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AD No. 407124

DUG FILE COPY 407124

**REPORT OF RESULTS -
PROJECT AF 61-2
EASTERN PACIFIC SURVEY,**

VOL. II,



11
15 JUNE 1963,

JUN 20 1963
13 N 11

1370TH PHOTO-MAPPING WING
AIR PHOTOGRAPHIC & CHARTING SERVICE (MATS)

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Handwritten:
AD-326712

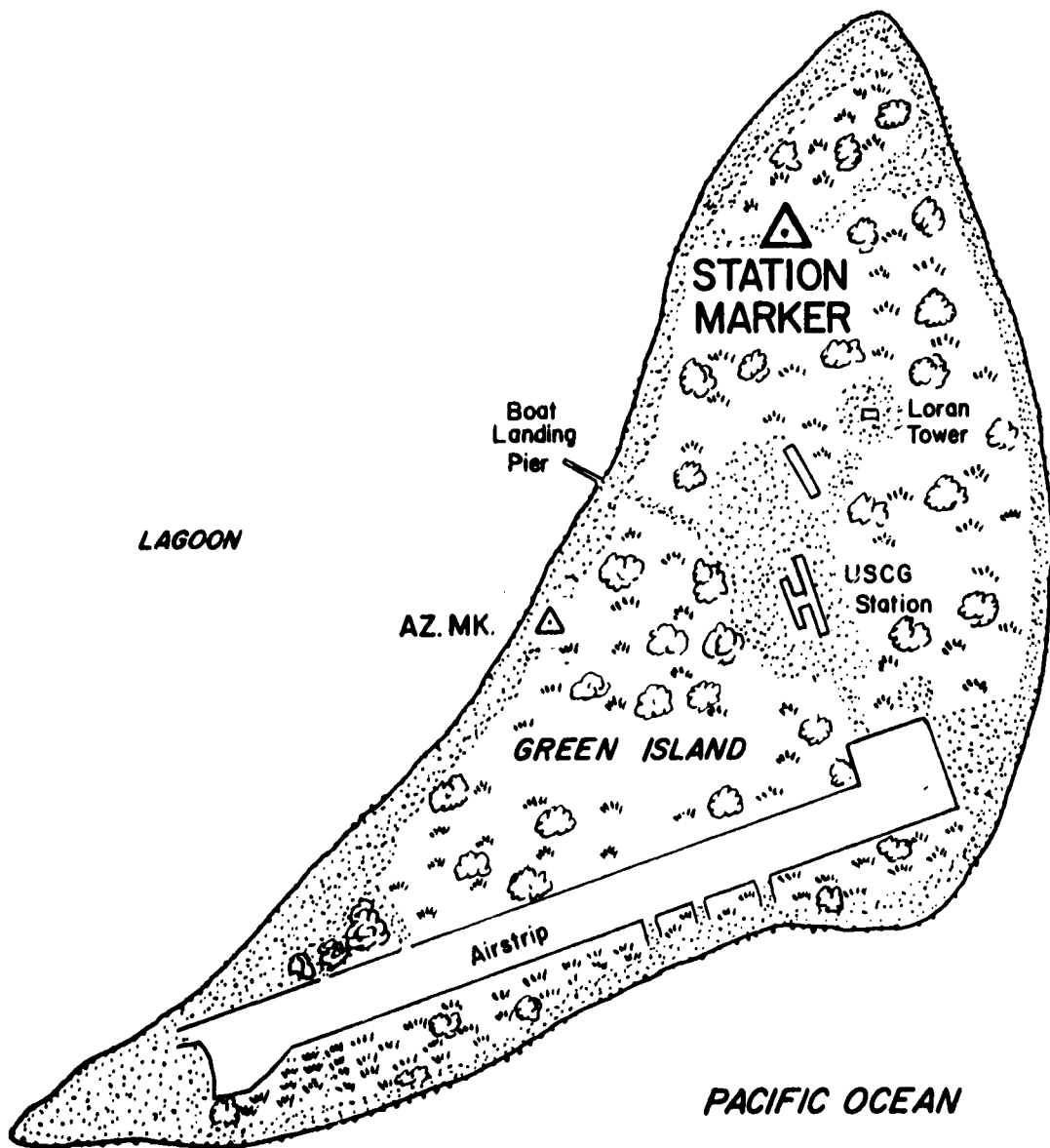
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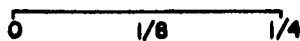
- a. Station Description
- b. Area Sketch'
- c. Station Sketch
- d. Vertical Photo (Stereo)
- e. Oblique Photos

AREA SKETCH KURE HIRAN(I)

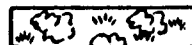


MARCH 1961

SCALE

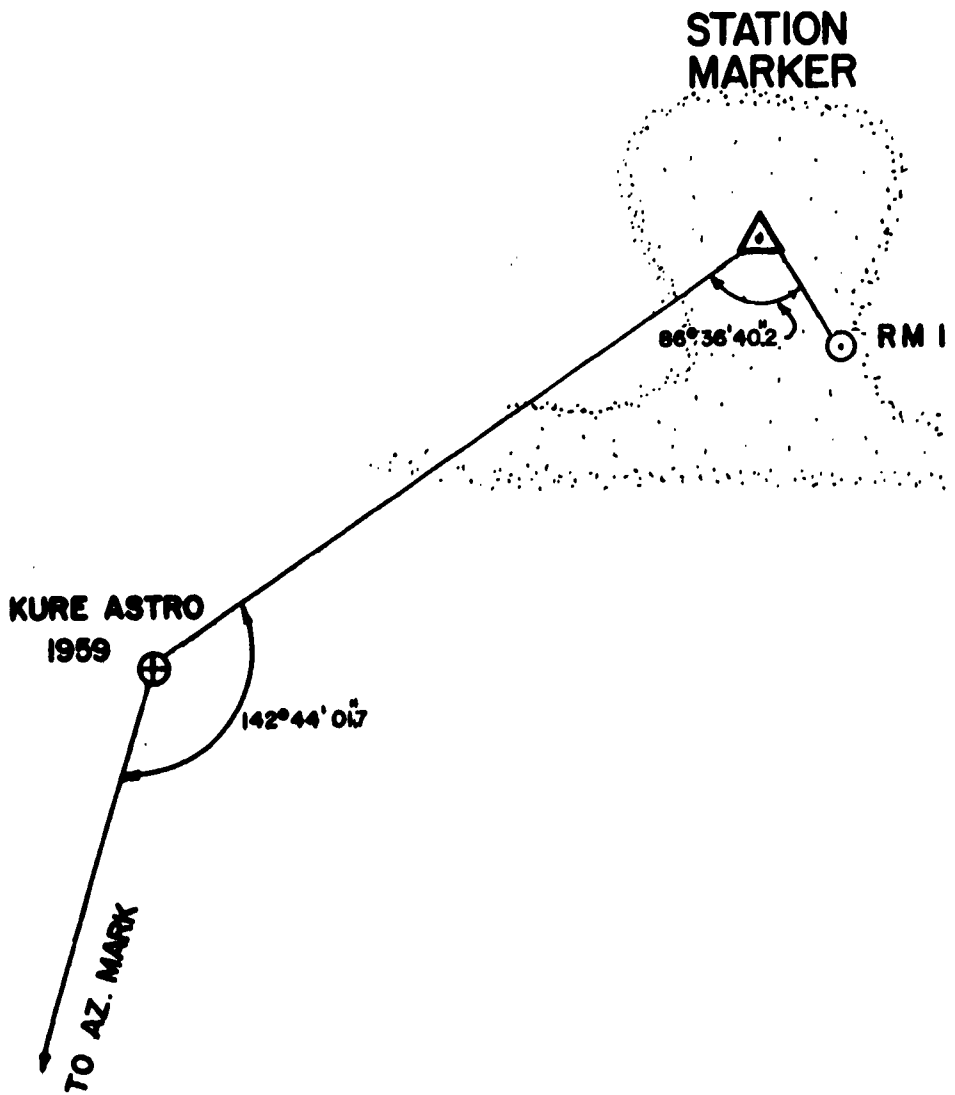


APPROX MILE



Grass & Mangrove Brush

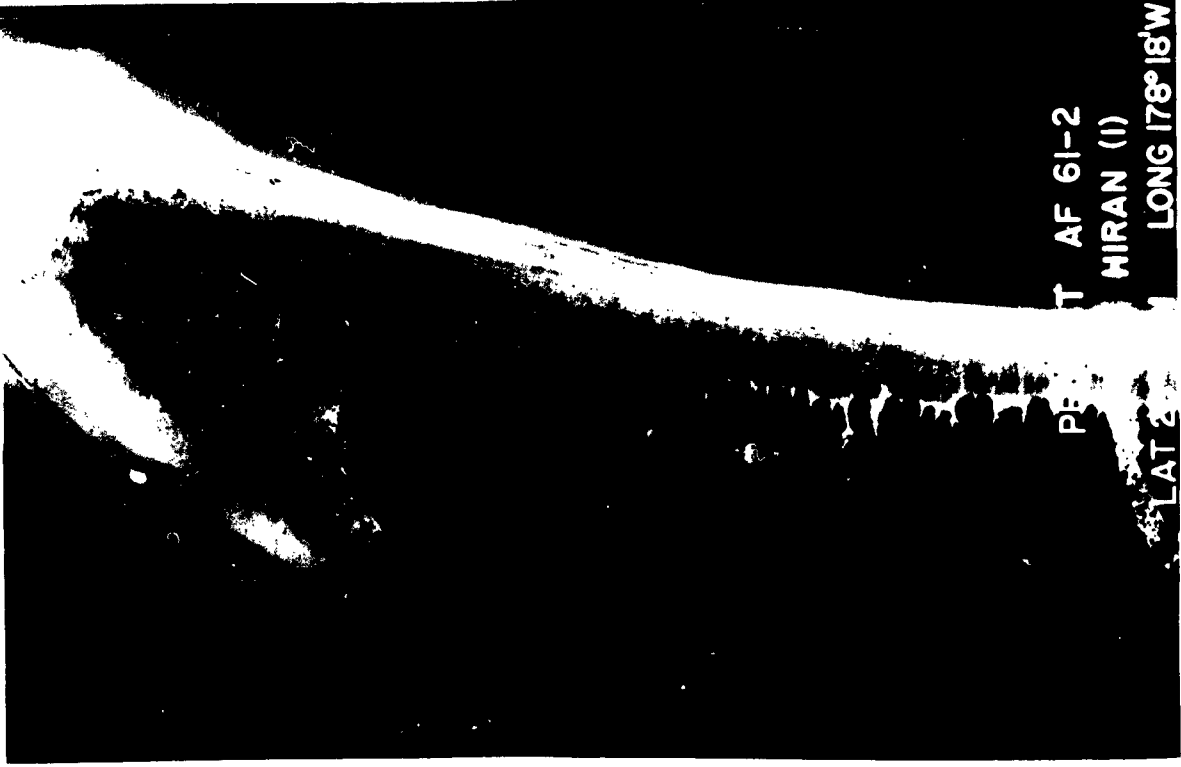
STATION SKETCH KURE HIRAN(I)



MARCH 1961

SCALE

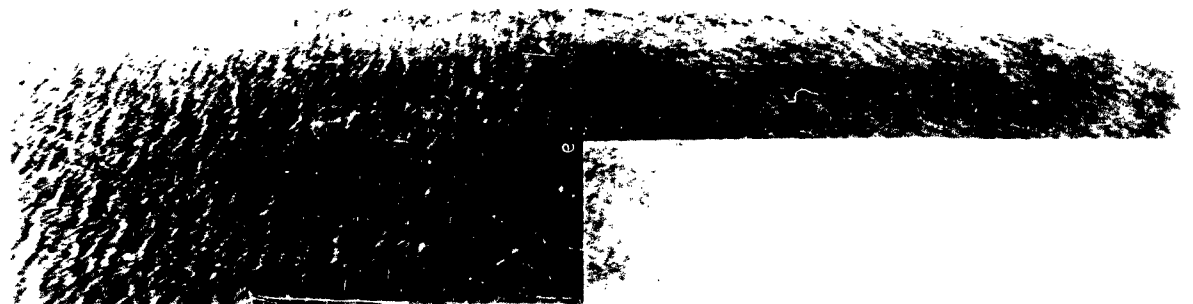
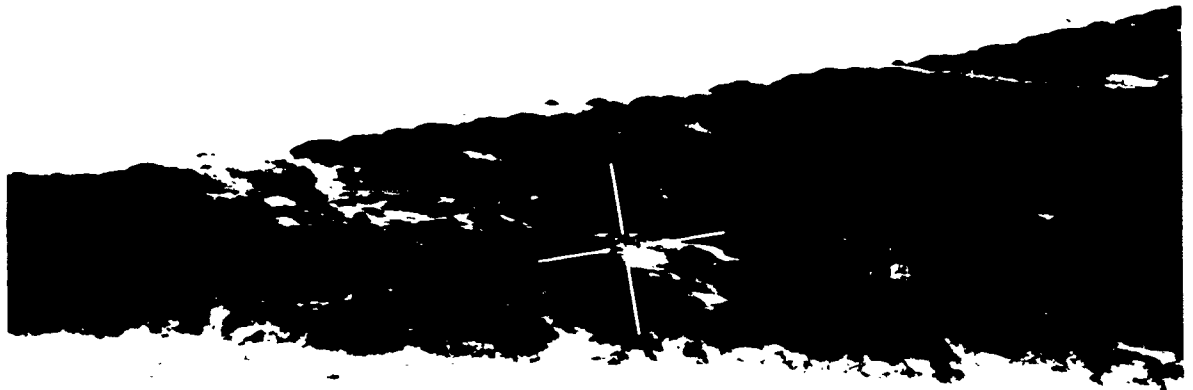




T AF 61-2
HIRAN (I)
LONG 178° 18'W

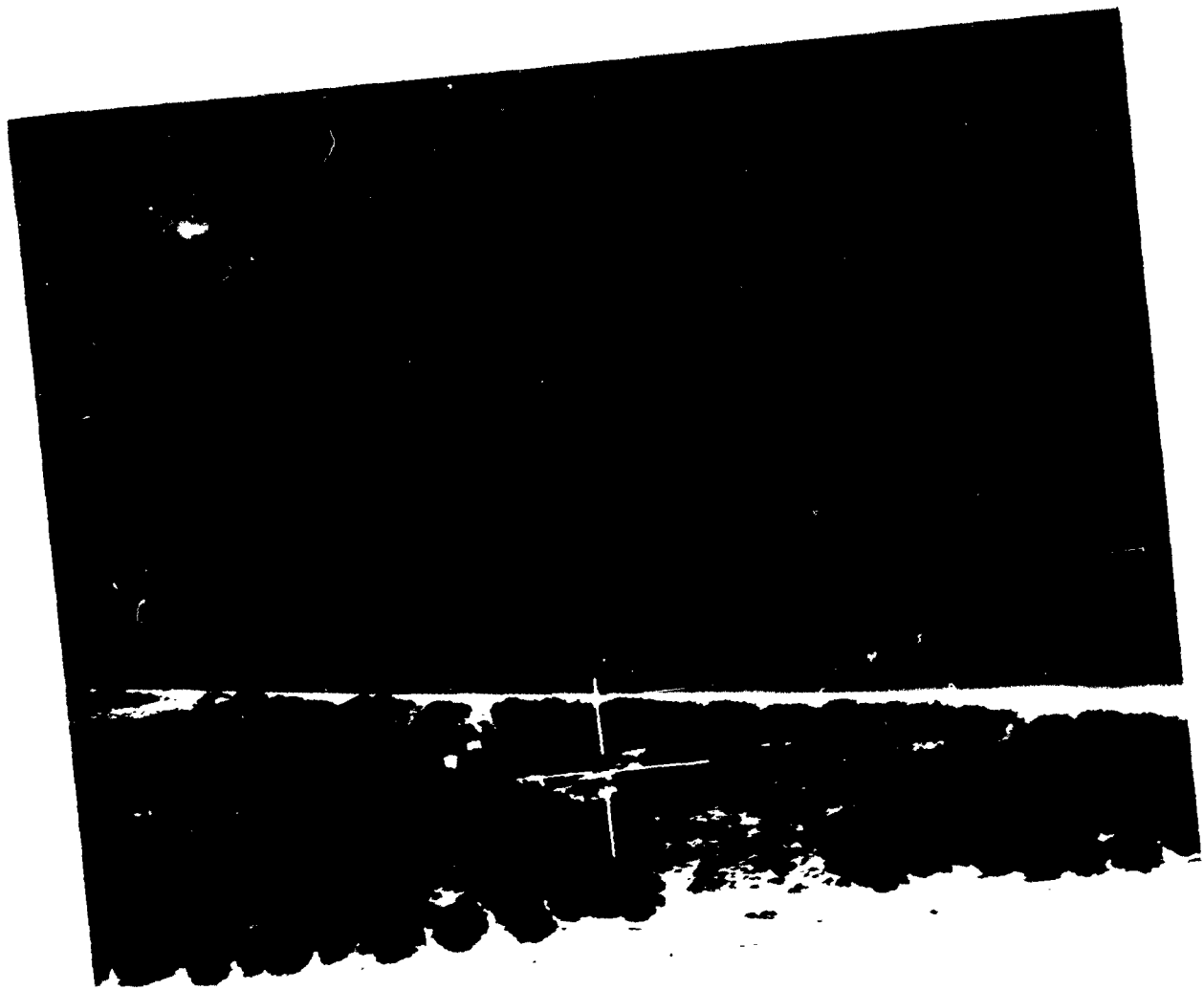
PRE
LAT 2







PROJECT F 61-2
KURE REEF (I)
LAT 28°24'N - LONG 178°18'W



PROJECT F 61-2
KURE MARAN (1)
LAT 28° 24' N LONG 178° 18' W



PROJECT AF 61-2
KURE HIRAN (I)
LAT 28°24'N LONG 178°18'W

HIRAN STATION DESCRIPTION

Name and Number: MIDWAY (2)

Location: Sand Island
Midway Islands

Date Established: 15 March 1961

Approximate Geographic Coordinates: Latitude: 28° 12' N
Longitude: 177° 23' W

Station Elevation: 20 Feet (Differential leveling from estimated mean tide)

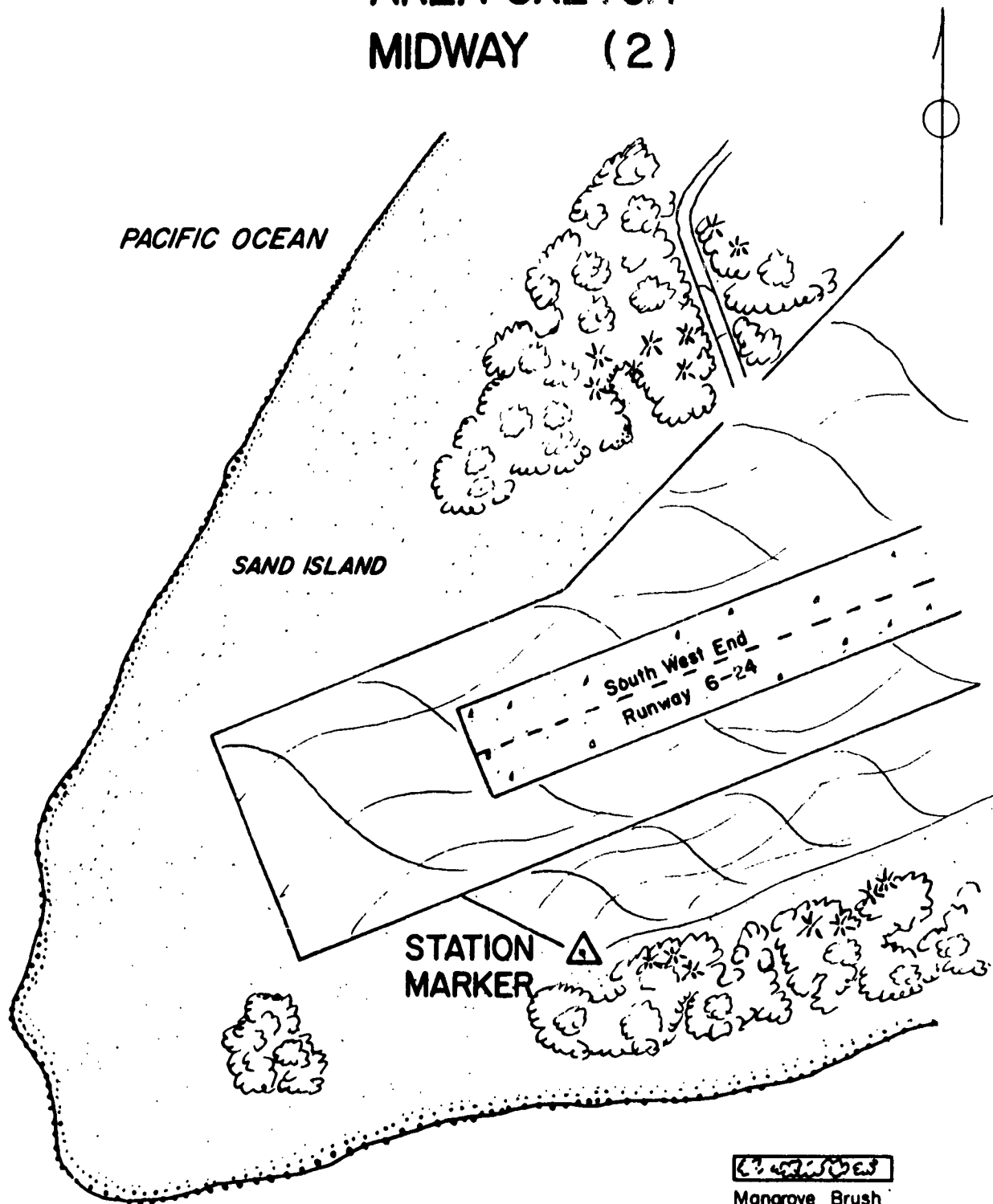
Description: The station is located at Frigate Point, which is the southwestern corner of Sand Island in the Midway Islands of the Hawaiian Archipelago. The station is approximately 500 feet south-southeast of the southwest end of the northeast-southwest runway, on a stabilized coral sand surface used as a turn-around on the access road for the airstrip. It is monumented with a standard USAF Geodetic Survey disk, inscribed "MIDWAY 1961", mounted in the top of a concrete filled 12 inch terra cotta pipe protruding 10 inches above the surface. The sub-surface marker is a standard USAF disk mounted in concrete approximately 48 inches below the surface marker and separated from the terra cotta pipe by six inches of sand. It is stamped "MIDWAY 1961".

References: Reference Markers #1 and #2 are standard USAF reference marker disks, stamped "MIDWAY 1" and "MIDWAY 2" respectively, mounted in the top of concrete filled precast water pipes, 36 inches long, which are imbedded in concrete footings 24 inches in diameter and protrude 6 inches above the surface. RM #2 was occupied as the Sodano light crossing station. An azimuth marker set by USAF personnel is a standard USAF reference marker disk, stamped "MIDWAY AZI", leaded in a drill hole on the concrete rim of a manhole, northeast and across the runway from the station marker. An azimuth marker set by USC&GS personnel is a standard USC&GS azimuth marker disk stamped "MIDWAY 1961", set in a concrete post; it is reached from the Navy laundry building by the access road, crossing the aircraft taxiway, continuing 0.2 mile further, then turning right on a dirt road for about 100 feet, then going about 25 feet to the right of the center line of the road. An azimuth was also measured to the red light on top of the farthest left (facing from station) of three water tanks.

<u>OBJECT</u>	<u>DISTANCE (FEET)</u>	<u>AZIMUTH FROM SOUTH (ASTRONOMIC)</u>
RM #2	43.26	136° 09' 40"
RM #1	57.42	269° 39'
AZ MK (USAF)	1966 (Approx)	219° 00'
From RM #2		
AZ MK (USC&GS)	8100 (Approx)	241° 48' 13.59"
WATER TOWER LIGHT	7500 (Approx)	219° 33' 02.13"

Route Description: U.S. Navy Station, Midway Island, reached by air or surface vessel.

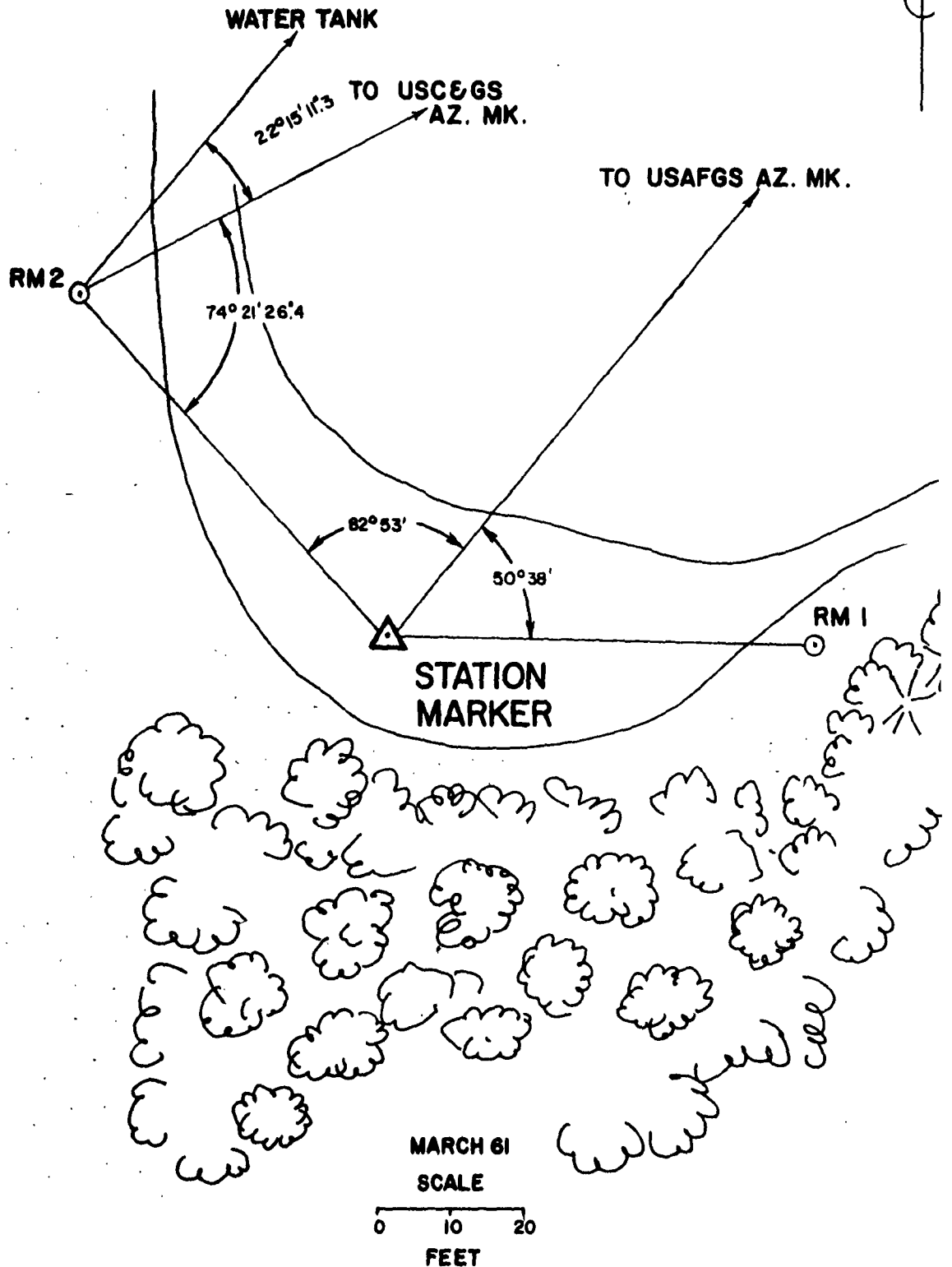
AREA SKETCH MIDWAY (2)



MARCH 61
SCALE

0 250 500
FEET

STATION SKETCH MIDWAY (2)





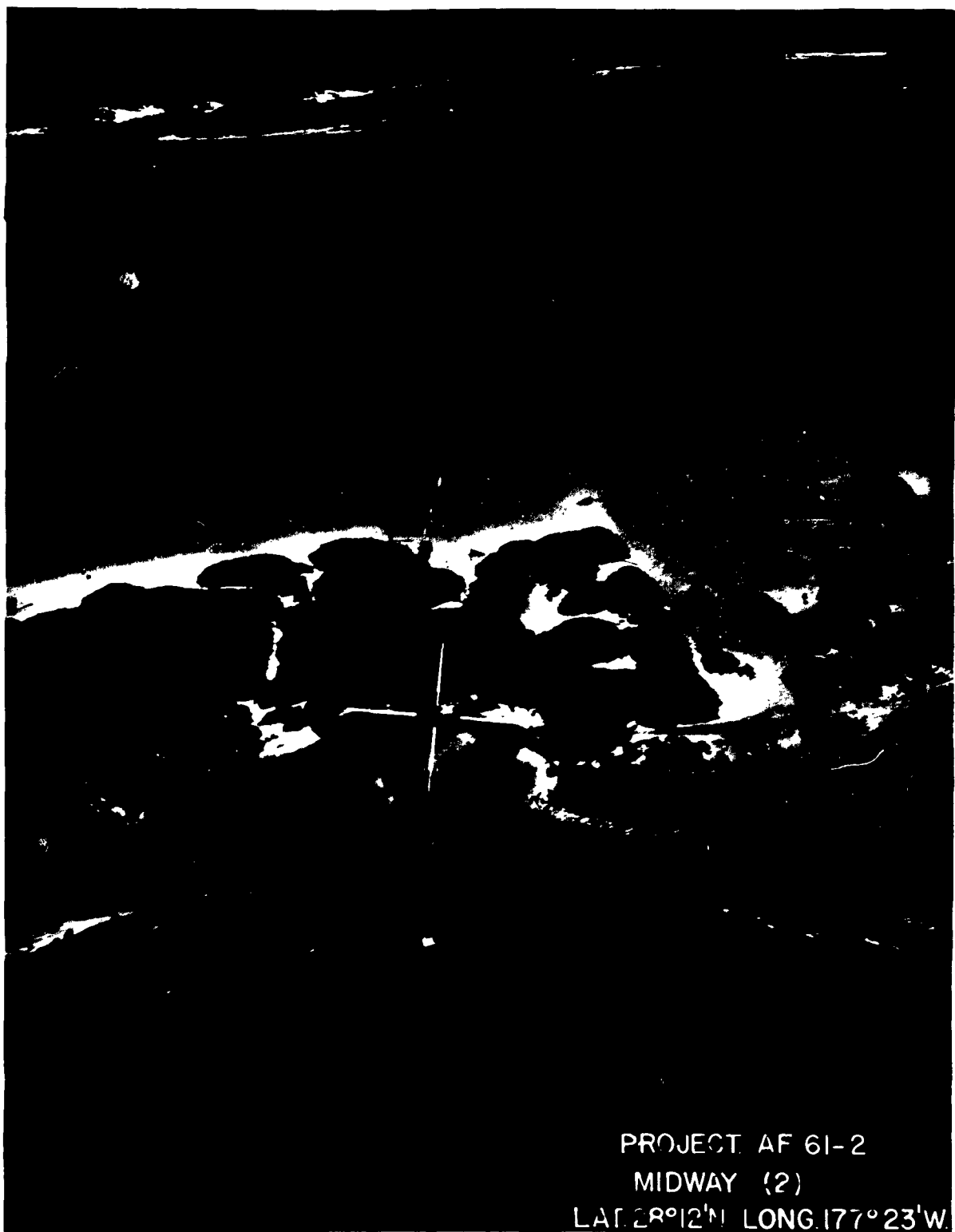
1-2

ECT
WAY
W





PROJECT 61-2
MIDWAY
LAT. 28°12'N L. 177°23'W

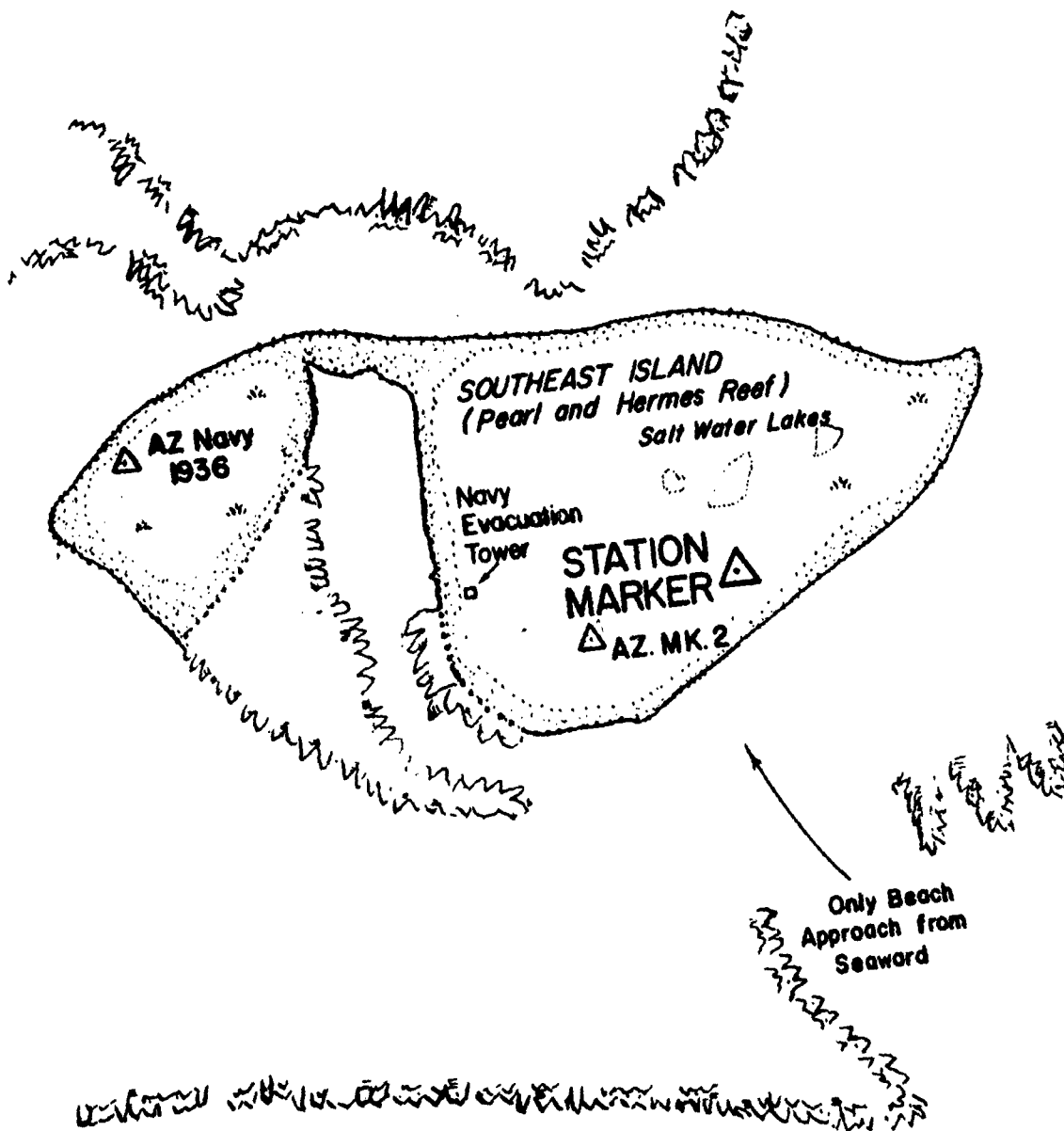


PROJECT AF 61-2
MIDWAY (2)
LAT. 28°12'N LONG. 177°23'W



ECT. 61

AREA SKETCH PEARL (3)

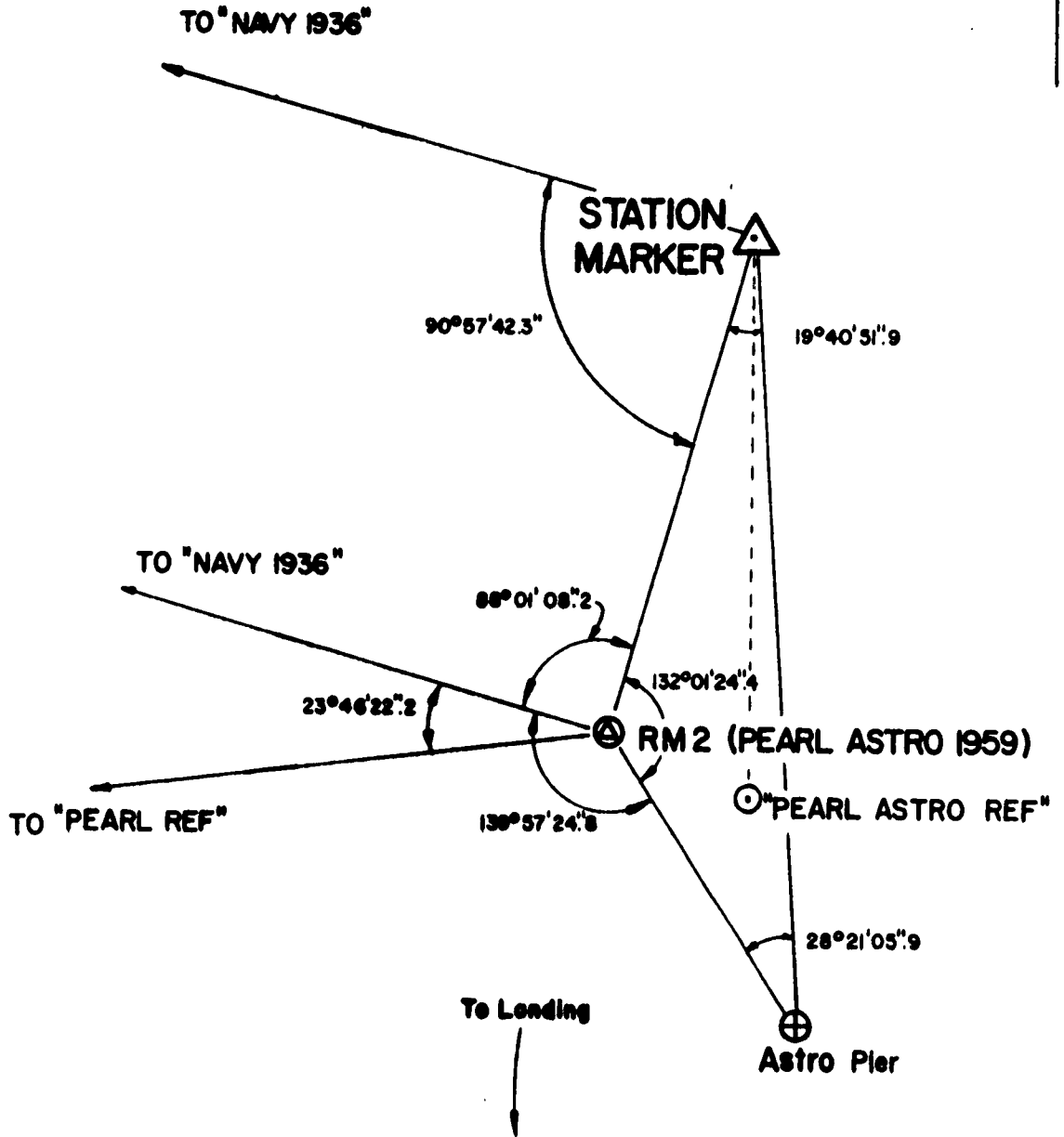


PACIFIC OCEAN

MARCH 1961
SCALE
0 300 600
FEET

STATION SKETCH

PEARL (3)

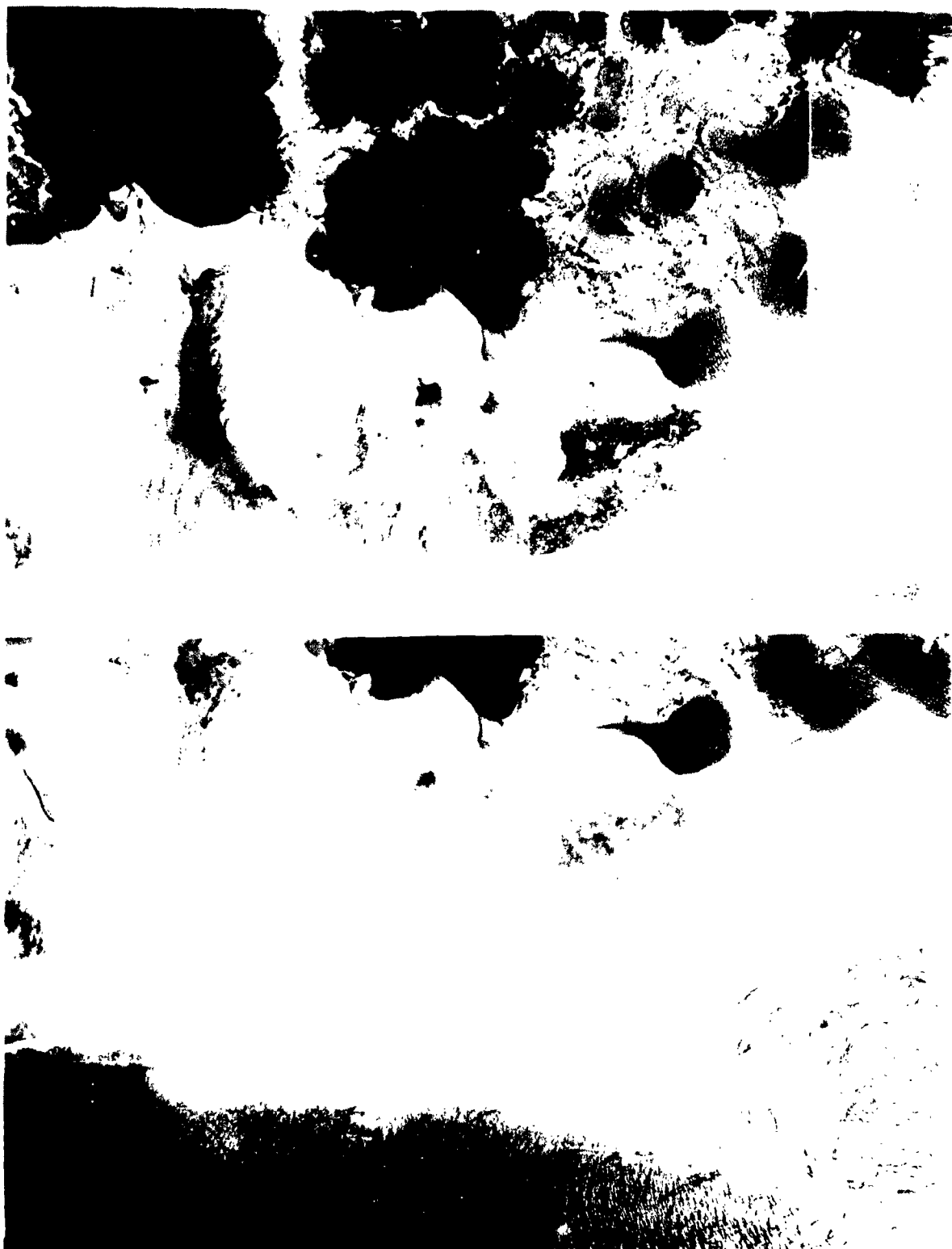


MARCH 1961

SCALE



FEET



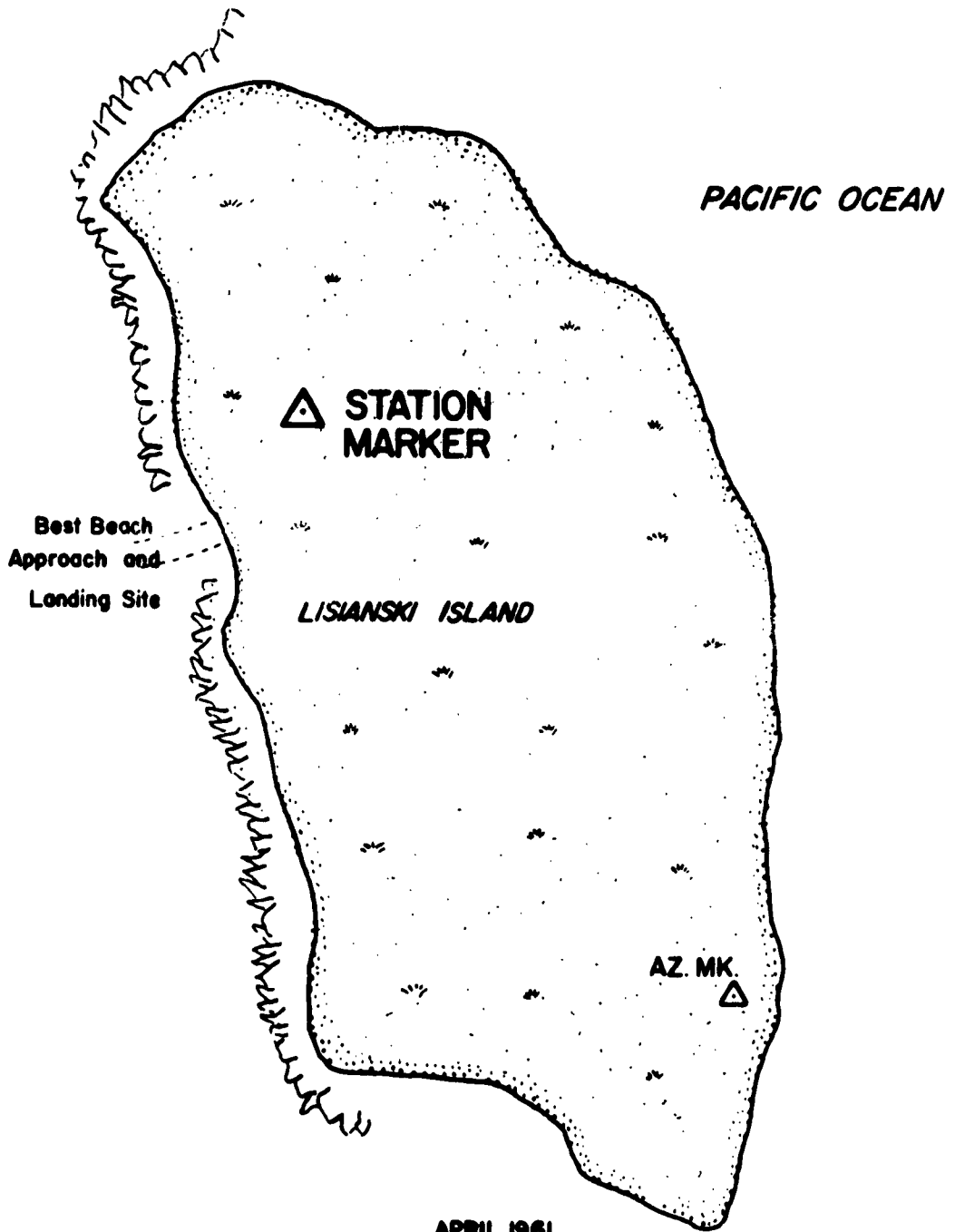






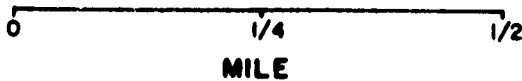


AREA SKETCH LISIANSKI (4)

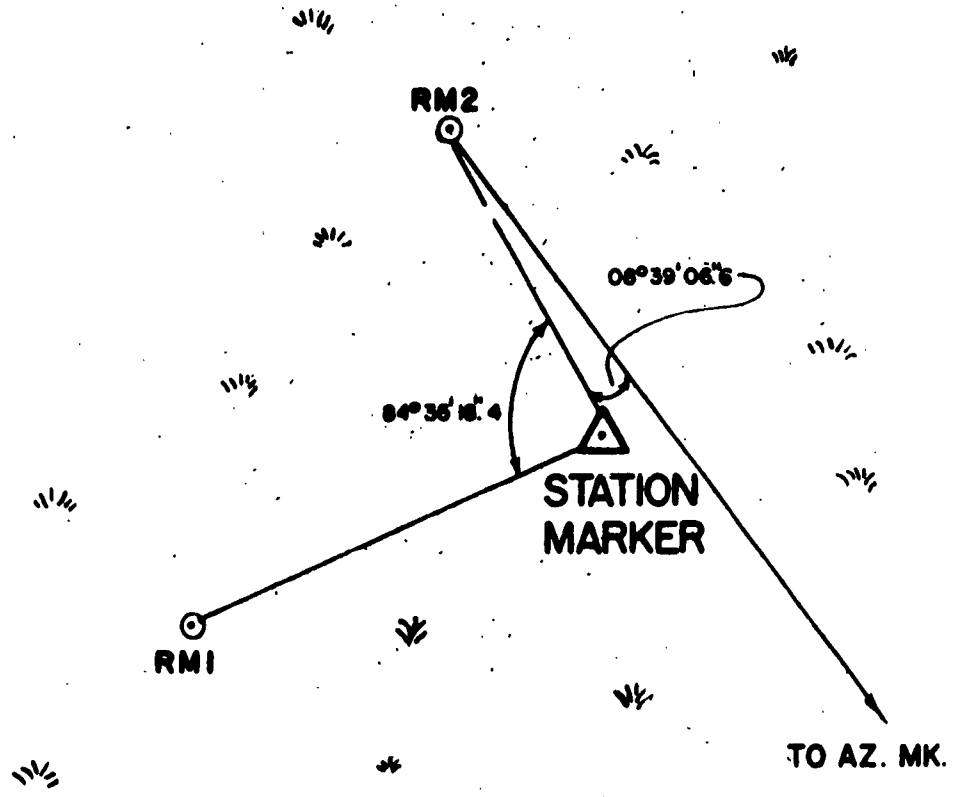


APRIL 1961

SCALE



STATION SKETCH LISIANSKI (4)

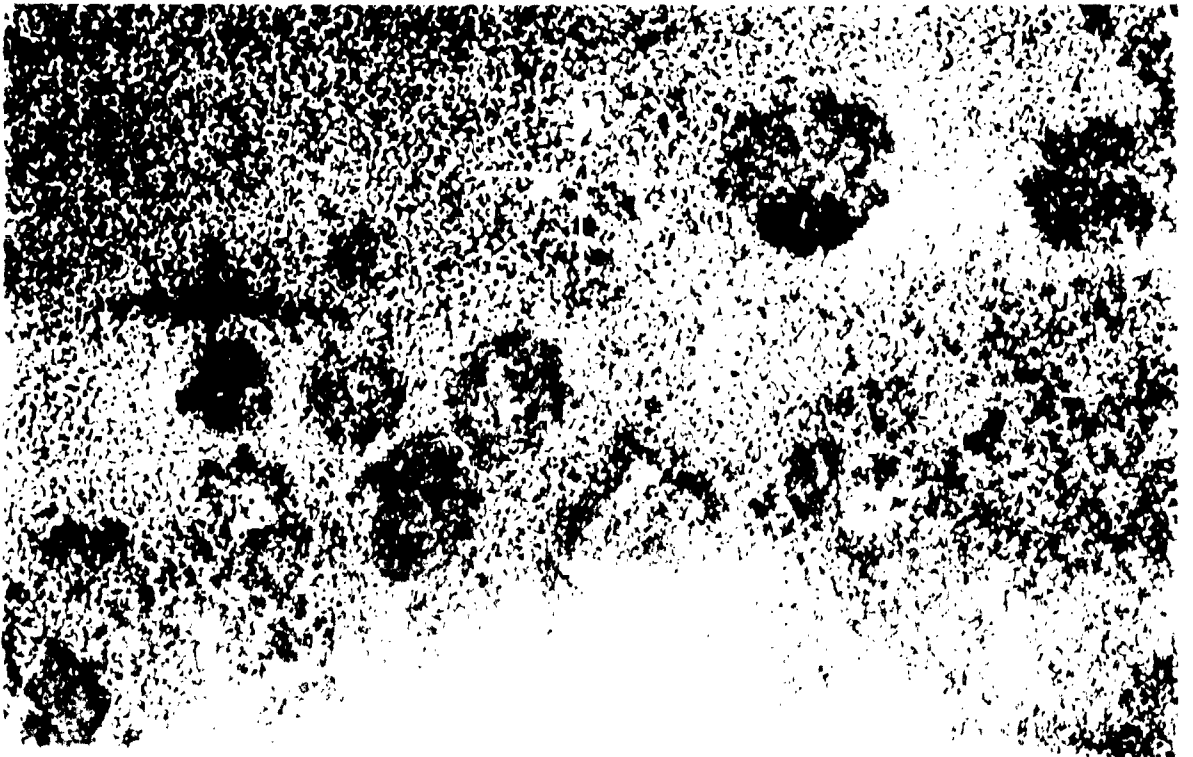
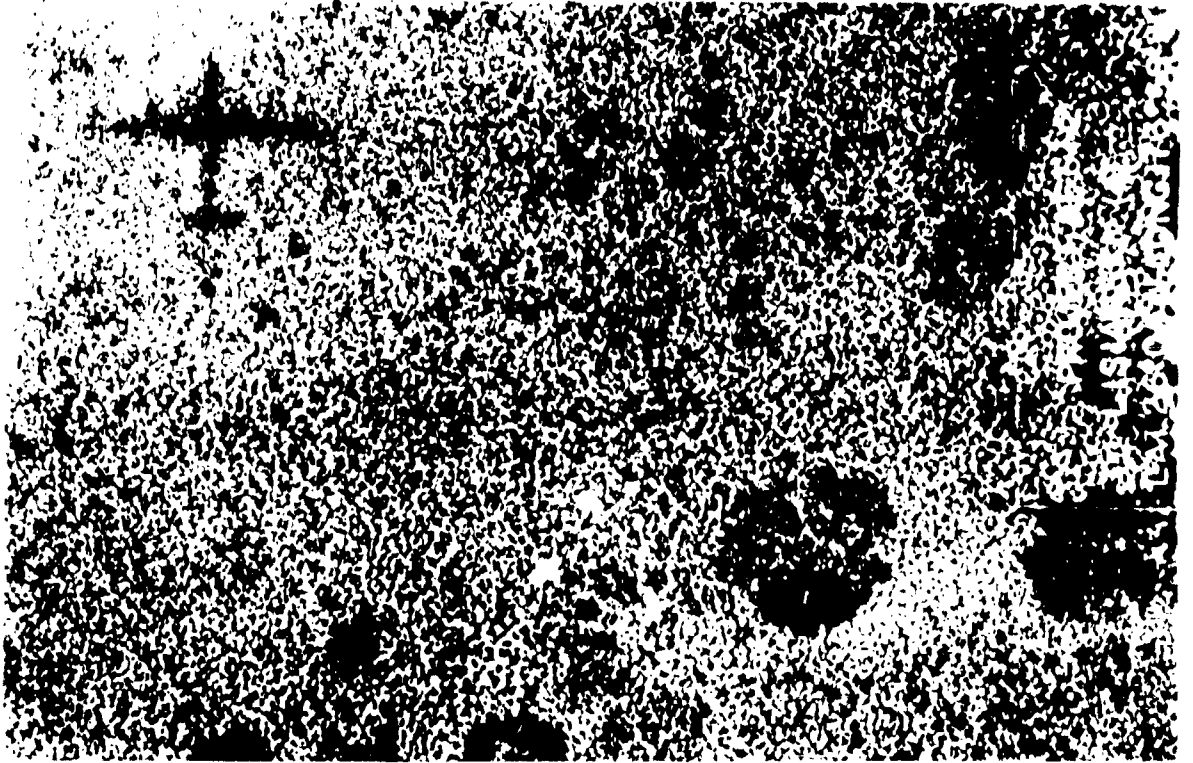


APRIL 1961

SCALE



FEET







PROJECT AF 42
L. S. (4)
LAI BAN LONG 173°58'W





HIRAN STATION DESCRIPTION

Name and Number: LAYS (5)

Location: Laysan Island,
Hawaiian Island Group

Date Established: 1961

Approximate Geographic Coordinates: Latitude: 25° 46' N
Longitude: 171° 44' W

Station Elevation: 25 Feet (Approximate reference to mean sea level)

Description: The station is located on the western side of Laysan Island on the highest point of the ridge which lies between the beach and the middle lagoon. It is approximately 200 feet east of the sand beach which is the terminus of the best boat approach and landing site on the island. The station is located in a clear, level, sand-guano covered area approximately 125 feet northeast of the conspicuous and only iron-wood tree on the island. The station is marked with a standard USC&GS triangulation disk inscribed "LAYS 1961", set in a 12 inch square concrete monument, which surrounds a 5 foot length of 2 inch galvanized pipe driven in the ground.

References: RM #1 is a 5 foot length of 3 inch angle iron driven in the ground with a mound of concrete around it. The angle iron projects 24 inches above the ground. RM #2 is a standard USC&GS reference disk stamped "LAYS-RM 2-1961", set in concrete atop a 16 inch square concrete pillar projecting 4.5 feet above the ground. There is a T 3 tribrach placed over it. Lays Azimuth is an unstamped USC&GS triangulation disk set in cement in top of a five foot length of galvanized pipe driven in the ground and projecting 2 feet above the ground. It is located on the high sand dune at the edge of the vegetation at the north end of the island. Laysan Magnetic is located approximately 275 feet northeast of LAYS-RM2-1961 and is a USC&GS BM disk set in the top of a 9 foot length of 3 inch copper pipe projecting 2 feet above the ground.

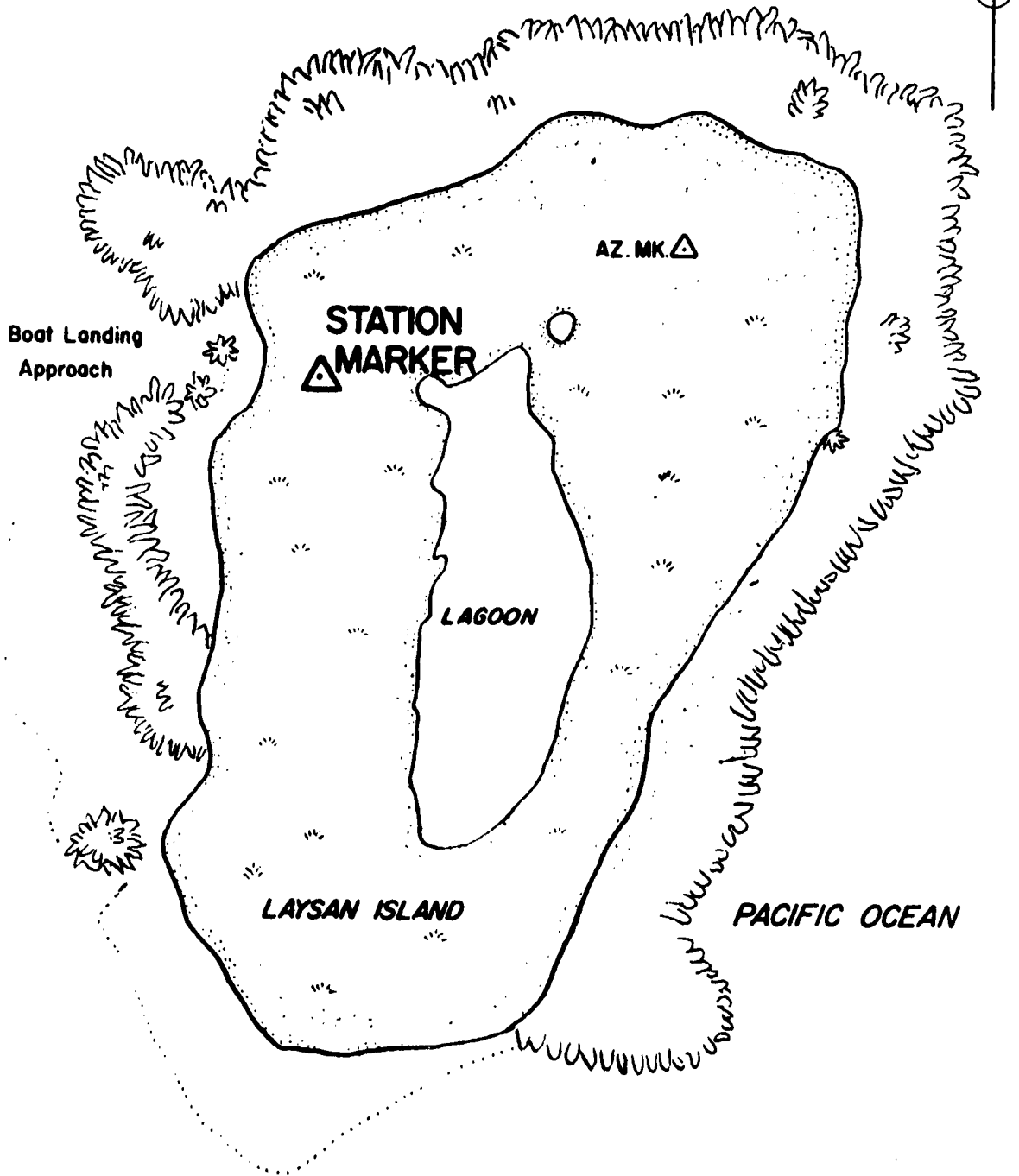
<u>OBJECT</u>	<u>DISTANCE (FEET)</u>	<u>AZIMUTH FROM SOUTH (ASTRONOMIC)</u>
RM #1	30. (Approx)	212° 14' 12
RM #2	67.5	05° 46' 03

Observations from RM #2

Laysan Magnetic		
1930	275.33	248° 35' 02
Lays Azimuth		211° 29' 57.98

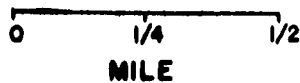
Route Description: Laysan Island is reached by surface ship from Midway Island. There is a narrow channel in the coral that permits boat access to the beach. This is on the west side of the island in the general vicinity of the ironwood tree. Anchorage at 2000 yards is recommended due to the coral which almost completely surrounds the island.

AREA SKETCH LAYS (5)

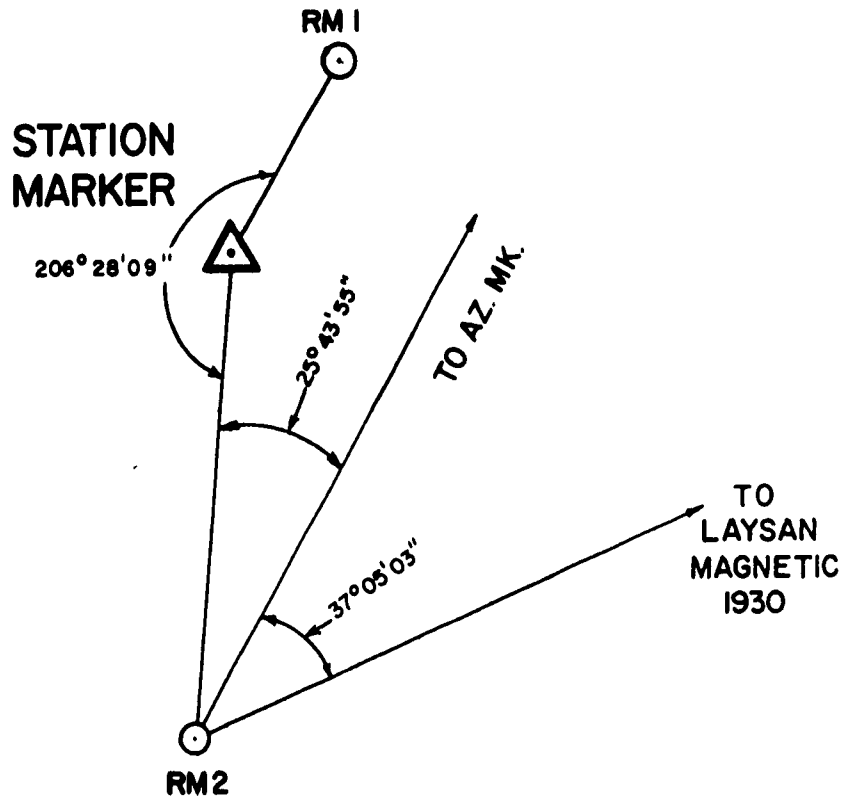


APRIL 1961

SCALE



STATION SKETCH LAYS (5)



APRIL 1961

SCALE

0 10 20 30

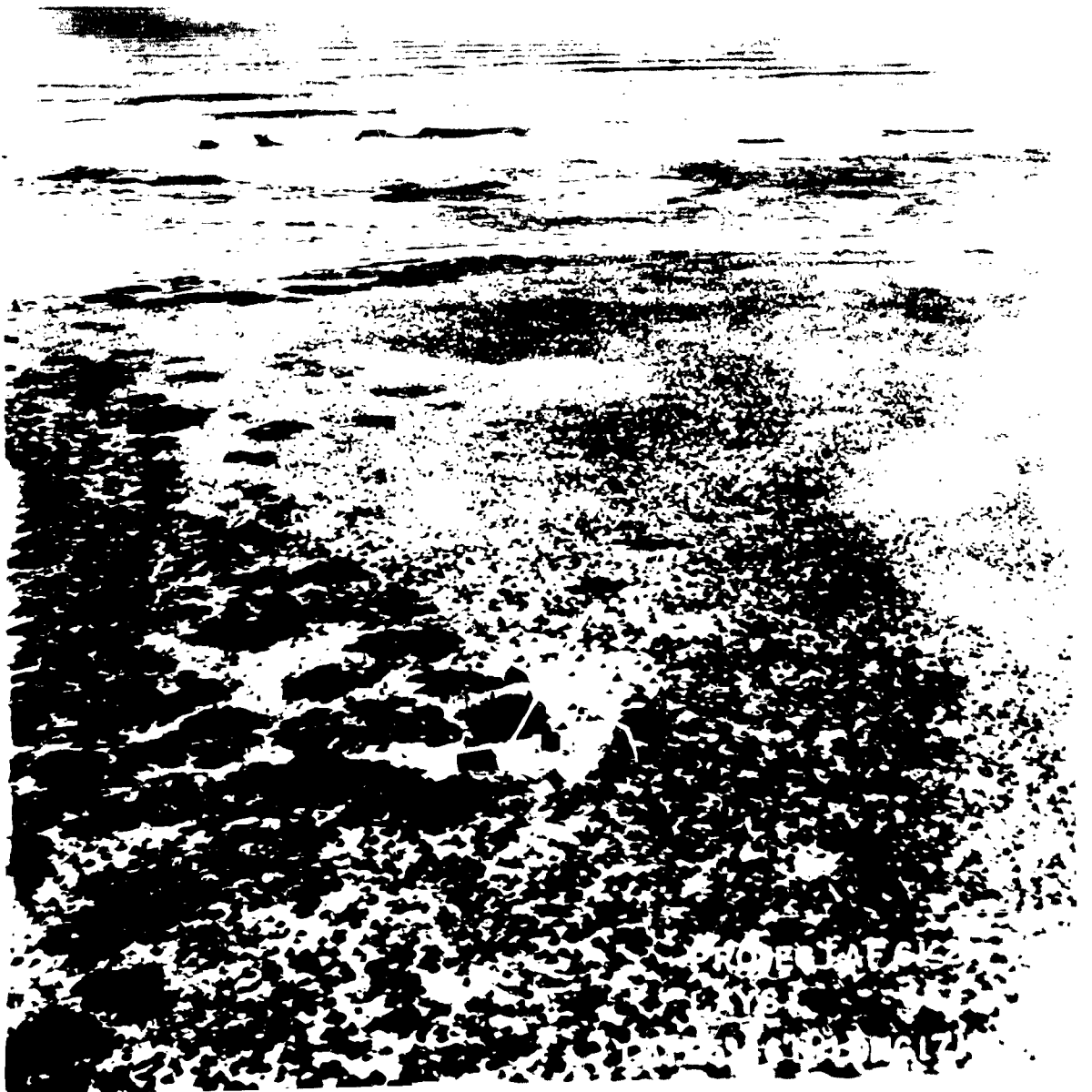
FEET







PROJECT AT 01



PROFESORAT

1981

1981



LAYS

LAT. 25°46' N LONG. 171°21' W

HIRAN STATION DESCRIPTION

Name and Number: GARDNER (6)

Location: Gardner Pinnacles,
Hawaiian Island Group

Date Established: 1961

Approximate Geographic Coordinates: Latitude: 25° 00' N
Longitude: 168° 00' W

Station Elevation: 190 Feet (Approx)

Description: Gardner Pinnacles is a double-peaked island about 200 yards long and 75 yards wide. It originally came to sharp but ragged peaks but now the top of the main pinnacle has been leveled to an area about 15' X 30'. The Hiran station is a standard USC&GS disk, stamped "GARDNER 1961", set in a concrete monument in the center of the leveled area. Another 8' X 12' area was cleared and leveled on the south slope of the main pinnacle to be used for the Astro site. First-order astronomic observations were performed on this site.

References: RM #1 is a standard USC&GS reference mark disk stamped "GARDNER NO 1 1961", and placed in a drill hole in bedrock. It is about 20 feet lower than the station and about 10 feet from a vertical cliff. A rock cairn stands over this mark. RM #2 is a standard USC&GS reference disk stamped "GARDNER NO 2 1961", placed in a drillhole in the top of a prominent outcropping boulder. It is about 15 feet lower than the station. RM #3 is marked by a tribach set in a concrete pier 3.2 feet high by 16 inches square. RM #3 was occupied as the light crossing station for the Sodano azimuth observations. The azimuth mark is near the edge of a cliff and 10 feet north of the highest point of the south pinnacle. It is a standard USC&GS azimuth disk and is stamped "GARDNER 1961".

<u>OBJECT</u>	<u>DISTANCE (FEET)</u>	<u>AZIMUTH FROM SOUTH (ASTRONOMIC)</u>
RM #1	39.1 (Slope Distance)	276° 07' 20"
RM #2	23.1 (Slope Distance)	52° 17' 53"
RM #3	16.8	345° 48' 23"

Observation from RM #1

Azimuth Mark	300. (Slope Distance)	01° 24' 36".98
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Observations From RM #3

Azimuth Mark	290. (Slope Distance)	355° 02' 42".10
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Route Description: Gardner Pinnacles is reached by surface ship from Midway Island. There is no suitable boat landing on the pinnacle due to the surging surf under all but perfectly calm days. The currents around Gardner Pinnacle change quite fast and an alert watch must be kept for a current change while steaming close to the pinnacle.

GARDNER (6)

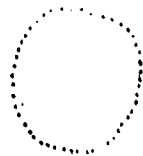
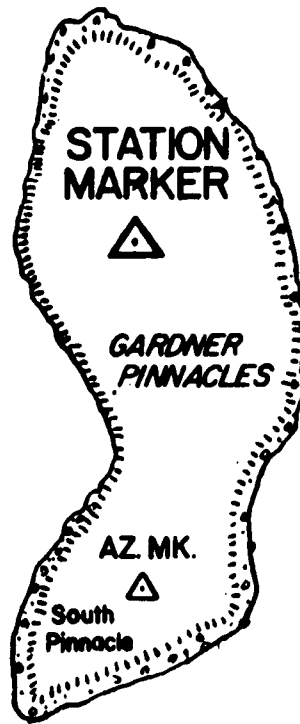
Helicopter operations on and around Gardner Pinnacle must be undertaken with extreme caution. Any wind will set up turbulence on the down wind approach. Hovering over the detached pinnacle should not be attempted if the detached pinnacle is leeward of the main pinnacle.

Remarks: It is possible with caution to climb from the station site to the azimuth mark.

AREA SKETCH GARDNER (6)



PACIFIC OCEAN



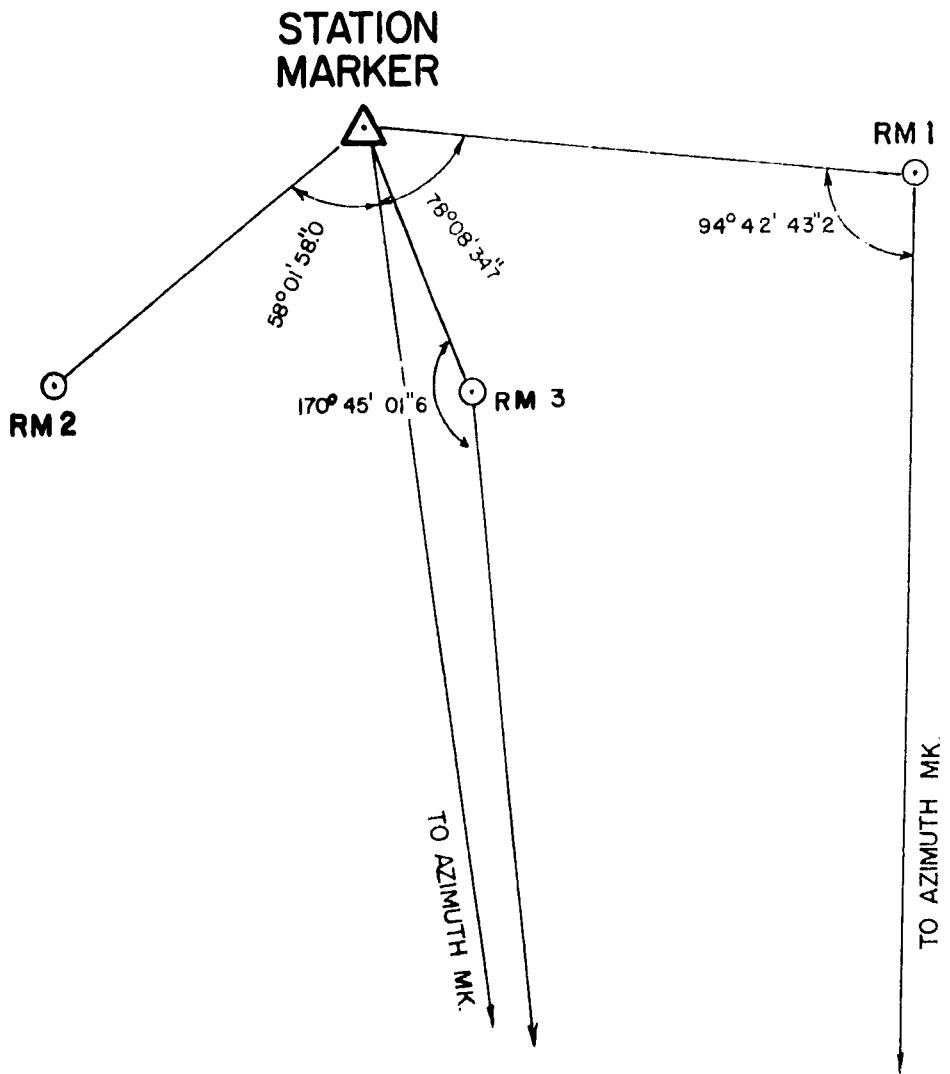
APRIL 1961

SCALE

0 50 100

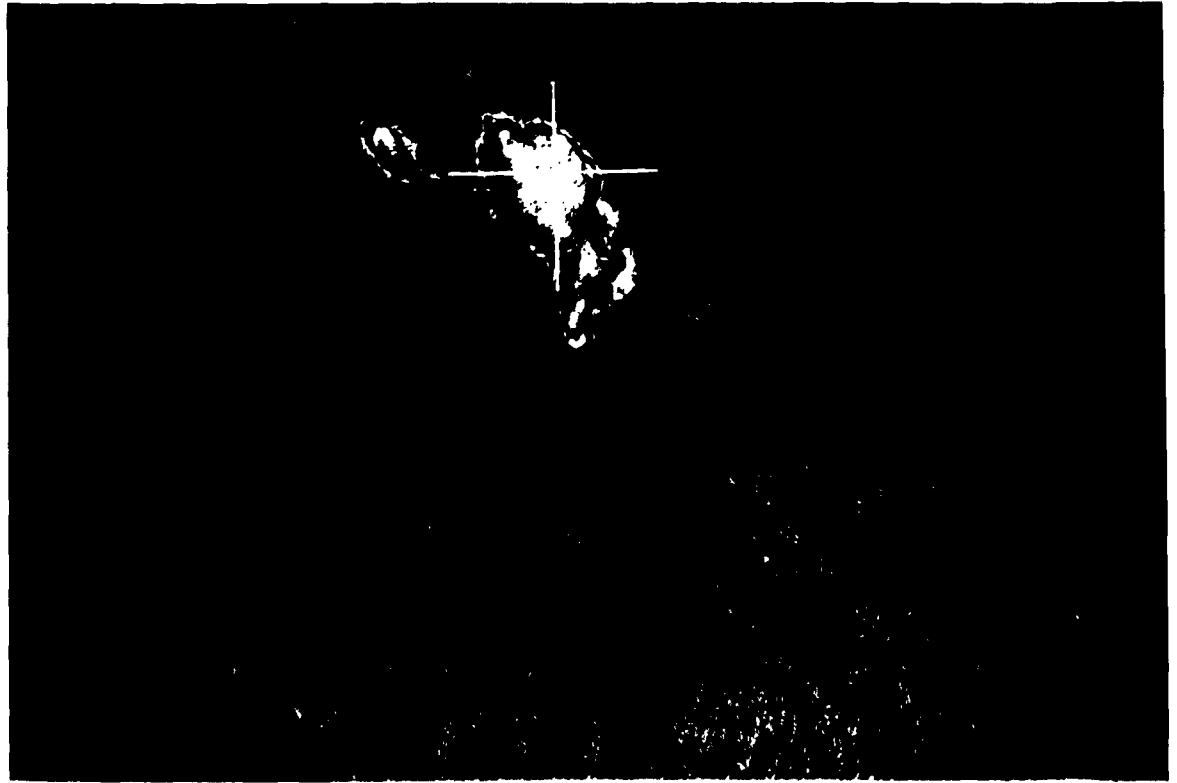
FEET

STATION SKETCH GARDNER (6)



APRIL 1961
SCALE





PROJECT AF 61-2
GARDNER (6)

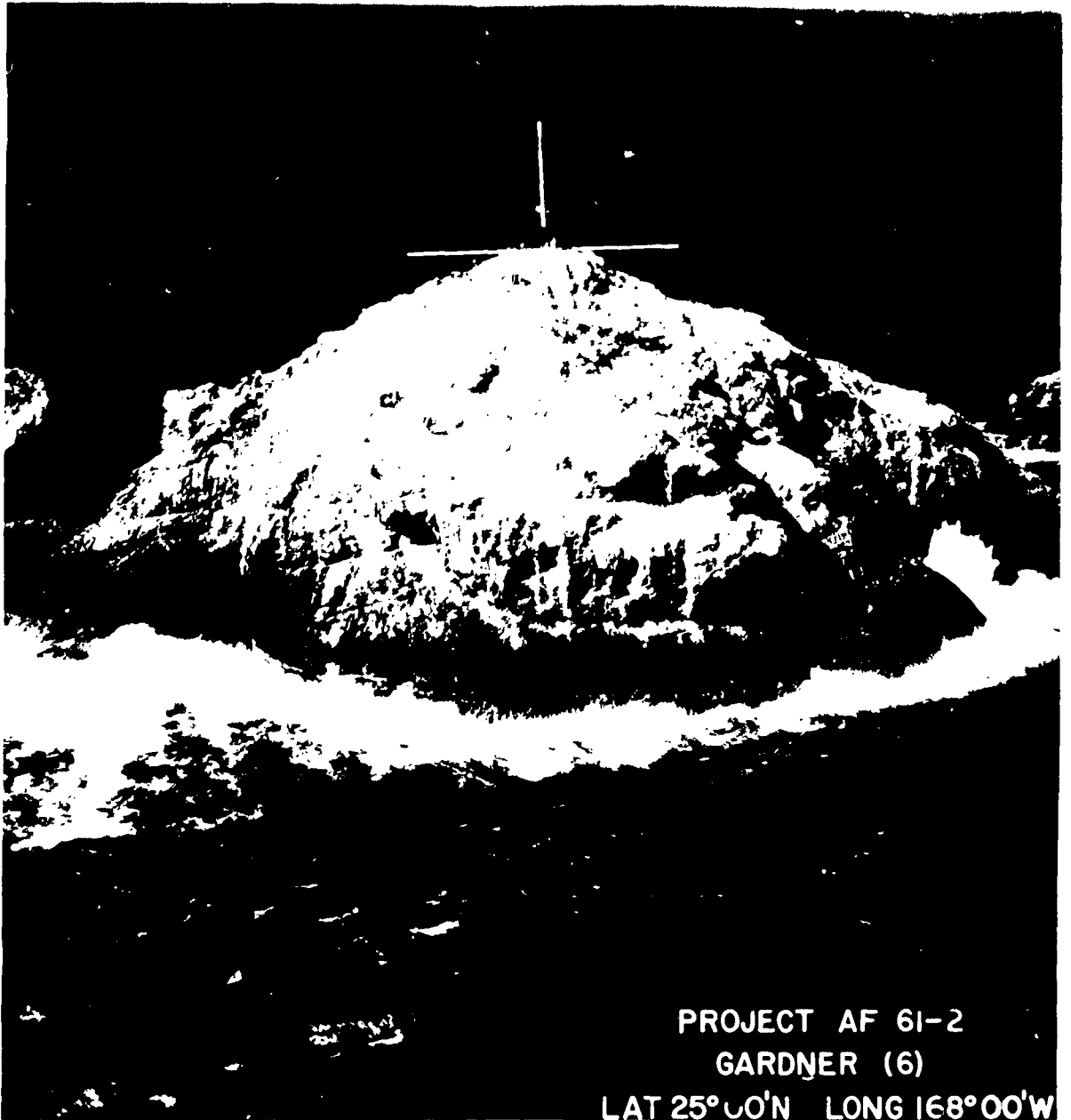
LAT 25° 00' N LONG 168° 00' W



PROJECT AP61-2

NUMBER (6)

LONG 168 J'W



PROJECT AF 61-2

GARDNER (6)

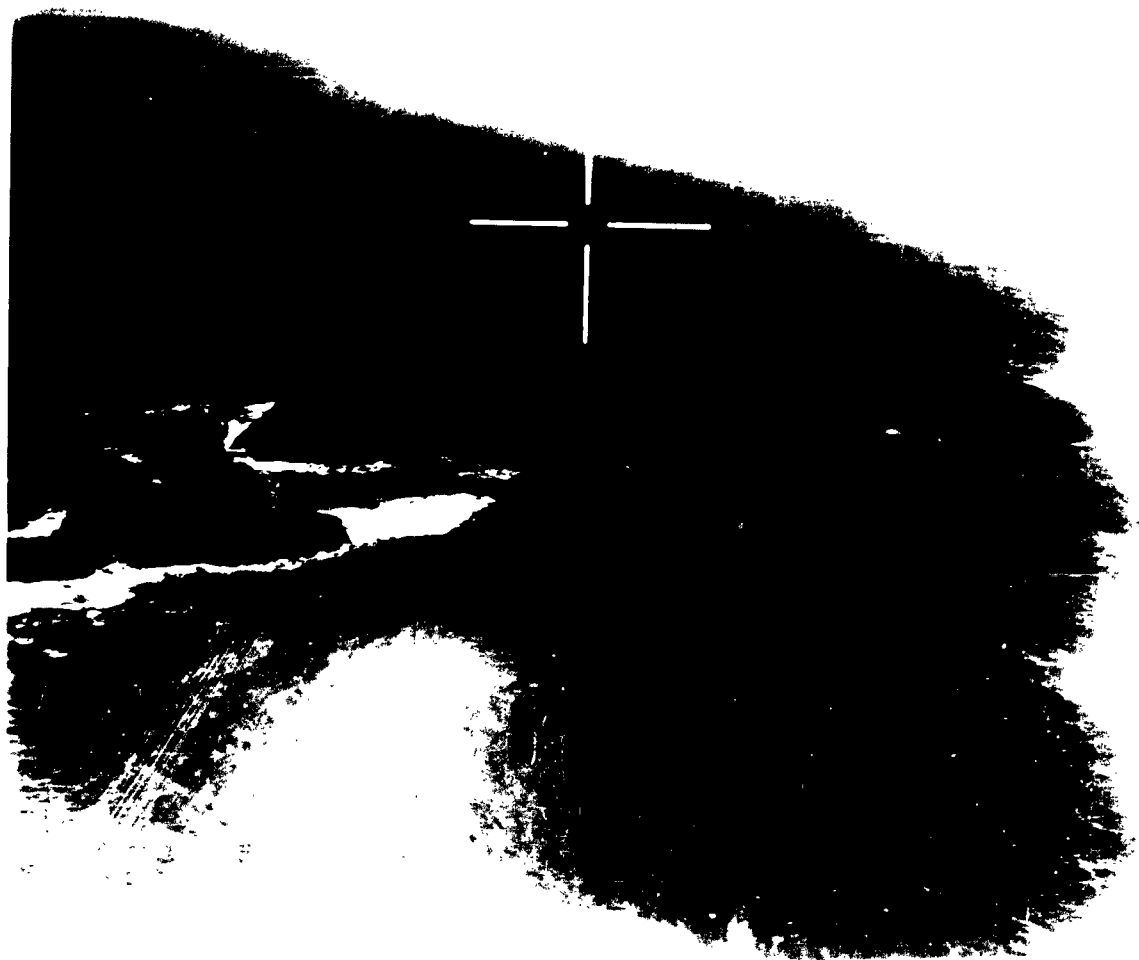
LAT 25°00'N LONG 168°00'W



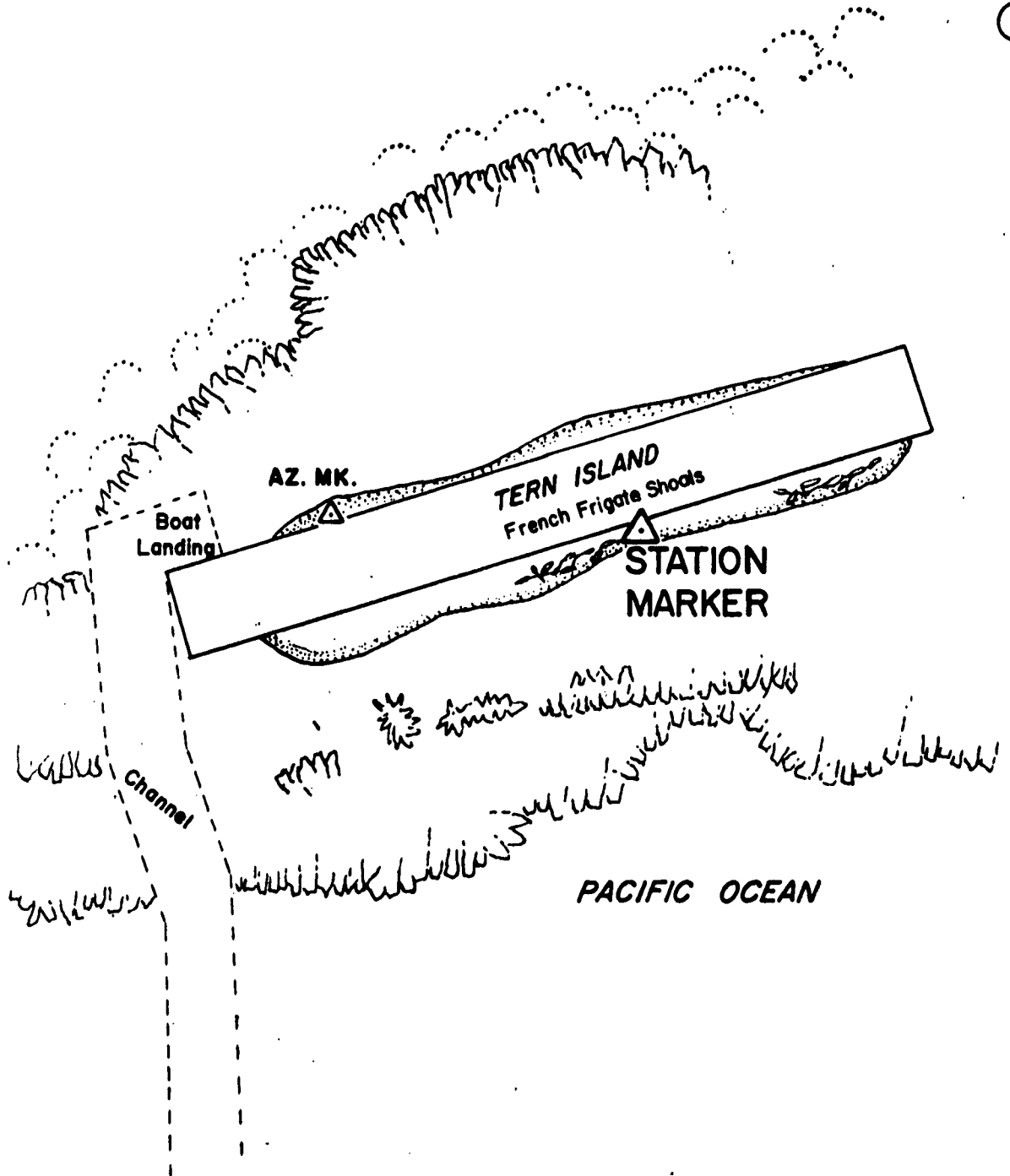
61-2

(6)

LAT. 30°N LONG. 168°00'W



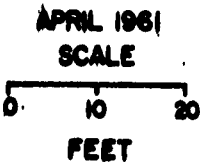
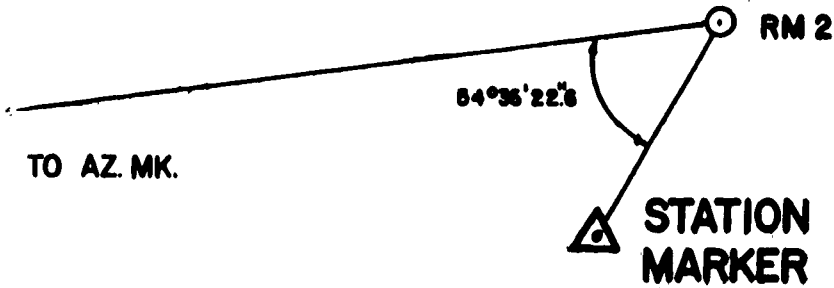
AREA SKETCH FRIG (7)



APRIL 1961
SCALE



STATION SKETCH FRIG (7)





PROJECT AF 61-
FRIG (7)
LAT. 23° 52' N LONG. 168° 17' W

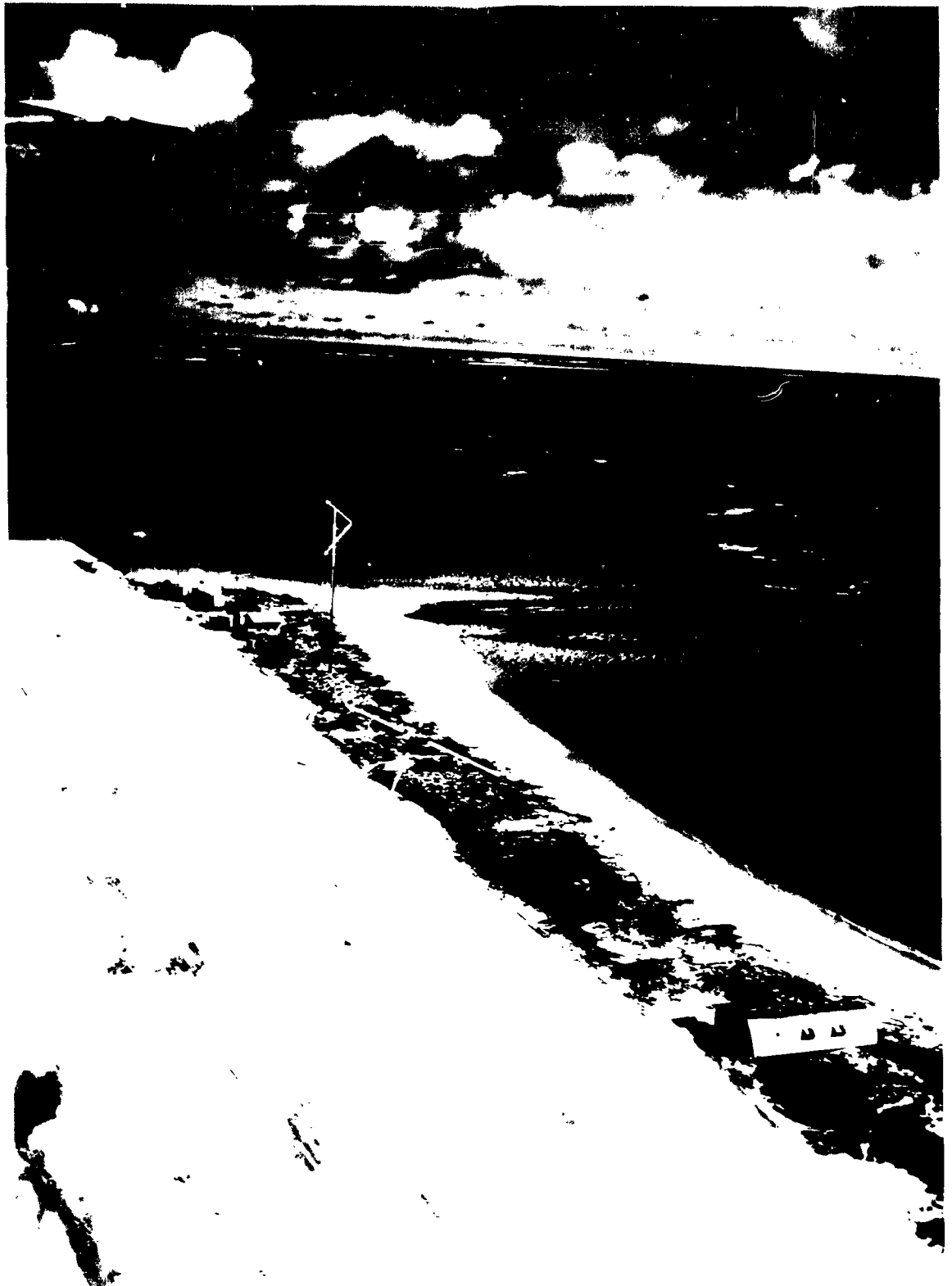
PROJECT AF 61-
FRIG (7)
LAT. 23° 52' N LONG. 168° 17' W

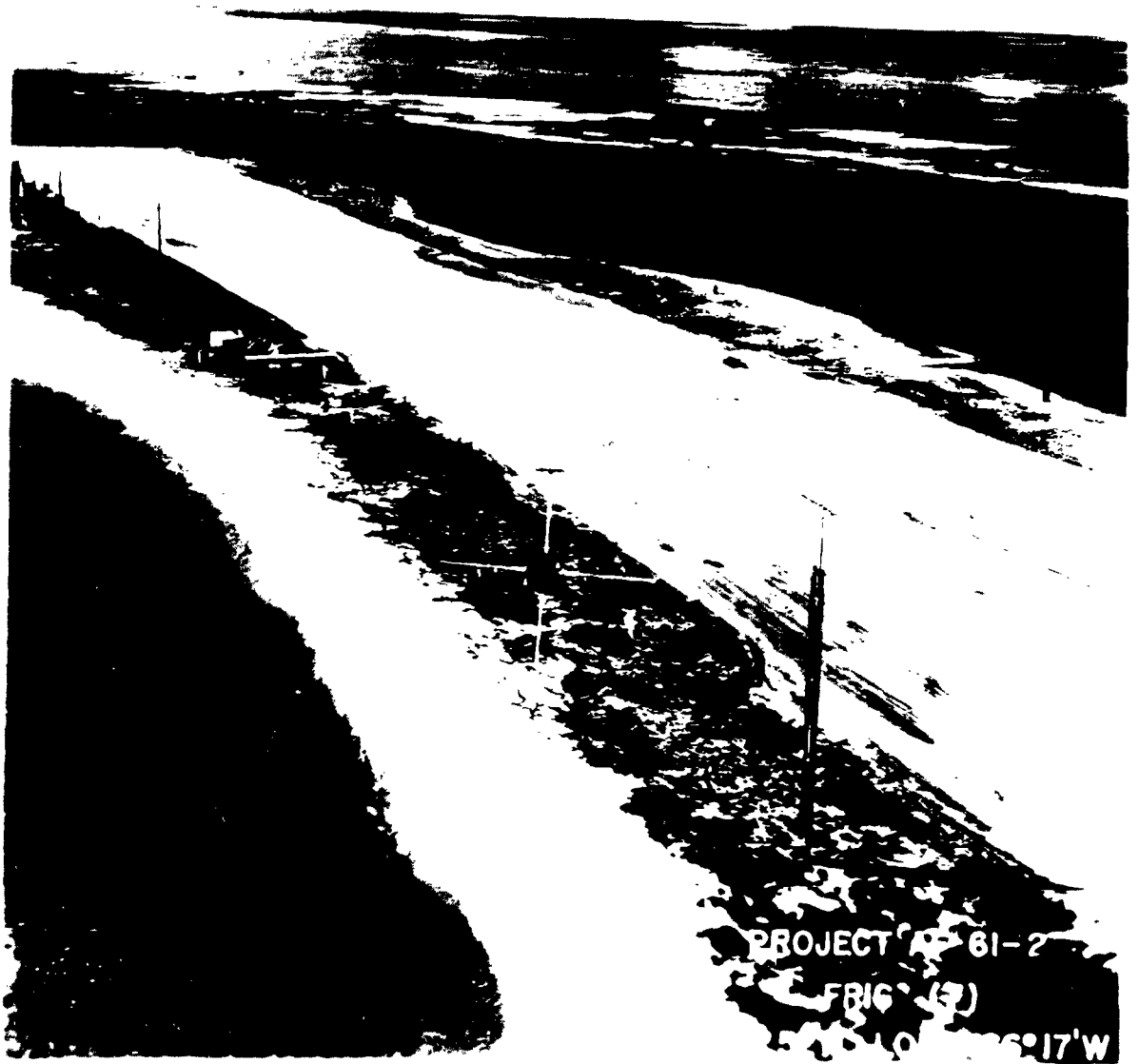


PROJECT AF 61-2

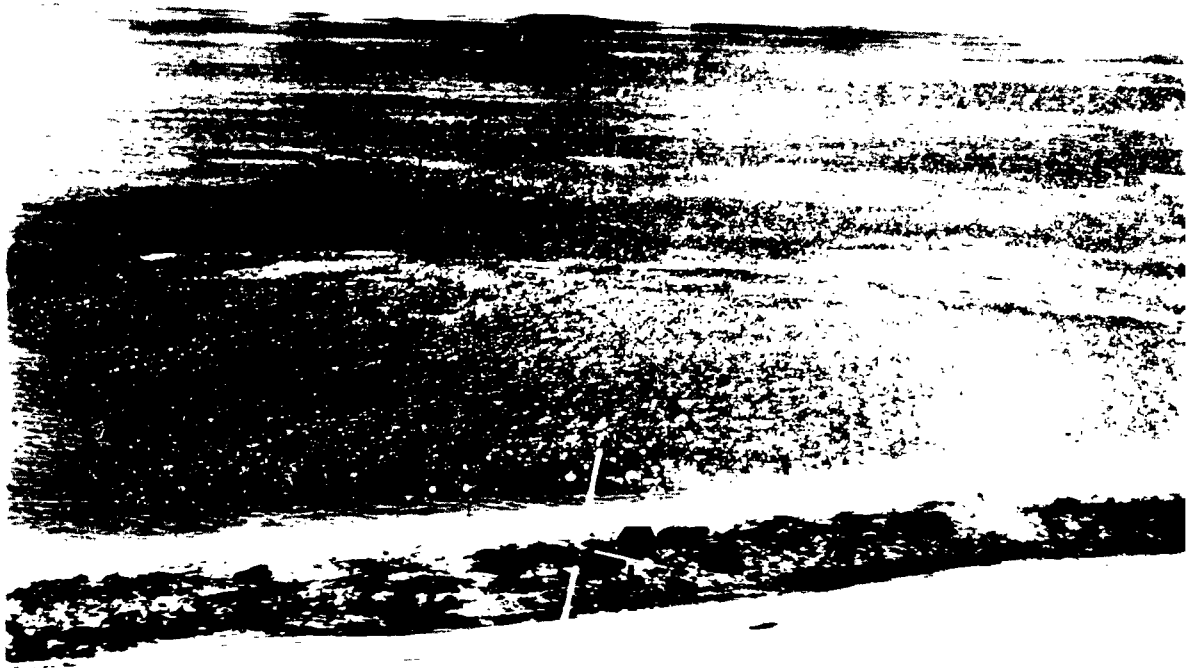
FRIG (7)

LAT. 23° 52' N LONG. 108° 15' W





PROJECT AF 61-2
FRIG (3)
52° 10' 26.17'W

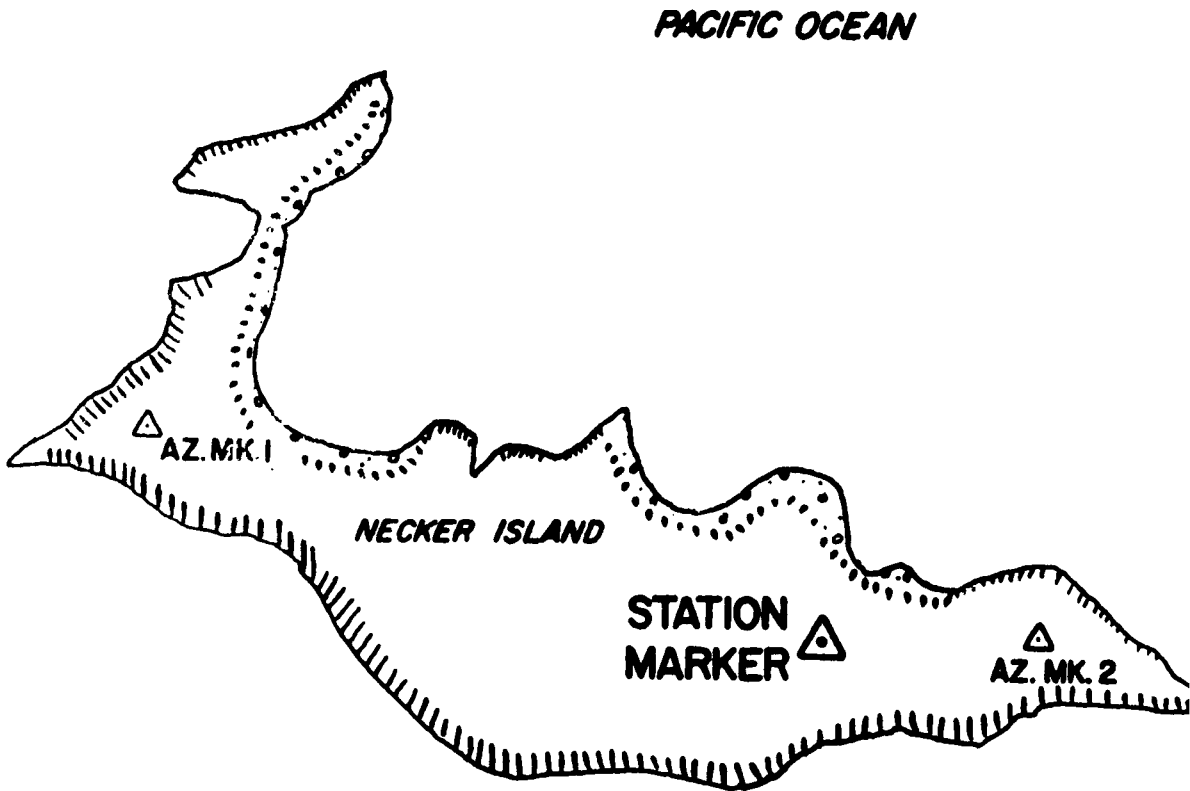


NECKER (8)

are two possible helicopter landing sites, one being on the second peak from the island's west end, the other is located about 300 feet east of the station.

Remarks: There is a possible presence of explosives. The surf areas are still considered unsafe and should be avoided.

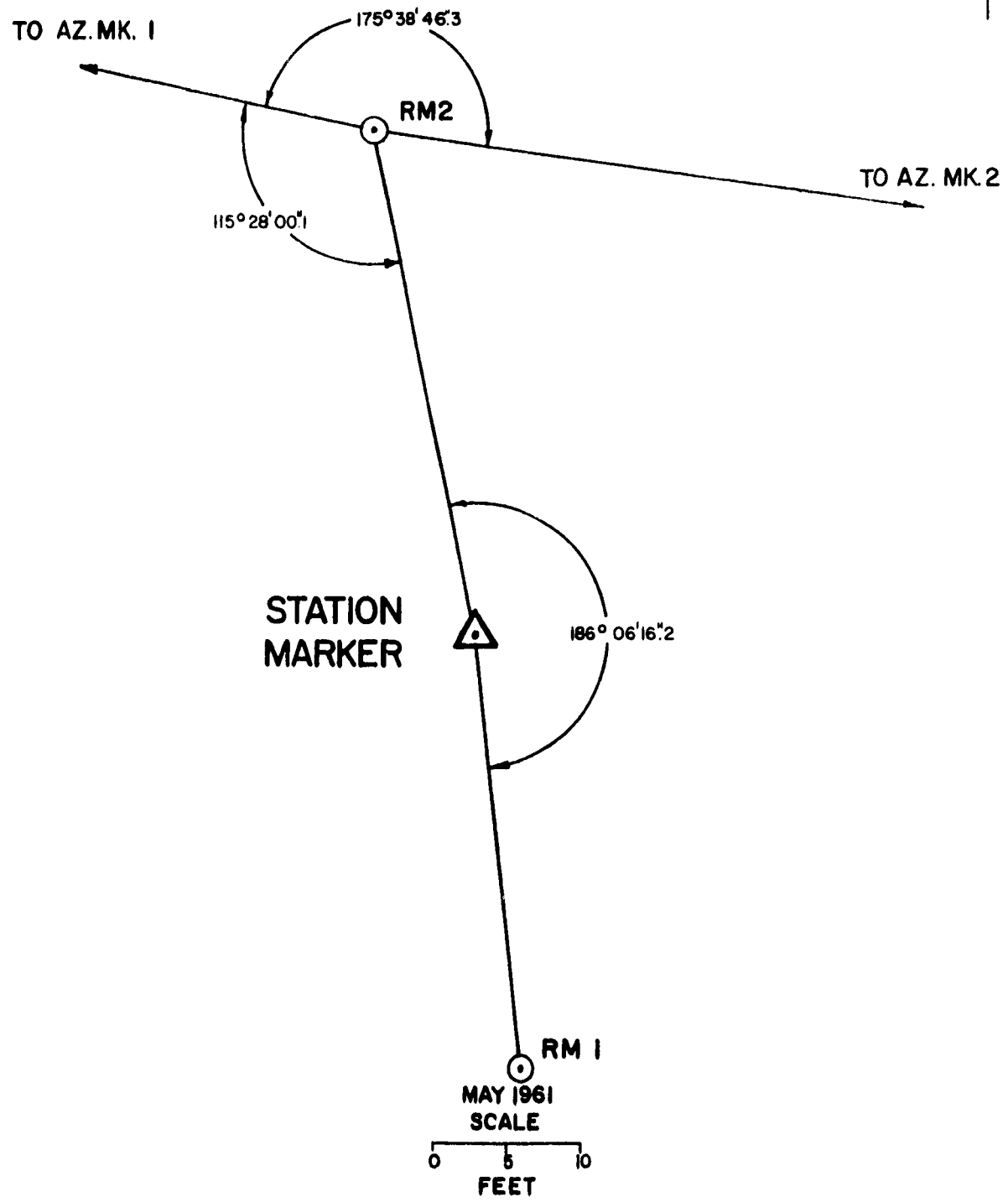
AREA SKETCH NECKER (8)



MAY 1961
SCALE

0 500 1000
FEET

STATION SKETCH NECKER (8)

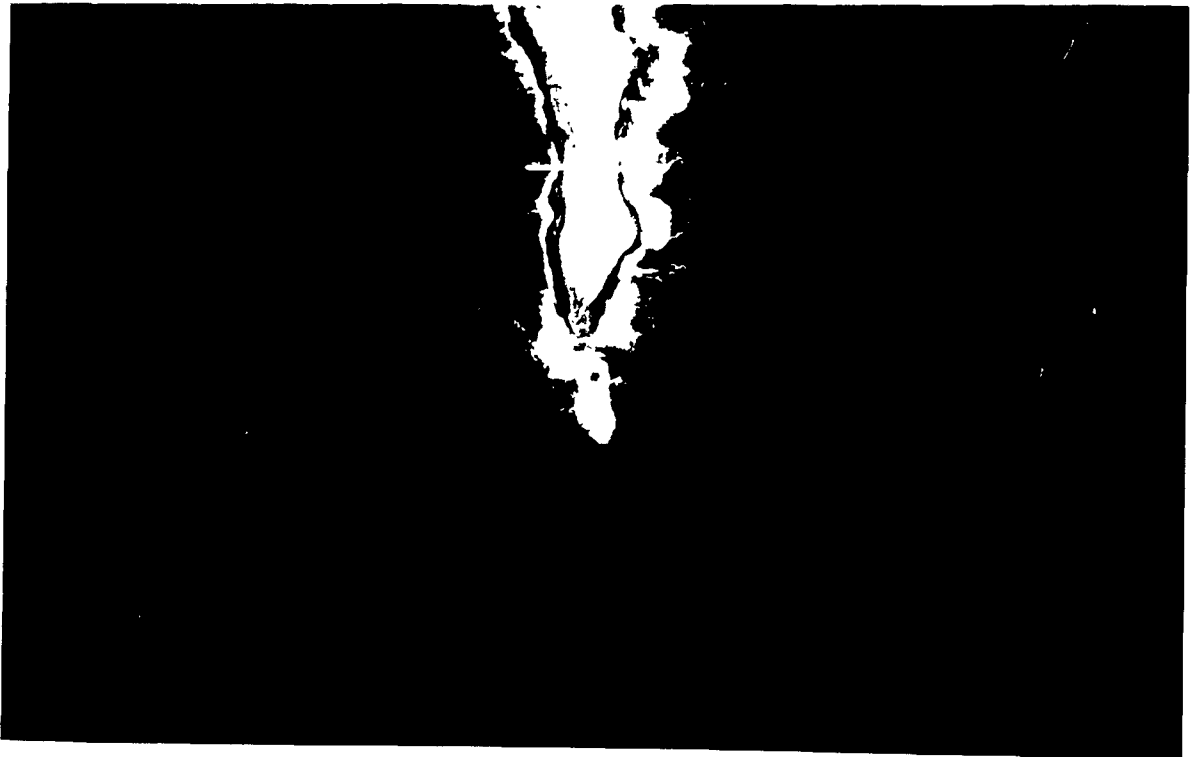




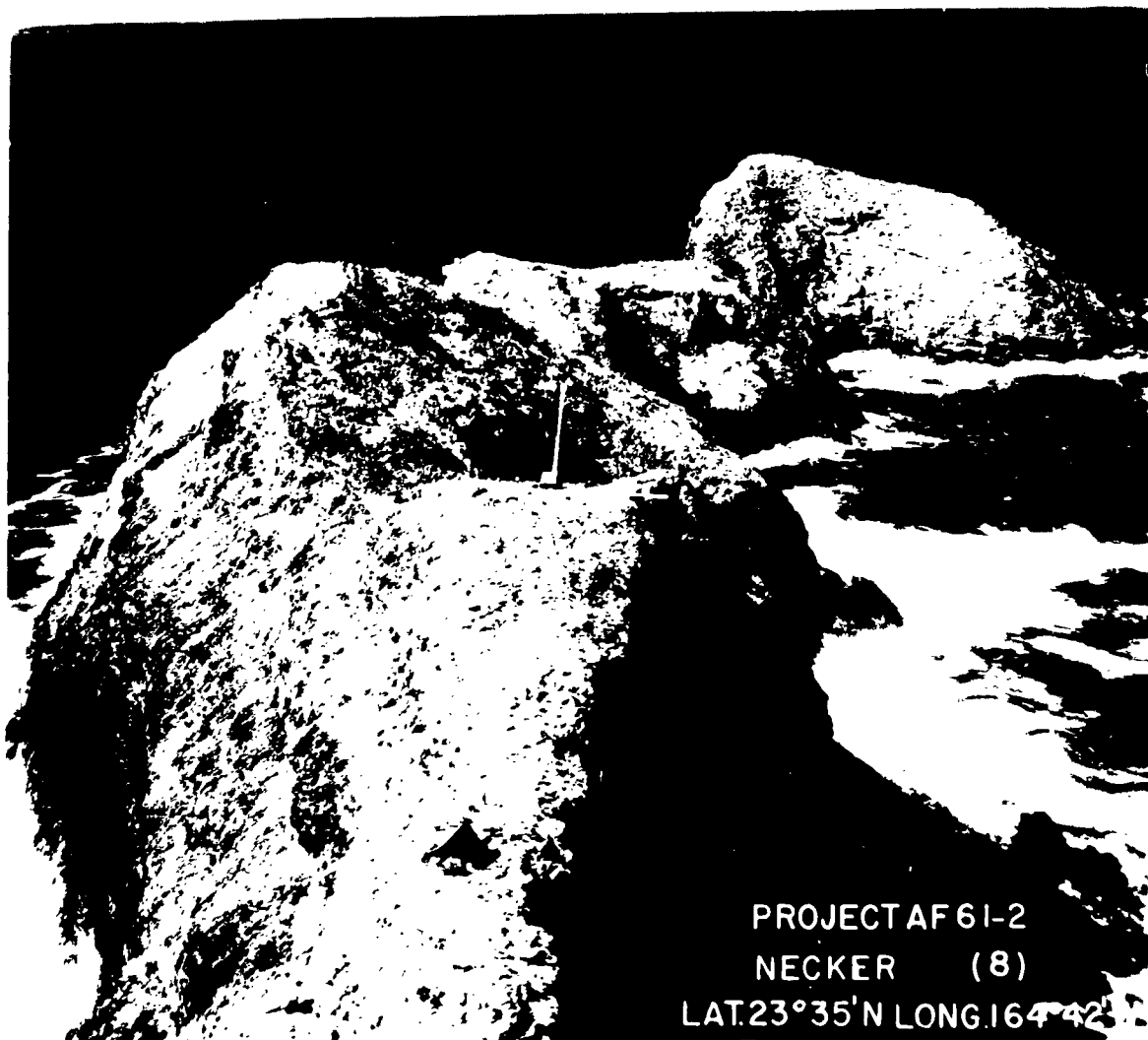
PROJECT AF 61-2

NECKER (8)

LAT. 23° 35' N LONG. 164° 42' W







PROJECT AF 61-2
NECKER (8)
LAT. 23° 35' N LONG. 164° 42' W



PROJECT

