Diag. Cht. No. 904-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. Ex 10-3-62 *Office No.* H-8811

LOCALITY

State PUERTO RICO

General locality EAST COAST OF PUERTO RICO

Locality ISLA PINEROS

1964

CHIEF OF PARTY

GLENN W. MOORE

LIBRARY & ARCHIVES

DATE

COMM-DC 61300

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER NO. H-8811

Field No. Ex 10-3-62

State PUERTO RICO

General locality EAST COAST OF PUERTO RICO

Locality ISLA PINEROS

Scale 1:10,000 Date of survey 20 Feb. - 15 May, 1964

Instructions dated 26 Dec. 1961 & 3 Dec. 1963

Vessel EXPLORER

Chief of party GLENN W. MOORE

Surveyed by W.Y.S. Williams; V.R. Smith; C. Andreason & J.O. Murphy

Soundings taken by ~~echo meter~~, graphic recorder, hand lead, wire POLE

Fathograms scaled by Ship Personnel

Fathograms checked by Ship Personnel

Protracted by Dan Munford (Norfolk Processing Branch)

Soundings penciled by Dan Munford " " "

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 16—66520-1

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY

EX 10-3-62

1964

SCALE 1:10,000

USC&GS SHIP EXPLORER

GLENN W. MOORE, COMDG.

A. PROJECT

Hydrography was accomplished in accordance with original project instructions OPR-423, dated 26 December 1961 and supplemental instructions dated 3 December 1963.

B. AREA SURVEYED

This sheet covers an area on the East Coast of Puerto Rico, in the vicinity of Isla Pineros. It is bounded on the west by the coast, on the east by longitude 65° 34.0' W, on the north by latitude 18° 11.5' N. Hydrography was started at the southern limits and completed up to latitude 18° 11.5' N during the 1962 field season. The entire sheet was completed during the 1964 field season.

Inclusive dates of Survey

1962 Field Season

14 June 1962 - 21 June 1962

1964 Field Season

20 February 1964 - 15 May 1964

The survey makes the following junctions with prior surveys:

H-2675a	- 1:20,000	Dated 1907
H-2675	- 1:40,000	Dated 1904
H-2533	- 1:10,000	Dated 1901
H-2527	- 1:20,000	Dated 1901 - 1902

Junctions were made with contemporary surveys as follows:

H-8638	EX 10-2-62	March - June 1962
H-8639	EX 5-1-62	June 1962

U. S. Navy Hydrographic Office survey of Ensenada Honda:

H-8812	EX 20-1-64	February - May 1964
H-8813	EX	February - May 1964

C. SOUNDING VESSEL

All hydrography was accomplished by launches and skiffs from the Ship EXPLORER.

LAUNCH NO. 1

1962 Field Season - 14 June 1962 - 21 June 1962

LTjg J. W. Bricker, O. in C., ~~Brown~~ Purple Day Letters. Hydrography was accomplished between latitudes 18° 11.5' N and 18° 14.5' N from the eastern sheet limits to longitude 65° 35.0' W. LTjg D. J. Florwick was O. in C. for bottom samples obtained in the southern half of the hydrographic area.

LAUNCH NO. 2

1964 Field Season - 20 February 1964 - 15 May 1964

Ensign W. Y. S. Williams O. in C., Brown Day Letters. Area covered by launch number two during the 1964 field season shown on sheet EX-10-3-62 B and related overlays.

LAUNCH NO. 3

1962 Field Season - 14 June 1962 - 21 June 1962

LTjg V. R. Smith, O. in C., Red Letter Days. Hydrography was accomplished between latitudes 18° 11.5' N and 18° 14.5' N from longitude 65° 35.0' W westward to shore and junctions with H-8638 and H-8639.

1964 Field Season - 20 February - 15 May 1964

Ensign C. Andreasen O. in C., Red day letters. Area covered by launch number three during 1964 field season shown on sheet EX-10-3-62 c.

LAUNCH NO. 4

1962 Field Season

LT J. S. Midgley, O. in C., Green day letters. Bottom samples were obtained with this launch along eastern edge of the 1962 hydrographic area.

1964 Field Season

Launch No. 4 was not used for hydrographic work.

SKIFF NO. 2

1962 Field Season - 14 June 1962 - 21 June 1962

LT J. S. Midgley, O. in C., ~~Blue~~ Red Orange day letters. Beach and foul areas were developed by this skiff within the 1962 hydrographic area. LTjg J. W. Bricker was O. in C., for bottom samples obtained on the northern half of the 1962 hydrographic area.

SKIFF No. 1

1964 Field Season - 20 February - 15 May 1964

Ensign J. O. Murphy O. in C., Blue day letters, shore line and inshore shoal development as shown on sheet EX-10-3-62 Skiff No. 1.

D. SOUNDING EQUIPMENT

1962 Field Season

Raytheon DE-723 Fathometers, Serial numbers 134, 241, and 247 were used in the launches. The calibration speed for the fathometer is 800 fms/sec. Additional information may be found in the EXPLORER Fathometer and Velocity Correction Report 1962.

Skiff soundings were taken with a sounding pole.

1964 Field Season

Raytheon DE-723 Fathometers, Serial numbers 248, 807, 761, 255, and 258 were used in the launches. The calibration velocity for the fathometers was 800 fms/sec.

Skiff soundings were taken with a sounding pole and a Raytheon DE-723 Fathometer, Serial number 761 mounted in the skiff.

E. SMOOTH SHEET

The smooth sheet was machine ruled in the Washington Office, and to be plotted by the Norfolk Regional Office and Processing Division.

F. CONTROL

1962 Field Season

The major part of the control established was accomplished by

photogrammetric methods. All final locations of hydrographic signals are on T-sheets T-12154, 12157, and 12156. These sheets are classified "advanced" and the print date is March 1962, except for T-12157 which is April 1962. Additional information may be found in Control and Shoreline Report, OPR-423, 1962, submitted 19 October 1962.

1964 Field Season

The major part of the control established was accomplished by photogrammetric methods.

All final locations of hydrographic signals are on these T-sheets with the exception of triangulation stations which were plotted from geographic positions. All manuscripts are classified "Advance" with the exception of 12198 which is classified "Incomplete." The print dates are March 1962 for 12154, 12156; April 1962 for 12157; May 1962 for 12152; June for 12145; 1963 for 12148. No apparent discrepancies existed on this sheet.

Additional information may be found in the Control and Shoreline Report, OPR-423, 1964, submitted August 15, 1964.

G. SHORELINE

Shoreline detail was transfered from the T-sheets listed in paragraph "F" of this report. T-sheets T-12154, 12156, 12157, 12148, 12145, and 12152 were the source of the shoreline on this sheet. Location of inshore detail was accomplished by skiff and

launch number two. All notes pertaining to the shoreline detail appear on the respective boatsheets. Additional information may be found in the Control and Shoreline Report, OPR-423, 1964, submitted August 15, 1964.

H. CROSSLINES

Approximately 8% crosslines were run with good crossing throughout, any descrepancies noted on the boatsheet should be resolved during the smooth plot of the work.

I. JUNCTIONS

Junctions made at limits of EX 10-3-62

(WEST) Junction with EX 20-1-64 on the North and Northwest slope of EX-10-3-62 is very good in most areas. The maximum descrepancies is about two feet, this descrepancy should not exist after all smooth corrections have been applied to the data.

(NORTH) Junction with EX 5-1-64 on the North edge of EX 10-3-62 is good. Any descrepancies noted in this area will be resolved during the smooth plot of the data.

(SOUTH) The southern junction was made in 1962 with EX 10-2-62. The soundings in this area are in good agreement.

(WEST) The western edge of this sheet is shoreline.

Junctions made within EX 10-3-62

(a) Launch #1 and launch #2 sheets junction agreement is usually within one foot. Soundings in area of latitude $18^{\circ}\ 18'\ 15''$,

Longitude 64° 36' 33" differ as much as two feet which will be corrected in the smooth reduction of soundings.

(b) Launch #1 and launch #3 sheets junction with excellent agreement. The sheets junction in the area of latitude 18° 16' 30" longitude 64° 37' 00".

(c) Launch #1 junction with work done during 1962 field season on EX 10-3-62 is very good, one foot maximum variation.

(d) Launch #2 and skiff junctions.

The junction around Pineros Island between the skiff and launch #2 is not as good as desired. The bottom in this area is extremely rocky, which could account for the disagreement. No additional work is recommended in this area.

(e) Launch #3 and skiff junction agreement is within one foot.

There are no holidays apparent from the junction overlay. All conclusions stated above are made without the smooth corrections or smooth sheet, therefore, all of the conclusions should be regarded as boat sheet class conclusions.

J. COMPARISON WITH PRIOR SURVEYS

The agreement with the 1901 survey number H-2527, 1:20,000 scale is within one or two feet in areas where the depth of water is greater than twenty feet. The descrepancies are noted in paragraph "L" of this report. The descrepancies are due to the fact that the bottom in this area is comprised of coral pinnacle and are of such a nature that an extensive fathometer survey is not sufficient to determine the least depth with certainity. All standard surveying methods were employed on this survey (close spacing of sounding lines, drifting, circular developments and

the use of hand lead), but it is believed that small pinnacles could exist and not be detected by the above surveying methods. Therefore all soundings that are listed as descrepancies below are assumed to be valid as stated until wire drag can disprove.

K. COMPARISON WITH C&GS CHART

This survey was compared with C&GS Chart 917 (4th edition, May 6, 1930: revised 10-12-59) and was found to be in a generally good agreement. The descrepancies are noted in paragraph "L" of this report.

L. ADEQUACY OF SURVEY

This survey is complete and adequate for charting purposes and no further field work is recommended, except as noted in this section.

Latitude	Longitude	Depths				
		Chart C&GS 917	Prior Survey 1901	Wire Drag 1921 - 26	Survey 1964	Shoal Verified in Development
18-15.8	65-34.2	9'	18'	12'	13'	No
18-15.85	65-34.85	25½'	Nothing less than 29'		29'	No
18-16.35	65-34.06	21'	21'	18'	20'	Yes *(1)
18-16.8	65-36.2					No *(2)
18-17.15	65-35.35	22½'	22½'		42'	No No shoal on chart or survey this point
18-17.6	65-35.5	28½'			27'	Yes
18-17.6	65-35.6	22½'			24	Yes
18-17.35	65-35.1	19½'	23'		20'	Yes

Latitude	Longitude	Depths					
		Chart C&GS 917	Prior Survey 1901	Wire Drag 1921 - 26	Survey 1964	Shoal Verified in Development	
18-17.65	65-36.6	25½'	30'		~~24~~ 28'	Yes	
18-17.55	65-36.25	21'	23'	19'	~~25~~ 24'	Yes	
18-17.75	65-35.9	22½'	27'		~~24~~ 23'	Yes	
18-18.4	65-36.0	30'			38'	No	*(2)
18-16.7	65-36.3					No	*(2)
18-16.7	65-37.0	19½		18'	20'	Yes	
18-16.8	65-37.1	15'	17½'		11'	Yes	No shoal in chart at survey this position
18-16.2	65-36.5	7½'	12½'		~~11~~ 9'	Yes	
18-16.35	65-36.5		26'		29'	Yes	
18-17.2	65-37.4	16½	16½'		~~23~~ 20'	No	
18-16.95	65-37.3	13½'			~~21~~ 17'	No	*(3)
18-17.1	65-37.0	16½'			19'	Yes	*(4)
18-17.35	65-36.95			16'	19'	No	*(5)
18-17.20	65-35.25	25½			44	No	

*(1) Wire drag is believed to be out of position or shoal has shifted.

*(2) Development to validate side echo, no valid sounding obtained. Side echo assumed to be a stray.

*(3) Chart position could be out, as only 21' recorded in the area where the chart indicates 13½' of water. At this time there is not enough information to justify changing the chart. Wire drag should be used to verify the shoal.

*(4) The chart should not be changed until wire drag can survey the area and determine if coral pinnacles exist in the area.

*(5) Additional development required in the area to disprove wire drag depth.

Sounding of 4½' on C&GS chart 917 at (Latitude 18° 15' 30.2" and Longitude 65° 37' 12") 10' recorded during 1964 survey, difference is probably due to the chart representation and transfer to the overlay.

16 and 17 foot soundings at Latitude 18° 17.4' and Longitude 65° 37.65' require additional development to adequately develop this area.

The chart has a 13' sounding at Latitude 18° 17.05' and Longitude 65° 37.5', the 1964 survey in this area did not indicate any sounding less than 30'.

Agreement with the 1901 survey (H-2527), C&GS Chart 917 and the wire drag survey 1921-26 (H-4288) in areas other than stated above is generally good.

M. AIDS TO NAVIGATION

All aids to navigation were compared with the U. S. Coast Guard Light List and found to be in agreement. The aids to navigation were found to be in agreement with C&GS Chart 917.

N. STATISTICS

Statistics 1962 Season

	ML#1	ML#2	ML#3	ML#4	Skiff
No. Positions	40	577	532	8	~~88~~ 102
Nautical Miles of Sdg.	5.4	94.5	67.2	0	0
No. of bottom samples	0	18	0	8	17

Statistics 1964 Season

	ML#1	ML#2	ML#3	ML#4	Skiff
No. Positions	~~2225~~ 2221	~~1714~~ 30	1020	0	67 9
Nautical Miles of Sdg.	302.9	203.4	126.6	0	49.2

Total positions 6904

O. RECOMMENDATIONS

The descrepancies noted in section J. of this report point out the need for wire drag in this area. The wire drag would make it possible to locate prior surveyed least depths with less blind development.

P. REFERENCE TO REPORTS

Report	Date Submitted
Descriptive Report EX 10-3-62 OPR 423	27 November 1962
Season's Report	To be submitted
Control and Shoreline Report (1964)	August 15, 1964

Report	Date Submitted
Field Edit. Data	September 15, 1964
Form 258 Tide Leveling Record	23 July 1964
Fathometer and Velocity Correction Report	To be submitted

Submitted by:

Edgar N. Vail
LTjg, C&GS

Approved:

Marvin T. Paulson
CDR, C&GS
Comdg., Ship EXPLORER

ABE	002	FAT	208	LOG	463	TON	865
ACE	012	FIX	239	LUN	485	TUB	880
ADA	010	FUN	285			TUX	889
ALL	044			MED	521		
		GEO	326	MUD	581	VAN	805
BAD	001	GIN	335				
BAG	003	GLE	342	NEL	524	WAS	907
BEN	025	GOAT	360	NEW	529	WEE	922
BOT	068	GOF	362	NIK	534		
		GUM	385			YAM	905
CAB	100	GUS	387	OAK	604		
CAR	107			OLD	641	ZOO	966
CAT	108	HEL	324	PER	627		
COP	166	HER	327	PIN	635		
COW	169	HOL	364	PLA	640		
CRY	179	HON	365	PUN	685		
CUP	186	HOW	369				
				RAD	701		
DEB	120	ISLA	374	RAM	705		
DIM	135			RED	721		
DIP	136	JAN	431	RUM	785		
DOC	161	JON	465				
		JOY	469	SAM	703		
EGO	236			SAN	704		
ELM	245	KID	430	SHE	732		
EZE	292			SOP (STUMP)	766		
		LIZ	439	STU	788		

NORFOLK HYDROGRAPHIC PROCESSING BRANCH
LIST OF SIGNALS
H-8811

TRIANGULATION STATIONS

CAB	CABRAS ISLAND LIGHT, 1941
GOAT	GOAT, 1901-41
ISLA	ISLA, 1941-61
LUN	LUNA, 1941-61
MED	MEDIO, 1941
PIN	PINERITA, 2, 1941
PLA	PLAYA, 1941
SAN	SANTA MARIA STACK, 1941
STUMP	STUMP, 1941-61

PHOTO-HYDRO STATIONS

SOURCE T-12145

FUN GUS HON

SOURCE T-12152

ACE	ALL	BAG	BEN	BOT	CAR	CAT	COP	COW	CUP	DEB	DIP
DOC	ELM	EZE	FAT	GIN	GLE	HEL	HOL	JOY	KID	MUD	NEL
NIK	PUN	RAD	RAM	RED	RUM	SAM	SOP	TON	TUX	VAN	WAS
WEE	ZOO										

SOURCE T-12154

ADA

SOURCE T-12157

ABE	BAD	CRY	DIM	EGO	FIX	GEO	GUM	HER	HOW	JAN
JOY	LIZ	LOG	NEW	OAK	OLD	SHE	TUE	YAM		

HYDROGRAPHIC STATIONS

GOF	Vol. 26, pg. 44
JON	Vol. 26, pg. 45

NORFOLK HYDROGRAPHIC PROCESSING BRANCH
FLOATING AIDS TO NAVIGATION
H-8811

BUOY	LATITUDE	LONGITUDE	DEPTH	POS. NO.	DATE
Bajos Largo Buoy 3	18-17.57'	65-34.74'	-	84g(pur)	2/25/64
Punta Figueras Buoy 4	17.58	35.38	-	67u(pur)	3/16/64
Roca Lavandera Del Oeste Buoy 5	16.34	34.09	-	54q(pur)	3/12/64

APPROVAL SHEET

Hydrographic Survey (Field EX 10-3-62)

The 1964 field work on this sheet was done under my personal supervision with the boat sheet examined daily and with the records under nearly daily examination by the Field Records Officer, CDR L. S. Baker.

Marvin T. Paulson
CDR, C&GS
Comdg., Ship EXPLORER

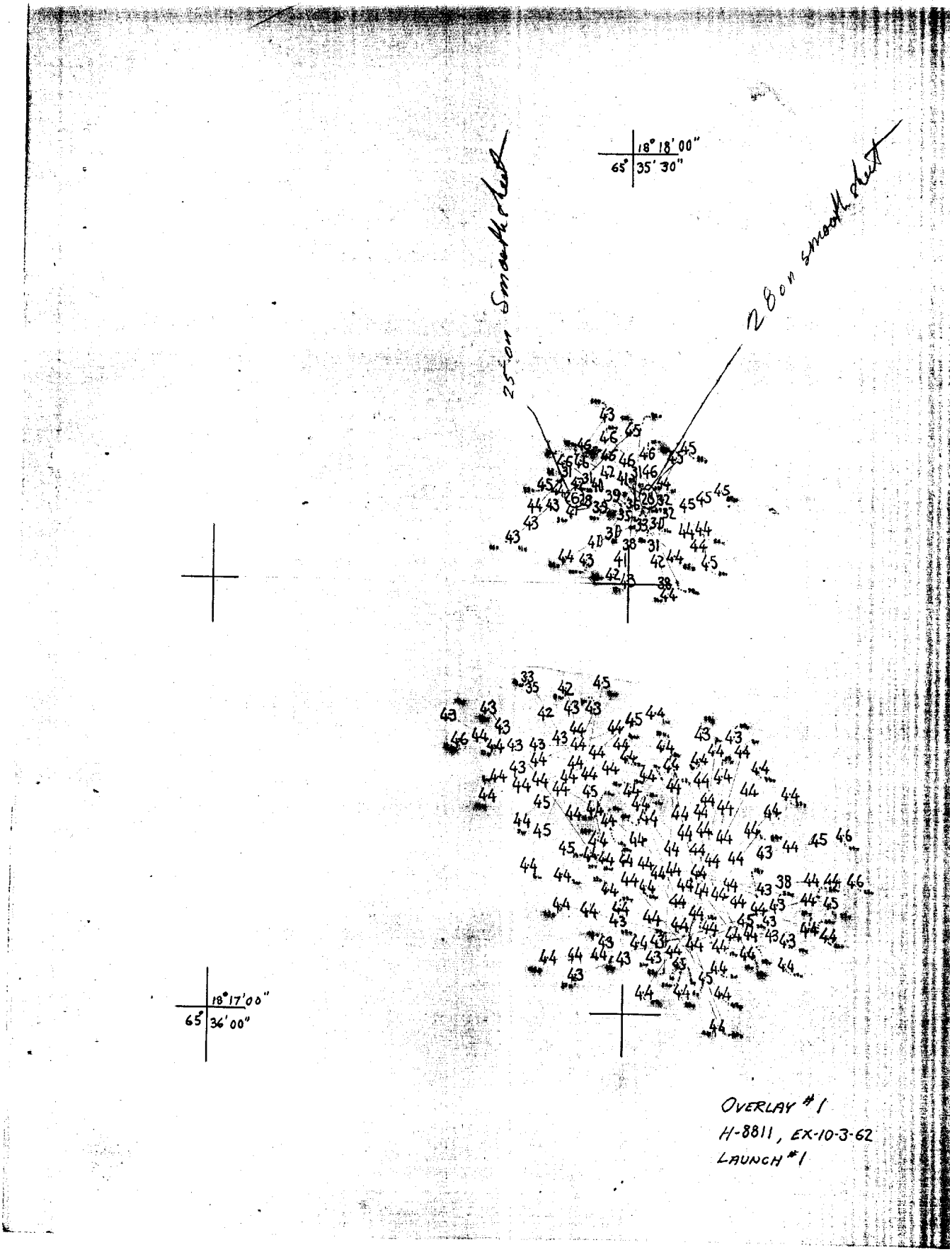
14 January 1965

TIDE NOTE

Tide reducers were obtained from the Portable Tide Gage maintained at Playa de Fajardo, Puerto Rico.

The Playa de Fajardo Portable Tide Gage is located at latitude 18° 20.16' N and longitude 65° 37.76' W, and the Time Meridian is the 60th. Mean low water, as furnished by the Washington Office, was 2.0 feet above Staff Zero. The staff was installed in early February and taken out in May.

For additional information see "Report of Tide Stations, OPR-423."



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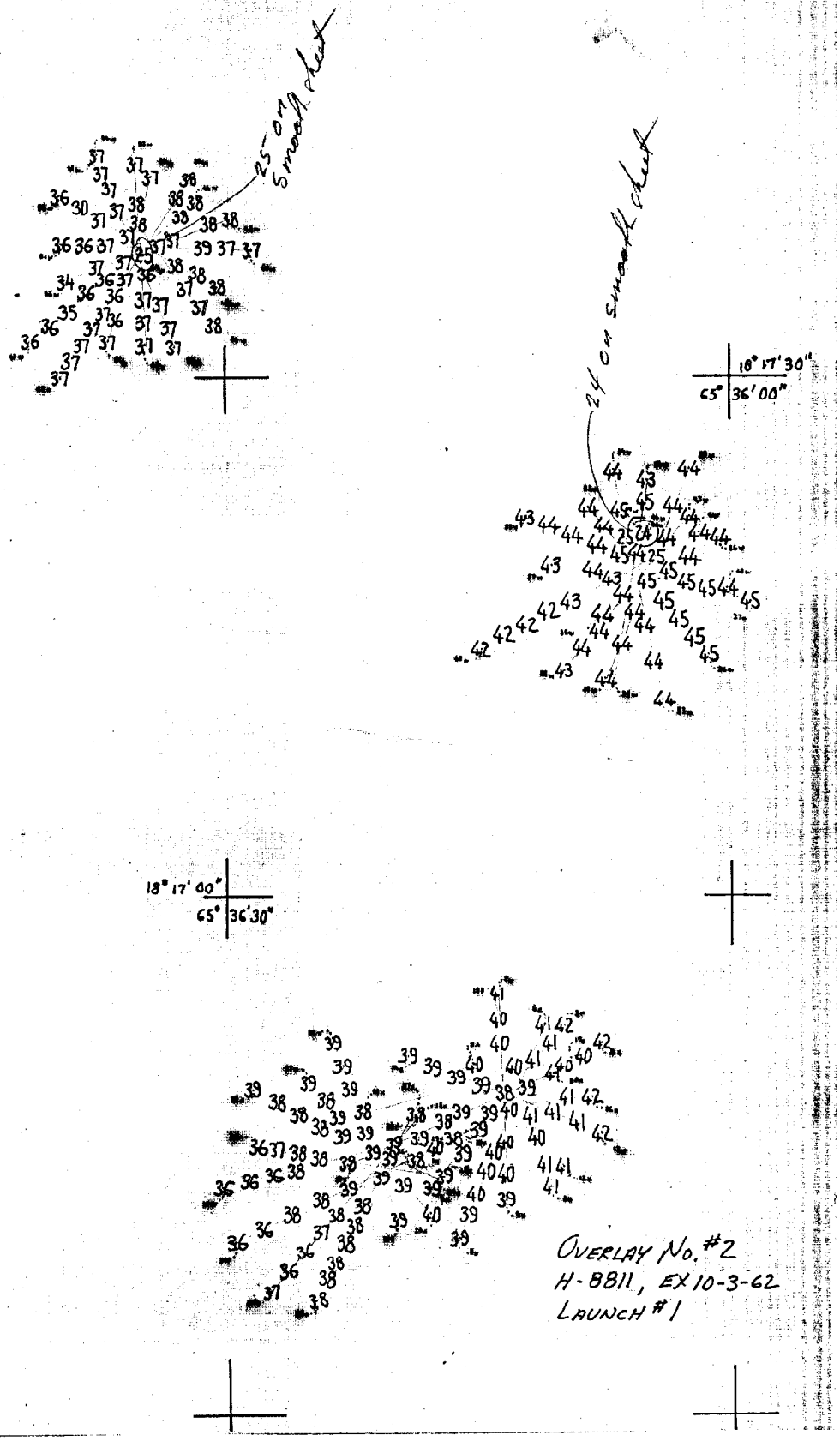
H-8811, EX-10-3-62
LAUNCH #1



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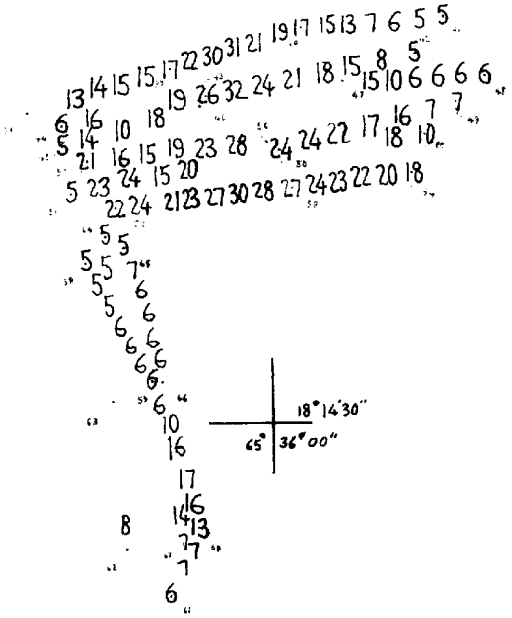
LAUNCH #1



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LAUNCH #2
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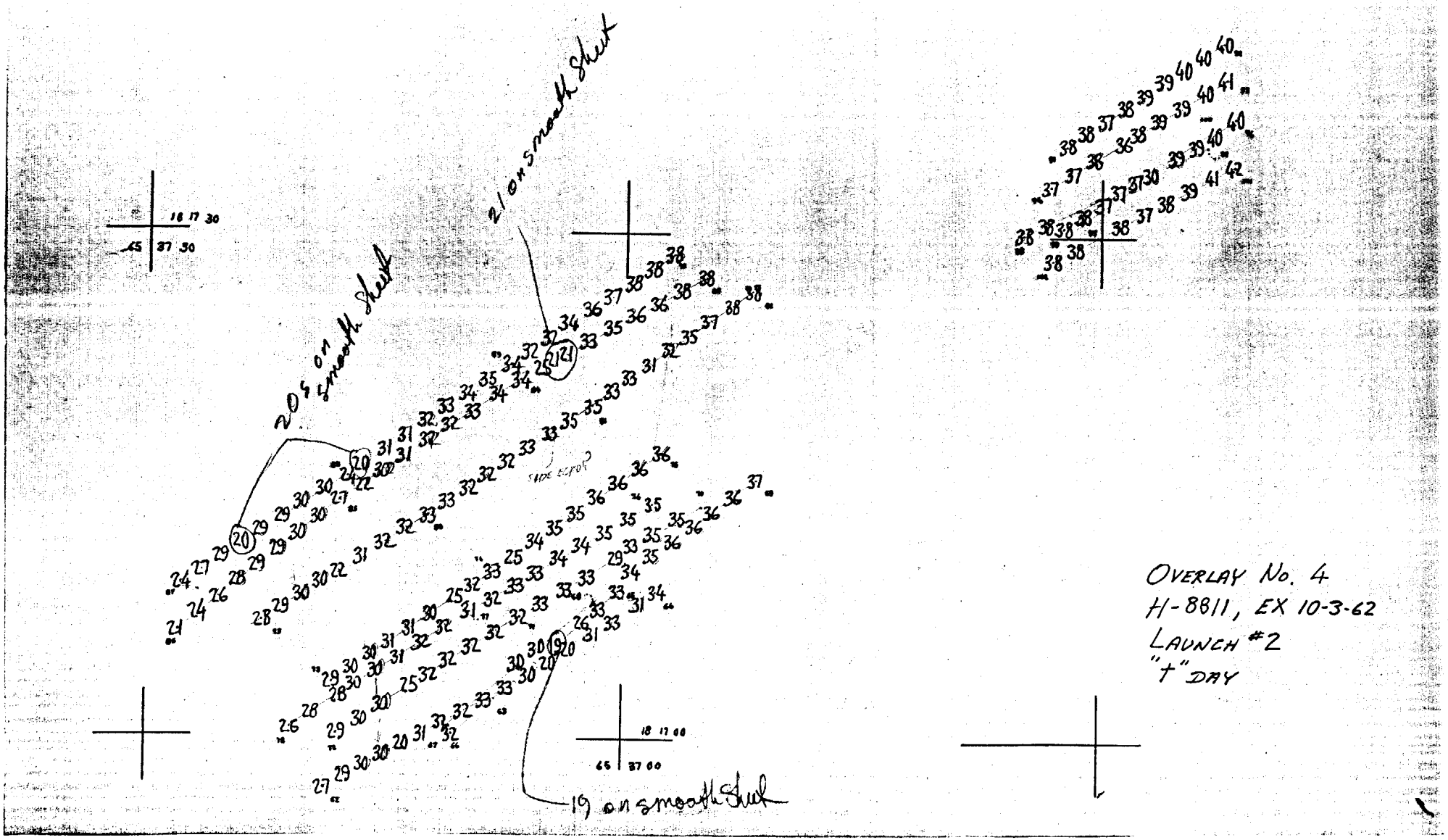

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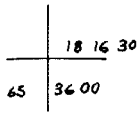

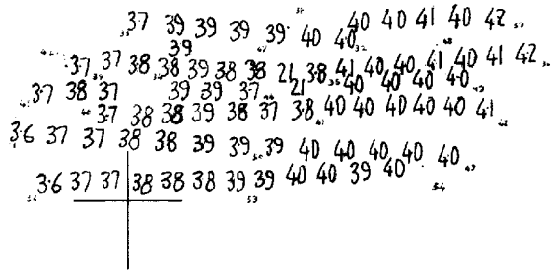

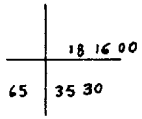

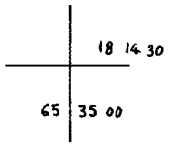

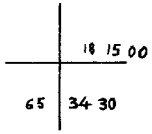

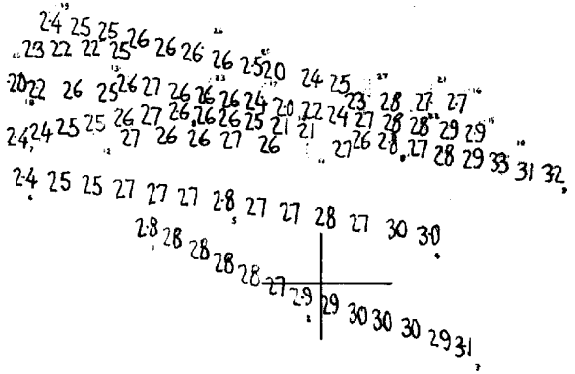

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H-8811, EX 10-3-62
LAUNCH #2
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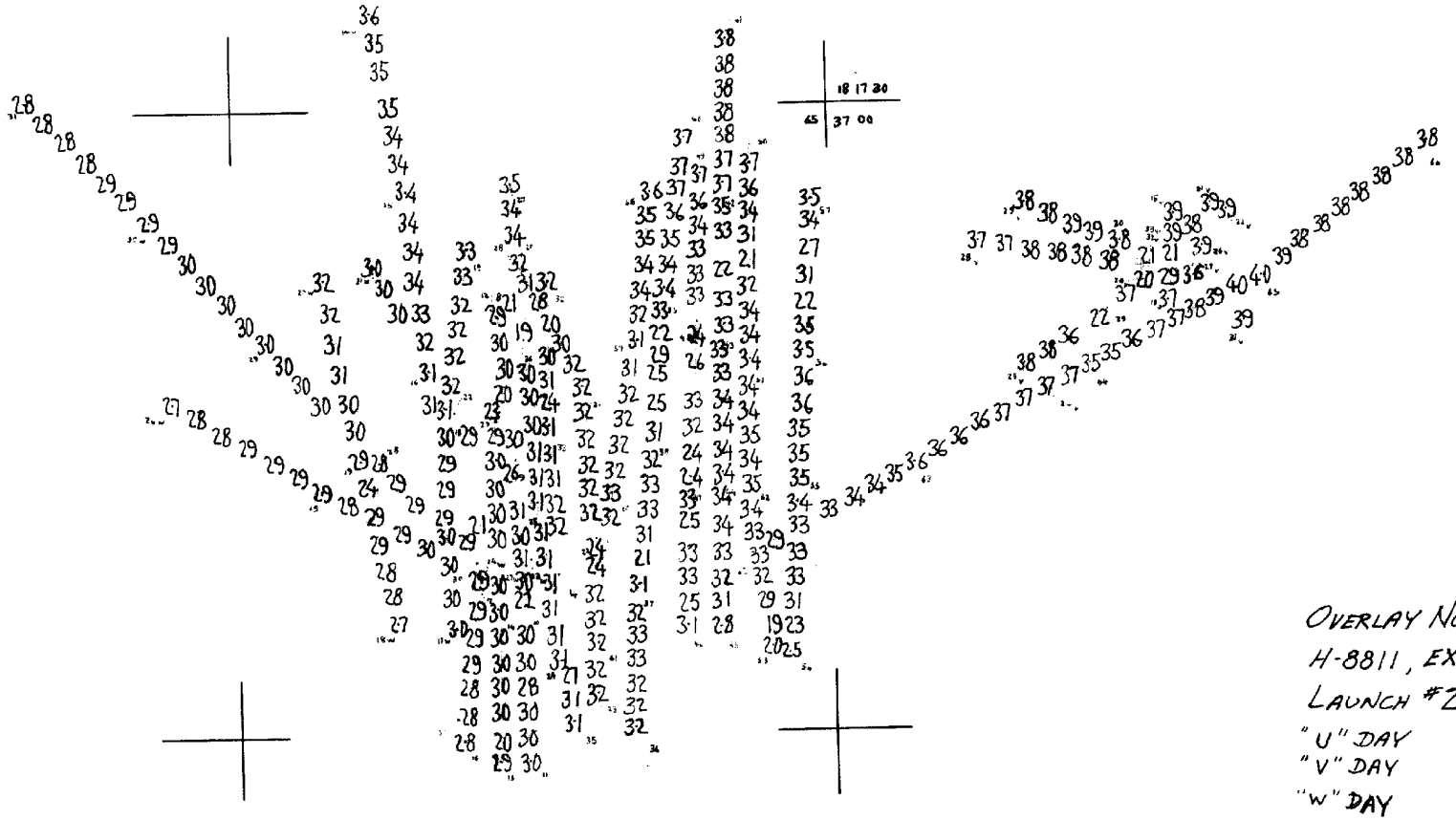
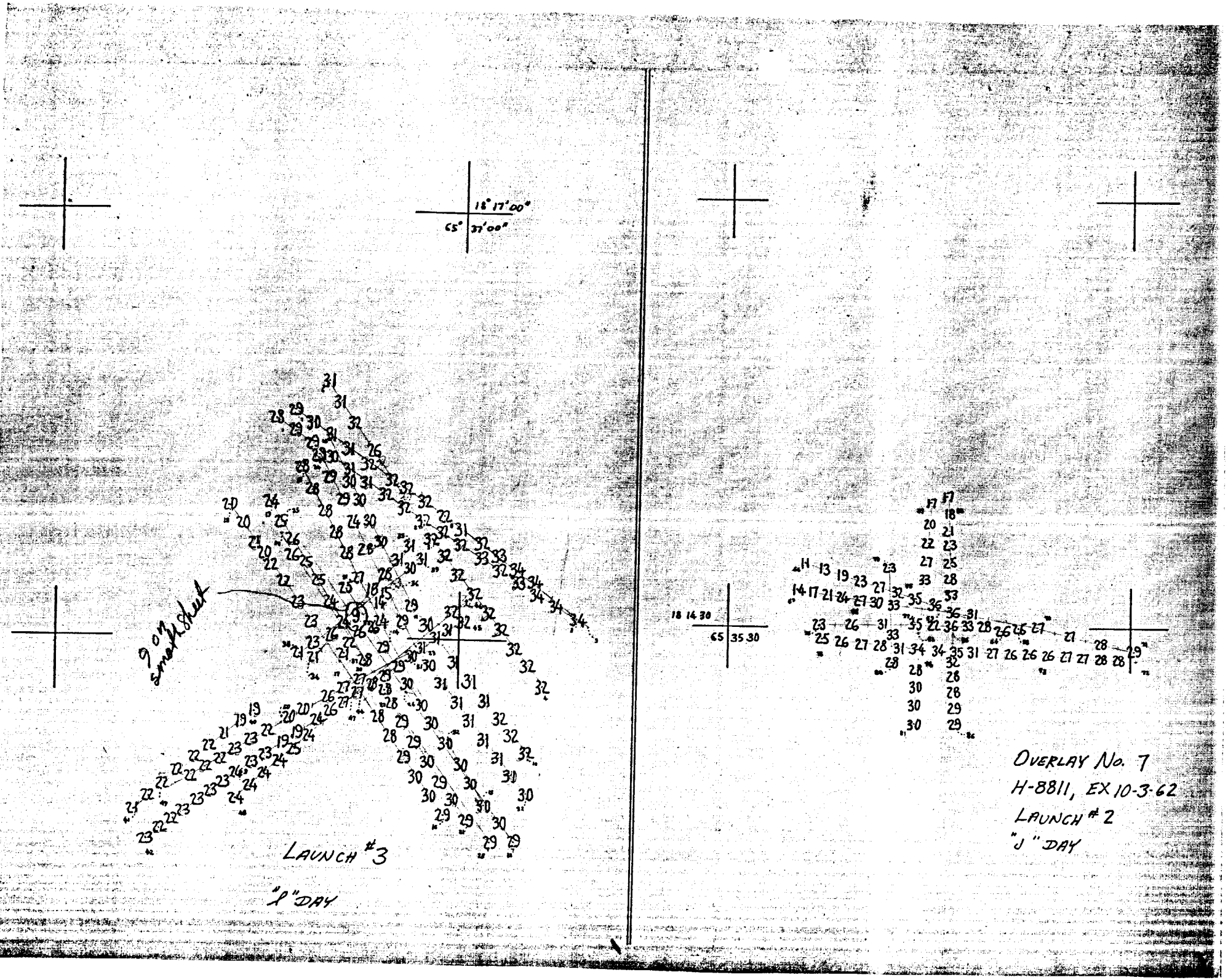
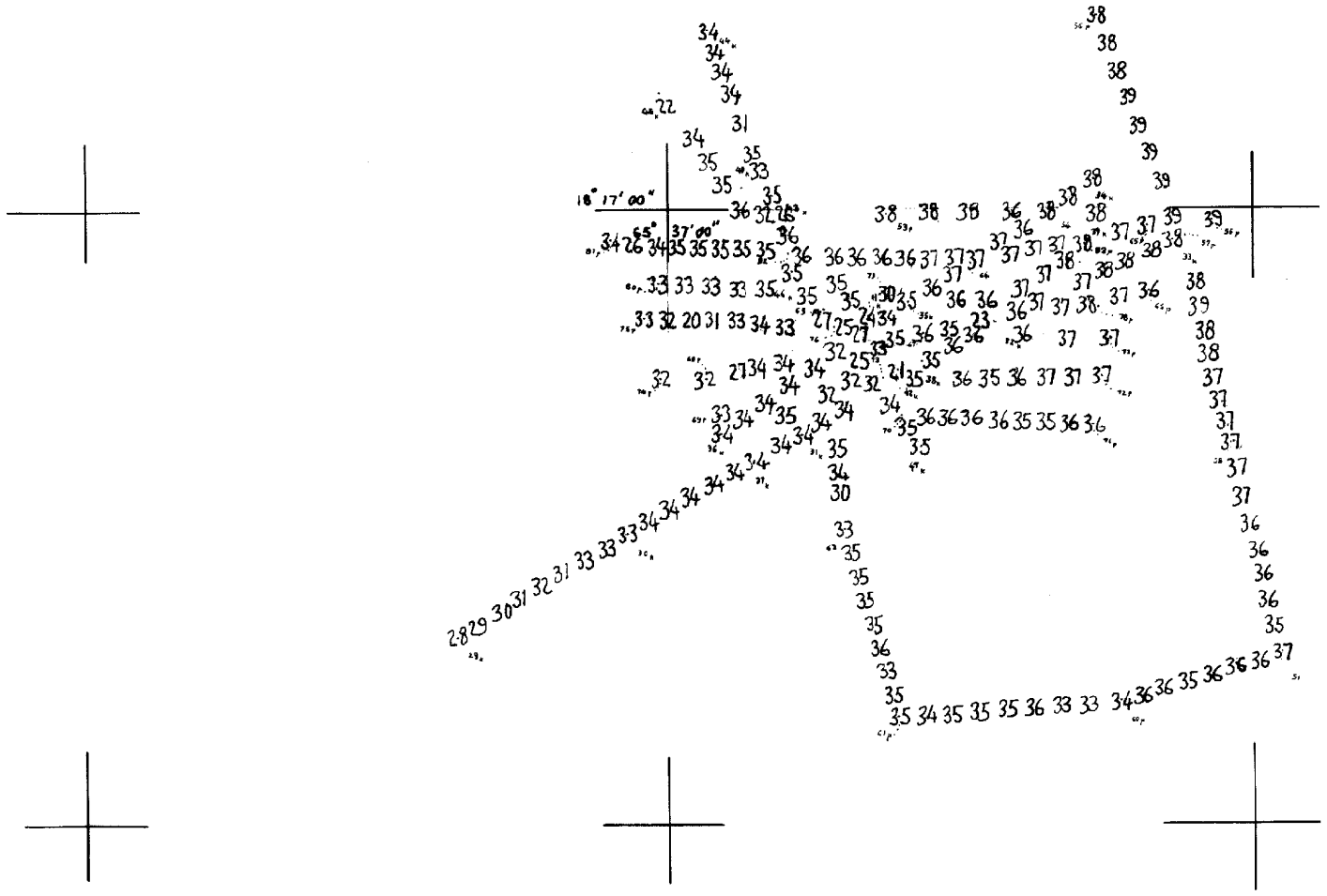


OVERLAY No 6
H-8811, EX 10-3-62
LAUNCH #2
"U" DAY
"V" DAY
"W" DAY


18° 17' 00"
65° 37' 00"
18 14 30
65 35 30
9 on smoke sheet
LAUNCH #3
"I" DAY
OVERLAY No. 7
H-8811, EX 10-3-62
LAUNCH # 2
"J" DAY



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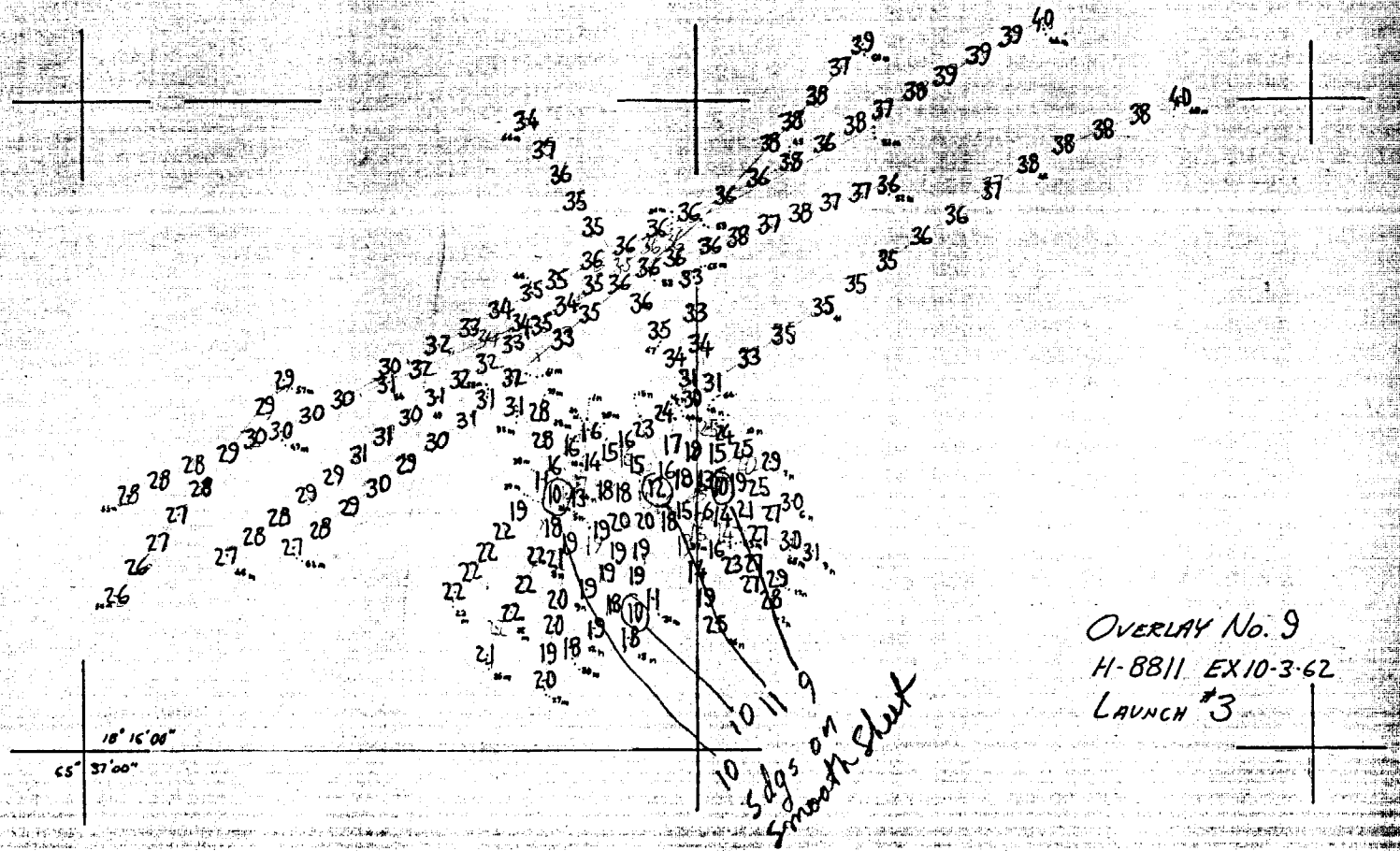
H-8811 EX 10-3-62
LAUNCH #3
"k" DAY
"p" DAY



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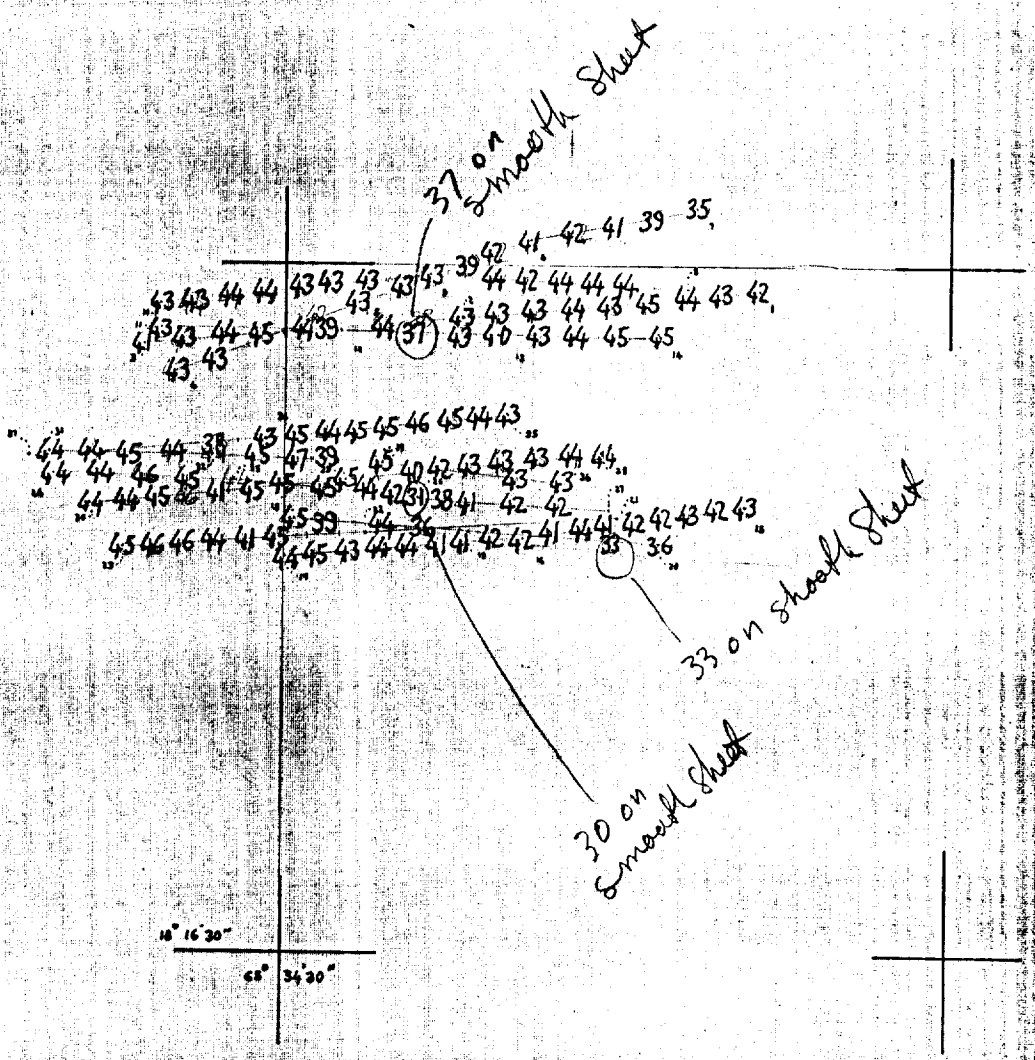
H-8811 EX10-3-62
LAUNCH #3



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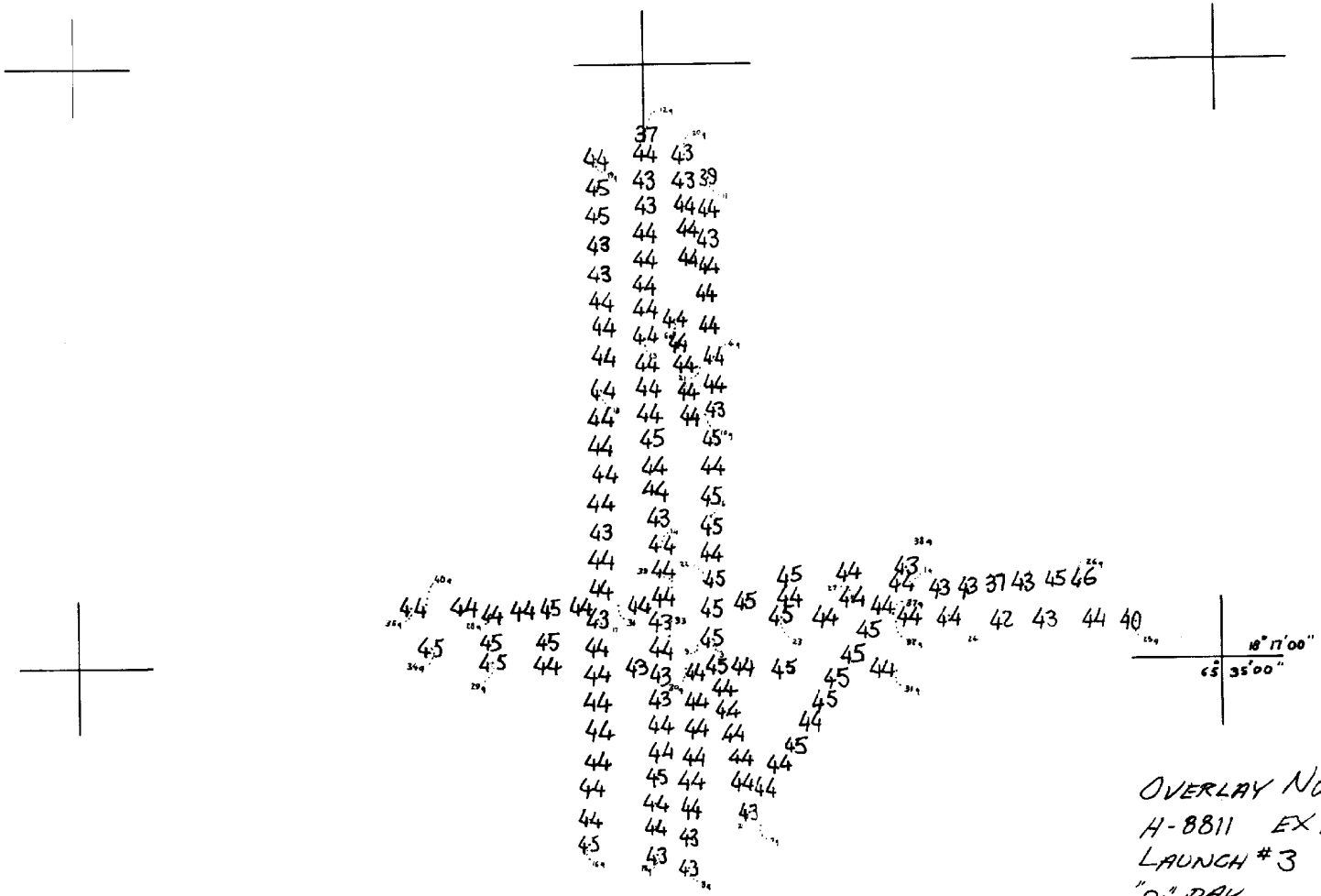

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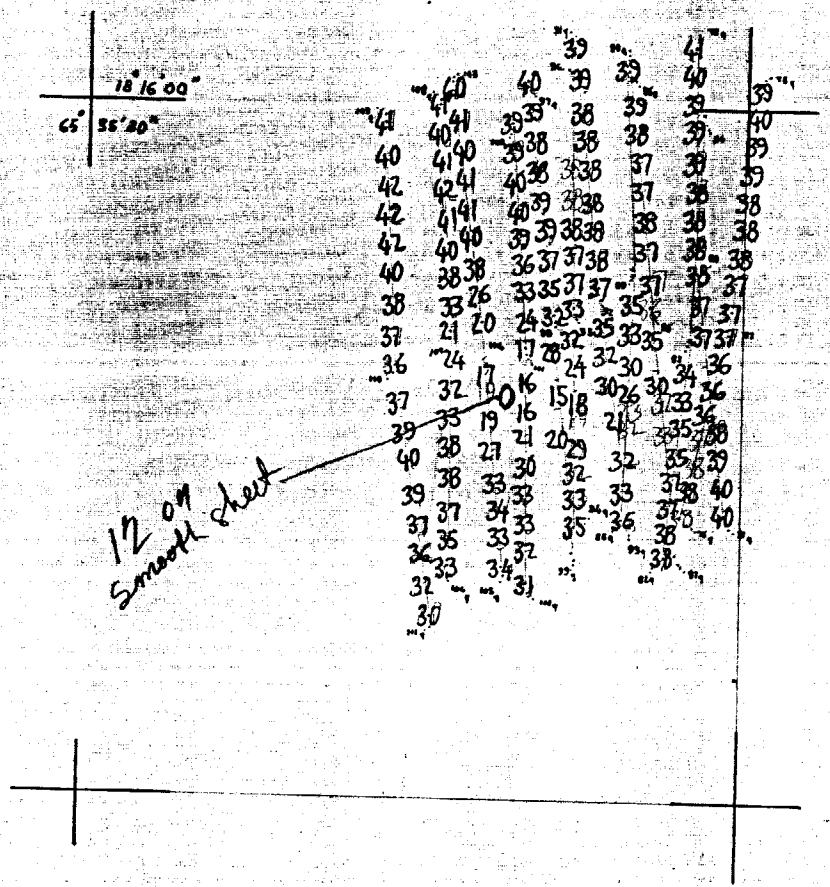
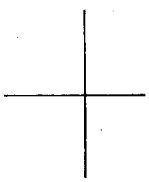
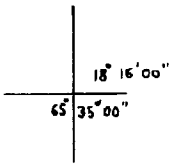
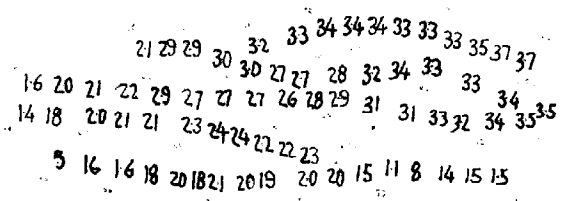
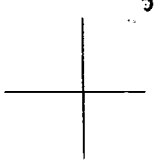


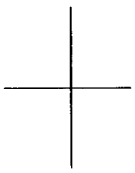
OVERLAY No. 12
H-8811 EX 10-3-82
LAUNCH #3
"9" DAY











OVERLAY # 13
H-8811 EX 10-3-62
SKIFF
"8" DAY

NORFOLK HYDROGRAPHIC PROCESSING BRANCH
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8811 (Ex 10-3-62)

GENERAL

Except for a few instances listed below, this appears to be an excellent basic survey in an area abounding in coral pinnacles. Soundings are in good agreement at crossings and extensive developement was accomplished in an effort to determine least depths on some of the pinnacles, how-ever, some shoal indications were not investigated at all as it was probably considered economically feasible to determine least depths at a later date by wire drag methods.

PROCESSING

Sounding volumes 7 through 12 and 19 through 22, which were field scanned at 30 second intervals, were reprocessed in this office at 15 second intervals to comply with Manual spacing requirements and to better delineate bottom profiles in this irregular bottom.

Fathometer velocity corrections for soundings in volumes 13 and 14, a through c days, Launch 2, were recomputed in this office to bring soundings into better agreement with those of the other launches. Also, field curve characteristics for this day differed considerably from those of the other launches. An abstract of the new corrections is appended to this report.

OVERLAYS

In order to avoid undue congestion on the smooth sheet most of the developements on coral pinnacles are being submitted on 13 separate smooth overlays. Critical soundings along with their controlling positions have been transferred to the smooth sheet.

CHART COMPARISON

The smooth plotter has prepared 3 acetate overlays showing comparative depths between the smooth sheet and chart 917. In addition an abstract of comparisons is included in the body of this report.

DISCREPANCIES

Soundings between position 22 and 44b, Lch. 1, are very questionable due to the poor quality of the fathogram.

The shoalest point on position 14m, volume 19, is questionable due to a poor trace caused by rough seas.

Respectfully submitted,

Hugh L. Proffitt
Carto-Tech.

Norfolk, Va.
Jan. 6, 1966

3/25/75

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Ensenada Honda
Playa de Fajardo

Period: June 1962
Feb./May, 1964

HYDROGRAPHIC SHEET: H-8811

OPR: 423

Locality: Off the east coast of Puerto Rico

Plane of reference (mean ~~lower~~ low water): 3.2 ft.-Ensenada Honda
2.0 ft.-Playa de Fajardo

Height of Mean High Water above Plane of Reference is
0.7 ft.-Ensenada Honda
1.1 ft.-Playa de Fajardo

Remarks: Zone direct.

Verified reducers for Vols. 1-37.

James R Hubbard

for Chief, Tides Branch

8811

Original

Diag. Cht. No. 904-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. EX-10-3-62 *Office No.* H-8811

LOCALITY

State Puerto Rico

General locality East Coast of Puerto Rico

Locality Isla Pineros

1962

CHIEF OF PARTY

Edmund L. Jones

LIBRARY & ARCHIVES

DATE JAN 18 1966

USCOMM-DC 5087

8811

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER NO. H-8811

Field No. EX-10-3-62

State Puerto Rico

General locality East Coast of Puerto Rico

Locality Isla Pineros

Scale 1:10,000 Date of survey June 1962

Instructions dated 26 December 1961

Vessel USC&GS Ship EXPLORER

Chief of party Edmund L. Jones

Surveyed by R. E. Williams, G. F. Wirth, J. S. Midgley, V. R. Smith, J. W. Bricker, D. J. Florwick

Soundings taken by fathometer, graphic recorder, hand lead, wire, and pole

Fathograms scaled by P.C.J., I.G.P., R.E.H., K.M.K., J.K.J.

Fathograms checked by P.C.J., I.G.P., R.E.H., K.M.K., J.K.J.

Protracted by Dan Munford (Norfolk Processing Branch)

Soundings penciled by Dan Munford " " "

Soundings in fathoms feet at MLW MLLW

REMARKS: This survey represents approximately 20% of the hydrographic area encompassed by this sheet.

U. S. GOVERNMENT PRINTING OFFICE 16—86520-1

DESCRIPTIVE REPORT

To Accompany Hydrographic Survey

EX 10-3-62

1962 - Scale 1:10,000

USC&GS Ship EXPLORER

E. L. Jones, Comdg.

A. PROJECT

Hydrography was accomplished in accordance with instructions - Project OPR-423, dated 26 December 1961.

B. AREA SURVEYED

This sheet covers an area on the East Coast of Puerto Rico, in the vicinity of Isla Pineros. It is bounded on the west by the coast, on the east by longitude 65°-34.0'W, on the north by latitude 18°-19.5'N, and on the south by latitude 18°-11.5'N. Hydrography was started at the southern limits and completed up to latitude 18°-14.5'N. Hydrography was begun 14 June 1962 and ended 21 June 1962.

The survey makes the following junctions with prior surveys:

H-2675a	- 1:20,000	Dated 1907
H-2675	- 1:40,000	Dated 1904
H-2533	- 1:10,000	Dated 1901
H-2527	- 1:20,000	Dated 1901-1902

Junctions were made with contemporary surveys as follows:

H-8638 - EX 10-2-62 - March-June 1962
H-8639 - EX 5-1-62 - June 1962
U. S. Navy Hydrographic Office survey of Ensenada Honda

C. SOUNDING VESSEL

All hydrography was accomplished by launches and skiffs from the Ship EXPLORER.

Launch No. 1 - LTjg V. R. Smith, O. in C., Purple Day Letters

One days hydrography was done with this launch, consisting of three lines along longitude 65°-34.4'W between latitudes 18°-11.5'N and 18°-14.5'N.

Launch No. 2 - LTjg J. W. Bricker, O. in C., Brown Day Letters

Hydrography was accomplished between latitudes 18°-11.5'N and 18°-14.5'N from the eastern sheet limit to longitude 65°-35.0'W. LTjg D. J. Florwick was O. in C. for bottom samples obtained on southern half of 1962 hydrographic area.

Launch No. 3 - LTjg V. R. Smith, O. in C., Red Day Letters

Hydrography was accomplished between latitudes 18°-11.5'N and 18°-14.5'N from longitude 65°-35.0'W westward to shore and junctions with H-8638 and H-8639.

Launch No. 4 - LT J. S. Midgley, O. in C., Green Day Letters

Bottom samples were obtained with this launch along eastern edge of the 1962 hydrographic area.

Skiff No. 1 - LT G. F. Wirth, O. in C., Blue Day Letters
Skiff No 2 . Red Orange day le Hours
Beach and foul areas were developed by this skiff within the 1962 hydrographic area. LTjg J. W. Bricker was O. in C. for Bottom Samples obtained on northern half of 1962 hydrographic area.

D. SOUNDING EQUIPMENT

Raytheon DE-723 Fathometers, Serial numbers 134, 241, and 247 were used in the launches. The calibrated speed of the fathometers is 800 fms/sec. Additional information may be found in the EXPLORER "Fathometer and Velocity Correction Report 1962."

Skiff soundings were taken with a sounding pole.

E. SMOOTH SHEET

The smooth sheet was machine ruled in the Washington Office.
Smooth plotted by Norfolk Processing Brand-

F. CONTROL

The major part of the control established was accomplished by photogrammetric methods. All final locations of hydrographic signals are on T-Sheets T-12154, 12156, and 12157. These sheets are classified "Advance" and the Print Date is March 1962 except for T-12157 which is April 1962. Additional information may be found in "Control and Shoreline Report, OPR-423, 1962" submitted 19 October 1962.

G. SHORELINE

Shoreline detail was transferred from the T-Sheets listed in F.

H. CROSSLINES

Crosslines made up 6.1% of the hydrography.

I. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

All fixed aids to navigation have been reported on Form 567 and submitted to the Washington Office on 24 August 1962.

All data pertaining to aids to be used as "objects for use by U. S. Coast Guard in locating aids to navigation," was submitted to The Commander, USCG Station, San Juan, Puerto Rico on 28 June 1962.

All aids to navigation were compared with the U. S. Coast Guard Light List and found to be in agreement.

N. STATISTICS

Launch No. 1

No. of Positions	40
Nautical Miles of Sdg. Line	5.4

Launch No. 2

No. of Positions	577
Nautical Miles of Sdg. Line	94.5
No. of Bottom Samples	18

Launch No. 3

No. of Positions	532
Nautical Miles of Sdg. Line	67.2

Launch No. 4

No. of Positions	8
No. of Bottom Samples	8

Skiff No. 1

No. of Positions	88
No. of Bottom Samples	17

Total Area Surveyed in Square Nautical Miles 5.5

O. MISCELLANEOUS

Launch No. 4 attempted to obtain bottom samples using a Batum Corer. All that could be obtained, however, were small broken fragments of coral.

Q. REFERENCES TO REPORTS

Report.	Date Submitted
Seasons Report	20 August 1962

Report	Date Submitted
Activities Photographs	21 August 1962
Geographic Names Report	24 August 1962
Control and Shoreline Report	19 October 1962
Field Edit Data	16 September 1962
Coast Pilot Report	16 October 1962
Form 258 Tide Leveling Record	10 July 1962
Form 681 Report, Tide Station	10 July 1962
Form 567 and Seven Chart Sections	24 August 1962
Fathometer & Velocity Correction Report	To be submitted

27 November 1962

Submitted by

James S. Midgley
LT, C&GS

Approved

Edmund L. Jones
CAPT, C&GS
Comdg., Ship EXPLORER

APPROVAL SHEET

Hydrographic Survey (Field EX-10-3-62)

The 1962 field work on this sheet was done under my personal supervision with the boat sheet examined daily and with the records under nearly daily examination by the Field Records Officer, LCDR Dale E. Westbrook.

The survey is complete and adequate with no additional field work recommended.

27 November 1962

Edmund L. Jones
CAPT, C&GS
Comdg., Ship EXPLORER

TIDE NOTE

To Accompany EX-10-3-62

Tide reducers were obtained from the portable tide gage maintained at Ensenada Honda. Mean low water, as furnished by the Washington Office, was 3.2 ft. above staff zero. No time or range corrections were used in obtaining the tide reducers.

Location of Gage
Latitude 18°-13'-48"N
Longitude 65°-37'-12"W

Time Meridian: 45th

GEOGRAPHIC NAMES LIST

EX-10-3-62

See Special Report submitted to W. O. 24 August 1962

Bahia De Puerco
Cabra de Tierra
Cayo Cabritas
Cayo Pinerito
Digue de Carena
Isla Cabeza de Perro
Isla Cabras
Isla Pineros
Passaje Medio Mundo
Punta Puerca

NORFOLK HYDROGRAPHIC PROCESSING BRANCH
ABSTRACT OF VELOCITY CORRECTIONS
H-8811

CORRECTIONS FOR a, b & c days Lch. 2

33.0 - 35.0	+ 0.8'
38.0	1.0
40.5	1.2
43.0	1.4
46.5	1.6
49.0	1.8
52.0	2.0
55.0	2.2
57.5	2.4
60.5	2.6
63.0	2.8
66.0	3.0
69.0	3.2

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

To Accompany EX 10-3-62

Launch No. 1 — All days — Raytheon DE-723 No. 241

Table 1

Depth (ft)	Corr. (ft)	Depth	Corr.
0-9.5	+0.6	39.6-42.0	+2.6
9.6-15.0	+0.8	42.1-44.0	+2.8
15.1-19.0	+1.0	44.1-47.0	+3.0
19.1-23.0	+1.2	47.1-49.5	+3.2
23.1-26.0	+1.4	49.6-51.5	+3.4
26.1-29.0	+1.6	51.6-54.0	+3.6
29.1-32.0	+1.8	54.1-56.5	+3.8
32.1-34.5	+2.0	56.6-59.0	+4.0
34.6-37.0	+2.2	59.1-61.5	+4.2
37.1-39.5	+2.4		

Launch No. 2 — All days — Raytheon DE-723 No. 247

Table 2

Depth (ft)	Corr. (ft)	Depth	Corr.
0.0-6.0	-0.8	39.1-45.0	+1.0
6.1-12.0	-0.6	45.1-51.0	+1.2
12.1-17.5	-0.4	51.1-57.0	+1.4
17.6-21.0	-0.2	57.1-63.0	+1.6
21.1-23.0	0.0	63.1-69.0	+1.8
23.1-25.0	+0.2		
25.1-28.0	+0.4		
28.1-33.0	+0.6		
33.1-39.0	+0.8		

See Norfolk office Corrections

Launch No. 3 — All days — Raytheon DE-723 No. 134

Table 3.

Depth (ft)	Corr. (ft)	Depth	Corr.
0.0-6.0	+0.2	33.6-36.5	+2.0
6.1-12.0	+0.4	36.6-39.5	+2.2
12.1-15.5	+0.6	39.6-42.5	+2.4
15.6-18.5	+0.8	42.6-45.5	+2.6
18.6-21.5	+1.0	45.6-48.5	+2.8
21.6-24.5	+1.2	48.6-51.5	+3.0
24.6-27.5	+1.4	51.6-54.5	+3.2
27.6-30.5	+1.6	54.6-57.5	+3.4
30.6-33.5	+1.8	57.6-60.5	+3.6

A -0.3 ft. phase correction was applied to this fathometer.

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8811

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Bahia de Puerca										1
Bahia Majagua										2
Isla Cabeza de Perro										3
Isla Cabras										4
Isla de Ramos										5
Isla Piñeros										6
Puerto Medio Mundo										7
Pta. Mata Redonda										8
Pta. Medio Mundo										9
Pta. Puerca										10
		Names approved 4-5-66								11
		Frank Mc Puckett								12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

FORM C&GS-946
(REV. 3-1-64)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. 8811

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS { 3-Paper B.S. / 1 Mylar " "	4
DESCRIPTIVE REPORT	2	OVERLAYS	26

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2. Fathograms					
VOLUMES	37					
BOXES						

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)*

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED				
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS				
ALL OTHER WORK				
TOTALS				

PRE-VERIFICATION BY	BEGINNING DATE	ENDING DATE
VERIFICATION BY	BEGINNING DATE	ENDING DATE
REVIEW BY	BEGINNING DATE	ENDING DATE

USCOMM-DC 6641-P64

FORM C&GS-946A
(REV. 11-65)
(PRES. BY HYDROGRAPHIC MANUAL, 6-94)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

VERIFIER'S REPORT

HYDROGRAPHIC SURVEY, H-8811

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems.		
1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None		
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: --None		
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None		
Part II - SHORELINE AND SIGNALS		
4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed		
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.		
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None		
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.		
Part III - JUNCTIONS		
Note: Make a cursory comparison preliminary to inking soundings in area of overlap.		
8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None		
9. The notation in slanted lettering "JOINS H----(19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None		

Part III - JUNCTIONS (Continued)	CL	R
10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of **Butt** junctions and areas which are **SUPERSEDED.**		
Part IV - VOLUMES		
11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None		
12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features		
Part V - PROTRACTING		
13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None		
14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None		
15. All detached positions locating **critical** soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None		

Part V - PROTRACTING (Continued)	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.		
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.		
Part VI - SOUNDINGS		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None		
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.		
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None		
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None		
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.		
Part VII - CURVES		
23. The depth curves have been inspected **before** inking. Remarks Required: -- By whom was the penciled curves inspected.		
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area **not sounded** in black dashed Remarks Required: -- None		
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.		

Part VIII - AIDS TO NAVIGATION	CL	R
26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.		
27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None		
Part IX - BOAT SHEET		
28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None		
29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.		
Part X - GENERAL		
30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None		
31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None		
32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None		
33. The bottom characteristics are adequately shown. Remarks Required: -- None		
Part XI - NOTES TO THE REVIEWER		
34. Unresolved discrepancies and questionable soundings.		
35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.		
36. Supplemental information.		

Verified by	Date

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8811

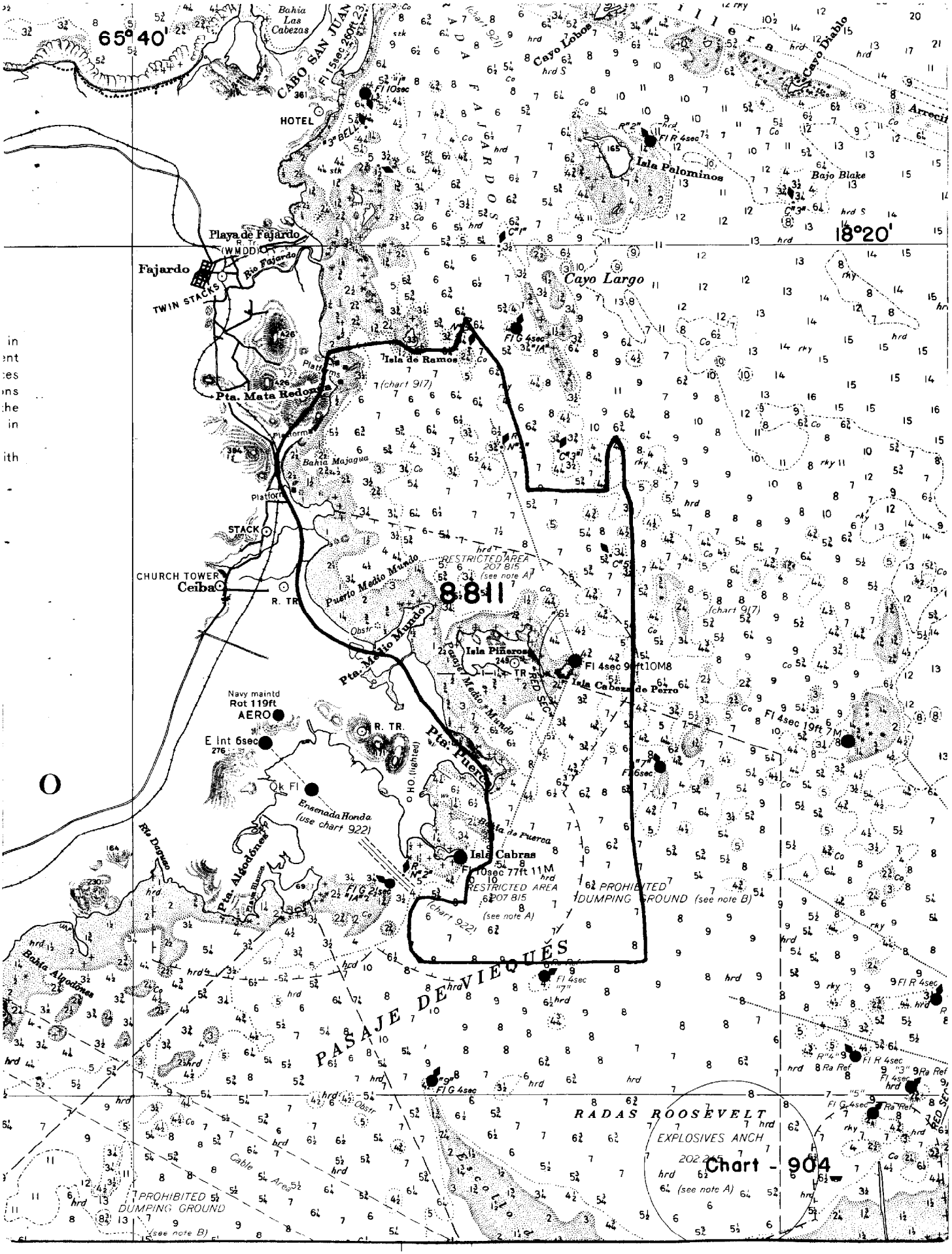
INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
917	4/18/66	J.S. McMillan	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Critical information only
922	4/26/66	W.H. Wall	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Critical information only
940	6/7/66	W.H. Wall	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Cht 922 6th Sheet
920	10/14/66	O. Svendsen	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Thru Ch 917 Drg #9 item 35
904	3-15-67	S. Johnson	~~Full~~ Part Before ~~After~~ Verification ~~Review Inspection Signed~~ Via
			Drawing No. 9a, cht 917
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975

USCOMM-DC 8558-P63


65°40'
18°20'
Bahia Las Cabezas
CABO SAN JUAN
Fl 15sec 260ft 22
Fl 10sec
361
HOTEL
3rd BELL
RADA FAJARDOS
(chart 921)
Cayo Lobos
hrd S
Cayo Diablo
Arrecif
R "2"
Fl R 4sec
Isla Palominos
Bajo Blake
Playa de Fajardo
(WMDD)
Fajardo
Rio Fajardo
TWIN STACKS
Cayo Largo
Fl G 4sec
"1A"
Isla de Ramos
(chart 917)
Pta. Mata Redonda
Platforms
Bahia Majagua
Platform
STACK
CHURCH TOWER
Ceiba
R. TR.
RESTRICTED AREA
207 815
(see note A)
8811
Puerto Medio Mundo
Obstr
Isla Piñeros
Pta. Medio Mundo
RED SECT
Fl 4sec 9ft10M8
Isla Cabeza de Perro
(chart 917)
Fl 4sec 19ft 7M
Fl 6sec
Navy maintd
Rot 119ft
AERO
E Int 6sec
276
Ok Fl
Ensenada Honda
(use chart 922)
Pta. Puerca
O HO (lighted)
Bahia de Puerca
Isla Cabras
Fl 10sec 77ft 11M
RESTRICTED AREA
207 815
(see note A)
(chart 922)
PROHIBITED
DUMPING GROUND (see note B)
Rio Daguao
Pta. Algodones
Pta. Blanca
Fl G 2sec
"1A"2
Bahia Algodones
PASAJE DE VIEQUES
Fl 4sec
"7"
Fl G 4sec
"9"
Fl G 4sec
"5"
Ra Ref
Fl R 4sec
"3"
Ra Ref
RADAS ROOSEVELT
EXPLOSIVES ANCH
202 215
(see note A)
Cable Area
PROHIBITED
DUMPING GROUND
(see note B)
Chart - 904