

GS-1 8-94 105028
94044 GS-1 9-94
94043

94044
GS-1 8-94
LAKE ERIE
Aug 23-25, 30, 1994
Jonathan Nate Fuller-OGS

GS-1 9-94 94043
LAKE ERIE
Sep 13-30, 1994
Jonathan Nate Fuller-OGS

CRUISE REPORTS/TRACKS
SEISMIC LOG



DIVISION OF GEOLOGICAL SURVEY
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Handwritten: Murray
Tom Van
Horn

George V. Voinovich • Governor
Frances S. Buchholzer • Director

POST-CRUISE REPORT

October 11, 1994

TO: Scudder Mackey, OGS ; Dave Folger, USGS

FROM: Jonathan Fuller *Jonathan Fuller*

SUBJECT: Late Summer 1994 cruise of the RV/GS-1, August 22 to August 30, 1994

Purpose

This cruise was set up to finish off the three shore-parallel seismic lines that were planned for the area west of Sandusky. These lines were the lines originally planned for the June cruise that never was. These lines will assist in the interpretation of the transition from the offshore data set to the nearshore profiles and shore data. These lines were planned to connect the ends of all of the 2000 foot shore normal profiles and extend the data further offshore with lines also at 5000 and 7000 feet offshore.

Equipment

Klein 100 kHz sidescan sonar	VHS tape recorder
Klein 3.5 kHz subbottom profiler	Sony digital tape recorder (part)
Geopulse boomer seismic system	Loran-C navigation system
ITT 10 element hydrophone	
assorted clocks, computers, etc.	

Personnel

Jonathan Fuller, OGS, chief scientist

Dale Liebenthal, OGS, Captain RV/GS-1

Set-up Personnel

Ken Paroski, USGS, Electronics Technician

Date Specific Activities listed below

August

22	Transport GS-1 to Menkie Marina at Cooley Creek	
23	Set up gear and take Wayne Warren, Tom Berg, Bob VanHorn, and Scudder Mackey out for a look see of the way the surveys are run.	28.8 Nmi
24	Work Little Cedar Point through the Fireing area	32.6 Nmi
25	Work Port Clinton to Marblehead, into Sandusky	27.0 Nmi
26	No work on lake	
27	No work on lake	
28	No work on lake	
29	No work on lake	
30	Work Port Clinton to Marblehead, from Sandusky	23.2 Nmi

cruise total

111.6 Nmi

This cruise nearly finished the shore parallel lines that were scheduled with the RV/GS-1 for the June cruise. We will pick up the remainder during the September cruise. The use of the Loran-C alone was ok, but DGPS would have been better. The GPS was not used because of the commitments of the USGS equipment elsewhere. It was felt that it was better to get the data, than to wait for the better navigation. Loran-C seemed to be significantly better in this area of low bluffs than it was in the high-bluff area up east (see cruise LEGS 2/8-93).

This cruise was again different from the previous ones. One reason was that because it was only OGS people onboard we did not try to justify weekend work, and we could try to pick our days to get better records. This last idea did not work out all that well because once we were out, we tried to finish the day and line to the point that some of the data is still marginal. This cruise had equipment problems that were not unique. The satellite clock was off for the whole cruise, we simply set all clocks to agree so that the records would be consistent. We tried to tape the SSS on the digital machine and did not have good results. We had problems with the hydrophone battery keeping a charge. Another difference was that weather was not a problem except to the extent that the thermocline made some data very bad. One of these lines was re-run but the rest were written off.

cc. OGS: Dale Liebenthal,

USGS: Distribution to be Determined by Dave Folger



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POST-CRUISE REPORT

September 29, 1994

94-2

TO: Scudder Mackey, OGS ; Dave Folger, USGS

FROM: Jonathan Fuller

SUBJECT: Fall 1994 cruise of the RV/GS-1, September 13 to September 30, 1994

Purpose

This cruise was set up to finish off the three shore-parallel seismic lines that were planned for the entire Ohio shore line. These lines will assist in the interpretation of the transition from the offshore data set to the nearshore profiles and shore data. These lines were planned to connect the ends of all of the 2000 foot shore normal profiles and extend the data further offshore with lines also at 5000 and 7000 feet offshore.

Equipment

Klein 100 kHz sidescan sonar	VHS tape recorder
Klein 3.5 kHz subbottom profiler	Sony digital tape recorder
Geopulse boomer seismic system	Loran-C navigation system (2)
ITT 10 element hydrophone	Differential GPS navigation systems (real time)
assorted clocks, computers, etc.	

Personnel

Jonathan Fuller, OGS, chief scientist	Barry Irwin, USGS, navigation specialist
Dale Liebenthal, OGS, Captain RV/GS-1	Dave Nichols, USGS, Electronics Technician

Date Specific Activities listed below

September

- 8 Barry Irwin arrived start the process of setting up real time DGPS stations. Nate assisted on both the 8th and 9th. Stations at The Watergate Apts. and Lorain City Building
- 11 Dave Nichols arrives
- 12 The GS-1 is transported to Cleveland
- 13 Mobilize equipment and start survey of shore parallel lines east of Clev. 19.0 n mi
- 14 Blown off half day, had computer problems run lines east of Clev. 9.2 n mi
- 15 Work west of Clev. generator problems cause break in day 27.1 n mi
- 16 Work west of Clev. boomer down at end of day 29.4 n mi
- 17 Try to run lines to Sandusky, blown off early, into Sandusky 4.3 n mi
- 18 Weather Day blown off, tear down east GPS station

19	Scheduled down day	
20	Work east from Sandusky, little run time to start or end lines	48.5 n mi
21	Work Sandusky to Avon	36.5 n mi
22	Work west of Sandusky, finish 3 lines, demobe early, tear down GPS station, load USGS equipment, Dave on the road	18.0 n mi
23	Finish demobilizing of GS-1	
	cruise total	<u>192 n mi</u>

This cruise finished the shore parallel lines that were scheduled with the RV/GS-1. We plan to run some sidescan/boomer lines closer to shore with the smaller research boat when there is time. I had also hoped to have a chance to run some of these closer to shore lines while Dave Nichols was here and while the real-time DGPS was up and running, but conflicts at Woods Hole could be significantly reduced if this cruise could be finished up early. Considering that we were able to finish the three parallel lines, that there were two scheduled down days near the end of the cruise, and the need to change RV made extending the data set to include some of the small-boat lines impractical.

This cruise was very different than the previous ones. On this cruise we had more equipment problems than on any previous cruise, but we were able to fix them or they could be side-stepped. Another difference was that weather only took two and a half days of the nine days that we were able to collect data. During previous cruises we averaged more than 50% down time due to weather. Because of this, and a minor change in field plans, we were able to demobe 7 days early (two of which were scheduled down days). This allowed us to return the equipment to Woods Hole a week early, which meant that it could be more thoroughly checked out before going either to Italy or Puerto Rico, and provided a break at home for Dave Nichols prior to his next assignment.

cc. OGS: Dale Liebenthal,

USGS: Distribution to be Determined by Dave Folger

USGS AND OGS Coastal program cruises

NEARERSHORE SHORE PARALLEL TRACKLINES
TRACKLINE LOCATION CHARTS FOR THREE LAKE ERIE CRUISES

Three NOAA charts used for base, 14830 (March 92)
14829 (Nov. 90)
14829 (Sept. 88)

All charts enlarged on copier 100% to nominal scale 1:50,000

Locations based on Loran-C TD's, chain 9960

All positions East of Lorain have been shifted about 1000 feet SW to fit field observations

cruise#	lines	region
LEGS 1 8/93	L-36 to L-44	Conneaut to Cleveland
LEGS 1 8/94	L-1 to L-10	Toledo to Sandusky
LEGS 1 9/94	L-1 to L-15	Fairport Harbor to Marblehead

COMPOSITIONS

LEGS-1/8-94

and

LEGS-1/9-94

Boorum & Pease®

LEGS 1/8-94

Near shore parallel lines

8-23-94

JD 235

Menkie Marino

Show + Tell

Leave Menkie ~ 1000 DST

Problem with sat. clock and shows
12 hrs off - call Men - suggest turn
off and let require when operation

Wane Warren, Tom Berg, Bob Van Blom also I
plug in wp 122 off little CP run TB
at then

Annotation reads 02 hrs Zulu is 14 hrs

Local time 10 hrs DST same for whole
cruises.

SOL 1 555 407 WP 122

Hunter # 2:10

Tape 3:00

at 308 clock change EPC + Klein

EOL 1.3:35 at WP 122 R

Return to dock to

Drop people off

Head Back out 17:26 hrs DST

2.8 nmi

VHS Tape 1

Line 1

0-33:06

501 Z

509 hrs clock

wp 90

1309 DST

536 hrs

wp 90R

0548 clock - End EPC ~~Roll 1~~

552 clock - Start EPC Roll 2

617 hrs

wp 89

0640 hrs

change Tape 1-2

717 hrs

wp 88

~~717~~ 1.2 naut mi off shore radar

15' H₂O

1517 DST

~~wp 87~~

~~wp 87~~

~~DST~~

Time 724 on Line 2 Boat wreck-

on 555?

07:38 clock

wp 87

15:38 DST

1.2 n mi off shore

15' H₂O

0810 clock

wp 86

1610 ~~wp 86~~ DST

1.4 n mi

18' H₂O

EOL 2

8:47

WP 85

16 47 DST

1.3 ml ml off

18' H₂O

19.2 n mi

SOL 3

0856

WP 117

16 56 DST

0.8^N mi offshore

16' H₂O

Pass south of Bouy 40

EOL 3

0935 clock

WP 118

17 35 DST

3.4 n mi

SOL 4

941 clock

WP 154

tuning to course

1741 DST

Pass North #31

3.4 n mi

EOL 4

1025 clock

WP 153

1925 ~~00~~ DST

Last miles were post record SSS

Due to on shore Breez Kicks
in

28.8

N mi long

Geo Pulse 105 Jowls

filter

3 KHz to 500 Hz Gain 35 db

Expected Day

159, 158, 157, 156, 155, 155a, 154

Run to

122R, 120, 179, 118 if not Fining 117

Run to M.

8-24-94

Head out to Little C.P. for in shore
line 5

5025 0117 clock

0917 DST

Tape started later ~ 0122 clock ID 236
on Line 5

0127 clock Move SSS to 150 range -
records from Line 4 yesterday went
to pot with refraction about when
wind turned onshore, could not
get usable record beyond 75 m

clock 0150

wp 158

0950 DST

.5 nmi off shore

14' depth

233 clock

WP 157

1033 DST

.4 n mi off

17' H₂O

1051 DST

Do not know why channel 2 on EPC has
chosen to print dark and to lose
scale lines - Tried to change
both to no result - ~~hope to~~ will
try to reboot when data falls
apart

scale can be figured from other channel

03:33 clock

WP 156

11:33 DST

13' H₂O

.5 nautical miles off shore

03:36 Try Reboot system
still strange value for channel 2
scale lines

0355

WP 155

1155 DST

0.4 n mi off shore

13'

04 12:35

WP 155 a

12 12 35 DST

.4 n mi offshore

14' H₂O

EOL 5

04 19:35 Block

154

12 19:35 DST

MOVE EPC to record channel 1+3

things look good - gray gone and
scale lines return - need to discuss
problems on Channel 2 with Folke

Pull gear

Head back to 122R

16 n mi

SOL 6 0553 clock

WP 122R

13:53 DST

.9 Nat Mile offshore

17' H₂O

start Tape 5 later by

5 min

~~0610~~

0601 use EPC channel 1+3

got it all going -

0636 clock WP 121
1436 DST
17' H₂O

.8 n mi off shore

Time 07:14 change Belts on EPL - is chirp alarm?

0735 clock WP 120
1535 DST
14' H₂O
0.75 naut Mile off

0754 WP 119
1554 DST
14' H₂O
0.75 n mi off shore

0804:45 WP 119a
1604:45 DST
15' H₂O
0.7 n mi off sho

08:21:30 WP 118
1 n. mi off sho
16 21:30 DST just inside
of I 40

re Run Line 3

going coned way and
without onshore wind

Through firing area 2 To WP 117
Line passed ~~at~~ Just N of ~~the~~ 30

EOLB

0859:50
165950

WP117

.8 n mi offshore

16' H₂O

16.6 n mi

16

16.6

32.6 n mi

EOD

8-25-94

Try to get digital recorder working - no
level need to understand it better.
Call for Tony (US65) need to send
him a schedule - He also said that
my problem with EPC was two fold
one need to reset whole system
and cherp is because ~~total~~ record
contrast is too great

Head to East of firing area to
run outer lines start with ~~line~~ 7

Tape Roll 5438 clock

1238 DST

5067

0439.30 clock

WP 85

1239 DST

1.2 mm

17' H₂O

0

31 0

4800

EPC Readings for full reset

Chart STY 150 3

Style Speed 0

Key / Permit channel 1

Sweep 1234567890

Print P 0

Key K 0

Interval 01

05

Annul 0

0000

05:10 clock

WP 84

13:10 DST

18' H₂O

0527 clock

close WP 83

13 27 DST

20' H₂O

0547 clock
~~13~~47 DST

WP 82

21' H₂O

0554 clock
13~~2~~54 DST

WP 81

25' H₂O

0609:30

WP 80

1409 DST

21' H₂O

0635 clock

WP 79

1435 DST

30' H₂O

650

WP 78

1450 DST

17' H₂O

0730

WP 77

1430

23' H₂O

0730 clock
1530 DST
29' H₂O

WP 76

0734 up power Geopulse 175j

0752 clock
1552 DST
37' H₂O

WP 75

change tape 7 to 8 VHS

0805 clock
1605 DST
36' H₂O

WP 74

EOL 7

833
1633
25' H₂O

WP 104

21 n mi

502 B

08:41:45
16:41:45 DST
29' H₂O

WP 73

0854 trawling 1.4 n mi offshore
6 mph

0919
1719 DST
34' H₂O

WP 72

09.24 1.25 n mi of

FOL 8

09 45 DST

WP 71

17:45

1.2 n mi

34' Hz

6 n mi

FOD

27 n mi

Dong

date	N mi
8-23	28.8
8-24	32.6
8-25	27.0
<hr/>	
	88.4 n mi

DAT	ch	Cable
	1	A7
	2	A1
	3	A2
	4	A3
	5	A4
	6	A5
	7	F
	8	E

8-30-74

work From Sandusby to Port Clinton

flat day

Never got ^{DAT} Records working right get
all data but no Anno-

Print density is controlled by
the "L" pot. Taped cable F7

in all ports followed by Playback
F8 into respective ports

Moved DTT down to 1V for each
channel as it was inter slipped
Will record today with same
plug as previous day

clock reads 74 242 01:45 =

9:45 DST

Start Line 9 112, 116, 115, 114, 113, 112, 111

Line 10 153, 152, 151, 150, 149, 148, 147, 146, 145a
145, 144, 143, 142, 141, 140

Note ALL of Line Nine and 10m Line 10 Have No Nave on SSS

SOL 9 03:28:45 at WP 117

11:28 DST

16' H₂O

0.9 n mi off shore

555 chart speed 5.2

857 Turns

6.2 mph

04-04-40 clock

WP 116

12-04-40 DST

13' H₂O

0.8 mi off shore

04:24:45 clock

WP 115

12 24: DST

0.8ⁿ mi off

19' H₂O

04 43 30

WP 114

12 43 30 DST

0.7ⁿ mi off shore

20' H₂O

04 54 56

WP 113

12 54 56

0.8ⁿ mi off shore

24' H₂O

05:08

WP 112

13:08

27' H₂O

0.8ⁿ mi off

EOL 9

05:31:45

wp 111

13 31:45 DST

28' H₂O

10.2 n mi

SOL 10

06:31:25

wp 153

14 31:25 DST

0848 Plug in Nav up until this
No Loren C to the recorder

07 10 clock

152

13:10 DST

0.5 n mi

13' H₂O

07:32:39 clock

wp 151

15:32:39 DST

14' H₂O

0.40 n mi off

07 55 22 clock

wp 150

15:55 22 DST

16' H₂O

0.4 n mi off sho

080553 clock WP149
160553 DST
.4 n mi
24' H₂O

0815 clock WP148
1615 DST
.4 n mi off

0821 clock up till now
only phos 1, 3, 5, 7, 9, # on
add phos 2 & 4

0830 clock WP 149
1630 DST

~~WP~~
08:39:44 clock WP146
1639 DST
19' H₂O
.4 n mi off

EOLID 085554 145a
1655 DST
.6 n mi off
15' H₂O

13 mi

6sl pack need charge overnight
light rain more in getting late

need VCR Tapes

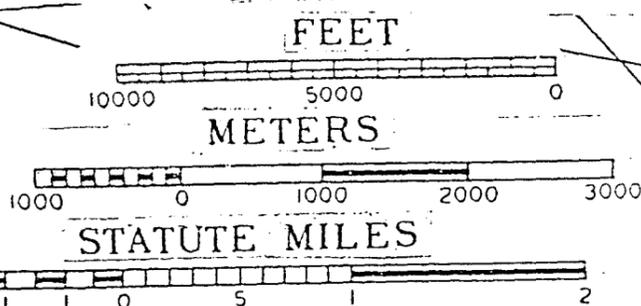
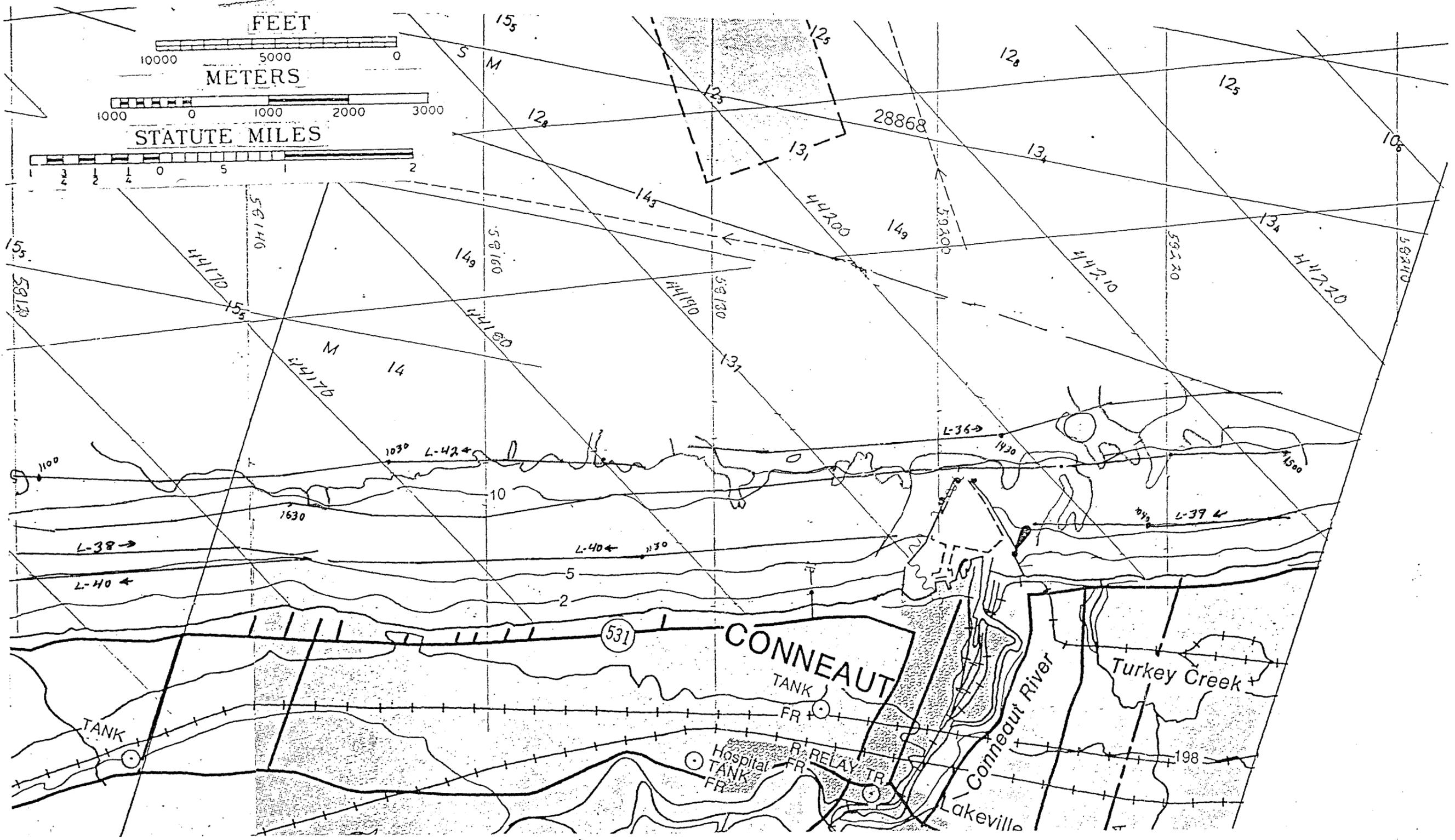
23.2ⁿ mi

for day

End Cruise

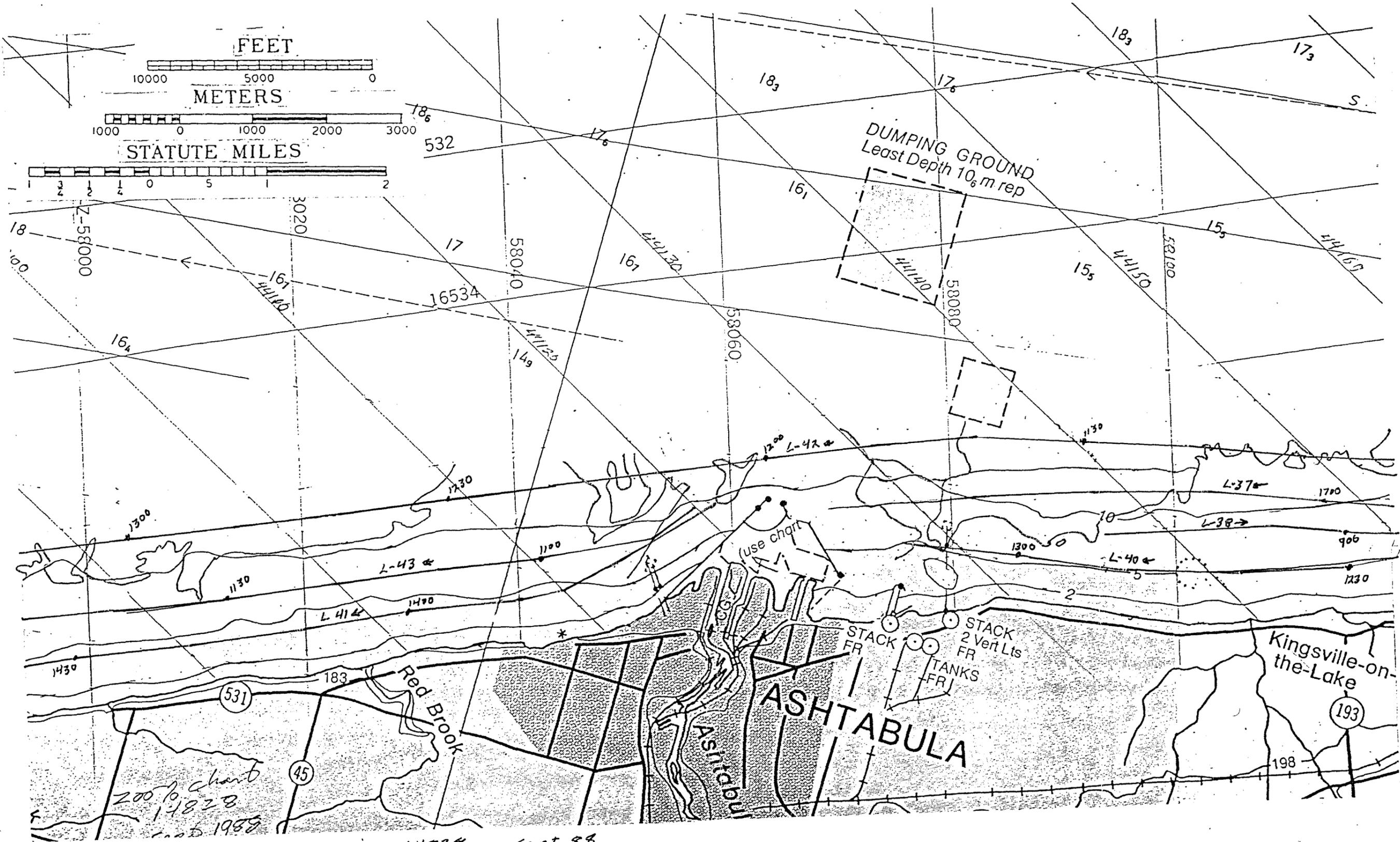
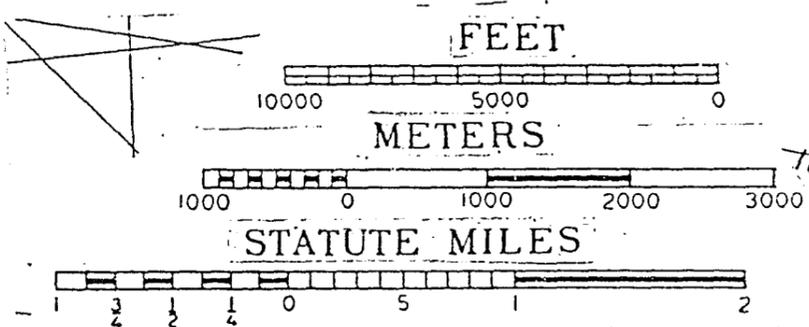
Sum LEGS 1 / 8-94

date	N mi day	Cum N mi
8-23	28.8	
8-24	32.6	61.4
8-25	27.0	88.4
8-26	0	88.4
8-27	0	88.4
8-28	0	88.4
8-29	0	88.4
8-30	23.2	111.6



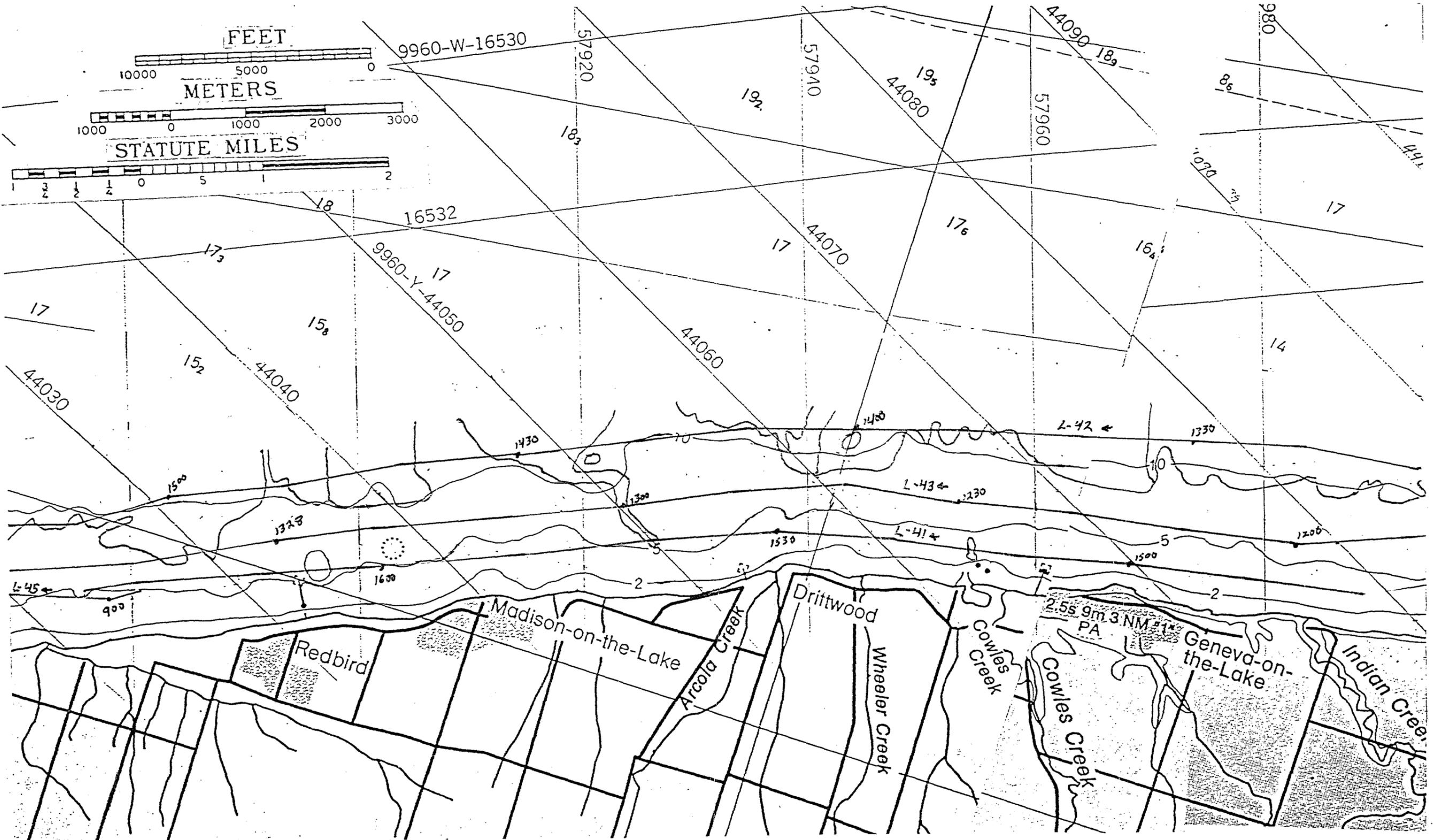
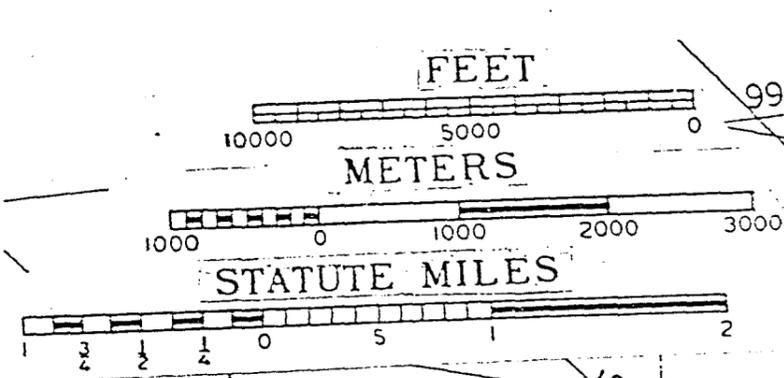
14878 Sept 88

All Lines Adjusted East of Merain 8 1000' 3E shift 1/195

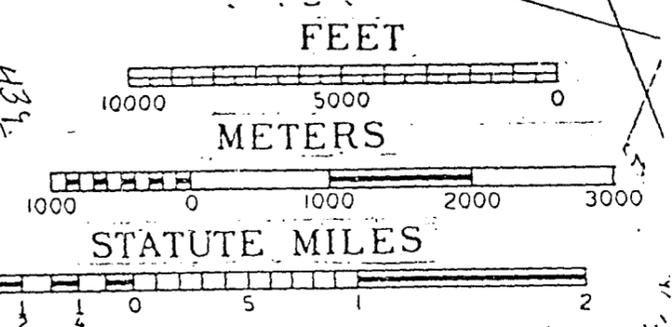
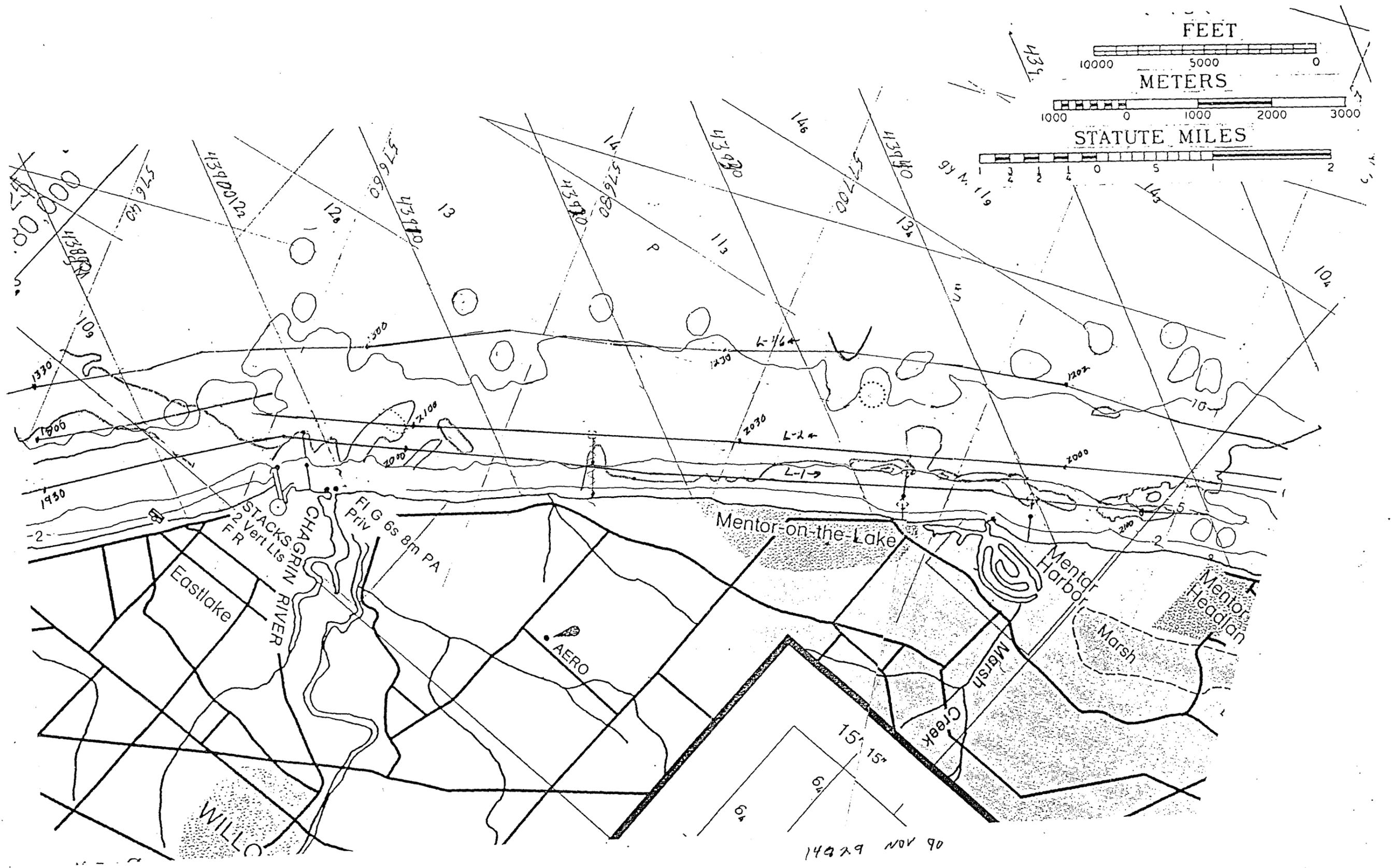


2007 chart
13828
1989

14828 Sept 88



14879 Nov 90 | 14879 Sept 88



STACKS
2 Vert Lts
FR

CHAGRIN RIVER

FIG 6s 8m PA
Priv

Mentor-on-the-Lake

Mentor Harbor

Mentor Headland

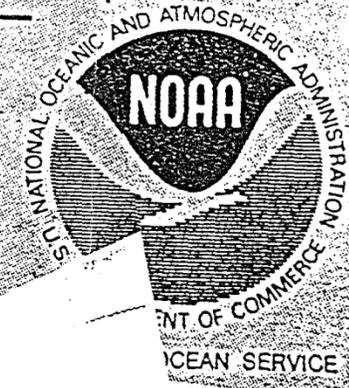
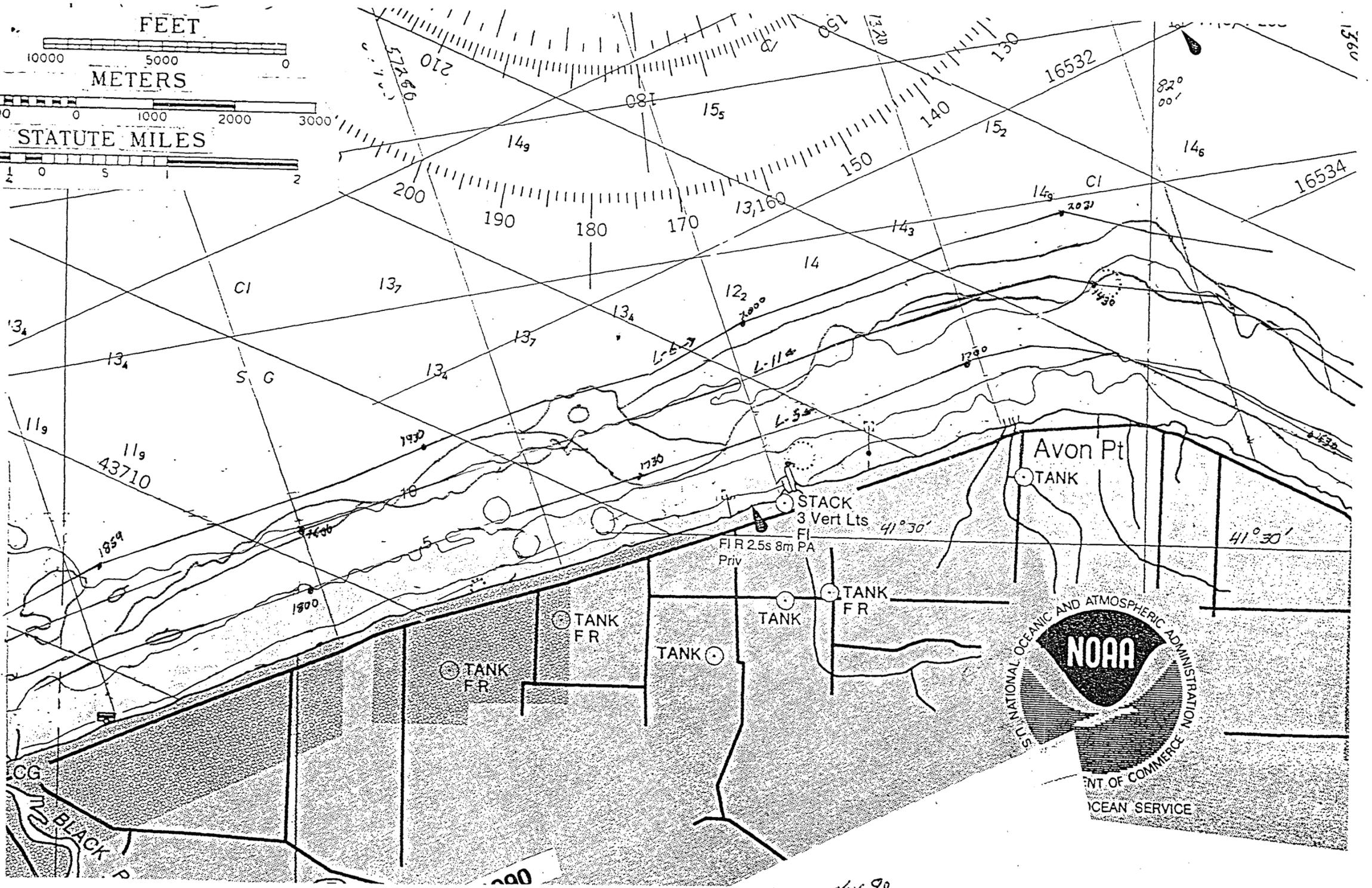
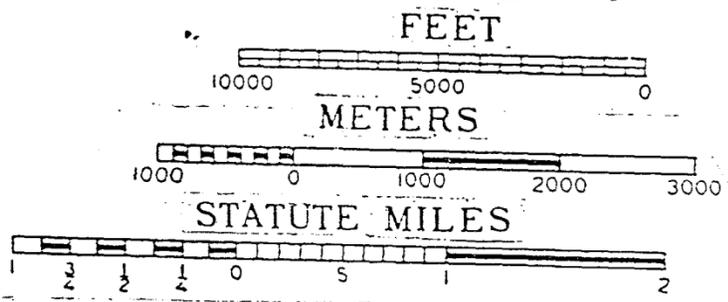
Marsh

Marsh

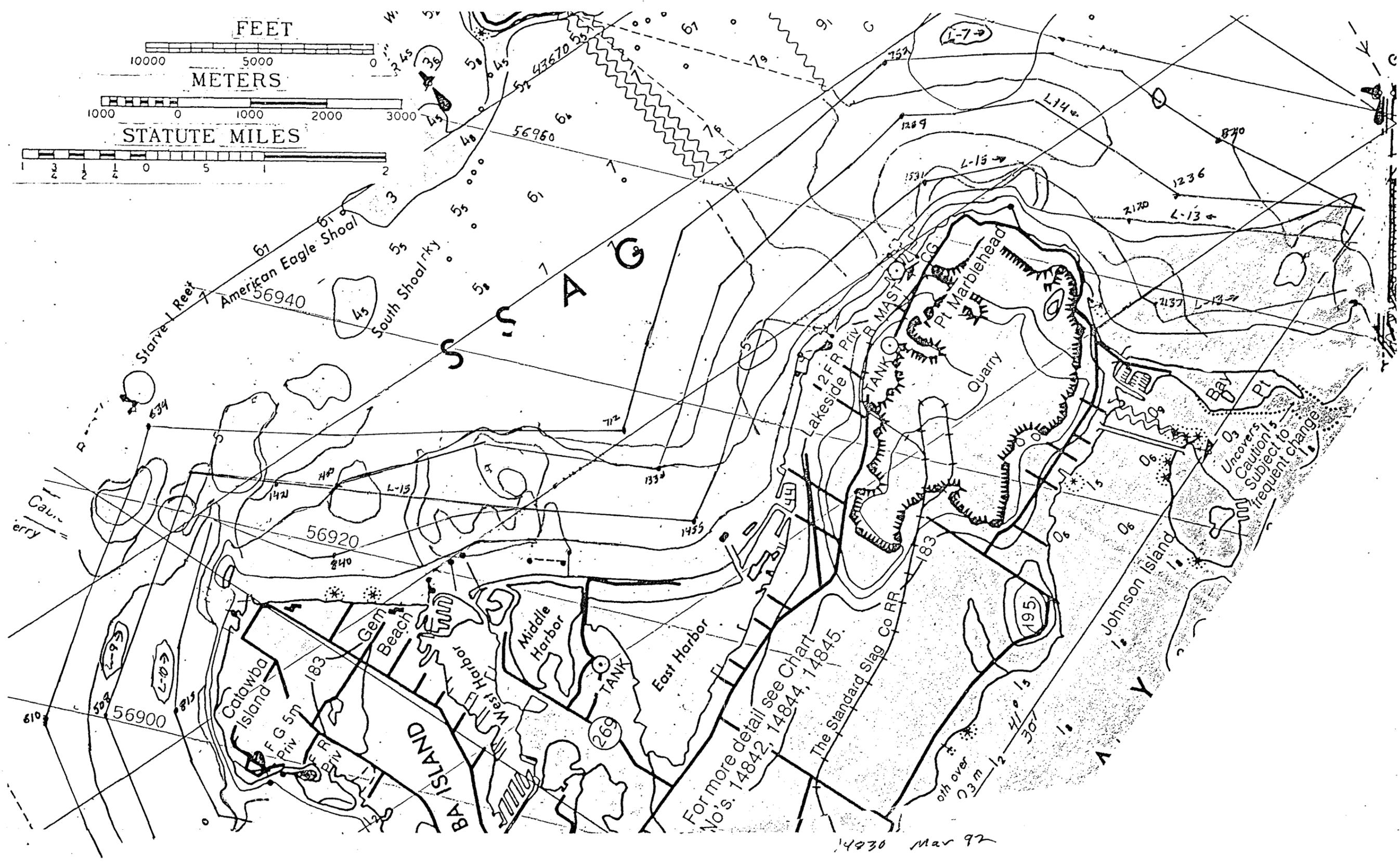
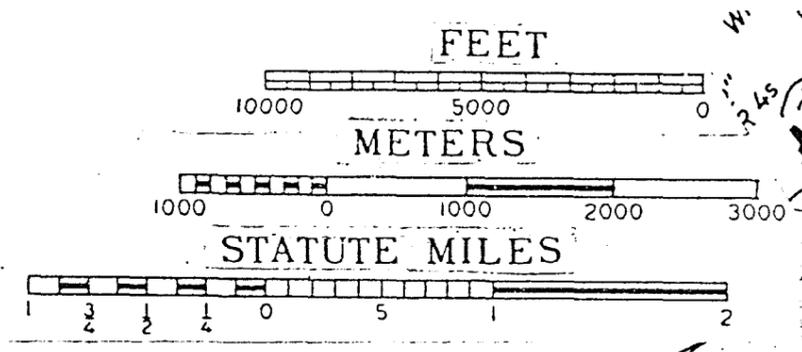
Creek

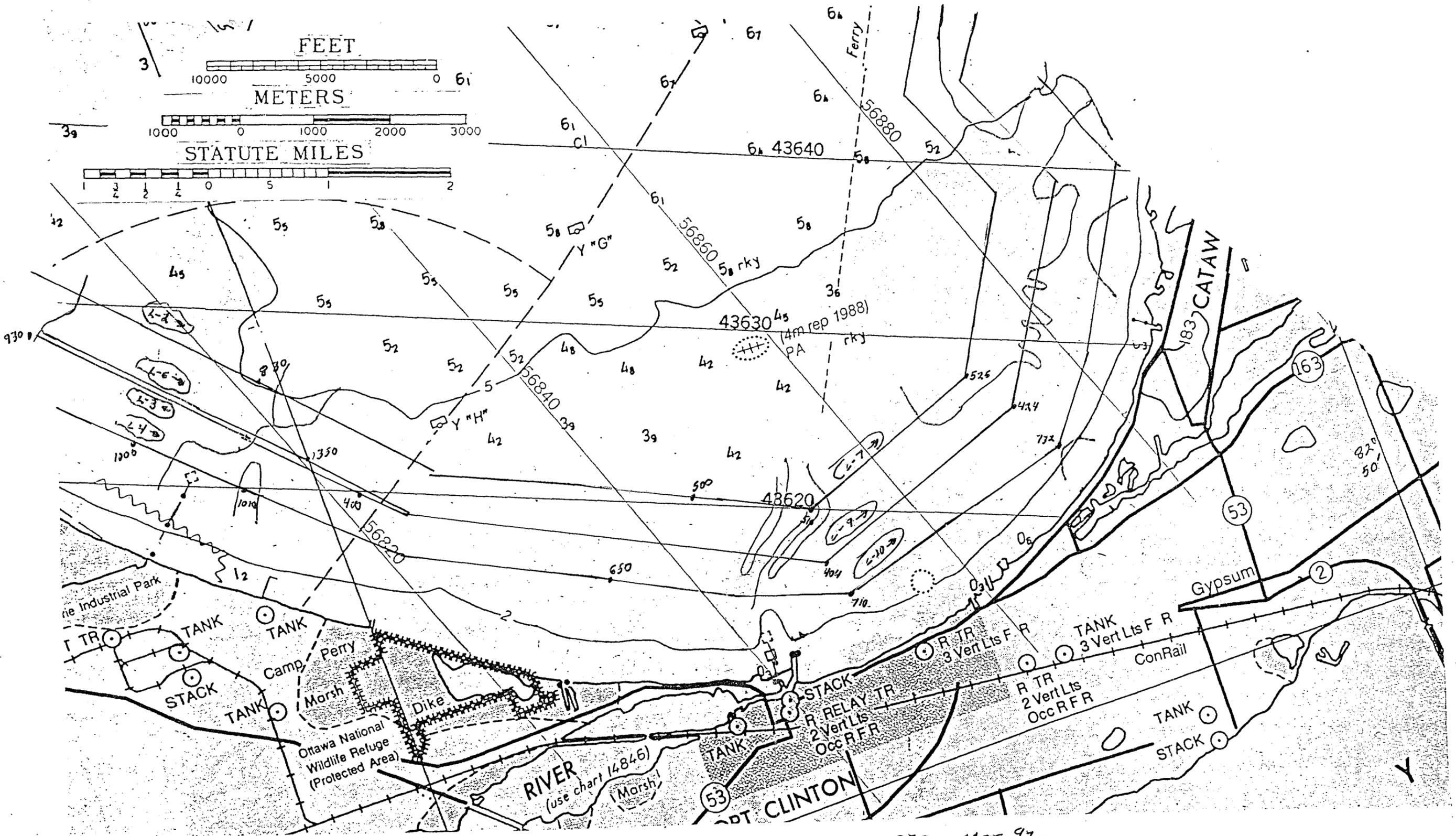
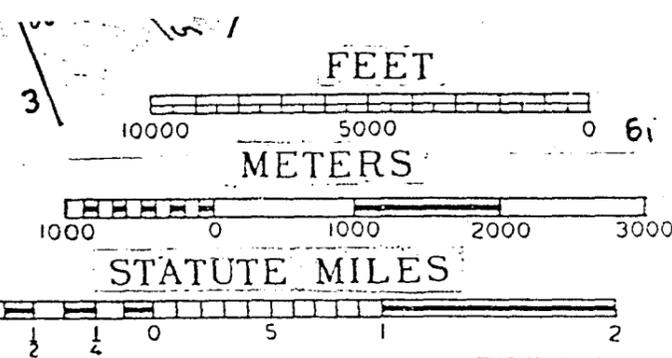
AERO

06 NOV 90
P 2511

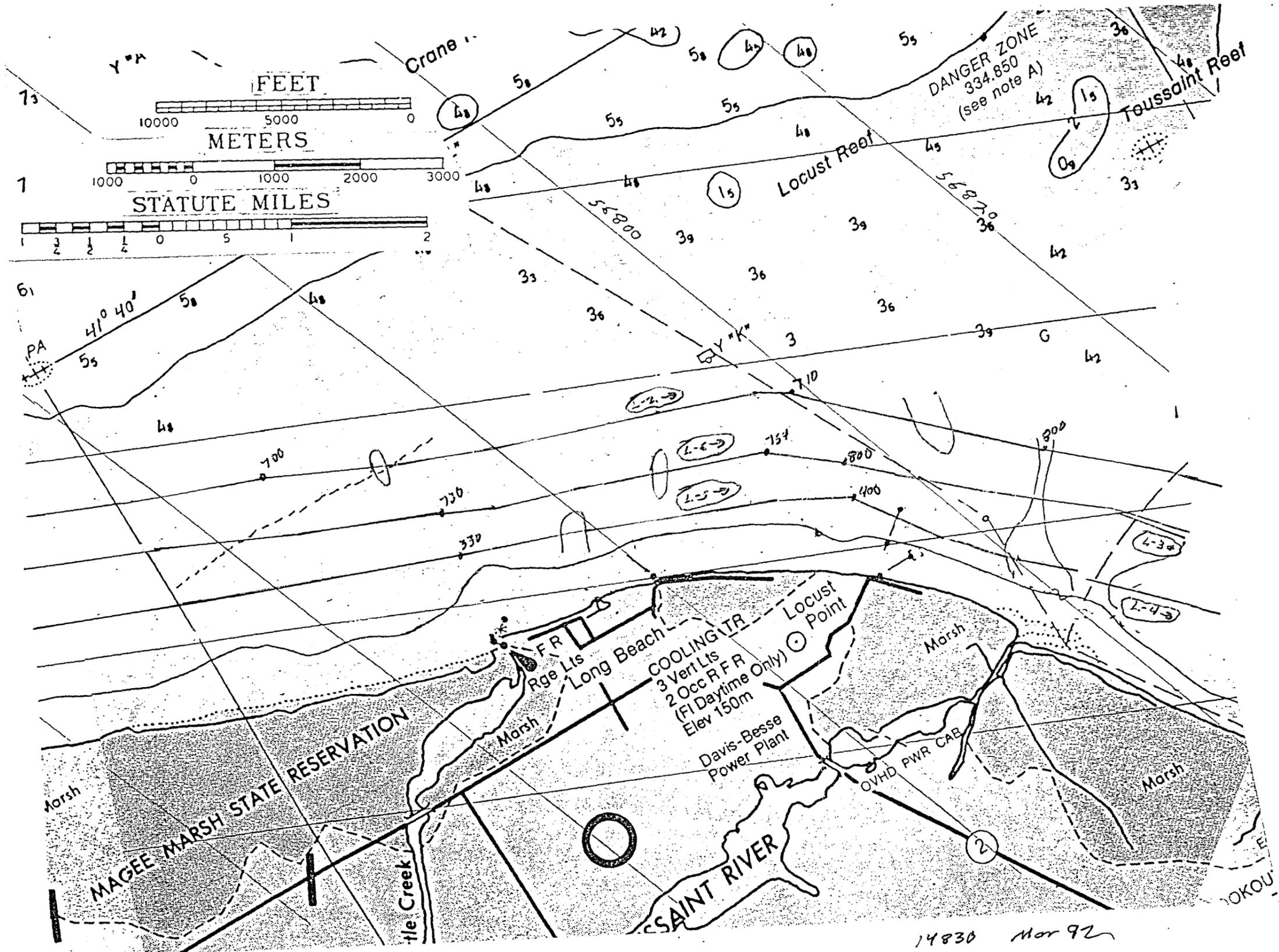


19829 Nov 90





14830 Mor 92



14830 Mar 92

