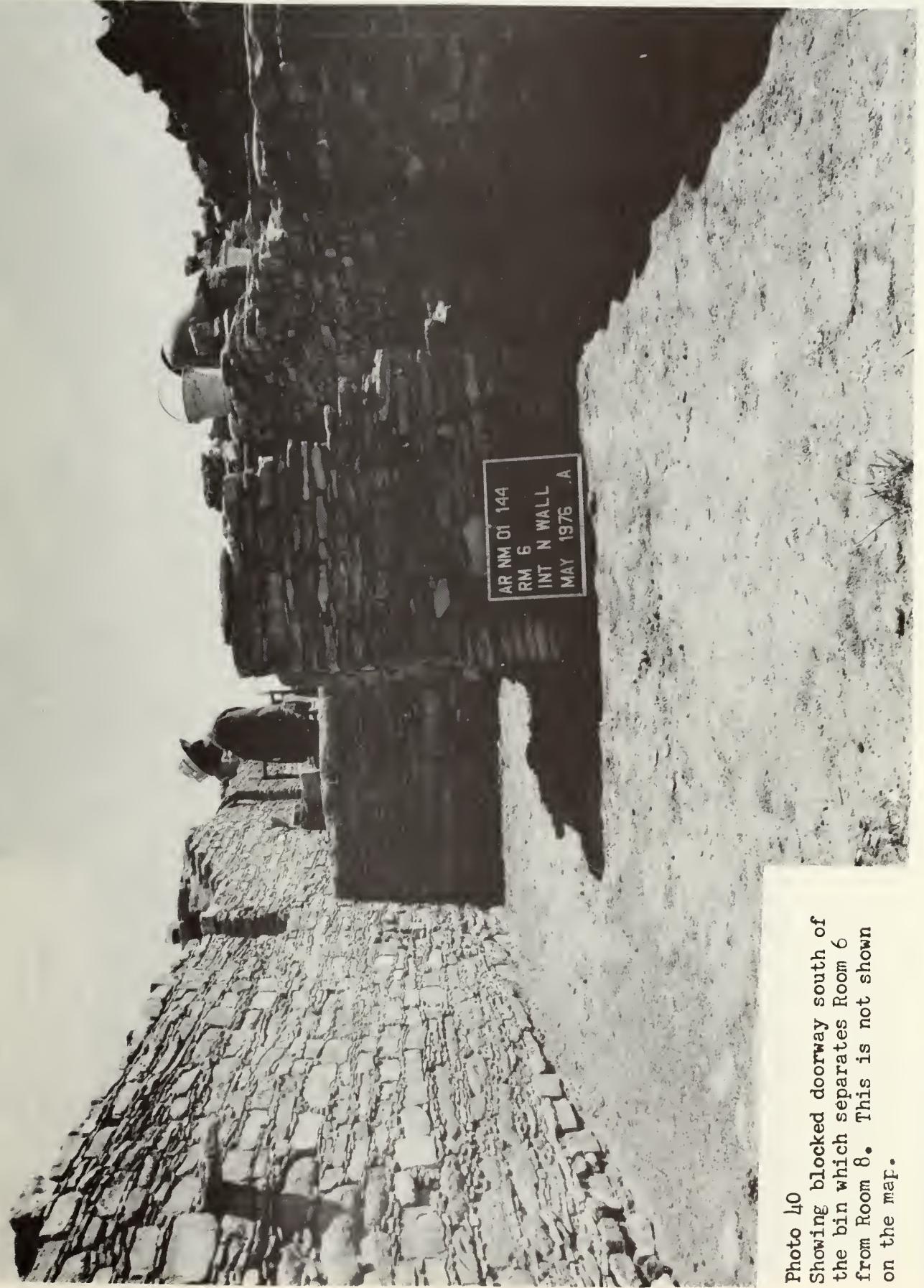


Photo 40  
Showing blocked doorway south of  
the bin which separates Room 6  
from Room 8. This is not shown  
on the map.



Photo 41  
Showing door in the interior  
east wall of Room 7. This is  
not shown on the map.

After Stabilization  
Casamero AR-NM-01-111



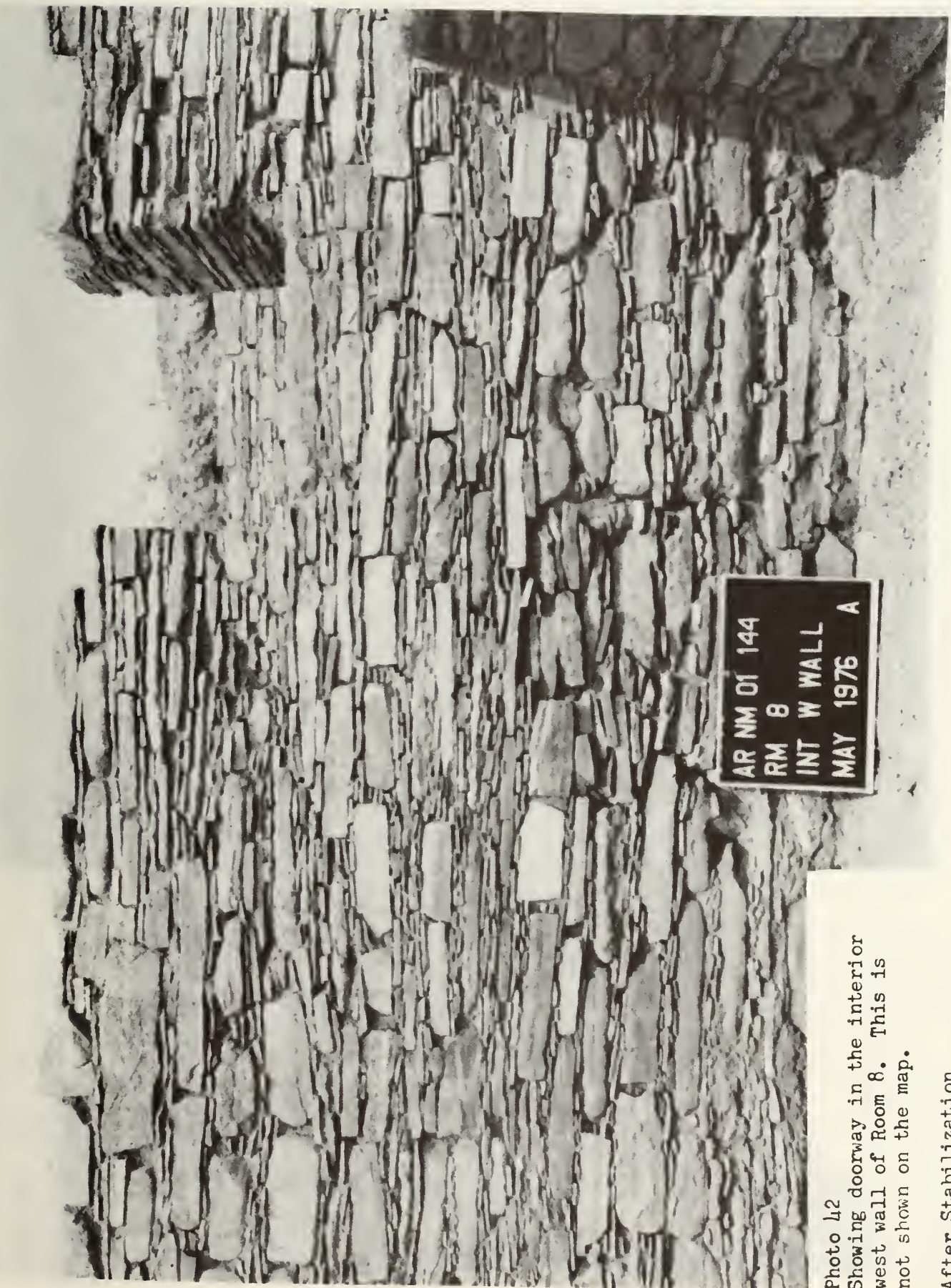
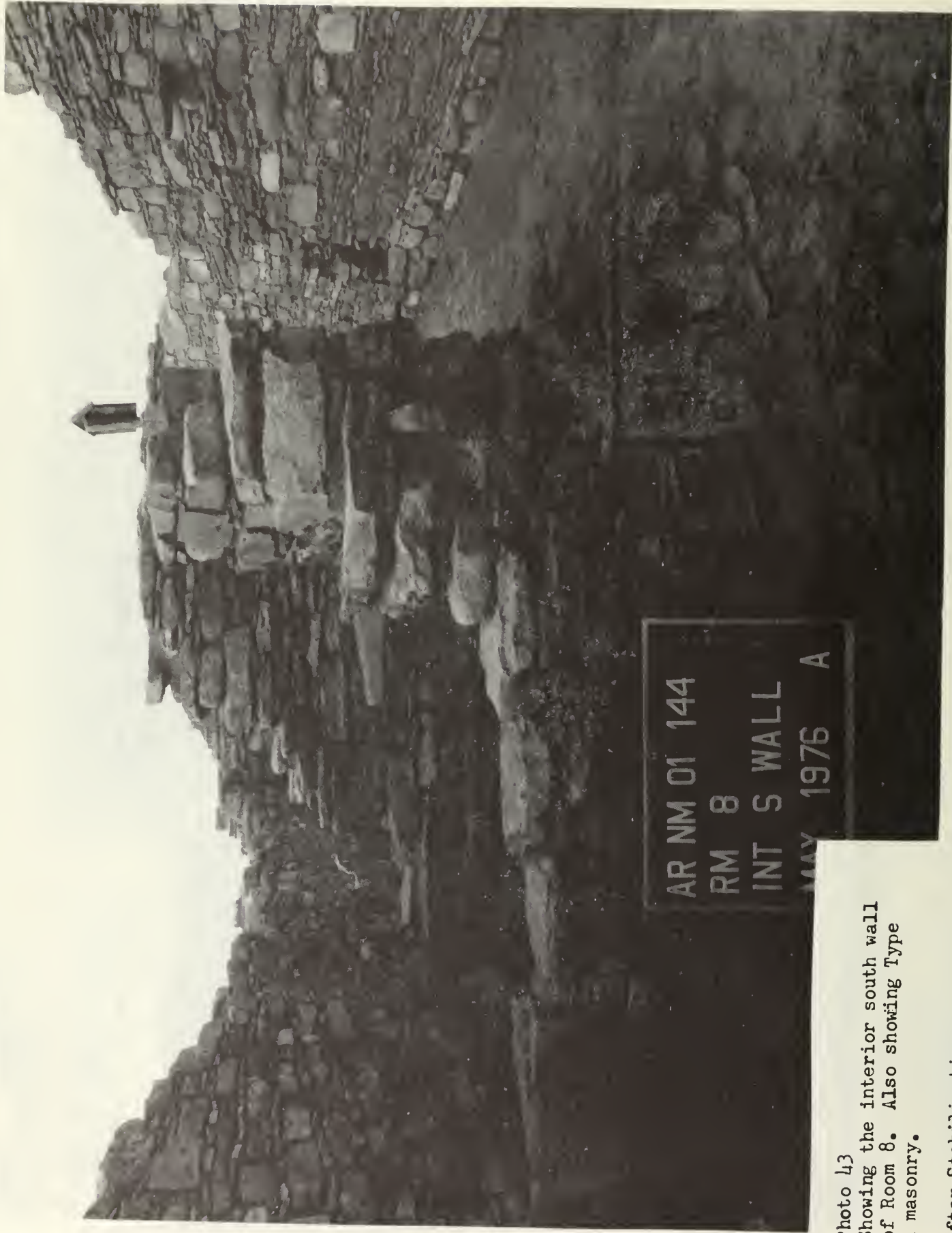


Photo 42  
Showing doorway in the interior  
west wall of Room 8. This is  
not shown on the map.

After Stabilization  
Casamero AR-NM-01-144

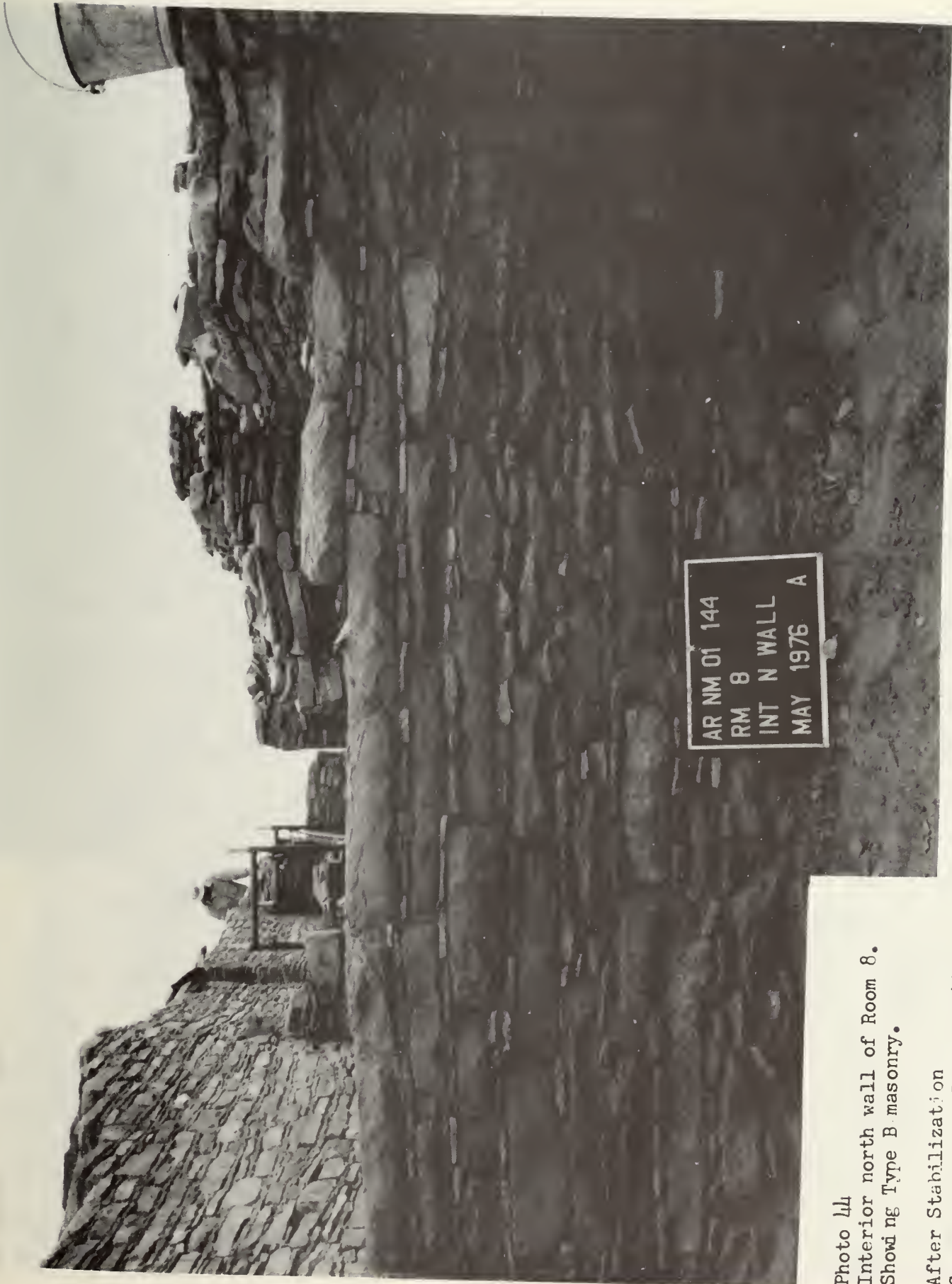




AR NM 01 144  
RM 8  
INT S WALL  
MAY 1976 A

Photo 43  
Showing the interior south wall  
of Room 8. Also showing Type  
A masonry.

After Stabilization  
Casamero AR-NM-01-144



AR NM 01 144  
RM 8  
INT N WALL  
MAY 1976 A

Photo 44  
Interior north wall of Room 8.  
Showing Type B masonry.

After Stabilization  
Casamero AR-NM-01-144





Photo 45  
Interior west wall of Room 9  
showing a plugged vent discovered  
during stabilization. This is  
not shown on the map.



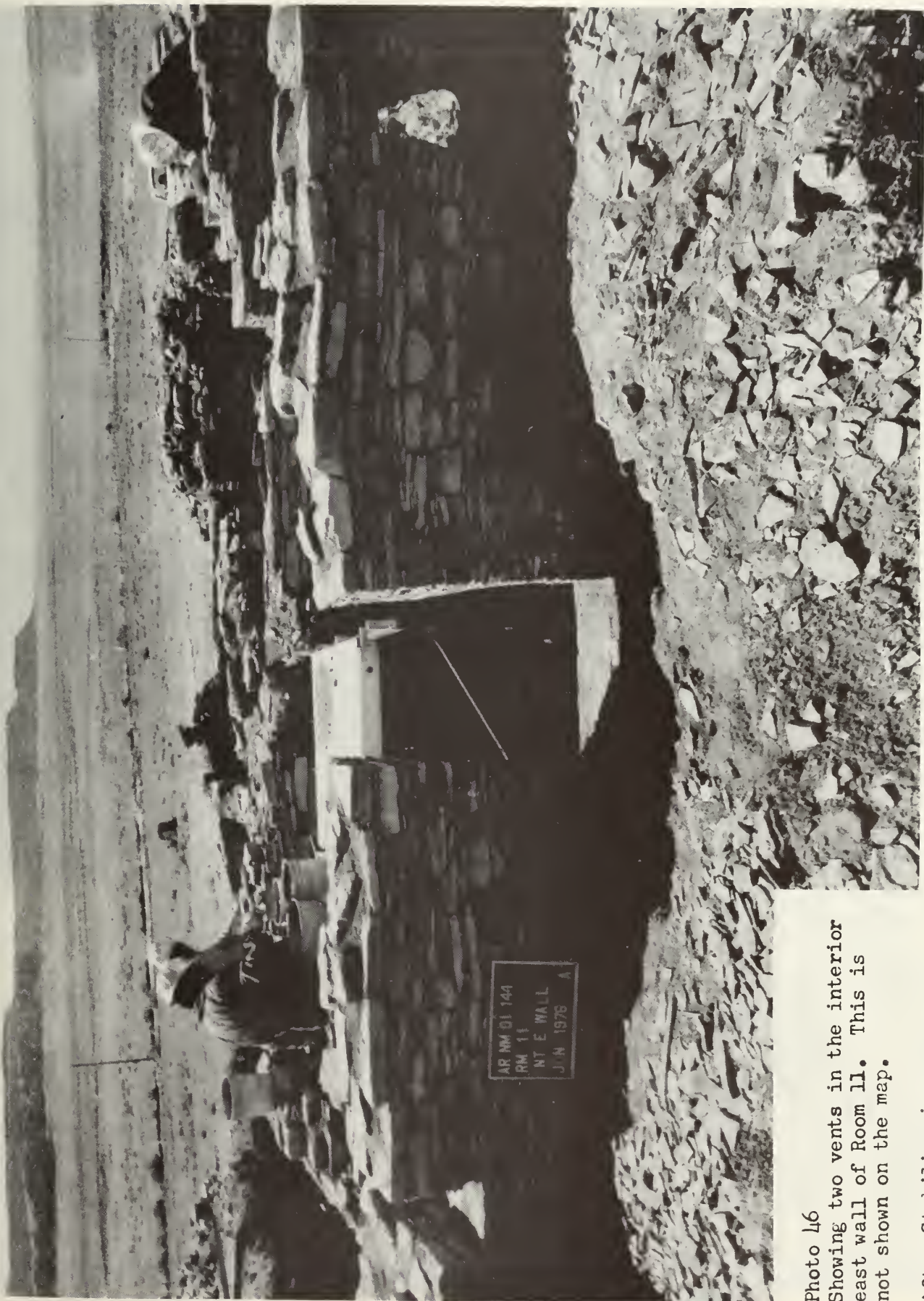


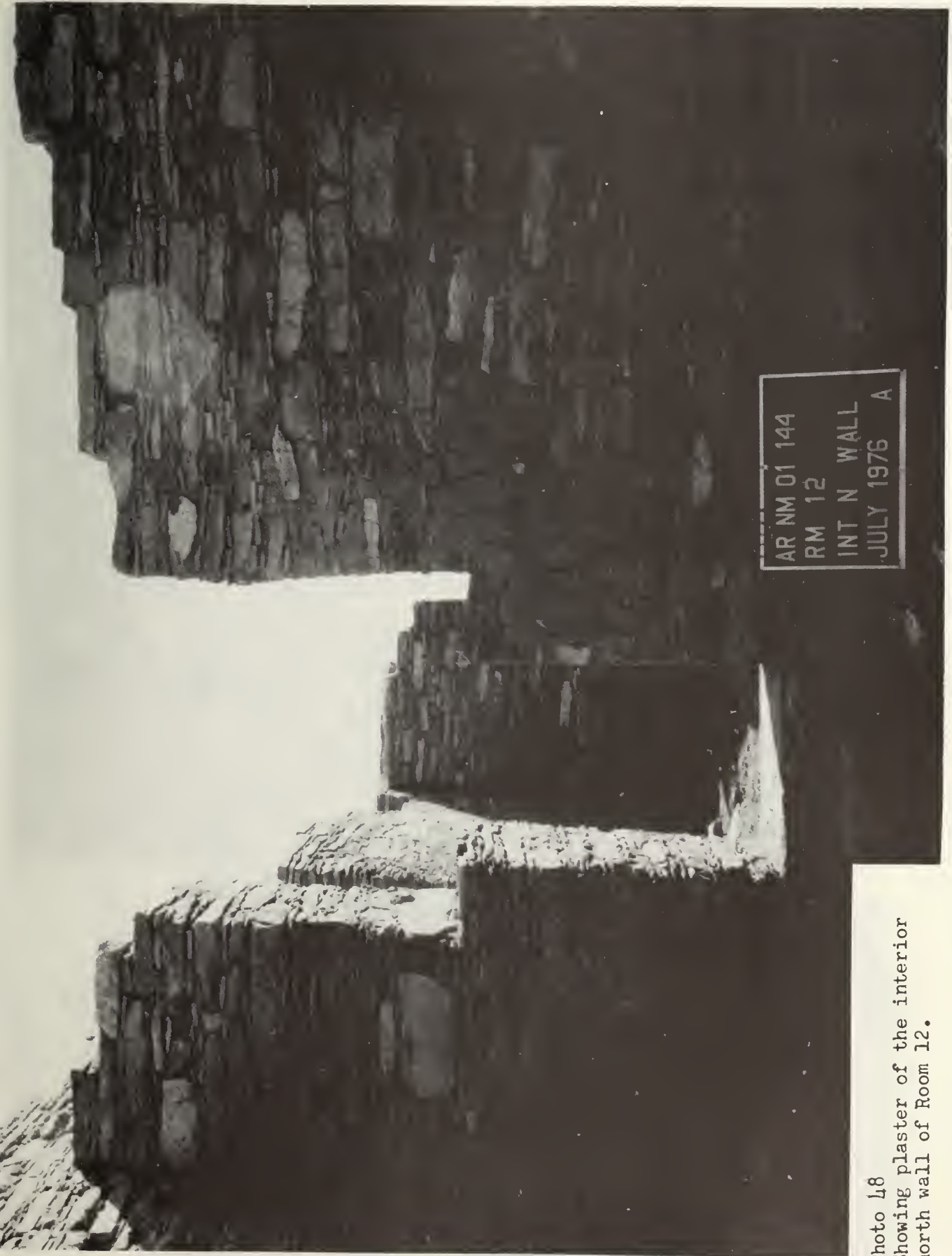
Photo 46  
Showing two vents in the interior  
east wall of Room 11. This is  
not shown on the map.

After Stabilization  
Casamero AR-NM-01-144





Photo 47  
Showing two plugged vents in the  
interior west wall of Room 12.  
They are at the right side of the  
photo. These were not shown on  
the map.



AR NM 01 144  
RM 12  
INT N WALL  
JULY 1976 A

Photo 48  
Showing plaster of the interior  
north wall of Room 12.

After Stabilization  
Casamero AR-NM-01-144



Photo 149

Showing door in the interior  
north wall of Room 13. This  
was not shown on the map.

Notice plaster in the northwest  
corner of the room.

After Stabilization

AR NM 01 144

RM 13

INT N WALL

JULY 1976 A





Photo 50  
Showing plugged door and vent  
in the interior east wall of  
Room 13. This was not shown on  
the map. Notice the adobe  
plaster.

After Stabilization  
Casamero AR-NM-01-144



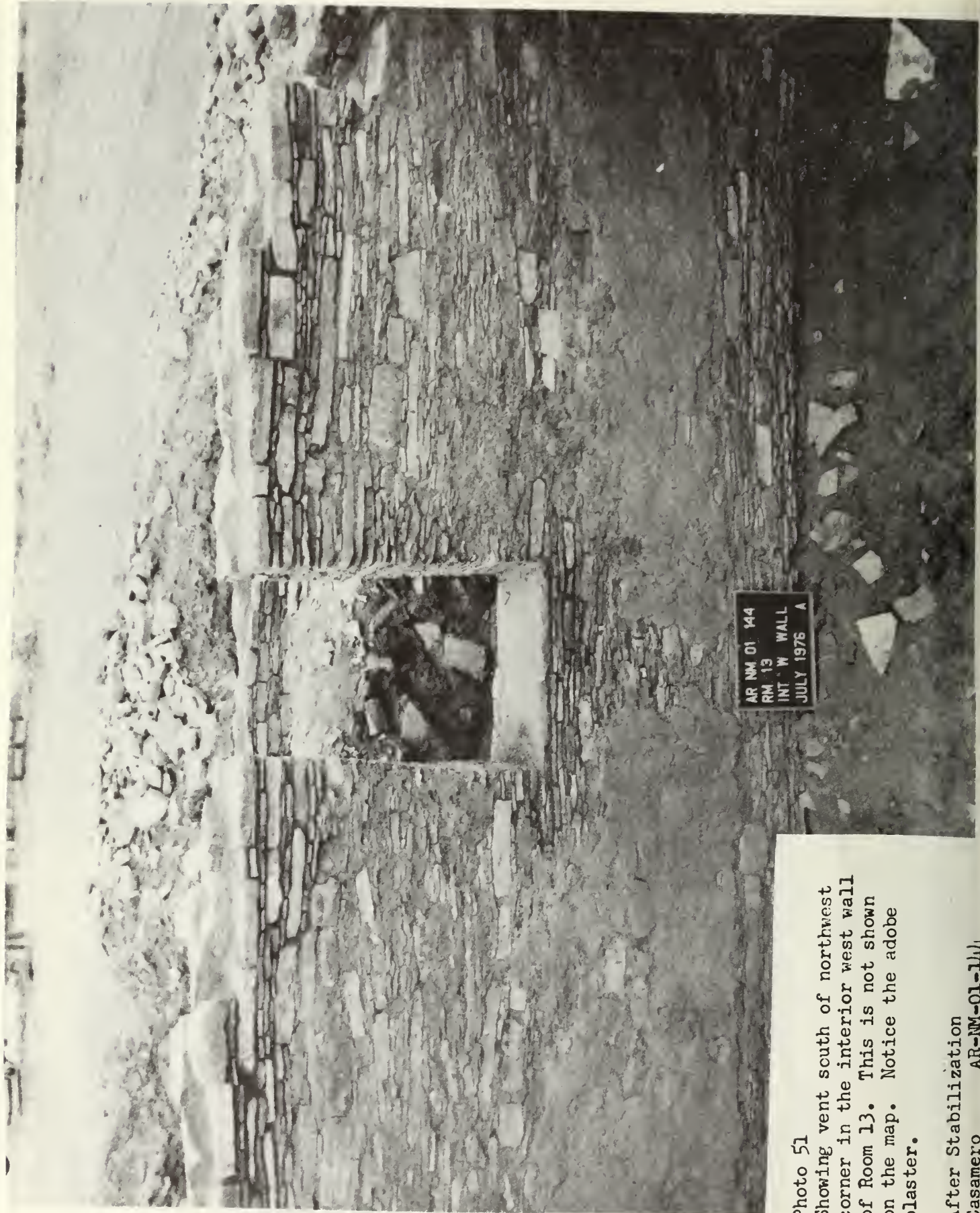


Photo 51

Showing vent south of northwest corner in the interior west wall of Room 13. This is not shown on the map. Notice the adobe plaster.

After Stabilization  
Casamero AR-NM-01-144





AR NM 01 144  
RM 15  
INT N WALL  
AUG 1976 A

Photo 52  
Showing change in the room shape  
of the interior north wall of  
Room 15 from that shown on the  
map.

After Stabilization  
Casamero AR-NM-01-144





Photo 53  
Showing change in the room shape  
of the interior east wall of  
Room 15 from that shown on the  
map.

After Stabilization  
Casamero AR-NM-01-144





Photo 54  
Showing doorway in the interior  
west wall of Room 16. This is  
not shown on the map.

After Stabilization  
Casamero AR-NM-01-144





AR NM 01 144  
RM 16  
EXT E WALL  
AUG 1976 A

Photo 55  
Showing capping of the southeast  
corner of Room 16.

After Stabilization  
AR-NM-01-144





Photo 56  
Showing the curved interior west  
wall of Room 17. Also showing  
Type A masonry.

After Stabilization  
Casamero AR-NM-01-144





Photo 57  
Showing repair being made of the  
interior east wall of Room 17  
where wall was leaning.





Photo 58  
Showing interior west wall of  
Room 18 where repairs were  
attempted in straightening the  
wall.

After Stabilization  
Casamero AR-NM-01-144



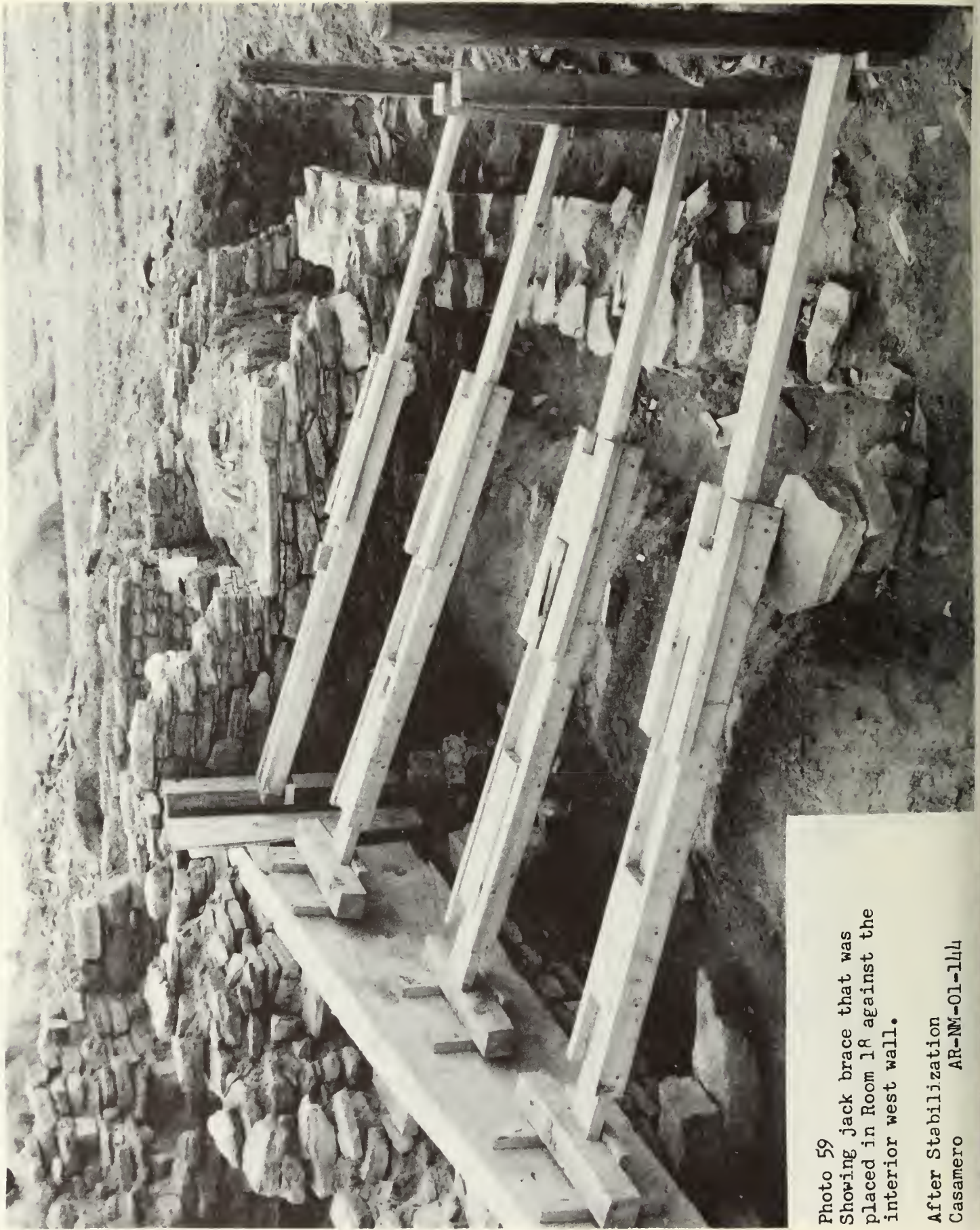


Photo 59  
Showing jack brace that was  
placed in Room 18 against the  
interior west wall.

After Stabilization  
Casamero AR-NM-01-144





Photo 60  
Showing the interior north wall  
of Room 17, where wall has lost  
it's facing. Notice change in  
masonry types between the north  
wall (Type B masonry), and the  
west wall (Type A masonry).

After Stabilization  
Casamero AR-NM-01-144





Photo 61  
Showing the interior north, east,  
and part of the west wall of Room  
17. Also showing the north wall  
of the tunnel. Notice the differ-  
ent masonry types in relation to  
one another. North wall (B),  
curved west wall (A), east wall (B),  
and north tunnel wall (B).

After Stabilization

Casamero AR-NM-01-144



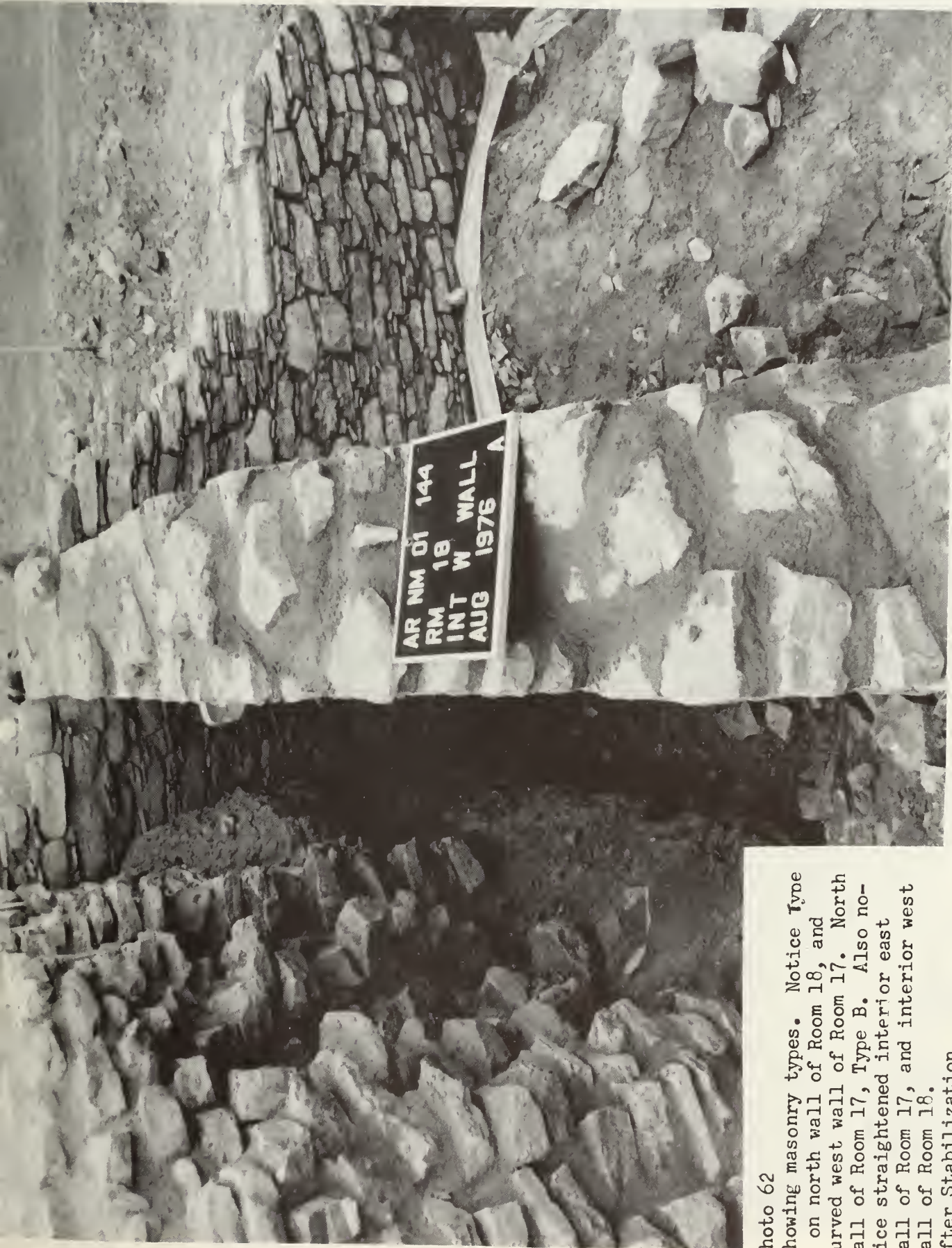


Photo 62  
Showing masonry types. Notice Type A on north wall of Room 18, and curved west wall of Room 17. North wall of Room 17, Type B. Also notice straightened interior east wall of Room 17, and interior west wall of Room 18.

After Stabilization

Casamero

AR-NM-01-144



AR NM 01 144  
RM 18  
EXT S WALL  
AUG 1976 A

Photo 63  
Showing the extension of the exterior south wall of Room 18. Notice the straightened interior west wall.  
After Stabilization





Photo 64  
Showing door on the interior north  
wall of Room 18. This is not  
shown on the map.

After Stabilization  
Casamero AR-NM-01-144





Photo 65  
Showing doorway in the interior  
west wall of Room 19. This is  
not shown on the map.

After Stabilization  
Casamero AR-NM-01-144





Photo 66  
Showing change in the interior  
south wall definitions of Room  
19 that were not shown on the map.





Photo 67  
Showing change in the east wall  
definitions of Room 19, that  
were not shown on the map.

After Stabilization





Photo 68  
Showing the southeast corner  
and east wall of Room 19 that  
is not shown on the map.

After Stabilization  
Casamero AR-NM-01-144





Photo 69  
Showing change in the interior  
north wall of Room 19 that is  
not shown on the map.

After Stabilization





Photo 70  
Showing change in the exterior  
north wall of Room 19 that is  
not shown on the map.

After Stabilization  
Casamero AR-NM-01-144



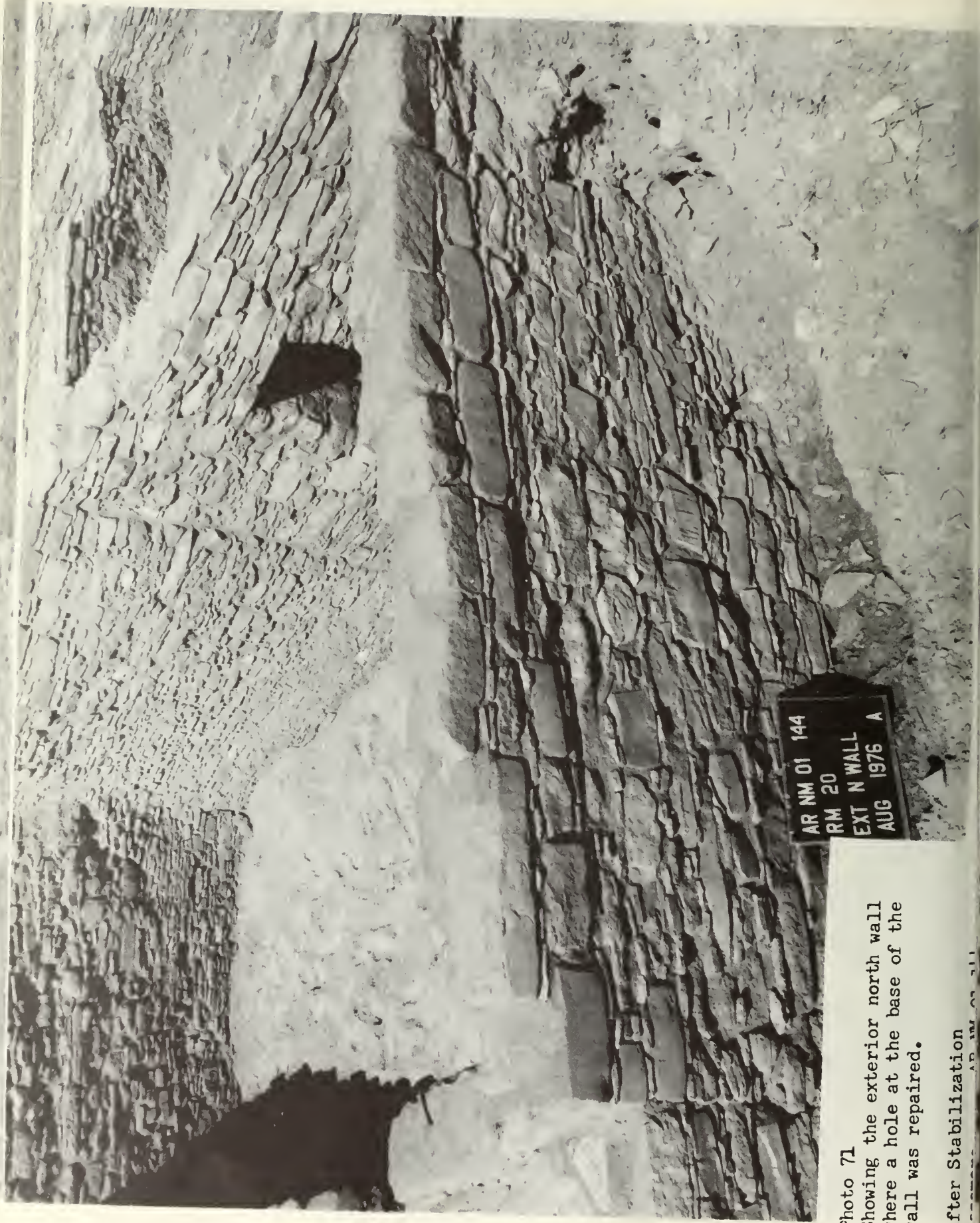


Photo 71  
Showing the exterior north wall  
where a hole at the base of the  
wall was repaired.

After Stabilization

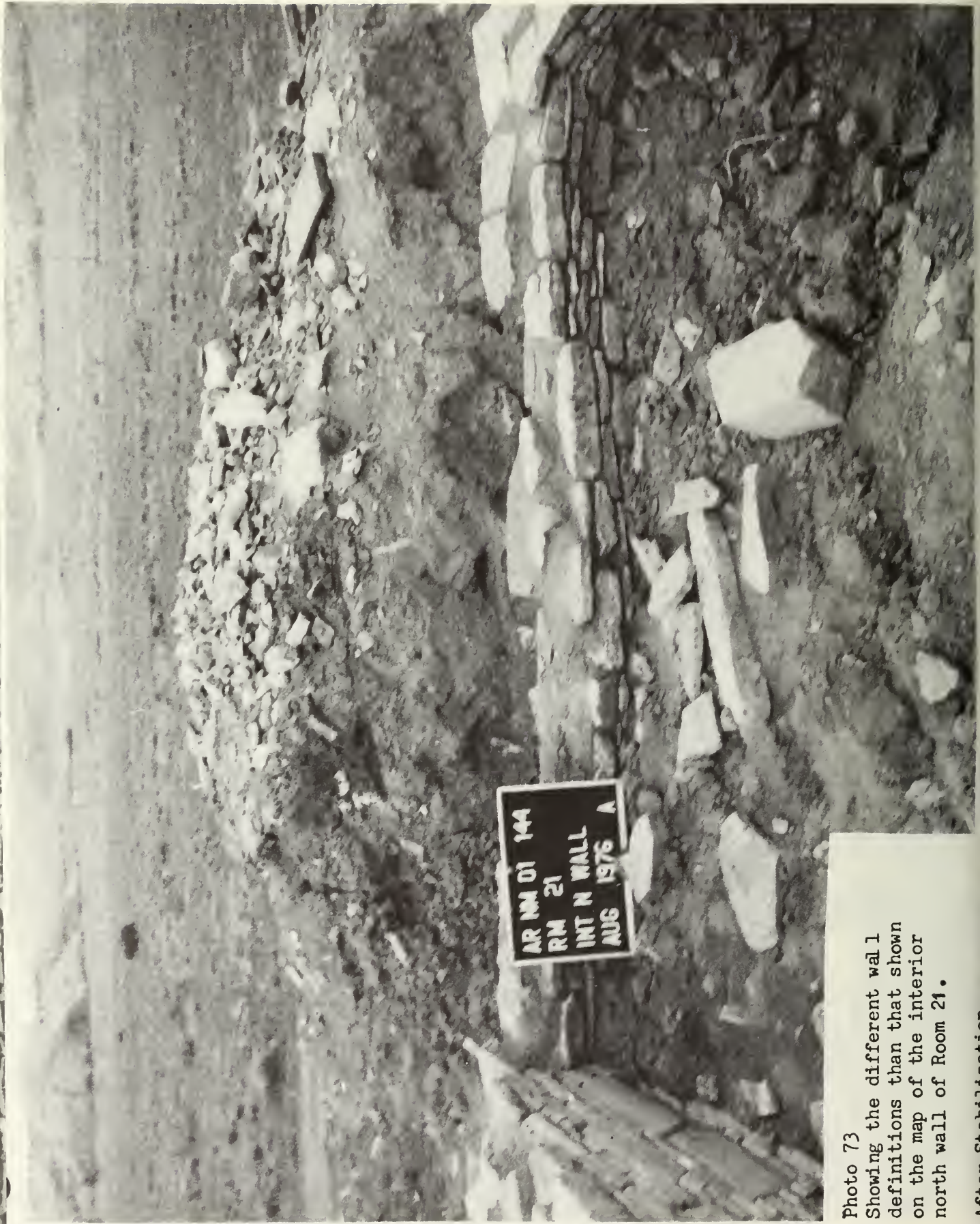




Photo 72  
Showing the repair of the arched  
doorway in the interior west  
wall of Room 20.

After Stabilization  
Casamero AR-NM-01-144





AR NM 01 144  
RM 21  
INT N WALL  
AUG 1976 A

Photo 73  
Showing the different wall  
definitions than that shown  
on the map of the interior  
north wall of Room 21.

After Stabilization

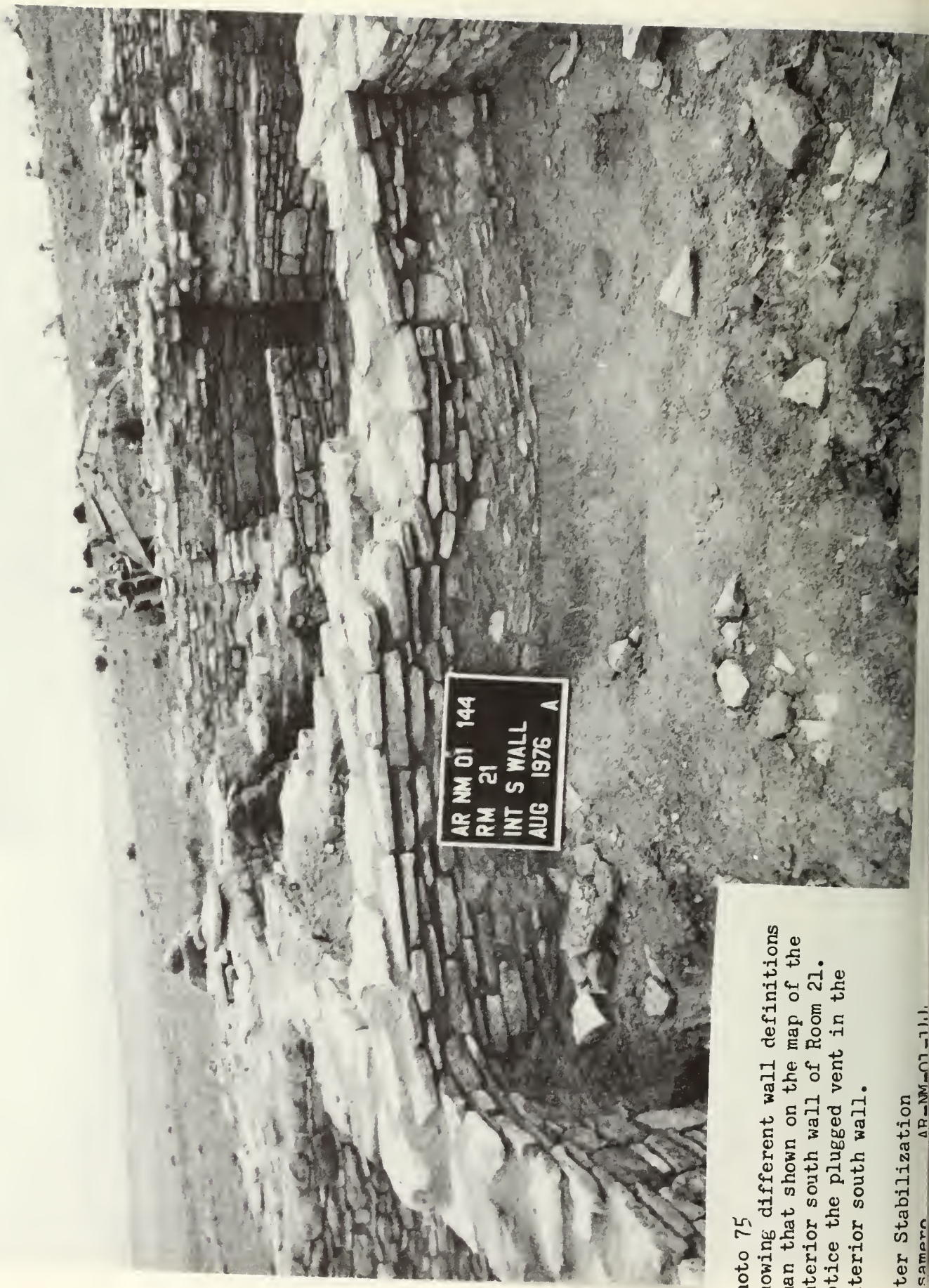




AR NM 01 144  
RM 21  
INT E WALL  
AUG 1976 A

Photo 74  
Showing different wall definitions  
than that shown on the map of the  
interior east wall of Room 21.





AR NM 01 144  
RM 21  
INT S WALL  
AUG 1976 A

Photo 75  
Showing different wall definitions  
than that shown on the map of the  
interior south wall of Room 21.  
Notice the plugged vent in the  
interior south wall.





Photo 76  
Showing different wall definitions  
than that shown on the map of all four  
walls of Room 21. Notice the  
plugged vent in the interior south  
wall.

After Stabilization  
Casamero AR-NM-01-144





Photo 77  
Showing different wall definitions  
than that shown on the map of the  
interior west wall of Room 21.  
Notice the plugged vent in the  
south interior wall.





AR NM 01 144  
RM 22  
EXT N WALL  
JULY 1976 A

Photo 78  
Showing different wall definitions  
than that shown on the map of all  
four walls of Room 22.

After Stabilization  
Casamero AR-NM-01-144



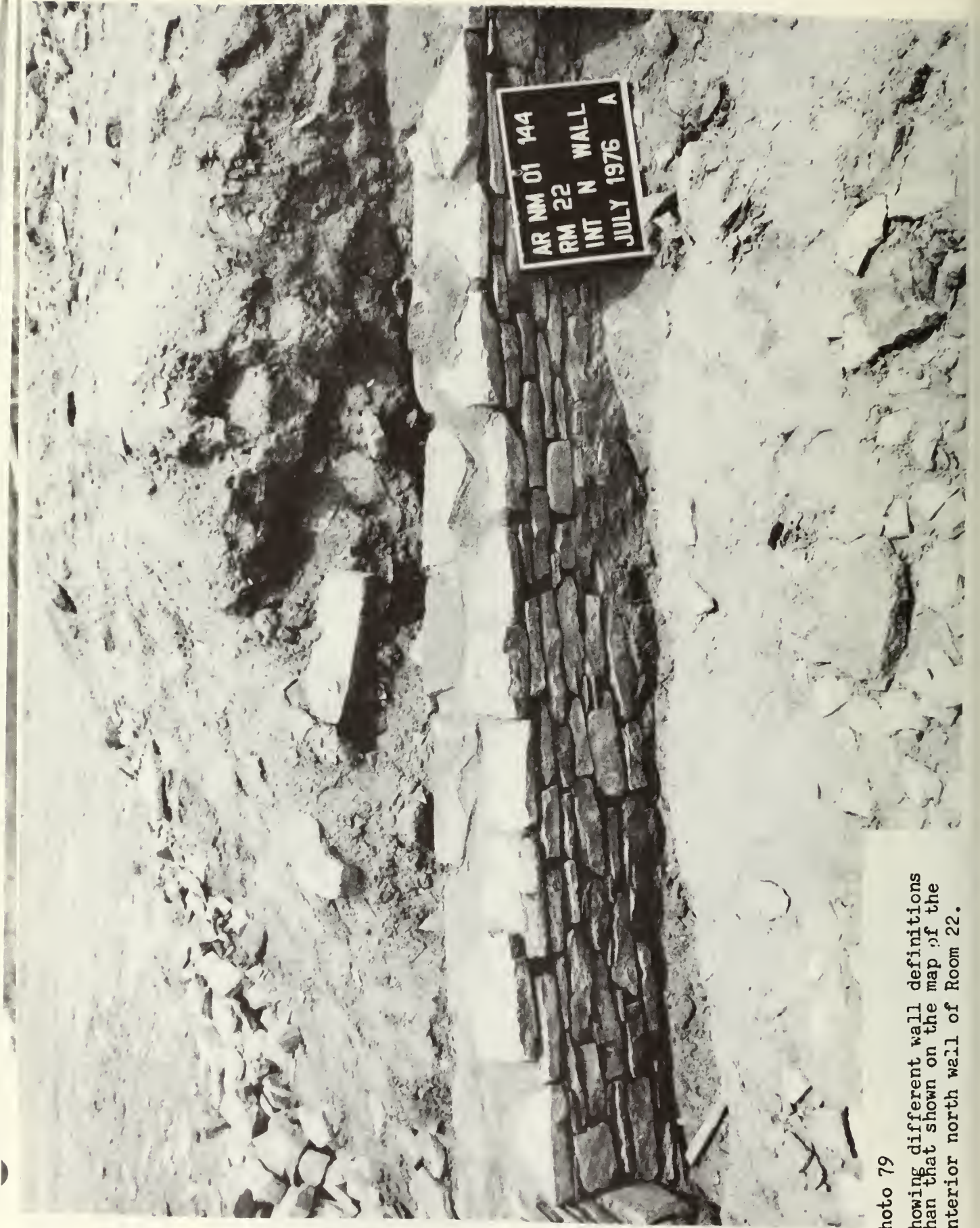


Photo 79

Showing different wall definitions  
than that shown on the map of the  
interior north wall of Room 22.



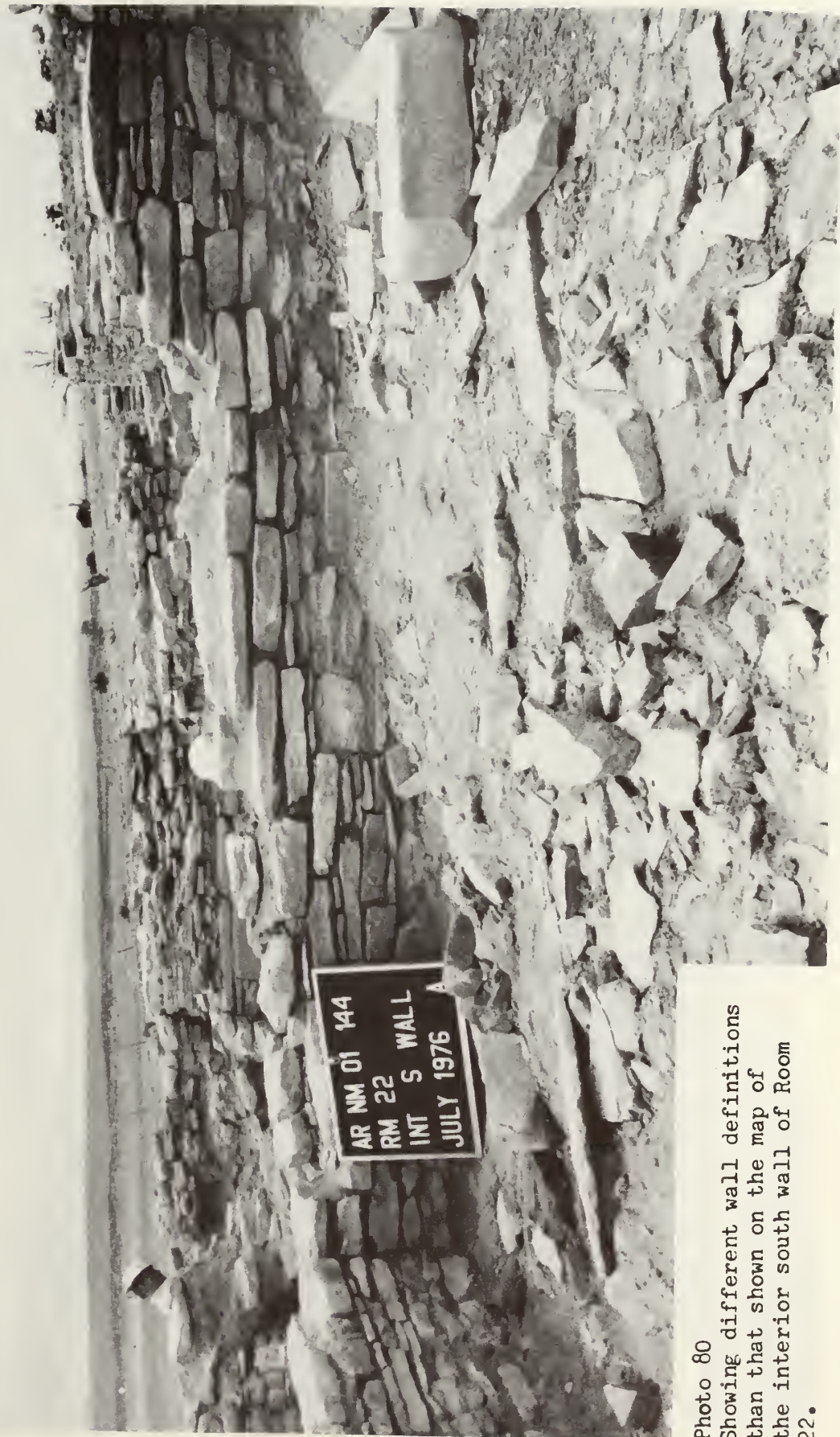


Photo 80  
Showing different wall definitions  
than that shown on the map of  
the interior south wall of Room  
22.





AR NM 01 144  
RM 22  
INT E WALL  
JULY 1976 A

Photo 81  
Showing different wall definitions  
than that shown on the map of the  
interior east wall of Room 22.





Photo 82  
Showing different wall definitions  
than that shown on the map of the  
interior west wall of Room 22.

After Stabilization  
Casamero AR-NM-01-144



AR NM 01 144  
RM 23  
INT E WALL  
AUG 1976 A

Photo 83  
Showing Room 23.

After Stabilization

Case No. AP NM-01-7111





Photo 84  
Showing north, west, and east  
view of Kiva A. Notice how  
benches are constructed. Also  
notice repaired hole at the base  
of the interior west wall.

After Stabilization  
Casamero AR-NW-01-144



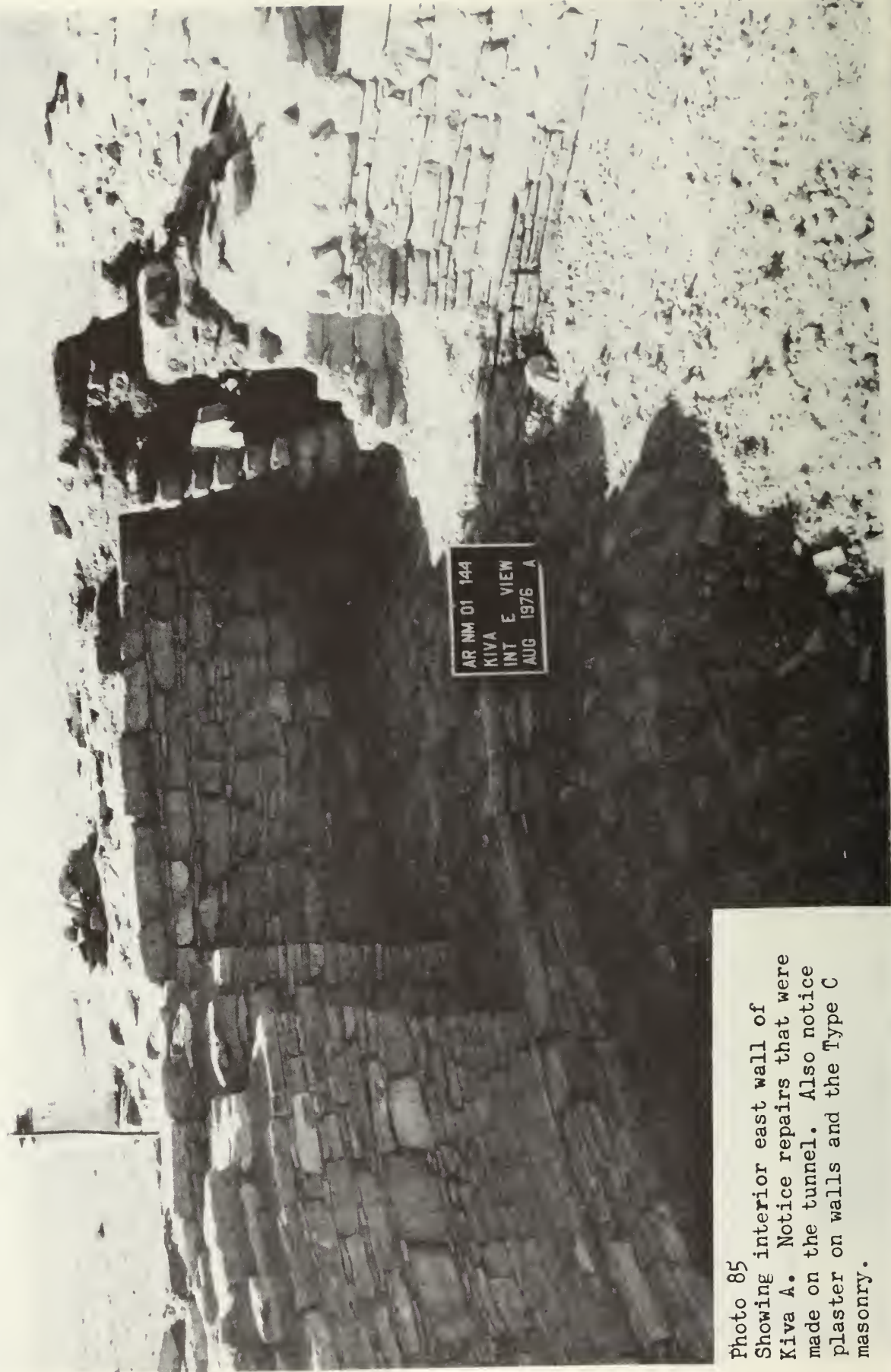


Photo 85  
Showing interior east wall of  
Kiva A. Notice repairs that were  
made on the tunnel. Also notice  
plaster on walls and the Type C  
masonry.

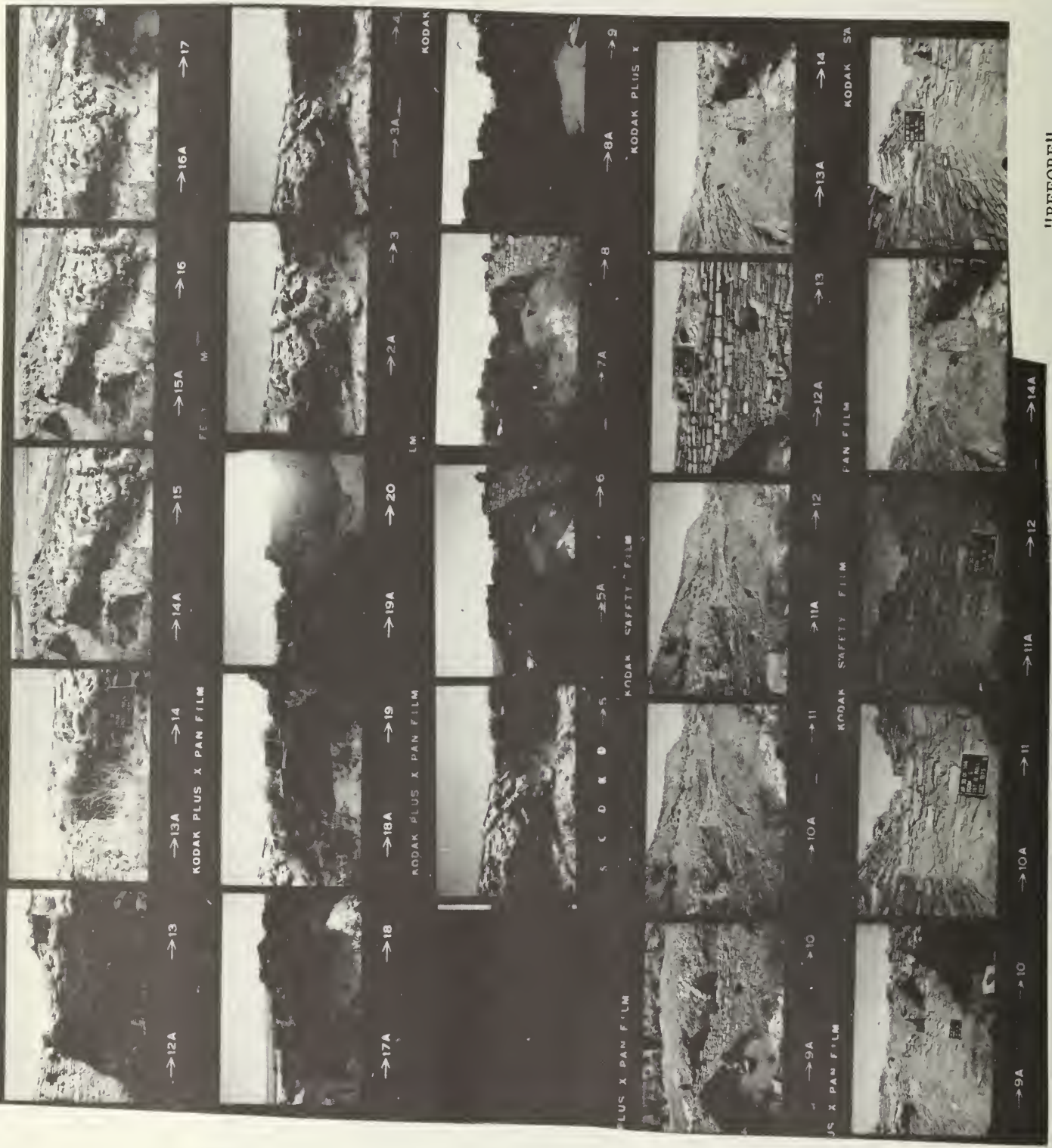
After Stabilization





Photo 86  
Showing repair of the hole at the base of the interior west wall of Kiva A. Notice plaster on walls and the Type C masonry.





"BEFORE"  
Casamero  
AR-NM-01-144





"BEFORE"  
 Casamero AR-NM-01-144



"BEFORE"

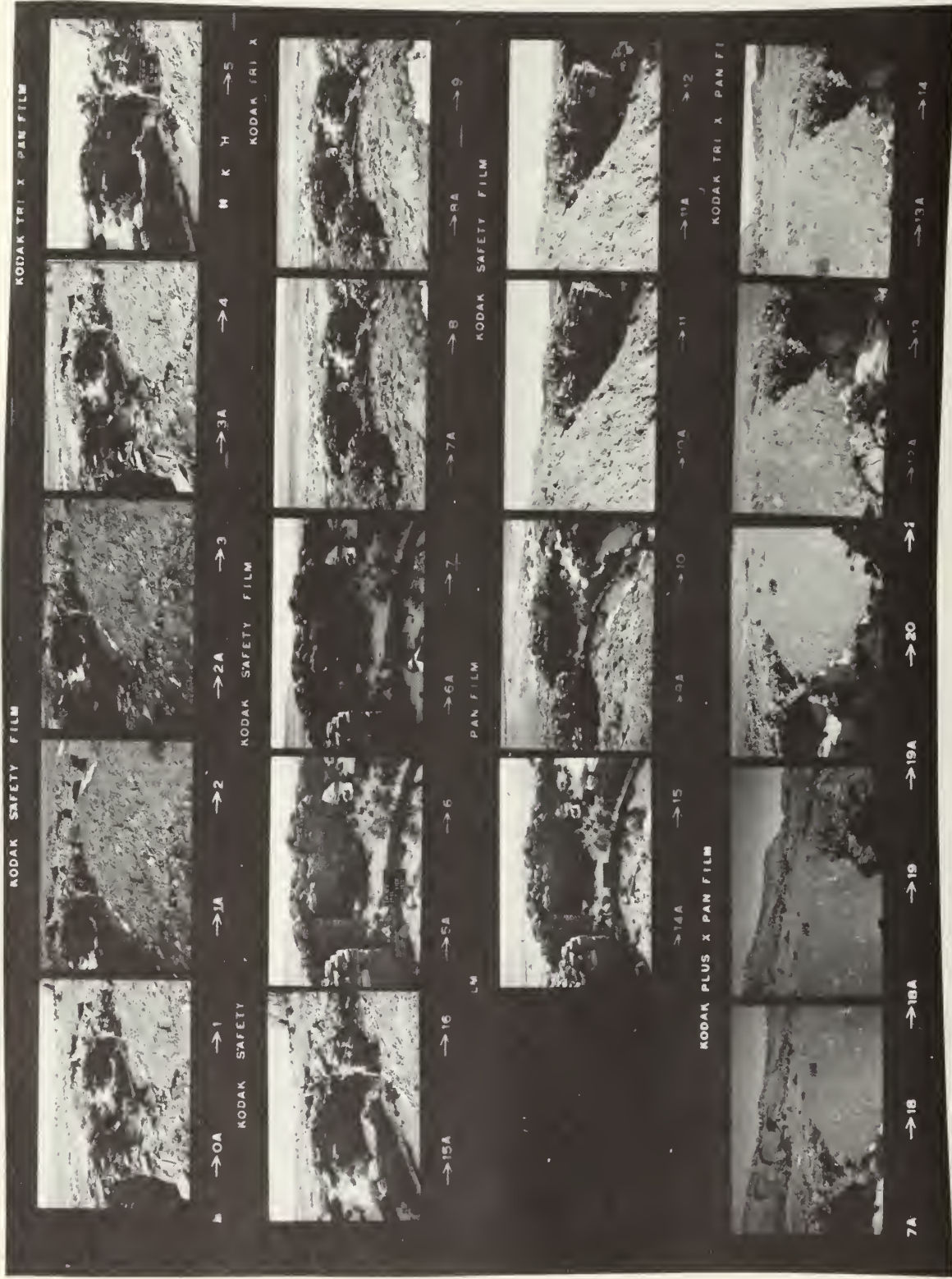
Casamero

AR-NM-01-144





"BEFORE"  
Casamero AR-NM-01-144



"Before"  
 Casamero AR-NM-01-144





"BEFORE"

Casamero

AR-NM-01-144



"Before"  
 Casamero  
 AR-NM-01-144





"Before"

Casamer o AR-NM-01-144

ASSIGNMENT

DATE

NO.

INSERT FILM EMULSION SIDE DOWN

PATENT PENDING

PRINT NEGATIVE PRESERVE

NOTE: PLASTIC PRODUCTS ARE PO BOX 50, INVERSA, N. CALIF.

5202

KODAK SAFETY

KODAK SAFETY FILM 5062

KODAK SAFETY FILM 5062

KODAK SAFETY FILM 5062

2A

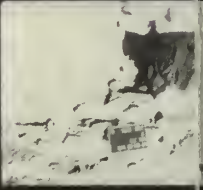
1A

FILM 5062

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SAFETY FILM 5062



KODAK SAFETY FILM 5062

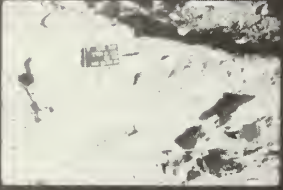
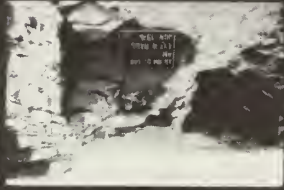


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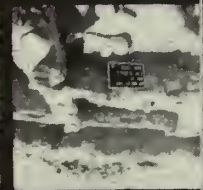
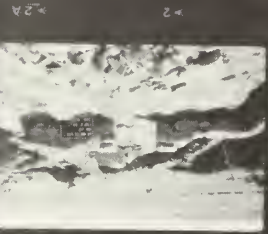


98

0 5 6



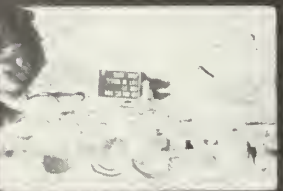
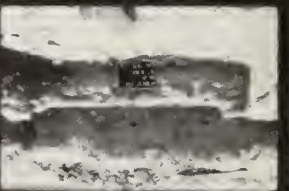
99



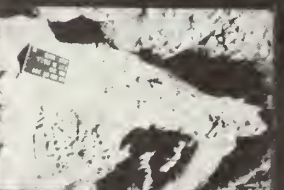
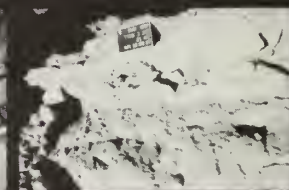
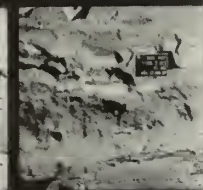
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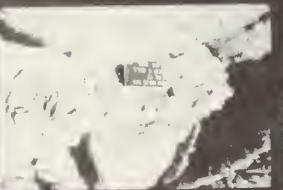
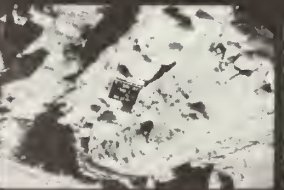
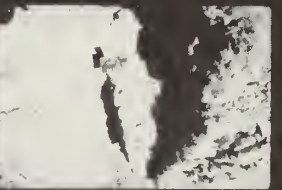
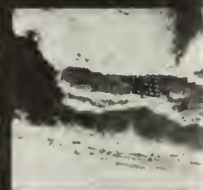
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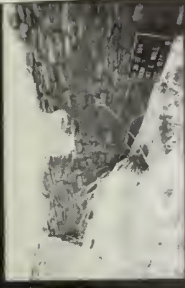




"Before"  
Casamero



KODAK SAFETY FILM



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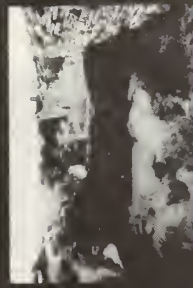
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KODAK PLUS X PAN F



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KODAK PLUS X PAN FILM

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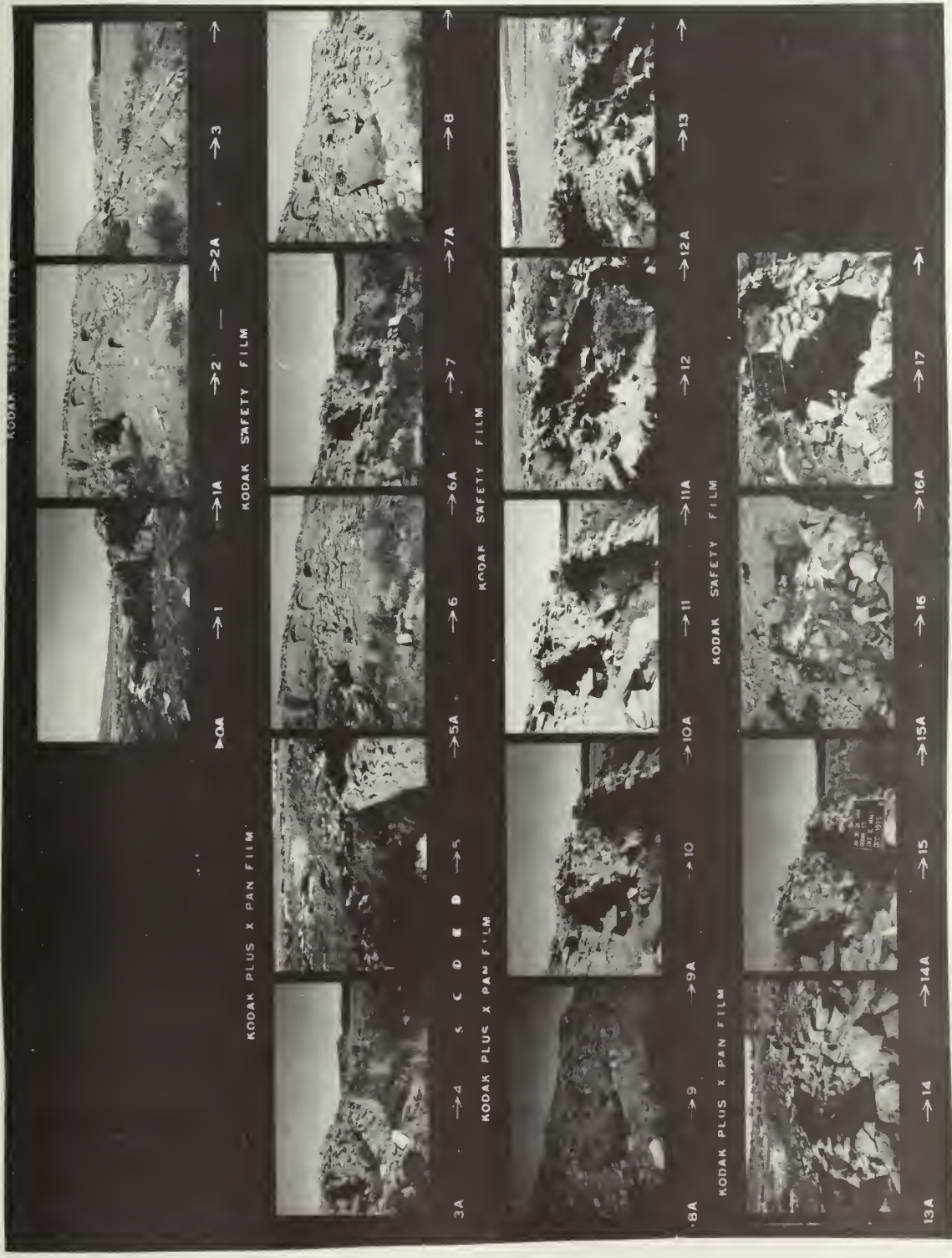


"Before"

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 Casamero

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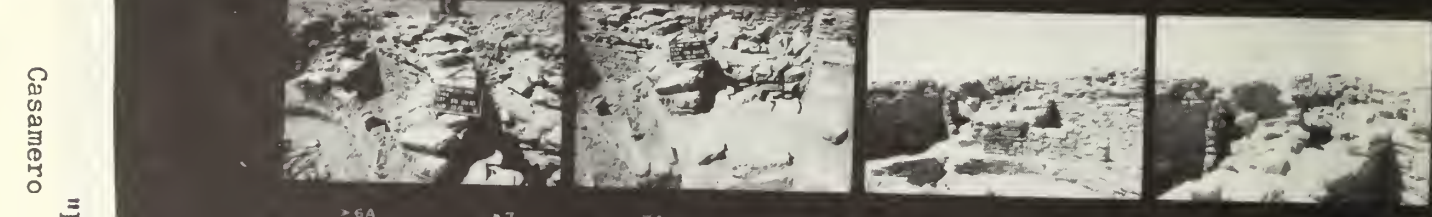
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KODAK SAFETY FILM 5062



14A 15 15A 16 1A 2  
KODAK SAFETY FILM 5062



2A 3 3A 4 5 5A 6  
KODAK SAFETY FILM 5062



6A 7 7A 8 8A 9 9A 10

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"Before"  
AR-NM-01-1114

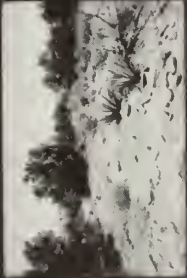
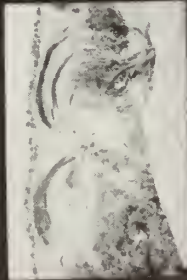


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KODAK SAFETY FILM 5062

KODAK SAFETY FILM 5062



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"During"

Casamero

AR-NM-01-144

INSERT FILM EMULSION SIDE DOWN

ALB. PENDING

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ASSIGNMENT

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FILM 5062

KODAK SAFETY FILM 5062

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KODAK SAFETY FILM 5062



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KODAK SAFETY FILM 5062

"During"

Casamero

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DATE 1/14 ASSIGNMENT CASAMERO - AR-NM-01-144 NO. DURING

PATENT PENDING  
KODAK SAFETY FILM  
KODAK SAFETY FILM 5062



"During"

Casamero

AR-NM-01-144



"During"

Casamero

AR-NM-01-144





PRINT FILE / NEGATIVE PRESERVER

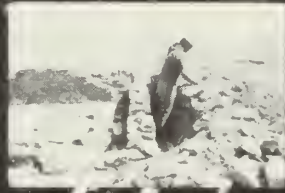
MULTI PLASTIC PRODUCTS, INC. P.O. BOX 561 FAHFAH, WA. 97030

DATE \_\_\_\_\_ ASSIGNMENT \_\_\_\_\_

NO. 1-1111

KODAK SAFETY FILM

KODAK SAFETY FILM



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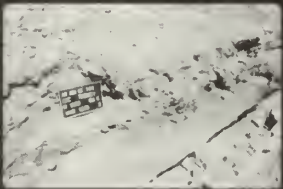
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US X PAN FILM

KODAK SAFETY FILM



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KODAK PLUS X PAN FILM

KODAK SAFETY FILM 5062



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KODAK SAFETY FILM 5062

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KODAK SAFETY FILM



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KODAK SAFETY FILM 5062

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Casamero "During" AR-NM-01-144



PARAVUE  
FILM  
MICRO PLASTIC PRODUCTS INC. P.O. BOX 50/ARMA. © 1958

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Casamero  
"After"

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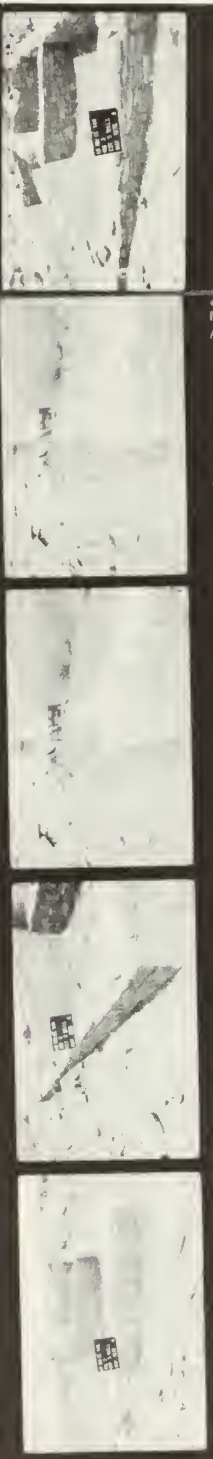
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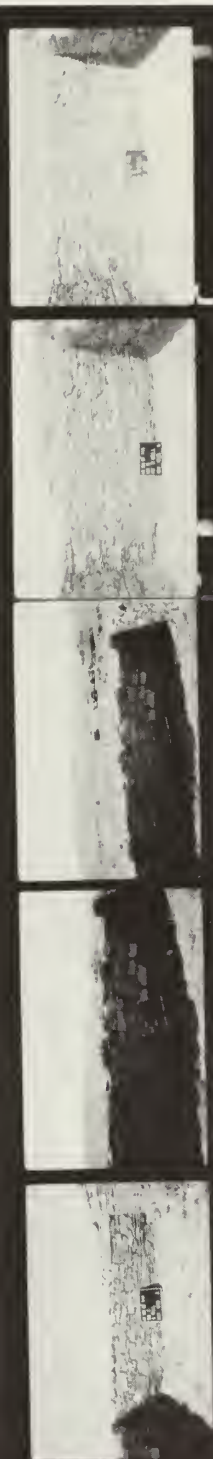


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"After"

Casamero

AR-NM-01-144



KODAK SAFETY FILM

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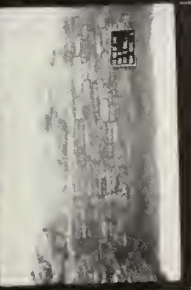
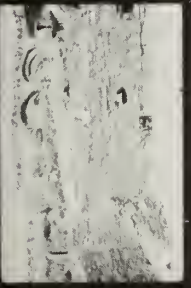
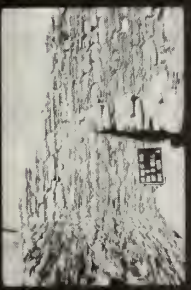
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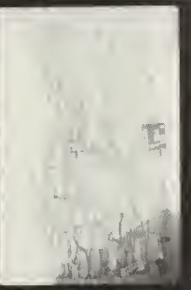
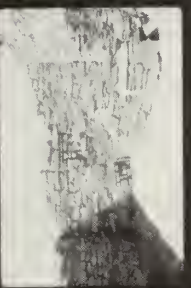
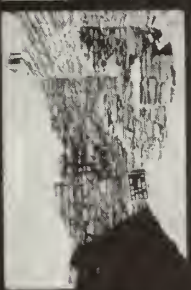
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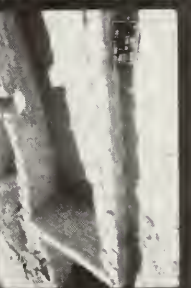
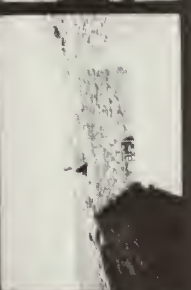
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KODAK SAFETY FILM

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KODAK SAFETY FILM 5062

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KODAK SAFETY FILM 506

KODAK SAFETY FILM 506

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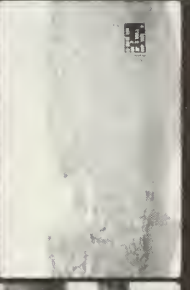
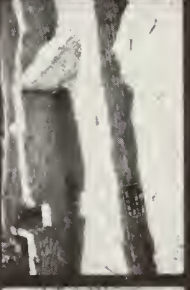
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KODAK SAFETY FILM

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"After"

Casamero

AR-NM-01-144

PATENT PENDING

4 PRINT NEGATIVE PRESERVERS

480 BASIC PRODUCT, INC. P.O. BOX 500 HARTFORD, CT 06101

INSERT FILM EMULSION SIDE DOWN

DATE \_\_\_\_\_ ASSIGNMENT \_\_\_\_\_ NO. \_\_\_\_\_

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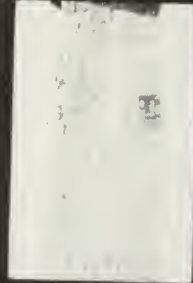
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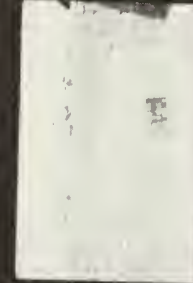
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KODAK SAFETY FILM 5062

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KODAK PLUS X PAN FILM



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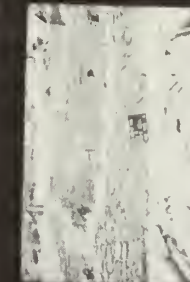
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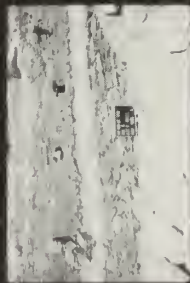


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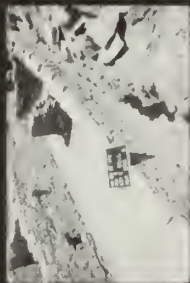
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KODAK PLUS X PAN FILM

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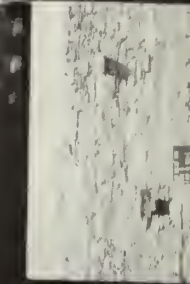
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"After"

Casamero

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PATENT PENDING

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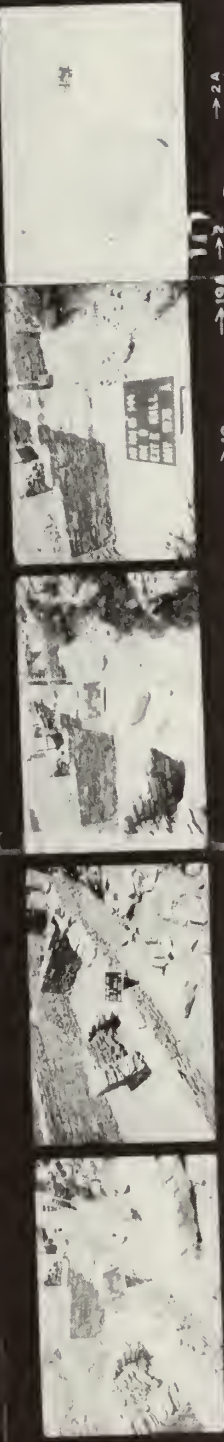
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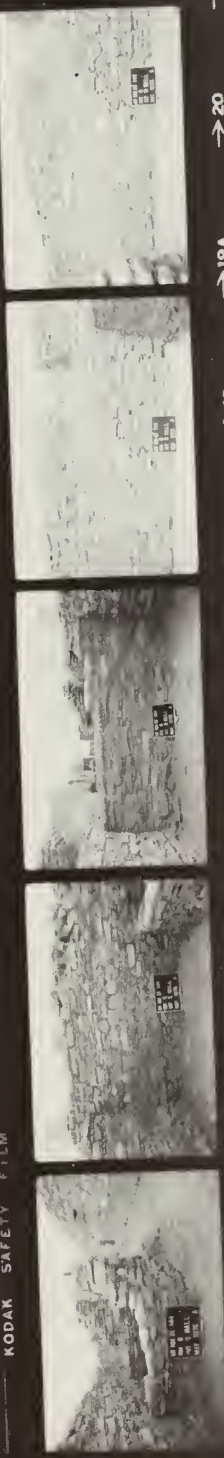
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KODAK SAFETY FILM

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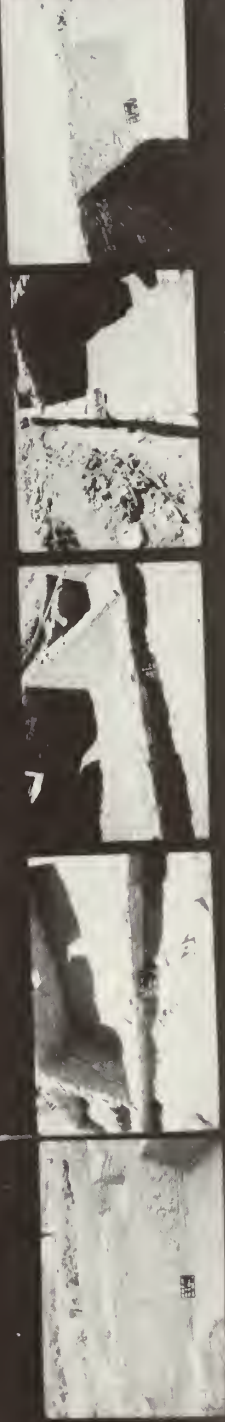
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"After"

Casamero

AR-NM-01-144

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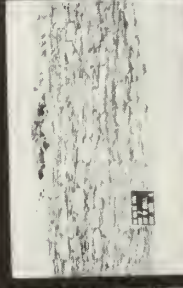
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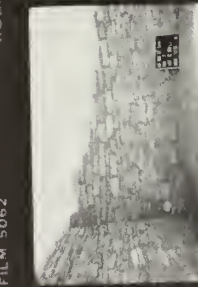
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"After"

Casamero

AR-NM-01-144



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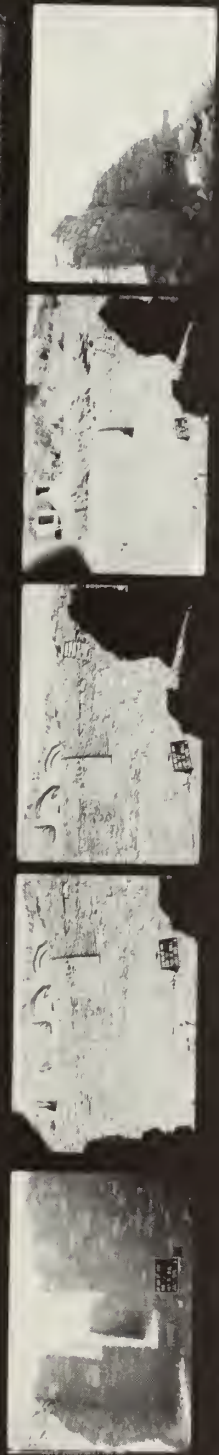
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3K SAFETY FILM 5062

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"After"

Casamero

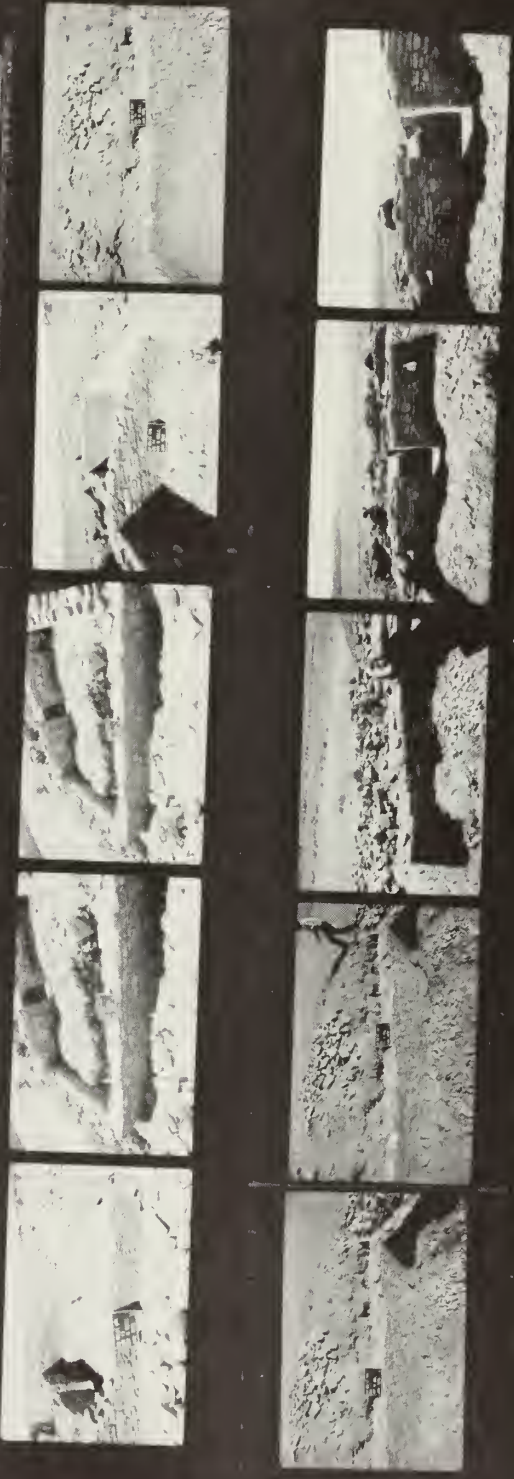
AR-NM-01-144

PATENT PENDING

RESISTANT NEGATIVE PRESERVATIVE  
KODAK SAFETY FILM PRODUCTS, INC. 110 N. 34th St. New Haven, Conn.

INSERT FILM EMULSION SIDE DOWN

DATE \_\_\_\_\_ ASSIGNMENT \_\_\_\_\_ NO. 144



"After"

Casamero

AR-NM-01-144

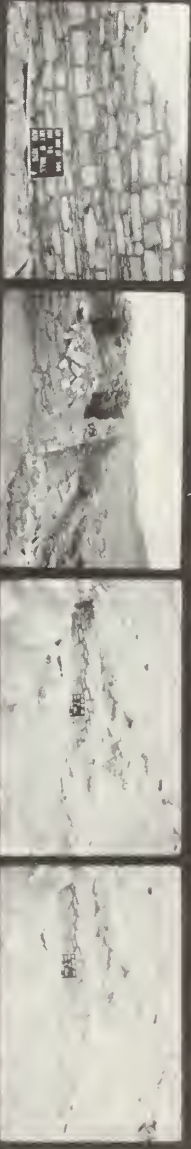


BRITISH NEGATIVE PRESERVERS

405 EAST WASHINGTON ST. SUITE 100 BALTIMORE, MD 21201

DATE 11/10/82 ASSIGNMENT SAVING REEL NO. 107E

FILM NO. 5062 KODAK SAFETY FILM 5062



KODAK SAFETY FILM 5062 KODAK SAFETY FILM 5062 KODAK SAFETY FILM 5062 0 5 8 KC AFEL B



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KODAK SAFETY FILM 5062 KC



→ 12A → 13 → 13A → 14  
KODAK SAFETY FILM 5062



"After"

Casamero

AR-NM-01-144





PRINT NEGATIVE PRESERVE  
POLY PLASTIC PRODUCTS, INC. P.O. BOX 509 JAMAICA, N. Y. 11431

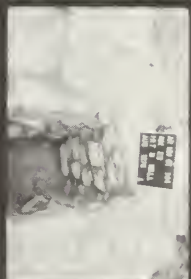
DATE FIL ASSIGNMENT CASAMERO AR-NM-01-144 NO. AFTER

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KODAK SAFETY FILM 5062

KODAK SAFETY FILM 5062

KODAK SAFETY FILM 5062



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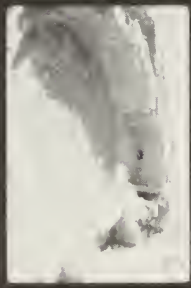
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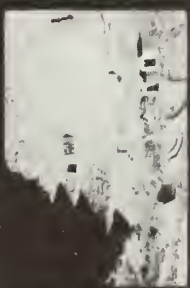
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KODAK SAFETY FILM 5062

KODAK SAFETY FILM 5062



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11/17/50

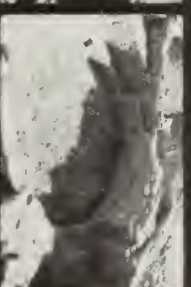
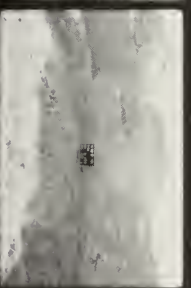
AFTER

→ 4

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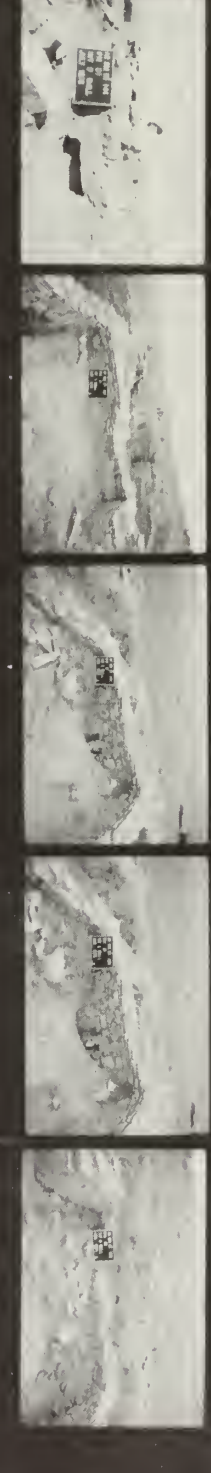
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→ 11 → 11A → 10 → 10A → 1 → 1A  
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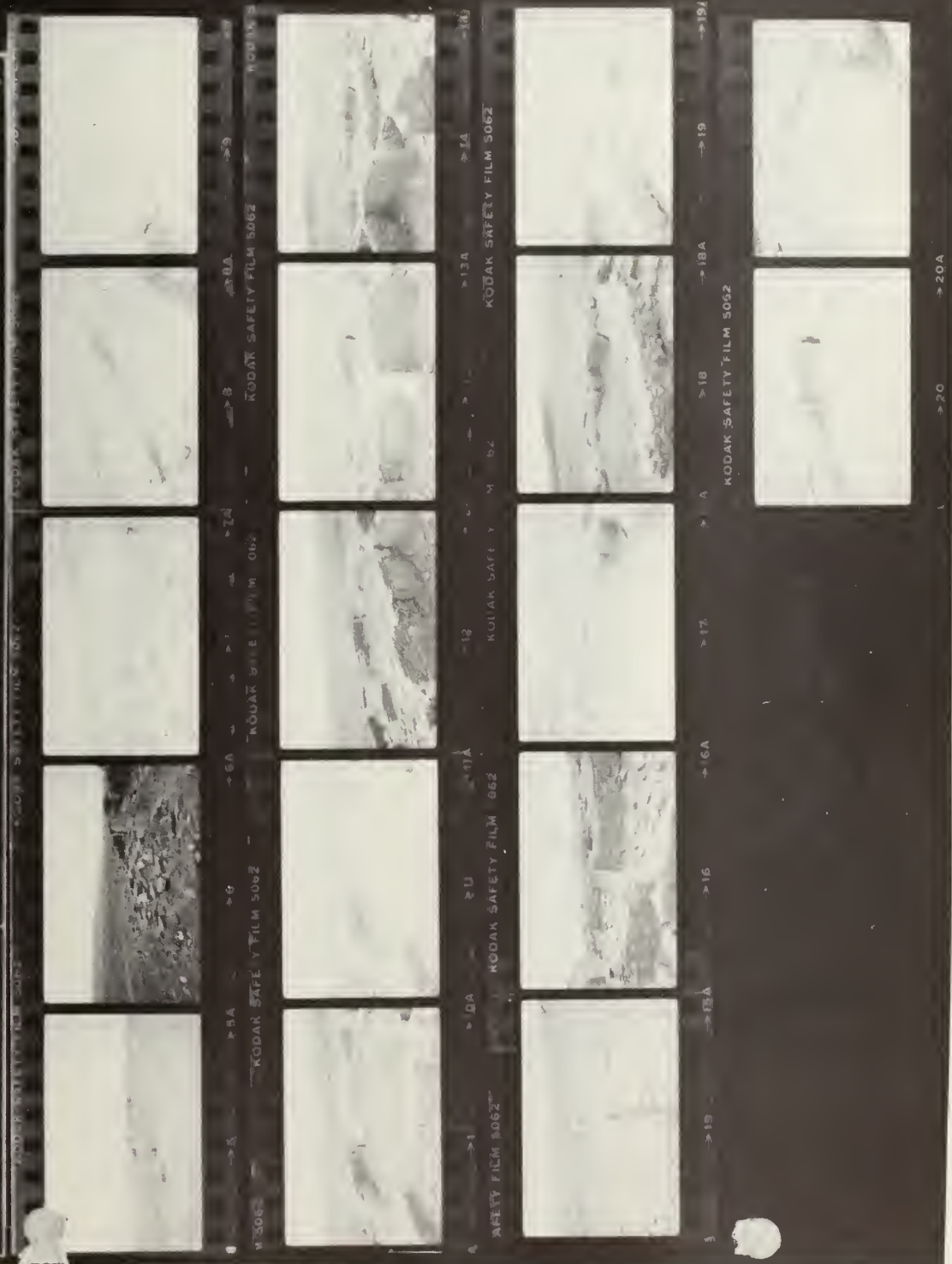
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INSERT FILM EMULSION SIDE DOWN

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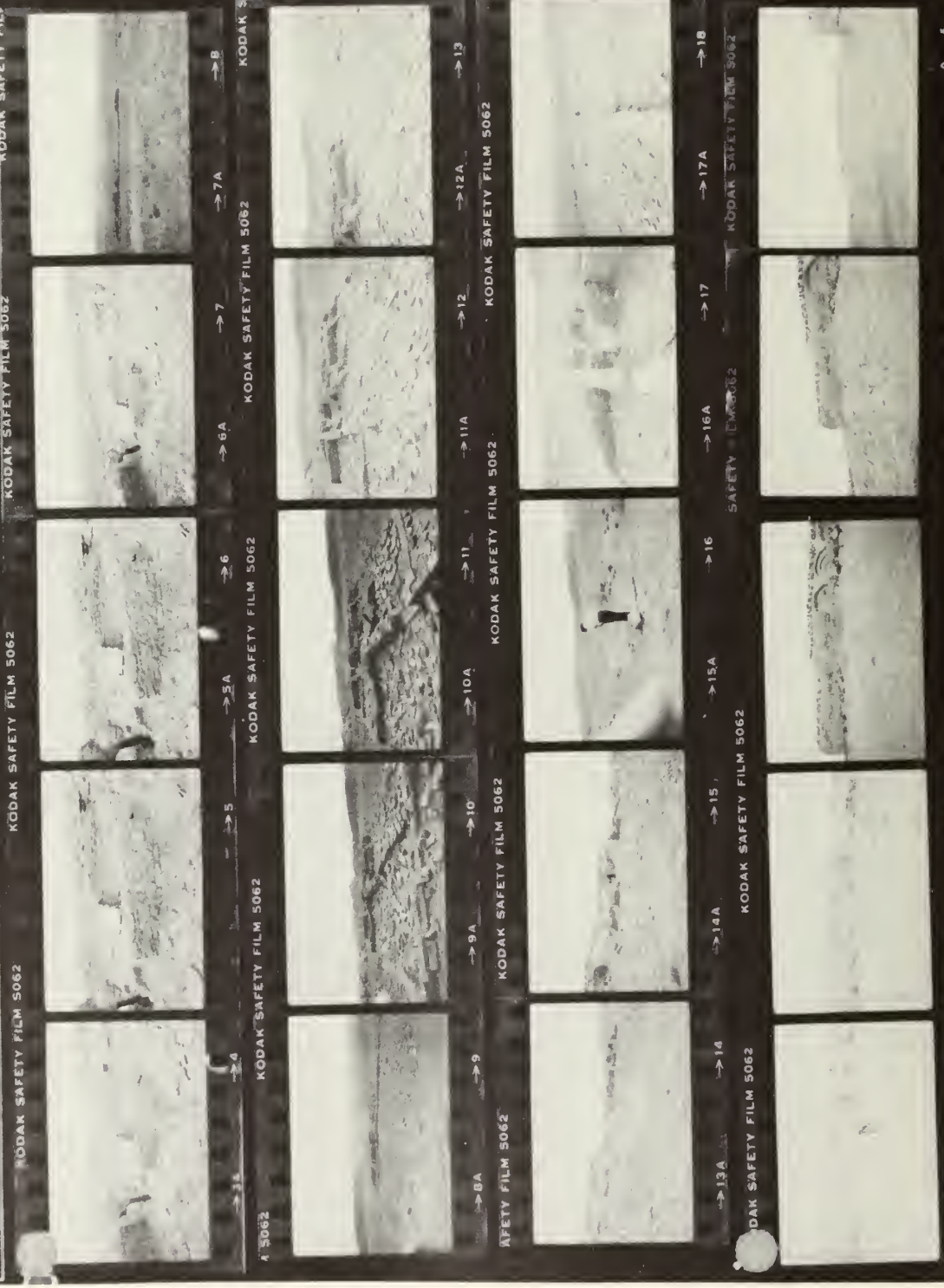
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