

LOAN COPY ONLY



*sea grant program*

**CIRCULATING COPY**  
**Sea Grant Depository**

Marine Studies of San Pedro Bay, California

## PART ONE

Circulation Patterns

in

Los Angeles - Long Beach Harbor

Drogue Study Atlas and Data Report

by

**Dorothy F. Soule**

and

**Mikihiko Oguri**

*Published by*

The Allan Hancock Foundation

and

The Office of Sea Grant

University of Southern California

Los Angeles, California 90007

USC-SG-6-72

DEC 19 1972

COPY

Sea Grant Library Repository

Marine Studies of San Pedro Bay, California

Part One

Circulation Patterns

in

Los Angeles-Long Beach Harbor

Drogue Study Atlas and Data Report

by

Dorothy F. Soule

and

Mikihiko Oguri

Published by

The Allan Hancock Foundation

and

The Office of Sea Grant

University of Southern California

Los Angeles, California 90007

## INTRODUCTION

Because of immediate needs for information on the circulation patterns in the Los Angeles-Long Beach Harbor areas of San Pedro Bay, a study was instituted by the Allan Hancock Foundation, University of Southern California, in cooperation with public agencies and private industry. Participating with the Hancock Foundation were the following: the Los Angeles Harbor Department, Long Beach Harbor Department, the U.S. Army Corps of Engineers, California State University at Long Beach, Fullerton Junior College, Pacific Lighting Service Company, and the Sea Grant Office of the University of Southern California. The first phase of the investigations consisted of a drogue study, carried out jointly on June 13-14, 1972. This initial report presents the reduced data from that study, in order to make it immediately available to potential users. Additional reports with data analyses are planned for the future.

## PROCEDURE

On June 13-14, 1972, nine boats and one ship were stationed throughout the outer harbor area. Of these, the Velero IV and the Nautilus were stationed at Angel's Gate harbor entrance and the Queen's Gate entrance respectively (see Harbor map). The other boats were assigned stations from which to deploy drogues simultaneously, after which they remained mobile for tracking the drogues.

The first sets of drouges were deployed by each boat at 0700 hours on a rising tide, and the second sets were deployed from the same starting points at 1400 on a falling tide, on June 13. A total of 57 drogues was deployed, of which 47 were recovered or had sufficient sightings to track. Of the 57 drogues, three were damaged by passing freighters, and several were carried onto the breakwater rocks or under dock installations.

#### Tide Table

	<u>Time</u> (Pacific Daylight)	<u>Height</u>		<u>Time</u>	<u>Height</u>
June 13	0547	- 1.6		June 14	0635
	1228	4.0			1320
	1701	2.2			
	2312	6.3			

#### DROGUE CONSTRUCTION

Drogues were constructed by the Los Angeles Harbor Department Testing Laboratory staff, from a design by Oguri and Naumann, based on the drogue illustrated by Knauss (1965). The shaft was composed of a five foot fiberglass or bamboo fishing pole with a three-eighths inch diameter, a styrofoam float five inches in diameter and three and one-quarter inches thick. The base of the pole was weighted to make it remain upright in case of grounding; a snaffle beside the weight attached a lanyard for the appropriate depth of surface, ten or

twenty feet. Two panels of one-eighth inch painted masonite, twenty-four inches long and twelve inches high, were crossed at right angles at the end of the lanyard. An additional weight was attached to the center base of the intersected panels (See Figure 1).

To increase visibility, colored plastic streamers of surveyors marker tape one inch wide and three mils thick were attached laterally to the shaft, and a strip of metallic reflecting tape was placed vertically on the shaft. For night sighting, an electric light was attached to the tip of the shaft, with batteries and a blinker mechanism on the float.

According to Knauss (1965), using a drogue or float method to measure velocity has distinct advantages over the use of fixed current markers, provided that the drogues can be followed for a long enough period of time. In the present work on circulation patterns in the San Pedro Bay area, the drogue study was the first phase of a longer term study. Current meters will be placed according to locations indicated by evaluation of drogue data.

Leypoldt (1939) gave the currents within the harbor as rarely exceeding one and one-half knots, occurring throughout the inner harbor. A number of changes in land configuration have been made since that time. Only a few readings taken during the present study approached or exceeded one knot and most averaged less than one half knot.

## DATA

The three sightings taken for each drogue on approximately half hour intervals were used to calculate by computer program and by manual triangulation the most probable positions. Elapsed time, wind and speed measurements are also entered in the computer print-out. In the following pages the data is presented for each of the 47 drogues for which adequate sightings were obtained. Each data sheet is accompanied by a computer plot of the drogue track in the harbor.

Summary plots of all drogues released in the morning on the afternoon, at the surface, at ten foot depths or at twenty foot depths are presented in the front of the atlas (Charts 1-6). Following those are plots of the net movements of one morning drogue and one afternoon drogue from each station for each depth (Charts 7-9). Net movements indicate the over-all movement of water throughout the entire period given.

The computer plot Harbor map is adapted from Coast and Geodetic Survey Map 5147, 17th edition, May 22, 1971.

Although complete analysis of the data will not be presented at this time, it is quite possible to observe certain characteristics in the water movement. For example, the area of Fish Harbor and the region east of it show a high level of incursion and little circulation. This is of particular importance since the cannery and sewer outfalls are presently located to the east of the Fish Harbor area, and recreational installations are planned as extensions of the Fish Harbor east jetty.

## REFERENCES

- Knauss, J.A. 1965. Drogues and neutral buoyant floats, in *The Sea*, Volume 2, pp. 303-305. Interscience Publishers, John Wiley, New York.
- Leypoldt, Harry. 1935. Currents in Los Angeles Harbor and vicinity. U.S. Naval Institute Proceedings, May, pp. 685-694.
- Coast Pilot, United States Department of Commerce--Environmental Sciences Administration, Coast and Geodetic Survey, 1968. United States Coast Pilot, No. 7, 380 p.

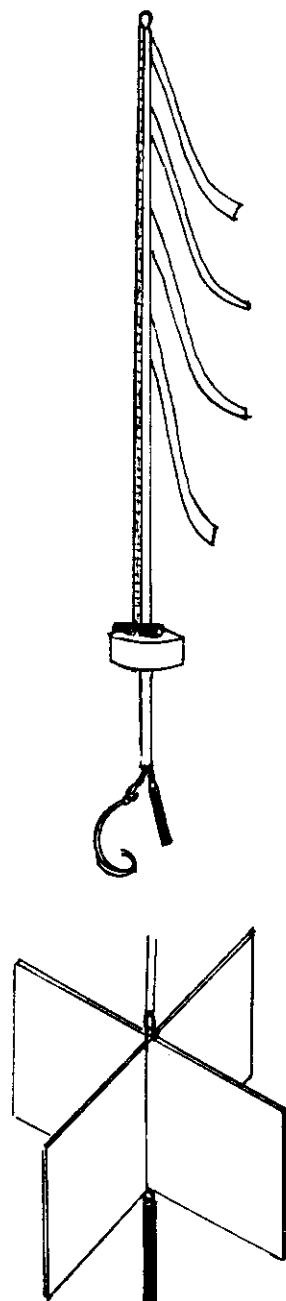


Figure 1

## PARTICIPANTS

Allan Hancock Foundation, B.C. Abbott, Director

Office of Sea Grant, Ronald Linsky, Director

Principal Investigators: Dorothy Soule, Mikihiko Oguri

Oceanographic Advisers: Richard B. Tibby, Richard Pieper

Consultant: Alyn Duxbury (University of Washington)

Computer Programmer: Nicholas Condap

Consultants: Alvin Siger, John McDonald

### Hancock Foundation Participants:

John Soule  
Paul Amberg  
John Bremmer  
George Colyer  
Glen Constantino  
David Drake  
Cary Dritz  
Penny Dutcher  
Nancy Folks  
Michael Hammel

Kaoru Kendis  
Randall Kendis  
James McSweeney  
William Pierce  
Penny Pinter  
Mary Ann Scott  
Norman Shields  
David Schomisch  
Mary Smith  
Robert Smith

### Velero IV:

John J. Harris, Captain  
Steve Chriss  
Ray Flesher  
Roy Gansmo  
Lee Grant

Ron Hornbeck  
Jasper Pecharek  
Howard Rockefeller  
Maynard Saunders

### Fullerton Junior College Oceanographic Program Participants:

Howard Craig, Director  
Mark Hooper  
Mark Kendelberger  
Dennis McKinney

Don Shay  
Karen Wilson  
Bruce Witt

**California State University**

Kwan Chan  
Robert Navia

**Corps of Engineers:**

James Chapman  
Joe Cugal  
Charles Holt

Charles Hux  
Ted Nizinski  
Steve Stern

**Los Angeles Harbor Department**

Walter Henningsen  
John Holms  
George Horeczko  
Robert Irvin  
Rodney Majesky  
Raul Medina  
Jeffrey Naumann

Eugene Radomski  
Eric Stauch  
Frank Steiger  
Robert Sumiye  
George W. Teal  
Edgar White  
Herbert Wilson

**Long Beach Harbor Department:**

Gary Ankeny  
Cornelius Brashier  
Denver Charleville  
Lyndon Chenard  
John Kuelan  
Gary Metzer  
Bob Millington  
Larry Nye  
Paul O'Haver  
Walt Oliver

Bill Corbet  
Daryl Crow  
Fred Gravell  
John Humphrey  
Harry Prouse  
Carl Ralston  
Don Rutherford  
Max Shaffer  
Jerry Skalky  
Pete Smongesky

## Station and Depth of Release of Each Drogue

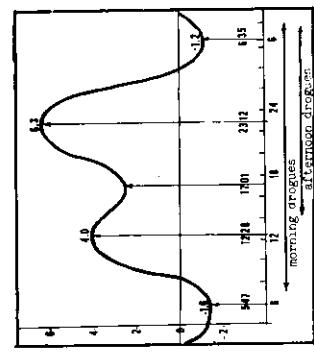
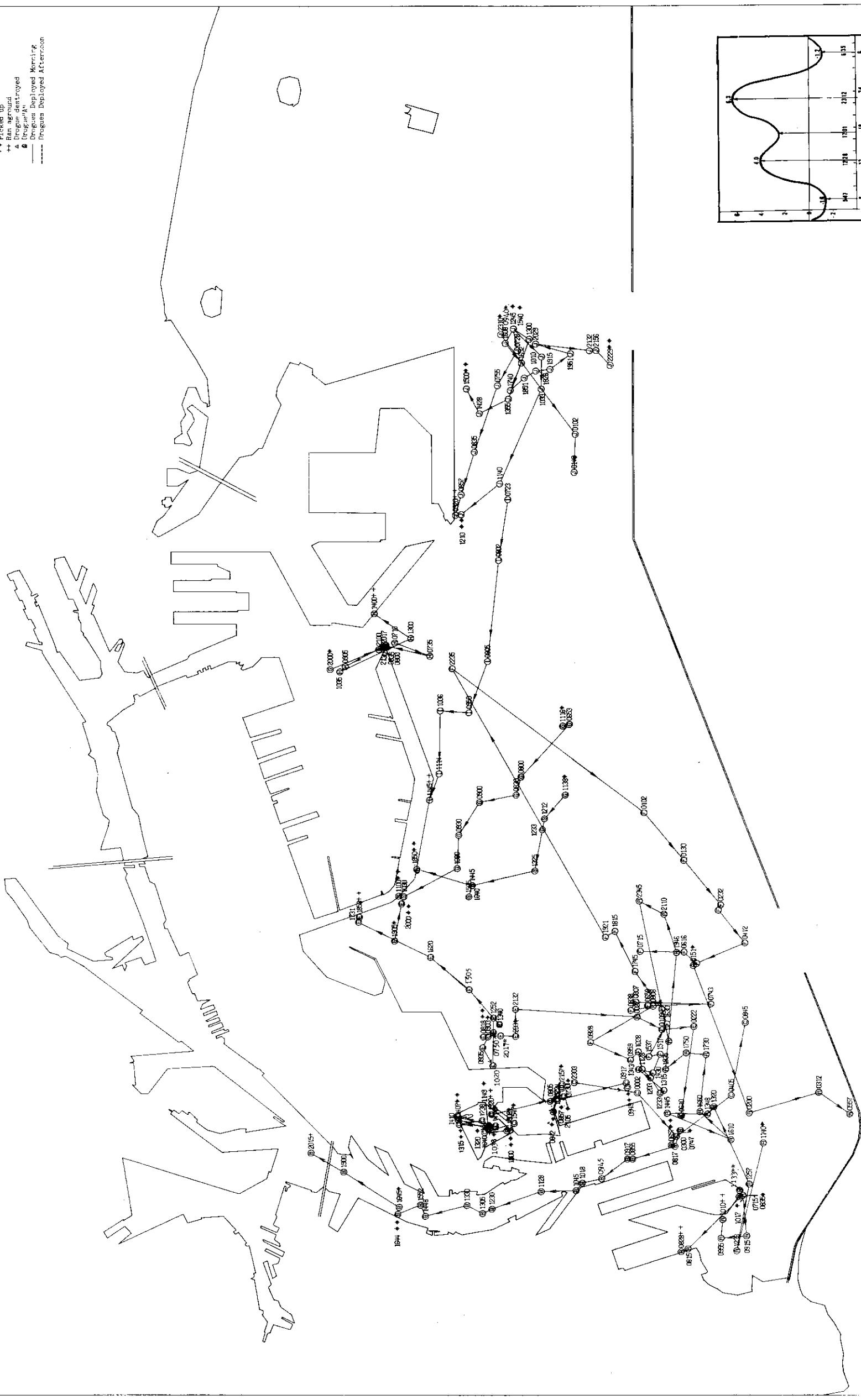
Drogue Deployed	Station	Surface	10 Feet	20 Feet
-----------------	---------	---------	---------	---------

Morning:	A	01	02	
	B	01	02	03
	C	03	01	
	E	01	03	
	F	01	07	03
	G	01	02	07
	H	01	02	03
	I	01	02	05
	J	01	02	03
Afternoon:	A	04	03	
	B	06	04	
	C	02	04	05
	E	02	04	
	F	05	06	
	G	04	05	06
	H	04	05	07
	I	04	06	07
	J	04	05	06



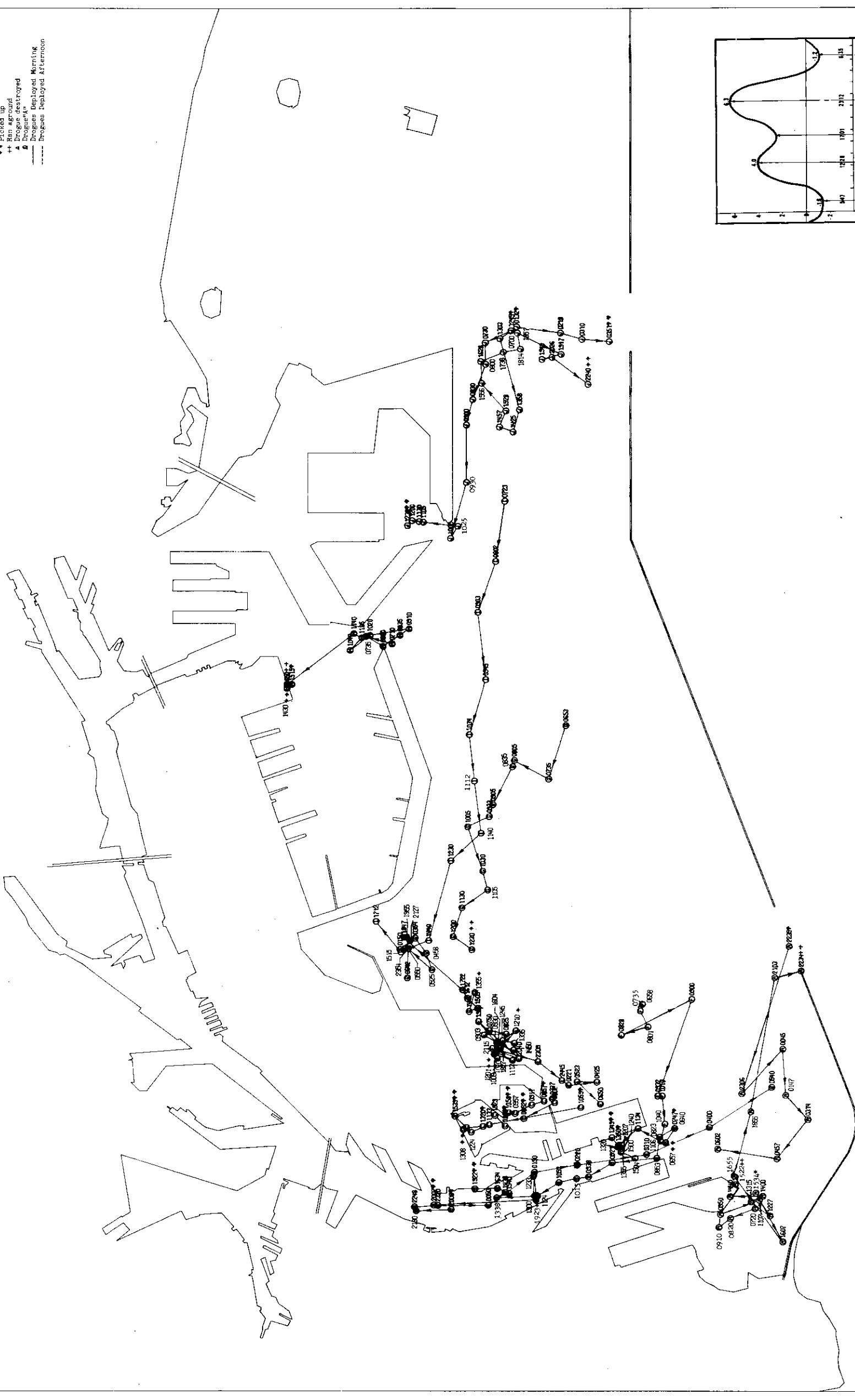


DROGUES DEPLOYED MORNING SURFACE

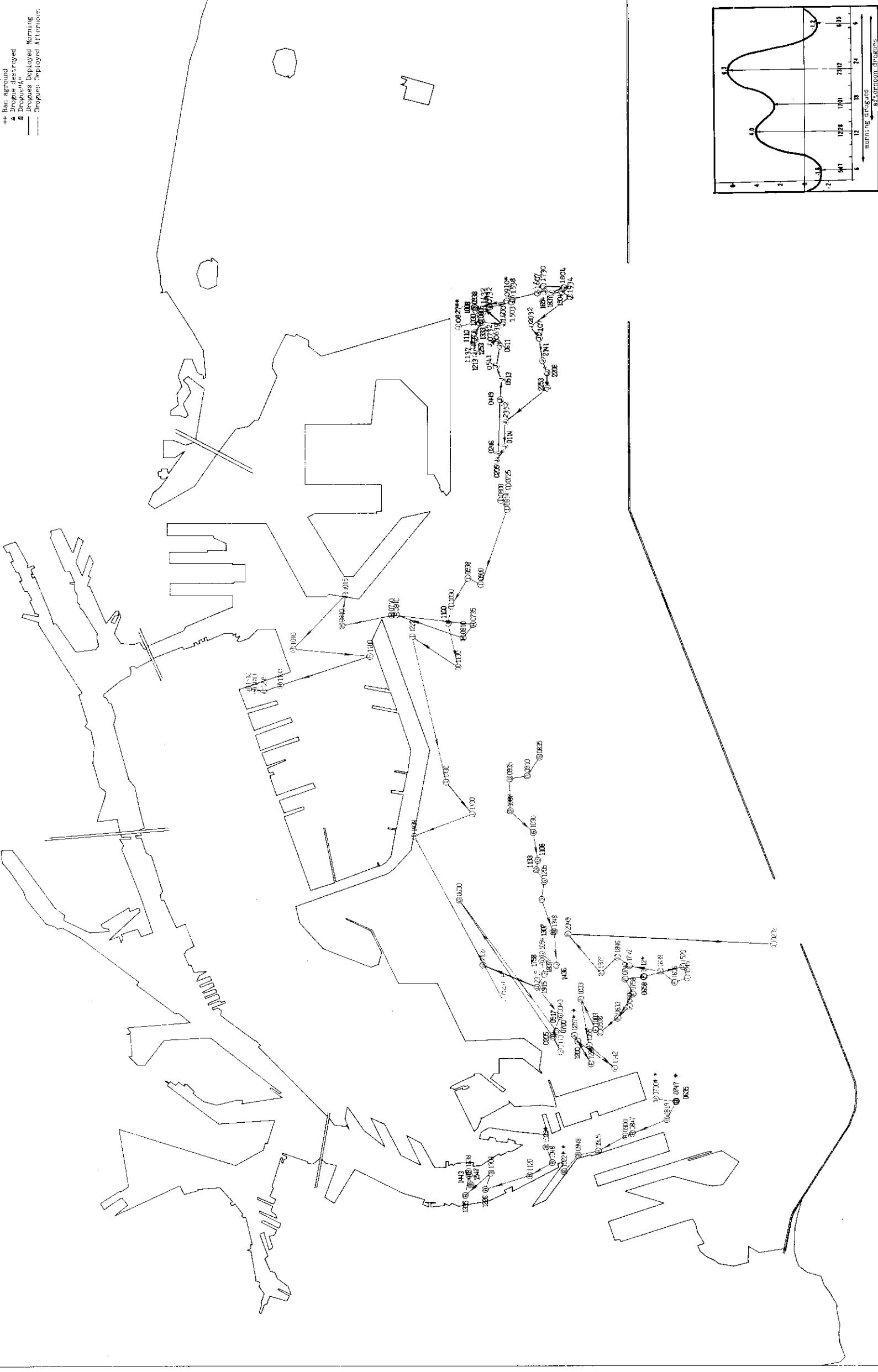


June 13 - 14, 1972, Pacific Daylight Time  
Los Angeles Outer Harbor

Legend  
 \* Reset  
 + Lost  
 ++ Picked up  
 ▲ Run aground  
 ▲ Drogues destroyed  
 □ Drogues Deployed Morning  
 --- Drogues Deployed Afternoon



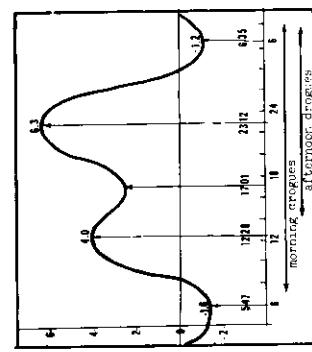
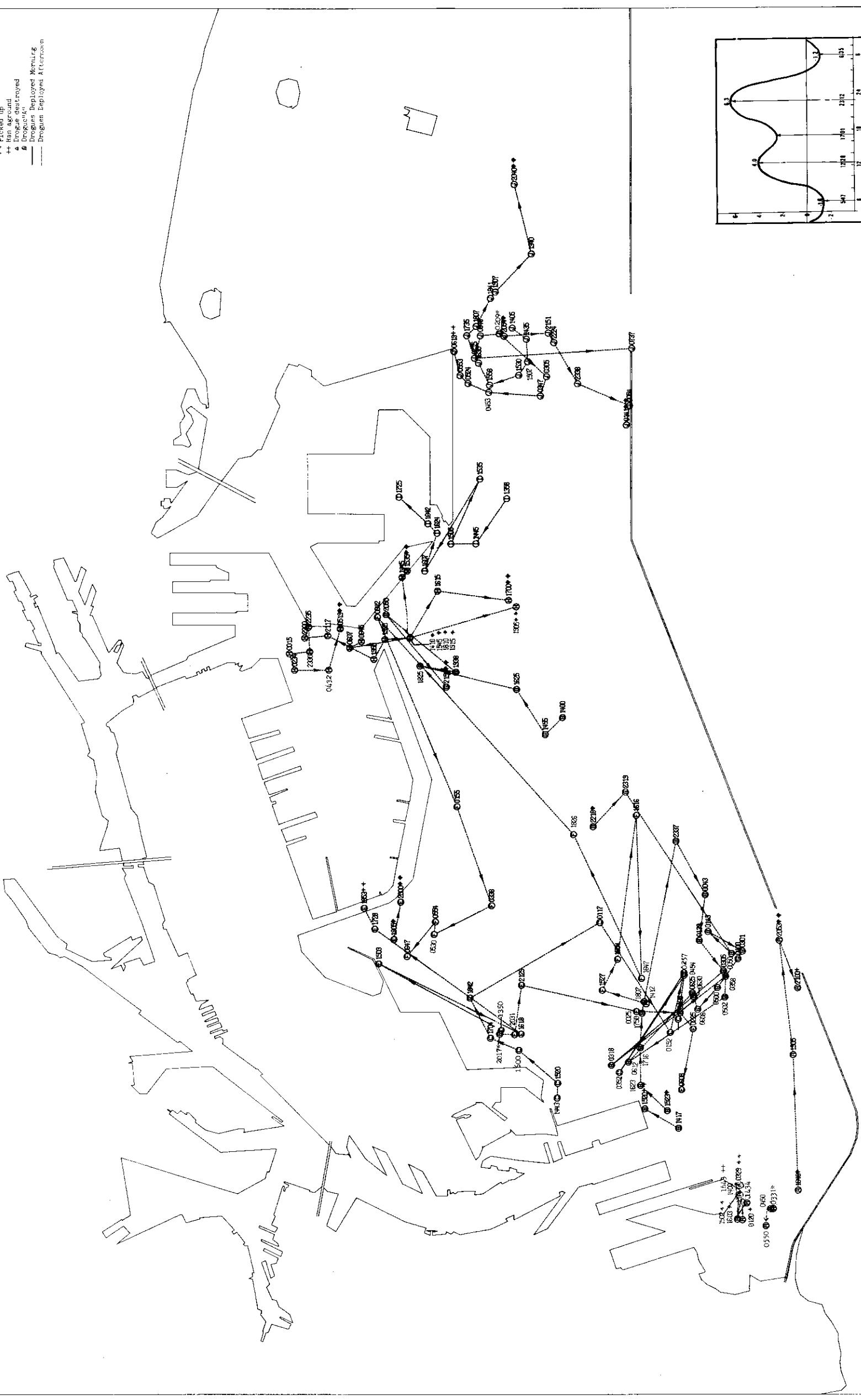
TIDAL HEIGHTS  
 June 13 - 14, 1972 Pacific Daylight Time  
 Los Angeles Outer Harbor



June 13 - 14, 1975 Pacific Daylight Time  
Long Beach, Outer Harbor

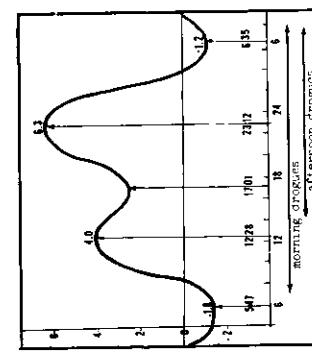
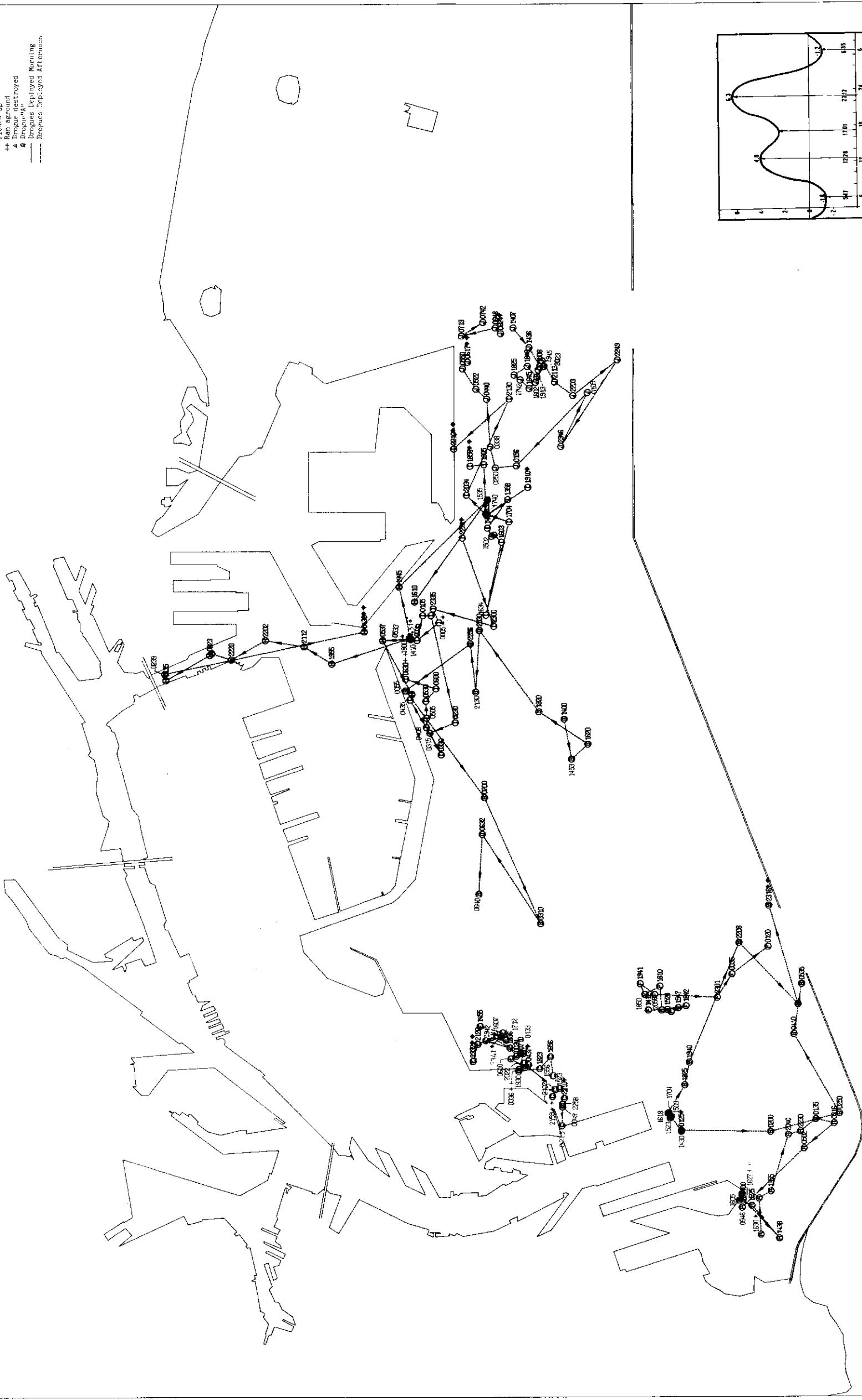
## Legend

- Reset
- + Lost
- + Picked up
- ▲ Drogue downed
- Drogue deployed Morning
- Drogue deployed Afternoon



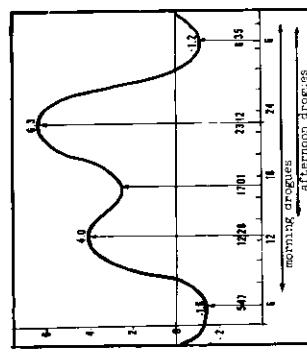
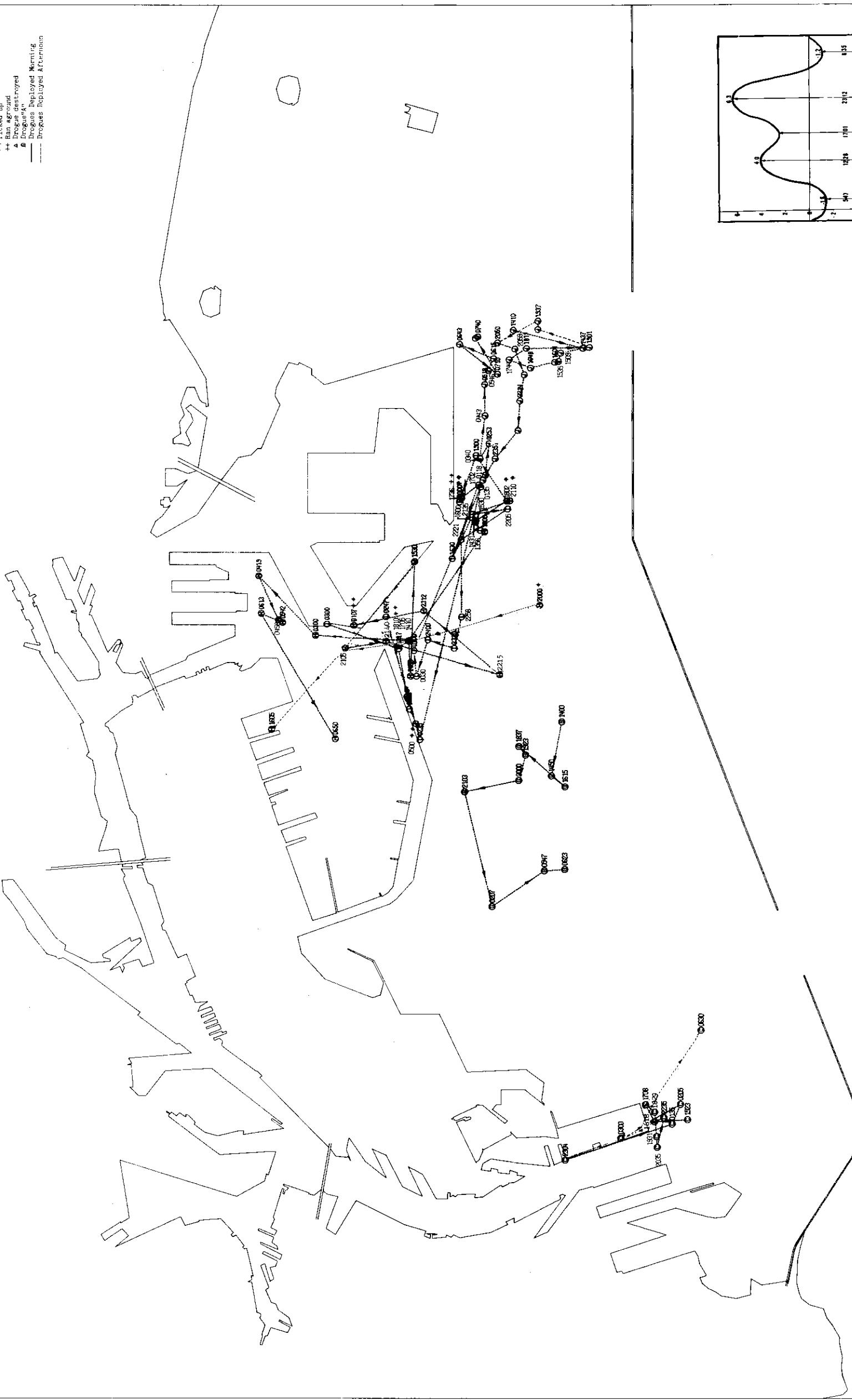
DRUGS DEPLOYED AFTERNOON SURFACE

- Recot
- + Torn
- + Pickled up
- ++ Tan Ground
- ▲ Drogue destroyed
- ◆ Drogue Deployed Morning
- Drogues Deployed Afternoon



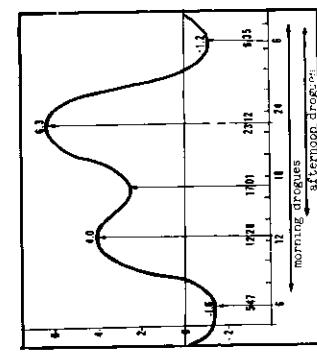
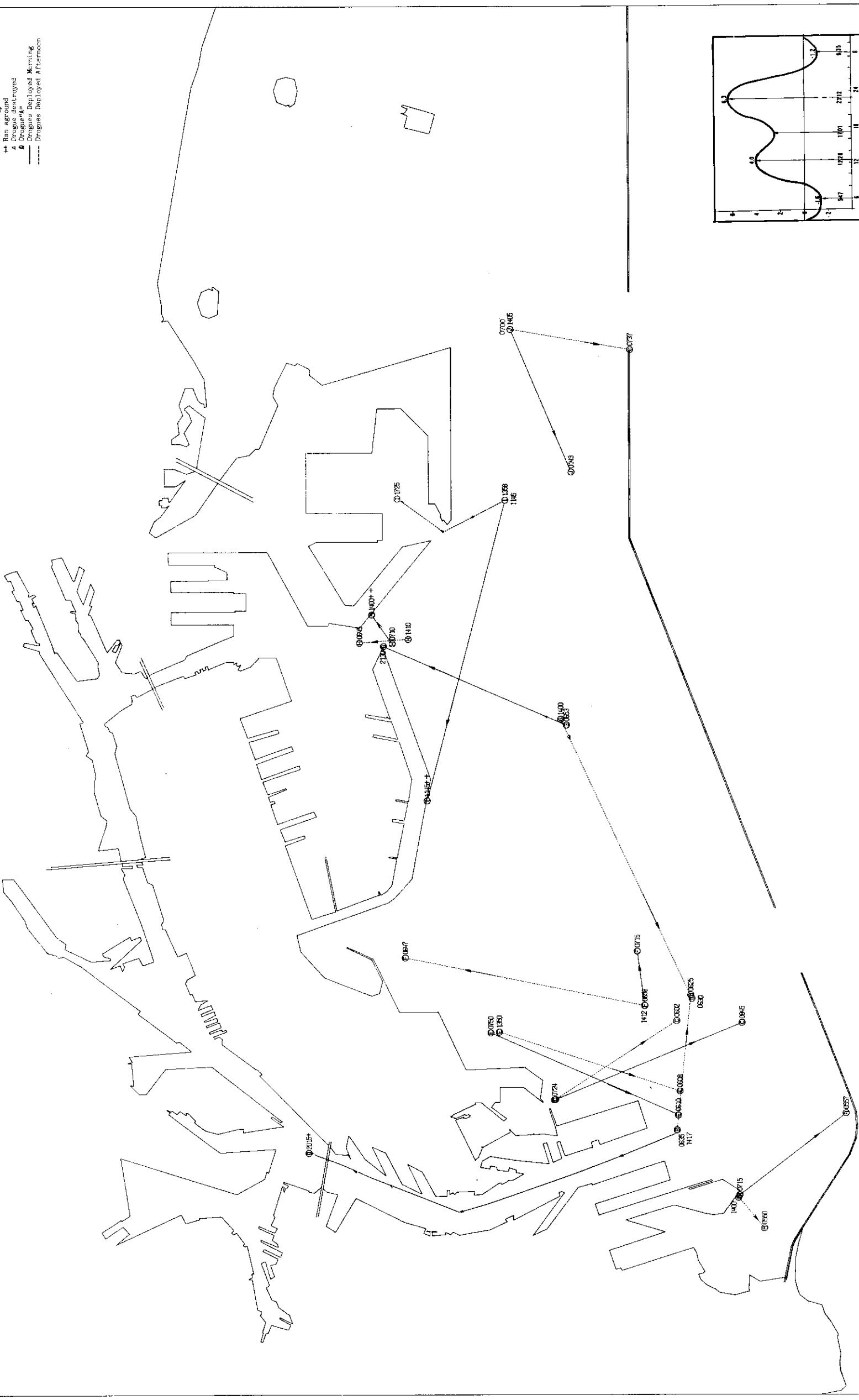
June 13 - 14, 1972 Pacific Daylight Time  
Los Angeles: Outer Harbor

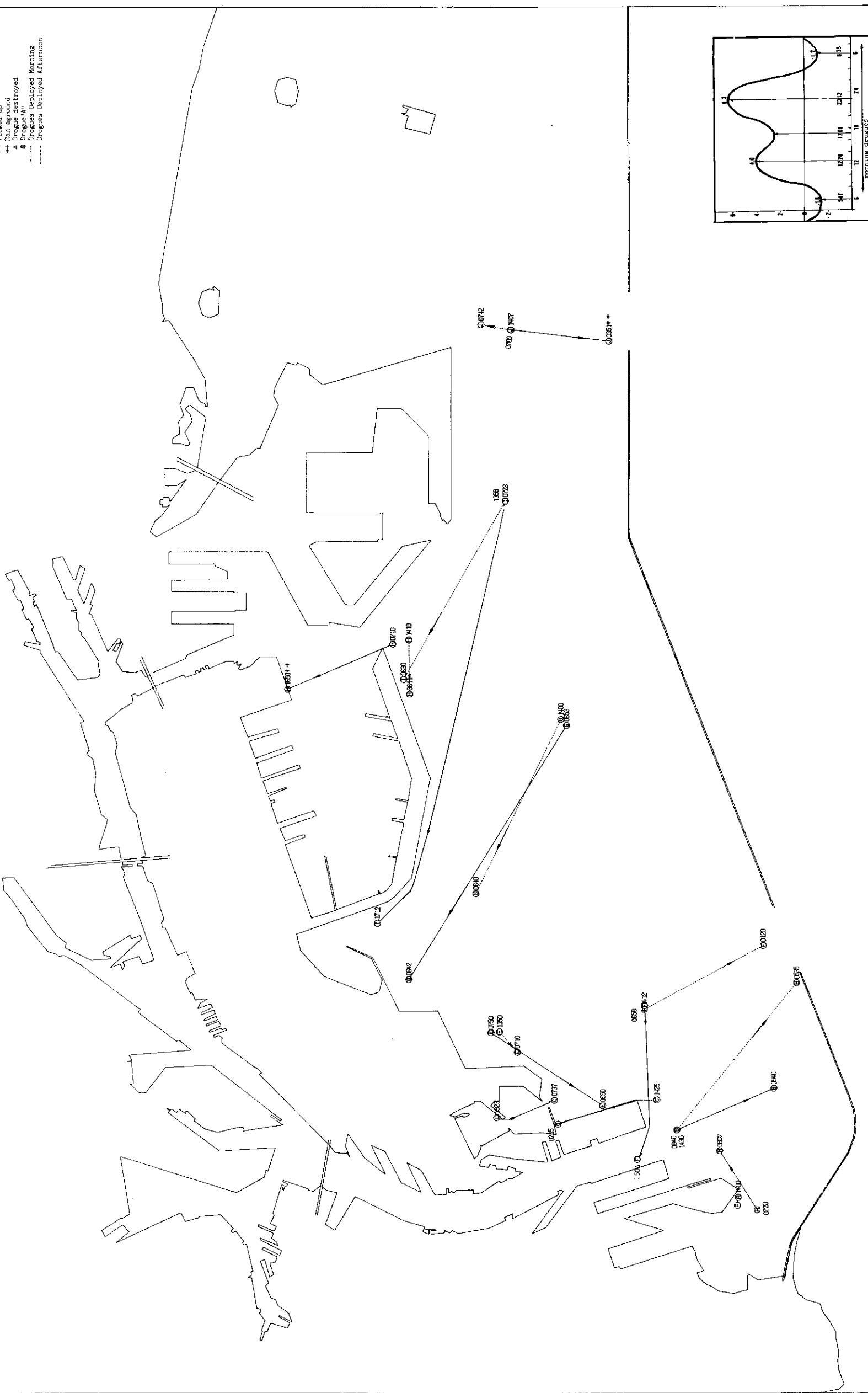
Legend  
 \* Revert.  
 + Lost  
 ++ Picked up  
 ▲ Drogue ran  
 ● Drogues Deployed Morning  
 — Drogues Deployed Afternoon



DROGUES DEPLOYED AFTERNOON 20FT DEPTH

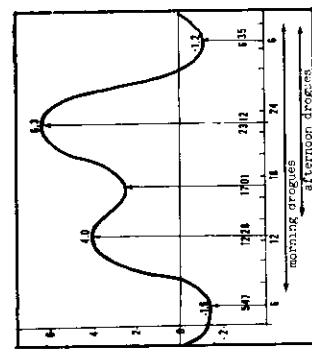
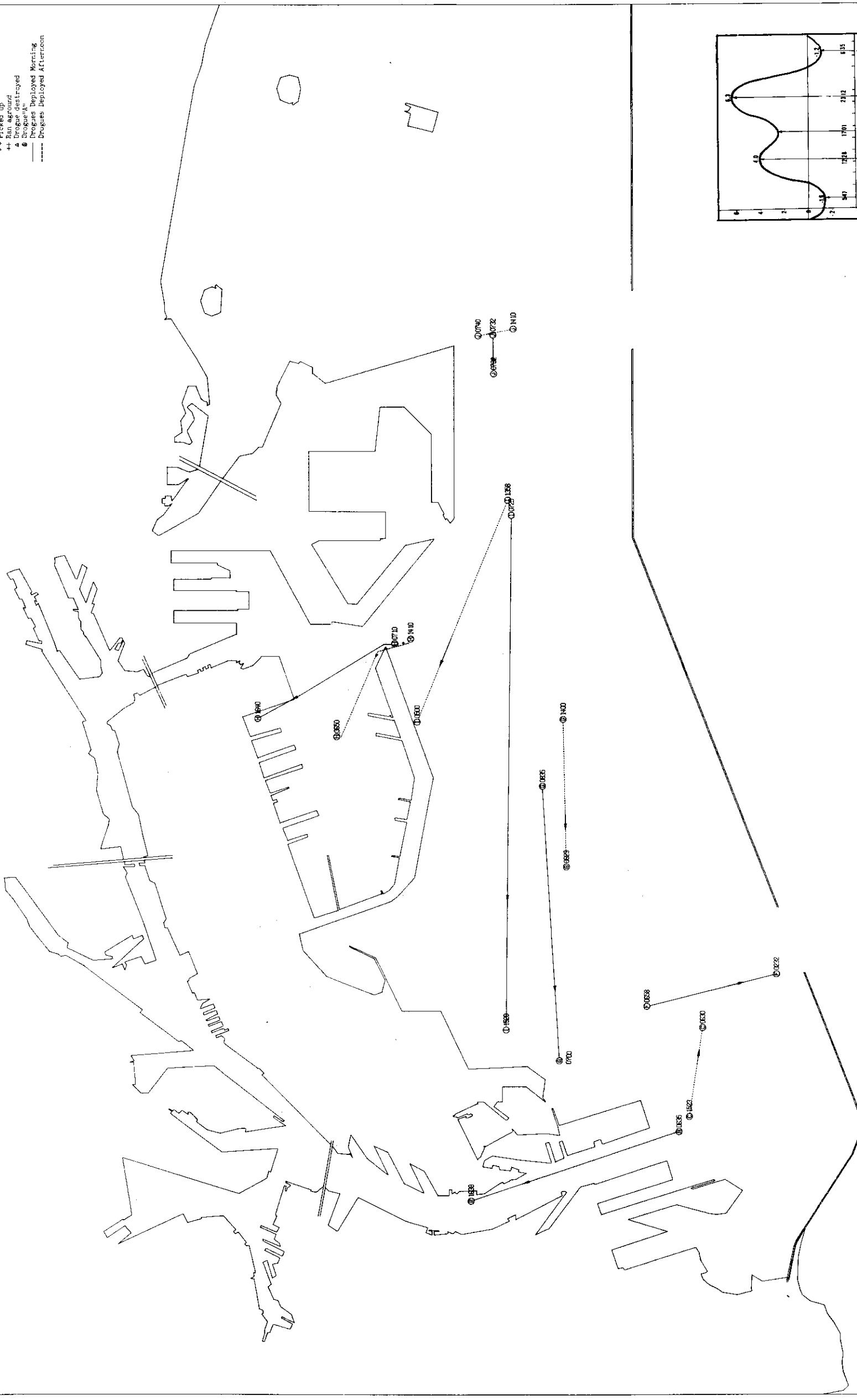
SURFACE DRUGS NET MOVEMENT





TEN FOOT DROGUES NET MOVEMENT

TWENTY FOOT DRUGUES NET MOVEMENT



AQ1 \* DEPTH = 0.0

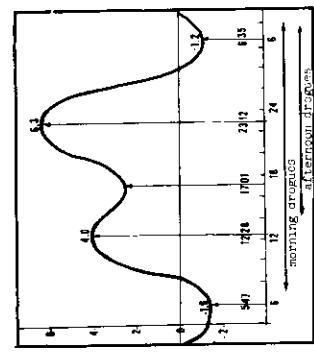


TABLE DE\_DROGUE--#A02-----DEPTH--10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	SPEED FT/SEC	ELAPSED TIME SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
720	113°16'31.0	33°42'44.1	841.5	0.2338	3600	323.5	135.0	8.00	
820	113°16'34.7	33°42'51.8	461.2	0.1537	3000	307.2	135.0	8.00	
910	113°16'38.1	33°42'55.3	413.3	0.1722	2400	81.8	96.6	8.50	
950	113°16'33.2	33°42'54.9	1302.5	0.2819	4620	145.2	160.0	7.00	
1197	113°16'28.0	33°42'42.8	598.9	0.1248	4800	135.0	220.7	6.00	
1227	113°16'33.0	33°42'39.5	740.6	0.2572	235.5	21.1	135.0	12.00	
1315	113°16'28.7	33°42'45.4	740.6	0.2572	135.0	139.9	157.5	17.00	RAN A GROUND RESET
1402	113°16'26.6	33°42'41.7	414.9	0.1537	2700	154.7	157.5	8.00	
1440	113°16'26.7	33°42'51.8	1030.3	0.4293	2400	344.6	559.3	6.00	
1522	113°16'22.3	33°42'50.3	406.9	0.1615	2520	98.1	112.8	6.00	
1534	113°16'25.4	33°42'43.8	1758.3	0.8880	1980	240.8	226.1	157.5	
1607	113°16'43.6	33°42'35.4	1758.3	0.8880	2880	53.2	157.5	12.00	
1655	113°16'19.1	33°42'50.7	2588.7	0.8989	7200	104.6	270.0	18.00	
1855	113°15'55.0	33°42'45.5	2104.4	0.2923	0.5652	100.4	89.8	10.00	
2103	113°15'04.4	33°42'38.1	4341.0	0.5652	150.6	150.6	270.0	6.00	RAN A GROUND RESET
2234	113°15'01.87	33°42'29.9	860.7	0.1576	5460	165.4	270.0	6.00	
2235	113°14'52.67	33°42'33.67	72.67	0.6411	1850	287.6	270.0	4.00	
2306	113°15'48.05	33°42'43.31	4912.4	0.3223	5940	132.2	117.5	6.00	
2445	113°15'31.28	33°42'35.65	1914.2	0.3946	3720	266.0	135.0	4.00	
147	113°15'48.61	33°42'34.64	1468.1	0.2008	5220	227.9	213.2	0.0	
314	113°15'57.81	33°42'27.73	1048.1	0.2571	6180	308.0	293.3	4.00	
457	113°16'12.61	33°42'37.36	1588.8	0.4870	3900	157.5	354.5	3.00	
602	113°16'09.01	33°42'55.81	1899.5	0.4870	9.2	135.0			

SUMMARY OF DROGUE #A02 FROM 720 TO 602 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:

2213.1      80940  
30694.3      80940

0.0273  
0.3792

57.5  
42.8

## Legend

• Reset

+ Lost

\* Picked up

++ Ran aground

▲ Drogue deployed morning

● Drogue deployed afternoon

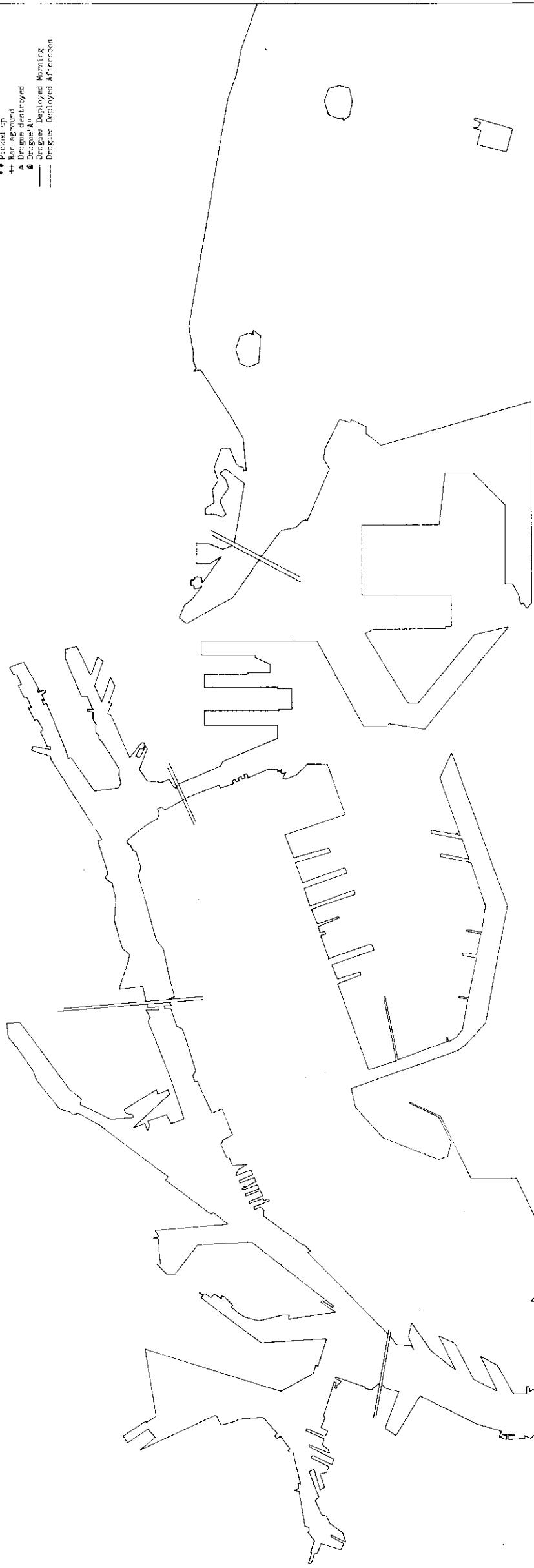


TABLE 2E - DROGUE #A03 DEPTH - 10.0

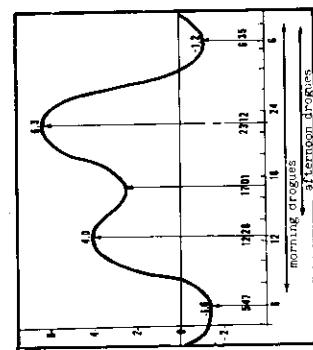
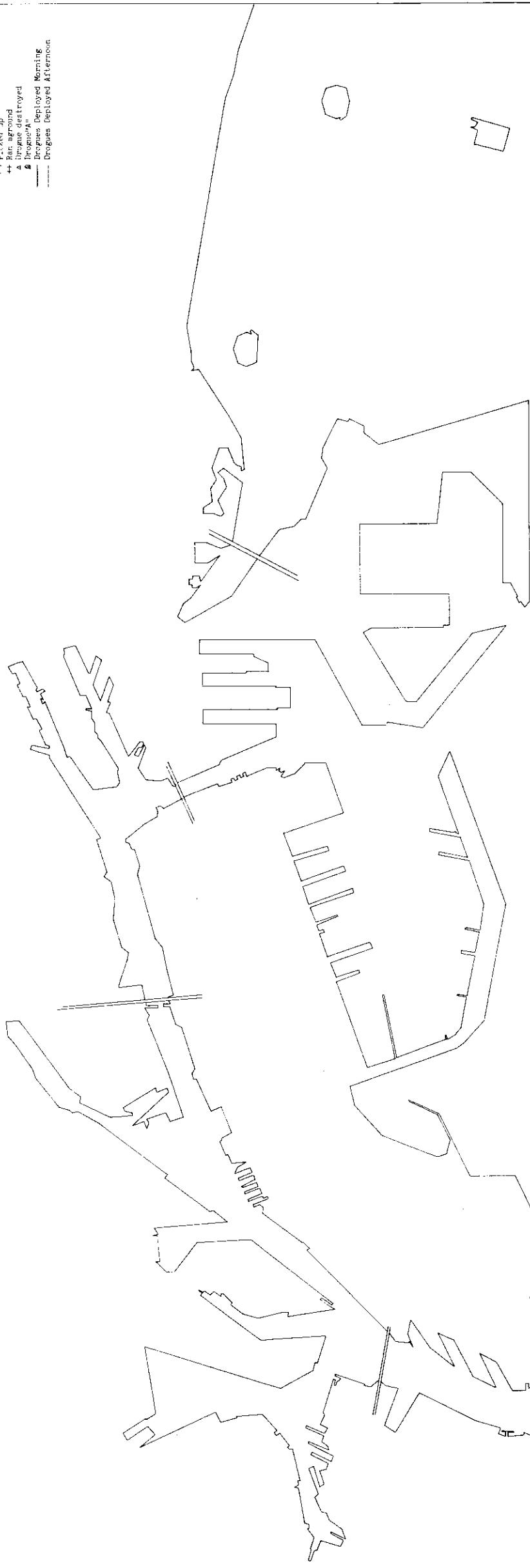
TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1400	118:16:26.38	33:42:50.10					157.5	8.00	
1438	118:16:40.86	33:42:39.93	1675.7	2280	0.7349	226.9	212.2	8.00	
1525	118:16:28.76	33:42:47.38	1341.4	2820	0.4757	49.7	34.9	8.00	
1605	118:16:26.85	33:42:51.26	426.6	2400	0.1778	22.3	7.5	8.00	RAN AROUND
1627	118:16:24.51	33:42:50.49	212.6	1320	0.1610	111.8	97.1	8.00	RESET
1630	118:16:30.50	33:42:44.58					157.5	10.00	
1815	118:15:26.10	33:42:45.17	1134.4	6300	0.1801	87.0	72.3	12.00	
1955	118:16:23.39	33:42:41.48	439.4	6000	0.0732	148.6	270.0	15.00	
2040	118:16:02.47	33:42:36.12	1850.4	2700	0.6853	107.1	270.0	10.00	
2230	118:16:01.12	33:42:32.35	399.6	6600	0.0606	163.4	148.6	4.00	
135	118:15:56.59	33:42:27.61	615.3	1100	0.0554	141.5	126.8	4.00	
315	118:15:58.13	33:42:21.94	590.9	6060	0.0975	192.7	178.0	0.0	
502	118:16:07.52	33:42:31.26	1235.7	6360	0.1943	320.1	305.3	5.00	
545	118:16:29.37	33:42:50.37	2680.4	2640	1.0153	316.4	301.7	6.00	

SUMMARY OF DROGUE #A03 FROM 1400 TO 546 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:254.1  
12602.4  
56580  
565800.0045  
0.2227276.2  
261.5

## Legend

- Reset
- + Lost
- + Picked up
- ++ Rec'd ground
- ▲ Drogue destroyed
- Drogue Deployed Morning
- - - Drogue Deployed Afternoon



June 13 - 14, 1972 Pacific Daylight Time  
Los Angeles: Outer Harbor

A03 : DEPTH = 10.0

TABLE DE DROGUE #A04 DEPTH - 9.9

TIME	LONGITUDE	LATITUDE	DEPTH FEET	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC MAG	WIND DIR WIND SPEED KNOTS	REMARKS
1400	118:16:26.38	33:42:50.10			2040	0.1617	227.9	157.5	8.00
1434	118:16:29.28	33:42:47.92			1680	0.3498	213.2	157.5	8.00
1502	118:16:35.25	33:42:50.87					285.9	157.5	PICKED UP
1603	118:16:35.25	33:42:50.87					300.7	157.5	RESET
1643	119:16:26.15	33:42:50.68			2400	0.3208	91.5	157.5	RAN A GROUND
1646	118:16:24.56	33:42:32.04					76.7	157.5	RESET
1905	118:15:33.85	33:42:33.55					12.00	12.00	RESET
2053	118:14:50.80	4289.6					19.00	19.00	PICKED UP
2100	118:15:08.68	33:42:37.79					270.0	270.0	RESET + LOST
120	118:16:35.49	33:42:32.12					135.0	135.0	RESET
329	118:16:22.65	33:42:49.32					4.00	4.00	PICKED UP
331	118:16:31.38	33:42:50.10					0.0	0.0	RESET
450	118:16:31.47	1088.4			7740	0.1406	85.8	71.1	0.0
550	113:16:37.77	33:42:40.66					354.8	340.1	3.00
		87.2					3600	284.9	135.0
		551.5					0.1532	135.0	6.00
SUMMARY OF DROGUE #A04 FROM 1400 TO 550 HOURS:									
NET DISPLACEMENT:									
GROSS DISPLACEMENT:									
		1263.1					37440	0.0337	229.7
		12987.0					37440	0.3469	214.9

## Legend

• Reset

+ Lost

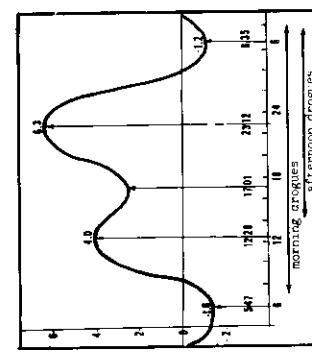
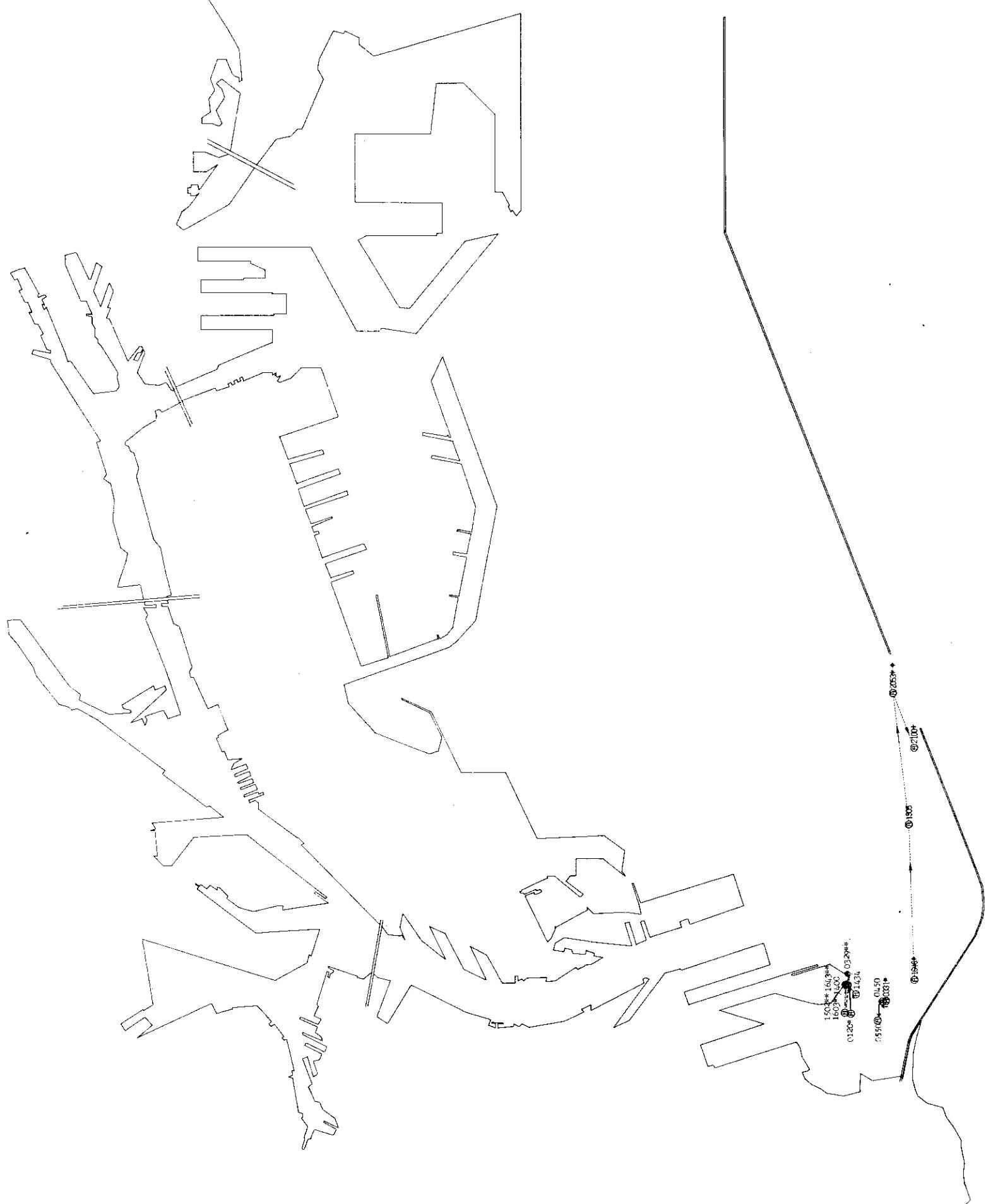
♦ Picked up

++ Bat. second

▲ Drifted

◆ Images deployed Morning

— Images deployed Afternoon



AO4 • DEPTH = 0.0

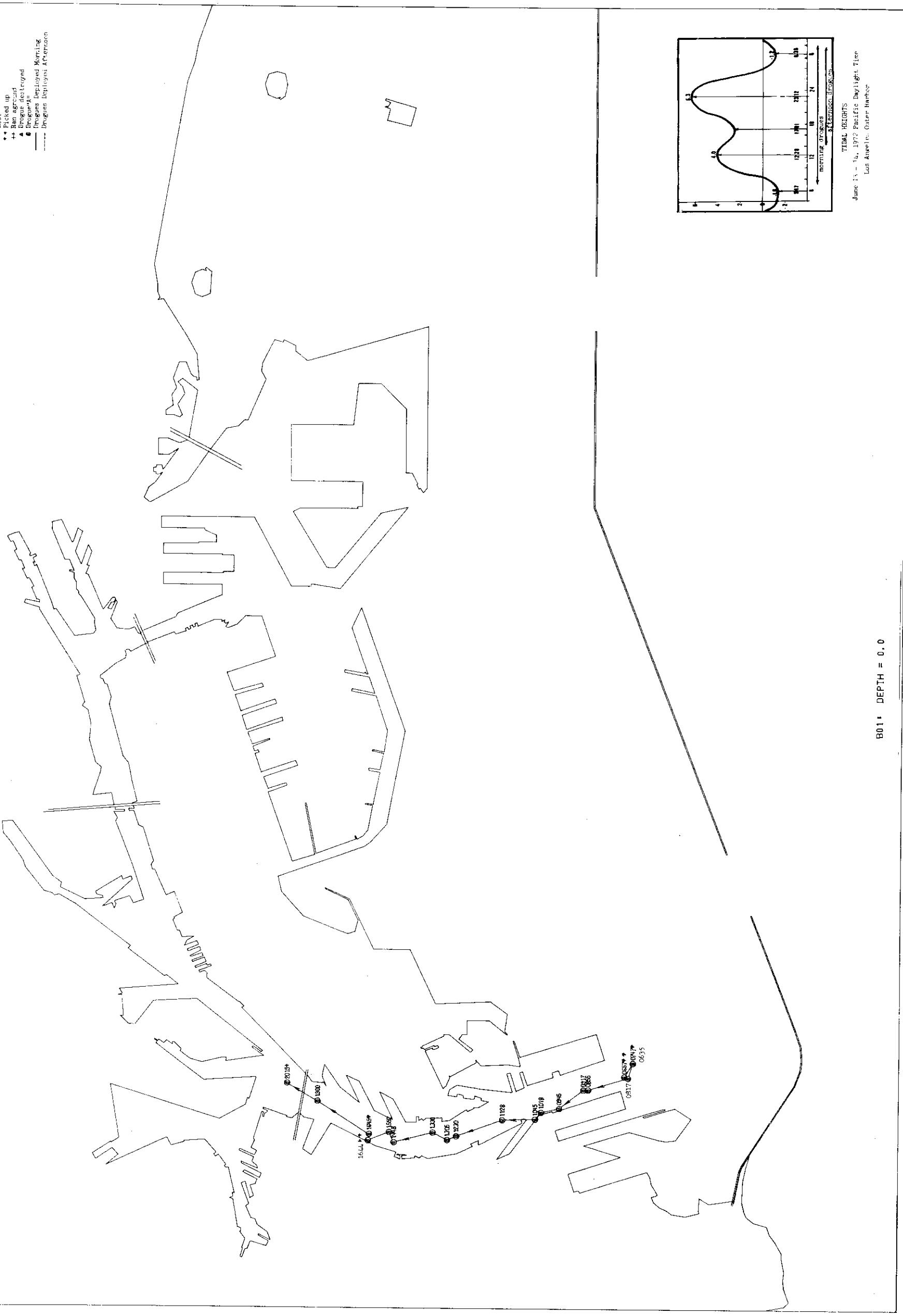
TABLE OF DROGUE #B01 DEPTH 0.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
635	118:16:01.17	33:43:09.13	536.9	1320	0.4083	301.8	157.5	8.00	PICKED UP
657	118:16:06.58	33:43:11.92					157.5	6.50	
747	118:16:01.17	33:43:09.13					225.0	6.00	RESET
817	118:16:07.14	33:43:10.72	530.6	1800	0.2948	287.8	273.0	6.50	
855	118:16:11.86	33:43:23.88	1396.3	2280	0.6124	343.4	328.7		
917	118:16:11.86	33:43:25.48	161.8	1320	0.1226	178.6	163.9	7.00	
945	118:16:19.19	33:43:33.48	1022.4	1680	0.6086	322.7	307.9	8.00	
1018	118:16:20.78	33:43:39.42	618.7	1980	0.3125	347.5	332.7	10.00	
1045	118:16:23.58	33:43:41.36	308.3	1620	0.1903	309.8	295.1	9.00	
1128	118:16:23.91	33:43:52.19	1101.7	2580	0.4270	358.6	343.8	10.00	
1230	118:16:30.40	33:44:07.38	1638.1	3720	0.4403	325.7	325.7	8.50	
1305	118:16:31.93	33:44:10.29	1325.1	2100	0.1548	335.6	320.9	12.00	
1330	118:16:29.04	33:44:15.11	549.0	1500	0.3660	26.9	180.0	9.00	
1448	118:16:32.96	33:44:27.96	1348.0	4680	0.2880	345.8	331.0	10.00	
1552	118:16:28.90	33:44:29.51	378.0	3840	0.0984	65.3	50.6	10.00	PICKED UP
1644	118:16:32.22	33:44:36.50	763.8	3120	0.2449	338.5	323.7	7.00	
1645	118:16:29.65	33:44:36.12					225.0	7.00	RESET
1900	118:16:16.53	33:44:53.28	2067.5	8100	0.2552	32.4	225.0	7.00	
2015	118:16:09.43	33:45:03.38	1188.8	4500	0.2642	30.3	225.0	12.00	LOST

SUMMARY OF DROGUE #B01 FROM 635 TO 2015 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:11634.2  
13936.946140  
461400.2522  
0.3021

341.8



301 : DEPTH = 0.0

TABLE OF DROGUE #B02 DEPTH 10.0

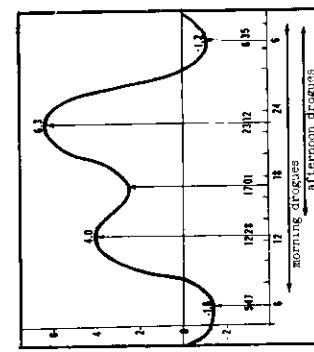
TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
640	118:16:01.17	33:43:09.13	538.9	1020	0.5284	301.8	287.1	157.5	PICKED UP
657	118:16:06.58	33:43:09.13	1.92				225.0	6.50	RESET
747	118:16:01.17	33:43:13.75	547.0	2160	0.2532	329.2	314.4	263.0	
823	118:16:04.48	33:43:14.64	677.2	1800	0.3762	277.7	180.0	10.00	
853	118:16:12.42	33:43:28.50	1416.6	1580	0.8433	354.1	339.3	10.00	
921	118:16:14.15	33:43:35.84	863.2	1020	0.3463	329.8	315.1	18.50	
938	118:16:19.29	33:43:39.57	384.2	2220	0.1731	350.5	335.8	10.00	
1015	118:16:20.03	33:43:45.09	573.7	2220	0.2584	247.7	332.9	9.00	
1052	118:16:21.48	33:43:51.69	795.0	1920	0.4141	327.6	312.8	10.00	
1124	118:16:26.52	33:43:52.89	658.8	4140	0.1591	79.3	64.5	16.50	
1233	118:16:26.86	33:43:52.89	62	1620	0.3927	267.5	252.8	180.0	
1300	118:16:26.38	33:43:52.62	636.1	2280	0.5251	357.5	342.8	225.0	
1338	118:16:26.99	33:44:04.39	1197.2	3600	0.0873	147.3	132.6	180.0	
1439	118:16:24.98	33:44:01.79	1314.3	3720	0.0356	197.4	182.6	12.00	
1540	118:16:25.45	33:44:00.54	1320.3	3240	0.1261	123.3	8.6	225.0	
1634	118:16:23.53	33:44:04.23	408.4	10080	0.0709	359.7	344.9	10.00	
1922	118:16:23.58	33:44:11.26	714.5				225.0	6.00	RESET
1923	118:16:27.78	33:44:52.23	3240.7	2640	1.2275	357.2	342.5	20.00	PICKED UP
2007	118:16:29.65	33:44:52.08					20.00	3.00	RESET
2008	118:16:31.38	33:44:18.04					0.0	0.0	
2130	118:16:31.89	33:44:29.55	1110.1	4920	0.2256	357.8	343.0	225.0	
2243	118:16:30.35	33:44:30.06	1140.0	4680	0.0299	68.5	53.8	200.0	
2320	118:16:29.88	33:44:22.80	739.2	1920	0.3850	176.9	162.2	5.00	
50	118:16:29.79	33:44:07.03	1602.7	5400	0.2968	179.7	165.0	0.0	
150	118:16:17.46	33:43:52.74	1787.8	3600	0.4966	144.3	129.6	1.00	
220	118:16:14.71	33:43:39.42	1373.8	1800	0.7632	170.2	155.5	6.00	
310	118:16:10.93	33:43:17.94	2206.2	3000	0.7354	171.7	156.9	7.00	
400	118:16:00.70	33:42:58.33	2172.8	3000	0.7243	156.6	141.8	6.00	
540	118:15:45.62	33:42:38.95	2346.4	6000	0.3911	147.1	132.3	180.0	

SUMMARY OF DROGUE #B02 FROM 540 TO 540 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:142.1  
156.8  
0.0419  
0.33363336.9  
26577.3  
79680

## Legend

- Reset
- + Torn
- \*+ Picked up
- ++ Bin recovered
- △ Deployed
- ◆ Deployed Morning
- Troops Deployed Morning
- - - Troops Deployed Afternoon



June 13 - 14, 1972 Pacific Daylight Time  
Los Angeles, Outer Harbor

B02 • DEPTH = 10.0

TABLE DE\_DROGUE #803 -----DEPTH--29.9

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
635	118:16:01.17	33:43:09.13							
700	118:16:00.19	33:43:15.42	644.8	1500	0.4299	7.4			
747	118:16:00.93	33:43:09.13							PICKED UP
819	118:16:07.89	33:43:12.04	658.5	1920	0.3430	296.7	225.0	6.50	RESET
847	118:16:13.07	33:43:22.68	1167.0	1680	0.6946	337.9	135.0	6.50	
900	118:16:14.01	33:43:24.89	238.4	780	0.3057	340.7	180.0	8.00	
925	118:16:19.56	33:43:33.28	973.5	1500	0.6490	331.1	180.0	9.00	
948	118:16:21.01	33:43:39.53	647.2	1380	0.4690	349.1	180.0	8.00	
1022	118:16:27.22	33:43:43.92	688.9	2040	0.3377	310.4	295.6	7.00	PICKED UP
1029	118:16:17.93	33:43:49.51							RESET
1048	118:16:16:23.86	33:43:47.53	536.6	1140	0.4707	248.0	180.0	9.00	
1120	118:16:28.67	33:43:54.52	818.6	1920	0.4264	330.2	135.5	8.00	
1226	118:16:33.76	33:44:08.31	1465.9	3960	0.3702	342.9	180.0	10.00	
1303	118:16:27.69	33:44:06.52	544.3	2220	0.2452	109.5	180.0	12.00	
1335	118:16:35.95	33:44:14.49	1069.1	1920	0.5568	319.2	225.0	40.00	
1443	118:16:28.53	33:44:13.36	638.0	4080	0.1564	100.3	180.0	85.6	
1547	118:16:32.08	33:44:12.74	306.6	3940	0.0798	258.1	202.5	12.00	
1638	118:16:27.13	33:44:13.55	426.6	3060	0.1394	78.8	225.0	6.50	

SUMMARY OF DROGUE #803 FROM 635 TO 1638 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:6906.7 32940 0.2097 341.5  
10824.0 32940 0.3286 326.7

B03 • DEPTH = 20.0

TIDAL HEIGHTS  
June 13 - 14, 1972 Pacific Daylight Time  
Loc.: Los Angeles, Outer Harbor

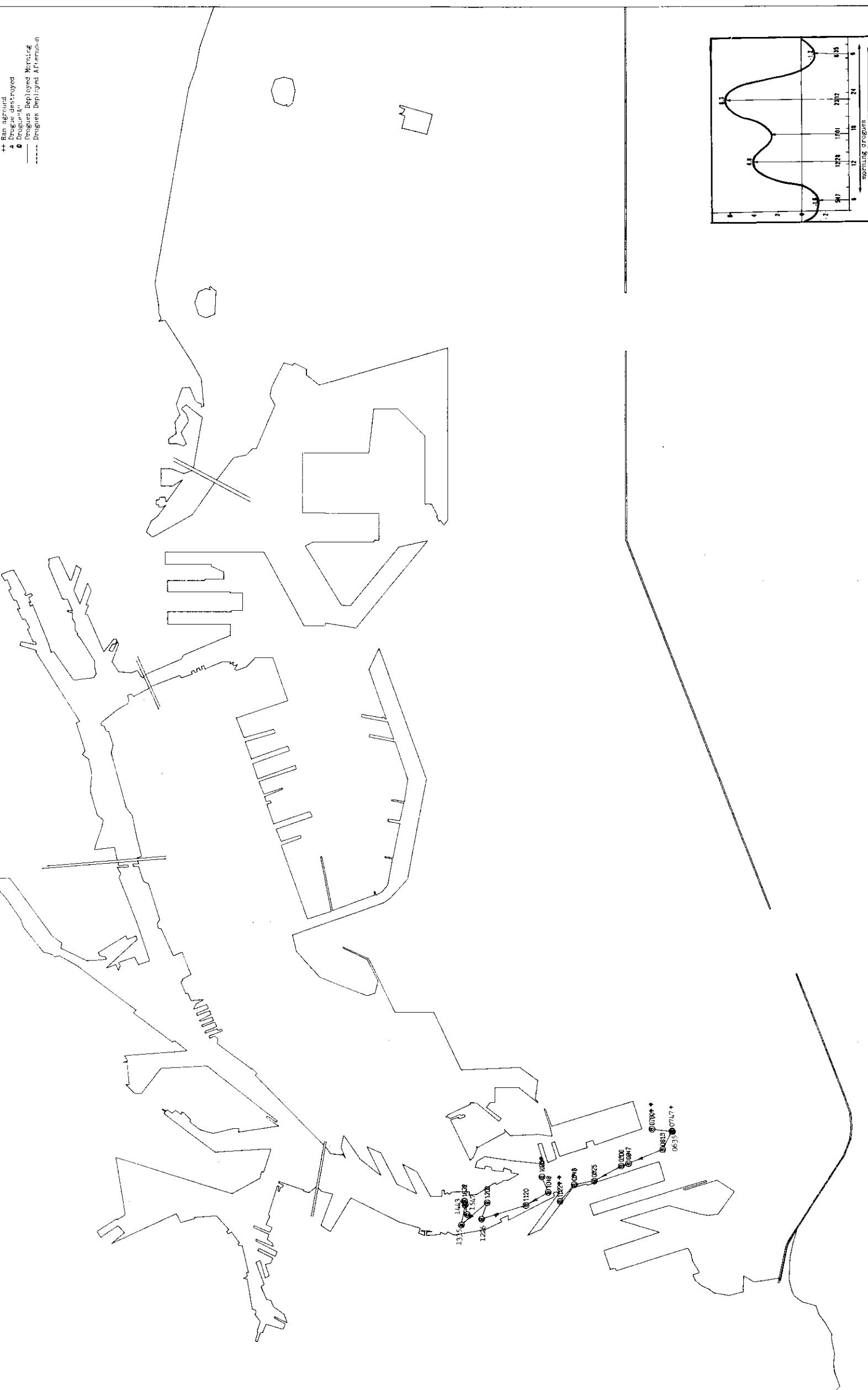
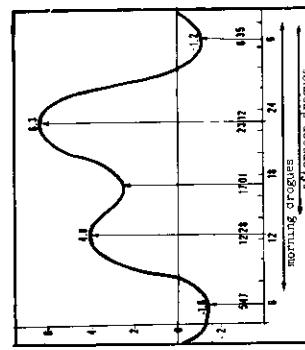
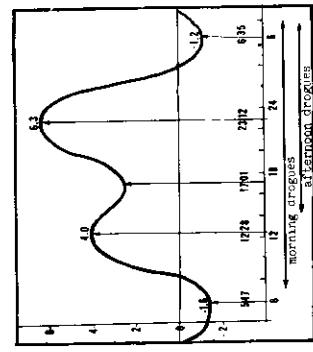
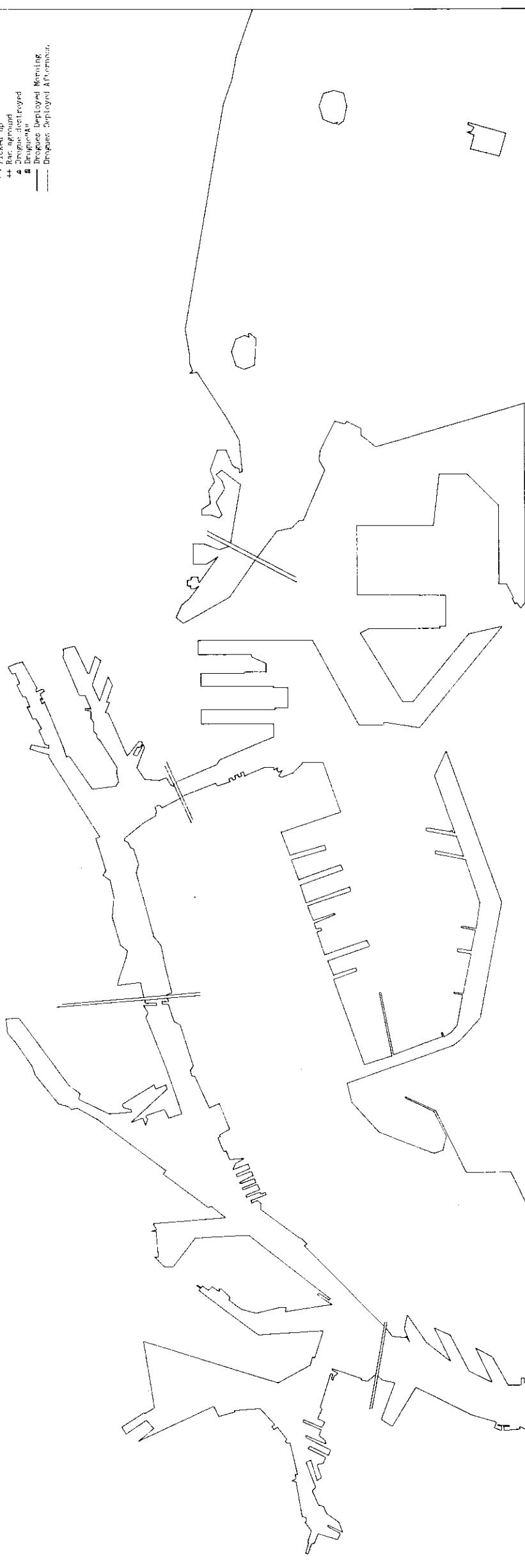


TABLE OF DROGUE #B04 DEPTH 10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1430	118:16:01.17	33:43:09.13	566.0	2340	0.2419	56.1	41.3	225.0	9.00
1509	118:15:55.61	33:43:12.23	91.8	940	0.1093	64.5	49.8	225.0	9.50
1523	118:15:54.63	33:43:12.62	134.4	3300	0.0407	266.6	251.9	225.0	10.00
1618	118:15:56.22	33:43:12.54	20	2760	0.0622	67.0	52.2	225.0	10.00
1704	118:15:54.35	33:43:13.20	171.6					225.0	12.00
1825	118:15:43.84	33:43:07.99	1033.7	4860	0.2127	120.8	106.0	225.0	22.00
1940	118:15:35.35	33:43:06.56	733.1	4500	0.1629	101.5	86.7	225.0	17.00
2208	118:14:50.57	33:42:51.15	4097.1	8880	0.4614	112.5	97.7	225.0	2.00
2245	118:15:13.54	33:42:33.01	2677.7	2220	1.2062	226.5	211.7	225.0	3.00
2316	118:14:36.70	33:42:41.90	3243.0	1860	1.7436	73.8	59.1	270.0	4.00
1125	118:16:00.70	33:43:09.13						0.0	RESET
200	118:16:01.26	33:42:41.59	2799.1	2100	1.3329	81.0	166.2	0.0	
250	118:15:54.35	33:42:20.31	2240.7	3000	0.7469	164.9	150.1	0.0	
410	118:15:24.79	33:42:34.33	2876.5	4800	0.5993	60.3	45.6	180.0	4.00
535	118:15:06.07	33:42:31.34	1602.9	5100	0.3143	99.1	84.3	180.0	6.00
SUMMARY OF DROGUE #B04 FROM 1430 TO 535 HOURS:									
NET DISPLACEMENT:	6004.7		46560		0.1290	129.1			114.4
GROSS DISPLACEMENT:	22267.7		46560		0.4783				

## Legend

- Retest
- Lost
- Picked up
- ▲ Drogue destroyed
- Drogue deployed Morning
- Drogue deployed Afternoon



TIDAL HEIGHTS  
June 13 - 14, 1972 Pacific Daylight Time  
Los Angeles: Outer Harbor

BOY • DEPTH = 10.0

TABLE DE DRUGUE #B06 DEPTH 0.0

TIME	LONGITUDE	LATITUDE	DEPTH	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1417	118°16'01.17	33°43'09.13						225.0	9.00	RAN AGROUND
1520	118°15'53.93	33°43'19.61	1228.9		3780	0.3251	29.9	225.0	10.00	
1523	118°15'54.63	33°43'12.62						225.0	10.00	
1623	118°15'45.15	33°43'20.89	1161.5		3600	0.3226	43.6	225.0	13.00	
1716	118°15'31.14	33°43'21.01	1184.3		3180	0.3724	89.4	74.7	12.00	
1750	118°15'18.12	33°43'20.39	1103.1		2040	0.5408	93.3	230.0	13.00	
1807	118°15'13.77	33°43'19.77	372.5		1020	0.3652	99.8	258.0	20.00	
2337	118°14'13.54	33°43'09.71	5193.8		19800	0.2623	101.4	198.0	6.00	
43	118°14'33.67	33°43'00.74	1930.3		3960	0.4874	241.8	227.1	186.0	
139	118°14'50.90	33°43'02.60	1468.9		3360	0.4372	277.4	262.7	190.0	
305	118°15'02.38	33°42'55.15	1231.8		5160	0.2387	232.0	217.3	0.0	
318	118°15'37.45	33°43'29.98	4618.0		780	5.9205	320.1	305.3	0.0	
358	118°15'04.34	33°42'54.45	4569.3		2400	1.9039	142.2	127.5	140.0	
502	118°15'12.14	33°42'54.72	659.8		3840	0.1718	272.4	257.7	135.0	
612	118°15'36.33	33°43'24.74	3673.1		4200	0.8745	326.2	311.4	142.0	
625	118°15'10.60	33°43'04.82	2971.8		780	3.8100	133.0	118.2	180.0	

SUMMARY OF DRUGUE #B06 FROM 1417 TO 625 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:4297.4  
31367.057900  
57900

81.1

95.9

0.0742  
0.5417

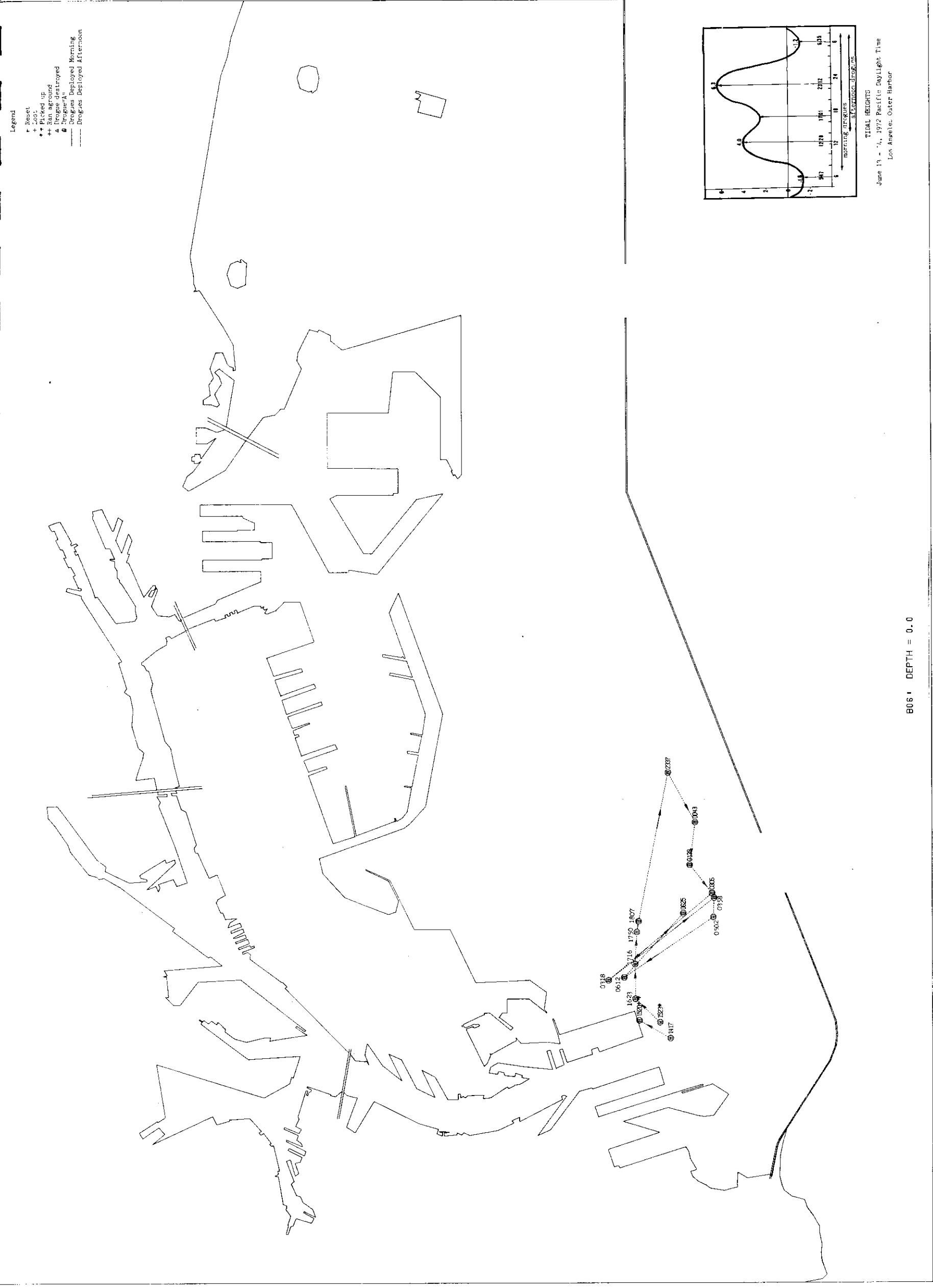


TABLE DE DROGUE #C01 DEPTH 10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
737	118:15:49.82	33:43:47.15	151.9	1500	0.1012	242.1	227.4	150.0	8.00
802	118:15:51.41	33:43:46.45	1098.2	3000	0.3661	332.6	317.9	155.0	PICKED UP
852	118:15:57.39	33:43:56.04					135.0	135.0	RESET
857	118:15:50.89	33:43:49.71					137.0	6.00	
917	118:15:52.20	33:43:53.59	409.9	1200	0.3416	344.4	329.6	138.0	
957	118:15:55.38	33:43:58.68	582.6	2400	0.2428	332.6	317.8	134.0	
1058	118:15:55.10	33:44.00.78	214.5	3660	0.0586	6.3	351.6	157.0	PICKED UP
1059	118:15:53.23	33:43:38.25					158.0	10.00	RESET
1133	118:15:59.63	33:44.06.72	2943.5	2040	1.4429	349.4	334.7	160.0	
1224	118:16:02.43	33:44.12.31	615.8	3060	0.2012	322.6	337.4	160.0	
1309	118:16:01.45	33:44.14.83	269.6	2640	0.1021	17.9	3.2	170.0	PICKED UP
1320	118:16:00.33	33:44.08.74					170.0	9.00	RESET
1410	118:16:00.70	33:44.13.90	526.0	3000	0.1753	356.6	341.8	160.0	
1539	118:15:56.50	33:44.17.48	508.0	5340	0.0951	44.4	29.6	140.0	
1808	118:16:00.19	33:44.01.94					45.4	220.0	PICKED UP
1923	118:15:56.36	33:44.05.09	455.0	4500	0.1011	45.4	30.6	160.0	RESET
								8.00	

SUMMARY OF DROGUE #C01 FROM 737 TO 1923 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:1905.6  
7775.032340  
323400.0589  
0.2404343.1  
328.4

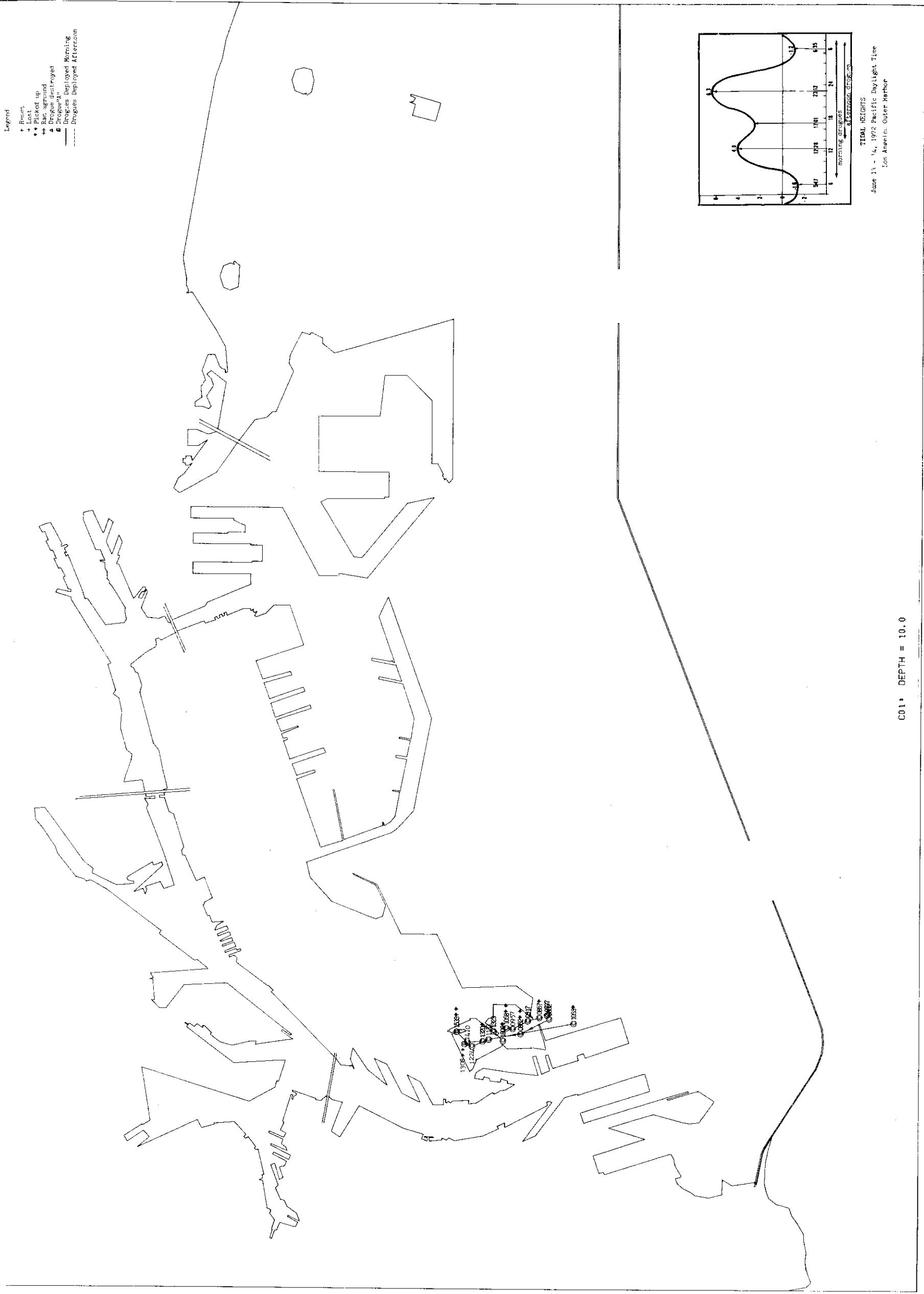


TABLE 2 OE DRUGUE #CO2 DEPIH - Q.9

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED SEC	TIME	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1443	113:15:49.63	33:43:46.83								
1520	118:15:44.12	33:43:46.64	466.2	2220		0.2100	92.4		14.00	
1600	118:15:31.89	33:43:59.58	1602.2	2400		0.6676	40.2		11.00	
1704	118:15:27.36	33:44:07.50	974.4	3840		0.2538	23.1		140.0	
1842	118:15:12.28	33:44:13.75	1424.6	5880		0.2423	63.5		140.0	
1117	118:14:44.12	33:43:33.48	4735.2	23700		0.1998	149.8		220.0	
152	118:15:25.31	33:43:11.69	4126.2	2100		1.9649	237.5		78.0	
257	118:15:03.04	33:43:07.38	1933.2	3900		0.4957	103.1		135.1	
352	113:15:40.16	33:43:27.50	3745.6	3300		1.1350	303.1		222.8	
454	118:15:03.97	33:43:07.30	3684.1	3720		0.9903	123.9		0.0	
602	118:15:20.26	33:43:09.20	1391.2	4080		0.3410	278.0		0.0	
										263.2

SUMMARY OF DRUGUE \*CO2 FROM 1443 TO 602 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:4560.2  
24082.955140  
551400.0827  
0.4368

147.0

132.3

## Legend

- \* Reset
- + Lost
- ♦ Picked up
- ▲ Drogue destroyed
- Drogue "A"
- Drogue Deployed Morning
- - - Drogue Deployed Afternoon

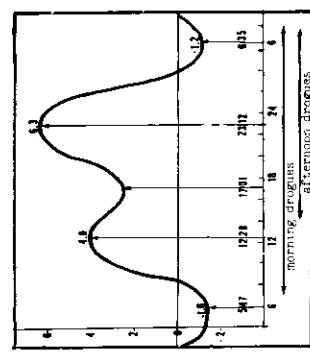
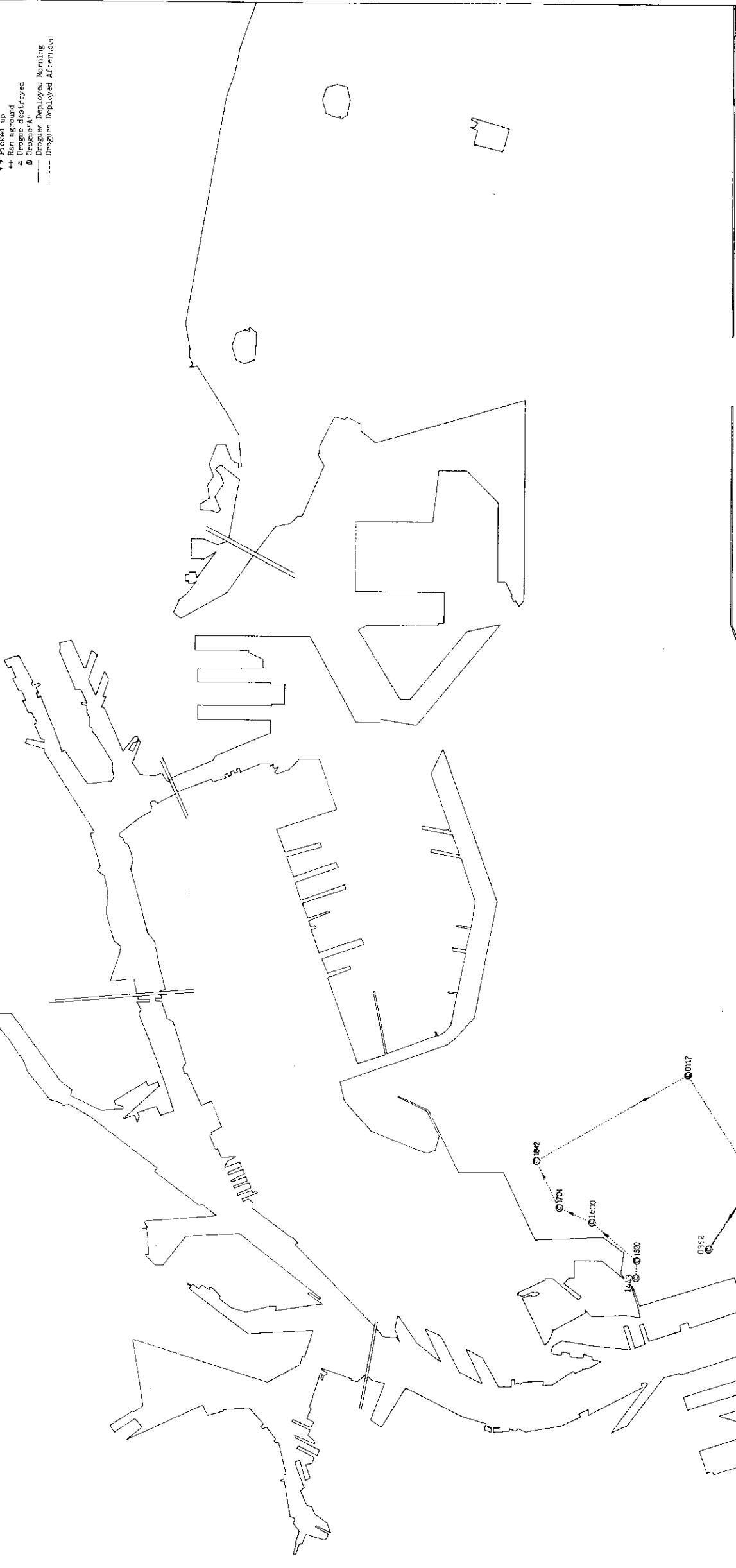


TABLE - DROGUE #C03 DEPTH - 9.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
724	118:15:49.82	33:43:47.15					120.0	7.00	
730	118:15:45.48	33:43:45.83					125.0	6.00	RESET
805	118:15:50.29	33:43:49.23	537.3	2100	0.2559	310.8	296.1		
842	118:15:54.16	33:42:48.35		2220	0.1536	253.9	239.1		PICKED UP
857	118:15:49.82	33:43:47.15					134.0	5.00	RESET
917	118:15:43.38	33:43:25.75	2442.2	1200	1.8685	165.9	151.2		PICKED UP
949	118:15:45.06	33:43:25.40		1920	0.0763	256.0	241.2		RESET
1038	118:16:00.33	33:44:08.12					135.0	9.00	
1149	118:15:59.39	33:44:08.31					155.0	9.00	
1238	118:15:57.43	33:44:10.37	266.9	2940	0.0908	38.4	23.6		RESET
1315	118:15:58.83	33:44:17.48	732.0	2220	0.3297	350.7	335.9		PICKED UP
1320	118:16:00.33	33:44:08.74					170.0	9.00	RESET
1407	118:15:56.97	33:44:17.86	970.2	2820	0.3440	17.0	2.3		PICKED UP
1414	118:15:59.39	33:44:06.25					160.0	6.00	RESET
1533	118:15:56.03	33:44:17.86	1214.0	4740	0.2561	13.5	358.8		PICKED UP
1547	118:15:58.51	33:44:00.47					140.0	6.00	RESET
1640	118:16:01.87	33:44:09.59	970.2	3180	0.3051	343.0	328.2		PICKED UP
1800	118:16:01.17	33:44:02.72	701.2	4800	0.1461	175.2	160.4		RESET
1808	118:16:00.19	33:44:01.94					180.0	8.00	PICKED UP
1920	118:15:55.28	33:44:07.61	709.9	4320	0.1643	35.7	21.0		RAN AROUND
2105	118:15:48.56	33:43:45.24					160.0	7.00	RESET
2157	118:15:43.98	33:43:45.79	390.8	3120	0.1252	81.9	67.1		
2303	118:15:43.28	33:43:41.86		403.1	0.1018	171.6	156.8		
2302	118:15:47.16	33:43:22.33		2012.4	0.5685	189.4	174.6		
300	119:16:03.46	33:43:10.25	1845.3	3960	0.1728	228.3	213.5		
405	118:15:48.09	33:42:53.28		10580	0.5536	143.0	128.3		
845	118:15:21.01	33:42:48.93	2331.8	3900	0.1388	100.9	86.2		
				16800					

SUMMARY OF DROGUE #C03 FROM 724 TO 845 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:6398.8      77400  
22503.9      774000.0827  
0.2907157.6  
142.9



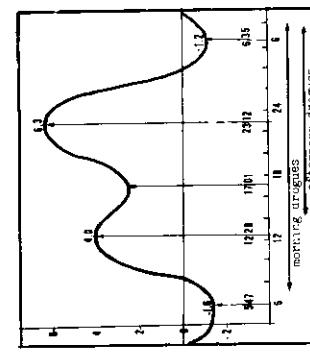
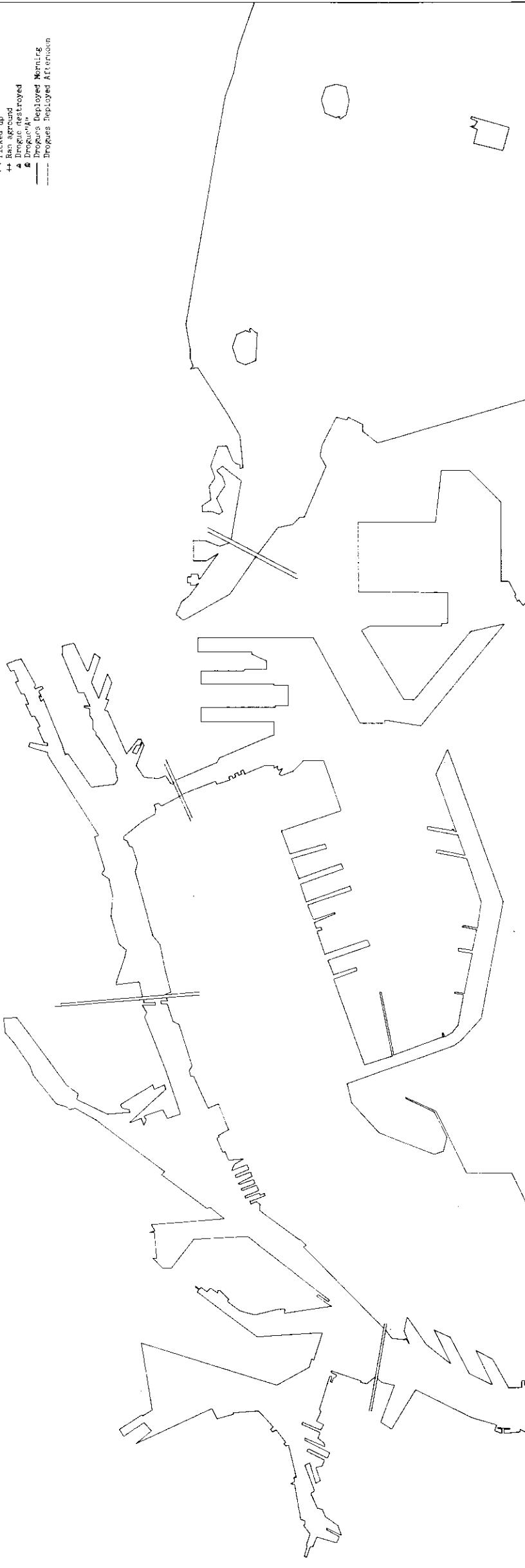
C031 DEPTH = 0.0

TABLE DE DROGUE #CQ4 DEPTH 10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION TRUE	OF MOVEMENT - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1425	118°15'49.82	33°43'15.34						160.0	14.00	
1523	118°15'44.87	33°43'46.72	3216.8	3480	0.9244	7.5	352.7	140.0	12.00	
1556	118°15'40.16	33°43'48.74	448.4	1980	0.2265	62.8	48.0	140.0	9.00	
1656	118°15'33.15	33°43'49.51	597.4	3600	0.1659	82.4	67.7	160.0	10.00	
1823	118°15'37.45	33°43'52.45	497.1	5220	0.0952	313.1	298.3	220.0	9.00	
1930	118°15'38.43	33°43'53.50	660.5	4020	0.1643	352.8	338.0	224.0	15.00	
2022	118°15'35.39	33°43'57.75	301.3	3120	0.0966	121.6	106.9	220.0	11.00	
2107	118°15'45.34	33°43'48.04	1296.5	2700	0.4802	220.4	205.7	210.0	5.50	PICKED UP
2159	118°15'47.86	33°43'43.93	231.7	3120	0.0743	293.1	278.3	210.0	1.00	RESET
2210	118°15'48.56	33°43'45.24						210.0	1.00	
2258	118°15'50.85	33°43'45.86	203.5	2880	0.0707	288.1	273.3	210.0	4.50	
49	118°15'51.78	33°43'45.79	79.3	6660	0.0119	264.3	249.5	210.0	0.0	
215	118°15'58.83	33°43'46.02	596.5	5160	0.1156	272.3	257.5	210.0	0.0	
SUMMARY OF DROGUE #CQ4 FROM 1425 TO 215 HOURS:										
NET DISPLACEMENT:				3210.2	41940	0.0765	331.5			
GROSS DISPLACEMENT:				8129.0	41940	0.1938	346.3			

## Legend

- Recovered
- Lost
- Picked up
- Ran aground
- ▲ Drogue destroyed
- Drogue Deployed Morning
- Drogues Deployed Afternoon



June 13 - 14, 1972 Pacific Daylight Time  
Los Angeles: Outer Harbor

C04 \* DEPTH = 10.0

TABLE USE-DROGUE #COS DEPTH--20±0

TIME	LONGITUDE	LATITUDE	DEPTH	DISTANCE FEET	ELAPSED SEC	TIME	SPEED FT/SEC	DIRECTION TRUE	OF MOVEMENT -- -	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1523	118:15:55.6	33:43:05.94				3300	0.3153	356.3		225.0	10.00	
1618	118:15:56.45	33:43:16.16	1040.3			3000	0.2931	61.8		225.0	10.00	
1708	118:15:50.10	33:43:18.99	609.3			4860	0.0779	219.5		204.7	15.00	
1829	118:15:52.95	33:43:16.12	378.6			3720	0.2075	265.6		225.0	22.00	
1931	118:16:02.05	33:43:15.53	772.0			3840	0.0876	266.0		251.2	18.00	
2035	118:16:06.02	33:43:15.30	336.4			7200	0.1331	102.6		225.0	9.00	
2235	118:15:54.96	33:43:13.24	958.6			7200	0.1331	102.6		225.0	2.00	
2304	118:16:10.74	33:43:43.77	3377.4			1740	1.9410	336.7		322.0	0.00	
135	118:15:57.34	33:43:10.72	3545.1			9060	0.3913	161.4		146.6	6.00	
205	118:15:50.05	33:43:08.16	668.6			1800	0.3715	112.9		98.2	0.00	
300	118:16:02.57	33:43:26.60	2152.9			3300	0.6524	330.6		45.0	3.00	
630	118:15:22.46	33:43:01.93	4223.8			12600	0.3352	126.6		180.0	5.00	
SUMMARY OF DROGUE #COS FROM 1523 TO 630 HOURS:												
NET DISPLACEMENT:												
GROSS DISPLACEMENT:												
				2837.6		54420	0.0521	98.5				
				18063.0		54420	0.3319					83.7

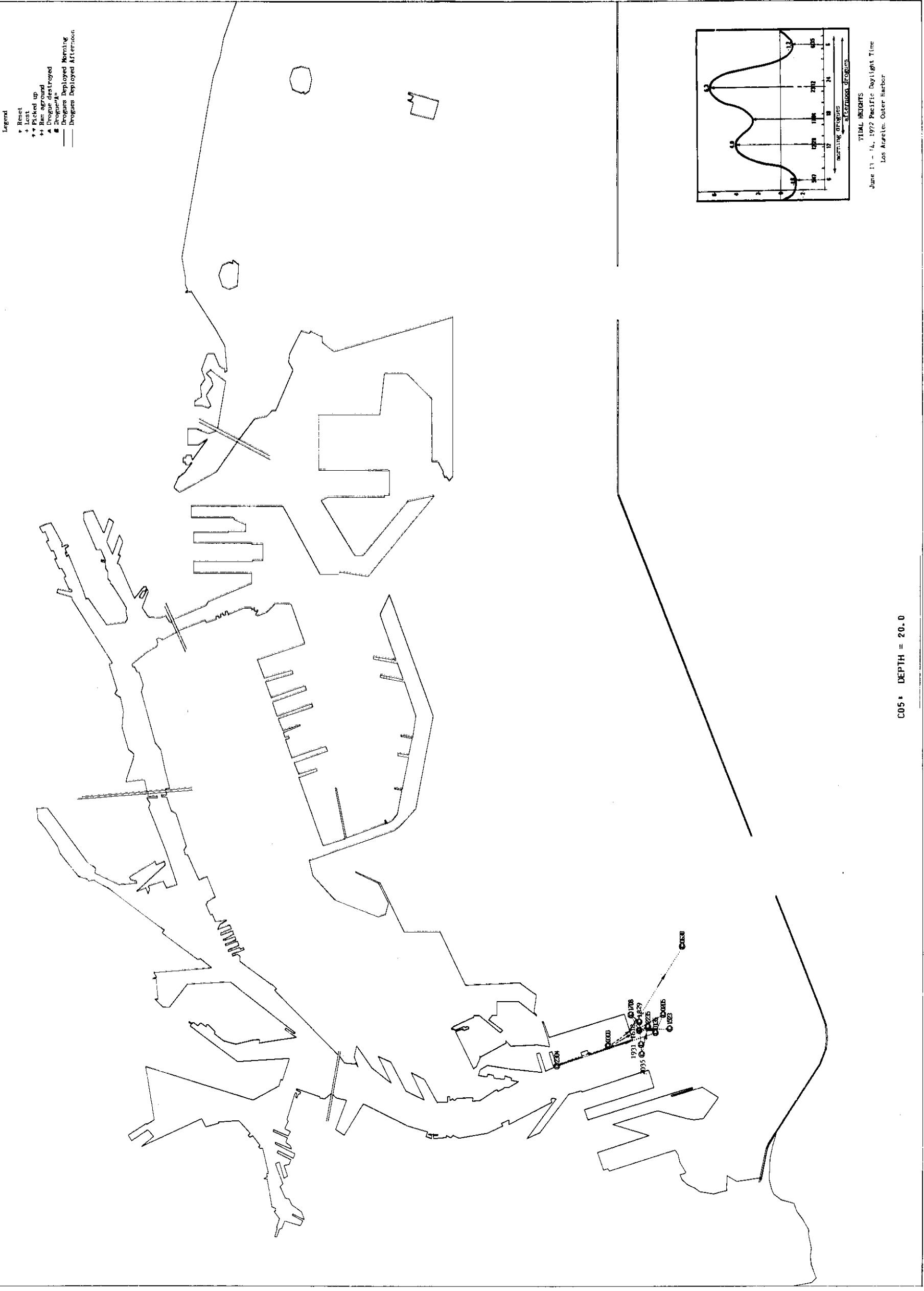


TABLE 2F DROGUE #E01 DEPTH 9.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
750	118:15:24.56	33:44:06.37							
818	118:15:26.19	33:44:09.98	344.7	1680	0.2052	336.4	321.6		
903	118:15:26.15	33:44:08.54							PICKED UP
935	118:15:30.16	33:44:10.21	379.5						RESET
1020	118:15:36.89	33:44:06.99	656.1	1920	0.1977	296.6	281.8		
1252	118:15:19.14	33:44:06.83	1500.1	2700	0.2430	240.0	225.3		
1340	118:15:21.67	33:44:04.97	285.2	9120	0.1645	90.6	75.9		
1505	118:15:08.59	33:44:14.29	1455.7	2880	0.0990	228.4	213.6		
1620	118:14:56.40	33:44:26.21	1590.6	5100	0.2854	49.4	34.6		
1731	118:14:43.19	33:44:48.54	2529.8	4500	0.3535	40.4	25.6		
1858	118:14:41.32	33:44:48.27	160.3	4260	0.5938	26.2	11.5		
1905	118:14:50.29	33:44:37.36		5220	0.0307	99.9	85.2		
2000	118:14:36.28	33:44:35.22							RAN AGROUND
2017	118:15:25.63	33:44:04.66	1204.0	3300	0.3648	100.4	85.6		
2031	118:15:25.91	33:43:59.99	474.1						RESET
2132	118:15:15.78	33:43:59.99	856.6	840	0.5644	182.4	167.6		
227	118:15:18.82	33:43:22.37	3833.6	3660	0.2340	90.0	235.0		
109	118:15:23.49	33:43:14.72	872.1	10500	0.3651	183.8	226.0		
222	118:15:22.32	33:43:04.85	1007.5	2520	0.3461	192.2	180.0		
610	118:15:55.56	33:43:08.74	2838.1	4360	0.2300	174.4	194.0		
				13680	0.2075	278.0	206.9		
							159.6		
							174.4		
							84.0		
							253.2		
							278.0		

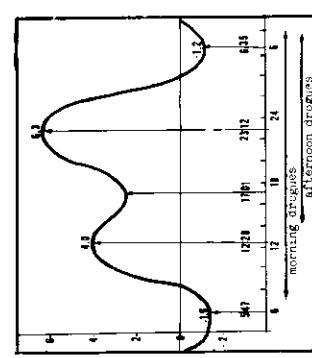
SUMMARY OF DROGUE #E01 FROM 750 TO 610 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:6464.5  
19988.076260  
762600.0848  
0.2621203.9  
203.9

189.2

## Legend

- Reset
- + Lost
- + Picked up
- ++ Ret. Ground
- ▲ Drone deployed Morning
- Drogues Deployed Morning
- Drogues Deployed Afternoon



E01 • DEPTH = 0.0

TABLE OF DROGUE #E02 DEPTH - 0.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1350	118°15'24.0"	33°44'04.19	4388.2	4380	1.0019	28.7	170.0	11.00	
1503	118°14'59.35	33°43'42.06	5006.5	4500	1.1126	206.5	170.0	10.00	
1618	118°15'25.77	33°43'57.98	5681.9	4200	1.3528	35.9	200.0	14.00	RAN AGRUND
1728	118°14'46.37	33°44'43.26	745.0	5100	0.1461	62.9	220.0	11.00	
1853	118°14'38.52	33°44'46.60					220.0	10.00	RESET
1905	118°14'50.29	33°44'37.36					220.0	10.00	PICKED UP
2000	118°14'36.28	33°44'35.22	1204.0	3300	0.3648	100.4	220.0	14.00	RESET
2017	118°15'25.68	33°44'04.66					220.0	14.00	
2031	118°15'25.91	33°43'59.99	474.1	340	0.5644	182.4	235.0	6.00	
2129	118°15'07.47	33°43'57.79	1575.4	3480	0.4527	98.2	220.0	2.00	
225	118°15'17.37	33°43'22.14	3719.1	10560	0.3522	193.0	178.3	0.0	
105	118°15'17.84	33°43'08.58	1378.2	2400	0.5743	181.6	166.9	2.00	
225	118°15'23.91	33°43'04.54	657.2	4800	0.1369	231.3	216.6	0.0	
608	118°15'46.60	33°43'08.23	1954.7	13380	0.1461	281.1	266.3	3.00	
SUMMARY OF DROGUE #E02 FROM 1350 TO 608 HOURS:									
NET DISPLACEMENT:									
GROSS DISPLACEMENT:									
			5993.0	56940	0.1053	198.4			
			26784.2	56940	0.4704				

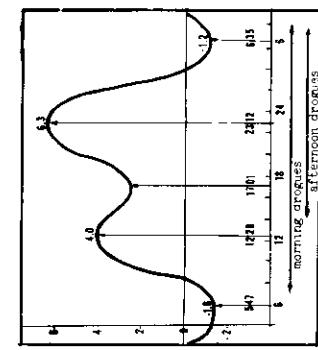
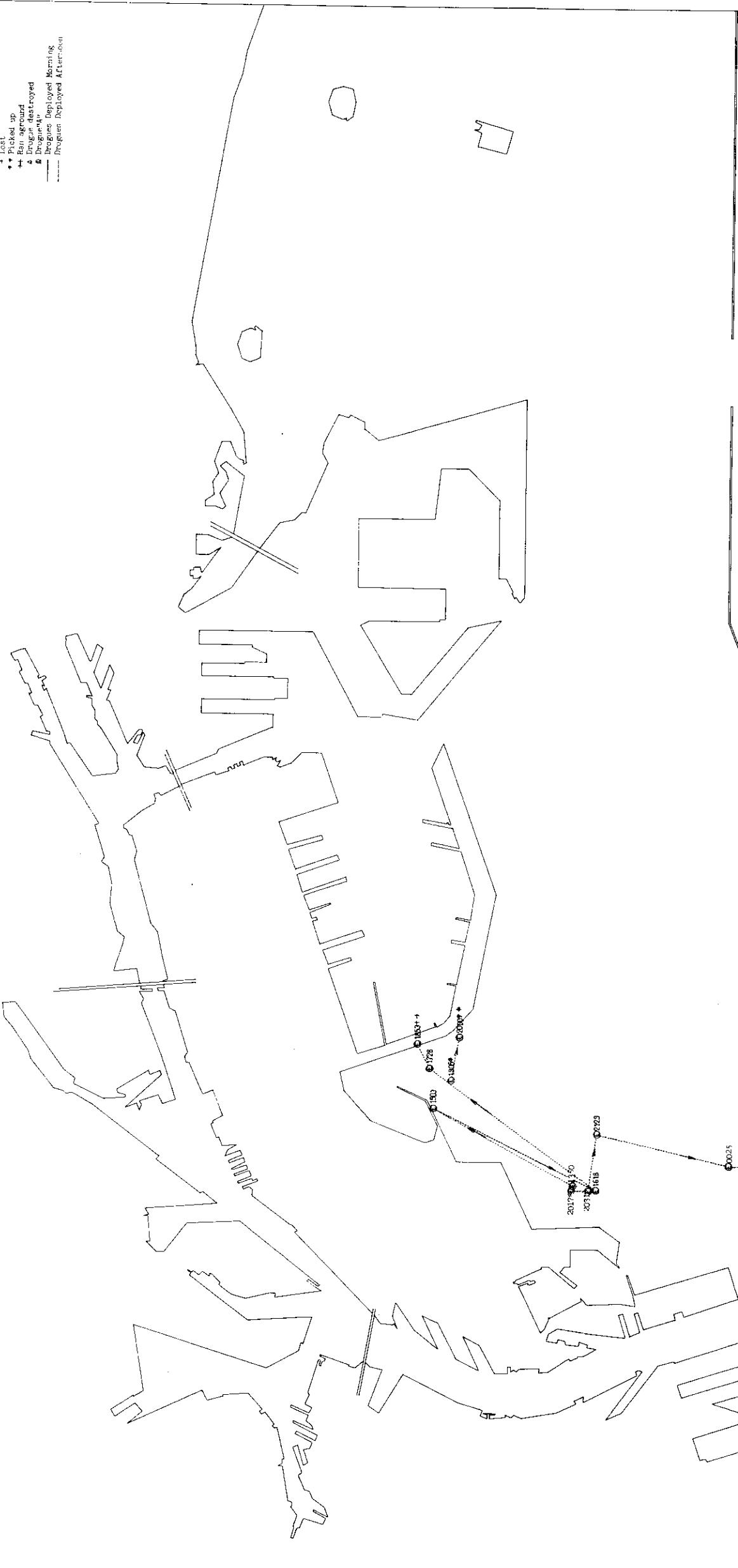
NET DISPLACEMENT:  
GROSS DISPLACEMENT:

5993.0  
26784.2  
56940  
0.1053  
0.4704

198.4  
183.6

## Legend

- Reset
- Lost
- Picked up
- ↔ Ran aground
- ↔ Drogue destroyed
- Drogue
- Drogues Deployed Morning
- Drogues Deployed Afternoon



E02 • DEPTH = 0.0

TABLE QE-DROGUE #E03 DEPTH - 10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
750	115:15:24.56	33:44:06.87	543.4	2100	0.2588	191.3	176.6	8.00	
825	119:15:25.82	33:44:01.63	703.2	2280	0.3084	138.0	120.0	7.00	
903	119:15:26.15	33:44:08.54	467.1	1620	0.2884	195.7	195.0	7.50	
930	118:15:28.95	33:44:04.58	308.0	2340	0.1316	271.5	256.7	9.50	
1009	118:15:32.59	33:44:04.66	573.7	3780	0.1518	206.6	191.8	8.00	RAN A GROUND
1112	118:15:35.63	33:43:59.61	607.9	2940	0.2068	18.6	3.8	12.00	RESET
1201	118:15:33.34	33:44:05.28						10.00	
1210	118:15:24.56	33:43:58.60						10.00	
1245	118:15:29.25	33:44:02.68	518.7	2100	0.2470	323.0	308.3	10.00	
1335	118:15:29.23	33:43:59.03	380.2	3000	0.1267	192.6	177.8	9.00	
1450	118:15:31.75	33:43:59.34	215.5	4500	0.0479	278.4	263.7	10.00	
1604	118:15:29.42	33:44:04.39	549.8	4440	0.1238	21.0	6.3	8.00	
1707	118:15:34.79	33:44:04.31	454.0	3780	0.1201	269.0	254.3	9.00	
1827	118:15:30.86	33:44:03.30	347.1	4300	0.0723	107.2	92.4	11.00	
1936	118:15:21.15	33:44:10.17	1078.1	4140	0.2604	49.6	34.9	13.00	
2040	118:15:35.02	33:43:57.59	1735.0	3840	0.4518	222.5	207.8	15.00	
2115	118:15:31.19	33:44:05.83	897.3	2100	0.4273	21.1	6.4	21.0	
2309	118:15:36.05	33:43:51.65	1498.1	6840	0.2190	195.9	181.2	14.00	
2445	118:15:43.19	33:43:44.19	969.1	5760	0.1682	218.6	203.8	4.00	
2221	118:15:44.97	33:43:42.10	260.6	5760	0.0453	215.1	200.4	2.50	
425	118:15:43.80	33:43:33.32	897.6	7440	0.1206	173.7	158.9	6.00	
523	118:15:43.56	33:43:39.50	628.0	3480	0.1804	1.8	347.1	130.0	
650	118:15:51.97	33:43:32.16	1030.3	5220	0.1974	223.6	208.9	5.50	

SUMMARY OF DROGUE #E03 FROM 750 TO 650 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:4221.7  
14662.7  
82260  
82260  
0.0513  
0.1782  
213.3213.3  
213.3

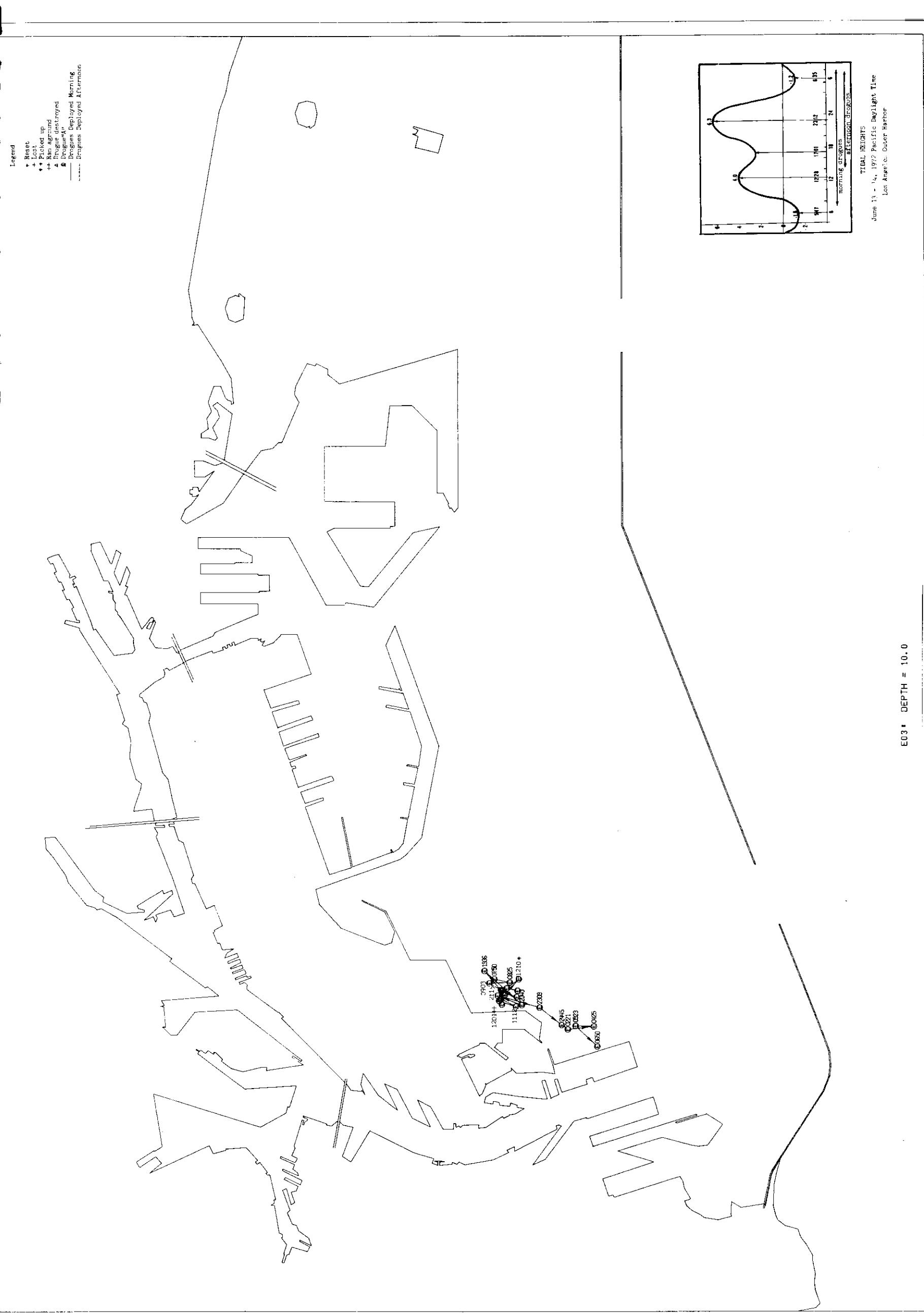


TABLE OF DROGUE #04 DEPTH 10.0

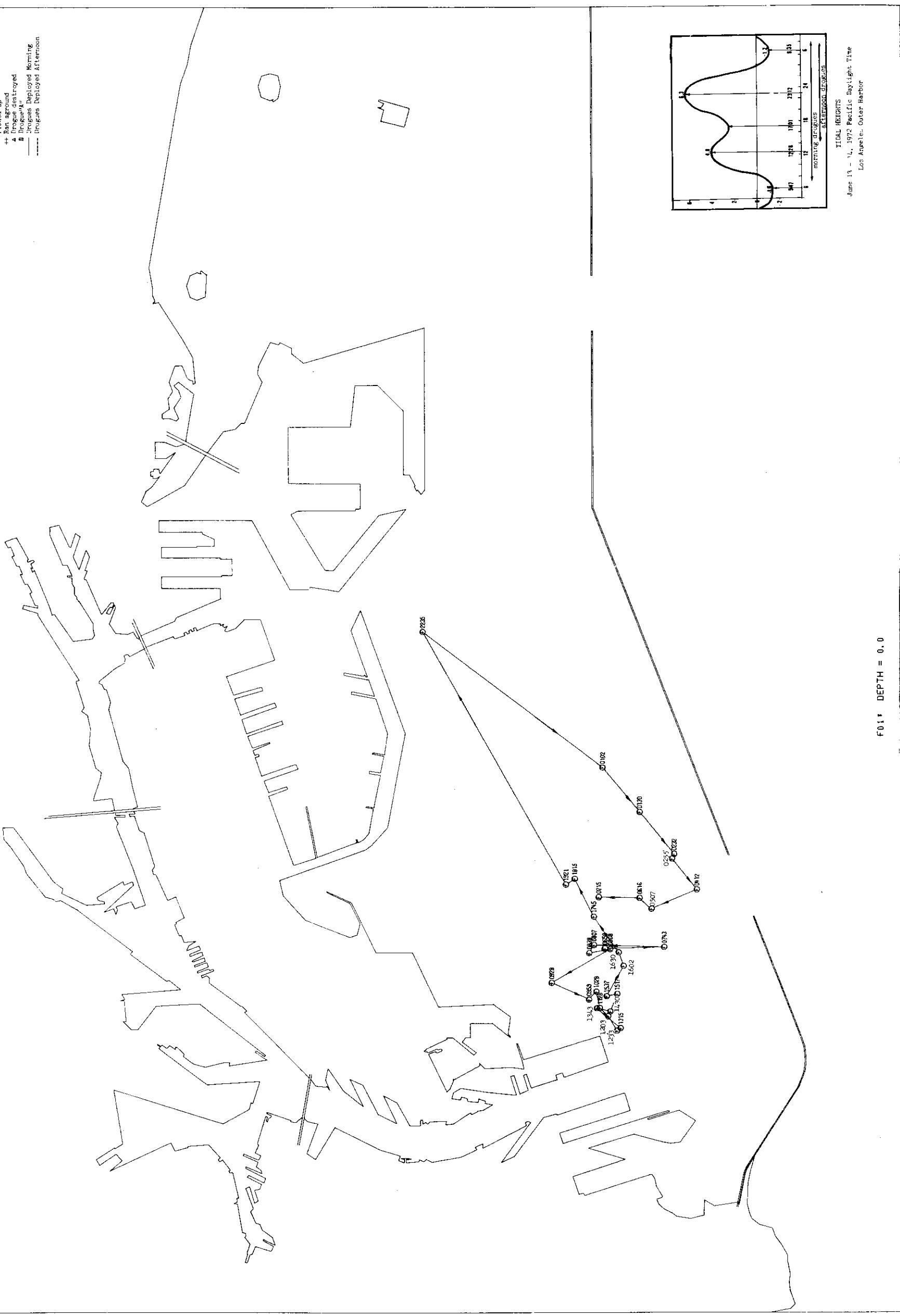
SUMMARY	OF DROGUE #E04	FROM 1350 TO 710	HOURS:	214•2
SUMMARY	OF DISPLACEMENT:	853•3	0.0147	228.9
SUMMARY	ACROSS DISPLACEMENT:	6897•6	0.1185	58200
TIME	LONGITUDE	LATITUDE	DISTANCE FEET	
11350	118:15:24.28	33:44:04.19	738.0	3900
11455	118:15:21.76	33:44:11.15	905.8	4320
11607	118:15:26.75	33:44:03.26	449.1	3900
11712	118:15:25.82	33:44:07.61	58.1	5040
11836	118:15:29.74	33:44:02.02	786.5	3960
11942	118:15:26.94	33:44:09.40	782.6	5880
22120	118:15:28.34	33:44:11.92	558.5	7920
22332	118:15:34.69	33:44:13.44	0.0	0.0
22341	118:15:25.68	33:44:04.66	762.0	3180
2234	118:15:32.78	33:44:00.04	237.5	3540
133	118:15:31.75	33:43:57.86	520.0	7380
336	118:15:37.68	33:43:59.22	0.0	0.0
437	119:15:36.05	33:43:56.27	0.0	0.0
533	119:15:36.89	33:43:57.36	31.4	3360
610	118:15:33.76	33:44:01.75	518.6	2220
710	118:15:31.89	33:43:58.68	349.5	3600
PICKED UP				
RESET				
WIND DIR MAG	WIND SPEED KNOTS	WIND SPEED KNOTS	WIND SPEED KNOTS	REMARKS
170.0	160.0	150.0	160.0	1.00
193.0	155.4	195.5	160.0	1.00
210.1	220.0	210.3	220.0	9.00
217.5	220.8	217.5	220.0	13.00
320.5	210.0	210.0	210.0	13.00
320.5	210.0	210.0	210.0	5.50
271.3	130.0	130.0	130.0	1.00
286.0	130.0	130.0	130.0	1.00
286.0	130.0	130.0	130.0	7.00
217.2	180.0	180.0	180.0	4.00
217.2	180.0	180.0	180.0	4.00
143.8	143.8	143.8	143.8	RAN A GROUND
270.7	270.7	270.7	270.7	0.0
110.0	110.0	110.0	110.0	0.0
312.5	140.0	140.0	140.0	7.00
312.5	140.0	140.0	140.0	6.50
30.7	130.0	130.0	130.0	3.00
153.1	145.0	145.0	145.0	7.00



E04 F DEPTH = 10.0

TABLE OF DROGUE #FO1 DEPTH Q.0

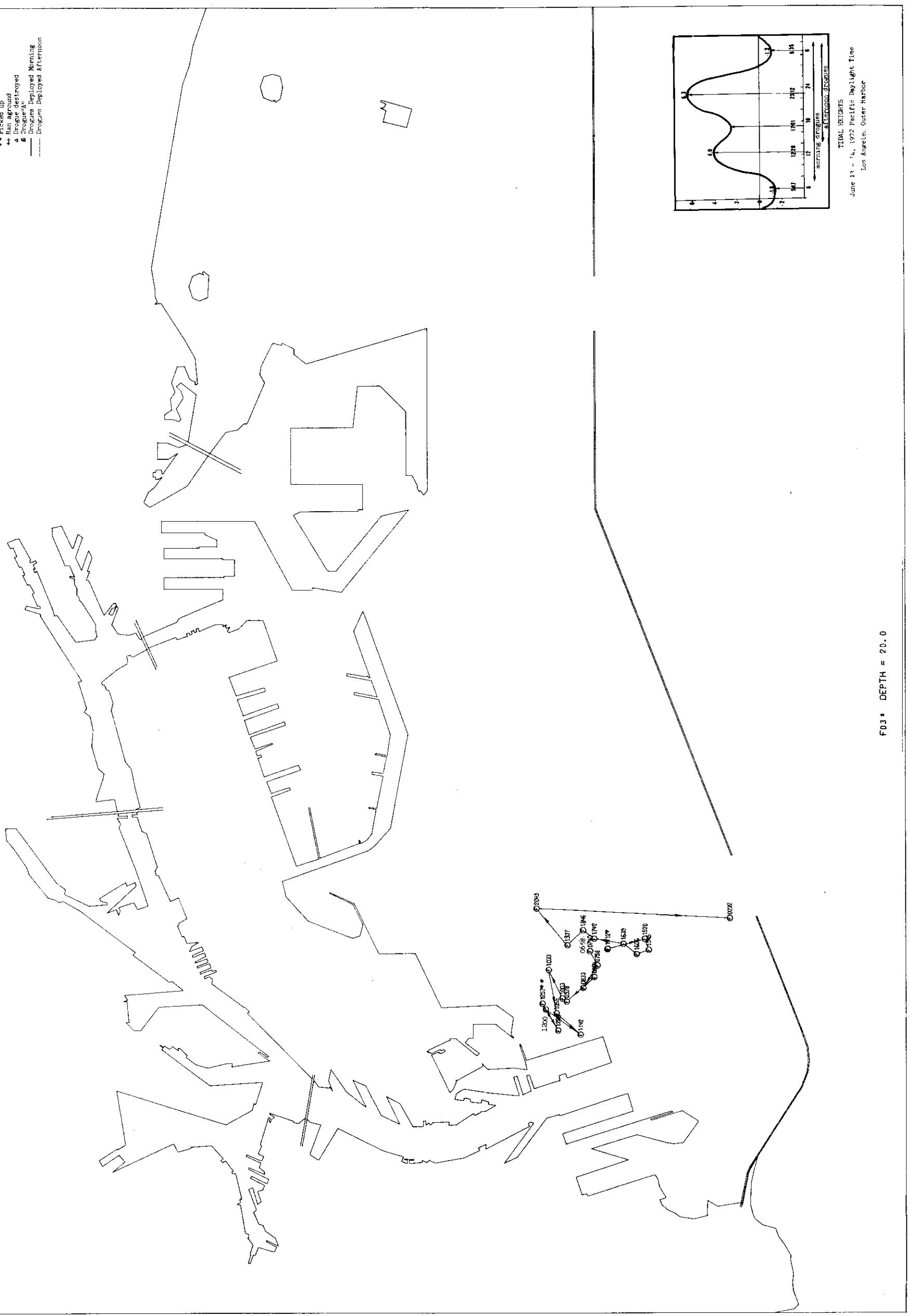
TIME	LONGITUDE	LATITUDE	DEPTH	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
658	118°15'14.52	33°43'19.11	1990.1	2700	0.7371	178.6	153.0	139.0	5.00	
743	118°15'13.96	33°42'59.53	2361.5	1440	1.6399	11.6	126.0	126.0	6.00	
807	118°15'13.17	33°43'22.76	306.7	1860	0.1649	301.8	137.0	137.0	8.00	
838	118°15'16.25	33°43'24.35	178.5	1800	0.3992	169.6	130.0	130.0	10.00	
908	118°15'14.71	33°43'17.40	2277.7	1200	1.891	330.3	131.0	131.0	9.00	
928	118°15'28.16	33°43'36.82	1373.1	1860	0.7382	203.9	156.0	156.0	6.00	
959	118°15'34.74	33°43'24.47	360.3	1740	0.2071	132.8	118.0	118.0	8.00	
1023	118°15'31.61	33°43'22.06	565.2	3600	0.1570	257.9	243.2	243.2	9.00	
1123	118°15'38.15	33°43'20.89	2100	0.1834	225.0	210.3	148.0	148.0	8.00	
1203	118°15'41.37	33°43'18.21	385.2	1800	0.3178	238.8	150.0	150.0	5.00	
1233	118°15'47.16	33°43'15.70	572.0	150.0	0.0595	144.6	129.9	129.9	10.00	
1315	118°15'46.13	33°43'14.10	1042.7	1680	0.6206	39.8	165.0	165.0	7.00	
1343	118°15'38.24	33°43'21.98	1467.2	2820	0.1657	193.7	178.9	178.9	5.00	
1430	118°15'39.55	33°43'17.51	631.2	2820	0.2238	111.3	196.5	196.5	8.00	
1517	118°15'32.59	33°43'15.26	363.1	1200	0.3026	348.1	180.0	180.0	6.00	
1537	118°15'33.48	33°43'18.76	1171.7	1500	0.7811	119.2	104.5	104.5	8.00	
1602	118°15'21.39	33°43'13.13	760	1680	0.2921	70.3	55.5	55.5	10.00	
1630	118°15'15.92	33°43'14.76	1454.3	4500	0.3232	55.1	49.3	49.3	16.00	
1745	118°15'01.82	33°43'22.95	1424.6	1800	0.7915	63.5	240.0	240.0	20.00	
1815	118°14'46.74	33°43'29.20	354.8	3960	0.0896	327.7	313.0	313.0	24.0	
1921	118°14'48.98	33°43'32.16	9769.4	11640	0.8393	60.5	195.0	195.0	2.50	
2235	118°13'08.36	33°44'19.42	20.08	7565.7	0.8578	217.1	202.4	202.4	4.50	
1102	118°14'02.38	33°43'20.98	07.81	1953.9	1.1631	230.3	215.6	215.6	3.00	
130	118°14'20.17	33°43'07.81	1823.6	3720	0.4902	230.8	216.0	216.0	0.0	
232	118°14'36.89	33°42'56.47	180.4	1380	0.1307	135.0	278.4	278.4	4.50	
255	118°14'38.85	33°42'57.17	42.01	1328.5	0.4249	293.2	287.6	287.6	4.50	
412	118°14'51.13	33°42'49.01	1650.3	4620	0.5001	337.1	322.3	322.3	5.00	
507	118°14'58.74	33°43'03.96	539.3	4140	0.1303	42.3	104.0	104.0	2.00	
616	118°14'54.44	33°43'07.88	21.36	3540	0.3870	0.8	178.0	178.0	2.00	
715	118°14'54.21	33°43'21.36	1369.9							
SUMMARY OF DROGUE #FO1 FROM 658 TO 715 HOURS:										
NET DISPLACEMENT:		1732.3		87420		0.0198				
GROSS DISPLACEMENT:		44641.6		87420		0.5107				
						82.4				
						67.7				



F01; DEPTH = 0, 0

TABLE OF DRUGUE #E03 DEPTH - 20.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME	SPEED FT/SEC	DIRECTION TRUE -	OF MOVEMENT - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
658	118:15:14.52	33:43:19.11	595.9	2520	0.2365	353.5	338.8	153.0	5.00	
740	118:15:15.32	33:43:24.93	542.0	1080	0.5019	242.7	227.9	120.0	6.00	
753	118:15:21.01	33:43:22.49	891.3	2100	0.4244	302.7	288.0	94.0	5.0	
833	118:15:29.88	33:43:27.22	519.3	1860	0.2792	136.2	121.5	136.0	7.50	
904	118:15:25.63	33:43:23.53	1244.7	2040	0.6102	318.7	304.0	134.0	9.00	
938	118:15:35.35	33:43:32.74	177.6	1500	0.1184	36.9	22.1	132.0	10.00	
1003	118:15:34.09	33:43:34.14	1059.3	1500	0.5885	64.4	49.6	142.0	14.00	PICKED UP
1033	118:15:22.79	33:43:38.64	1487.5	1320	1.1269	259.9	245.2	180.0	7.00	
1055	118:15:40.11	33:43:36.08	1076.5	2820	0.3818	221.6	206.8	48.0	10.0	
1142	118:15:48.56	33:43:28.16	1446.4	1080	1.3393	36.1	21.4	176.0	10.00	
1200	118:15:38.47	33:43:39.65	924.6	1680	0.4908	239.5	214.4	175.0	10.00	
1228	118:15:46.88	33:43:35.53	1041.9	1740	0.5988	224.8	204.4	180.0	6.00	
1257	118:15:36.23	33:43:40.70	1041.9	1740	0.5988	259.7	245.0	165.0	11.00	
1412	118:15:14.47	33:43:19.22	1292.5	4080	0.3168	165.5	150.7	170.0	1.00	
1520	118:15:10.65	33:43:06.91	385.8	1500	0.2572	250.3	235.5	180.0	10.00	
1545	118:15:14.94	33:43:05.63	425.7	1260	0.3378	341.1	326.3	175.0	9.00	
1606	118:15:16.58	33:43:09.59	385.8	1500	0.2855	285.5	205.0	197.0	10.00	
1639	118:15:12.47	33:43:13.98	565.4	1980	0.2628	37.9	32.2	223.2	12.00	
1742	118:15:10.46	33:43:23.61	993.6	3780	0.1219	9.8	355.1	240.0	18.00	
1846	118:15:07.14	33:43:27.30	468.2	3840	0.2354	36.8	322.0	240.0	15.00	
1937	118:15:13.03	33:43:32.43	720.3	3060	0.3723	50.0	301.6	248.0	19.00	
2049	118:15:58.46	33:43:42.60	1608.2	4320	0.3150	35.2	20580	200.0	3.00	
232	118:15:02.47	33:42:38.91	5482.6	0.0	1.830	0.0	0.0	0.0	0.0	
<b>SUMMARY OF DRUGUE #F03 FROM 658 TO 232 HOURS:</b>										
<b>NET DISPLACEMENT:</b>										
<b>GROSS DISPLACEMENT:</b>										
			4210.6	65940	0.0639	151.3				
			23849.4	65940	0.3617	166.0				



FF03: DEPTH = 20.0

TABLE OF DROGUE #F05 DEPTH - 9.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1412	118:15:14.52	33:43:19.11	1454.6	4500	0.3232	17.2	170.0	10.00	
1527	118:15:09.43	33:43:32.78	1085.7	1620	0.6702	116.6	180.0	6.00	
1554	118:14:57.95	33:43:27.99	4610.8	1320	3.4930	97.5	180.0	6.00	
1616	118:14:03.88	33:43:22.06	5173.3	1860	2.7813	268.3	195.0	10.00	
1647	118:15:05.04	33:43:20.58	5034.8	227.0	2.53.6	227.0	11.00		
1826	118:14:11.07	33:43:41.51	5940	0.8476	65.0	240.0	20.00		
142	118:12:49.26	33:44:42.33	9275.9	22560	0.4112	48.2	33.5		
155	118:14:00.37	33:44:17.67	6513.5	24380	1.4871	247.4	150.0	3.50	
338	118:14:37.49	33:44:07.07	3318.1	6180	0.5369	251.0	0.0	0.0	
530	118:14:48.28	33:44:24.93	2031.9	6720	0.3024	236.3	120.0	4.00	
554	118:14:43.56	33:44:24.54	400.6	1440	0.2782	152.0	120.0	1.00	
647	118:14:56.50	33:44:33.32	1411.2	3180	0.4438	318.6	80.9	7.00	
					309.2	294.5	110.0		
						294.5	140.0	2.00	
<b>SUMMARY OF DROGUE #F05 FROM 1412 TO 647 HOURS:</b>									
<b>NET DISPLACEMENT:</b>		7695.8	59700	0.1289	11.4				
<b>GROSS DISPLACEMENT:</b>		40310.3	59700	0.6752					

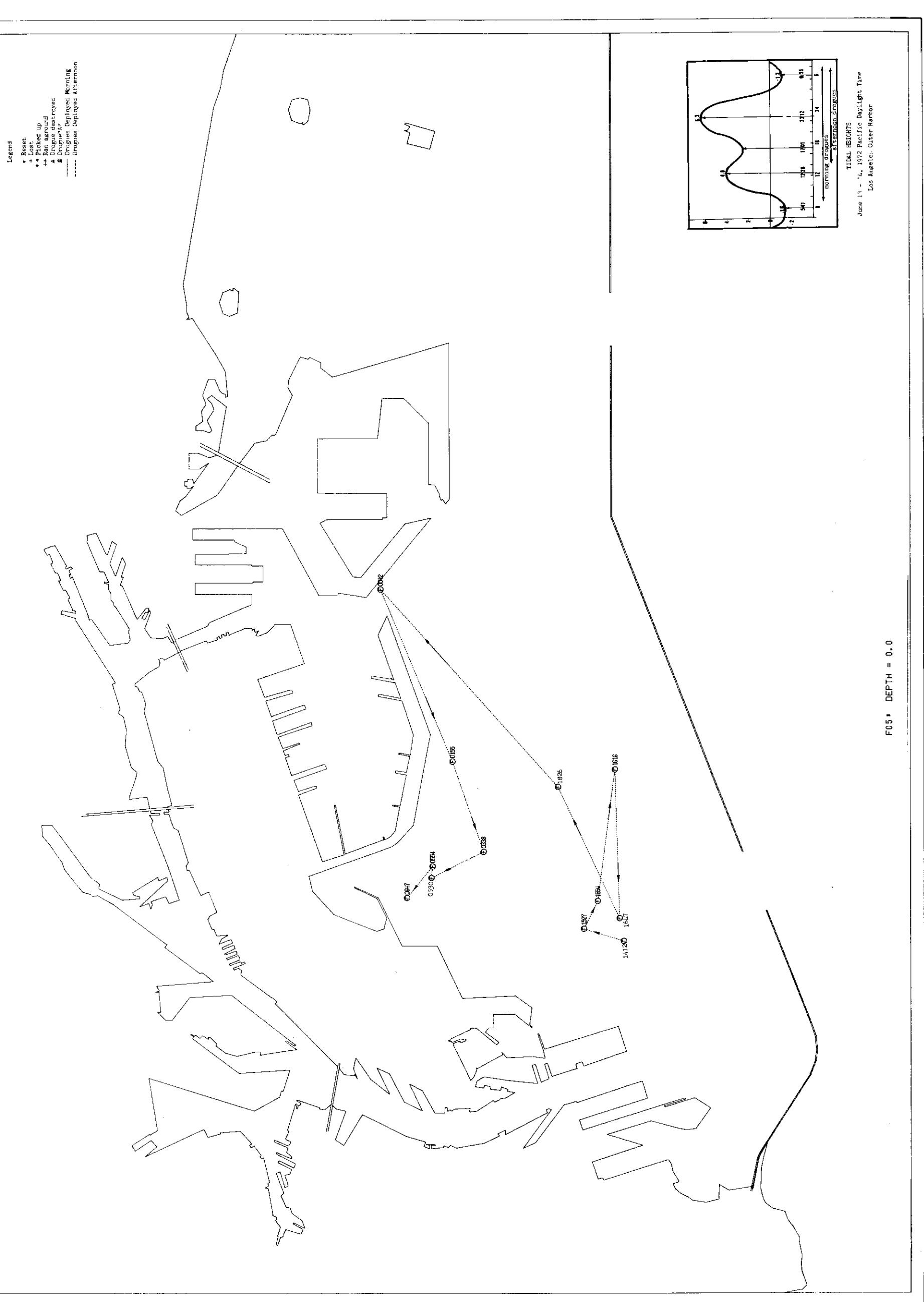
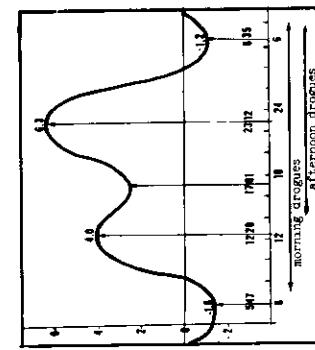
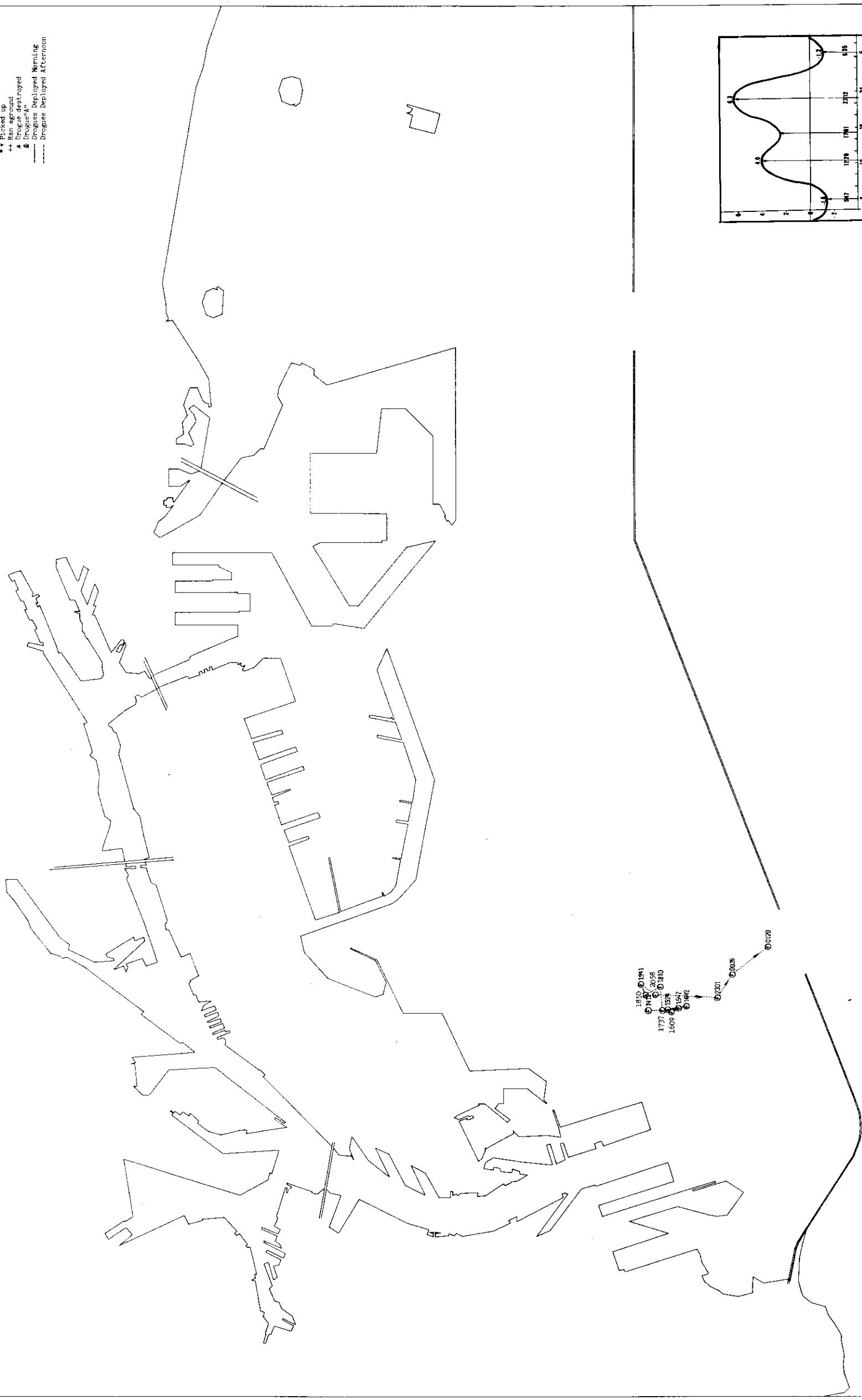


TABLE OF DROGUE #F06 DEPTH 10±0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1412	118:15:15.88	33:43:19.22	604.6	4320	0.1399	177.4	150.0	4.00	
1524	118:15:15.55	33:43:13.28	347.2	1380	0.2516	171.5	180.0	10.00	
1547	118:15:14.94	33:43:09.90	254.3	1320	0.2544	332.2	1926	8.00	
1609	118:15:16.34	33:43:12.12	503.6	1980	0.2544	158.9	144.1	10.00	
1642	118:15:14.19	33:43:07.50	776.8	3300	0.2354	350.3	2354	13.00	
1737	118:15:15.74	33:43:15.03	748.1	1980	0.3778	85.8	71.0	14.00	
1810	118:15:06.91	33:43:15.57	542.2	2400	0.2259	331.8	224.0	19.00	
1850	118:15:09.95	33:43:20.27	364.4	3060	0.1191	67.0	240.0	15.00	
1941	118:15:05.98	33:43:21.67	567.7	4620	0.1229	216.2	250.0	16.00	
2058	118:15:09.95	33:43:17.17	1964.1	7380	0.2661	182.8	168.0	4.00	
2301	118:15:11.07	33:42:57.86	864.1	5640	0.1532	122.3	195.0	3.00	
35	118:15:02.43	33:42:53.32	1427.5	2700	0.5287	142.5	107.6	3.00	
120	118:14:52.16	33:42:42.17				127.8	105.0	0.50	
SUMMARY OF DROGUE #F06 FROM 1412 TO 120 HOURS:									
NET DISPLACEMENT:				4266.4	40080	0.1064	152.0	137.2	
GROSS DISPLACEMENT:				8964.5	40080	0.2237			

## Legend

- Reset
- Lost
- Picked up
- ++ Ran aground
- ▲ Drogue destroyed
- Drogue Deployed Morning
- - - Drogue Deployed Afternoon



TIDAL HEIGHTS  
June 13 - 14, 1972 Pacific Daylight Time  
Los Angeles: Outer Harbor

F06 \* DEPTH = 10.0

## TABLE OF DROGUE #F07 DEPTH 10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - -	WIND DIR MAGNETIC	WIND SPEED KNOTS	REMARKS
658	118:15:14.52	33:43:19.11	212.2	2220	0.0956	288.4	153.0	5.00	
735	118:15:16.90	33:43:19.77	559.7	1560	0.3588	229.6	140.0	6.00	
801	118:15:22.88	33:43:17.40	884.0	1620	0.5457	244.5	100.0	8.00	
828	118:15:25.96	33:43:25.71	2496.3	1920	1.3001	342.9	139.0	9.00	
900	118:15:12.51	33:43:03.84	3233.3	1920	1.6841	152.9	129.0	10.00	
932	118:15:48.61	33:43:14.37	3233.4	1920	1.6841	168.5	152.0	19.00	
1010	118:15:48.70	33:43:13.01	138.4	2280	0.0607	183.3	126.0	8.00	
1040	118:15:59.25	33:43:12.19	896.0	1800	0.4978	264.7	249.9	10.00	
1106	118:16:05.70	33:43:13.63	564.0	1560	0.3615	285.0	270.3	10.00	
1134	118:16:00.98	33:43:20.62	814.7	1680	0.4850	29.3	14.5	10.00	
1207	118:16:07.89	33:43:26.95	869.1	1980	0.4389	317.8	303.0	10.00	PICKED UP
1240	118:16:08.03	33:43:26.33	64.3	2400	0.0325	17.8	152.0	10.00	RESET
1320	118:16:08.50	33:43:25.71	74.5	1740	0.0310	190.6	197.3	10.00	
1349	118:16:04.44	33:43:28.74	461.2	461.2	0.2651	48.1	48.1	10.00	
1350	118:16:07.24	33:43:26.60	98.8	300	0.3292	177.7	163.0	10.00	
1355	118:16:07.19	33:43:25.63	221.9	3900	0.0569	275.1	260.4	225.0	
1500	118:16:09.81	33:43:25.83	484.2	240	2.0173	204.1	189.3	225.0	
1504	118:16:12.14	33:43:21.48							

SUMMARY OF DROGUE #F07 FROM 658 TO 1504 HOURS:

NET DISPLACEMENT:	4877.0	29100	0.1676
GROSS DISPLACEMENT:	12072.6	29100	0.4149

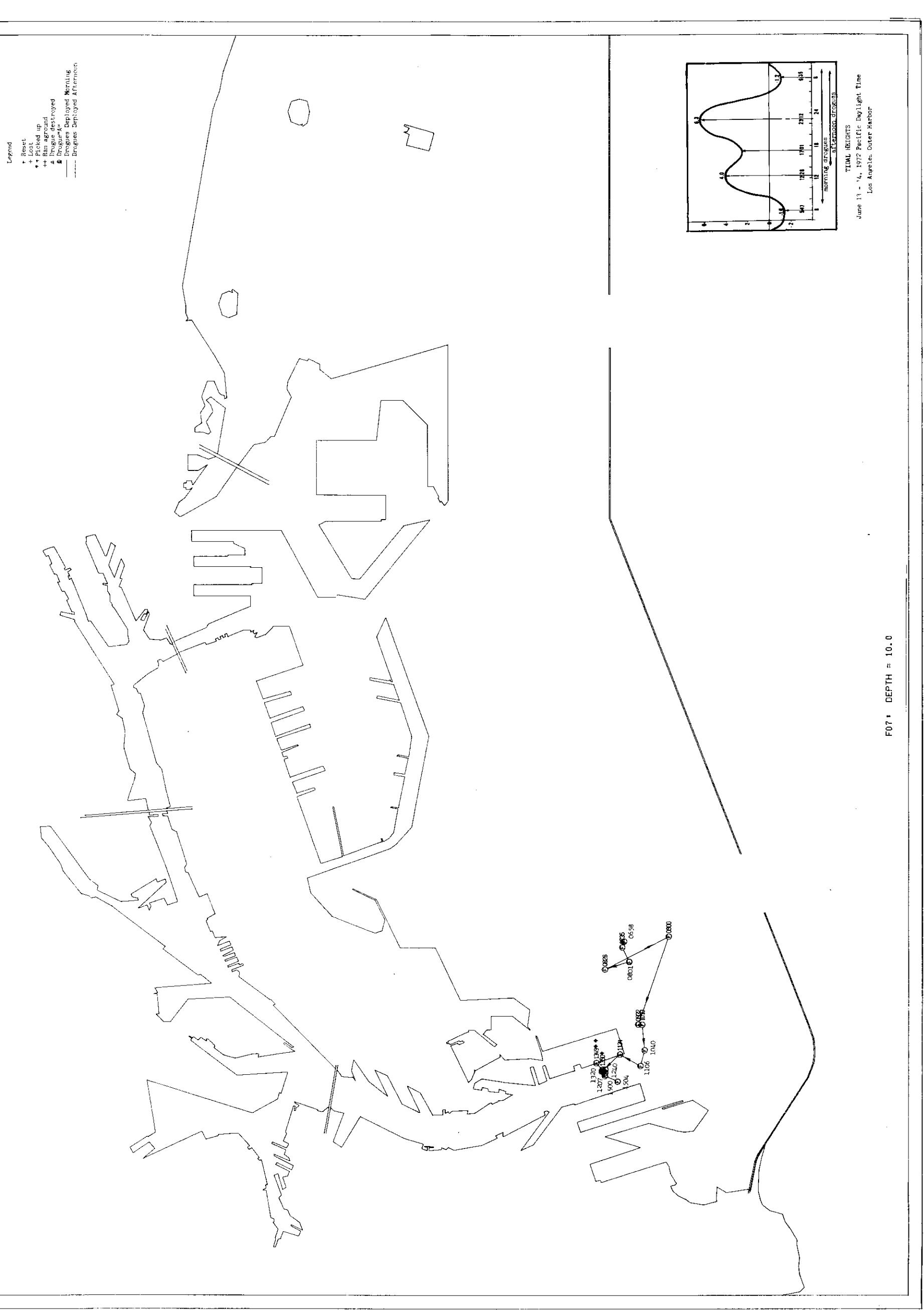
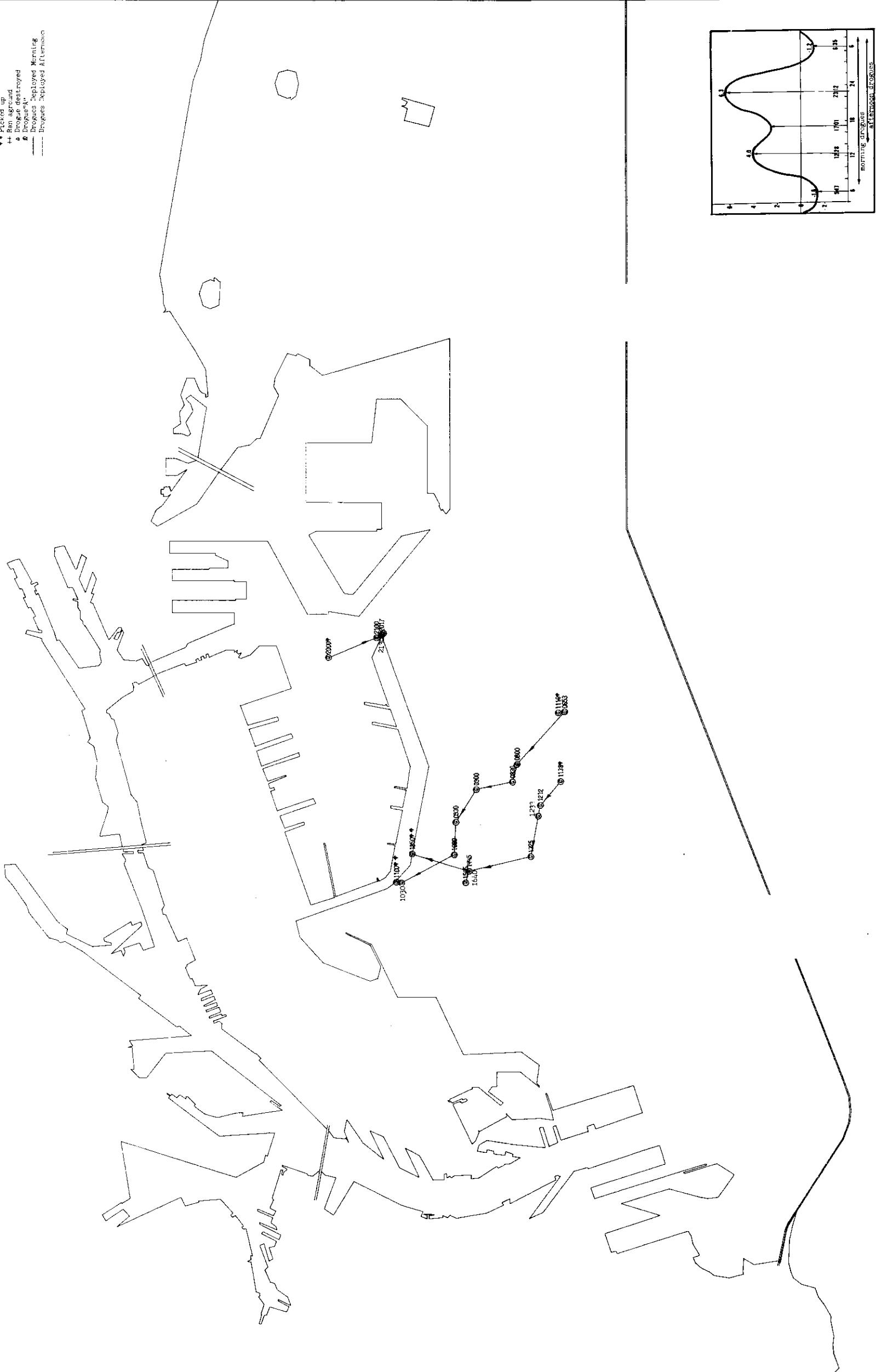


TABLE DE DROGUE #G01 DEPTH 0.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
653	118:13:29.28	33:43:43.18	2257.6	2220	1.0169	297.7	140.0	6.50	
730	118:13:48.98	33:43:58.17	0.0	1800	0.0	140.0	160.0	3.00	
800	118:13:48.98	33:43:59.65	591.7	0.3287	284.7	269.9	114.0	6.00	
830	118:13:55.75	33:44:10.99	1175.2	1800	0.6529	334.0	100.0	5.00	
900	118:13:58.46	33:44:17.40	1225.6	1800	0.6809	302.1	125.0	8.00	
930	118:14:10.74	33:44:17.94	1047.5	1800	0.5820	273.0	135.0	8.00	
1000	118:14:23.11	33:44:17.94	1907.1	1800	1.0595	332.1	317.4	9.00	PICKED UP
1030	118:14:33.67	33:44:34.52	163.6	1800	0.0909	8.3	353.6	12.00	RESET
1100	118:14:33.39	33:44:36.12					180.0	12.00	RESET
1116	118:13:29.88	33:43:45.24					180.0	12.00	
1138	118:13:55.70	33:43:44.47					140.0	14.00	
1212	118:14:04.58	33:43:50.83	990.8	2040	0.4857	310.8	296.0	9.00	
1233	118:14:08.64	33:43:51.50	349.9	1260	0.2777	281.1	266.3	8.00	
1325	118:14:24.00	33:43:53.90	1321.6	3120	0.4236	280.7	265.9	8.00	
1445	118:14:29.42	33:44:13.28	2022.3	4800	0.4213	346.9	332.2	7.50	
1505	118:14:33.71	33:44:14.37	379.6	1200	0.3163	286.9	272.2	7.00	
1640	118:14:29.42	33:44:13.28	379.6	5700	0.0666	106.9	92.2	8.50	
1650	118:14:22.88	33:44:31.07	1890.5	7800	0.2424	17.0	209.0	1.50	PICKED UP
2000	118:13:08.64	33:44:57.20					10.00	10.00	RESET
2017	118:13:00.23	33:44:40.50	1840.1	1020	1.8040	157.3	142.5	200.0	
2100	118:13:01.21	33:44:42.10	181.8	2580	0.0705	332.9	318.1	200.0	
2130	118:12:59.58	33:44:39.88	264.0	1800	0.1467	148.4	133.7	200.0	
SUMMARY OF DROGUE #G01 FROM 653 TO 2130 HOURS:									
NET DISPLACEMENT:				6286.3	46140	0.1362	23.5		
GROSS DISPLACEMENT:				17988.3	46140	0.3899			

8.8

- Reset
- + Lost
- \* Picked up
- ++ Ran aground
- ▲ Dropped destroyed
- Dropped "A"
- Dropped Deployed Morning
- Dropped Deployed Afternoon



GDT : DEPTH = 0, 0

TABLE OF DRUGUE #602 DEPTH 1000

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
653	118:13:29.28	33:43:43.18	1791.5	2520	0.7109	287.4	140.0	6.50	
735	118:13:49.49	33:43:48.47	1234.6	1800	0.6859	28.4	160.0	3.00	
805	118:13:42.54	33:43:59.15	1205.6	1900	0.1139	285.6	140.0	6.00	
835	118:13:44.87	33:43:59.69	1359.3	1800	0.7552	296.9	114.0	7.50	
905	118:13:59.21	33:44:05.75	1391.0	1680	0.2327	271.7	125.0	5.00	
933	118:14:03.64	33:44:06.83	753.9	1920	0.3926	319.5	135.0	8.00	
1005	118:14:07.52	33:44:13.51	1478.0	1500	0.9853	334.2	251.5	8.00	
1030	118:14:24.09	33:44:08.89	626.1	2100	0.2982	236.7	241.4	9.00	
1105	118:14:31.28	33:44:07.42	995.4	1500	0.6636	325.2	145.0	12.00	
1130	118:14:38.01	33:44:15.46	960.4	1500	0.5335	310.4	180.0	12.00	
1200	118:14:48.89	33:44:18.17	995.4	1800	0.4023	272.0	140.0	14.00	PICKED UP
1230	118:14:53.88	33:44:12.39	724.1	1800	0.4023	200.9	135.0	9.00	RESET
1355	118:15:10.09	33:44:11.46	622.0	2820	0.2206	286.7	165.0	5.00	
1442	118:15:17.14	33:44:13.20	35.4	1620	0.1780	180.0	180.0	8.00	
1509	118:15:16.02	33:44:10.52	288.4	1620	0.1608	271.8	170.0	9.00	
1612	118:15:12.28	33:44:13.75	455.0	3780	0.1204	43.9	165.0	12.00	
1722	118:15:09.15	33:44:15.15	300.2	4200	0.0715	47.0	180.0	10.00	
1847	118:14:49.45	33:44:33.32	2487.5	5100	0.4877	42.0	27.3	12.00	
1955	118:14:49.31	33:44:32.50	83.7	4080	0.0205	171.9	157.1	22.00	
2127	118:14:50.71	33:44:31.42	162.0	5520	0.0293	227.0	220.0	5.50	
2354	118:14:53.60	33:44:33.05	295.6	8820	0.0335	304.1	130.0	5.50	
2150	118:14:53.70	33:44:34.60	158.1	6960	0.0227	357.1	342.4	0.0	
354	118:14:49.49	33:44:29.86	598.4	7440	0.0804	143.6	128.8	195.0	
458	118:14:55.10	33:44:26.41	589.7	3840	0.1536	233.4	218.7	6.00	
525	118:15:01.35	33:44:24.53	560.5	1620	0.3460	250.7	235.9	5.00	
550	118:14:53.42	33:44:31.96	1006.4	1500	0.6709	41.8	27.1	110.0	
642	118:15:04.44	33:44:32.31	932.3	3120	0.2988	272.2	166.0	5.50	
SUMMARY OF DRUGUE #602 FROM 653 TO 642 HOURS:									
NET DISPLACEMENT:				9468.5	80640	0.1174	301.8		
GROSS DISPLACEMENT:				19059.1	80640	0.2363	287.1		

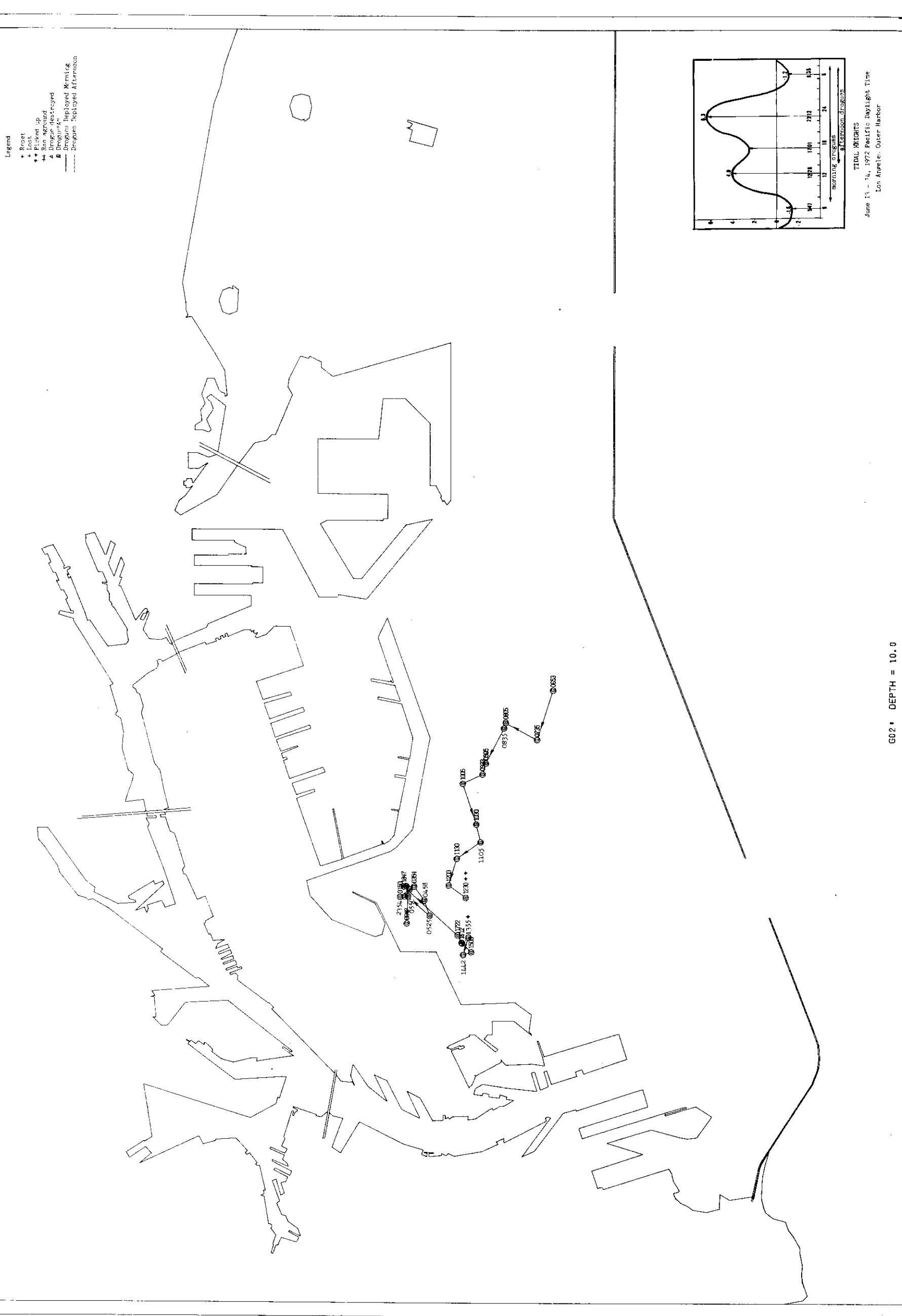
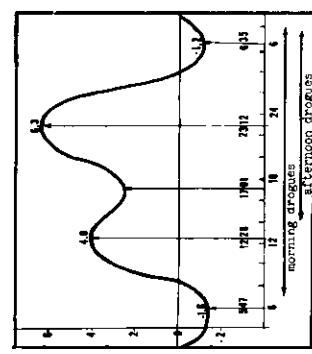
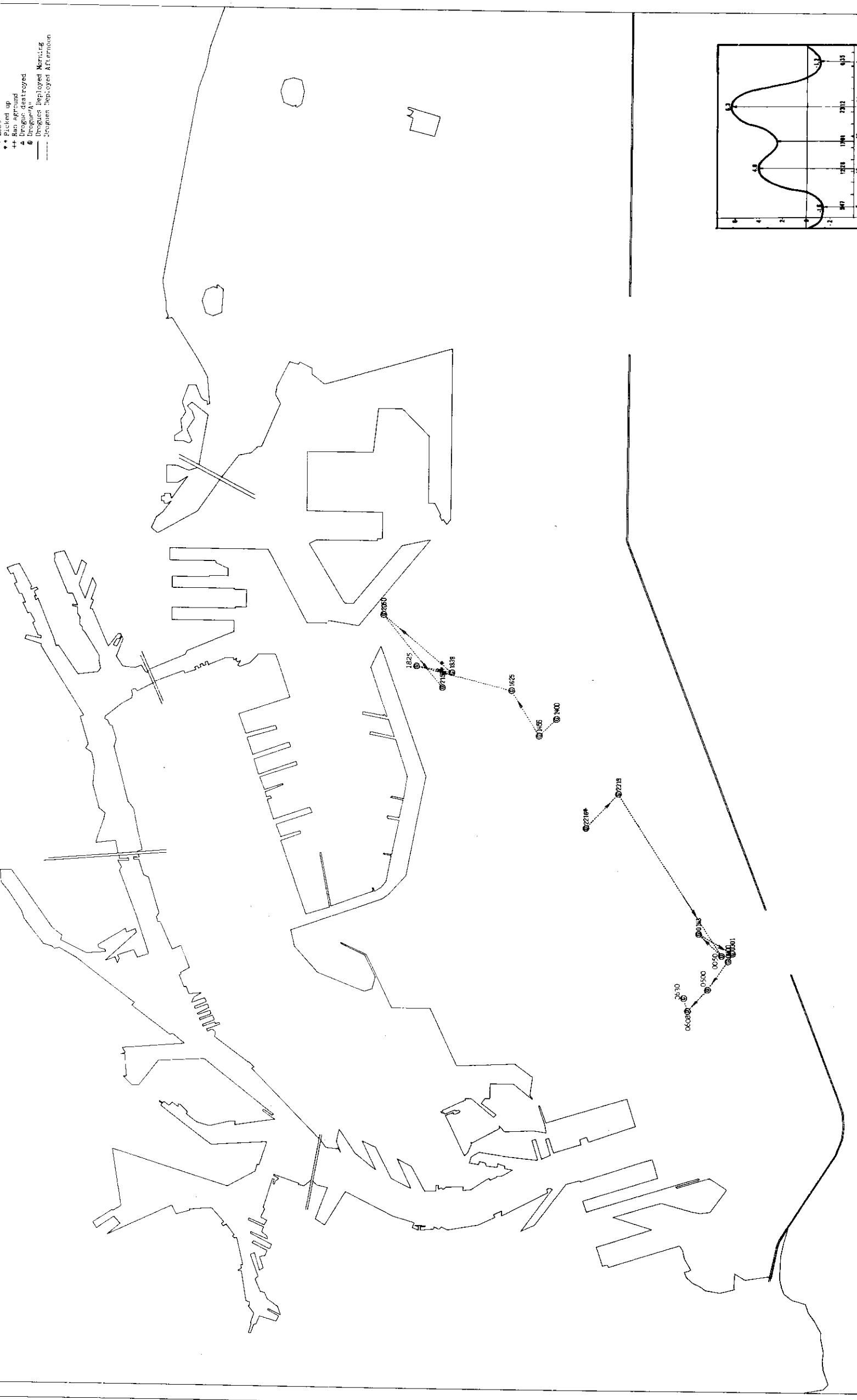


TABLE OF DROGUE #904 DEPTH 0.0

## Legend

- Retent
- + Lost
- \* Picked up
- ++ Buoy deployed
- ▲ Drogue destroyed
- ◆ Drogues Deployed Morning
- Drogues Deployed Afternoon



TIDAL HEIGHTS  
June 13 - 14, 1972, Pacific Daylight Time  
Los Angeles: Outer Harbor

G04 • DEPTH = 0.0

TABLE OF DRUGUE #605 DEPTH 10±0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR - - - MAGNETIC	WIND SPEED KNOTS	REMARKS
1400	118:13:27.08	33:43:44.93	1272.1	3180	0.4000	259.6	180.0	10.00	
1453	118:13:41.88	33:43:42.68	1272.1	5220	0.1328	137.8	168.0	8.00	
1620	118:13:36.37	33:43:37.63	693.0	7200	0.2568	33.9	123.0	10.00	
1820	118:13:24.19	33:43:52.74	1849.1	7800	0.4063	54.2	19.1	12.00	
2030	118:12:53.79	33:44:10.99	3169.5	7800	0.4063	39.4	210.0	14.00	
2130	118:13:16.81	33:44:12.16	1949.7	3600	0.5416	273.5	258.7	20.6.0	
2256	118:12:58.38	33:44:13.79	1524.8	5160	0.2955	83.8	69.0	6.50	
2255	118:13:16.20	33:44:33.83	2508.7	7140	0.3514	324.3	309.5	6.00	
200	119:13:56.17	33:44:09.55	4183.8	3900	1.0728	233.9	219.1	0.0	
310	118:14:43.24	33:43:52.39	4344.7	4200	1.0345	246.3	231.6	102.0	
632	118:14:09.90	33:44:10.25	3352.7	12120	0.2766	57.2	42.5	156.0	
640	118:14:32.26	33:44:11.46	1894.8	480	3.9474	273.7	259.0	5.00	
								2.00	
								150.0	
SUMMARY OF DRUGUE #605 FROM 1400 TO 640 HOURS:									
NET DISPLACEMENT:									
GROSS DISPLACEMENT:									
			6134.8	60000	0.1022	296.1	281.3		
			26742.9	60000	0.4457				

## Legend

- \* Reset
- + Lost
- Picked up
- ↔ Ran overboard
- ▲ Drogue destroyed
- Drogue "A"
- Drogues Deployed Morning
- - - Drogues Deployed Afternoon

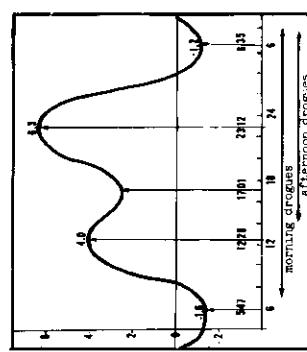
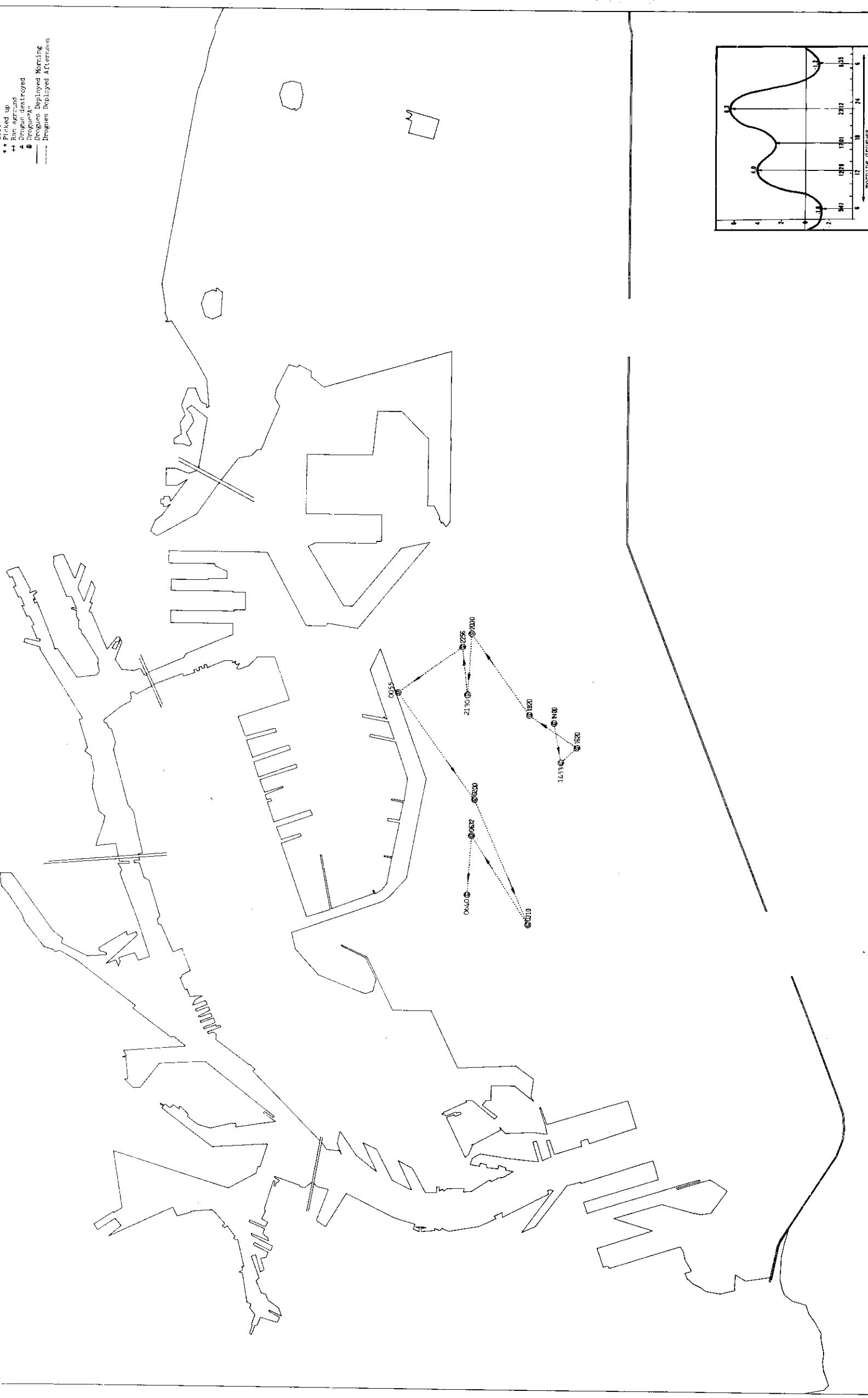
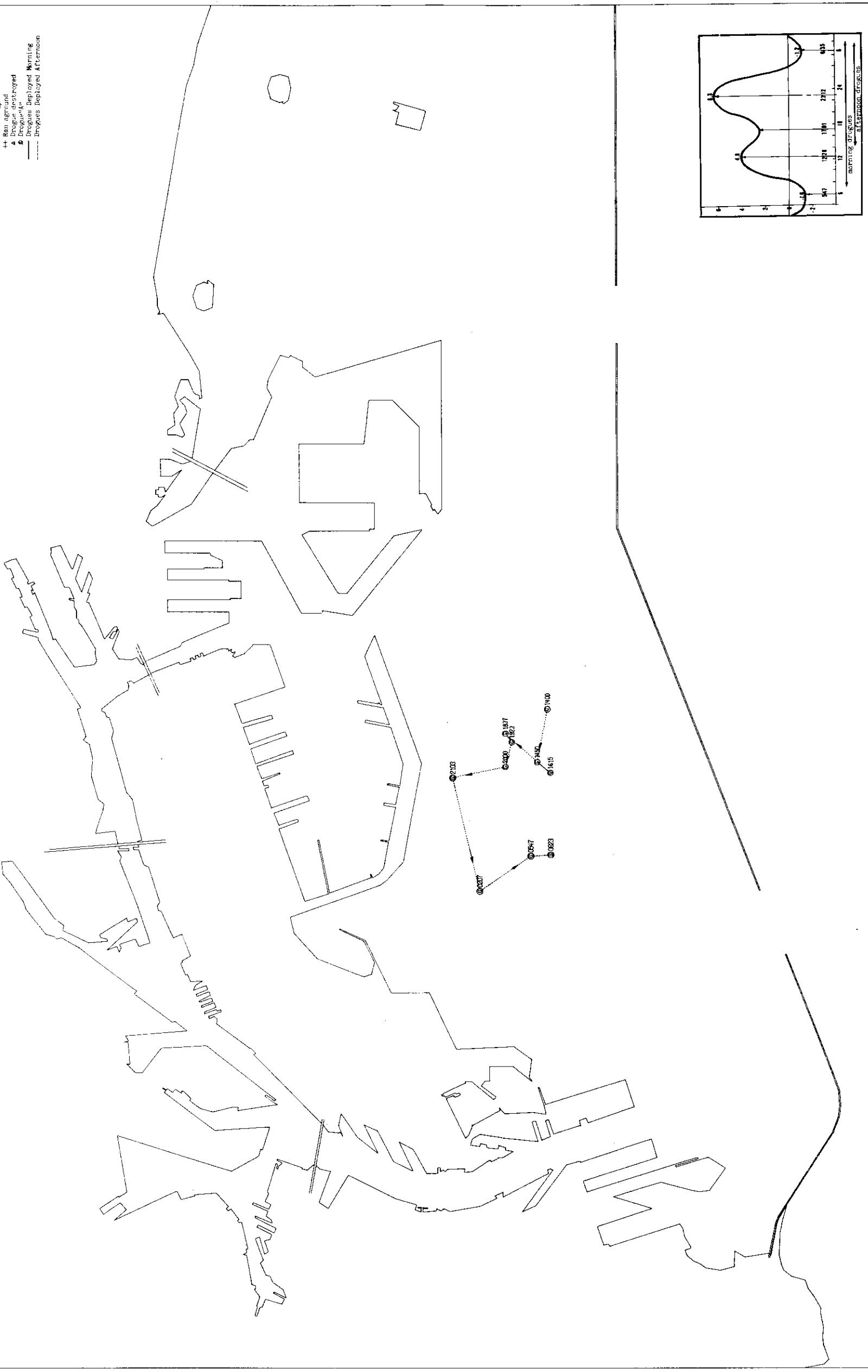


TABLE OF DROGUE #G06 DEPTH--200.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1400	118:13:27.08	33:43:44.93							10.00
1450	118:13:47.21	33:43:48.12	1731.9	3000	0.5773	280.8	168.0	6.00	
1615	118:13:51.27	33:43:43.88	550.5	5100	0.1079	218.6	174.0	10.00	
1837	118:13:36.28	33:43:58.17	1927.6	8520	0.2262	228.0	226.3	14.50	
1923	118:13:39.50	33:43:56.08	345.9	2760	0.1253	232.0	41.1	12.00	
2000	118:13:48.98	33:43:58.17	829.2	2220	0.3735	270.1	230.0	14.00	
2103	118:13:53.18	33:44:14.87	1734.2	3780	0.4588	284.9	224.0	6.00	
2204	118:13:53.18	33:44:14.87	0.0	3660	0.0	348.2	333.4	3.00	
207	118:14:36.14	33:44:06.37	3733.1	14580	0.2560	241.9	0.0	0.0	
547	118:14:22.83	33:43:50.21	1990.5	13200	0.1508	256.6	145.6	130.8	
623	118:14:22.27	33:43:43.92	641.2	2160	0.2969	175.8	122.0	4.00	
<b>SUMMARY OF DROGUE #G06 FROM 1400 TO 623 HOURS:</b>									
<b>NET DISPLACEMENT:</b>			4667.0	58980	0.0791	268.7	254.0		
<b>GROSS DISPLACEMENT:</b>			13484.0	58980	0.2286				



GO 6 : DEPTH = 20, 0

TABLE DE DROGUE #G07 DEPTH 20.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
835	118:13:52.1	33:43:51.34	704.0	2100	0.3352	303.3	114.0	7.50	
910	118:13:59.07	33:43:55.15	560.0	1500	0.3734	350.7	100.0	5.00	
935	118:14:00.14	33:44:00.58	1018.6	1920	0.5305	268.9	125.0	8.00	
1007	118:14:12.19	33:44:00.39	991.2	1380	0.7183	223.5	135.0	8.00	
1030	118:14:20.26	33:43:53.32	228.0	0.3894	260.8	208.8	135.0	9.00	
1108	118:14:30.63	33:43:51.92	887.8	1500	0.2029	279.7	145.0	12.00	
1133	118:14:34.18	33:43:52.43	304.4	1920	0.2338	235.8	180.0	12.00	
1205	118:14:38.57	33:43:49.94	448.9	1680	0.3446	278.6	140.0	14.00	
1233	118:14:45.34	33:43:50.80	578.9	1088.7	0.5337	250.5	135.0	9.00	
1307	118:14:57.48	33:43:47.22	204.0	246.0	0.0193	184.8	180.0	10.00	
1348	118:14:57.53	33:43:46.76	47.5	2880	0.3678	267.0	170.0	8.00	
1436	118:15:10.04	33:43:46.21	1059.3	8280	0.0687	37.7	22.9	10.00	
1654	118:15:05.93	33:43:50.64	568.5	3840	0.0566	272.1	257.3	15.00	
1758	118:15:08.50	33:43:50.72	217.2	217.2	0.1797	260.3	225.0	15.00	
1837	118:15:13.40	33:43:50.02	420.5	2340	0.2038	299.0	284.2	15.00	
1915	118:15:18.21	33:43:52.23	464.0	8220	0.2237	222.3	230.0	1.00	
2132	118:15:09.95	33:44:08.97	1839.2	6180	0.2976	202.3	187.6	4.00	
2315	118:15:18.21	33:43:52.23	1839.2	5100	0.2297	231.4	130.0	1.00	
40	118:15:29.04	33:43:45.05	1171.3	5100	0.2297	216.7	160.0	5.00	
205	118:15:36.09	33:43:47.42	642.9	5100	0.1260	277.2	160.0	0.00	
410	118:15:42.26	33:43:45.01	575.7	7500	0.0768	244.8	230.1	4.50	
517	118:15:36.84	33:43:47.34	515.5	4020	0.1282	62.7	47.9	130.0	
600	118:14:45.71	33:44:16.27	5228.0	2580	2.0263	55.8	41.0	7.00	
700	118:15:34.74	33:43:46.21	5149.2	3600	1.4303	233.6	125.0	5.00	
						218.9	145.0	6.50	
SUMMARY OF DROGUE #G07 FROM 835 TO 700 HOURS:									
NET DISPLACEMENT:				8692.0	80700	0.1077	266.6		
GROSS DISPLACEMENT:				26321.2	80700	0.3262	251.8		



DEPTH = 20.0

TABLE DE DROGUE #HOI

TIME	LONGITUDE	LATITUDE	DEPTH	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
710	118:12:58.74	33:44:37.17								
735	118:13:03.74	33:44:26.25	1186.9	1500	0.7913	200.8				
800	118:12:59.63	33:44:40.08	1447.6	1500	0.9650	186.1	144.0	144.0	6.00	
835	118:13:00.42	33:44:41.13	125.9	2100	0.0600	139.1	140.0	140.0	7.00	
905	118:13:07.52	33:44:52.50	1303.0	1800	0.7239	327.8	313.1	313.1	6.00	
1035	118:13:09.43	33:44:54.17	234.5	5400	0.0434	317.8	332.6	332.6	8.00	
1300	118:12:57.11	33:44:32.19	2465.3	8700	0.2834	316.4	301.6	301.6	7.00	
1400	118:12:47.86	33:44:43.50	1389.4	3600	0.3859	155.0	140.2	140.2	0.0	RAN A GROUND
						0.0	19.5	19.5	0.0	

SUMMARY OF DROGUE #HOI FROM 710 TO 1400 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:1122.5  
8152.6

40.3

24600  
246000.0456  
0.3314

55.0

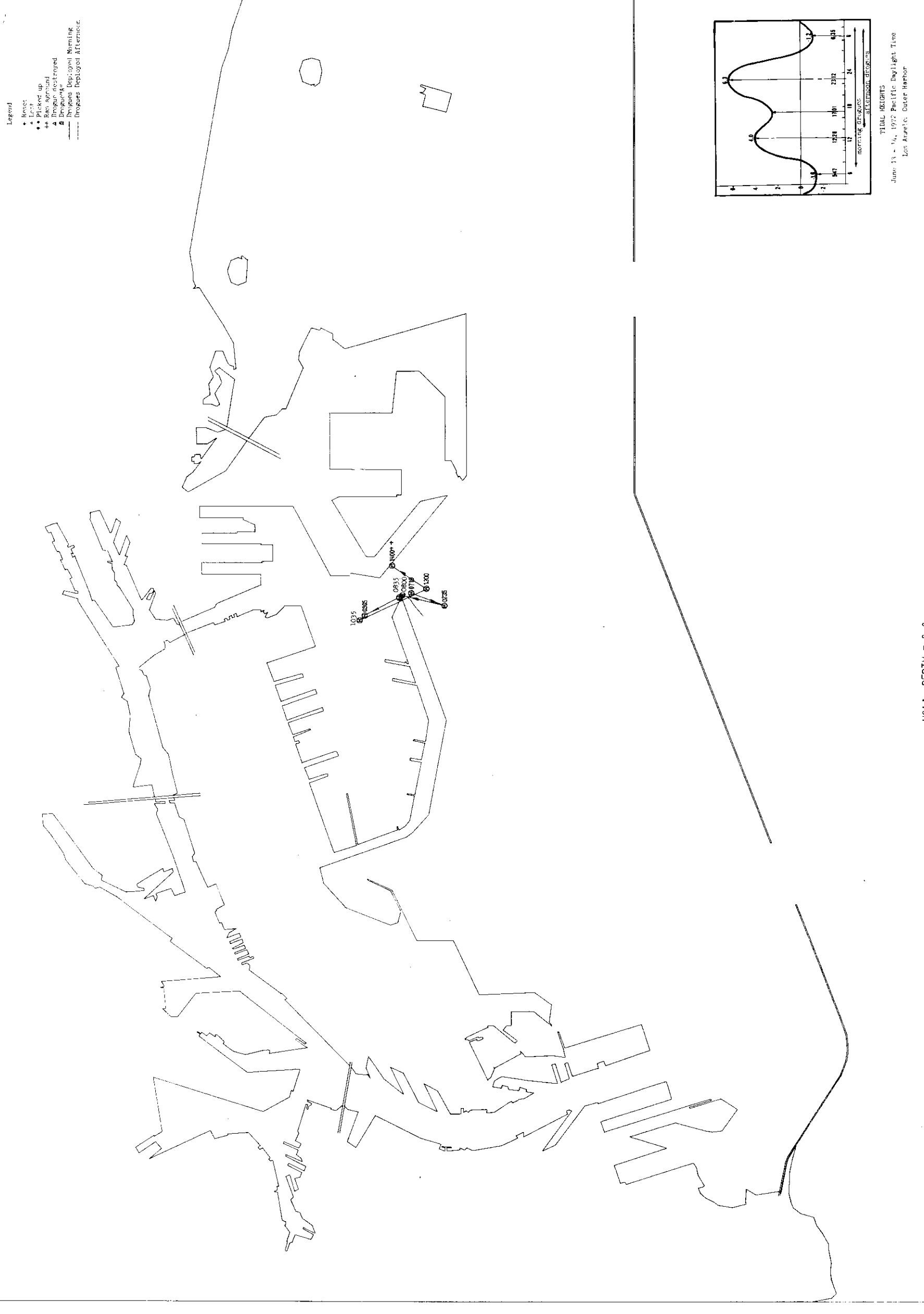
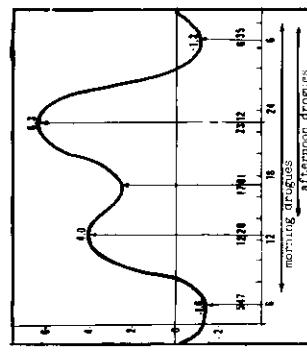
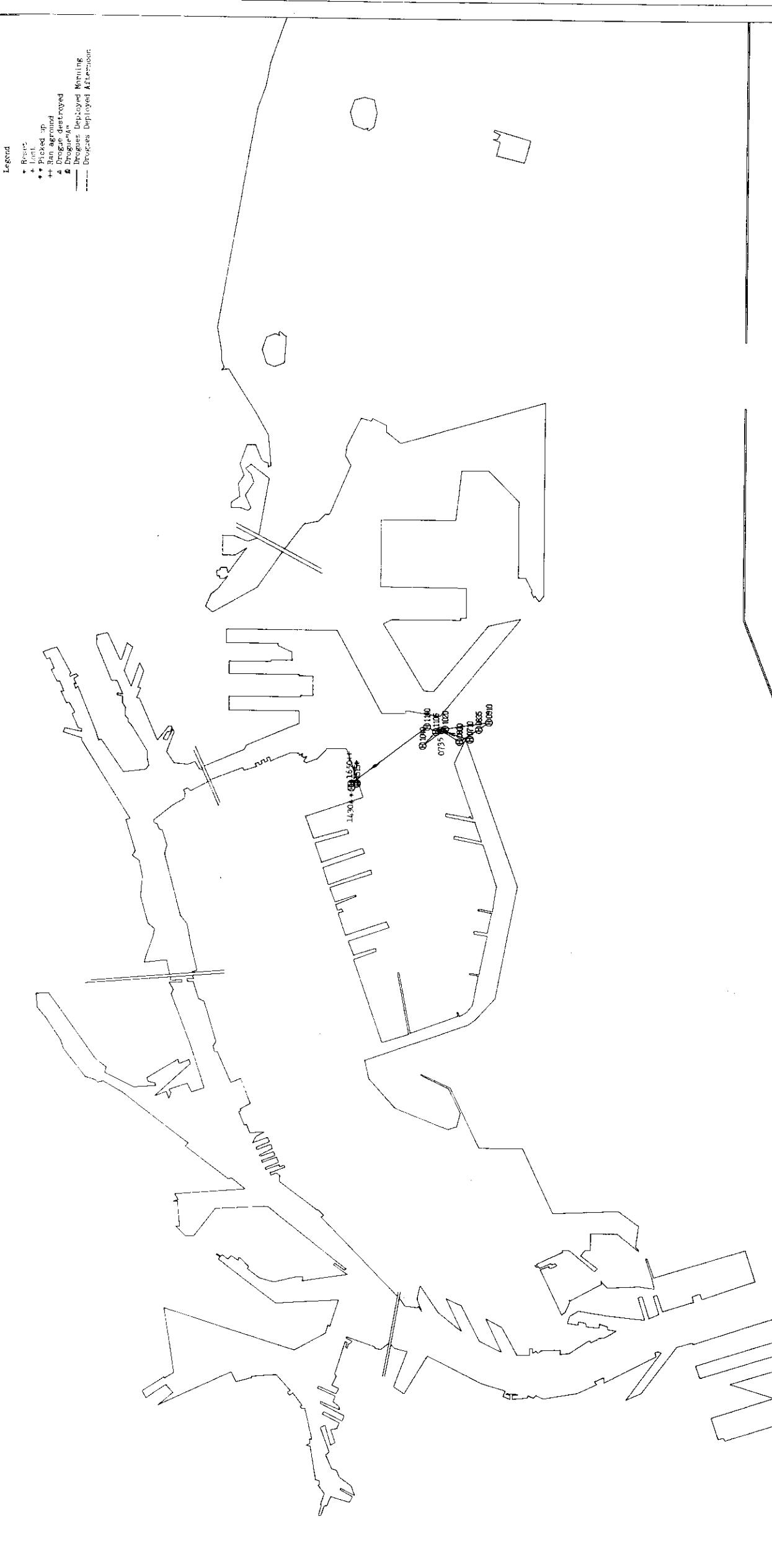


TABLE DE-DROGUE #H02 DEPTH 100.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
710	118:12:58.74	33:44:37.17	861.7	1500	0.5744	16.8	157.5	5.00	
735	118:12:55.80	33:44:45.28	618.1	1500	0.4121	211.2	144.0	6.00	
800	118:12:59.58	33:44:40.08	644.9	2100	0.3071	147.0	196.4	7.00	
835	118:12:55.42	33:44:34.76	353.8	2100	0.1685	144.5	132.2	6.00	
910	118:12:52.99	33:44:31.92	353.8	2100	0.1685	144.5	129.8	8.00	
1020	118:12:55.47	33:44:44.12	1257.0	4200	0.2993	350.4	335.7	140.0	
1040	118:12:01.07	33:44:50.29	786.3	1200	0.6553	323.0	126.0	9.00	
1105	118:12:56.40	33:44:46.64	541.8	1500	0.3612	133.2	125.0	8.00	
1140	118:12:54.77	33:44:49.13	287.9	2100	0.1371	128.7	156.0	10.00	PICKED UP
1430	118:13:14.01	33:45:09.90	2665.5	10200	0.2613	322.4	307.7	0.0	RESET
1515	118:13:14.01	33:45:08.35	197.4	5700	0.0346	323.1	308.4	0.0	RAN AROUND
1650	118:13:15.41	33:45:09.90						0.0	
SUMMARY OF DROGUE #H02 FROM 710 TO 1650 HOURS:									
NET DISPLACEMENT:		3613.8	32100	0.1126	337.0				
GROSS DISPLACEMENT:		8214.3	32100	0.2559					322.3



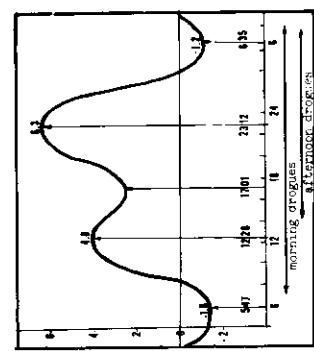
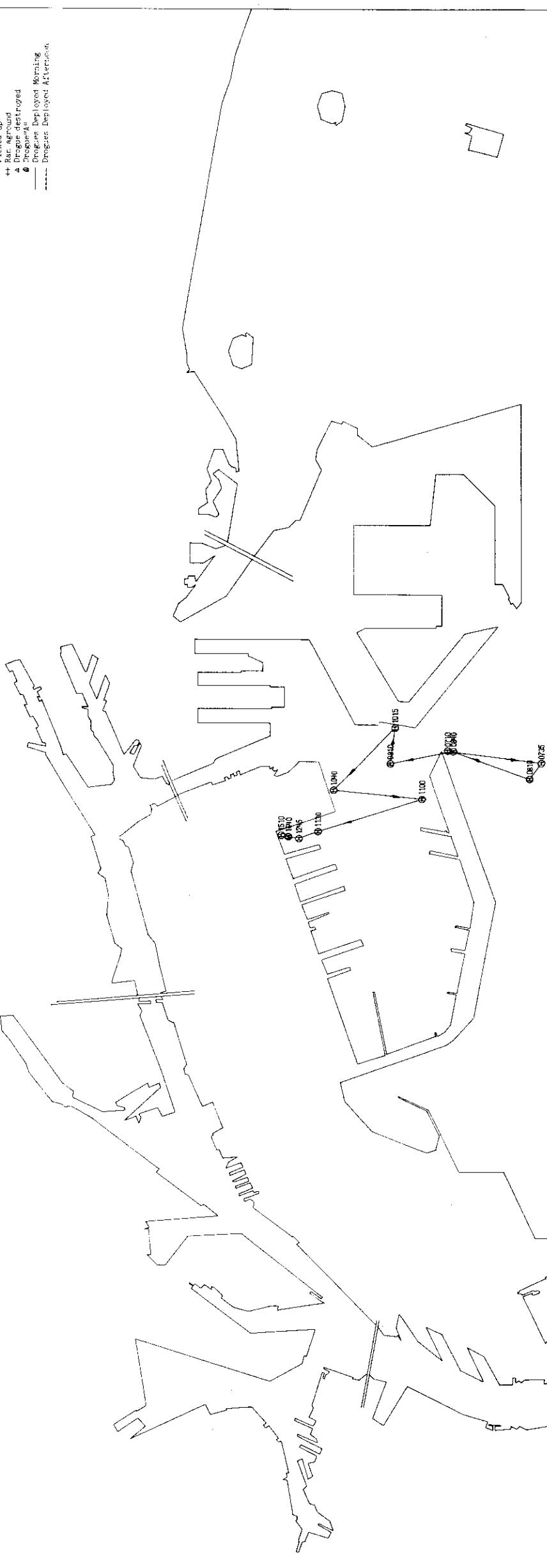
H02 • DEPTH = 10.0

TABLE OF DROGUE #HO3 DEPTH - 20.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
710	118:12:58.74	33:44:37.17	2587.2	1500	1.7248	186.7	157.5	5.00	
735	118:13:02.29	33:44:11.88	2530.5	2100	0.2526	306.5	144.0	6.00	
810	118:13:07.33	33:44:14.99	530.5	1800	1.2366	219.4	140.0	7.00	
840	118:12:58.60	33:44:35.65	2226.0	1800	0.9771	348.7	140.0	6.00	
910	118:13:02.66	33:44:52.62	1758.9	1800	0.9771	348.7	132.0	8.00	
1015	118:12:51.18	33:44:51.46	978.3	3900	0.2508	97.0	82.2	140.0	
1040	118:13:11.30	33:45:07.65	2367.3	1500	1.5782	314.1	299.3	190.0	
1100	118:13:14.15	33:44:43.88	2427.8	1200	2.0231	185.7	170.9	140.0	
1130	118:13:24.84	33:45:11.69	2967.4	1800	1.6485	342.3	327.5	138.0	
1245	118:13:27.18	33:45:16.78	553.5	4500	0.1230	339.1	324.4	170.0	
1510	118:13:26.15	33:45:21.55	493.2	8700	0.0567	10.1	355.4	134.0	
1640	118:13:26.61	33:45:19.61	201.3	5400	0.0373	191.3	176.6	0.0	
SUMMARY OF DROGUE #HO3 FROM 710 TO 1640 HOURS:									
NET DISPLACEMENT:		4916.2	34200	0.1437	331.4	316.6			
GROSS DISPLACEMENT:		17091.3	34200	0.4997					

## Legend

- Rescued
- Lost
- Picked up
- ++ Rec. aground
- ▲ Drague destroyed
- Drague Deployed Morning
- Drague Deployed Afternoon



HO3 • DEPTH = 20.0

TABLE QE-DROGUE #HO4 DEPTH - 0.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1410	118:12:57.11	33:44:32.19		2100	0.9228	82.7	68.0	0.0	PICKED UP
1445	118:12:34.37	33:44:34.60	1937.9	3000	0.0861	128.8	114.0	0.0	RESET
1535	118:12:31.98	33:44:33.01	258.3					0.0	
1545	118:12:57.11	33:44:32.19					140.0	6.00	
1615	118:12:39.60	33:44:23.57	1720.2	1800	0.9557	120.6	105.9		
1700	118:12:43.19	33:44:01.55	2258.7	2700	0.8366	187.7	173.0	0.0	PICKED UP
1810	118:12:57.11	33:44:32.19					0.0	0.0	RESET
1905	118:12:45.53	33:43:59.22	3491.4	3300	1.0580	163.7	149.0	0.0	PICKED UP
1915	118:12:57.11	33:44:32.19					210.0	10.00	RESET
1925	118:12:57.67	33:44:40.00	794.8	600	1.3247	356.6	341.8	0.0	
1950	118:13:05.09	33:44:43.46	719.3	1500	0.4795	299.2	284.5	200.0	10.00
2117	118:12:56.17	33:44:57.79	1640.1	5220	0.3142	27.4	12.6	195.0	
2200	118:12:57.01	33:45:04.93	729.8	2580	0.2829	354.4	339.7	0.0	
2235	118:12:52.99	33:45:03.73	360.9	2100	0.1718	109.8	95.1	150.0	3.50
2330	118:13:02.15	33:45:03.38	774.5	3300	0.2347	267.4	252.6	130.0	
2345	118:13:02.85	33:45:09.71	646.1	2700	0.2393	354.7	340.0	148.0	4.00
234	118:13:09.01	33:45:08.08	546.8	8340	0.0656	252.3	237.6	0.0	
432	118:13:09.01	33:44:57.48	1077.6	7080	0.1522	0.2	345.5	0.0	
519	118:12:53.70	33:44:53.90	1344.7	2820	0.4768	105.7	90.9	0.0	PICKED UP
535	118:12:57.11	33:44:32.19					0.0	0.0	RESET
607	118:13:00.79	33:44:50.99	1935.8	1920	1.0082	350.7	336.0	126.0	
645	118:12:58.46	33:44:47.34	420.3	2280	0.1843	152.0	137.2	5.00	

SUMMARY OF DROGUE #HO4 FROM 1410 TO 645 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:1543.7  
20657.3  
53340  
53340  
0.0289  
0.3873  
355.7  
341.0



REF ID: A6287

## TABLE DE DROGUE #H05

DEPTH 10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1410	118:12:57.11	33:44:32.19		2100	0.8041	77.7	63.0	0.0	
1445	118:12:37.59	33:44:35.73	1688.7			195.0	10.00		
1535	118:12:05.14	33:44:08.27	3913.5	3000	1.3045	135.5	120.7	0.0	PICKED UP
1610	118:12:43.10	33:44:30.95	3951.4	2100	1.8816	305.7	290.9		RESET
1900	118:12:56.73	33:44:32.62				0.0	0.0	0.0	
1955	118:13:06.07	33:44:56.70	2571.6	3300	0.7793	342.1	327.4	0.0	
2112	118:12:59.72	33:45:05.24	1021.0	4620	0.2210	17.0	31.7	200.0	
2202	118:12:57.39	33:45:17.17	1227.8	3000	0.4093	9.3	354.5	0.0	
2220	118:13:04.48	33:45:27.73	1230.0	1080	1.1389	330.8	316.1	92.0	
2300	118:13:02.19	33:45:33.75	641.7	2400	0.2674	17.5	2.8	140.0	
23	118:13:02.80	33:45:34.37	81.4	4980	0.0163	320.9	306.2	4.00	
135	118:13:12.14	33:45:47.96	1591.2	4320	0.3683	330.3	315.5	0.0	
239	118:13:09.81	33:45:48.35	201.3	3840	0.0524	78.7	63.9	0.0	
438	118:12:54.40	33:44:46.60	6410.1	7140	0.8978	168.3	153.5	0.0	
451	118:12:57.11	33:44:32.19				160.0	5.00		
537	118:12:57.48	33:44:40.93	888.7	2760	0.3220	358.0	343.2	158.0	
611	119:13:17.51	33:44:31.92	1925.2	2040	0.9437	241.6	226.8	7.00	
								6.00	

SUMMARY OF DROGUE #H05 FROM 1410 TO 611 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:1725.2  
27343.4  
46680  
466800.0370  
0.5858

254.3

269.1



卷二

TABLE OF DROGUE #H07 DEPTH 20.0  
TIME LONGITUDE LATITUDE DISTANCE FEET ELAPSED TIME SPEED FT/SEC DIRECTION OF MOVEMENT TRUE - MAGNETIC WIND DIR MAG WIND SPEED KNOTS REMARKS

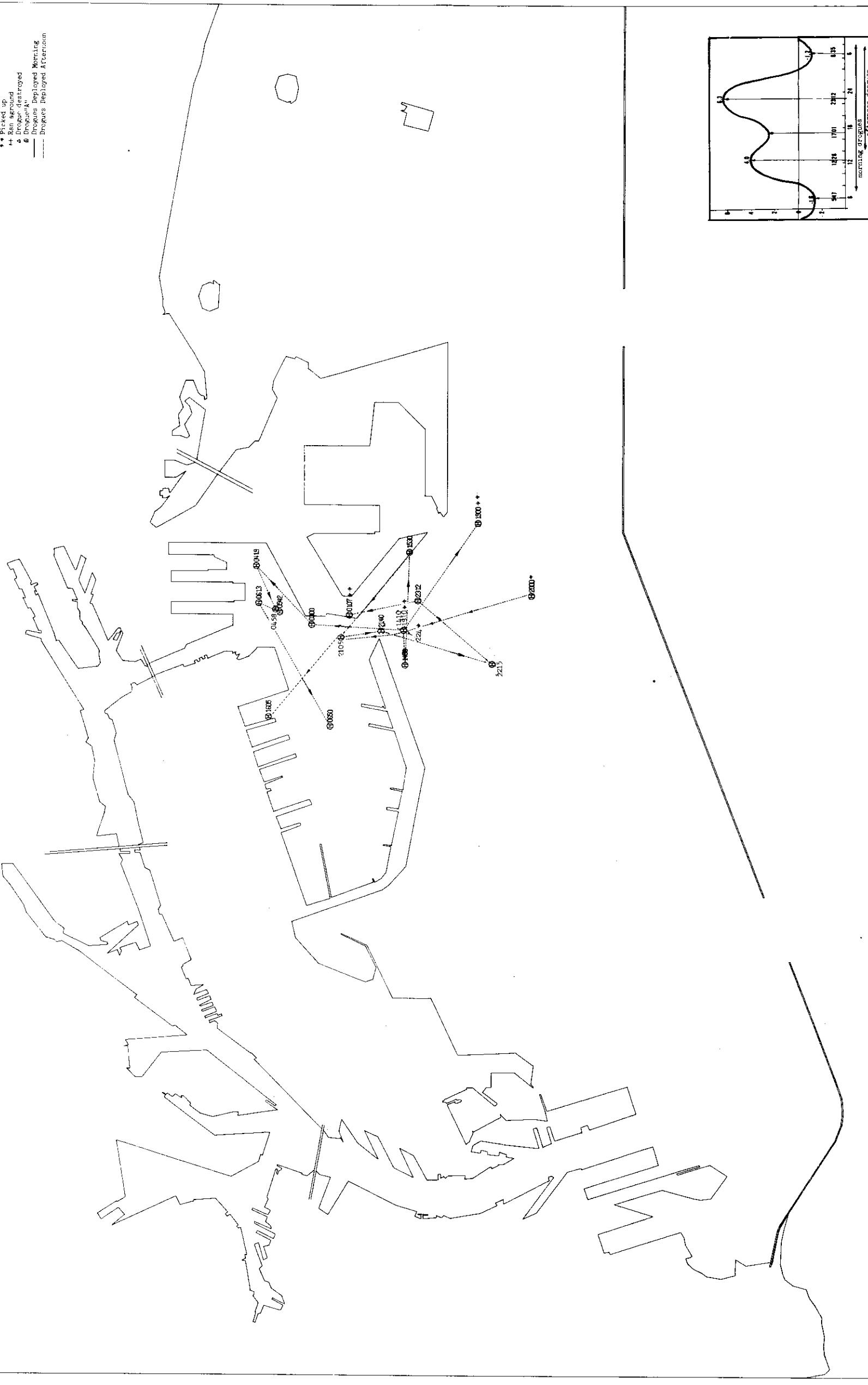
1410	118:12:57.1	33:44:32.19			2400	0.4644	267.2	252.4	0.0	0.0	
1450	118:13:0.27	33:44:31.65			2400	1.5092	92.1	77.3	156.0	7.00	PICKED UP
1530	118:12:27.46	33:44:30.37			2100	3.3003	310.4	295.7	170.0	7.00	RESET
1605	118:13:29.88	33:45:14.56							0.0	0.0	PICKED UP
1810	118:12:57.1	33:44:32.19							109.9	10.00	RESET
1900	118:12:16.48	33:44:08.82	4176.2	3000	1.3921	124.7			210.0	9.50	
2000	118:12:43.84	33:43:51.88							200.0		
2105	118:12:59.86	33:44:52.04	6180.0	13900	1.5830	335.7	320.9	208.0	200.0	5.00	
2140	118:12:57.48	33:44:39.34	1306.4	2100	0.6221	171.1	156.4	200.0	200.0	4.50	
2215	118:13:09.76	33:44:04.23	3716.4	2100	1.7697	196.2	181.5	210.0	210.0	7.00	
2312	118:12:45.99	33:44:27.73	3121.0	3420	0.9126	40.1	40.1	150.0	150.0	4.00	PICKED UP
107	118:12:51.41	33:44:49.40	2249.7	6900	0.3260	348.3	333.5	333.5	0.0	0.0	RESET
2224	118:12:57.11	33:44:32.19							0.0	0.0	
300	118:12:55.10	33:45:01.24	2957.5	2160	1.3692	3.3	348.5	348.5	100.0	100.0	
419	118:12:32.92	33:45:18.72	2582.8	4740	0.5449	46.5	31.8	31.8	174.0	4.00	
458	118:12:49.31	33:45:12.66	1516.2	2340	0.6480	246.0	231.3	231.3	162.0	6.00	
542	118:12:50.33	33:45:11.38	1556.6	2640	0.0593	213.7	198.9	198.9	174.0	4.50	
613	118:12:46.93	33:45:17.98	730.3	1860	0.3926	23.2	8.5	8.5	224.7	5.50	
650	118:13:33.39	33:44:55.15	4562.2	2220	2.0551	239.4			134.0		

SUMMARY OF DROGUE #H07 FROM 1410 TO 650 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:

3853.5 5178.0 0.0744 307.3 292.5

49205.5 5178.0 1.0061



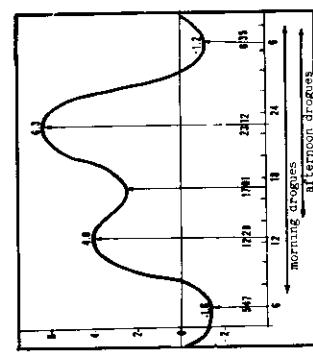
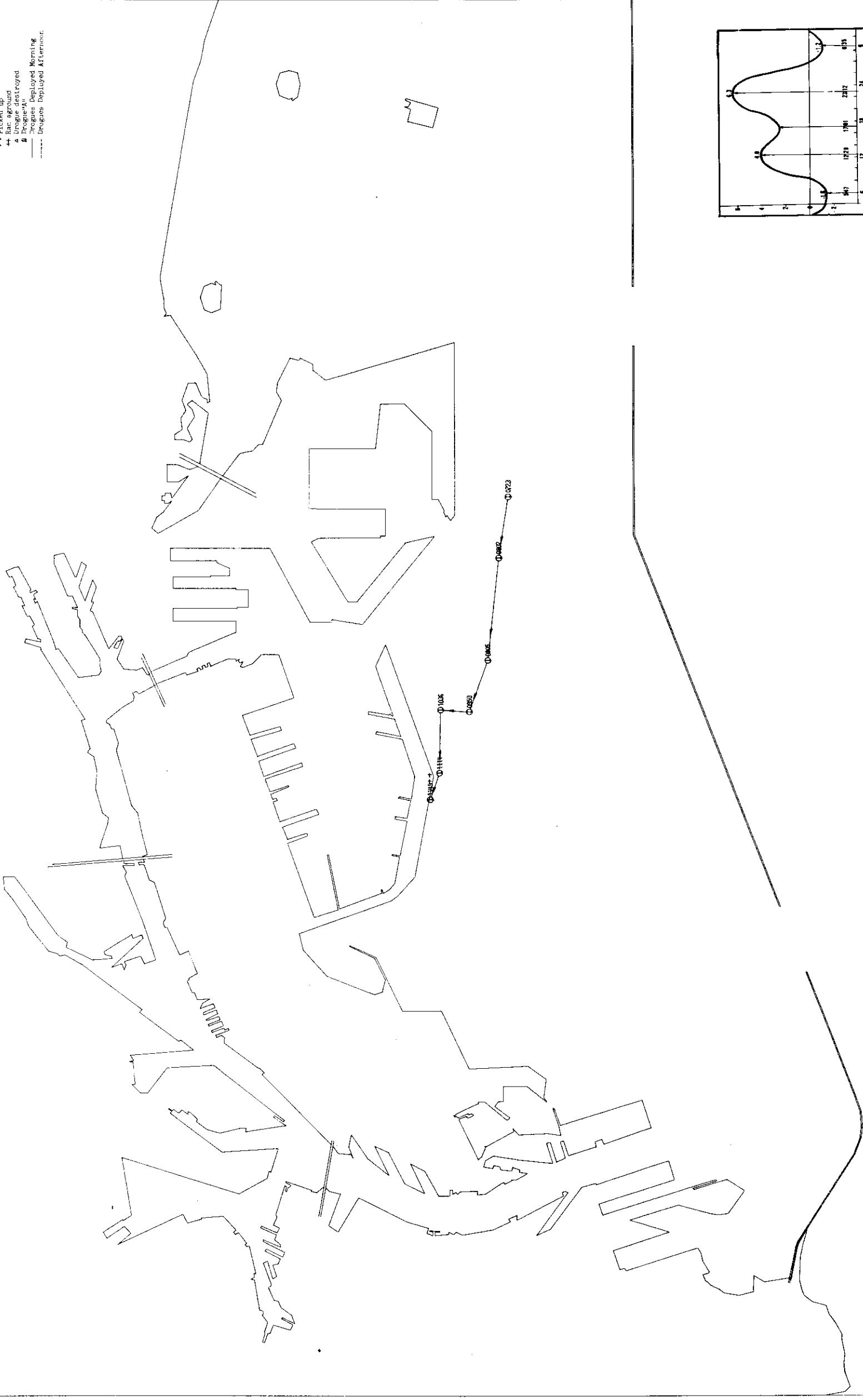
H07, DEPTH = 20.0

TABLE\_QE\_DROGUE #101-----DEPTH---Q.Q

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
723	118:12:05.14	33:44:02.02					135.0	7.00	
802	118:12:27.78	33:44:04.93	1937.2	2340	0.8279	278.8	264.0	7.00	
905	118:13:05.70	33:44:08.43	3224.9	3780	0.8532	276.3	261.6	7.50	
950	118:13:24.79	33:44:14.21	1718.3	2700	0.6364	290.0	275.3	8.00	
1036	118:13:24.05	33:44:23.11	906.2	2760	0.3283	4.0	349.2	8.00	
1114	118:13:47.63	33:44:23.50	1993.8	2280	0.8745	271.1	256.4	7.50	
1145	118:13:57.43	33:44:26.41	880.2	1860	0.4732	289.7	274.9	10.00	RAN A GROUND
SUMMARY OF DROGUE #101 FROM 723 TO 1145 HOURS:									
NET DISPLACEMENT:		9811.8	15720	0.6242	284.6				
GROSS DISPLACEMENT:		10660.6	15720	0.6782	269.9				

## Legend

- Reset
- Lost
- Picked up
- Rcvd. a ground
- ▲ Drogue destroyed
- Drogue Deployed Morning
- Drogue Deployed Afternoon



101 • DEPTH = 0.0

TABLE OE-DROGUE #102 DEPTH 1000

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
723	118:12:05.14	33:44:02.02							
802	118:12:27.78	33:44:04.93	1937.2	2340	0.8279	278.8	135.0	7.00	
903	118:12:46.83	33:44:10.49	1706.6	3660	0.4663	289.3	135.0	7.50	
945	118:13:12.14	33:44:07.99	2154.4	2520	0.8549	263.3	135.0	8.50	
1034	118:13:32.82	33:44:13.09	1823.6	2940	0.6203	286.5	271.7	8.50	
1112	118:13:50.29	33:44:11.46	1485.6	2280	0.6516	263.6	248.8	7.50	
1140	118:14:09.90	33:44:09.32	1672.1	1680	0.9953	262.5	180.0	10.00	
1230	118:14:20.26	33:44:18.80	1302.2	3000	0.4341	317.7	303.0	10.00	
1440	118:14:50.43	33:44:25.63	2643.0	7800	0.3388	285.2	270.5	17.50	
1515	118:14:54.77	33:44:34.29	2953.8	2100	0.4542	337.4	322.6	7.00	
1712	118:14:43.24	33:44:42.10	1257.0	7020	0.1791	50.9	36.1	0.0	
SUMMARY OF DROGUE #102 FROM 723 TO 1712 HOURS:									
NET DISPLACEMENT:		13972.9	35340	0.3954	287.0				
GROSS DISPLACEMENT:		16935.3	35340	0.4792					

## Legend

- + Rescued
- \* Lost
- ♦ Picked up
- ↔ Ran aground
- ▲ Drogue destroyed
- Drogue Deployed Morning
- Drogues Deployed Afternoon

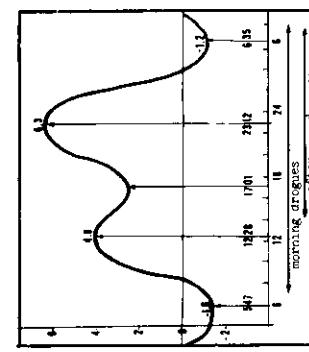
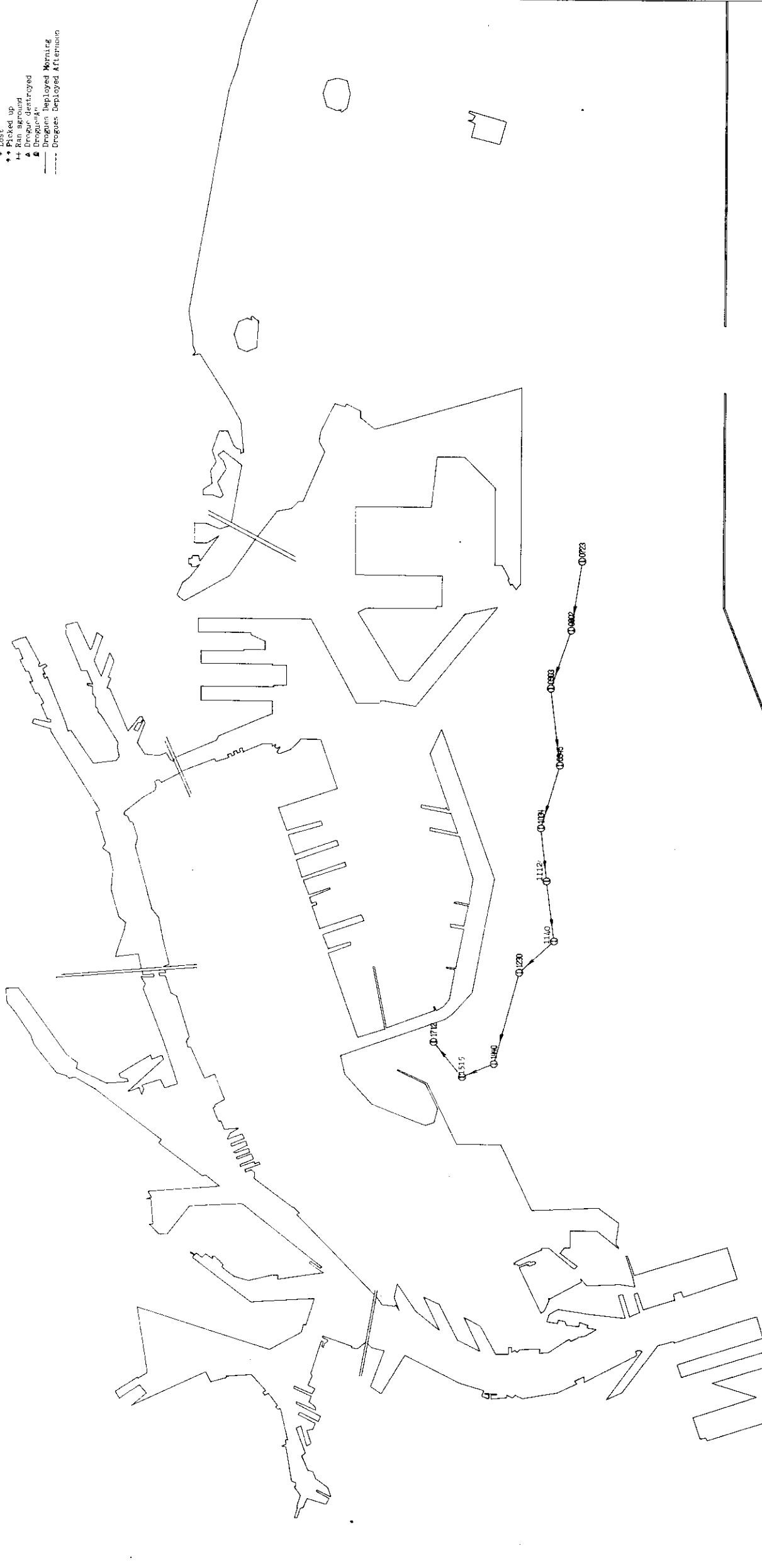


TABLE OF DROGUE #104 DEPTH 0.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1358	118:12:05.14	33:44:02.02	1722.4	2820	0.6108	180.0	135.0	10.00	
1445	118:12:21.90	33:44:11.65	1785.6	1200	0.6547	289.9	359.1	10.00	
1505	118:12:22.04	33:44:19.38	2245.7	1800	1.2476	344.4	225.0	8.50	
1535	118:11:57.81	33:44:10.33	3380.8	1920	1.7608	99.4	114.2	8.00	
1607	118:12:32.03	33:44:27.53	1250.8	1020	1.2263	286.4	301.1	8.00	
1624	118:12:17.98	33:44:23.69	416.0	1080	0.3852	180.0	93.5	9.00	
1642	118:12:14.43	33:44:26.52	416.0	1080	0.4807	180.0	46.2	31.4	
1725	118:12:04.48	33:44:35.50	1240.3	2580	0.4807	202.5	42.7	27.9	

SUMMARY OF DROGUE #104 FROM 1358 TO 1725 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:3403.1  
11041.612420  
12420

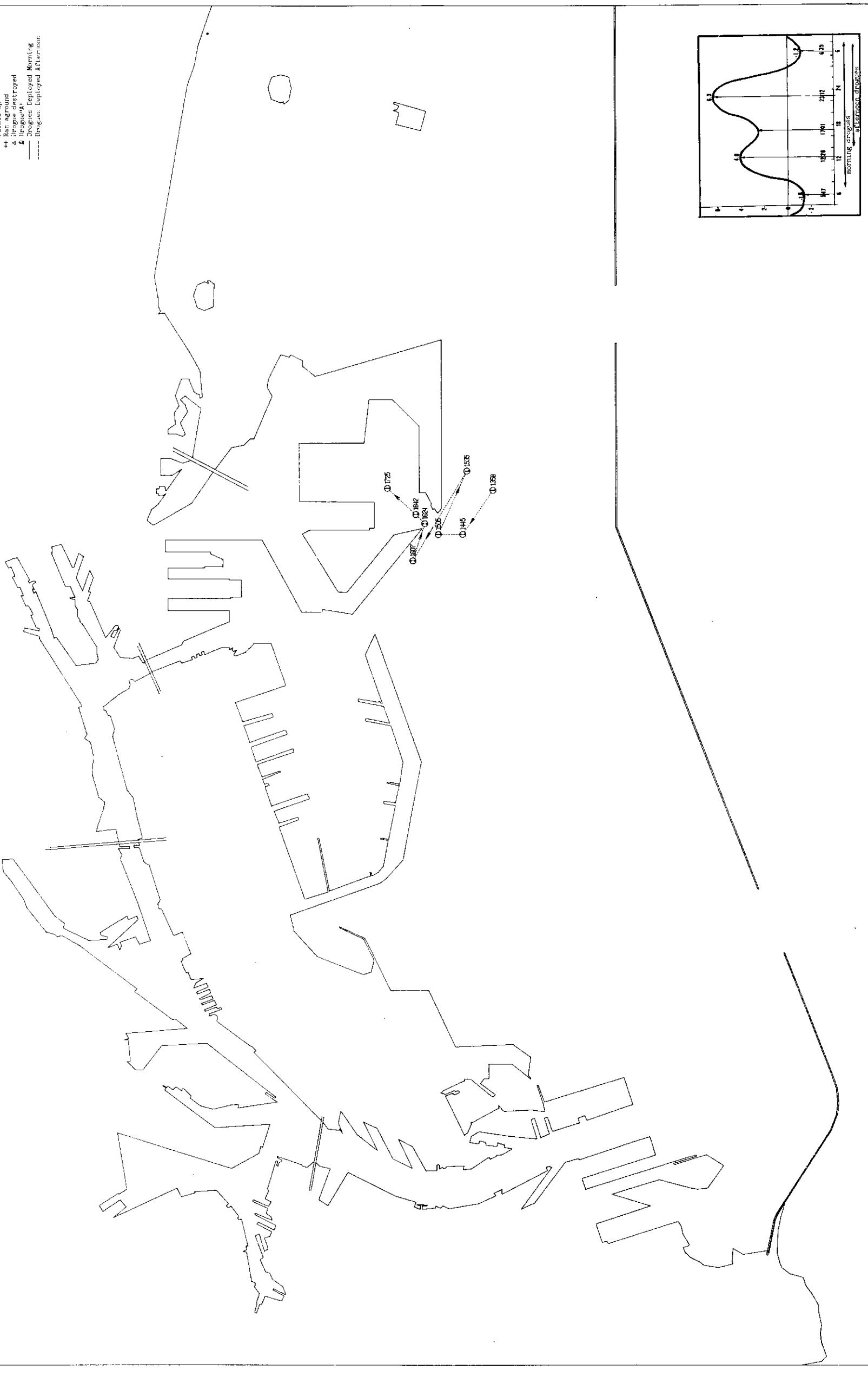
0.9

0.8890

0.2740

0.0

346.2



DEPTH = 0.0

TABLE OF DROGUE #105 ----- DEPTH 20.0

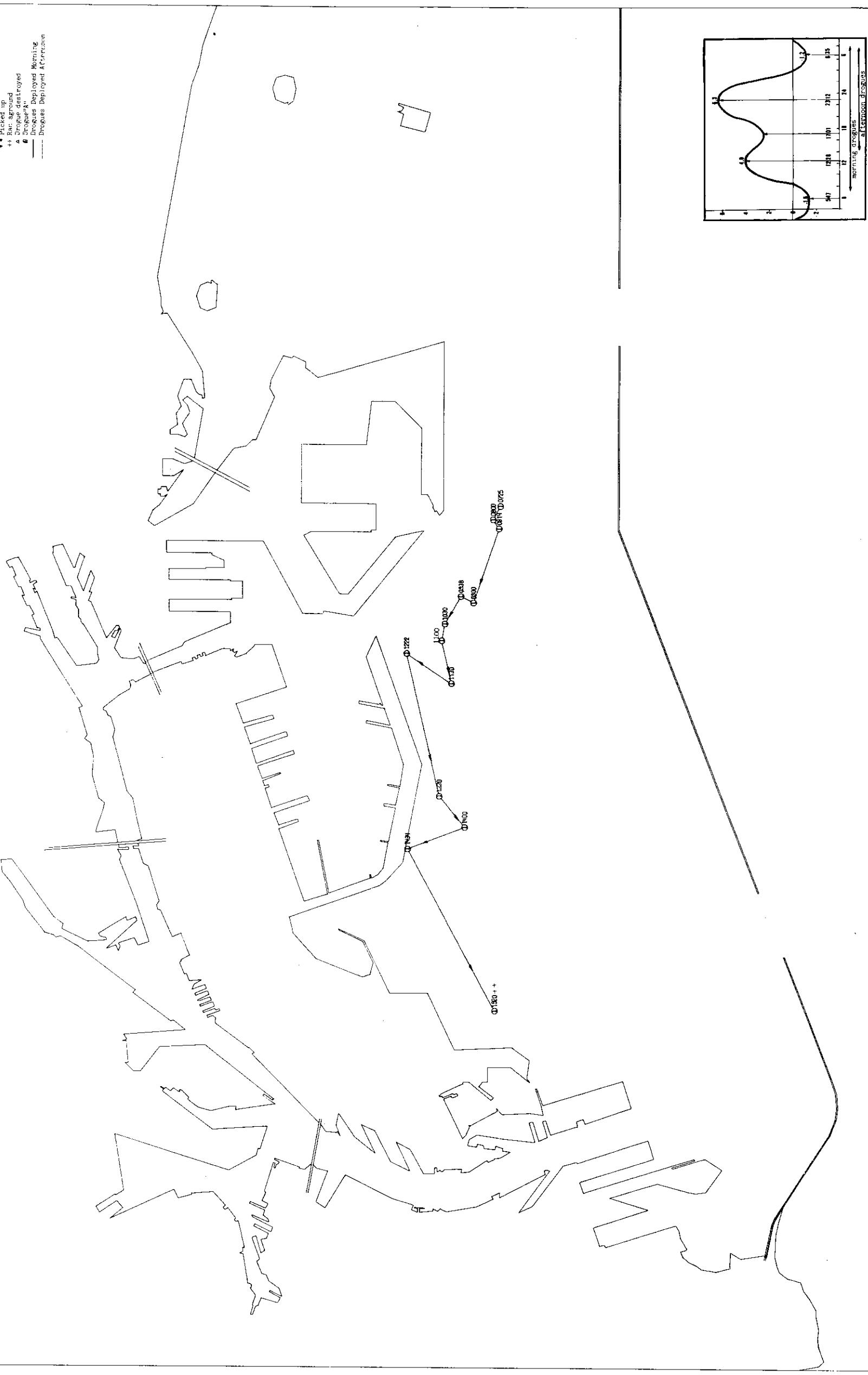
TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
725	118:12:10.74	33:44:00.89		2100	0.2330	298.4	135.0	7.00	
800	118:12:15.83	33:44:03.18	489.3	840	0.4171	236.5	135.0	7.00	
814	118:12:19.28	33:44:01.28	350.3			221.7	135.0	7.00	
900	118:12:47.44	33:44:09.48	2521.8	2760	0.9137	289.3	135.0	7.00	
938	118:12:45.01	33:44:13.44	451.9	2280	0.1982	27.0	12.3	8.50	
1030	118:12:55.47	33:44:18.60	1028.3	3120	0.3296	300.7	180.0	7.00	
1100	118:13:01.87	33:44:19.57	549.7	1800	0.3054	280.3	180.0	10.00	
1130	118:13:18.21	33:44:16.50	1416.3	1800	0.7869	257.3	180.0	7.00	
1222	118:13:06.72	33:44:30.72	1740.8	3120	0.5579	33.9	19.2	8.00	
1330	118:14:01.17	33:44:20.27	4723.6	4080	1.1577	257.0	174.0	8.00	
1400	118:14:13.21	33:44:12.19	1308.2	1800	0.7268	231.1	216.4	8.50	
1434	118:14:21.39	33:44:30.25	1961.2	2040	0.9614	339.4	324.6	7.50	
1520	118:15:23.35	33:44:02.72	5939.0	2760	2.1518	241.9	227.1	7.00	RAN AGROUND

SUMMARY OF DROGUE #105 FROM 725 TO 1520 HOURS:

NET DISPLACEMENT:

GROSS DISPLACEMENT:

16284.1  
22480.4  
28500  
0.5714  
0.7888  
270.728500  
0.5714  
0.7888  
270.728500  
0.5714  
0.7888  
270.7



LOS : DEPTH = 20.0

TABLE OF DROGUE #106 DEPTH 10.0

TIME	LONGITUDE	LATITUDE	DEPTH FEET	DISTANCE	ELAPSED TIME	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1353	118:12:05.14	33:44:02.02	1100.8	2520	0.4368	180.0	305.5	290.8	10.00	
1440	118:12:15.74	33:44:08.31	293.1	1320	0.2220	135.0	242.7	228.0	10.00	
1502	118:12:18.82	33:44:06.99	81.3	1800	0.0452	180.0	150.9	136.2	9.00	
1532	118:12:18.35	33:44:06.29					172.6	225.0	8.00	
1603	118:12:20.97	33:44:03.99	321.1	1860	0.1726	180.0	223.5	208.8	8.00	
1634	118:12:48.05	33:44:08.89	2342.9	1860	1.2596	180.0	267.5	282.3	7.50	
1704	118:12:13.45	33:44:01.63	3016.7	1800	1.6760	104.2	104.2	202.5	8.00	
1740	118:12:10.51	33:44:08.82	771.4	2160	0.3572	18.8	4.1	202.5	10.00	
1805	118:11:52.11	33:44:09.26	1556.0	1500	1.0373	88.3	73.5	202.5	18.00	PICKED UP
1856	118:11:52.67	33:44:13.59	440.7	3060	0.1440	353.8	339.1	202.5	12.00	
1910	118:12:00.61	33:43:55.77					621.7	202.5	12.00	
1952	118:12:10.97	33:44:08.54	1566.7	2520	0.6217	326.0	326.0	247.5	12.00	RESET
2034	118:12:03.50	33:44:14.76	3316.6	2520	0.3544	45.0	45.0	202.5	12.00	
2130	118:11:46.23	33:44:01.44	3316.6	3360	0.9871	114.1	99.3	247.5	12.00	
2210	118:12:19.33	33:44:16.08	2348.2	2400	0.9784	318.1	303.4	225.0	4.00	PICKED UP
2221	118:12:52.20	33:44:25.24					0.0	0.0	0.0	RESET
2300	118:12:45.67	33:44:06.49	2945.1	2340	1.2586	250.7	235.9	180.0	6.00	
2335	118:12:50.85	33:44:23.50	1985.1	2100	0.9453	16.2	16.2	180.0	7.00	
2355	118:12:57.39	33:44:30.29	472.8	1800	0.2627	247.9	233.2	202.5	6.00	
35	118:12:48.23	33:44:28.50	884.7	1800	0.4915	321.3	306.6	0.0	0.0	
105	118:12:48.19	33:44:25.90	794.7	1800	0.4415	103.2	88.5	180.0	6.00	
130	118:13:28.16	33:44:18.52	264.5	1500	0.1763	179.1	164.4	180.0	4.00	
230	118:13:32.03	33:44:26.41	3461.2	3600	0.9614	257.5	242.7	180.0	3.00	
315	118:13:40.25	33:44:22.91	865.7	2700	0.3206	337.8	323.0	180.0	6.00	
330	118:13:19.75	33:44:32.50	780.3	900	0.8670	242.9	228.2	180.0	6.00	
408	118:13:30.02	33:44:27.50	1988.4	2280	0.8721	60.6	45.9	157.5	6.00	
435	118:13:26.47	33:44:27.50	1006.7	1620	0.6214	239.6	224.9	202.5	5.00	
505	118:13:26.47	33:44:27.38	300.2	1800	0.1668	77.5	77.5	157.5	6.00	
530	118:13:20.17	33:44:27.65	533.6	1500	0.3557	87.0	87.0	72.3	6.00	
600	118:13:15.55	33:44:24.47	507.4	1800	0.2819	129.6	129.6	157.5	6.00	
630	118:13:11.91	33:44:33.83	999.9	1300	0.5555	17.9	17.9	157.5	5.50	RAN AROUND

SUMMARY OF DROGUE #106 FROM 1358 TO 630 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:6505.0  
35839.058020  
580200.1121  
0.6177299.8  
285.1



1106 : DEPTH = 10.0

TABLE OF DRUGS \* 107 DEPTH 2000

SUMMARY OF DROGUE	#107	FROM 1358 TO 500	HOURS:	0.1563	292.3
NET DISPLACEMENT:		7559.1		48360	
TIME	LONGITUDE	LATITUDE	DISTANCE FEET	0.9418	
1358	118:12:05.14	33:44:02.02	1155.3	0.8360	
1431	118:12:47	33:44:11.61	335.9	0.8360	
1500	118:12:11	33:44:10.29	300.6	0.8360	
1530	118:12:13.03	33:44:11.77	194.2	0.8360	
1600	118:12:11.21	33:44:12.93	1437.5	0.8360	
1630	118:12:26.61	33:44:18.91	2464.4	0.8360	
1702	118:12:59.11	33:44:10.87	673.8	0.8360	
1736	118:12:04.11	33:44:16.04	1732.0	0.8360	
1802	118:12:05.14	33:44:02.06	1545.7	0.8360	
1900	118:11:48.14	33:44:11.57	3480	0.4977	56.1
2000	118:12:05.37	33:44:16.66	3600	0.4293	289.5
2110	118:12:04.95	33:44:01.13	1269.8	1500	0.8465
2135	118:12:09.99	33:44:12.89	1145.5	1800	0.6364
2220	118:12:19.33	33:44:01.75	1744.1	960	1.8167
2222	118:12:48.19	33:44:16.08	2439.5	2220	1.0989
2258	118:12:59.81	33:44:15.99	1011.0	1920	0.5266
2330	118:12:56.73	33:44:26.45	865.2	1800	0.4806
2400	118:13:10.23	33:44:29.98	1196.0	1800	0.6645
30	118:13:09.75	33:44:30.80	895.6	1800	0.4476
100	118:13:59.77	33:44:10.06	556.9	2100	2.6522
135	118:13:33.62	33:44:28.89	816.2	3600	2.2672
235	118:12:48.14	33:44:39.34	398.8	720	5.5399
247	118:12:50.80	33:44:57.75	1884.5	780	2.4161
300	118:13:00.00	33:44:35.46	2395.5	1020	2.3486
317	118:13:22.41	33:44:32.23	1922.9	1080	1.7804
335	118:13:17.74	33:44:33.01	402.6	1560	0.2580
401	118:13:18.68	33:44:32.62	88.3	1740	0.0507
430	118:13:27.88	33:44:30.21	815.2	1800	0.4529
500					252.5

I07 • DEPTH = 20.0

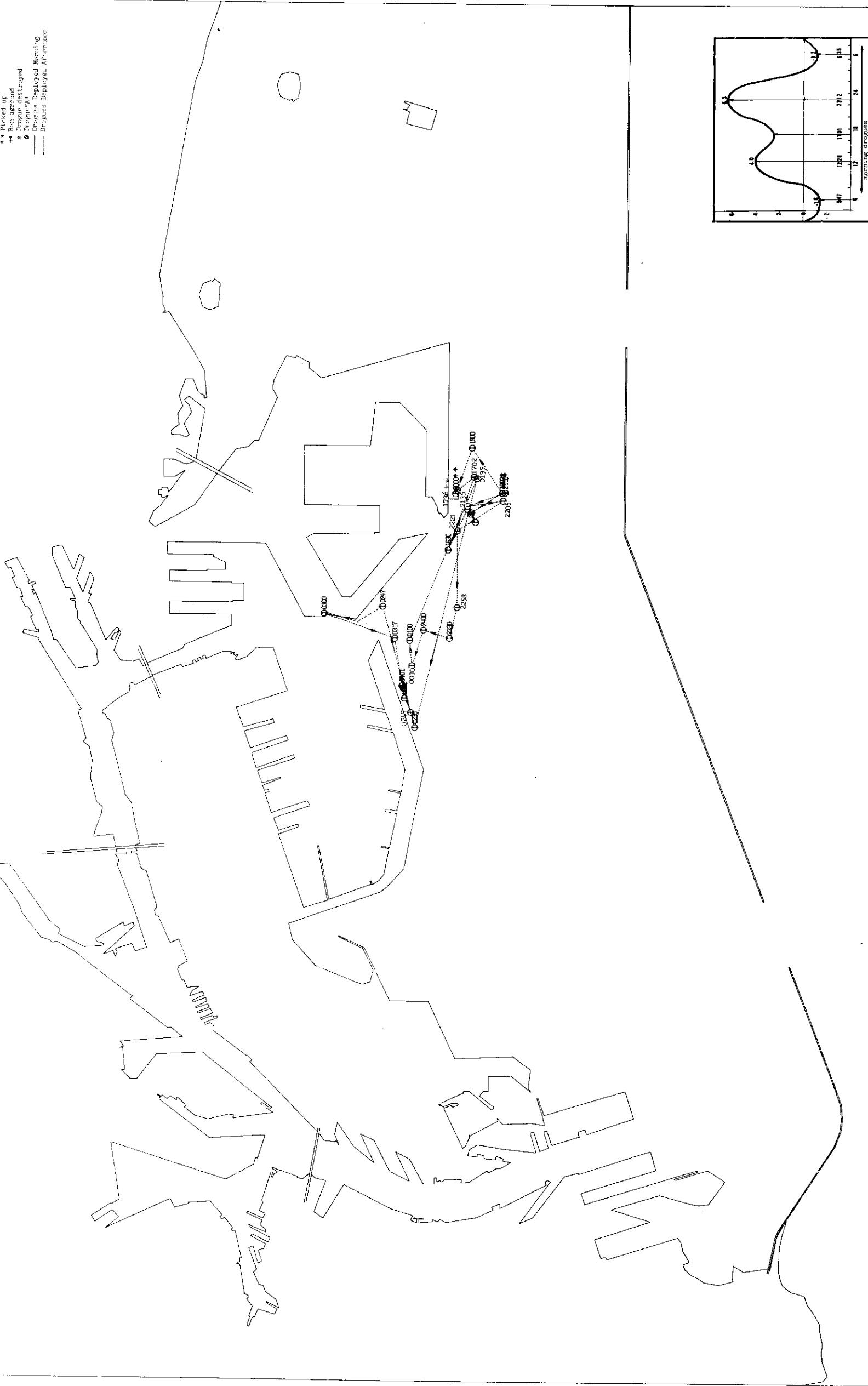


TABLE OF DROGUE #J01 DEPTH 0.0  
TIME LONGITUDE LATITUDE DISTANCE ELAPSED SPEED WIND DIR WIND SPEED REMARKS  
TIME MAG TRUE - - MAGNETIC  
FT/SEC SEC MAG KNOTS

700	118:11:01.07	33:44:00.19	688.5	1680	0.4098	245.7	135.0	5.00
728	118:11:09.11	33:44:05.07	1274.1	1620	0.7865	299.1	180.0	5.50
755	118:11:22.27	33:44:12.35	2227.1	2400	0.9280	289.1	180.0	7.00
835	118:11:47.16	33:44:16.47	1402.1	1320	1.0622	287.4	272.6	7.00
857	118:12:02.99	33:44:16.47	680.0	1380	0.4927	285.5	270.7	RAN AROUND RESET
920	118:12:10.74	33:44:18.25	1250.5	1800	0.6947	225.0	210.2	8.00
940	118:11:01.07	33:44:00.19	1018.5	1380	0.7380	270.7	255.9	8.00
1010	118:11:11.53	33:43:51.50	3268.1	4020	0.8130	293.7	279.0	0.0
1033	118:11:23.58	33:43:51.61	1550.4	1800	0.8614	321.4	306.7	PICKED UP RESET
1140	118:11:58.97	33:44:04.54	900	0.6594	213.1	198.3	180.0	6.50
1210	118:12:10.41	33:44:16.47	2002.4	3300	0.6068	289.2	274.5	9.00
1245	118:11:01.07	33:44:00.19	1023.9	1980	0.5171	332.9	318.2	10.00
1300	118:11:04.90	33:43:55.30	881.0	1920	0.4589	62.5	47.8	PICKED UP RESET
1355	118:11:27.27	33:44:01.79	593.4	1680	0.3104	299.5	284.7	170.0
1428	118:11:32.78	33:44:10.76	1023.9	2640	0.3052	231.2	216.4	8.00
1500	118:11:23.53	33:44:14.76	521.4	2880	0.3248	277.1	180.0	9.00
1540	118:11:01.07	33:44:00.19	72	2880	0.2057	137.7	123.0	12.00
1608	118:11:06.44	33:43:57.75	805.7	1380	0.3081	133.9	180.0	9.00
1652	118:11:13.87	33:44:01.17	935.3	1440	0.3145	173.5	158.7	12.00
1740	118:11:24.14	33:43:56.85	592.4	1980	0.3746	143.0	128.4	13.00
1828	118:11:19.42	33:43:53.28	425.2	2160	0.5020	15.8	208.0	216.0
1851	118:11:16.81	33:43:48.85	452.9	2280	0.4515	187.2	172.4	11.00
1915	118:11:16.20	33:43:42.49	809.2	3780	0.1454	177.8	163.1	276.0
1951	118:11:10.46	33:43:53.32	1144.6	1440	0.3286	226.7	212.0	188.0
2029	118:11:06.77	33:43:36.66	1706.8	1980	0.5844	233.3	208.0	4.00
2132	118:11:09.29	33:43:34.60	209.4	650.7	0.4256	218.6	226.0	6.00
2156	118:11:09.20	33:43:30.21	650.7	6720	0.5844	233.3	226.0	6.00
2229	118:11:14.80	33:43:41.44	1200.7	2820	0.4256	271.9	257.1	6.00
2310	118:11:03.18	33:44:04.12	3926.9					
102	118:11:40.44	33:43:41.05						
149	118:11:54.63	33:43:41.44						

SUMMARY OF DROGUE #J01 FROM 700 TO 149 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:

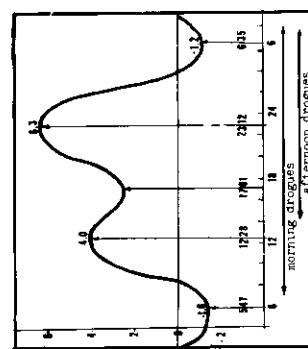
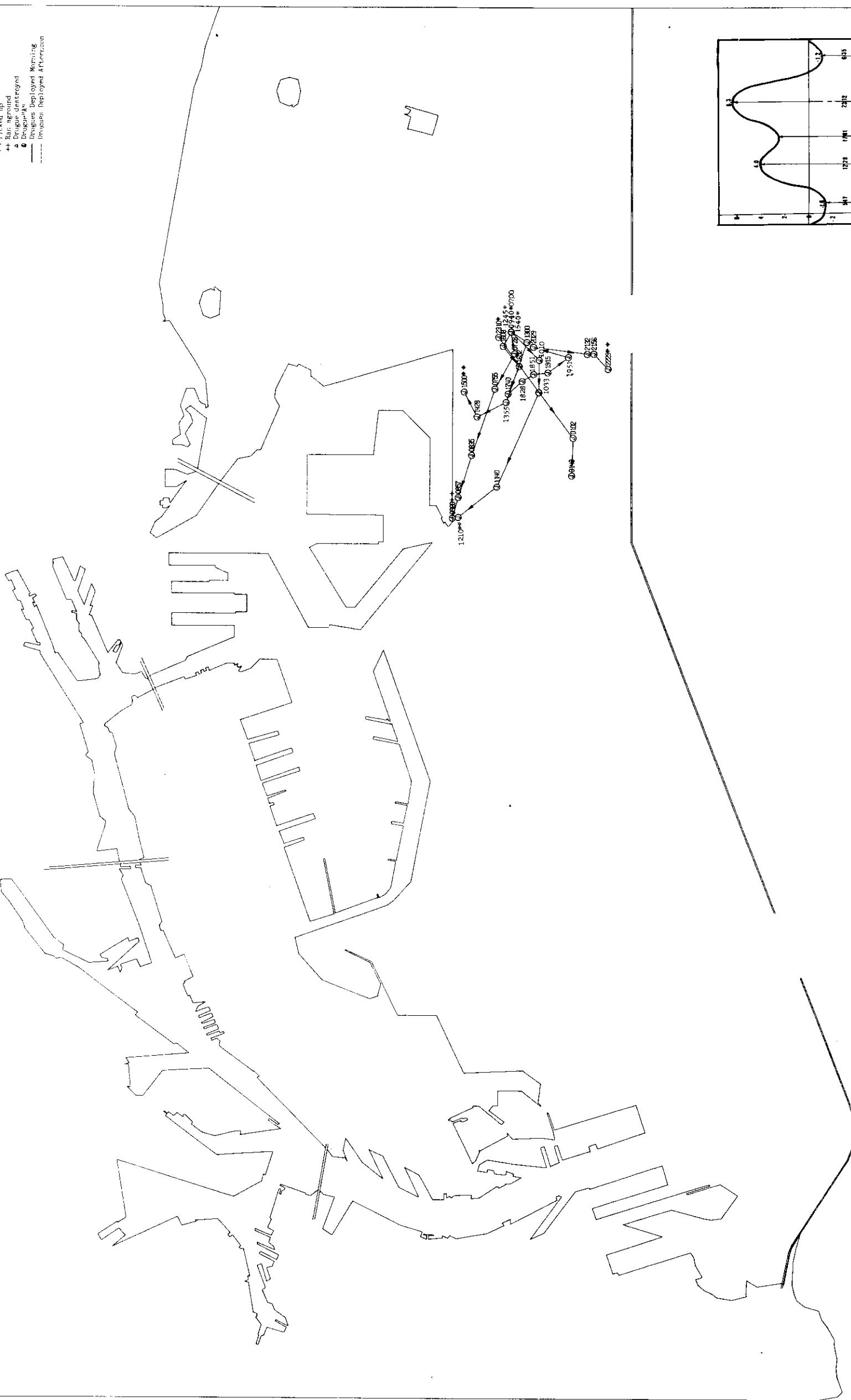
4912.7 59580  
31241.2 59580

0.0825  
0.5244

232.4

## Legend

- \* Recovered
- + Lined
- ++ Picked up
- +++ Rec. around destroyed
- ▲ Dredged (test dredge)
- ◎ Dredged (trawl)
- Trawlers Deployed Morning
- Trawlers Deployed Afternoon



JO11 DEPTH = 0.0

TABLE OF DROGUE #J02

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
700	118:11:01.07	33:44:00.19	902.4	1800	0.5013	135.0	334.9	5.00	
730	118:11:05.60	33:44:08.23	686.9	1800	0.3816	135.0	269.0	5.50	
800	118:11:13.73	33:44:08.12	1187.5	1800	0.6597	180.0	180.0	7.00	
830	118:11:26.94	33:44:12.08	833.9	1800	0.4633	180.0	275.1	7.00	
900	118:11:36.51	33:44:14.06	1800	1800	0.4633	180.0	269.2	7.00	
930	118:11:58.04	33:44:14.02	1819.8	1800	1.0110	180.0	269.9	8.00	
1000	118:12:19.05	33:44:18.99	1846.8	1800	1.0260	180.0	285.9	9.00	
1025	118:12:14.52	33:44:16.70	448.2	1500	0.2988	121.3	106.6	10.00	
1105	118:12:12.93	33:44:27.46	1101.6	2400	0.4590	7.0	352.2	11.00	
1130	118:12:12.70	33:44:28.82	139.6	1500	0.0930	6.1	353.4	10.50	
1200	118:12:12.37	33:44:30.99	222.8	1800	0.1238	7.1	352.4	8.00	PICKED UP
1238	118:12:14.29	33:44:32.47	220.7	2280	0.0968	312.8	298.1	10.00	RESET
1245	118:11:01.07	33:44:00.19							
1303	118:11:04.11	33:44:03.81	447.9	1080	0.4147	325.0	310.3	8.00	
1358	118:11:30.77	33:43:57.67	2338.7	3300	0.7087	180.0	239.8	10.00	
1425	118:11:39.08	33:43:59.65	730.9	1620	0.4512	180.0	271.2	8.00	
1457	118:11:37.31	33:44:03.92	459.4	1920	0.2393	19.1	4.3	8.00	
1528	118:11:31.33	33:44:01.90	545.4	1860	0.2932	112.1	97.4	8.00	
1556	118:11:21.06	33:44:09.48	1160.5	1680	0.6908	48.4	33.7	7.00	
1628	118:11:12.93	33:44:09.79	687.6	1920	0.3581	87.4	72.6	6.50	
1738	118:11:09.43	33:44:02.72	777.0	4200	0.1850	157.6	142.9	9.00	
1814	118:11:08.26	33:43:57.36	553.6	2160	0.2563	169.7	155.0	12.00	
1857	118:11:02.19	33:43:58.37	523.3	2580	0.2028	78.7	63.9	16.00	
1917	118:11:02.23	33:43:44.74	1543.0	1200	1.2858	206.1	191.4	237.0	
1949	118:11:12.09	33:43:50.72	628.1	1920	0.3271	345.4	330.7	16.00	
2026	118:11:11.35	33:43:47.57	325.9	2220	0.1468	168.8	154.1	11.00	PICKED UP
2240	118:11:21.48	33:43:36.31	1429.8	8040	0.1778	216.8	202.1	6.00	RESET
132	118:10:59.91	33:43:58.52							
218	118:11:02.19	33:43:44.93	1395.1	2760	0.5055	173.2	188.0	0.0	
310	118:11:04.58	33:43:38.21	712.0	3120	0.2282	181.7	196.4	6.00	PICKED UP
351	118:11:05.42	33:43:29.75	863.5	2460	0.3510	184.7	170.0	101.0	

SUMMARY OF DROGUE #J02 FROM 700 TO 351 HOURS:

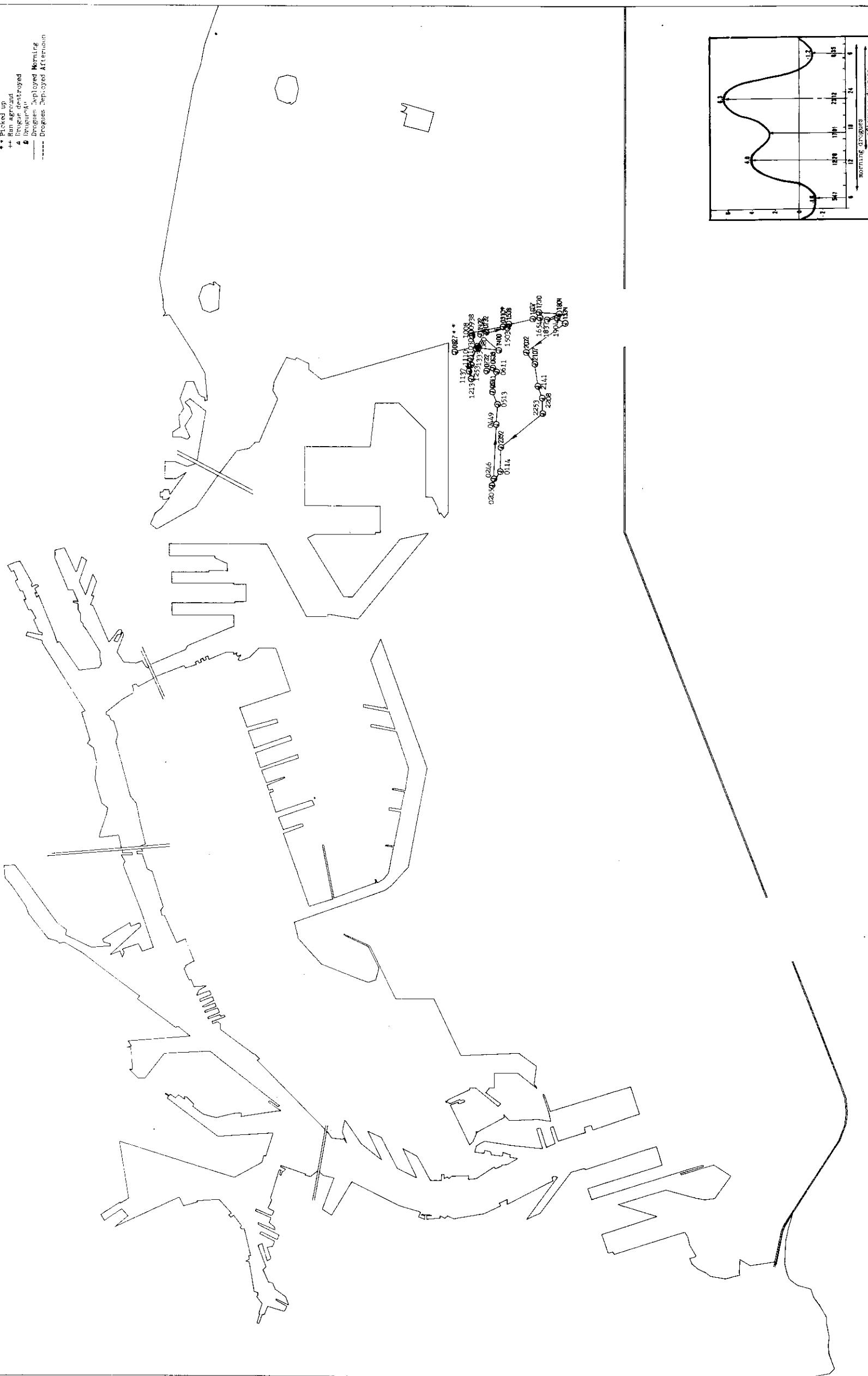
NET DISPLACEMENT: 3116.5 64320 0.0485  
 GROSS DISPLACEMENT: 24531.4 64320 0.3814

3116.5 64320 1.86.8  
 24531.4 64320 172.0



J002 : DEPTH = 10.8

TABLE OF DROGUE #103 DEPTH 20.0



卷之三

TABLE OF DROGUE #J04 DEPTH Q.D.

TIME	LONGITUDE	LATITUDE	DEPTH	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1405	118:11:01.07	33:44:00.19	562.3	1800	0.3124	218.2	180.0	170.0	10.00	
1435	118:11:05.18	33:43:55.84	719.7	1920	0.3749	266.5	180.0	180.0	8.00	
1507	118:11:13.68	33:43:55.42	515.7	1380	0.3737	303.4	180.0	180.0	8.00	
1530	118:11:18.77	33:43:58.21	969.9	1680	0.5773	341.5	326.7	180.0	7.00	
1558	118:11:22.41	33:44:07.26	776.7	2220	0.3499	63.4	48.7	180.0	6.50	
1635	118:11:14.19	33:44:10.68	946.5	3600	0.2629	67.2	52.4	190.0	9.00	
1735	118:11:03.86	33:44:14.29	421.5	1920	0.2195	134.6	119.9	230.0	12.00	
1807	118:11:00.33	33:44:11.38	993.9	2040	0.4872	117.2	102.4	208.0	13.00	
1841	118:10:49.87	33:44:06.91	247.9	1560	0.1589	127.2	112.5	237.0	12.00	
1907	118:10:37.53	33:44:05.44	1667.0	1980	0.8419	118.6	118.6	228.0	16.00	PICKED UP
1940	118:10:33.20	33:43:54.17	2267.1	3600	0.6298	76.3	61.6	216.0	11.00	RESET
2040	118:10:07.14	33:43:59.46						216.0	6.00	
2054	118:11:03.92	33:44:02.72						276.0	11.00	
2151	118:11:02.80	33:43:49.01	1396.6	3420	0.4084	176.1	161.4	188.0	4.00	
2224	118:11:06.40	33:43:47.26	352.1	1980	0.1778	239.7	224.9	191.0	6.00	
2338	118:11:21.90	33:43:39.96	1506.1	4440	0.3392	240.5	225.7	226.0	6.00	
54	118:11:30.16	33:43:23.88	1777.3	4560	0.3898	203.1	188.4	226.0	6.00	PICKED UP
141	118:11:37.45	33:43:24.82	623.0	2820	0.2209	278.7	264.0	226.0	6.00	RESET
209	118:11:03.04	33:44:04.19						0.0	0.0	
305	118:11:19.19	33:43:49.59	2017.0	3360	0.6003	222.6	207.9	101.0	6.00	
347	118:11:26.43	33:43:51.50	641.7	2520	0.2546	287.5	272.8	101.0	6.00	
453	118:11:25.03	33:44:07.50	1630.6	3960	0.4118	349.4	349.4	134.0	6.00	
524	118:11:21.71	33:44:13.94	712.7	1860	0.3832	23.2	8.4	134.0	6.00	
553	118:11:18.77	33:44:16.43	354.5	1740	0.2037	44.5	29.8	128.0	6.00	
619	118:11:09.81	33:44:18.25	780.3	1560	0.5002	76.2	61.5	172.0	4.00	RAN AROUND
624	118:11:03.22	33:44:04.19						172.0	4.00	RESET
646	118:11:03.88	33:44:10.06	598.6	1320	0.4535	354.7	340.0	172.0	4.00	
715	118:11:12.28	33:44:11.88	734.4	1740	0.4220	284.6	269.9	161.9	5.00	
737	118:11:08.87	33:43:23.11	4966.3	1320	3.7623	176.7	161.9			
SUMMARY OF DROGUE #J04 FROM 1405 TO 737 HOURS:										
NET DISPLACEMENT:				3827.0	60300	0.0635	189.9	175.2		
GROSS DISPLACEMENT:				28179.4	60300	0.4673				



June 13 - 14, 1972 Pacific Daylight Time  
Los Angeles, Outer Harbor

TABLE\_QE-DROGUE-\*J05-----DEPTH\_10.0

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1407	118:11:01.07	33:44:00.19					180.0	10.00	
1436	118:11:08.36	33:43:55.30	791.6	1740	0.4549	231.1	170.0	10.00	
1508	118:11:15.36	33:43:51.99	680.6	1920	0.3545	240.5	180.0	8.00	
1532	118:11:16.67	33:43:52.47	120.2	1440	0.0835	293.2	180.0	8.00	
1602	118:11:21.39	33:43:53.32	408.0	1800	0.2267	282.3	180.0	7.00	
1645	118:11:23.67	33:43:55.26	276.3	2580	0.1071	315.6	180.0	6.50	
1742	118:11:20.45	33:43:58.02	390.8	3420	0.1143	44.2	190.0	9.00	
1825	118:11:18.63	33:43:59.92	247.2	2580	0.0958	38.5	230.0	12.00	
1848	118:11:15.41	33:43:55.84	496.0	1380	0.3594	146.7	131.9	208.0	
1913	118:11:19.47	33:43:52.85	458.6	1500	0.3057	228.5	213.7	237.0	
1945	118:11:15.50	33:43:50.76	397.5	1920	0.2070	122.4	107.7	228.0	
2023	118:11:13.45	33:43:51.22	180.0	2280	0.0790	74.7	60.0	216.0	
2113	118:11:21.25	33:43:47.38	766.3	3000	0.2554	239.3	224.6	276.0	
2203	118:11:26.38	33:43:41.75	718.4	3000	0.2395	217.2	202.4	188.0	
2249	118:11:13.21	33:43:27.99	1786.6	2760	0.6473	141.5	126.7	4.00	
2346	118:11:45.29	33:43:45.51	3244.0	3420	0.9485	303.3	288.5	6.00	
109	118:11:25.26	33:43:37.24	1890.7	4980	0.3797	116.4	101.7	226.0	
156	118:11:52.48	33:43:59.26	3210.2	2820	1.1384	314.2	299.5	0.0	
250	118:11:53.18	33:44:05.79	665.8	3240	0.2055	354.9	340.1	0.0	
338	118:11:45.39	33:44:07.34	677.9	2880	0.2354	76.5	61.8	101.0	
440	118:11:27.69	33:44:08.35	1499.6	3720	0.4031	86.1	71.3	6.00	
522	118:11:24.00	33:44:11.65	458.6	2520	0.1818	42.9	28.2	134.0	
550	118:11:16.44	33:44:15.81	766.4	1680	0.4562	56.6	41.8	128.0	
617	118:11:13.96	33:44:14.21	264.5	1620	0.1633	127.7	113.0	4.00	
624	118:11:03.36	33:44:04.04	246.2	1440	0.1710	172.0	172.0	4.00	
643	118:11:01.17	33:44:05.63	1096.2	1860	0.5894	34.2	154.0	5.00	
719	118:11:04.20	33:44:16.12	802.6	1380	0.5816	147.2	165.0	6.00	
742	118:10:59.07	33:44:09.48						132.5	

SUMMARY OF DROGUE #J05 FROM 1407 TO 742 HOURS:

NET DISPLACEMENT:  
GROSS DISPLACEMENT:958.6  
22540.4  
62880  
0.358510.2  
355.462880  
62880  
0.3585

## Legend

- \* Reset
- + Lost
- Picked up
- ++ Ran aground
- ▲ Drone destroyed
- ◆ Drone\*#
- Drogues Deployed Morning
- - - Drogues Deployed Afternoon

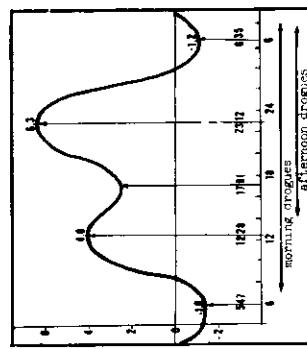
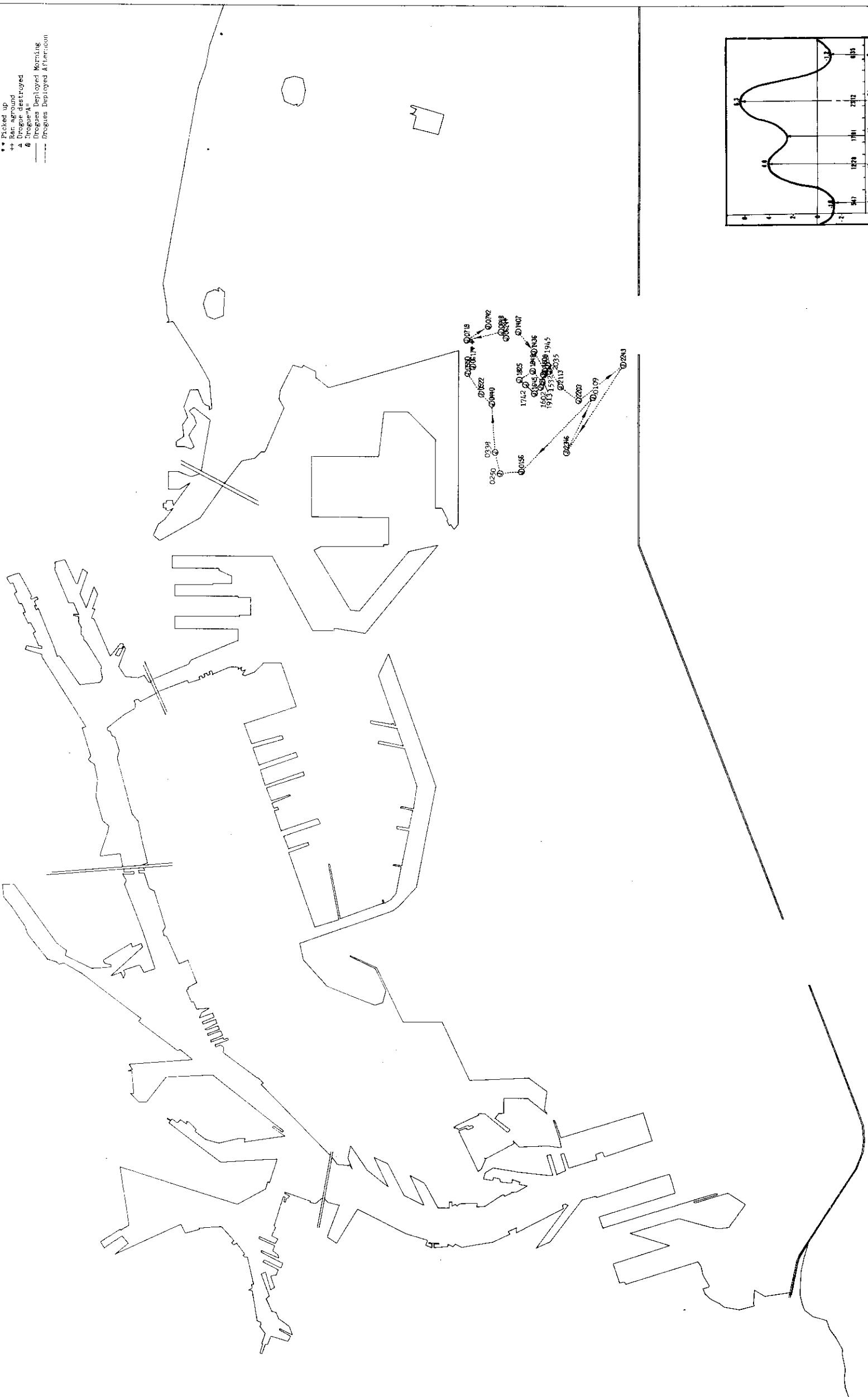


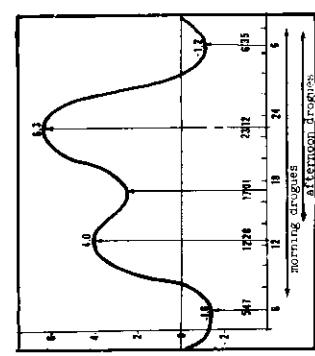
TABLE OF DROGUE #106 DEPT 2040

TIME	LONGITUDE	LATITUDE	DISTANCE FEET	ELAPSED TIME SEC	SPEED FT/SEC	DIRECTION OF MOVEMENT TRUE - - MAGNETIC	WIND DIR MAG	WIND SPEED KNOTS	REMARKS
1410	118:11:01.07	33:44:00.19	2268.2	1620	1.4001	194.6	180.0	10.00	
1437	118:11:07.84	33:43:38.60	718.5	1920	0.3742	347.9	176.0	9.00	
1509	118:11:09.62	33:43:45.51	1560	1560	0.1749	284.2	180.0	8.00	
1535	118:11:12.75	33:43:46.17	1740	1740	0.0699	346.9	180.0	8.00	
1604	118:11:13.07	33:43:47.34	2640	2640	0.2952	346.5	180.0	7.00	
1648	118:11:15.22	33:43:54.80	779.3	3360	0.2149	146.4	225.0	6.50	
1744	118:11:12.19	33:44:01.44	722.1	1620	0.4008	146.4	230.0	14.00	
1811	118:11:07.94	33:43:56.12	649.2	3000	0.6606	179.1	208.0	12.00	
1901	118:11:07.56	33:43:36.62	1981.8	1200	1.4273	19.1	228.0	13.00	
1921	118:11:00.93	33:43:52.54	1712.8	1960	0.2756	91.7	228.0	16.00	
1937	118:11:05.77	33:43:52.47	264.6	4380	0.3306	331.7	216.0	11.00	
2050	118:11:05.93	33:44:05.01	1448.2	540	1.0750	199.1	276.0	6.00	
2059	118:11:08.17	33:43:59.61	580.5	2760	0.3127	249.7	234.9	4.00	
2145	118:11:17.74	33:43:56.66	863.0	1740	0.4830	279.5	188.0	6.00	
2214	118:11:27.55	33:43:58.02	840.4	2640	0.3536	273.6	208.0	6.00	
2258	118:11:38.57	33:43:58.60	933.5	3540	0.3236	308.8	191.0	6.00	
2357	118:11:49.12	33:44:05.67	1145.4	4860	0.1608	299.7	226.0	6.00	
118	118:11:57.15	33:44:09.48	781.4	2580	0.0678	115.4	100.7	0.0	
201	118:11:55.28	33:44:08.74	174.8	3120	0.3198	96.8	101.0	6.00	
253	118:11:43.56	33:44:07.57	997.9	2820	0.1959	301.0	101.0	6.00	
340	118:11:49.17	33:44:10.37	552.4	1363.1	0.3606	96.7	134.0	134.0	
443	118:11:33.15	33:44:08.82	3780	0.4738	88.9	74.1	81.9	1128.0	
518	118:11:21.39	33:44:09.01	994.9	2100	0.2640	106.0	91.3	4.00	
546	118:11:16.34	33:44:07.81	443.5	1680	0.2401	112.2	97.5	4.00	
615	118:11:11.77	33:44:06.25	417.8	1740	0.6846	115.6	172.0	4.00	
643	118:11:06.54	33:44:16.70	1150.2	1680	0.9339	218.0	203.3	5.00	
710	118:11:17.56	33:44:04.97	1512.9	1620	3.1562	58.4	154.0	4.00	
717	118:11:04.20	33:44:11.81	420	1325.6	0.0643	147.7	154.0	5.00	
740	118:11:03.64	33:44:11.07	88.7	1380	0.0643	133.0	348.9	6.00	
SUMMARY OF DROGUE #J06 FROM 1410 TO 740 HOURS:									0.0179
NET DISPLACEMENT:									0.3985
GROSS DISPLACEMENT:									63000
									63000
									25105.4

SUMMARY OF DROGUE #J06 FROM 1410 TO 740 HOURS:

## Legend

- + Reset
- + Lost
- + Picked up
- ++ Rec'd ground
- ▲ Drogue deployed
- Drogue recovered
- Drogues Deployed Morning
- Drogues Deployed Afternoon



J06 • DEPTH = 20.0

