

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

[Datums Page](#)

Page 1 of 5

Station ID: 9418817	PUBLICATION DATE: 04/21/2003
Name: SAMOA,HUMBOLDT BAY CALIFORNIA	
NOAA Chart: 18662	Latitude: 40° 49.6' N
USGS Quad: EUREKA	Longitude: 124° 10.8' W

To reach the tidal bench marks from U. S. Highway 101 in Eureka, exit at Highway 255, continue 3.2 Km (2 mi) west until a T intersection, turn left and travel 2.8 Km (1.7 mi). Turn left on L-P Blvd, at T intersection turn left, then right at first stop sign to Louisiana-Pacific main gate (No. 6). Continue to flashing red light, left and stay on road until after it curves to right, and 46 m (150 ft) after the curve veer to the right. The bench marks are located in the vicinity, and the tide gauge and staff were located on the inside corner of north end of dock.

T I D A L B E N C H M A R K S

PRIMARY BENCH MARK STAMPING: 8817 B 1978
DESIGNATION: 941 8817 B

MONUMENTATION:	Tidal Station disk	VM#: 11961
AGENCY:	National Ocean Service (NOS)	PID:
SETTING CLASSIFICATION:	Galvanized steel rod	

The Primary bench mark is a disk located 3.51 m (11.5 ft) NNE of an electric gate opener at Louisiana-Pacific gate #2. The bench mark is set 0.06 m (0.2 ft) below grade, crimped to a galvanized rod driven 19.2 m (63 ft) to refusal, and encased in concrete and white PVC pipe.

BENCH MARK STAMPING: NO 2 1962
DESIGNATION: 941 8817 TIDAL 2

MONUMENTATION:	Tidal Station disk	VM#: 11960
AGENCY:	US Coast and Geodetic Survey (USC&GS)	<u>PID#:</u> <u>LV0352</u>
SETTING CLASSIFICATION:	Concrete foundation	

The bench mark is a disk set in top of an unused concrete filter screen, due south of a large green metal water tank, due NE of wooden water tower, 82 m (270 ft) NW of shore end of north dock at the Louisiana-Pacific lumber mill, and 1 m (3 ft) NW of SE corner of concrete housing.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

Page 2 of 5

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T I D A L B E N C H M A R K S

BENCH MARK STAMPING: 8817 C 1978
DESIGNATION: 941 8817 C

MONUMENTATION: Tidal Station disk VM#: 11962
AGENCY: National Ocean Service (NOS) PID:
SETTING CLASSIFICATION: Galvanized steel rod

The bench mark is a disk located 0.2 km (0.1 mi) ENE of centerline of an intersection of Old Samoa Road and road leading to Lousiana-Pacific gate # 2, 21 m (70 ft) NW of an intersection of private road and railroad tracks, 7 m (24 ft) SSE of centerline of Old Samoa Road, 4 m (14 ft) NNW of west rail of railroad tracks. The bench mark is set below grade, crimped to a galvanized rod driven to 20.7 m (68 ft), and enclosed in concrete and white PVC pipe.

BENCH MARK STAMPING: F 735 1944
DESIGNATION: F 735

MONUMENTATION: Tidal Station disk VM#: 11963
AGENCY: US Coast and Geodetic Survey (USC&GS) PID#: LV0351
SETTING CLASSIFICATION: Concrete monument

The bench mark is a disk set on concrete monument located 39 m (128 ft) west of a power pole with guy wires, 7 m (24 ft) north of centerline of Old Samoa Road, 1 m (3 ft) south of a point directly under a cable line, 0.61 m (2.0 ft) east of a witness post, and set level with ground in top of a concrete post projecting 0.06 m (0.2 ft) above ground.

U.S. DEPARTMENT OF COMMERCE
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National Ocean Service

Page 3 of 5

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T I D A L B E N C H M A R K S

BENCH MARK STAMPING: Z 109 1967
DESIGNATION: Z 1091

MONUMENTATION:	Tidal Station disk	VM#:	11964
AGENCY:	US Coast and Geodetic Survey (USC&GS)	<u>PID#:</u>	<u>LV0350</u>
SETTING CLASSIFICATION:	Copper-clad steel rod		

The bench mark is a disk located 13 m (42 ft) west of centerline of a road, 0.3 m (1 ft) north of a power pole with guy wire, and 0.3 m (1 ft) south of a witness post. The bench mark is set 0.3 m (1 ft) above ground, crimped to a copper-clad rod driven to refusal at 37.5 m (123 ft), and encased in a concrete post projecting 0.1 m (0.3 ft) above ground.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

Page 4 of 5

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T I D A L D A T U M S

Tidal datums at SAMOA,HUMBOLDT BAY based on:

LENGTH OF SERIES:	5 Months
TIME PERIOD:	May 1978 - September 1978
TIDAL EPOCH:	1983-2001
CONTROL TIDE STATION:	9418767 NORTH SPIT, HUMBOLDT BAY

Elevations of tidal datums referred to Mean Lower Low Water (MLLW), in METERS:

MEAN HIGHER HIGH WATER (MHHW)	=	2.238
MEAN HIGH WATER (MHW)	=	2.015
MEAN SEA LEVEL (MSL)	=	1.221
MEAN TIDE LEVEL (MTL)	=	1.207
MEAN LOW WATER (MLW)	=	0.398
NORTH AMERICAN VERTICAL DATUM-1988 (NAVD)	=	0.166
MEAN LOWER LOW WATER (MLLW)	=	0.000

[National Geodetic Vertical Datum \(NGVD 29\)](#)

Bench Mark Elevation Information In METERS above:

Stamping or Designation	MLLW	MHW
8817 B 1978	5.561	3.546
NO 2 1962	3.419	1.404
8817 C 1978	5.215	3.200
F 735 1944	5.264	3.249
Z 109 1967	4.908	2.893

U.S. DEPARTMENT OF COMMERCE
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Page 5 of 5

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DEFINITIONS

Mean Sea Level (MSL) is a tidal datum determined over a 19-year National Tidal Datum Epoch. It pertains to local mean sea level and should not be confused with the fixed datums of North American Vertical Datum of 1988 (NAVD 88).

NGVD 29 is a fixed datum adopted as a national standard geodetic reference for heights but is now considered superseded. NGVD 29 is sometimes referred to as Sea Level Datum of 1929 or as Mean Sea Level on some early issues of Geological Survey Topographic Quads. NGVD 29 was originally derived from a general adjustment of the first-order leveling networks of the U.S. and Canada after holding mean sea level observed at 26 long term tide stations as fixed. Numerous local and wide-spread adjustments have been made since establishment in 1929. Bench mark elevations relative to NGVD 29 are available from the National Geodetic Survey (NGS) data base via the World Wide Web at [National Geodetic Survey](#).

NAVD 88 is a fixed datum derived from a simultaneous, least squares, minimum constraint adjustment of Canadian/Mexican/United States leveling observations. Local mean sea level observed at Father Point/Rimouski, Canada was held fixed as the single initial constraint. NAVD 88 replaces NGVD 29 as the national standard geodetic reference for heights. Bench mark elevations relative to NAVD 88 are available from NGS through the World Wide Web at [National Geodetic Survey](#).

NGVD 29 and NAVD 88 are fixed geodetic datums whose elevation relationships to local MSL and other tidal datums may not be consistent from one location to another.

The Vertical Mark Number (VM#) and PID# shown on the bench mark sheet are unique identifiers for bench marks in the tidal and geodetic databases, respectively. Each bench mark in either database has a single, unique VM# and/or PID# assigned. Where both VM# and PID# are indicated, both tidal and geodetic elevations are available for the bench mark listed.

The NAVD 88 elevation is shown on the Elevations of Tidal Datums Table Referred to MLLW only when two or more of the bench marks listed have NAVD 88 elevations. The NAVD 88 elevation relationship shown in the table is derived from an average of several bench mark elevations relative to tide station datum. As a result of this averaging, NAVD 88 bench mark elevations computed indirectly from the tidal datums elevation table may differ slightly from NAVD 88 elevations listed for each bench mark in the NGS database.