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Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R.S.Patton Director

State: T. H.

DESCRIPTIVE REPORT

Topographic ~~Hydrographic~~ Sheet No. N4474

LOCALITY

Territory of Hawaii

Gardner Pinnacles

1929

CHIEF OF PARTY

K.T.Adams H.&G.E.

GOVERNMENT PRINTING OFFICE

Applied to Chart #173 10/16/46 [redacted].

Form 537a

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter M

REGISTER NO. 4474

State Territory of Hawaiian Islands

General locality Pacific Ocean

Locality Gardner Pinnacles

Scale 1/5000 Date of survey July 19, 1929

Vessel Steamer GUIDE

Chief of Party H.T. Adams

Surveyed by V.M. Gibbens

Inked by V.M. Gibbens

Heights in feet above M.S.L. to ground ~~to tops of trees~~

~~Contour Approximate contour~~ Form line interval 25 feet

Instructions dated March 26, 1929

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1930

DESCRIPTIVE REPORT
to accompany
TOPOGRAPHIC SHEET
No. N-Scale 1./5000

Gardner Pinnacles. Hawaii, T.H.

Date of Instructions: March 26, 1927.

Date of Survey: July 19, 1929.

Chief of Party: K.T. Adams, H & G Engineer.

Topographer: V.M. Gibbens, Aid.

LIMITS: Gardner Pinnacles.

CONTROL: For the control a Theodolite was set up at Gard and angles turned from Mark to the various points on the Island. The azimuth of Mark was determined by astronomical observations.

METHOD: The Theodolite was set up at Gard and angles were turned to the various points about the Island, also measuring the depression angles. The elevation of the Island was obtained by taping up one side of the Island with a three hundred foot tape and measuring the depression angle. The Theodolite cuts were supplemented by sextant cuts to tangents and points. A rough traverse was run around the Island with a three hundred foot tape making a free hand sketch as we went. The Northeast side of the Island is mostly from sketch as the sides were steep and could not get any angles from there. The small detached pinnacle was mostly from sketch, as only a very few cuts and angles were obtainable.

GENERAL DESCRIPTION:

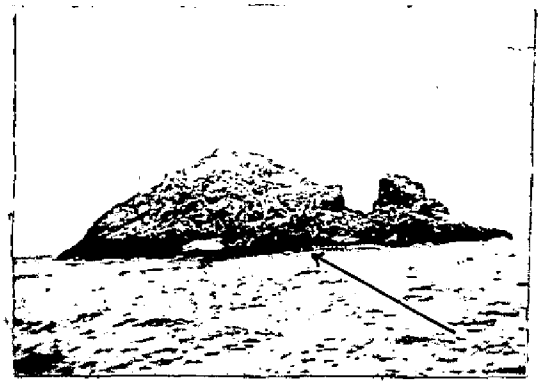
Gardner Pinnacles are solid volcanic rock pinnacles, the larger pinnacle being 190' in elevation. They are barren of vegetation, but are covered with guano. From a little distance away and when the sun is shining on the larger pinnacle, it looks as if it was snow capped. The landing was made just north of the bight on the west side of the Island. Landings have to be made in comparatively smooth weather.

Four Kodak pictures of Gardner Pinnacles are on the following page.

Respectfully submitted,
V.M. Gibbens
V.M. Gibbens, Aid.

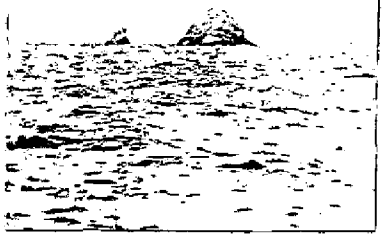
Approved:
K.T. Adams
K.T. Adams
Chief of Party.

PICTURES TO ACCOMPANY DESCRIPTIVE REPORT OF GARDNER PINNACLES

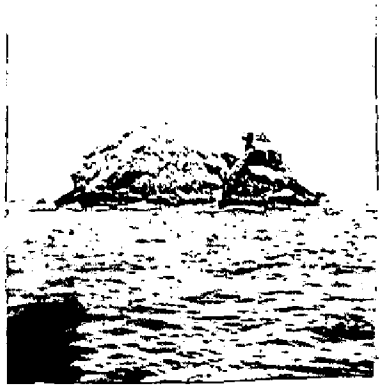


Looking at large Pinnacle from the West. Arrow Points to where landing was made.

Looking at both Pinnacles from the West; the smaller Pinnacle being on the left hand side of the larger Pinnacle.



Looking at both Pinnacles from the South.



Looking at both pinnacles from west North West.

STATISTICS SHEET NO "N"

Statute miles of high water line-------0.4

Square miles of area-------------------0.01

Working days---------------------------- 1

Number of men in party----------------- 3

Applied to Compilation of Chart 4182 7/15/[redacted] ERBL

Topographic data on
Gardner Pinnacles
H.I.

U.S.S. Guide
K.T. Adams
1929

Filed in des. report
as T. 4474

Gardner Pinacles

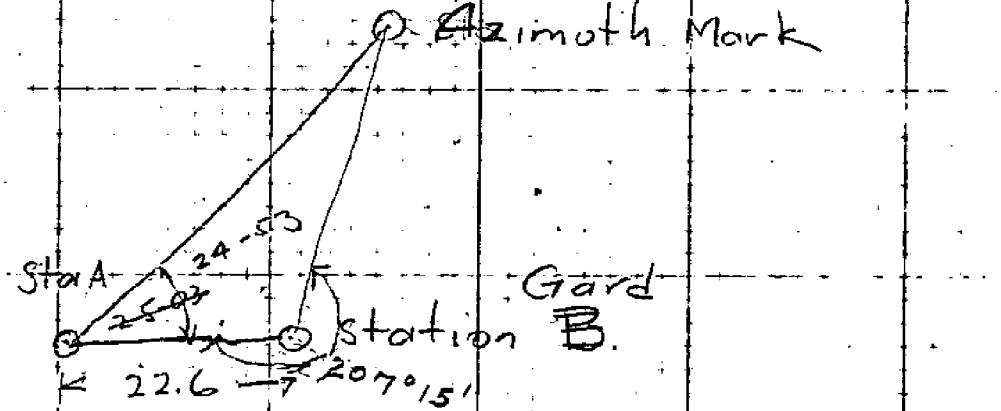
July 19, 1929

Azimuth Mark = crack between two rocks on top of and in the center of the smaller and detached Pinacle Rock.

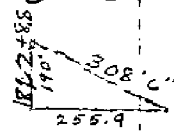
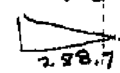
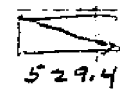
Station A

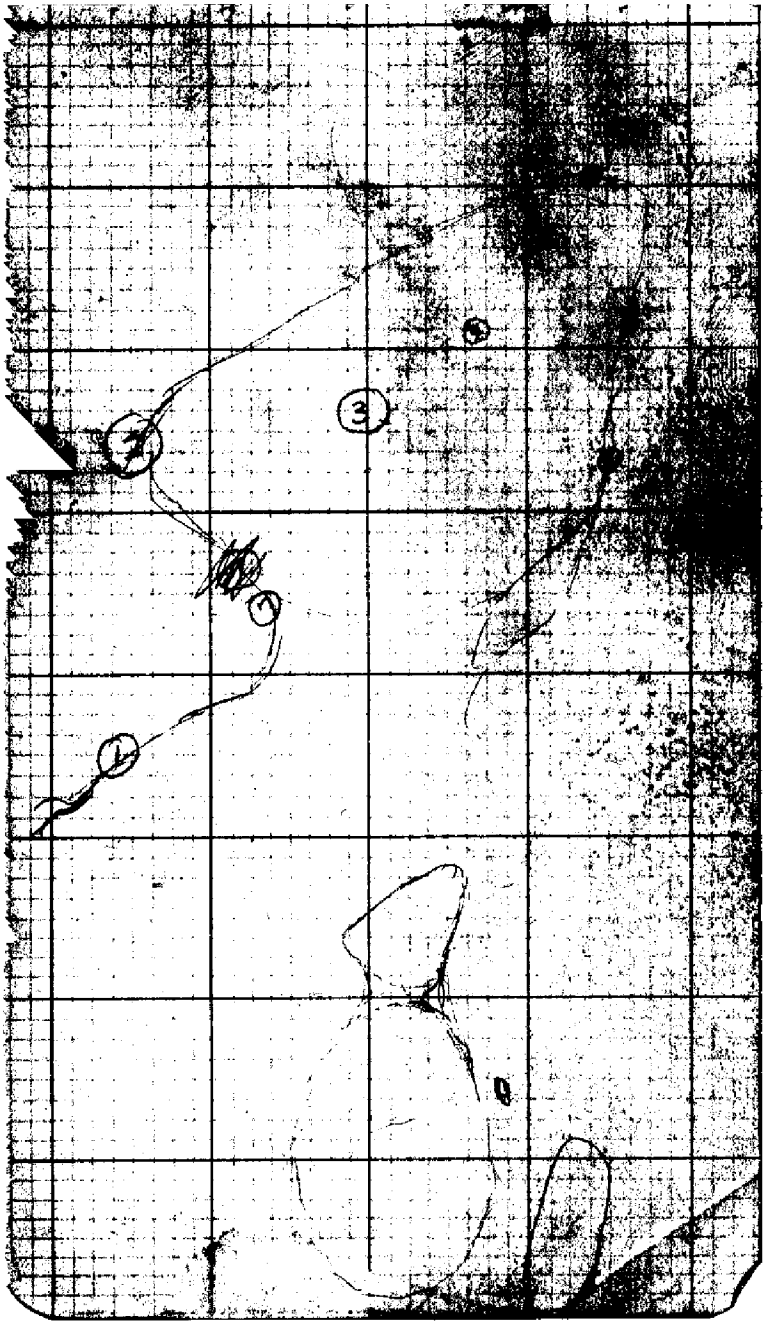
On S.E edge of Top of the Pinacle.

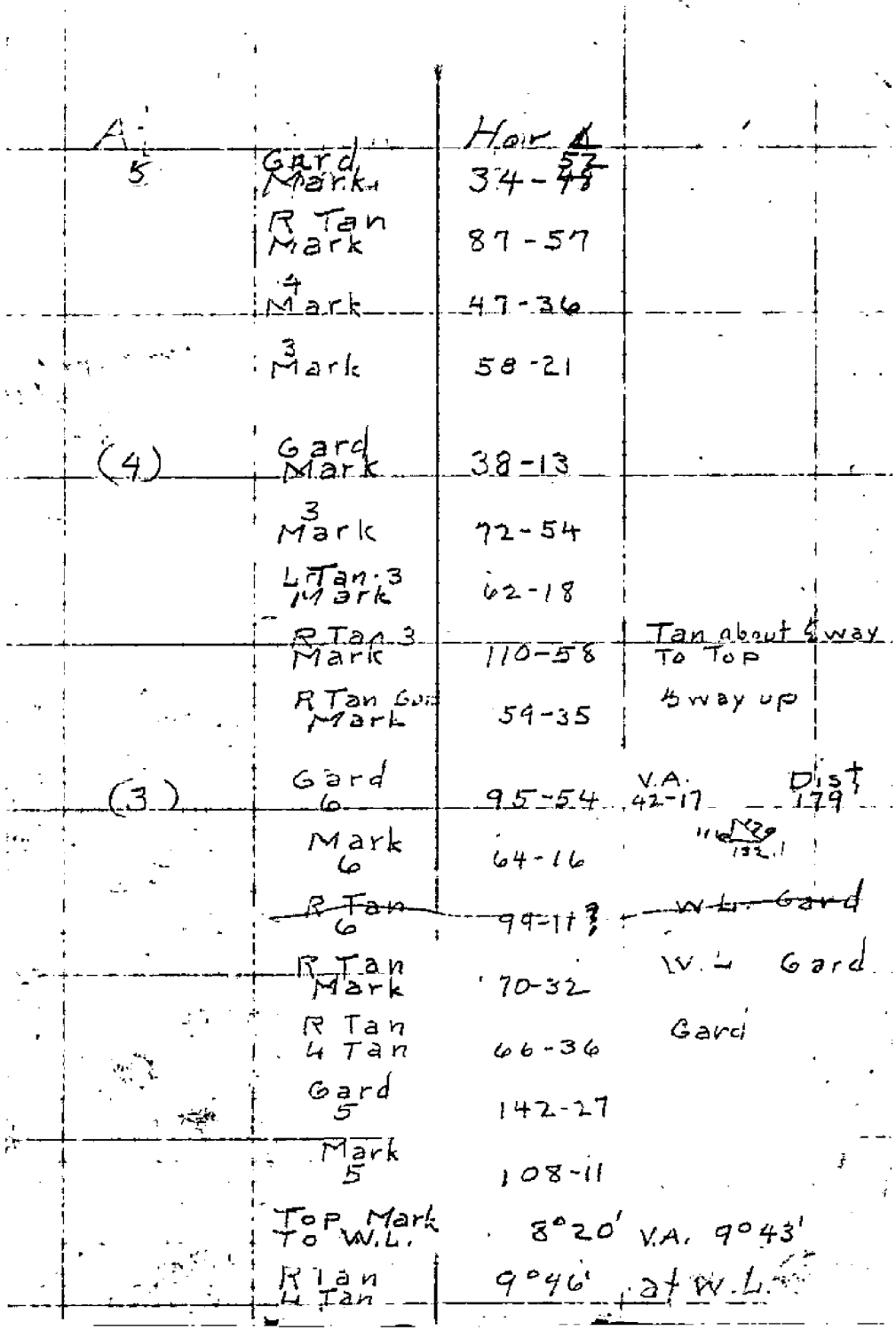
Telescope of instrument level with top of the Pinacle.

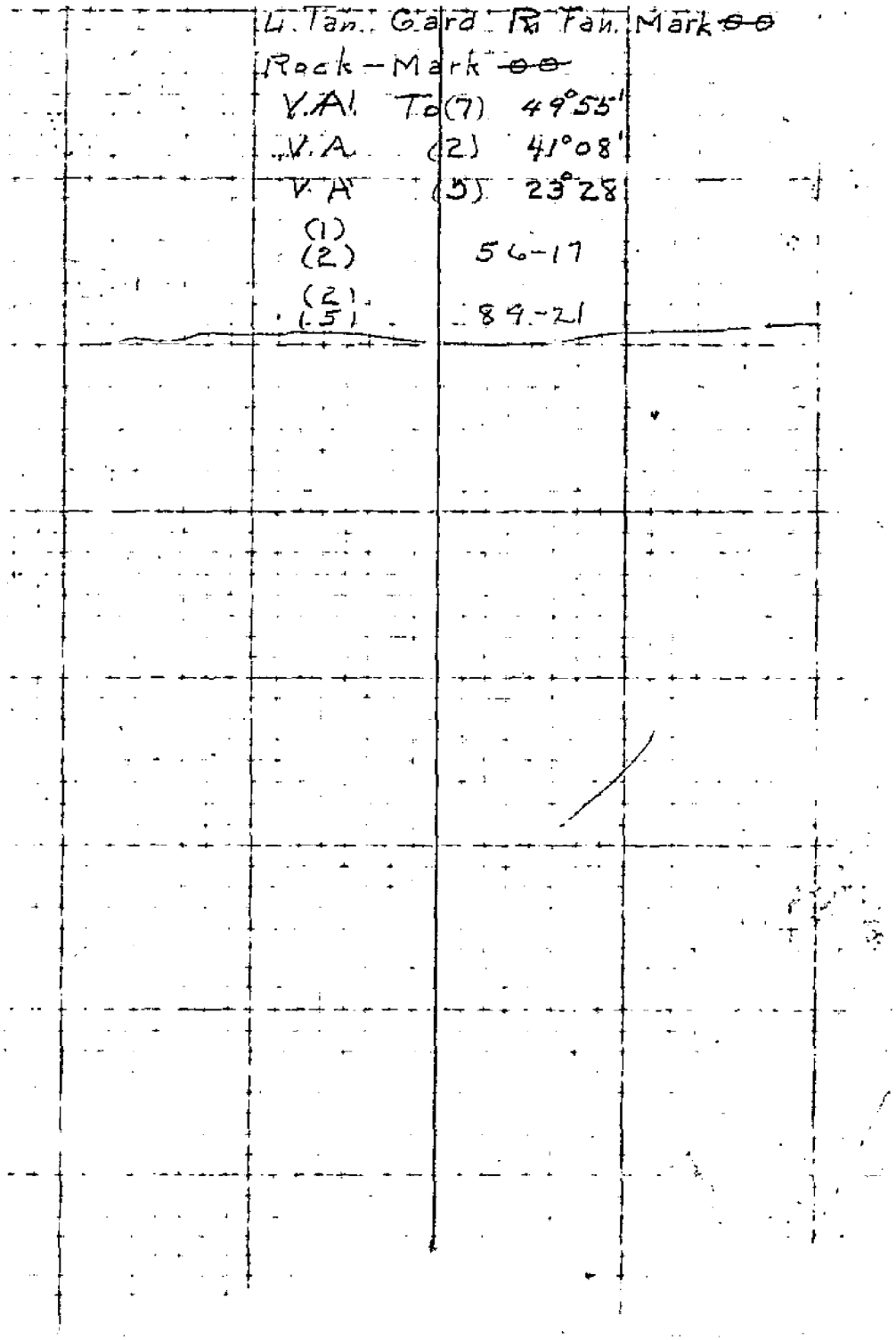


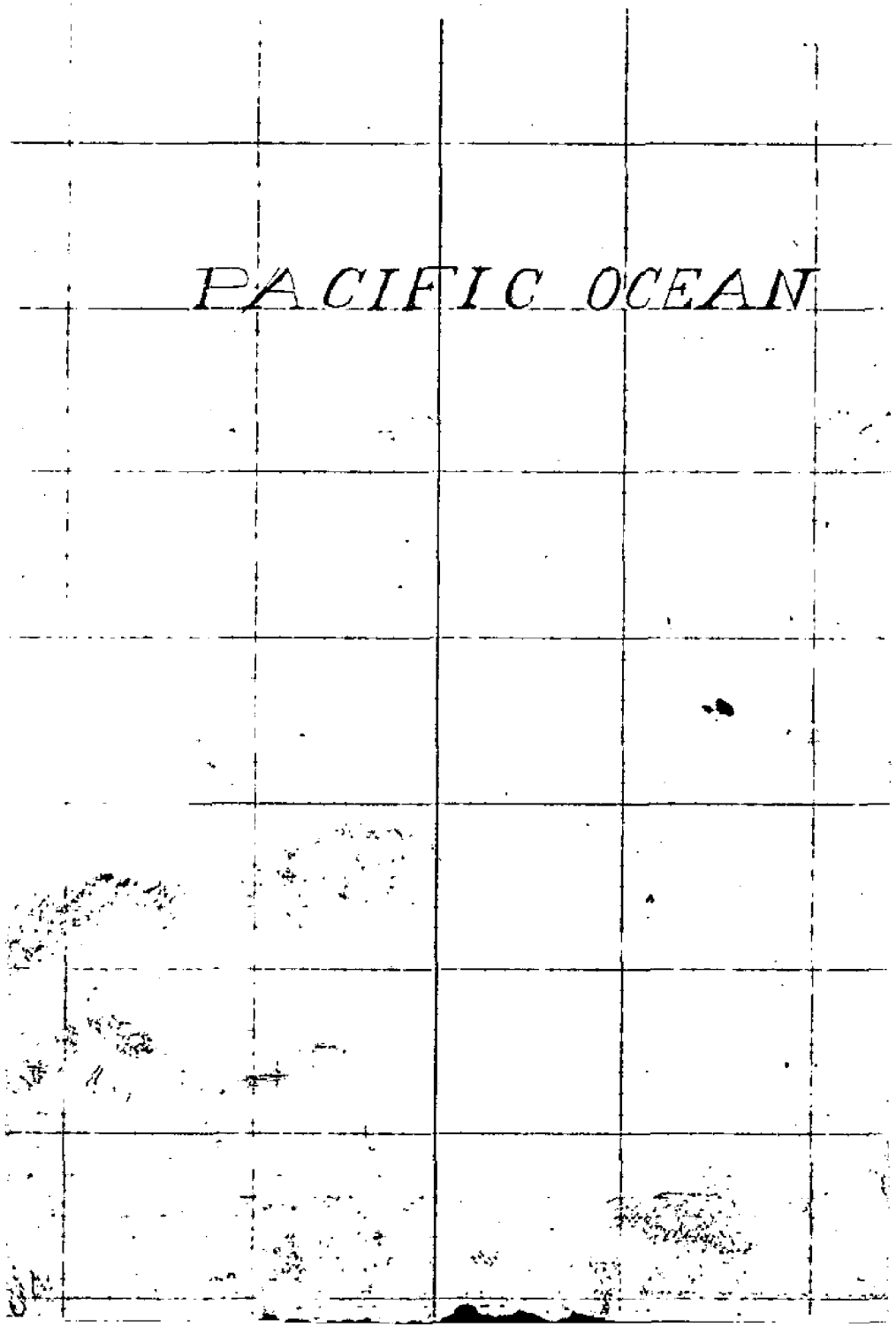
Station A   HI 4' 6"

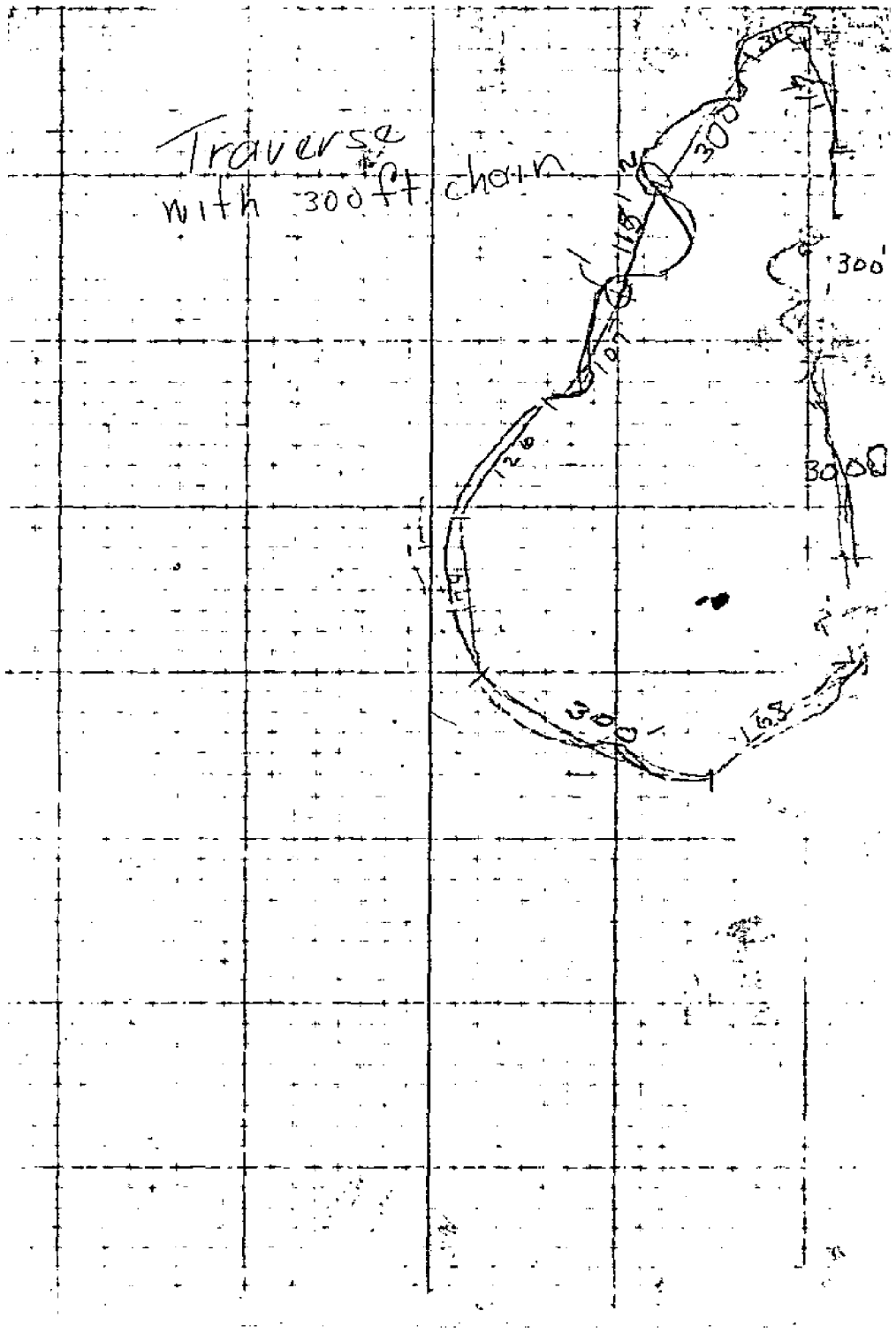
Object	Hor Angle	Vert Angle (zenith Distance)	Dist
Az. Mark	00 00 00		H.I. Level with top of Gard
① Waters Edge	197-05 ~~196-57½~~	R 121-~~55-40~~ 56-00	308' ~~4"~~ 6"
		R.233 ~~03 00~~ 03.00	 8' above W.L.
②	202-50	L 118-03	
		R 241-57	
③	225-16	L 104-22 40	298-1'
		R 255-37-30	
④	239-34	R 252-28-30	
		L 107-31-00	
⑤	244-4~~8~~	L 109-44-30	
		R 250-15-30	


5
3
2
4
1


A
5
Gard Mark
R Tan Mark
4 Mark
3 Mark
(4)
Gard Mark
3 Mark
L Tan 3 Mark
R Tan 3 Mark
R Tan Gard Mark
(3)
Gard 6
Mark 6
R Tan 6
R Tan Mark
R Tan 4 Tan
Gard 5
Mark 5
Top Mark To W.L.
R Tan 4 Tan
Hor Δ
34-57
87-57
47-36
58-21
38-13
72-54
62-18
110-58
59-35
95-54
64-16
99-11?
70-32
66-36
142-27
108-11
8°20' V.A. 9°43'
9°46' at W.L.
Tan about ½ way To Top
½ way up
V.A. 42-17
Dist 179
W.L. Gard
Gard


L. Tan. Gard. Rt Tan. Mark ~~oo~~
Rock – Mark ~~oo~~
V.A. To (7) 49°55'
V.A. (2) 41°08'
V.A. (5) 23°28
(1)
(2) 56-17
(2)
(5) 89-21

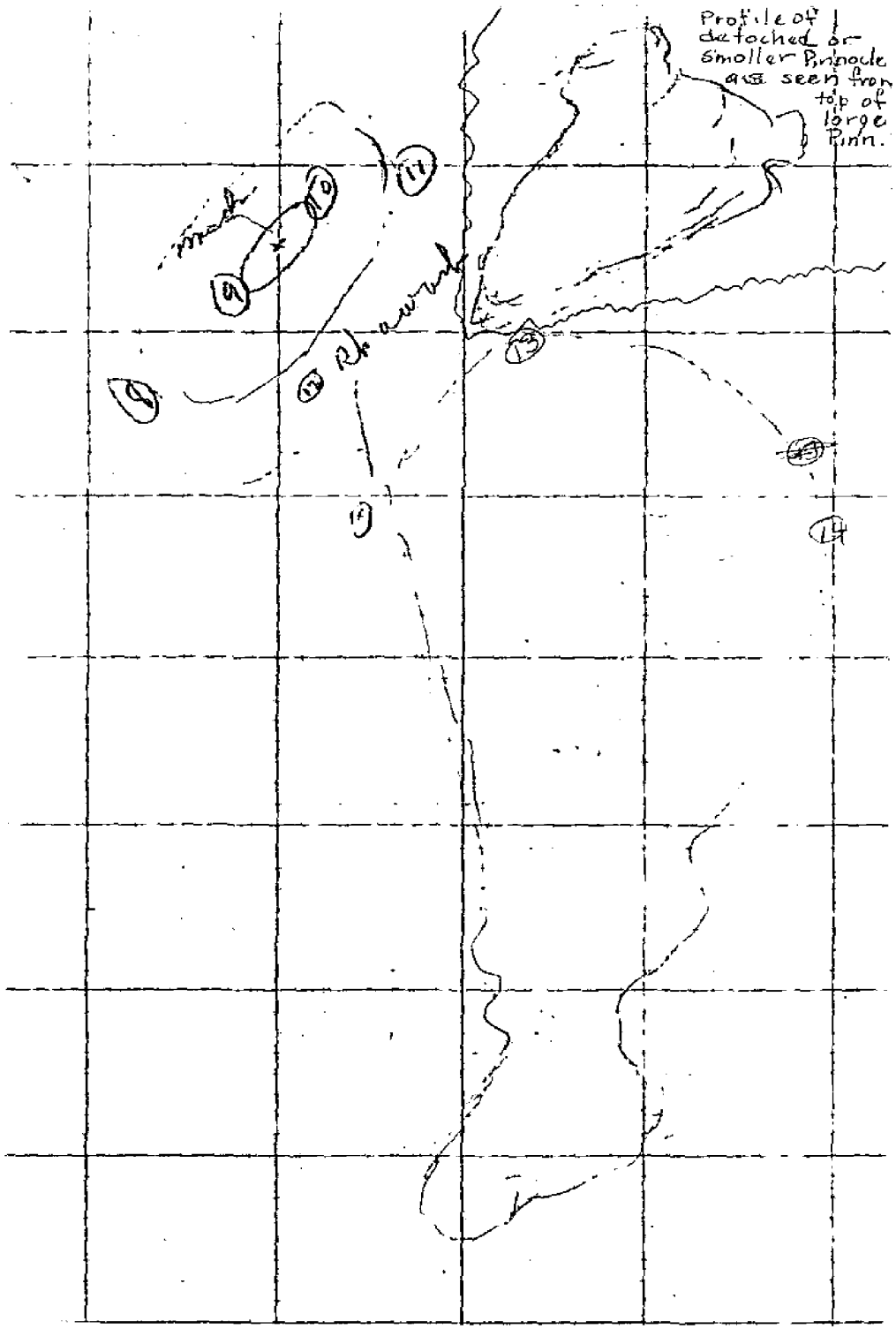

PACIFIC OCEAN

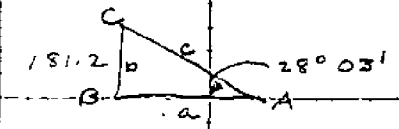

Traverse
with 300 ft. chain
300
300
300
300
300
126
115
107
158

Sta. Gard

H.I. = 4.5 ft.

Object Mark	Hor L	VA
	00 00	R 260-49-30 L 99 11 10
(8)	349-28	L 111-09-30 R 248 50 00
(9)	357-22	
(10)	2-10	
(11)	7-00	L 106-33-30 R 253-26-00
(12)	351-46	rk awash
(13)	27-25	111-34-50
(14)	118-00	119-00-00


Profile of detached or smaller Pinhole as seen from top of large Pinn.



118 - 03

QD

28 - 03

$\text{Tan } 28° 03 = \frac{181.2}{a}$

$\text{Tan } A = \frac{b}{a}$

$b = \text{Tan } a \; a$

$a = \frac{b}{\text{Tan } A}$

~~c - 181.2 - 9.724588~~
~~2.258130~~
~~1.984771~~

2.258130
9.724588
2.531542 = 340.05