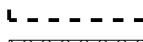


- Federal Navigation Channel
-  Shoaling Area
-  Placement Area
-  Anchorage Area
-  Wreck Area
-  Submerged Wreck
-  Angle Point

nel		Beacon, Genera
		Obstruction Poin
		Navigation Buoy
		Navigation Buoy
		Shoalest Soundin

A graph showing five horizontal countours at different depths. The contours are labeled from -3 to -35 meters.

Depth (m)	Color
-3	Red
-12	Blue
-21	Green
-30	Black
-35	Cyan

NOTES:

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COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

BASE MAPS ARE USDA NAIP 2010.

*SHOALEST SOUNDING PER QUARTER PER REACH

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.

THE PROJECT DEPTH IS -35 FEET MLLW.

VERTICAL DATUM:
MLLW (MEAN LOWER LOW WATER)
TIDAL EPOCH 1983-2001
TIDAL DATUM CONTROL STATION(S):
- 9415056 PINOLE POINT - JUNE 2014
- 9415218 MARE ISLAND - AUG 2013

T22 23 0 W **T22 22 50 W**

HORIZONTAL CONTROL DATUM:
NAD83(2011) EPOCH 2010.00

CONTROL:

POINT PINOLE 4 RESET PID: JT2895 OPUS 3/19/2020	BM 5056 A PID: BBCN55 9415056
5218 L 1976 PID: BBBZ81 OPUS 8/11/2010 9415218	5218 R 2006 PID: BBCN57 OPUS 10/31/2011 9415218

TIDE GAUGE:
NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW
APPROX POSITION: $38^{\circ} 04' 9.9''$ N, $122^{\circ} 15' 4.4''$ W

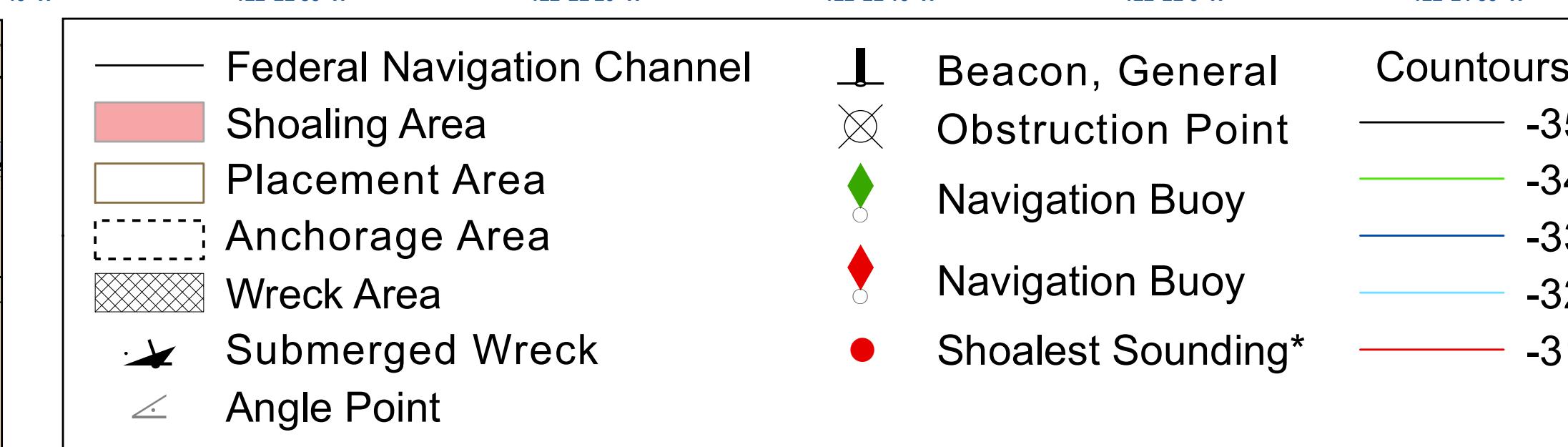
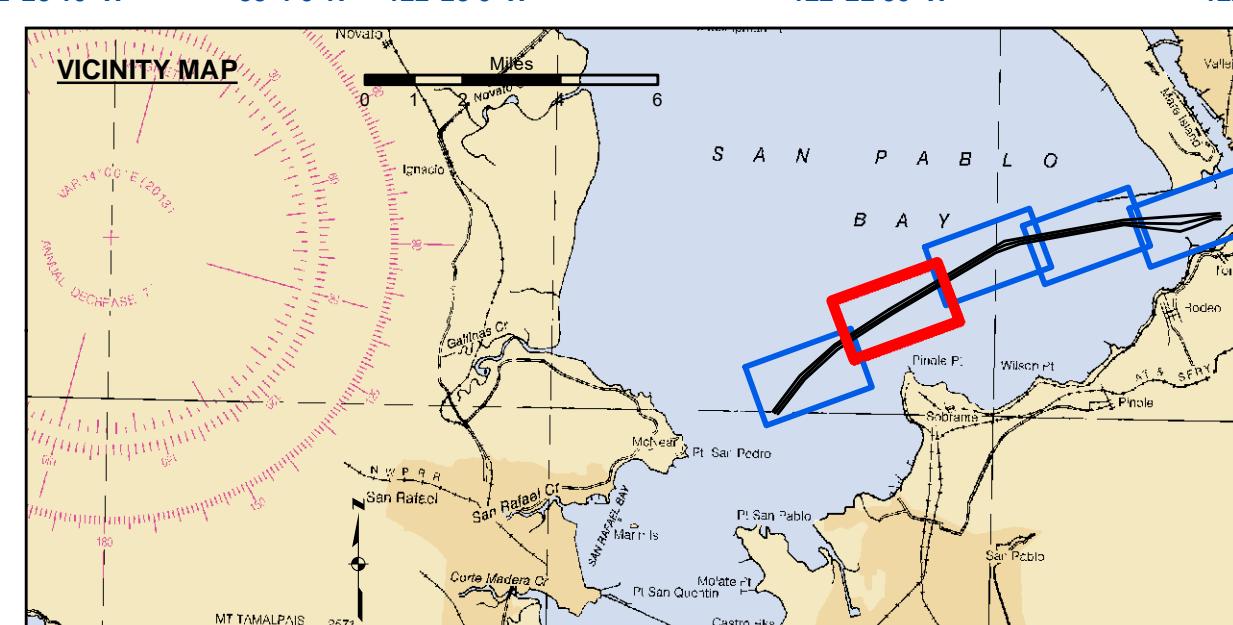
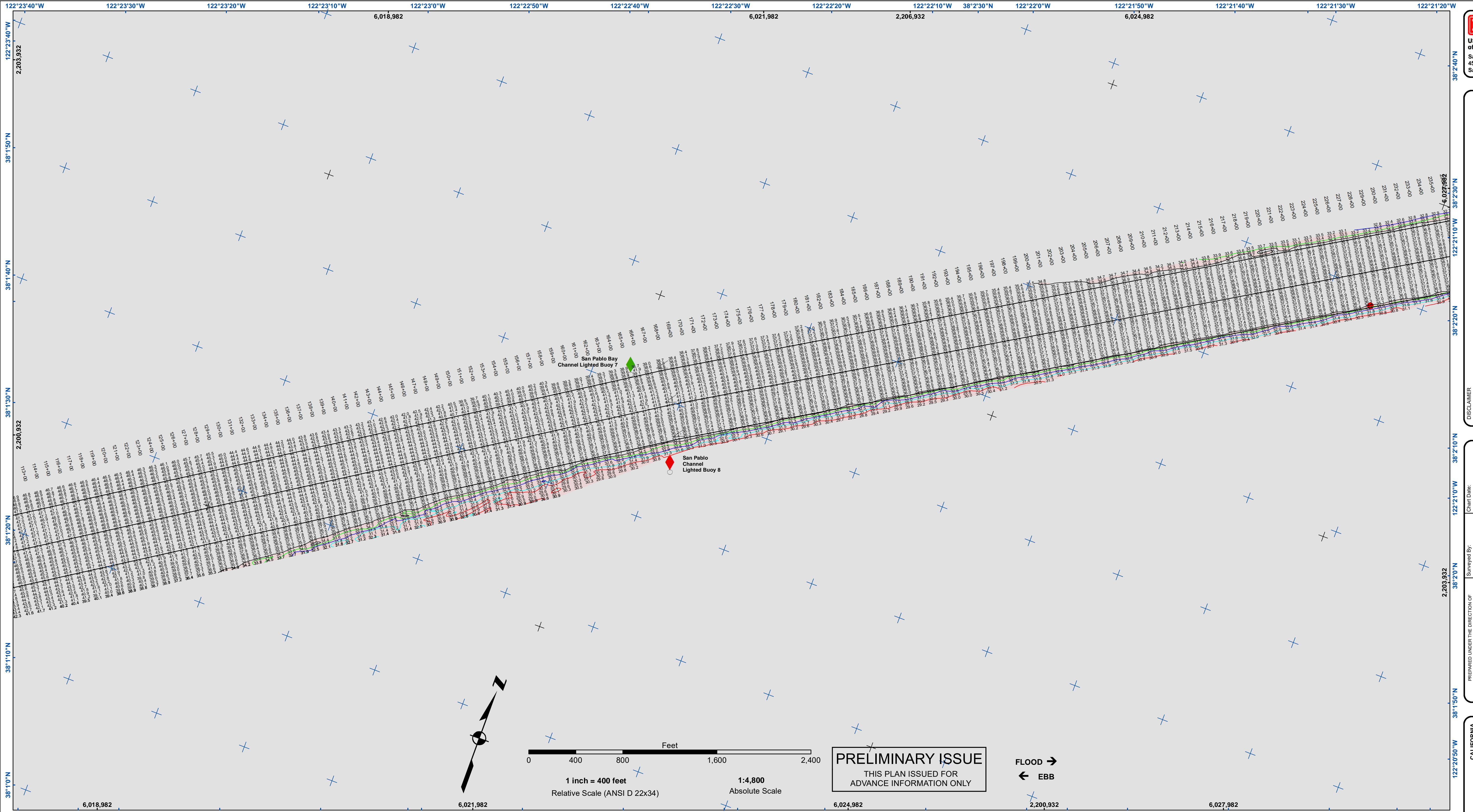
POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED
USING PPK TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.

TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOID18 AND VDATUM V4.0.1.

SURVEY VESSEL / EQUIPMENT:
S/V RANDY CUMMINGS

- RESON T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
- POS MV 220 VERS5 HW2.5-12
- IMU TYPE 42
- TRIMBLE AT1675-540TS GPS ANTENNA

**Sheet
Reference
Number
1 of 5**



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DISTANCE UNITS IN U.S. SURVEY FEET; DEPTHS ARE SHOWN AS POSITIVE VALUES.

HORIZONTAL CONTROL DATUM: NAD83(2011) EPOCH 2010.00

CONTROL: POINT PINOLE 4 RESET | PID: JT2895 BM 5056 A | PID: BBCN55
OPUS 3/19/2020 9415056

5218 L 1976 5218 R 2006
PID: BBCN57 PID: BBCN57
OPUS 8/11/2010 | 9415218 OPUS 10/31/2011 | 9415218

TIDE GAUGE:
NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W

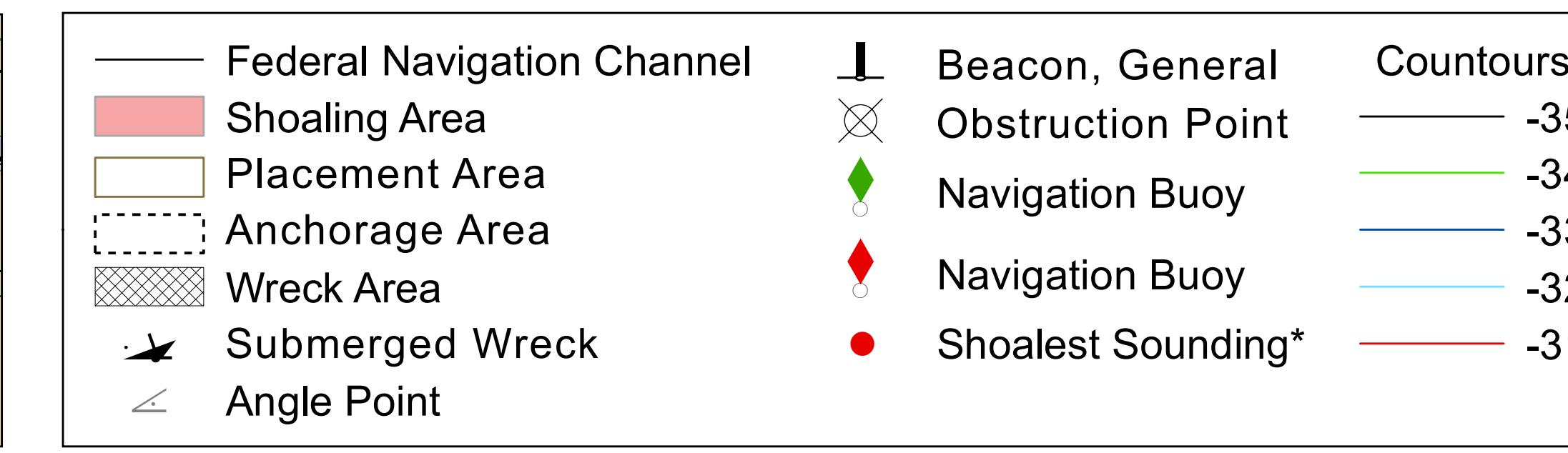
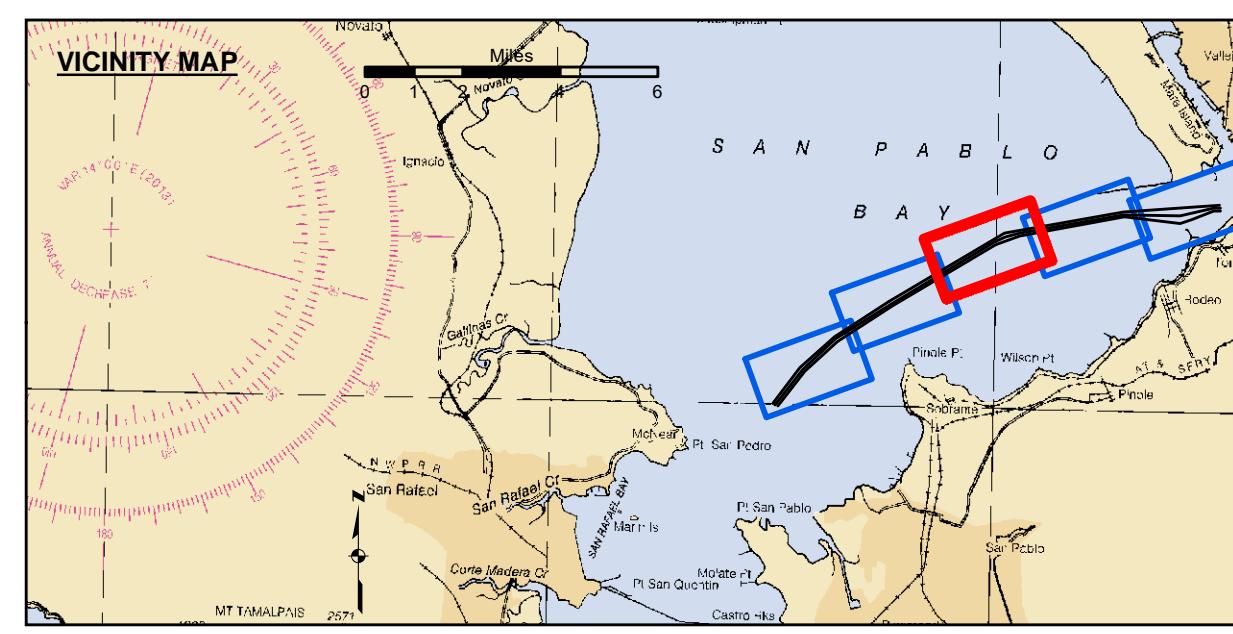
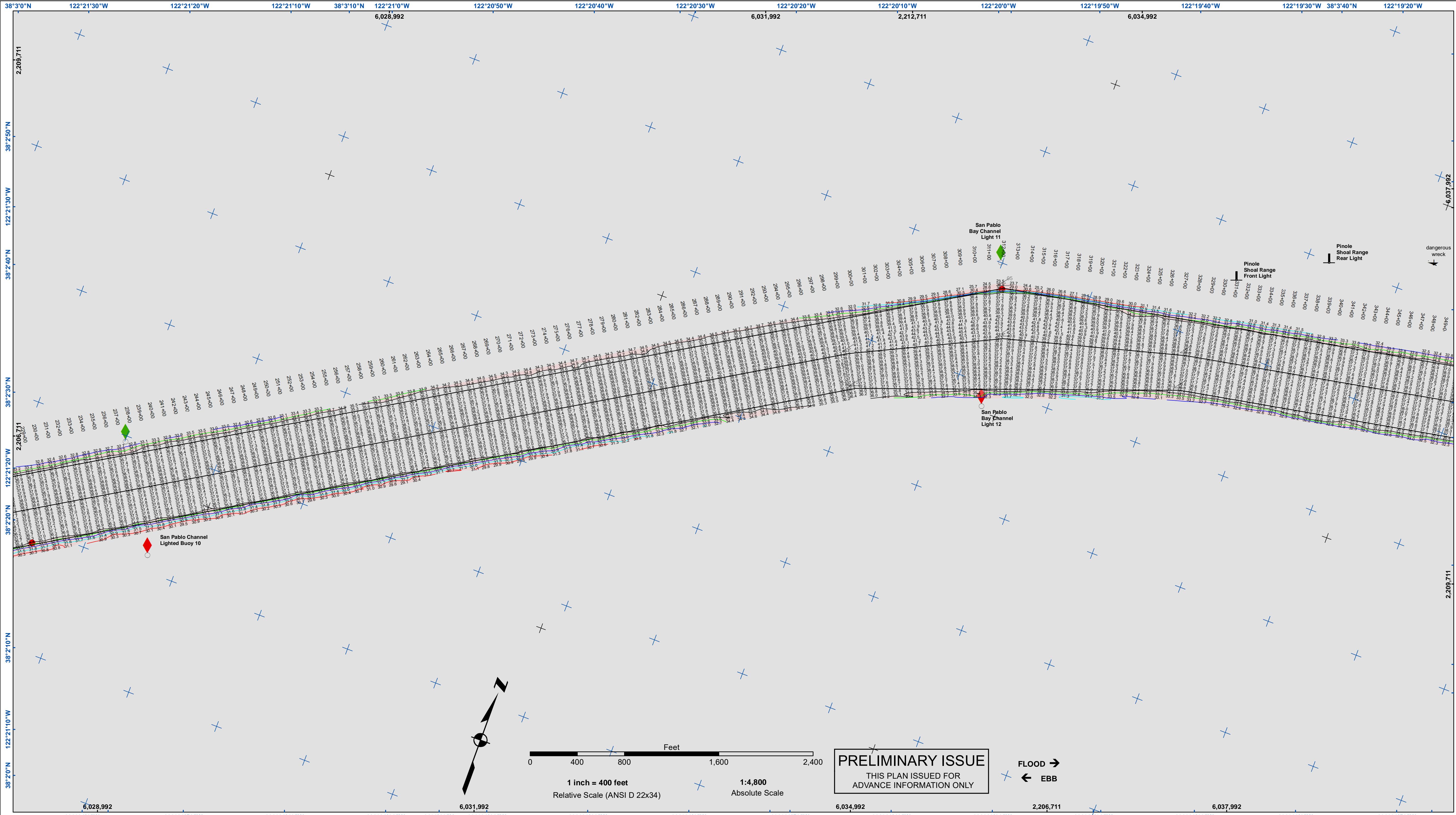
POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED USING PKP TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.

TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.

SURVEY VESSEL / EQUIPMENT:
SV RANDY CUMMINGS
- PCGS T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
- PCGS MARE VERS HW2-5.12
- IMU TYPE 42
- TRIMBLE AT1675-540TS GPS ANTENNA

US Army Corps of Engineers
San Francisco District
450 Golden Gate Ave.
San Francisco, CA 94102

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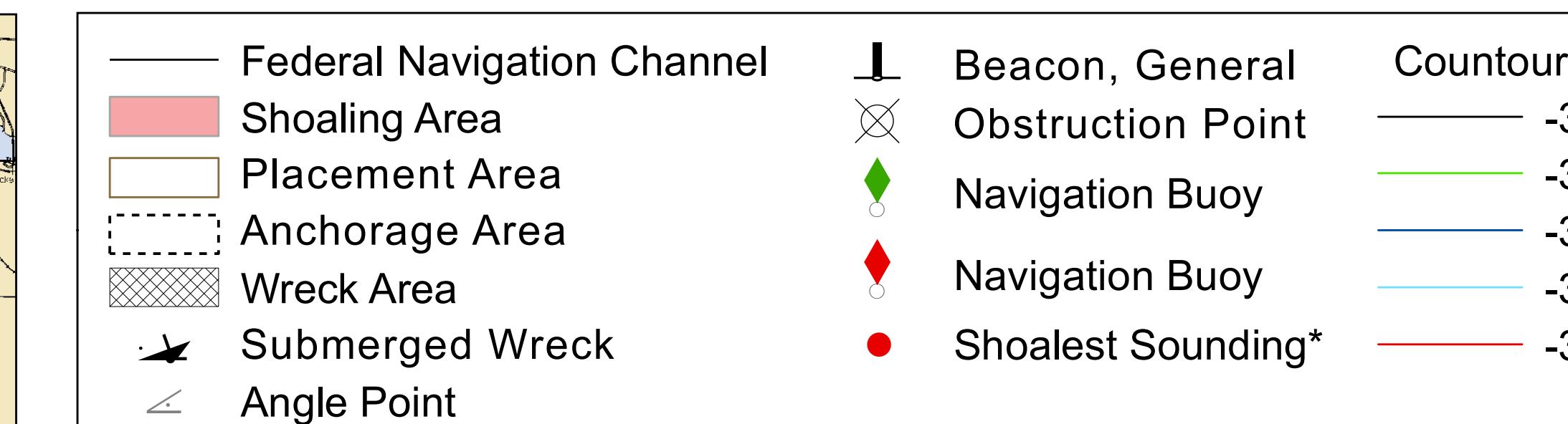
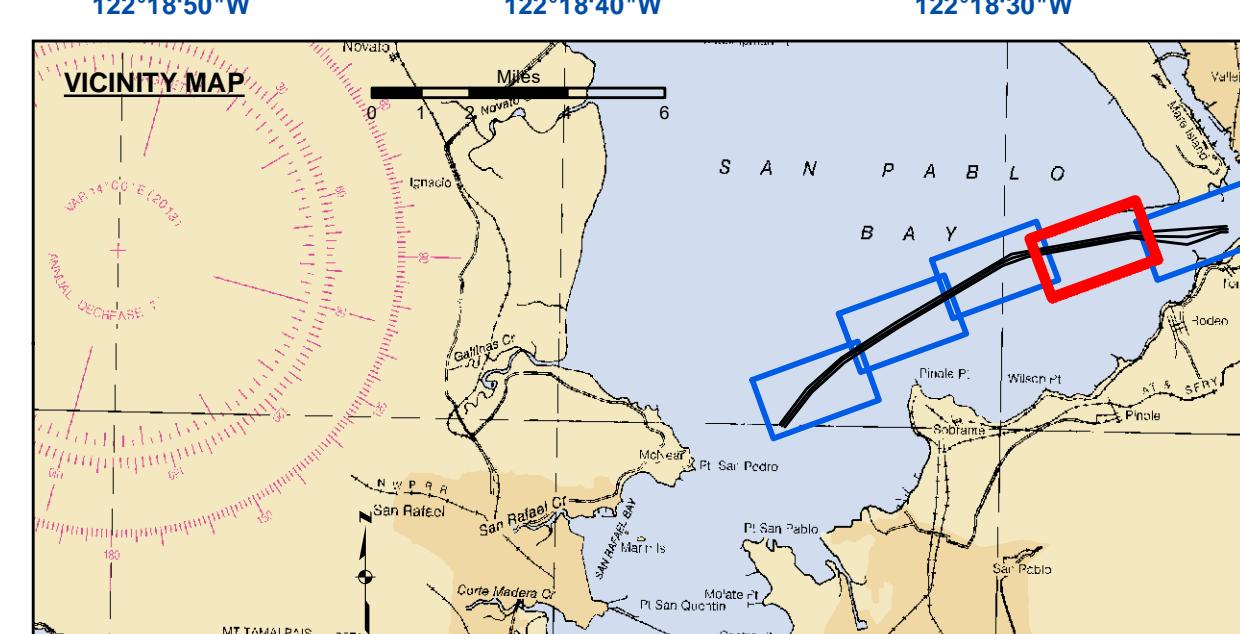
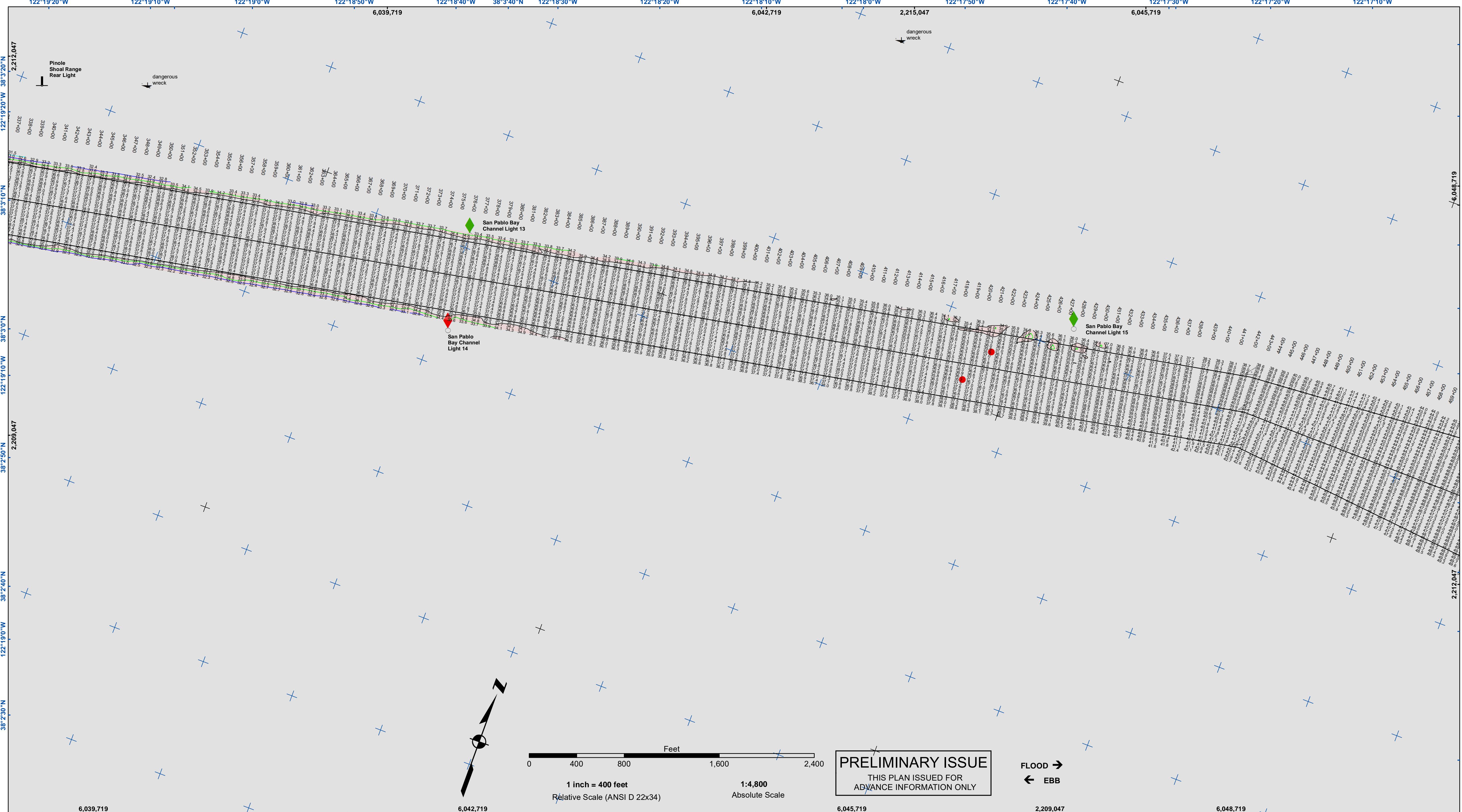
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PREPARED UNDER THE DIRECTION OF	KEVIN PARNETT	Surveyed By:	Chart Date:
L.T. COLONEL, C.E., DISTRICT ENGINEER			Oct 28, 2021
Submitted:		Designed by:	
PDT			
Hydro Survey Team Leader		PDT	
Recommended:		Drawn by:	
Chief Hydro Survey Section			
Approved:		Checked by:	
Chief, Construction Branch		PDT	

CALIFORNIA
PINOLE SHOALS
CONDITION SURVEY
25 OCTOBER 2021

Sheet Reference Number
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NOTES:
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BASE MAPS ARE USDA NAIP 2010.
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SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.
THE PROJECT DEPTH IS .35 FEET MLLW.
VERTICAL DATUM: MLLW (MEAN LOWER LOW WATER)
TIDAL EPOCH: 1983-2005
TIDE GAUGE: 4000 FT (4000 FT)
CONTROL POINT: PINOLE 4 RESET | PID: JT2895 BM 5056 A | PID: BBCN55 9415056
OPUS 3/19/2020
5218 L 1976 PID: BBCN57 OPUS 8/11/2010 | 9415218 5218 R 2006 PID: BBCN57 OPUS 10/31/2011 | 9415218
TIDE GAUGE: NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W
POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED USING PKT TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.
TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.
SURVEY VESSEL / EQUIPMENT:
SV RANDY CUMMINGS
- PCUS T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
- PCS MYERS VERS HW2.5-12
- IMU TYPE 42
- TRIMBLE AT1675-540TS GPS ANTENNA

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San Francisco District
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San Francisco, CA 94102

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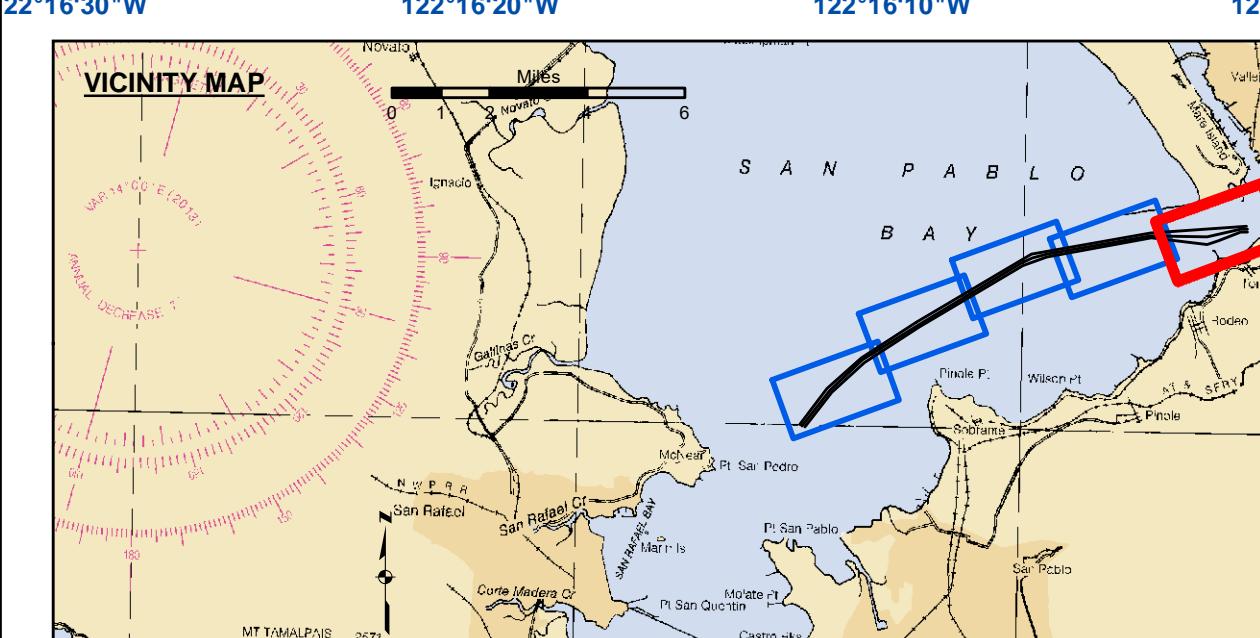
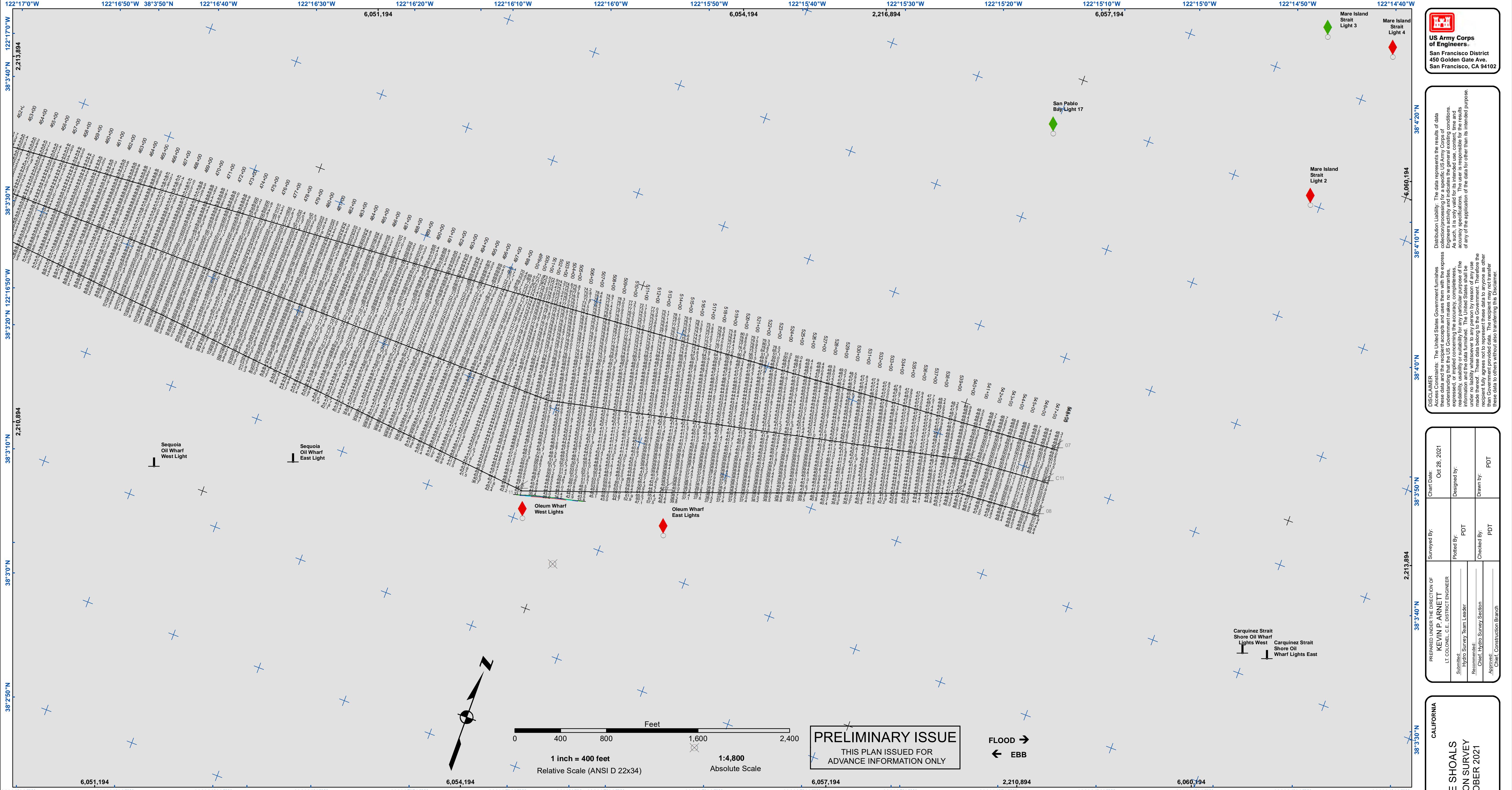
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Chart Date: Oct 28, 2021
Designed by: PDT
Potted By: PDT
Submitted: Hydro Survey Team Leader
Recommended: Chief Hydro Survey Section
Drawn by: PDT
Approved: Chief Construction Branch

CALIFORNIA
PINOLE SHOALS
CONDITION SURVEY
25 OCTOBER 2021

Sheet Reference Number
4 of 5

CORPS OF ENGINEERS

U.S. ARMY



- Federal Navigation Channel
- Shoaling Area
- Placement Area
- Anchorage Area
- Wreck Area
-  Submerged Wreck
- ∠ Angle Point

- Beacon, General
- ⊗ Obstruction Point
- ◆ Navigation Buoy
- ◆ Navigation Buoy
- Shoalest Soundings

Countours

* -31 -32 -33 -34 -35

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. 9415218 MARF ISLAND - AUG 2013