UNITED STATES - WEST COAST
OREGON AND WASHINGTON

THE NATION'S CHARTMAKER SINCE 1807

HORIZONTAL DATUM
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.570" southward and 4.302" westward to agree with this chart.

Mercator Projection
Scale 1:40,000 at Lat 45° 35'

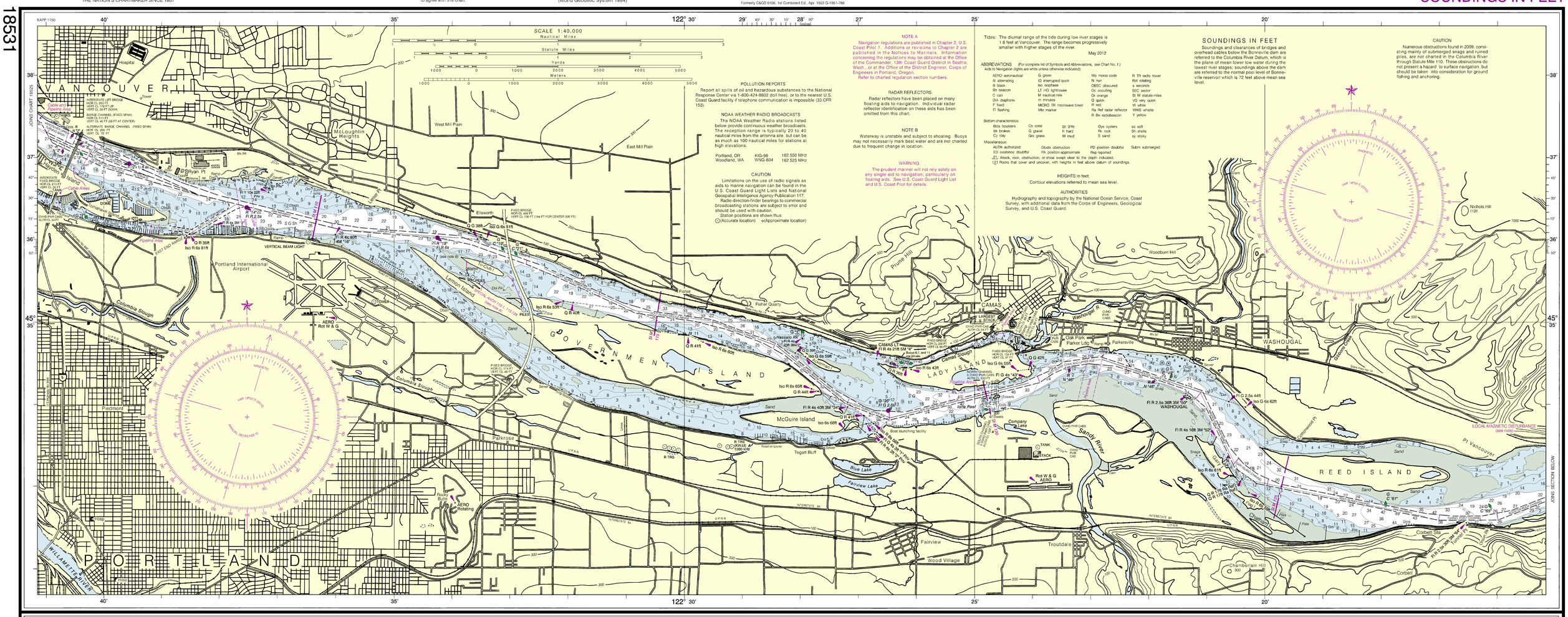
North American Datum of 1983
(World Geodetic System 1984)

COLUMBIA RIVER
VANCOUVER TO BONNEVILLE

Formerly C&GS 6156, 1st Combined Ed., Apr. 1953 G-1951-89

SOUNDINGS IN FEET

18531



POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOAA WEATHER RADIO BROADCASTS
The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Portland, OR	KIG-98	162.550 MHz
Woodland, WA	WNG-604	162.525 MHz

CAUTION
Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.
Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
⊙(Accurate location) ⊙(Approximate location)

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, Wash., or at the Office of the District Engineer, Corps of Engineers in Portland, Oregon.
Refer to charted regulation section numbers.

RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

NOTE B
Waterway is unstable and subject to shoaling. Buoys may not necessarily mark best water and are not charted due to frequent change in location.

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

Tides: The diurnal range of the tide during low river stages is 1.8 feet at Vancouver. The range becomes progressively smaller with higher stages of the river.

May 2012

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower	
Al alternating	IQ interrupted quick	N nun	Rot rotating	
Bl black	Iso isophase	OBSC obscured	s seconds	
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector	
C can	M nautical mile	Or orange	St M statute miles	
DIA diaphone	m minutes	Q quick	VQ very quick	
F fixed	MICRO TR microwave tower	R red	W white	
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle	
		R Bn radiobeacon	Y yellow	

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:
AUTH authorized Obstn obstruction PD position doubtful Subm submerged
ED existence doubtful PA position approximate Rep reported
⚠ Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

HEIGHTS in feet
Contour elevations referred to mean sea level.

AUTHORITIES
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

SOUNDINGS IN FEET
Soundings and clearances of bridges and overhead cables below the Bonneville dam are referred to the Columbia River Datum, which is the plane of mean lower low water during the lowest river stages; soundings above the dam are referred to the normal pool level of Bonneville reservoir which is 72 feet above mean sea level.

CAUTION
Numerous obstructions found in 2009, consisting mainly of submerged snags and ruined piles, are not charted in the Columbia River Datum, which is the plane of mean lower low water during the lowest river stages; these obstructions do not present a hazard to surface navigation, but should be taken into consideration for ground fishing and anchoring.

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 7 for important supplemental information.

CAUTION
Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

LOCAL MAGNETIC DISTURBANCE
Differences of as much as 8° from the normal variation have been observed between Tunnel Point and Point Vancouver.

CAUTION
SUBMARINE PIPELINES AND CABLES
Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area — Cable Area

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.
Covered wells may be marked by lighted or unlighted buoys.

COLUMBIA RIVER CHANNEL DEPTHS
TOMAHAWK BAR TO BONNEVILLE LOCKS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 17-Oct-13

CONTROLLING DEPTHS IN FEET* AT COLUMBIA RIVER DATUM (CRD) - SEE FOOTNOTE					Project Dimensions		
Name of Channel	Left Outside Quarter	Middle Half of Channel	Right Outside Quarter	Date of Survey	Width (feet)	Length STAT (Miles)	Depth (feet)
Tomahawk Bar	15	18	16	15-Sep-13	300	3.7	27
Airport Bar	17	17	17	13-Sep-13	300	2.8	27
Government Island Lower Range	14	17	16	13-Sep-13	300	1.0	27
Government Island Middle Range	15	17	17	13-Sep-13	300	1.7	27
Fisher Quarry Channel Range	28	28	26	13-Sep-13	300	1.0	27
Government Island Range	15	25	30	13-Sep-13	300	1.1	27
Government Island Upper Range	11	18	19	13-Sep-13	300	0.8	27
Lady Island Range	16	16	19	13-Sep-13	300	2.1	27
Lady Island Channel and Upper Rge	26	28	21	13-Sep-13	300	0.9	27
Washougal Lower Range	21	28	25	14-Sep-13	300	1.5	27
Washougal Upper Range	18	21	22	14-Sep-13	300	1.1	27
Gary Island Range	16	18	15	14-Sep-13	300	0.8	27
Reed Island Range	13	15	9	14-Sep-13	300	2.2	27
Tunnel Point Channel	25	25	26	10-Jul-12	300	0.8	27
Rooster Rock Channel	25	25	27	16-Aug-12	600	1.5	27
Cape Horn Channel	34	33	30	16-Aug-12	300	2.1	27
Candiana Channel	29	38	32	16-Aug-12	300	1.0	27
Fashion Reef Lower Range	17	17	17	15-Sep-13	300	2.4	27
Multnomah Falls Bar Range	16	20	17	15-Sep-13	300	1.1	27
Multnomah Falls Turn	17	15	20	15-Sep-13	600	0.8	27
Multnomah Falls Upper Range	20	24	27	15-Aug-13	300	3.2	27
McGowans Channel	35	29	24	9-Aug-12	300	1.1	27
Warrendale Lower Range	20	21	21	9-Aug-12	300	0.9	27
Warrendale Upper Range	20	27	23	9-Aug-12	300	0.7	27
Hamilton Island Reach	23	28	28	9-Aug-12	300	1.0	27
Entrance to Bonneville Locks	20	18	22	7-Aug-12	300	1.2	27

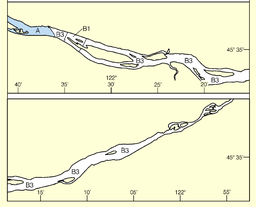
* For Controlling Depth information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx
Channel status reports

Additional information can be obtained at nauticalcharts.noaa.gov.

SOURCE DIAGRAM
The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

SOURCE

A	1990-2009	NOS Surveys	full bottom coverage
B1	1990-2003	NOS Surveys	partial bottom coverage
B3	1940-1969	NOS Surveys	partial bottom coverage

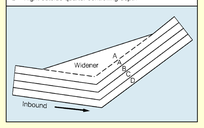


COLUMBIA RIVER
Distances along the Columbia River are in Statute Miles and are measured eastward from the mouth and indicated thus:
Tables for converting Statute Miles to International Nautical Miles are given in U.S. Coast Pilot 7.

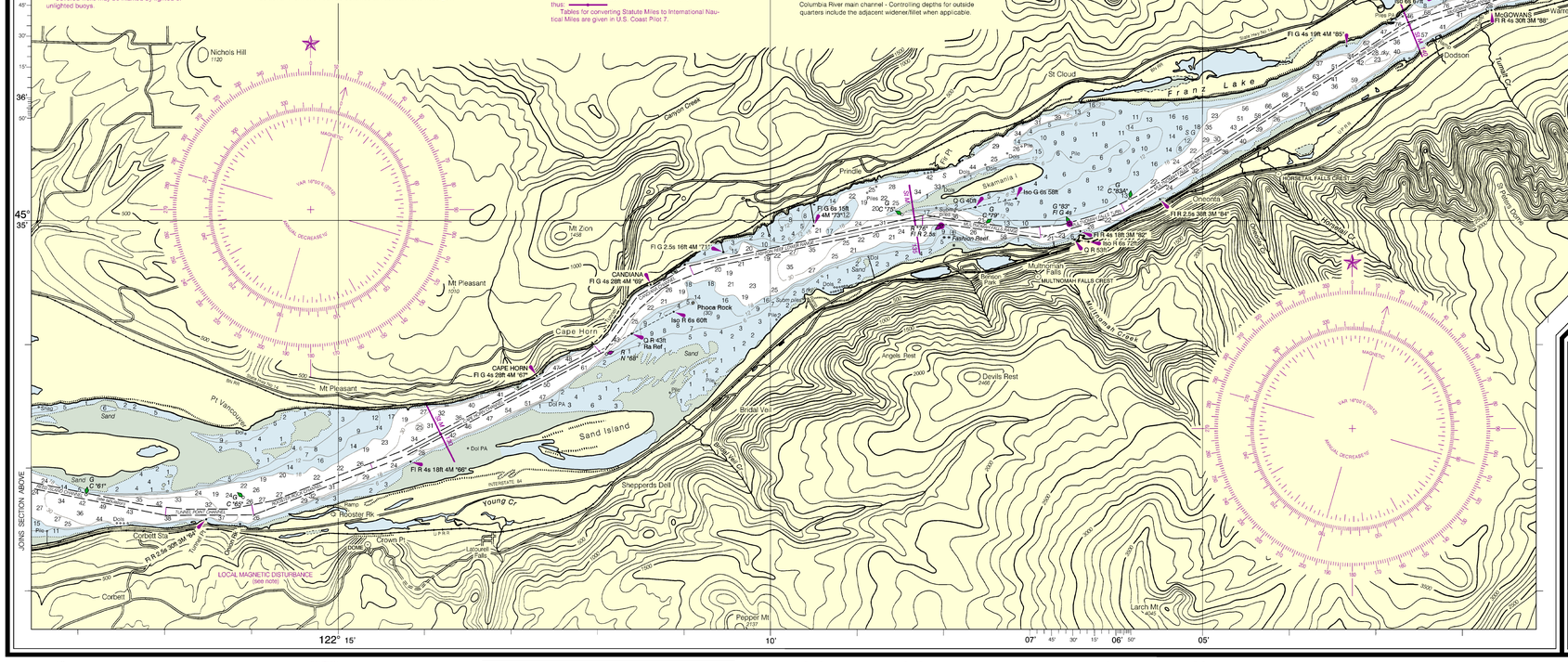
SCALE 1:40,000
Nautical Miles
Statute Miles
Yards
Meters

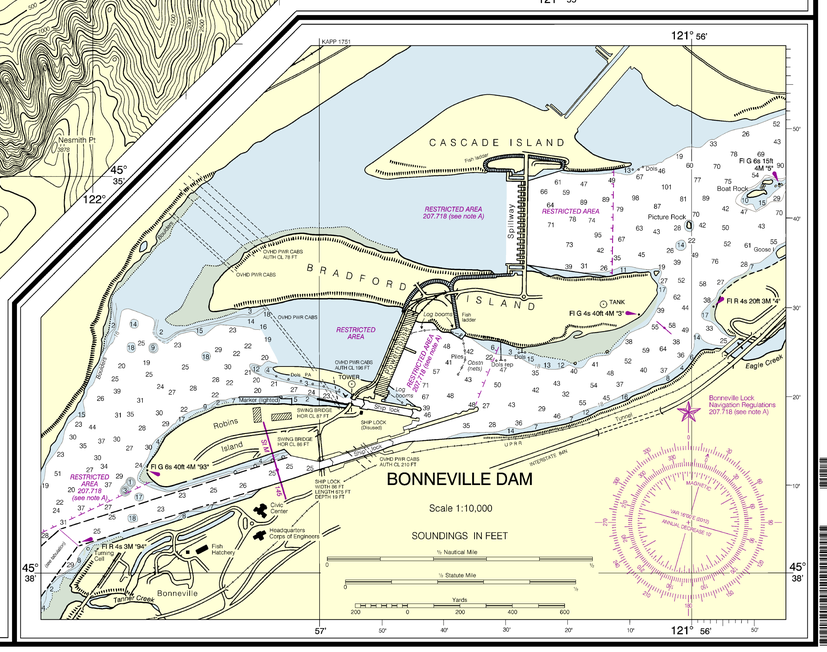
LOGARITHMIC SPEED SCALE
To find SPEED, place one point of dividers on distance run (in any unit) and the other on minutes run. Without changing divider spread, place right point on 60 and left point will then indicate speed in units per hour. Example: with 4.0 nautical miles run in 15 minutes, the speed is 16.0 knots.

COLUMBIA RIVER TAB DIAGRAM
A Left outside quarter controlling depth (including widener)
B Left inside quarter controlling depth
C Right inside quarter controlling depth
D Right outside quarter controlling depth



COLUMBIA RIVER TAB DIAGRAM
Columbia River main channel - Controlling depths for outside quarters include the adjacent widener/fillet when applicable.





23rd Ed., Jun. / 12 ■ Corrected through NM Jun. 30/12
18531 Corrected through LNM Jun. 19/12

CAUTION
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

Corrected through
LNM: 0314 (1/21/2014), NM: 0514 (2/1/2014), CHS: 1213 (12/27/2013)

To ensure that this chart was printed at the proper scale, the line below should measure six inches (152 millimeters).
If the line does not measure six inches (152 millimeters), this copy is not certified safe for navigation.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

SOUNDINGS IN FEET

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30	31			

Columbia River - Vancouver to Bonneville
SOUNDINGS IN FEET - SCALE 1:40,000

18531

NSN 7642014011617 18XHA18531
NGA REFERENCE NO. 23