

7795

Diag. Cht. No. 1205-2 & 1206-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. LH-05150 Office No. H-7795

LOCALITY

State NEW HAMPSHIRE

General locality PORTSMOUTH

Locality LITTLE HARBOR

~~194~~ 50

CHIEF OF PARTY

L.V. EVANS 111

LIBRARY & ARCHIVES

DATE 15 SEPTEMBER 1950

B-1870-1 (1)

7795
56212



DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H-7795

Field No. LH 05150

State NEW HAMPSHIRE

General locality PORTSMOUTH

Locality LITTLE HARBOR

Scale 1:5,000 Date of survey 14-16 June 1950

Instructions dated 6 June 1950

Vessel U. S. Coast Guard Utility Boat No. 35027

Chief of party L. V. Evans, III

Surveyed by L. V. Evans, III

Soundings taken by ~~fathometer~~ graphic recorder, hand lead, wire

Fathograms scaled by A. Ferrara

Fathograms checked by L. V. E.

Protracted by A.G. Atwill

Soundings penciled by A.G. Atwill

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ and are true depths

REMARKS:
.....
.....
.....
.....
.....

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY No. H-7795

A. INSTRUCTIONS

This survey was made under Instructions No. 22/MEK FP - Little Harbor, dated 6 June 1950.

B. SURVEY LIMITS

The survey covered the small harbor, "Little Harbor", on the south side of Newcastle Island, in the vicinity of Portsmouth, N. H., and the harbor entrance.

Field work was begun on 12 June 1950 and finished on 16 June 1950; hydrography was done 14-16 June 1950.

This survey covers a part of prior survey H-2656 (1903), scale 1:10,000, and joins prior survey H-2360 (1898), scale 1:10,000, to the East. There are no adjoining contemporary surveys.

C. VESSEL AND EQUIPMENT

U. S. Coast Guard Utility Boat No. 35027, based at the Portsmouth Harbor Coast Guard Station, Newcastle, N. H., was used for the survey. The vessel is 35 feet long, has a draft of about $3\frac{1}{2}$ feet.

Model 808 J fathometer No. 140 SP was used for all echo sounding, with the transmitting and receiving units in the bilge of the launch.

D. TIDE STATION

A tide staff was installed at Jaffrey Point and connected to the existing tidal bench marks. Staff readings were recorded by an observer during hydrography. Tide reducers from the data for this station apply to the entire survey.

No current observations were made.

E. SMOOTH SHEET

Applies
~~Inapplicable~~ to this section of this report.

F. CONTROL STATIONS

Existing C& GS triangulation stations, located by various parties from 1878 to 1941, were used for basic control. Additional signals for control of hydrography were located by graphic control methods on Topographic Survey Field No. LH-A-50.- to be destroyed
(Control used was transferred to smooth sheet)

G. SHORELINE AND TOPOGRAPHY

Shoreline and topographic details are from Topographic Survey T-8532 (1943), except for the new bridge at the west end of Little Harbor; the new bridge and shoreline around its approaches were located by planetable on Topographic Survey LH-A-50.- to be destroyed
(Shoreline corrections applied to smooth sheet)

H. SOUNDINGS

Standard echo-sounding procedure was used, with the recording fathometer operating on the "A" scale, in feet, throughout the survey. Fathometer corrections were obtained from lead-line comparisons over flat bottom.

I. CONTROL OF HYDROGRAPHY

Standard visual control with 3-point-fix positions determined by sextant angles was used throughout the survey.

J. ADEQUACY OF SURVEY

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

The low-water line is defined by soundings except for the narrow low-water channel into Witch Creek, on the south side of Little Harbor. Location of this channel, and further development of the areas between the low-water line and the high-water line on the mud flats along the south side and among the rocks on the north side of the harbor, were not attempted for the following reasons:

survey
Present development supplemented by soundings from H-2360 and H-2656 gives adequate coverage in these areas.

1. The draft of the vessel used was such that this work would have been feasible only near high tide; since the development of the harbor channel also required high tides the favorable tides were used for that part of the survey.

2. The launch used was not only borrowed, but at the time was the only boat in operation at the Coast Guard Station, hence it had to be available at all times to answer any local distress calls (A radio watch was maintained on the launch). Therefore it was not considered advisable to risk grounding or damaging the vessel in a more thorough survey inside the low-water line.

The channel through the bridge at the west end of Little Harbor was not surveyed since it was not feasible to do so at low water, and at high water there was not sufficient clearance for the antenna on the launch.

The rocky foreshore along the east side of Jaffrey Point and east of Frost Point likewise was not completely developed because of the risk to the launch in such development.

K. CROSSLINES

Crosslines exceed the 8-10 % specified in the Instructions, with satisfactory agreement of soundings.

L. COMPARISON WITH PRIOR SURVEYS

H-2656 (1903), 1:10,000 :

A general shealing of as much as ⁵ 6 to ⁷ 8 feet is indicated throughout most of the area inside the breakwater in Little Harbor. Outside the breakwater depths and depth curves are in general agreement. The following items are ~~subject to final reduction of soundings and smooth plotting:~~ ^{as plotted:}

Review,
par. 5a.

1. Lat. 43°-03'-20" : present survey shows 6 ft.; prior survey
Long 70°-43'-23" shows 10¹/₂ ft. about 25 m. SE.
2. Lat. 43°-03'-20" : present survey shows bar at mouth of Witch 2ft. 20m. SW
Long 70°-43'-38.3" Creek extending, with₂ depth² of 5 and 6 ft.,
into depths of 9 to 1¹/₄ ft. on prior survey.
3. Lat. 43°-03'-19" : present survey shows ⁵ 4 ft.; prior survey
Long 70°-43'-10" shows 11 ft. about 20 m. W.
4. Lat. 43°-03'-21" : entrance channel with ⁴ 13 ft. at its western
Long 70°-43'-00" / limit shows about the same depths as the
70°-43'-16" prior survey, but shealing on the south
side has narrowed the channel.
5. Lat. 43°-03'-24" : "sunken rock" on prior survey found to bare^e
Long 70°-42'-54" 3 ft. at MLW.
6. Lat. 43°-03'-17" : rock, bare 2 ft. at MLW, not shown on
Long 70°-42'-52" prior survey. *(2)

H-2360 (1898), 1:10,000 :

The present survey joins this prior survey at the entrance to Little Harbor. There is general agreement in soundings and depth curves except for the inshore area along the east side of Jaffrey Point; the omission of further development in this area has been noted earlier in this report.

The following items are noted, from ^{smooth} ~~beat-sheet~~ plotting and ^{final} ~~preliminary~~ reductions:

1. Lat. 43°-03'-15" : present survey shows 18³ ft.; prior survey Long 70°-42'-42" shows 16 ft.
2. Lat. 43°-03'-21" : present survey shows rock, bare ~~1 ft.~~ at *(2) area not Long 70°-42'-48" MLW, that falls on the 12-foot curve on fully developed on the prior survey. prior survey.
3. Lat. 43°-03'-27" : prior survey shows 7 ft.; present survey Long 70°-42'-39" shows 18 feet, with ~~6~~ ft. about 75 m. N.
old sounding probably out of position, not disproved by present single line of soundings.

M. COMPARISON WITH CHART

Chart 329 (Edition of 1945, Print of 49 - 11/14):

This comparison has been covered in the preceding heading. Depth curves on the chart have been changed somewhat from the original source of H-2656, but the general comparison made with that survey holds true for Chart 329.

a sheetlet R. 415 (50) was compiled and forwarded to the Coast Guard for insertion in Local N to M 786

N. DANGERS AND SHOALS

Data pertinent to this heading has already been discussed under section "L" of this report.

O. COAST PILOT INFORMATION

Other than the revised depths in Little Harbor no new Coast Pilot information was obtained.

P. AIDS TO NAVIGATION

1. Fixed Aids: Jaffrey Point Light - previously located by triangulation.

2. Floating Aids: *See Processing Office list*

<u>Name</u>	<u>Lat.</u>	<u>Long.</u>	<u>Depth</u>	<u>Pos. No.</u>	<u>Date</u>
Frost Point Ledge Buoy 1	43°-03'-07"	70°-42'-45"	26 ft.	5 b	15 June 1950
Jaffrey Ledge Buoy 2	43°-03'-13"	70°-42'-49"	28	4 b	do
The Rocks Buoy 4	43°-03'-22"	70°-42'-58"	11	86 a	14 June 1950
Frost Point Buoy 1A	43°-03'-19"	70°-43'-01"	18	87 a	do
Little Harbor Buoy 6	43°-03'-22"	70°-43'-12"	15	85 a	do
" " " 8	43°-03'-21"	70°-43'-31"	9	84 a	do
" " " 3	43°-03'-19"	70°-43'-37"	5	82 a	do
Small mooring buoy (pvt)	43°-03'-28 ³ "	70°-43'-38	11	83 a	do

3. Bridge Clearance: The bridge at the west end of Little Harbor has a horizontal clearance of 29 ft., vertical clearance of 12 ft. at MHW (clearances measured); this bridge is FIXED (although it was designed as a bascule no mechanism for lifting the draw span has been installed at this time).

4. Cable Area: There is a cable area across the entrance to Little Harbor; from Lat. 43°-03'-29", Long. 70°-42'-53", a cable crossing extends to Lat. 43°-03'-12", Long. 70°-43'-09". From the same northern terminus another cable area curves seaward, following the south side of the entrance channel. See T-8532 for these cable areas.

Q. LANDMARKS

The following landmarks have been recommended for charting (form 567 submitted):

STANDPIPE (Camp Langdon standpipe)
HIGHEST CUPOLA (highest, largest, most prominent one of 6 cupolas on Wentworth Hotel)

Recommended to be deleted:

Cupola F.P. (NEsly one of 6 cupolas on Wentworth Hotel - less prominent than HIGHEST CUPOLA).

R. GEOGRAPHIC NAMES

No corrections or additions to geographic names were obtained; names within the area surveyed are correctly charted.


X. TABULATION OF APPLICABLE DATA

1. Topographic Survey No. LH-A-50 (graphic control) is submitted with this survey. (to be destroyed) no Desc. Report was submitted

2. The following are included in this report:

1 sheet	Statistics
2 "	Landmarks (Form 567)
1 "	Velocity corrections - filed with fathograms.
1 "	Tide Note
3 "	Tide reducers - filed with fathograms.

Respectfully submitted,



L. V. Evans, III
Cartographer

TIDE NOTE

HYDROGRAPHIC SURVEY NO. H - 7795

LITTLE HARBOR, N. H.

Observations on a tide staff, Lat. $43^{\circ}03.35'$ Long. $70^{\circ}42.9^{87}'$, at Jaffrey Point were used for the reduction of all soundings on this survey. Plane of reference is MLW, corresponding to a reading of 5.7 ft. on the staff, as determined by connections to 3 previously established tidal bench marks. No corrections for time or height were applied.

STATISTICS

HYDROGRAPHIC SURVEY NO. H - 7795

U. S. Coast Guard Utility Boat No. 35027:

day letter	date	no. positions	statute miles
a	14 June 1950	107	7.7
b	15 " "	158	9.7
c	16 " "	120	6.3
		<hr/>	<hr/>
	TOTALS	385	23.7

LIST OF SIGNALS
To Accompany

HYDROGRAPHIC SURVEY H-7795 (Field No. LH-05150)

TRIANGULATION STATIONS

CAMP LANGDON STANDPIPE, 1941

JAFFREY POINT LT., 1917

WENTWORTH HOTEL CUPOLA, FLAGPOLE, 1941

WENTWORTH HOTEL, HIGHEST CUPOLA OLD BUILDING, 1898-1928

TOPOGRAPHIC STATIONS

ABE	BAG	CAB	DAN	EAR	FAR	GAD
HAG	ICE	JAP	KED	LAD	MAG	NAT

FLOATING AIDS TO NAVIGATION
To Accompany

HYDROGRAPHIC SURVEY H-7795 (Field No. LH-05150)

LIGHT LIST	LAT.	MET.	LONG.	MET.	DEPTH	POS. NO.	DATE
FROST POINT LEDGE BUOY 1	43-03	229	70-42	1104	25.9 ⁶	5b	6/15/50
JAFFREY LEDGE BUOY 2	43-03	403	70-42	1007	28.6	4b	"
THE ROCKS BUOY 4	43-03	682	70-42	1325	10.9 ¹	86a	6/14/50
FROST POINT BUOY 1A	43-03	603	70-43	21 ⁴	17.9 ⁸	87a	"
LITTLE HARBOR BUOY 6	43-03	688	70-43	268 ⁷²	15.3	85a	"
LITTLE HARBOR BUOY 8	43-03	662 ⁵⁸	70-43	707 ⁵	9.3	84a	"
LITTLE HARBOR BUOY 3	43-03	626 ³	70-43	828	5.0	82a	"

MOORING BUOYS

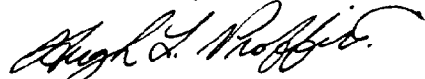
SMALL MOORING BUOY (PVT.)	43-03	709	70-43	844	11.2	83a	"
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ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-7795 (Field No. LH-05150)

This survey was smooth plotted at the Norfolk Processing Office

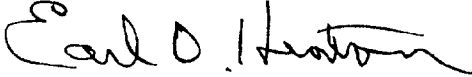
Respectfully submitted,



Hugh L. Proffitt
Cartographer

Norfolk, Va.
5 Sept. 1950

Approved & Forwarded:



Earl O. Heaton
Supervisor, Southeastern District.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~NON-FLOATING~~ LANDMARKS FOR CHARTS

TO BE CHARTED ~~TO BE DELETED~~ STRIKE OUT ONE
Washington, D. C. 27 June 19 50

I recommend that the following objects which have ~~been~~ been inspected from seaward to determine their value as landmarks be charted on ~~existing~~ the charts indicated.
The positions given have been checked after listing by

L. V. Evans, III
Chief of Party

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION			METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	OFFSHORE CHART	CHARTS AFFECTED
				LATITUDE	LONGITUDE						
				D. M. METERS	° ' "	D. P. METERS					
NEW HAMPSHIRE	STANDPIPE HIGHEST CUPOLA	(Δ Camp Langdon Standpipe, 1941) Highest, largest & most prominent sup. (of 6) on prominent hotel (Δ Wentworth Hotel, Highest Cupola Old Building, 1898 - 1928)	JANG 1941-45 1947-50	43 03	1553.3 70 42	1286.4	N.A. 1927	1941	X	X	329
				43 03	1065.0 70 43	810.4	"	1898 - 1928	X	X	329, 1205, 1206

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The date should be considered for the charts of the area and not by individual field survey sheets. Information in each column heading should be given.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~NON-NAVING AID~~ LANDMARKS FOR CHARTS

TO BE CHARTED } STRIKE OUT ONE
TO BE DELETED

Washington, D. C. 27 June 19 50

I recommend that the following objects which have ~~been~~ ^{been} inspected from seaward to determine their value as landmarks be ~~deleted~~ ^{deleted} (deleted from) the charts indicated.

The positions given have been checked after listing by

L. V. Evans, III

L. V. Evans, III Chief of Party.

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				METHOD OF LOCATION SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED	
				LATITUDE		LONGITUDE								DATUM
				°	'	°	'							
CUP	F.P.	Flagpole on NE 1/4 one of 6 cupolas on large hotel (Wentworth Hotel, Flagpole, 1941)	FOLE	43	03	1144.8	70	43	700.7	I.A.	1941	I-X	329, 1205 1206	

2719(1210)

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

GEOGRAPHIC NAMES

Survey No. H-7795

Name on Survey	Source										Number	
	A	B	C	D	E	F	G	H	K			
<u>New Hampshire</u>			(for title)							USGB	1	
<u>Portsmouth</u>			(for title)								2	
<u>Little Harbor</u>											3	
<u>New Castle Island</u>			(2 words: this form recommended for BGN action, October, 1950)									4
<u>Jaffrey Point</u>										USGB	6	
<u>Frost Point</u>											7	
<u>Witch Creek</u> ✓											8	
											9	
											10	
											11	
											12	
											13	
											14	
											15	
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											25	
											26	
											27	

Names underlined in red are approved. 9-18-50
L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ^{H-7795}

Records accompanying survey:

Boat sheets ¹....; sounding vols. ²....; wire drag vols.;
 bomb vols.; graphic recorder rolls ¹ envel.
 special reports, etc. ¹ overlay tracing

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

Number of positions on sheet		385.
Number of positions checked		41.
Number of positions revised		1.
Number of soundings revised (refers to depth only)		14.
Number of soundings erroneously spaced	
Number of signals erroneously plotted or transferred	
Topographic details	Time	16.
Junctions	Time	0.
Verification of soundings from graphic record	Time	3.

Verification by *C. B. Samuel*..... Total time .67 hrs Date 1:15:52.

Reviewed by *A. J. Hoffman*..... Time .49 hrs. Date 3/21/52.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7795

FIELD NO. LH-05150

New Hampshire, Portsmouth, Little Harbor

Instructions dated June 6, 1950

Surveyed in June 1950

Scale 1:5,000

Soundings:

808 Fathometer

Control:

Sextant fixes on shore signals

Chief of Party - L. V. Evans III

Surveyed by - L. V. Evans III

Protracted by - A. G. Atwill

Soundings plotted by - A. G. Atwill

Verified and inked by - C. B. Samuel

Reviewed by - A. J. Hoffman, 26 March 1952

Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with air-photographic survey T-8532 (1943). Shoreline revisions at the western end of Little Harbor were determined by graphic control methods during the survey and are shown on the smooth sheet. The present survey delineation should supersede the topographic delineation of these features.

The source of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in very good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The 3, 24 and 36-ft. curves have been added to emphasize bottom relief.

The bottom for the most part is smooth. Minor bottom irregularities are present in depths of over 6-ft. in Little Harbor.

4. Junctions with Contemporary Surveys

There are no adjoining contemporary surveys.

Survey depths are in adequate agreement with charted depths at the limits of the present survey.

5. Comparison with Prior Surveys

- a. H-2360 (1898) 1:10,000
H-2656 (1903) 1:10,000

A comparison between these prior surveys and the present survey indicates no bottom changes in the entrance to Little Harbor. Changes in the bottom have occurred in Little Harbor, however, and shoaling in parts of the channel area is indicated in the following comparison:

<u>Lat</u>	<u>Long.</u>	<u>Present Depth</u>	<u>Prior Depth</u>
43°03.32'	70°43.17'	5-ft. (charted as 4-ft.)	10-11 ft.
43°03.33'	70°43.37'	6-ft. (charted)	10-11 ft.
43°03.35'	70°43.56'	6-ft. (charted)	13 ft.

Several soundings have been carried forward from the prior surveys to supplement present depths at the entrance to Little Harbor, and also to show the entrance channel to Witch Creek. A rock ledge east of Frost Pt. and a number of bottom characteristics were also transferred to supplement the present survey coverage.

The present survey, with the additions indicated above, is adequate to supersede these prior surveys in the common area.

- b. H-3976 W.D. (1917), Scale 1:10,000

Present depths are in harmony with the effective wire-drag depths in the common area. Two soundings (charted) were transferred from the wire-drag survey to supplement present survey coverage in the entrance to Little Harbor.

6. Comparison with Chart 329 (Print date 11/19/51)a. Hydrography

Charted hydrography originates principally with advance information of the present survey. A 6-ft. sounding charted in lat. 43° 03.32', long. 70° 43.48' was erroneously plotted in depths of 8-9 ft. on the boat sheet and should be disregarded. Minor revisions of 1-2 ft. were made to soundings during verification and review.

b. Aids to Navigation

The Jaffrey Point Daybeacon charted in lat. $43^{\circ} 03.32'$, long. $70^{\circ} 42.81'$ was not located during the present survey.

Except as noted above, aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was very well done.

8. Compliance with Project Instructions


The survey adequately complies with the Project Instructions.


9. Additional Field Work Recommended

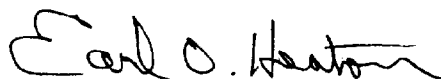
This is an excellent basic survey and no additional field work is recommended.

Examined and approved:


H. R. Edmonston
Chief, Nautical Chart Branch


H. Arnold Karo
Chief, Division of Charts


L. S. Hubbard
Chief, Section of Hydrography


Earl O. Heaton
Chief, Division of Coastal Surveys

RAC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

26 September 1950

Division of Charts: R. H. Carstens

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 7795

Locality Little Harbor, Portsmouth, New Hampshire

Chief of Party: L. V. Evans III in 1950

Plane of reference is mean low water, reading

5.7 ft. on tide staff at Fort Stark, New Castle Island, N. H.
15.9 ft. below B. M. 4 (1926).

Height of mean high water above plane of reference is 8.7 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Section

Chief, Division of Tides and Currents.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7795

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9-25-'50	329	<i>M. J. Adams</i>	Before After Verification and Review <i>Partially applied.</i>
6-9-'55	1206	<i>E. M. West</i>	Before After Verification and Review <i>Partially until new large scale chart is ready</i>
8/3/55	329	<i>Walker & W. Lawley</i>	Before After Verification and Review <i>Partially</i>
26 Nov. '59	211	<i>H. MacEwen</i>	Before After Verification and Review
8/21/59	1205	<i>R. K. Blauder</i>	Before After Verification and Review <i>Applied thru chart 211</i>
5/3/62	1206	<i>O. Svendsen</i>	Before After Verification and Review <i>No corr.</i> <i>↑ Not applied at this time REE 11-2-62</i>
4-23-64	1206	<i>H. Redden</i>	Before After Verification and Review <i>App'd thru Chart 211</i>
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.