

STATE OF CALIFORNIA — THE RESOURCES AGENCY
DEPARTMENT OF BOATING AND WATERWAYS

APPENDIX E MAP SETS

(LOAN COPY ONLY)

for
Areas I Thru VIII
of the

Report of
Potential Offshore

SAND and GRAVEL RESOURCES

of the

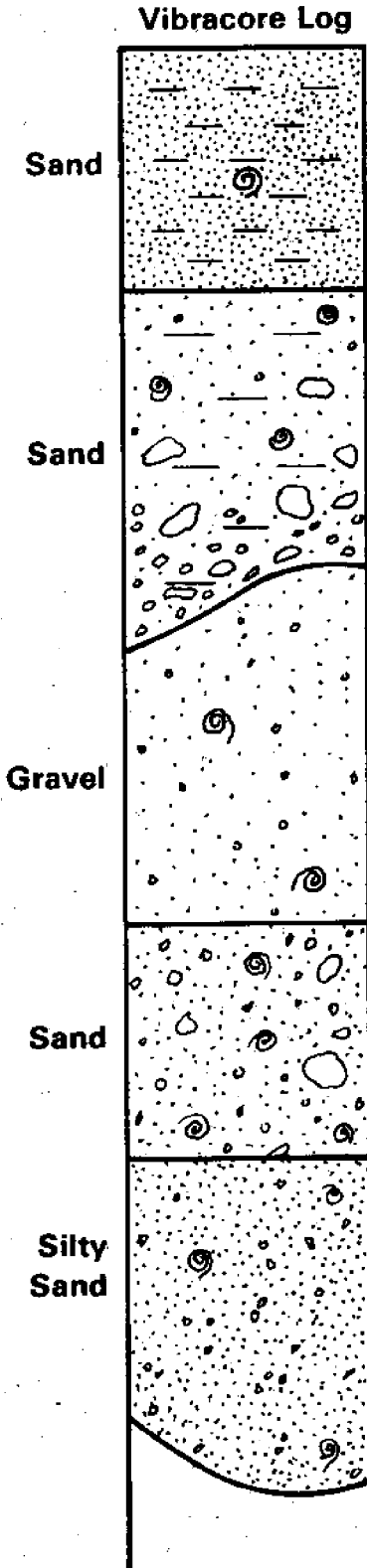
INNER CONTINENTAL SHELF

of

SOUTHERN CALIFORNIA

NATIONAL SEA GRANT DEPOSITORY
PELL LIBRARY BUILDING
URI, NARRAGANSETT BAY CAMPUS
NARRAGANSETT, RI 02882

CIRCULATING COPY
Sea Grant Depository





**STATE OF CALIFORNIA — THE RESOURCES AGENCY
DEPARTMENT OF BOATING AND WATERWAYS**

George Deukmejian, *Governor*
Gordon K. Van Vleck *Secretary for Resources*

**APPENDIX E
MAP SETS
for
Areas I thru VIII
of the
Report of**

**CIRCULATING COPY
Sea Grant Depository**

**POTENTIAL OFFSHORE
SAND and GRAVEL RESOURCES
of the
INNER CONTINENTAL SHELF
of SOUTHERN CALIFORNIA**

**By
Robert H. Osborne, Nancy J. Darigo, and Robert C. Scheidemann, Jr.
Department of Geological Sciences
University of Southern California
Los Angeles, California 90089-0741**

**Prepared for the
Department of Boating and Waterways
William H. Ivers, Director
1629 S Street
Sacramento, California 95814-7219**

LOAN COPY ONLY

June 1983

APPENDIX E

TABLE OF CONTENTS

<u>Plate No.</u>	<u>List of Plates</u>
I	Index to Map Plates - Northern Section
II	Index to Map Plates - Southern Section
Area I, Santa Monica Bay, Pt. Dume to Marina del Rey	
IX-A	Vibracore Locations & Suitability of Sand
IX-B	Isopach of Potential Borrow Areas (B-IV & B-V)
IX-C	Location of Tracklines
Area I, Santa Monica Bay, Marina del Rey to Palos Verdes Pen.	
X-A	Vibracore Locations & Suitability of Sand
X-B	Isopach of Potential Borrow Areas (B-I thru B-IV)
X-C	Location of Tracklines
Area II, San Pedro Bay	
XII-A	Vibracore Locations & Suitability of Sand
XII-B	Isopach of Potential Borrow Areas
XII-C	Location of Tracklines
XII-D	Isopach of Holocene Strata
Area III, Dana Point	
XIII-A	Vibracore Locations & Suitability of Sand
Area IV, San Diego County	
XIV-A	Vibracore Locations & Suitability of Sand
XIV-B	Isopach of Potential Borrow Areas
XIV-C	Location of Tracklines
XIV-D	Isopach of Holocene Strata

Areas V & VI, San Diego County

- XV-A Vibracore Locations & Suitability of Sand
- XV-B Isopach of Potential Borrow Areas
- XV-C Location of Tracklines
- XV-D Isopach of Holocene Strata
- XV-E Isopach of Pleistocene Strata

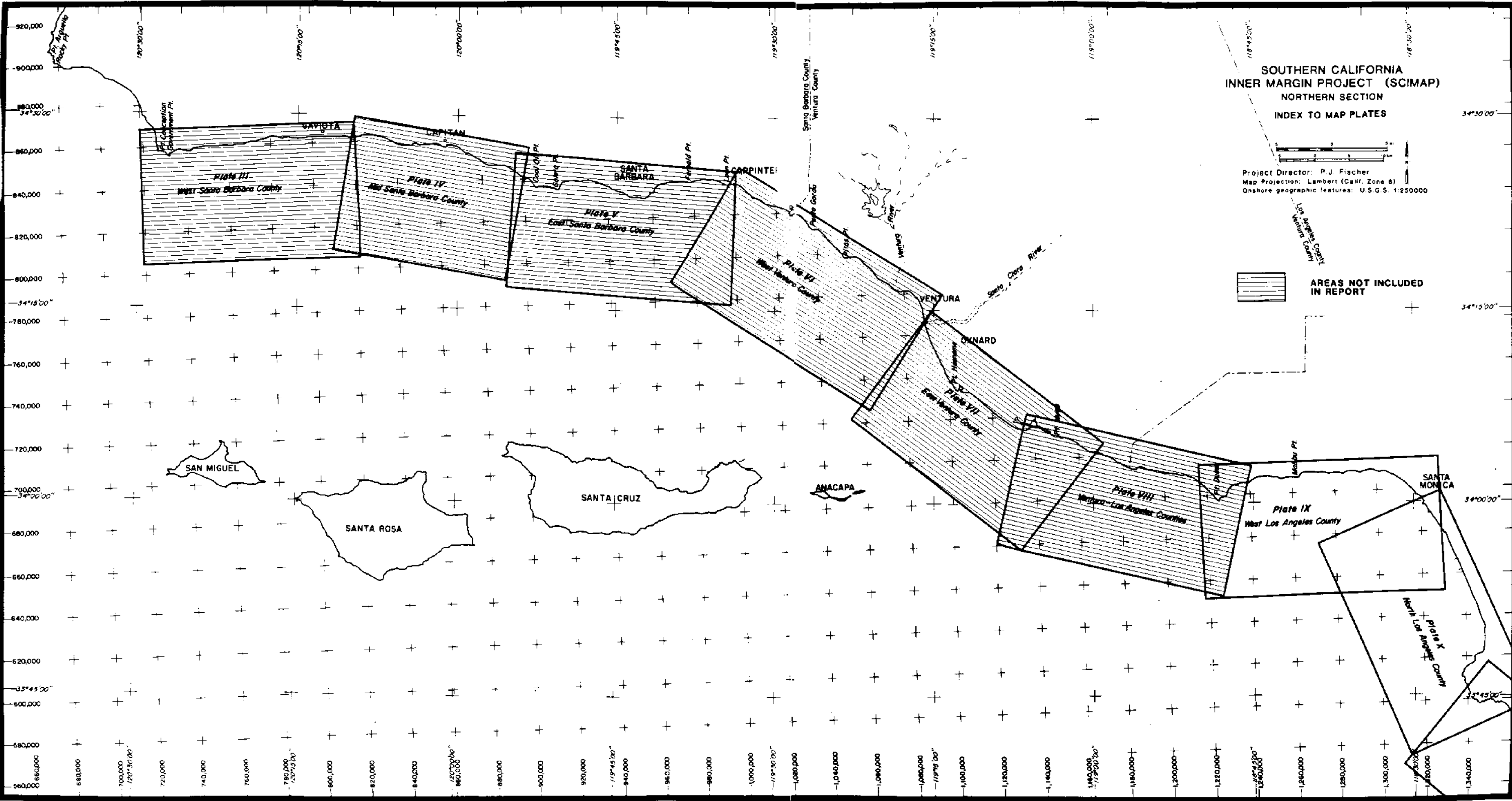
Areas VII & VIII, San Diego County

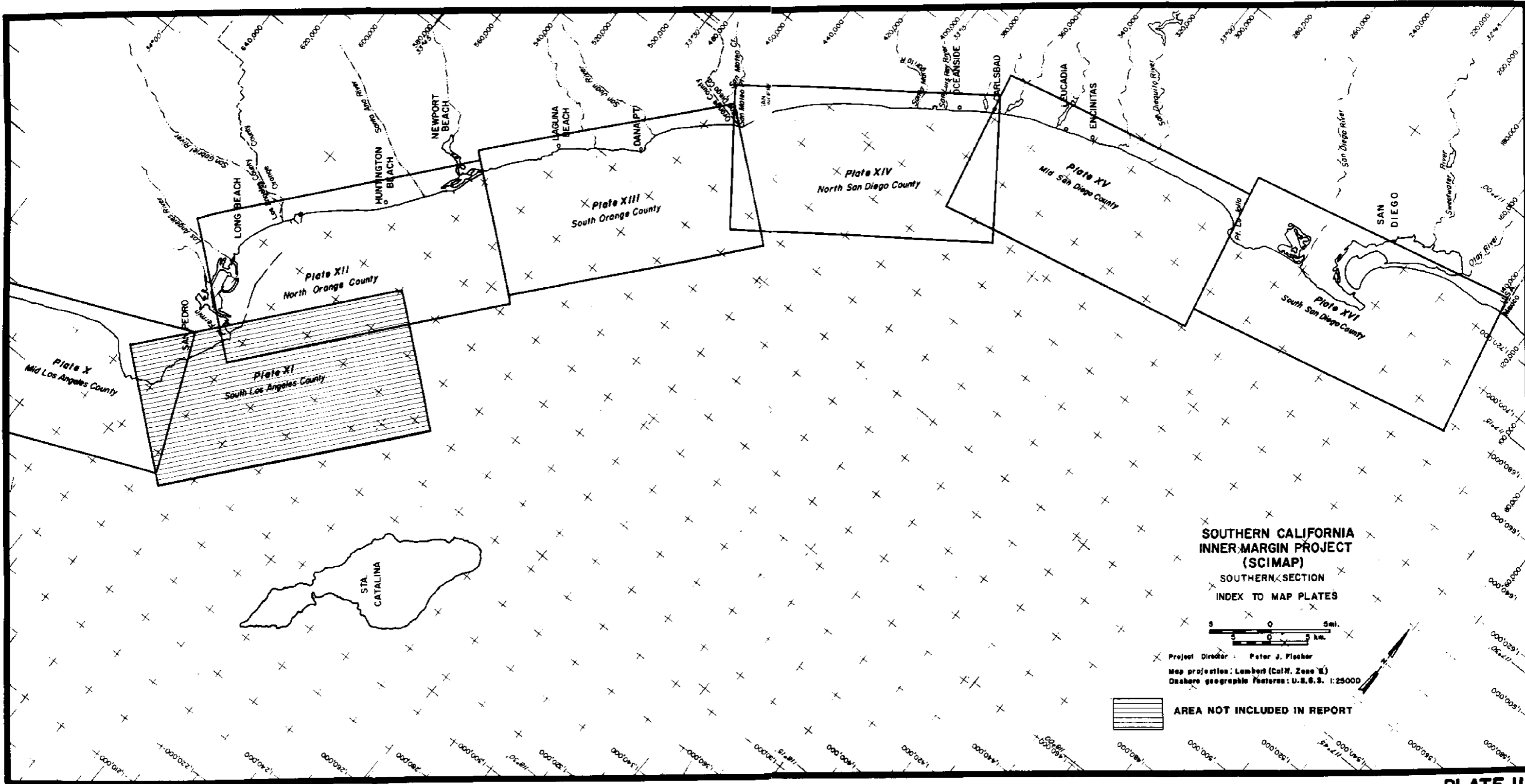
- XVI-A Vibracore Locations & Suitability of Sand
- XVI-B Isopach of Potential Borrow Areas
- XVI-C Location of Tracklines
- XVI-D Isopach of Holocene Strata
- XVI-E Isopach of Pleistocene Strata

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)
NORTHERN SECTION
INDEX TO MAP PLATES**

Project Director: P. J. Fischer
Map Projection: Lambert (Calif. Zone 8)
Onshore geographic features: U.S.G.S. 1:250000

 **AREAS NOT INCLUDED
IN REPORT**

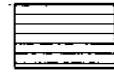




**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT
(SCIMAP)**
SOUTHERN SECTION
INDEX TO MAP PLATES



Project Director: Peter J. Fischer
Map projection: Lambert (Calif. Zone 8)
Datum: geographic features: U.S.G.S. 1:25000



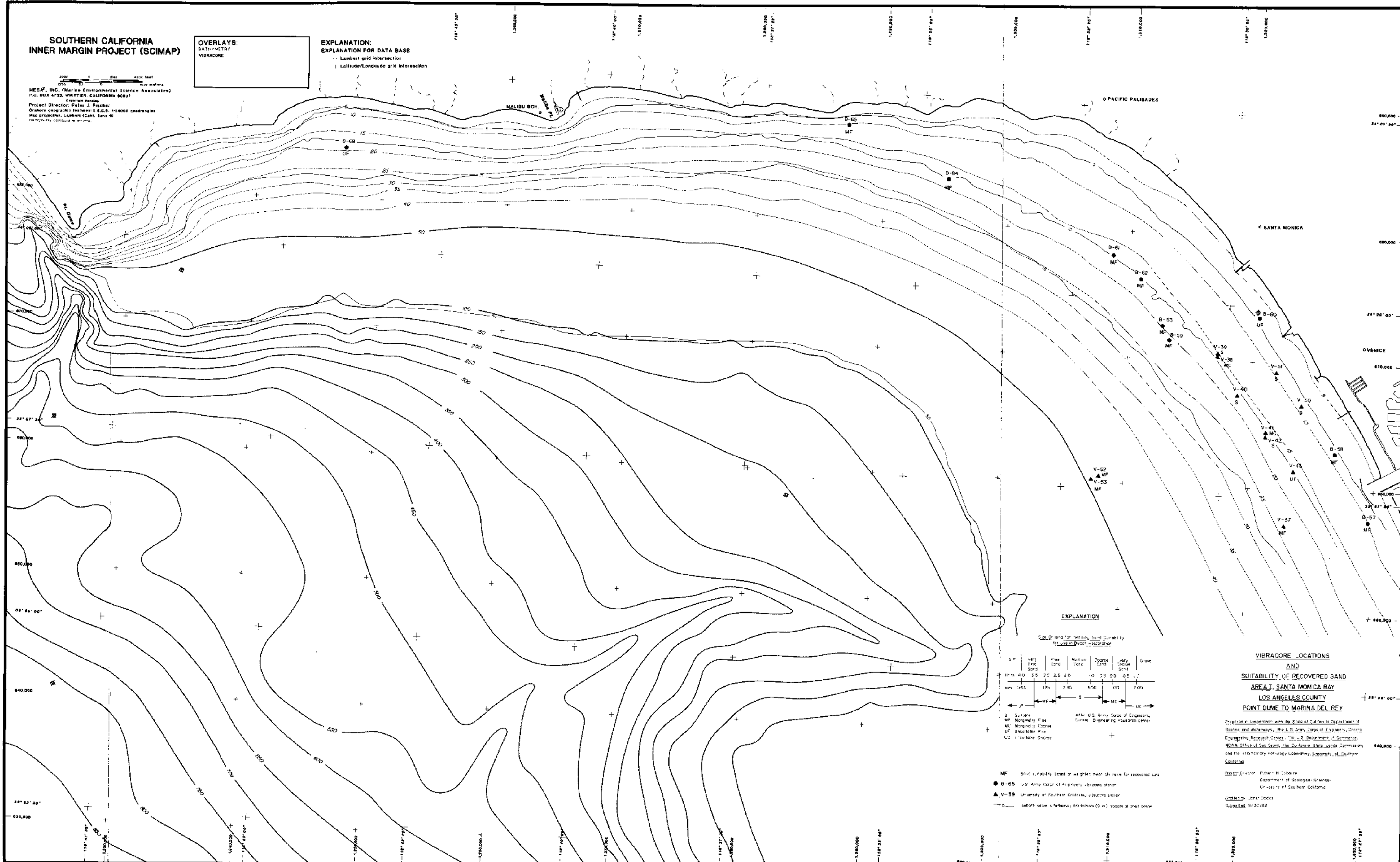
AREA NOT INCLUDED IN REPORT

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)**

OVERLAYS:
BATHYMETRY
VIDRACORE

EXPLANATION FOR DATA BASE:
+ Lambert grid intersection
+ Latitude/Longitude grid intersection

MESEA, INC. (Marine Environmental Science Associates)
P.O. BOX 4733, WHITTIER, CALIFORNIA 90607
Katyann Rasmussen
Project Director: Peter J. Fischer
Onshore geographic features U.S.S. 1:24000 quadrangle
Map projection: Lambert Conformal Conic
Datum: NAD 83
Vertical datum: MLLW



EXPLANATION

See D-2 for details. Sand suitability for use in beach nourishment.

SP	145 Line Sed	Fine Sand	Med Sand	Coarse Sand	Grav Total Silt	Grav
11-14	40	25	20	20	0	100
15-18	35	20	25	20	0	100

S: Suitability
 MF: Marginal Fine
 MC: Marginal Coarse
 UF: Unsuitable Fine
 UC: Unsuitable Coarse

Adm: U.S. Army Corps of Engineers, Central Engineering Research Center

**VIBRACORE LOCATIONS
AND
SUITABILITY OF RECOVERED SAND
AREA: SANTA MONICA BAY
LOS ANGELES COUNTY
POINT DUKE TO MARINA DEL REY**

Contract Agreement with the State of California Department of Resources and Development, the U.S. Army Corps of Engineers, Office of Engineering Research, Contract # D-2, Department of Geomatics, NOAA Office of Sea Grant, the California State Lands Commission, and the University Technology Laboratories, University of Southern California

Prepared by: Peter H. Deane
Department of Geological Sciences
University of Southern California

Checked by: Peter Deane
Submitted: 9/20/82

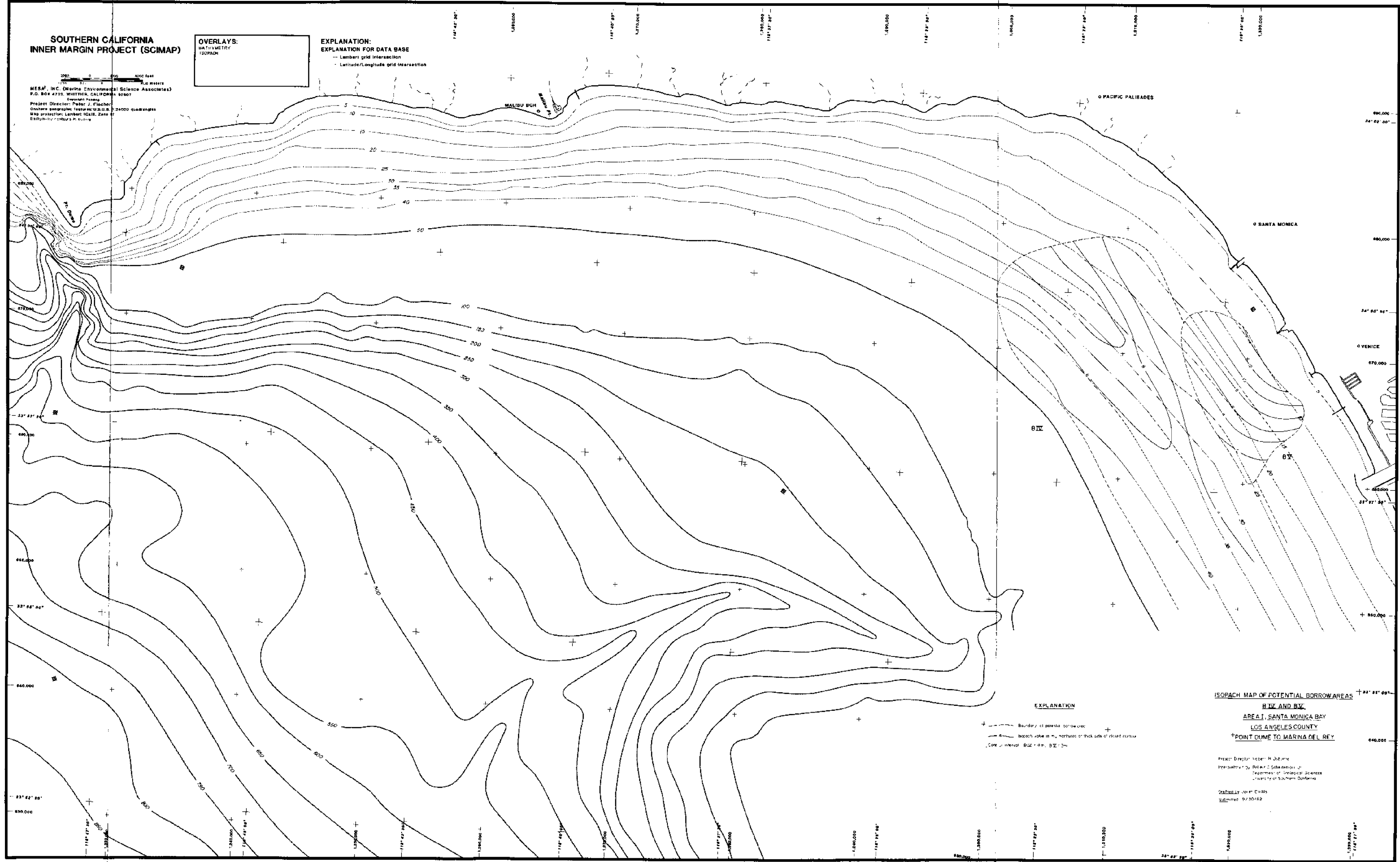
- MF: Sand suitability based on weight percent for recovered sand
- B-65: U.S. Army Corps of Engineers vibracore station
- V-59: University of Southern California vibracore station
- 5: seabed value in fathoms; 50 fathoms (91 m) depth at chart base

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)**

MESA*, INC. (Marine Environmental Science Associates)
P.O. Box 4735, Whittier, California 90607
Overseas Branch
Project Director: Peter J. Flecher
Onshore Geomatics: Victor M. G. G.
Map projection: Lambert Conformal
Established by Robert M. Kitting

OVERLAYS:
BATHYMETRY
ISOPACH

EXPLANATION:
EXPLANATION FOR DATA BASE
--- Lambert grid intersection
+ Latitude/Longitude grid intersection



EXPLANATION
--- Boundary of potential borrow areas
--- Isobath value in m, northward of thick side of double contour
--- Contour interval BIV = 1m, BV = 2m

**ISOPACH MAP OF POTENTIAL BORROW AREAS
BIV AND BV
AREA, SANTA MONICA BAY
LOS ANGELES COUNTY
POINT DUME TO MARINA DEL REY**

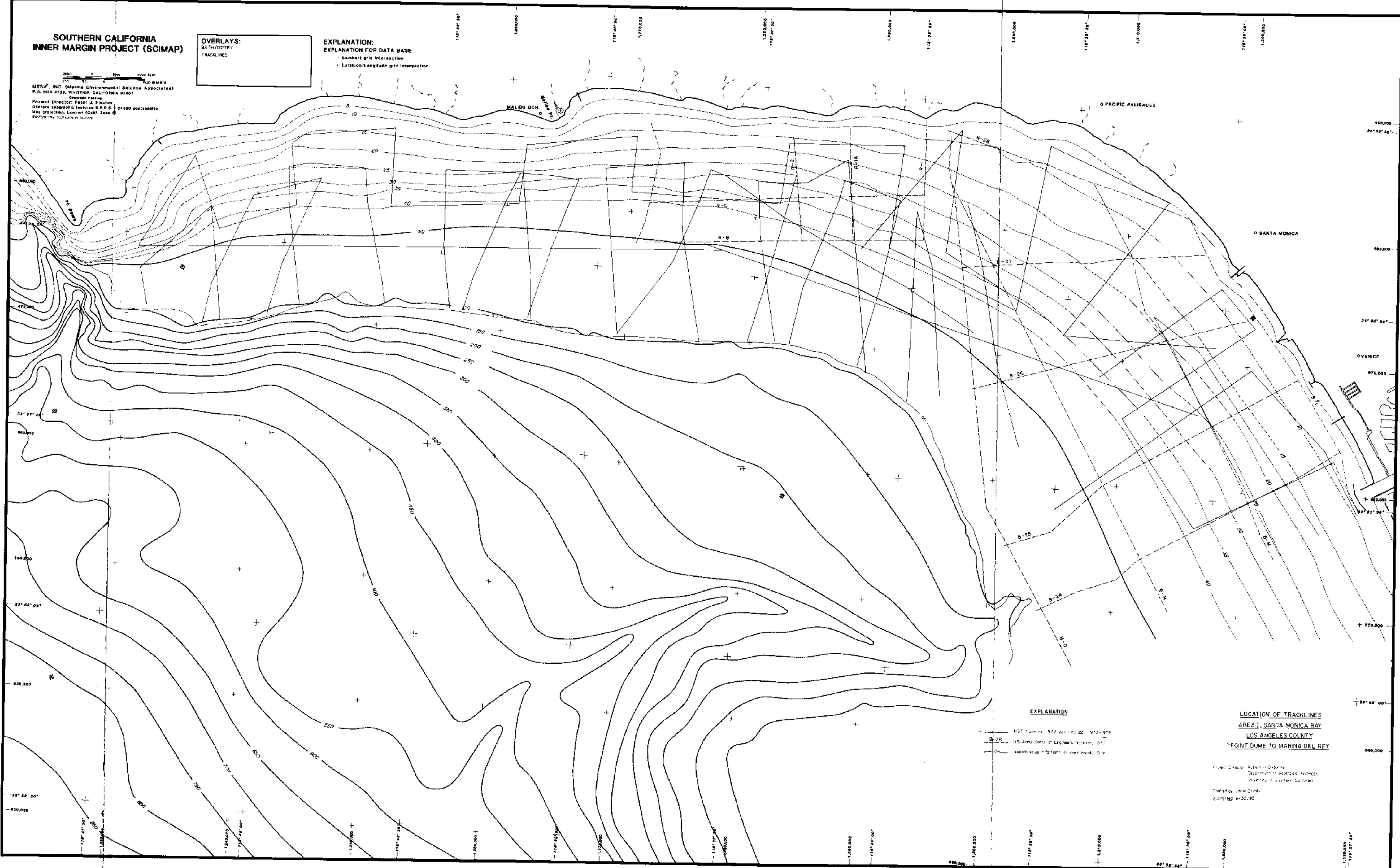
Project Director: Peter J. Flecher
Prepared by: Robert M. Kitting
Department of Geological Sciences
University of Southern California
Contract No. 4448
Revised: 07/30/82

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)**

MESA, INC. (Marine Environmental Science Associates)
P.O. BOX 4739, WESTFALL, CALIFORNIA 91007
Contract Number
Project Director: Peter J. Fischer
Contract Geographic Features: U.S.G.S. 1:250,000 quadrangle
Map projection: Lambert Conformal Zone 8
Datum: NAD 83

OVERLAYS:
BATHYMETRY
TRACKLINES

EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ Latitude/longitude grid intersection



EXPLANATION
+ USC Hydrographic Survey trackline
B-28 US Army Corps of Engineers trackline
--- depth value in fathoms at that trackline, 0 = 0

**LOCATION OF TRACKLINES
AREA I, SANTA MONICA BAY
LOS ANGELES COUNTY
POINT DUME TO MARINA DEL REY**

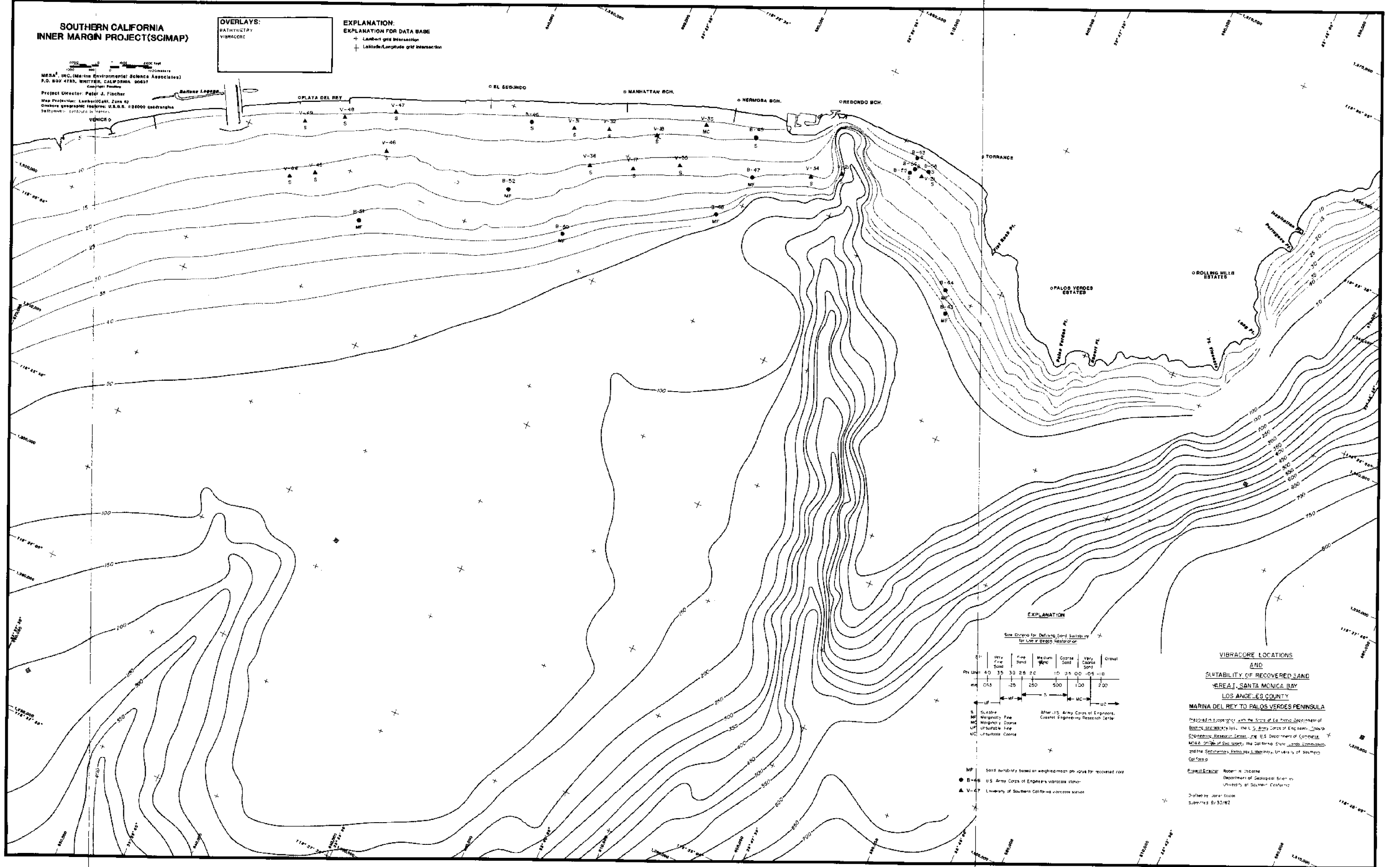
Project Director: Robert M. Osborne
Department of Geomatics Sciences
University of Southern California
Compiled by: John Cook
Summer 1970-72

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)**

OVERLAYS:
BATHYMETRY
VIBRACORE

EXPLANATION:
EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ Latitude/Longitude grid intersection

MESEA, INC. (Marine Environmental Science Associates)
P.O. BOX 4733, WHITTIER, CALIFORNIA 90607
Project Director: Peter J. Fischer
Map Projection: Lambert Conformal
Coordinate System: U.S.N.S. 128000 coordinate system
Datum: North American Datum of 1983



EXPLANATION

Site Criteria for Defining Sand Suitability for Use in Beach Restoration

Grain Size	Very Fine Sand	Fine Sand	Medium Sand	Coarse Sand	Very Coarse Sand	Gravel
Phi Units	4.0	3.5	3.0	2.5	2.0	1.0
mm	0.075	0.25	0.5	1.0	2.0	4.75

S: Suitable
 MF: Marginally Fine
 MC: Marginally Coarse
 UF: Unsuitable Fine
 UC: Unsuitable Coarse

After U.S. Army Corps of Engineers, Coastal Engineering Research Center

MP: Sand suitability based on weighted mean phi-value for recovered core
 B-46: U.S. Army Corps of Engineers vibracore station
 V-47: University of Southern California vibracore station

**VIBRACORE LOCATIONS
AND
SUITABILITY OF RECOVERED SAND
AREA I, SANTA MONICA BAY
LOS ANGELES COUNTY
MARINA DEL REY TO PALOS VERDES PENINSULA**

Prepared in cooperation with the State of California Department of Beach Services, the U.S. Army Corps of Engineers, Coastal Engineering Research Center, the U.S. Department of Commerce, NOAA Office of Sea Grant, the California State Lands Commission, and the Scripps Institution of Oceanography, University of Southern California.

Project Director: Robert H. Inoué
 Department of Geological Sciences
 University of Southern California

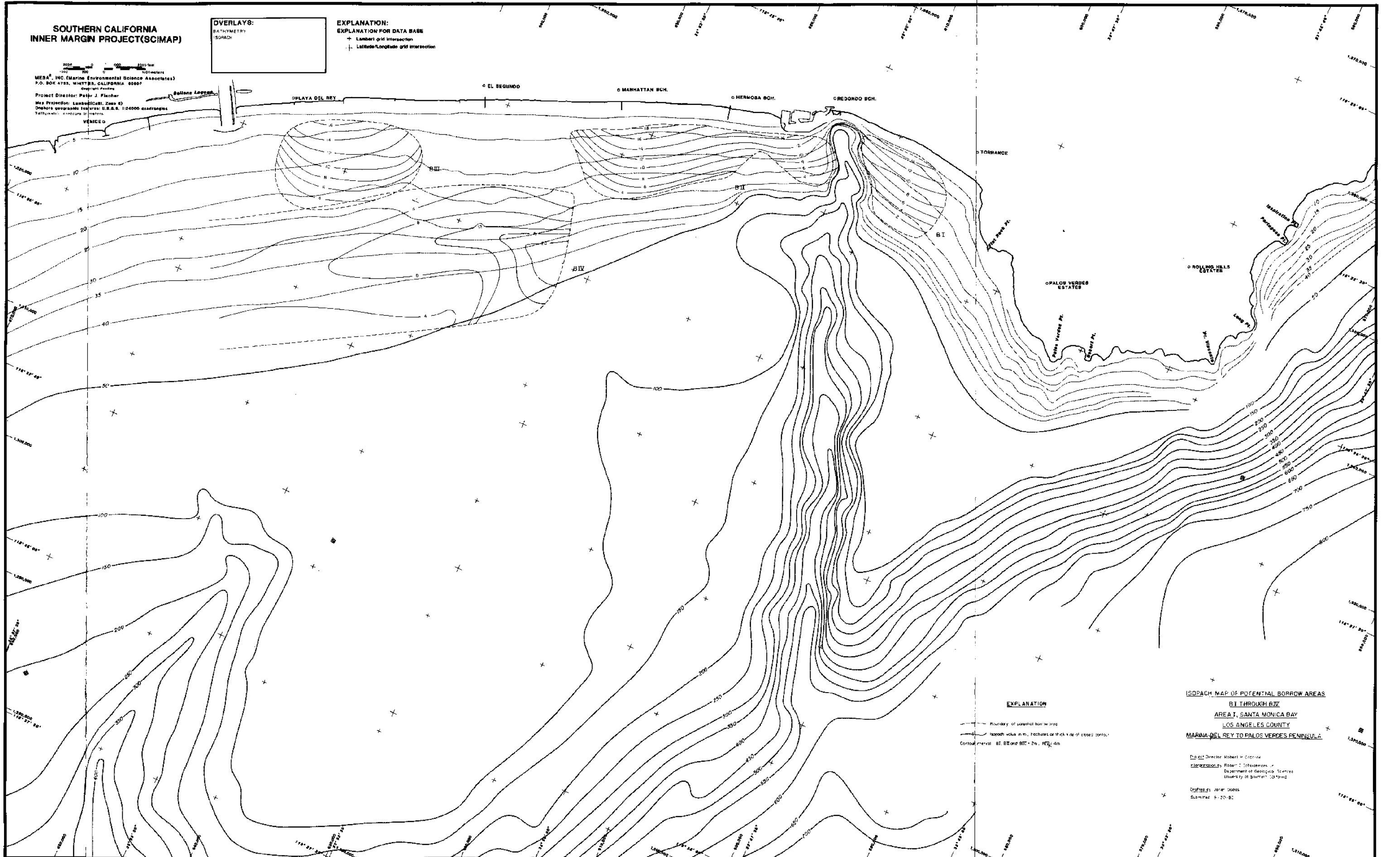
Drafted by: James H. Fisher
 Submitted: 8/30/82

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)**

OVERLAYS:
BATHYMETRY
ISOPACH

EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ Latitude/Longitude grid intersection

Scale: 0 500 1000 Feet
0 500 1000 Meters
MESA, INC. (Marine Environmental Science Associates)
P.O. BOX 4753, WINTERS, CALIFORNIA 95897
Project Director: Peter J. Fleisher
Map Projection: Lambert Conformal, Zone 10
Datum: North American Datum, 1983
Vertical Datum: Mean Sea Level



EXPLANATION
--- Boundary of potential borrow area
--- Isopach value in feet, fractions of inch = 1/16 of foot of closed contour
--- Contour interval: BI, BII and BIII = 2m, BIV = 4m

**ISOPACH MAP OF POTENTIAL BORROW AREAS
BI THROUGH BIV
AREA I, SANTA MONICA BAY
LOS ANGELES COUNTY
MARINA DEL REY TO PALOS VERDES PENINSULA**

Project Director: Robert H. Corwin
Prepared by: Robert J. Johnson, Jr.
Department of Geology, Services
University of Southern California
Original: John Jones
Submitted: 6-20-82

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT(SCIMAP)**

MESA, INC. (Marine Environmental Science Associates)
P.O. BOX 4769, WHITTIER, CALIFORNIA 90607
General Partner
Project Director: Peter J. Fischer
Map Projection: Lambert Conformal Zone 10
Datum: Geodetic Reference: U.S.G.S. 118000 quadrangle
Bathymetric contours in fathoms
VARIABLE

OVERLAYS:
BATHYMETRY
TRACK LINES

EXPLANATION:
EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ Latitude/Longitude grid intersection



EXPLANATION

— 1:250,000 Scale, R.T.M. VEDIC 111, 972 1/76
— B-1 U.S. Army Corps of Engineers, 1/10/72

LOCATION OF TRACK LINES
AREA I, SANTA MONICA BAY
LOS ANGELES COUNTY
MARINA DEL REY TO PALOS VERDES PENINSULA

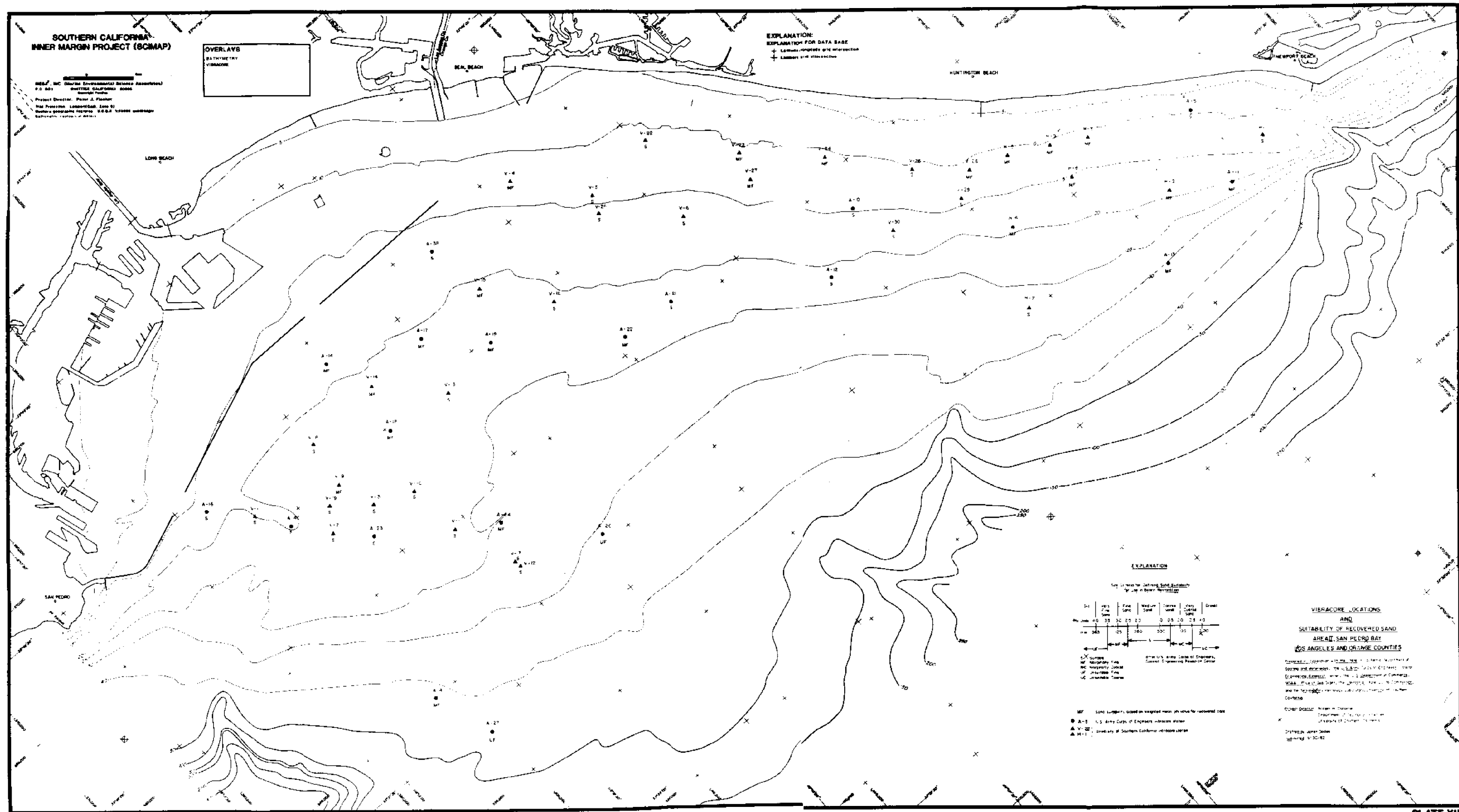
Map Engineer: Robert M. Gilmore
Department of Oceanography
University of California, Los Angeles
Contract: L-60-100-002
Sheet No. 9111-102

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMP)**

MSEA, INC. (Marine Environmental Science Associates)
P.O. BOX 1000
SANTA ANA, CALIFORNIA 92704
Project Director: Peter J. Flanagan
Map Preparer: Lambertson, Inc. (S)
Number of Sheets: 12
Scale: 1:50,000
Date: 10/1982

OVERLAYS
BATHYMETRY
VIBRACORE

EXPLANATION
EXPLANATION FOR DATA BASE
+ LAMBERTSON/ENGINEER'S SITE INTERSECTION
+ LAMBERTSON VIBRACORE



EXPLANATION

Use of values for defining sand suitability for use in beach nourishment

Sh	100	200	300	400	500	600	700	800	900	1000
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

**VIBRACORE LOCATIONS
AND
SUITABILITY OF RECOVERED SAND
AHEAD, SAN PEDRO BAY
LOS ANGELES AND ORANGE COUNTIES**

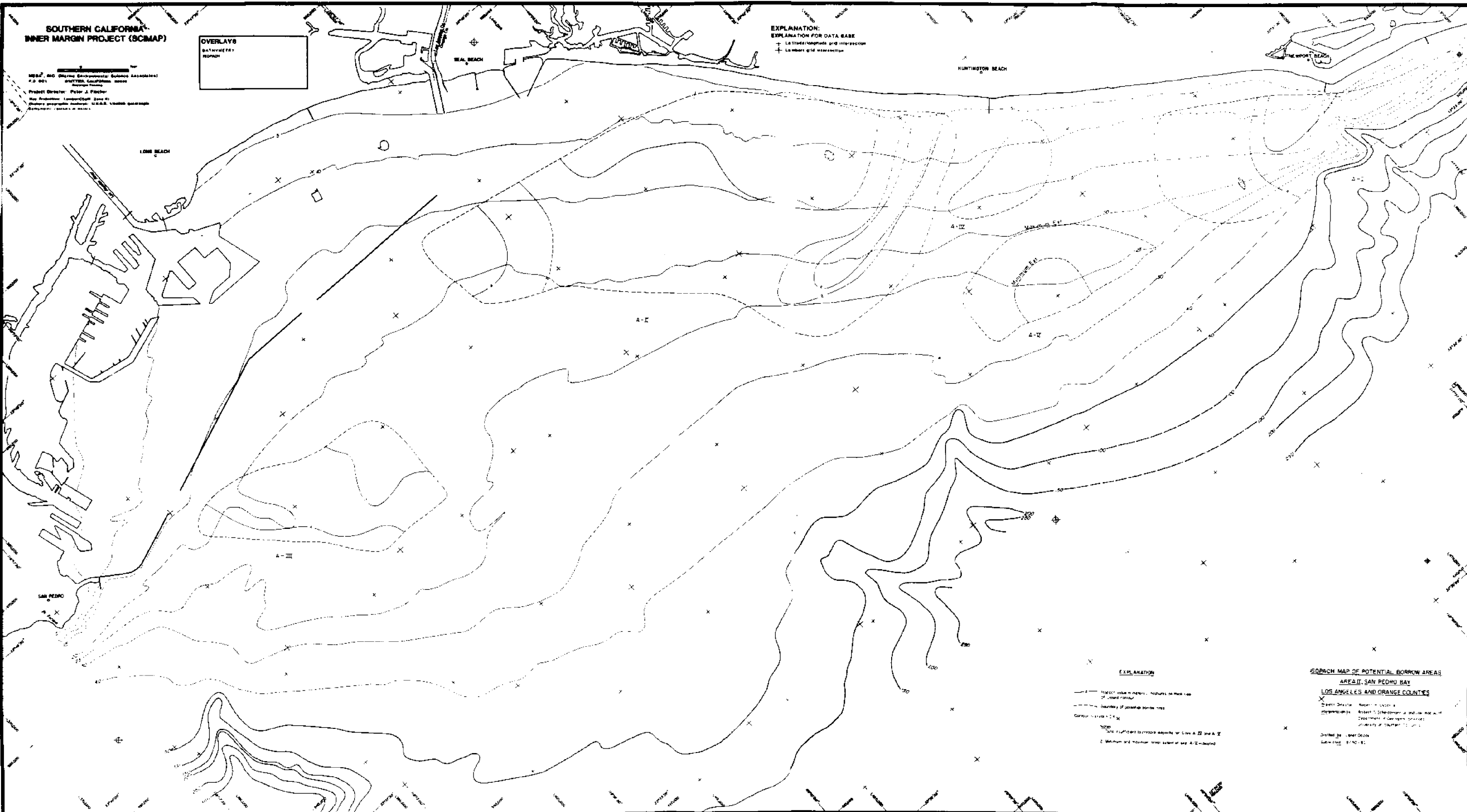
Prepared by: [unreadable]
Date: [unreadable]
Scale: [unreadable]
Sheet: [unreadable]

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

Prepared for
MS&T, INC. (Marine Geotechnical Systems Association)
 410 901 SOUTH CALIFORNIA BLVD
 ANAHEIM, CALIFORNIA 92805
 Project Director: Peter J. Fisher
 Map Designer: Leonard G. Saxe
 Marine Geographic Institute, U.S.G.S. Coastal Services
 Department, Santa Ana Office

OVERLAYS
 BATHYMETRY
 REEF

EXPLANATION FOR DATA BASE
 + Letter/number grid intersection
 + Lowest grid intersection



EXPLANATION
 --- Project Area in meters
 --- Contours of potential barrier reef
 --- Contours of depth in meters
 --- Maximum and Minimum Water Level of Sea A-2-Subarea
 Note: This map is to be used only for Area II and Area III.

**SOPRAC MAP OF POTENTIAL BARRIER AREAS
 AREA II SAN PEDRO BAY
 LOS ANGELES AND ORANGE COUNTIES**
 Project Director: Peter J. Fisher
 Map Designer: Leonard G. Saxe
 Marine Geographic Institute, U.S.G.S. Coastal Services
 Department, Santa Ana Office
 Date: 11/10/81

SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)

WSP, INC. Marine Environmental Science Associates
22501
Project Director: Peter J. Finken
Map Projection: Lambert Conformal Conic
Datum: Geographic: NAD 83
Datum: Geoid: 1988
Datum: Vertical: 1988

OVERLAYS
BATHYMETRY
TRACKLINES

EXPLANATION
EXPLANATION FOR DATA BASE
+ Latitude/longitude and observation
+ Lambert grid intersection



EXPLANATION
2.5 Miles (Scale of Envelope: 1:50,000)

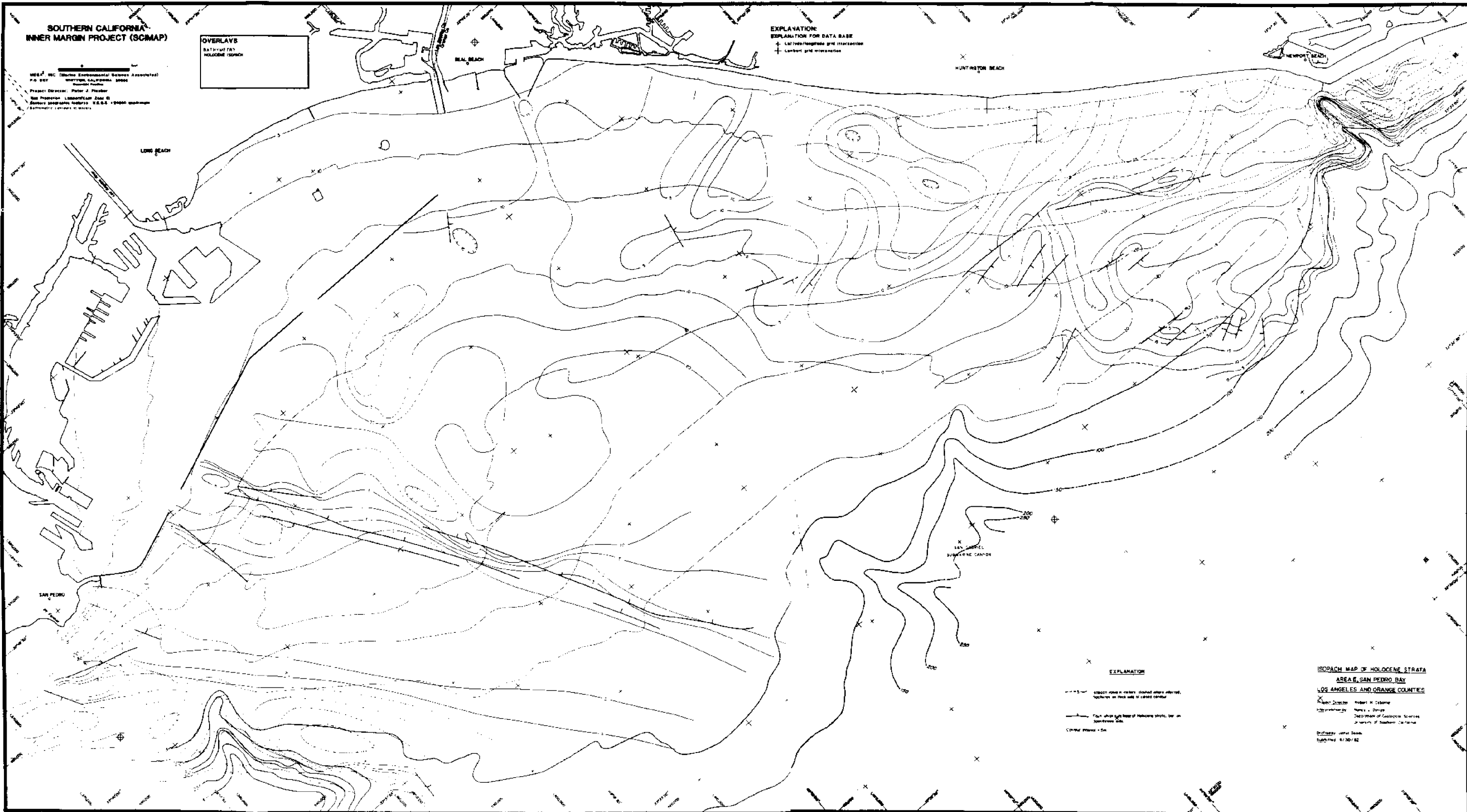
LOCATION OF TRACKLINES
AREA 2, SAN PEDRO BAY
LOS ANGELES AND ORANGE COUNTIES
Project Director: Peter J. Finken
Date of Survey: 1998
Scale: 1:50,000
Datum: NAD 83
Datum: Geoid: 1988
Datum: Vertical: 1988

SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)

W&A, INC. (Inheritor Environmental Services Association)
P.O. BOX 987
SANTA ANA, CALIFORNIA 92704
Project Director: Peter J. Fisher
Map Prepared: Lorraine/Map Zone II
Source: Geologic History, U.S.G.S. 1:50,000 scale map
Geographic Coordinates: NAD 83

OVERLAYS
BATHYMETRY
HOLOCENE ISOPACH

EXPLANATION
EXPLANATION FOR DATA BASE
+ Contour/contour grid intersection
+ Contour grid intersection



EXPLANATION
--- 10' contour lines in meters, dashed where inferred,
solid where based on field data or dated control
--- 10' contour lines in meters, dashed where inferred,
solid where based on field data or dated control
--- 10' contour lines in meters, dashed where inferred,
solid where based on field data or dated control
--- 10' contour lines in meters, dashed where inferred,
solid where based on field data or dated control
--- 10' contour lines in meters, dashed where inferred,
solid where based on field data or dated control

ISOPACH MAP OF HOLOCENE STRATA
AREA: SAN PEDRO BAY
LOS ANGELES AND ORANGE COUNTIES
Project Director: Robert H. Osborne
Geographer: Nancy L. Davis
Department: Department of Geologic Sciences
University of Southern California
Drafted by: Nancy Davis
Supervisor: R. H. Osborne

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMP)**

0 1000 2000 3000 4000 Feet
 MESA, INC. (Orange Environmental Science Associates)
 P.O. BOX 1000
 BOSTON, CALIFORNIA 92602
 Project Director: Peter J. Fisher
 Map Production: Lambert Clark, Tom W.
 Contact: (949) 440-1000

OVERLAYS

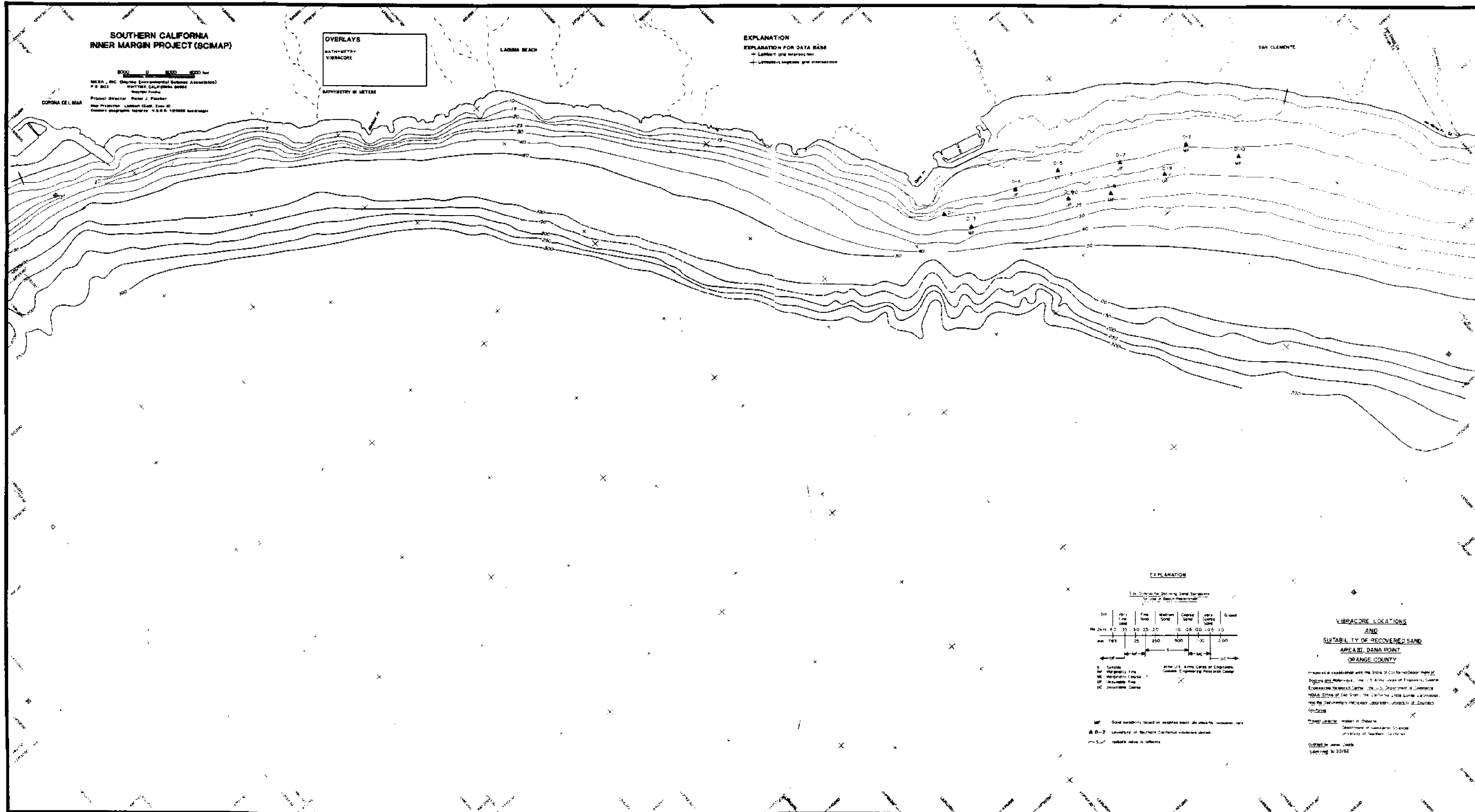
BAHAYUSETTA
 VIBRACORE

LAGUNA BEACH

EXPLANATION

EXPLANATION FOR DATA BASE
 -x- Limit of interaction
 -+ Limit of longshore profile interaction

SAN CLEMENTE



EXPLANATION

Soil Classification and Sand Stability
 U.S. Army Corps of Engineers
 Coastal Engineering Research Center

Soil	Very Fine Sand	Fine Sand	Medium Sand	Coarse Sand	Very Coarse Sand	Gravel
Percentage of Sand	0-10	10-25	25-50	50-75	75-90	90-100
Symbol	○	○	○	○	○	○

1. Symbols: U.S. Army Corps of Engineers, Coastal Engineering Research Center
 2. Symbols: U.S. Army Corps of Engineers, Coastal Engineering Research Center
 3. Symbols: U.S. Army Corps of Engineers, Coastal Engineering Research Center
 4. Symbols: U.S. Army Corps of Engineers, Coastal Engineering Research Center

**VIBRACORE LOCATIONS
AND
SUITABILITY OF RECOVERED SAND
AREA II, DANA POINT
ORANGE COUNTY**

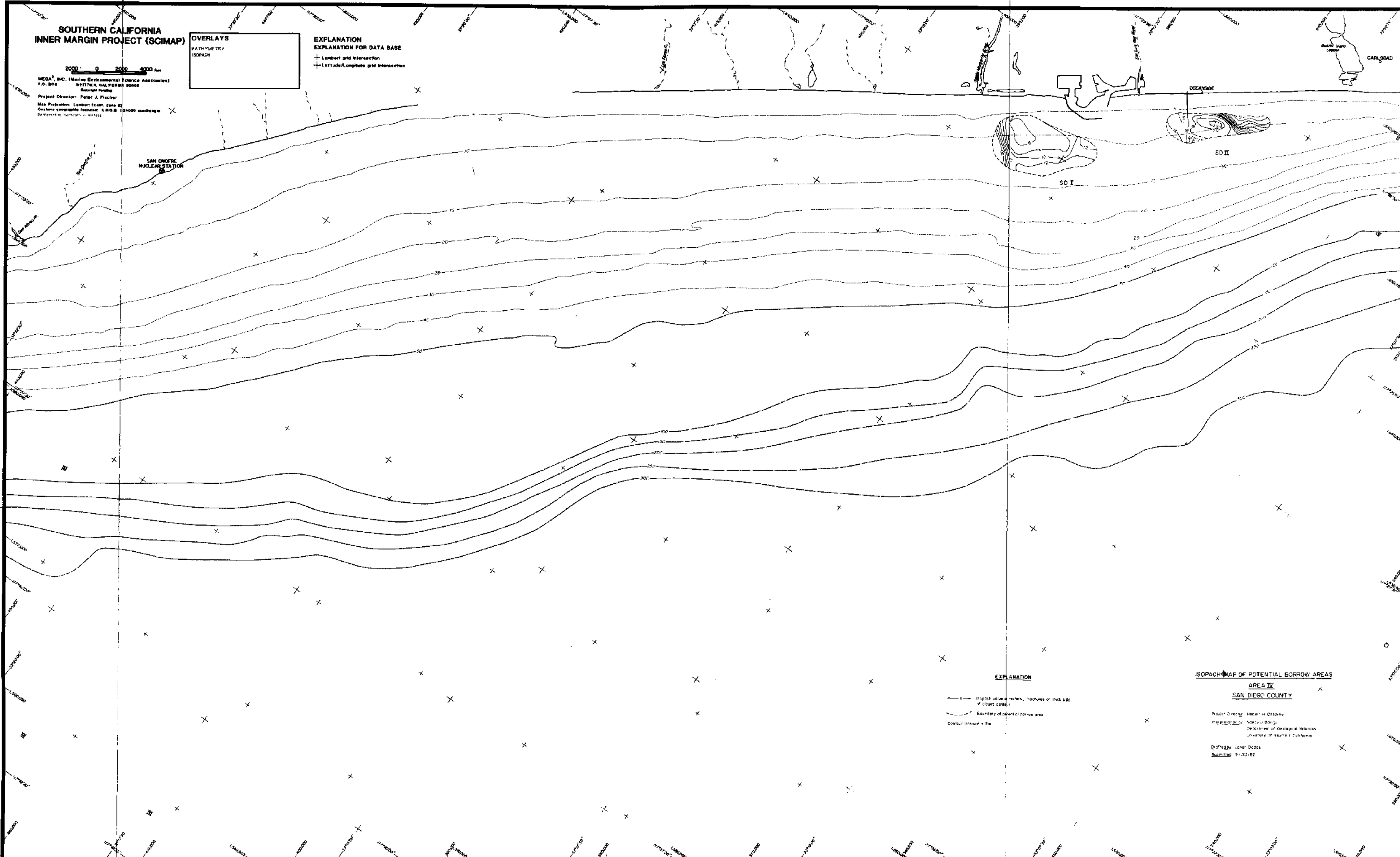
Prepared in cooperation with the State of California Department of
 Public Resources, the U.S. Army Corps of Engineers, Coastal
 Engineering Research Center, the U.S. Department of Defense,
 NOAA, State of the Ocean, the California State Lands Commission,
 and the Department of Water Resources, University of Southern
 California
 Prepared by: Robert H. Thomas
 Department of Oceanographic Sciences
 University of Southern California
 Contract No. 33-1-100-0000
 February 1982

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)**

MESA, INC. (Marine Environmental Science Associates)
P.O. BOX 100
WHITTIER, CALIFORNIA 90604
Telephone: (213) 351-1000
Project Director: Peter J. Fischer
Map Preparation: Lambert (Scale: Zone 12)
Outline geographic features: U.S.G.S. 1:25000 scale
Data source: SCIMAP data base

OVERLAYS
BATHYMETRY
ISOPACH

EXPLANATION
EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ Latitude/Longitude grid intersection



EXPLANATION
— Isopach values in meters, footnotes or thick edge of isopach lines
--- Boundary of potential borrow area
Circle/Interior = 2m

ISOPACH MAP OF POTENTIAL BORROW AREAS
AREA IV
SAN DIEGO COUNTY
Project Director: Peter J. Fischer
Map Preparation: Lambert (Scale: Zone 12)
Outline geographic features: U.S.G.S. 1:25000 scale
Data source: SCIMAP data base
Date: 9/25/82

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

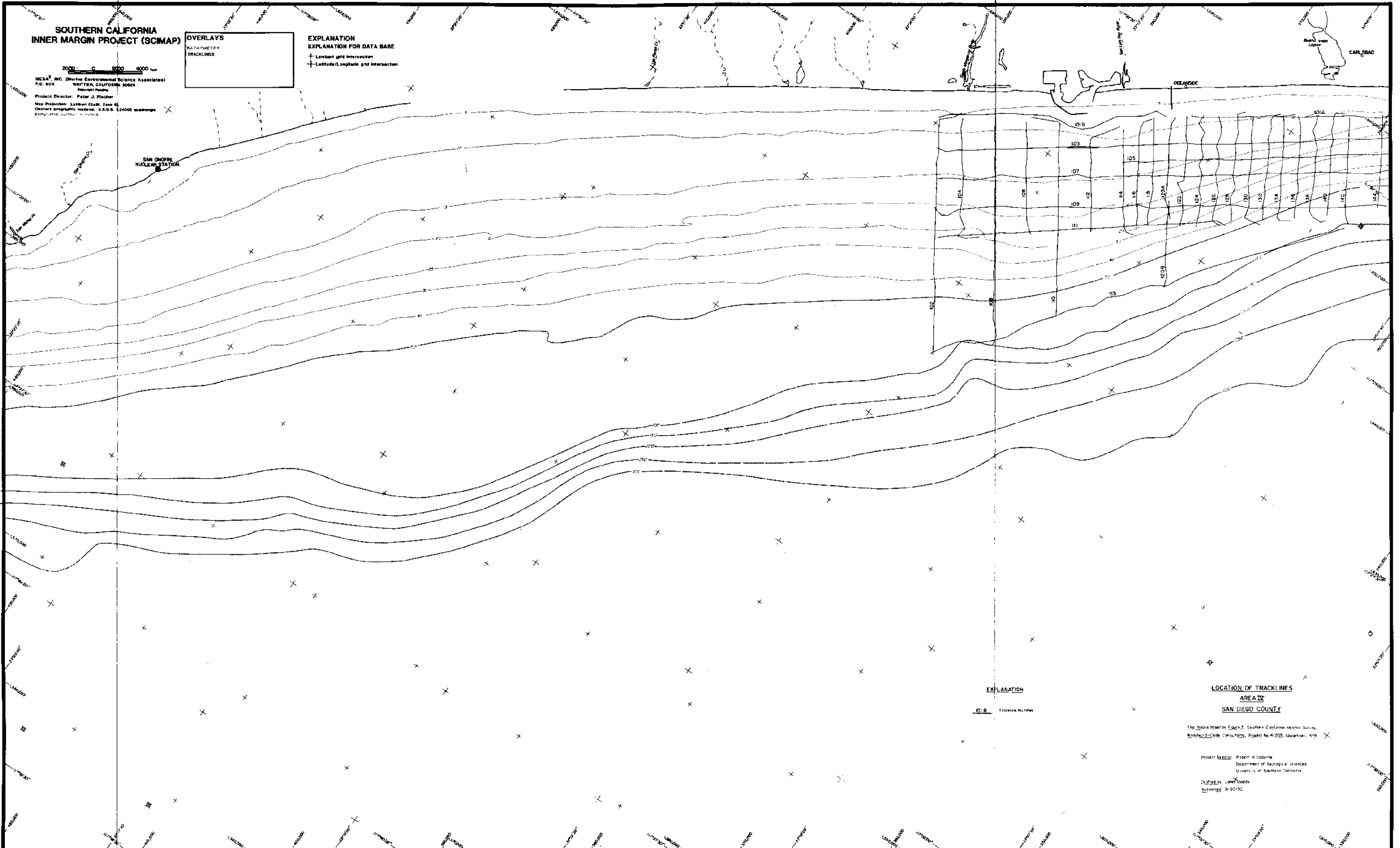
OVERLAYS

BATHYMETRY
TRACKLINES

**EXPLANATION
EXPLANATION FOR DATA BASE**

+ Lambert grid intersection
+ Lambert/L. angle grid intersection

0 2000 4000 6000
MESA, INC. (Marine Environmental Science Associates)
P.O. BOX 100
WHITTIER, CALIFORNIA 90601
Project Director: Peter J. Fischer
Map Projection: Lambert Conformal Conic
Control Geographic Reference: U.S.G.S. 1:25000
BATHYMETRIC CONTOUR INTERVAL: 10



EXPLANATION

101B Trackline Number

LOCATION OF TRACKLINES

AREA IV
SAN DIEGO COUNTY

This map is based on Figure 2, Southern California Marine Survey,
Bathymetric Contour Chart No. 4205, November, 1979

Project Director: Robert H. Osborne
Department of Geological Sciences
University of Southern California

Checked by: James D. Doolittle
Submitted: 8/30/82

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

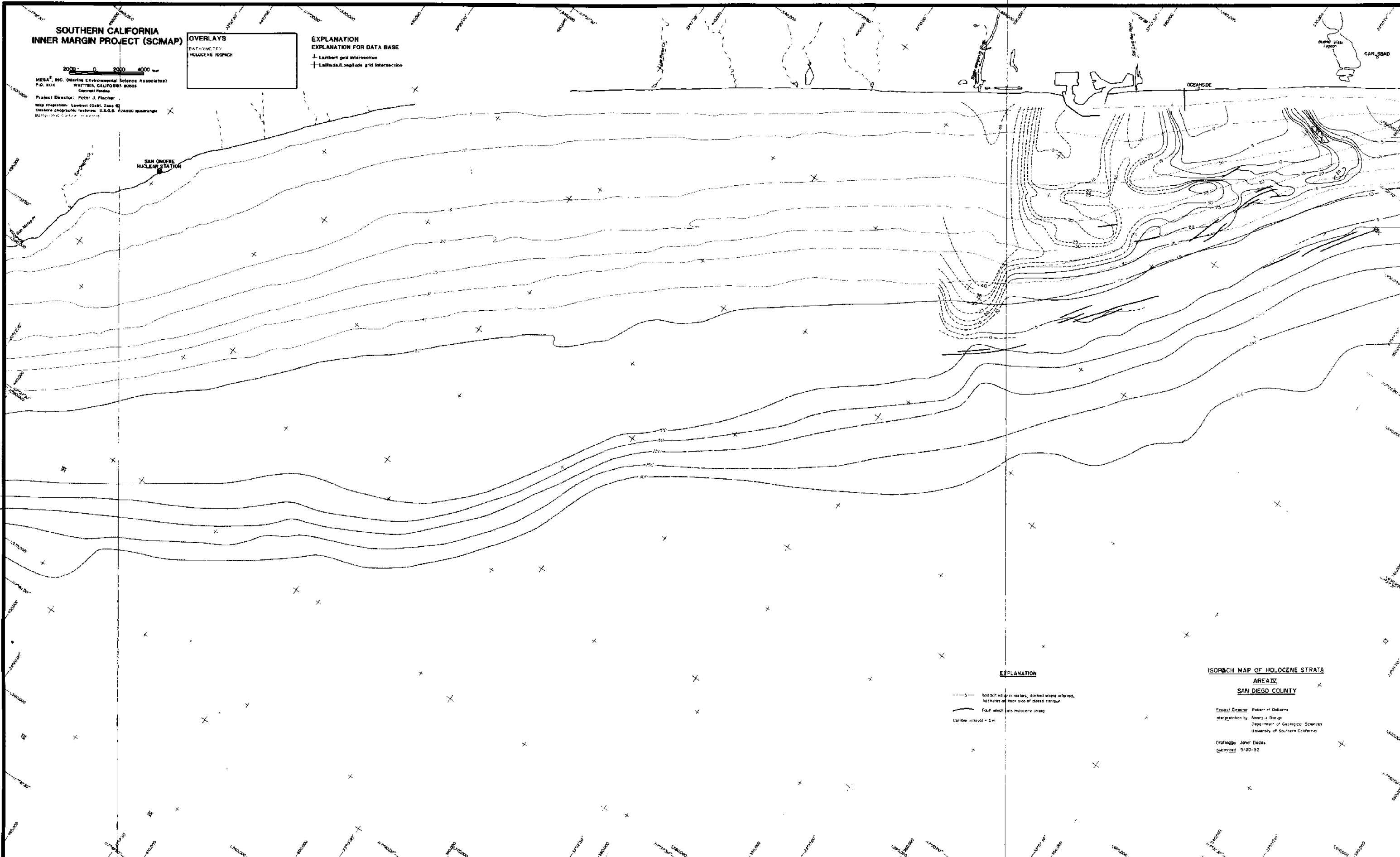
OVERLAYS

DATUM: NAD 83
HORIZONTAL: UTM
VERTICAL: NGVD 83

**EXPLANATION
EXPLANATION FOR DATA BASE**

+ Lambert grid intersection
+ Latitudinal/longitudinal grid intersection

MEBA, INC. (Marine Environmental Biogeochemical Associates)
P.O. BOX
WHITTIER, CALIFORNIA 90604
Geological Institute
Project Director: Peter J. Daborn
Map Preparation: Robert J. Daborn
Data Base Preparation: Henry J. Daborn
Digitization: Robert J. Daborn



EXPLANATION

— Isochrone values in meters, dashed where inferred, 100 meters or less side of dashed contour
— Fault which is Holocene age
Contour interval = 5m

**ISOPACH MAP OF HOLOCENE STRATA
AREA IV
SAN DIEGO COUNTY**

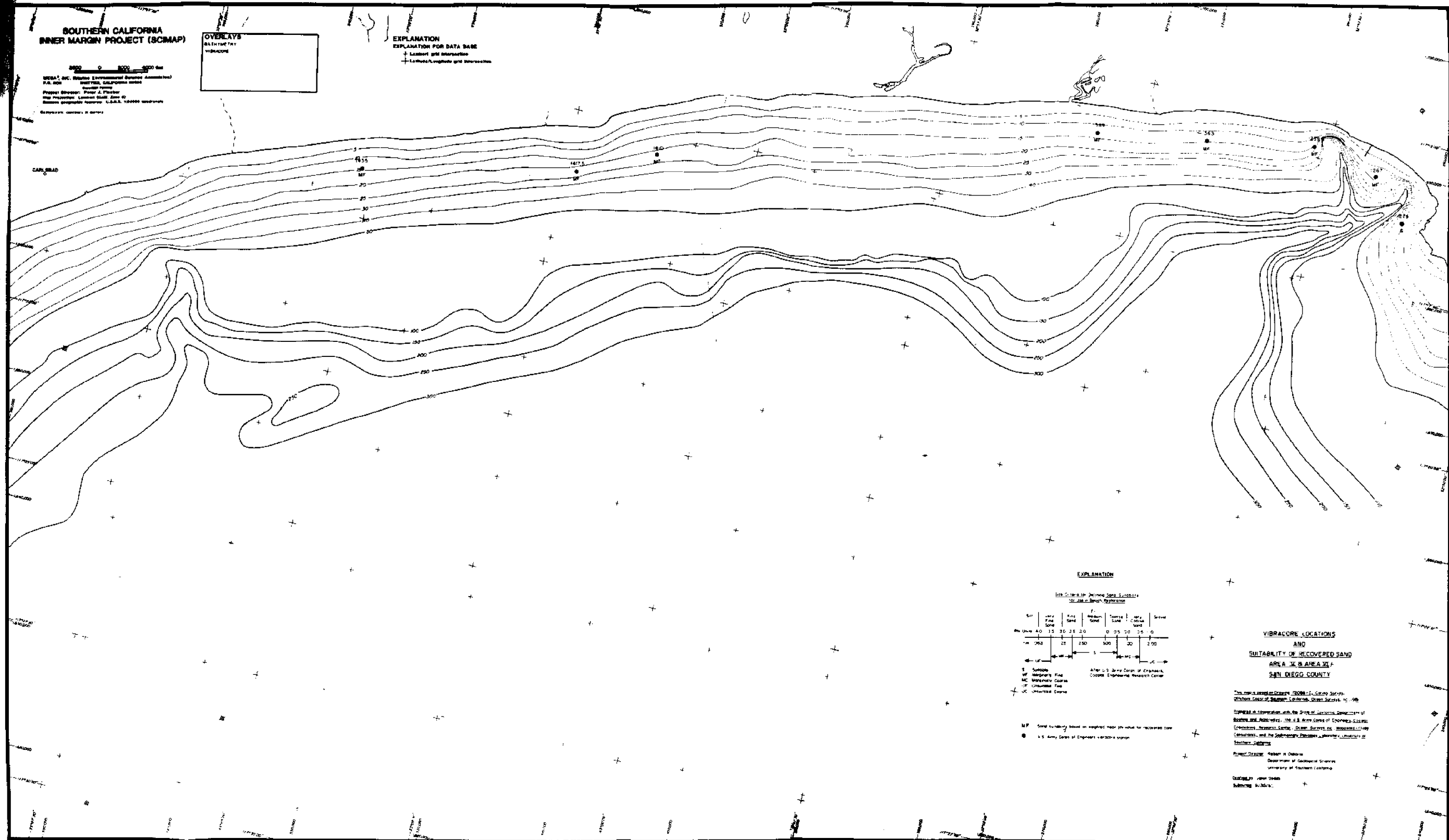
Project Director: Peter J. Daborn
Map Preparation by: Henry J. Daborn
Department of Geological Sciences
University of Southern California
Drafted by: John Daborn
Submitted: 9/30/82

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMP)**

USDA, NC, Marine Environmental Science Associates
P.O. Box 10000, San Diego, California 92162
Project Director: Robert A. Fisher
Map Preparation: Leonard Scott, June 67
Revised (contour) version: U.S.A. 1988 version
Reference number: 010000

OVERLAYS
BATHYMETRY
VIBRACORE

EXPLANATION
EXPLANATION FOR DATA NAME
+ Lambert grid intersection
+ Lambert, UTM and intersection



EXPLANATION
Site Criteria for Marine Sand Suitability
SIL (mg/l) - Percentages

Silt	Very Fine Sand	Fine Sand	Medium Sand	Coarse Sand	Very Coarse Sand	Gravel
0 - 15	15 - 30	30 - 45	45 - 60	60 - 75	75 - 90	90 - 100
0 - 15	15 - 30	30 - 45	45 - 60	60 - 75	75 - 90	90 - 100
0 - 15	15 - 30	30 - 45	45 - 60	60 - 75	75 - 90	90 - 100

S: Siltstone
 SF: Sandstone
 MC: Manganese Carbonate
 IF: Iron Oxide
 UC: Unconsolidated Carbonate

After U.S. Army Corps of Engineers,
 Coastal Engineering Research Center

M.P. Sand suitability based on required tests for sand for recovered sand
 U.S. Army Corps of Engineers (various reports)

**VIBRACORE LOCATIONS
AND
SUITABILITY OF RECOVERED SAND
AREA A, B, AREA X
SAN DIEGO COUNTY**

This map is based on data collected by the U.S. Army Corps of Engineers, Coastal Engineering Research Center, San Diego, California, 1967-1970.

Cooperated in cooperation with the Dept. of Geology, University of Southern California, the U.S. Army Corps of Engineers, Coastal Engineering Research Center, San Diego, California, the U.S. Army Corps of Engineers, Coastal Engineering Research Center, San Diego, California, and the San Diego County Geologist, San Diego, California.

Project Director: Robert A. Fisher
 Department of Geological Sciences
 University of Southern California

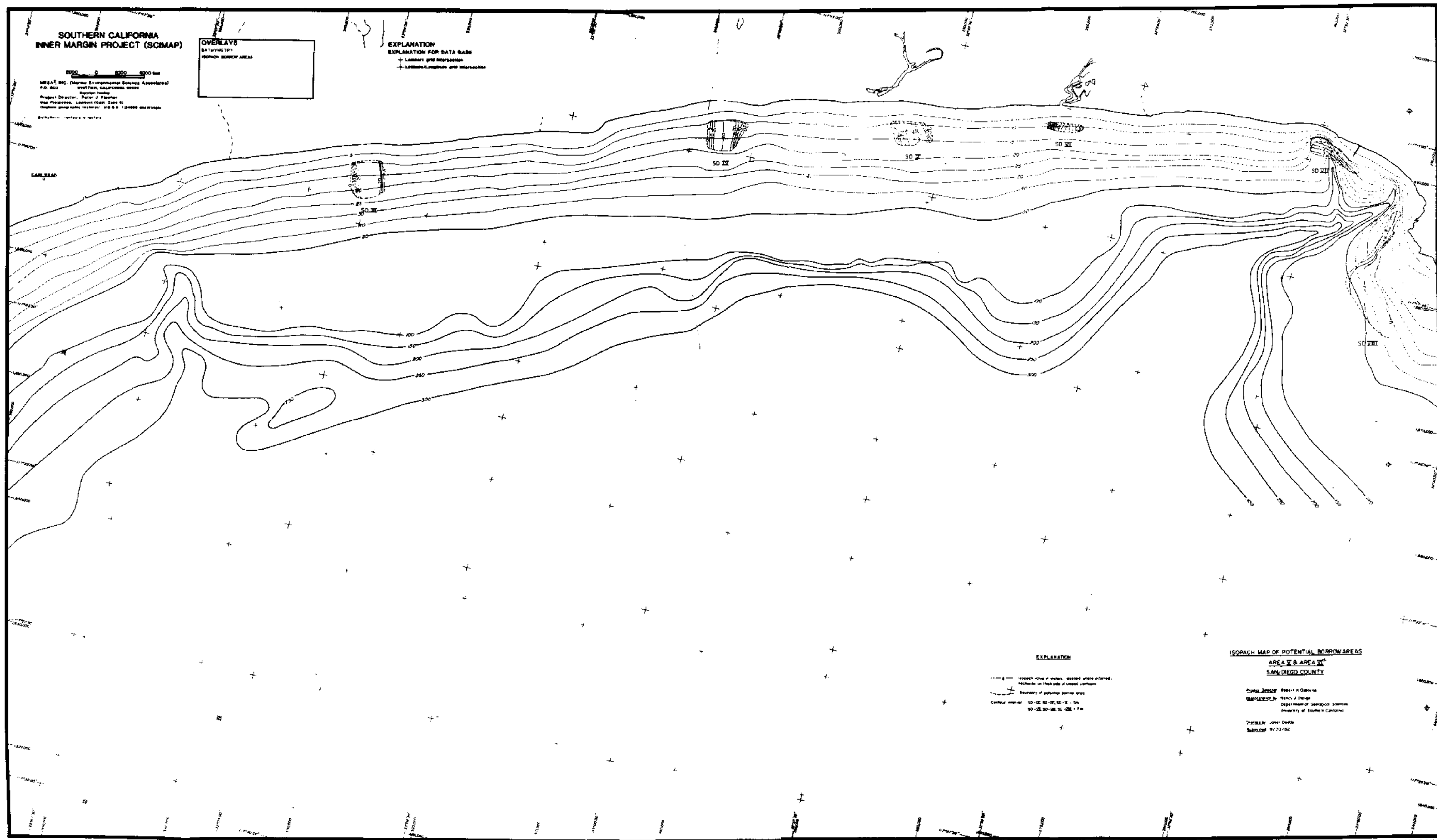
Map Date: June 1967
 Revision: 1988

SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)

Scale: 0 500 1000 Feet
MSEA, INC. Marine Environmental Science Assessment
P.O. Box 10077 San Diego, California 92161
Project Director: Peter J. Fleming
Map Projection: Lambert Conformal Conic
Datum: North American Datum of 1983
Datum Geographic Reference: UTM Zone 18N
Scale: 1:50,000

OVERLAYS
BATHYMETRY
BORROW BORROW AREAS

EXPLANATION
EXPLANATION FOR DATA BASE
+ Location of measurement
+ Location/Length of measurement



EXPLANATION
--- 1000-foot contour interval, dashed where altered.
--- 500-foot contour interval, dashed where altered.
--- Boundary of potential borrow areas
Color contour interval: 10-100: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000

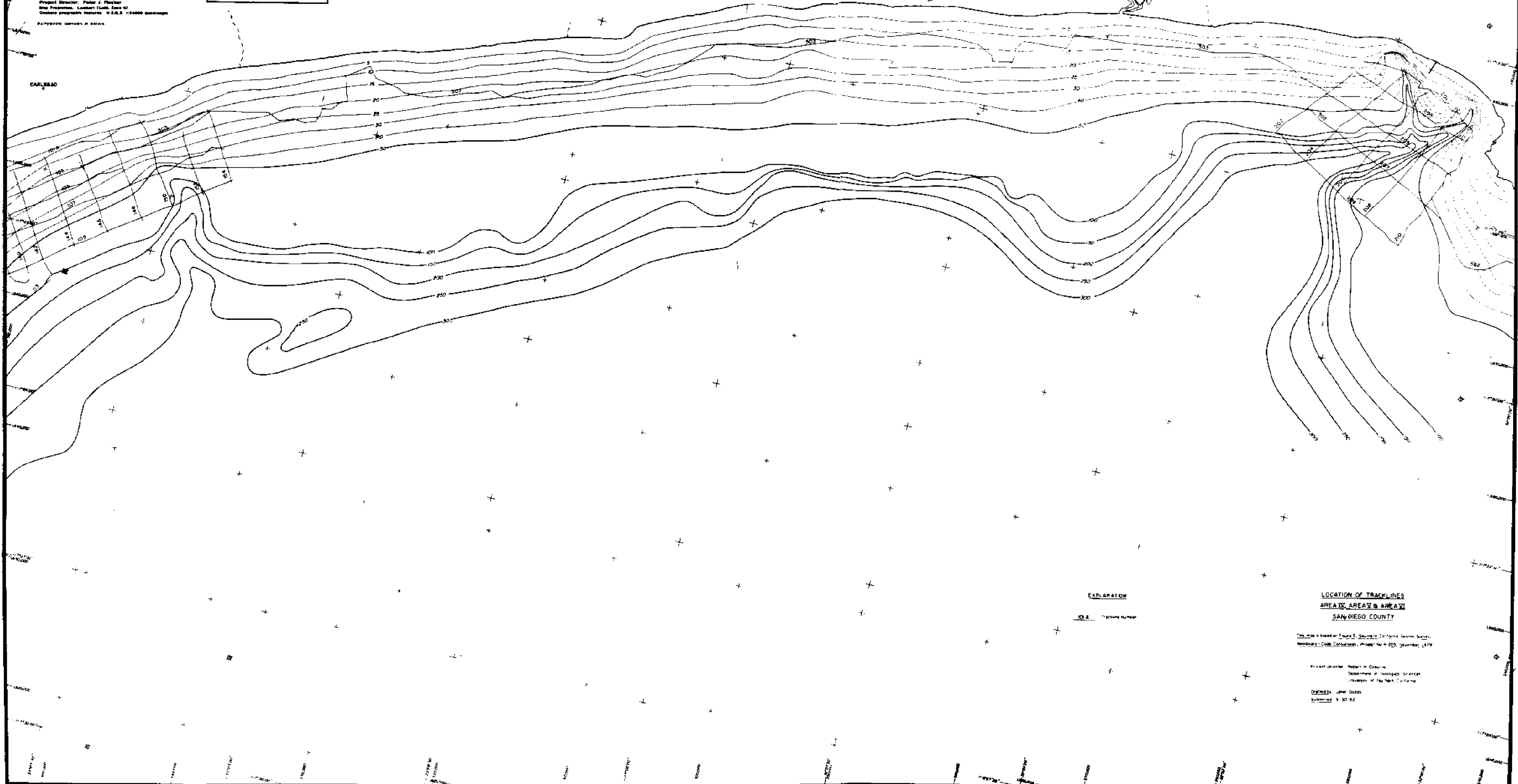
ISOBATH MAP OF POTENTIAL BORROW AREAS
AREA V & AREA VI
SAN DIEGO COUNTY
COMPILED BY: Robert H. Galloway
REVISIONS BY: Peter J. Fleming
Department of Geological Sciences
University of Southern California
DATE: 10/19/82
SCALE: 1:50,000

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

SCALE 0 1000 2000 3000 FT
M&T, INC. GEOTECHNICAL ENGINEERING & SURVEYING
WESTERN CALIFORNIA OFFICE
1000 10th Street
Project Director: Peter J. Fletcher
Site Preparation: Lambert Curtis, Dale W.
Contract prepared pursuant to S.C.S. 1-10000 drawings
DATE: 10/15/82

OVERLAYS
BATHYMETRY
TRACKLINES

EXPLANATION
EXPLANATION FOR DATA BASE
+ Lambert SPC Intersection
+ Lambert/Longitude SPC Intersection



EXPLANATION
100 ft TRACKLINE NUMBER

**LOCATION OF TRACKLINES
AREA IV, AREA V & AREA VI
SAN DIEGO COUNTY**

THIS DRAWING IS A PART OF THE SCMAP PROJECT AND IS NOT TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF M&T, INC.

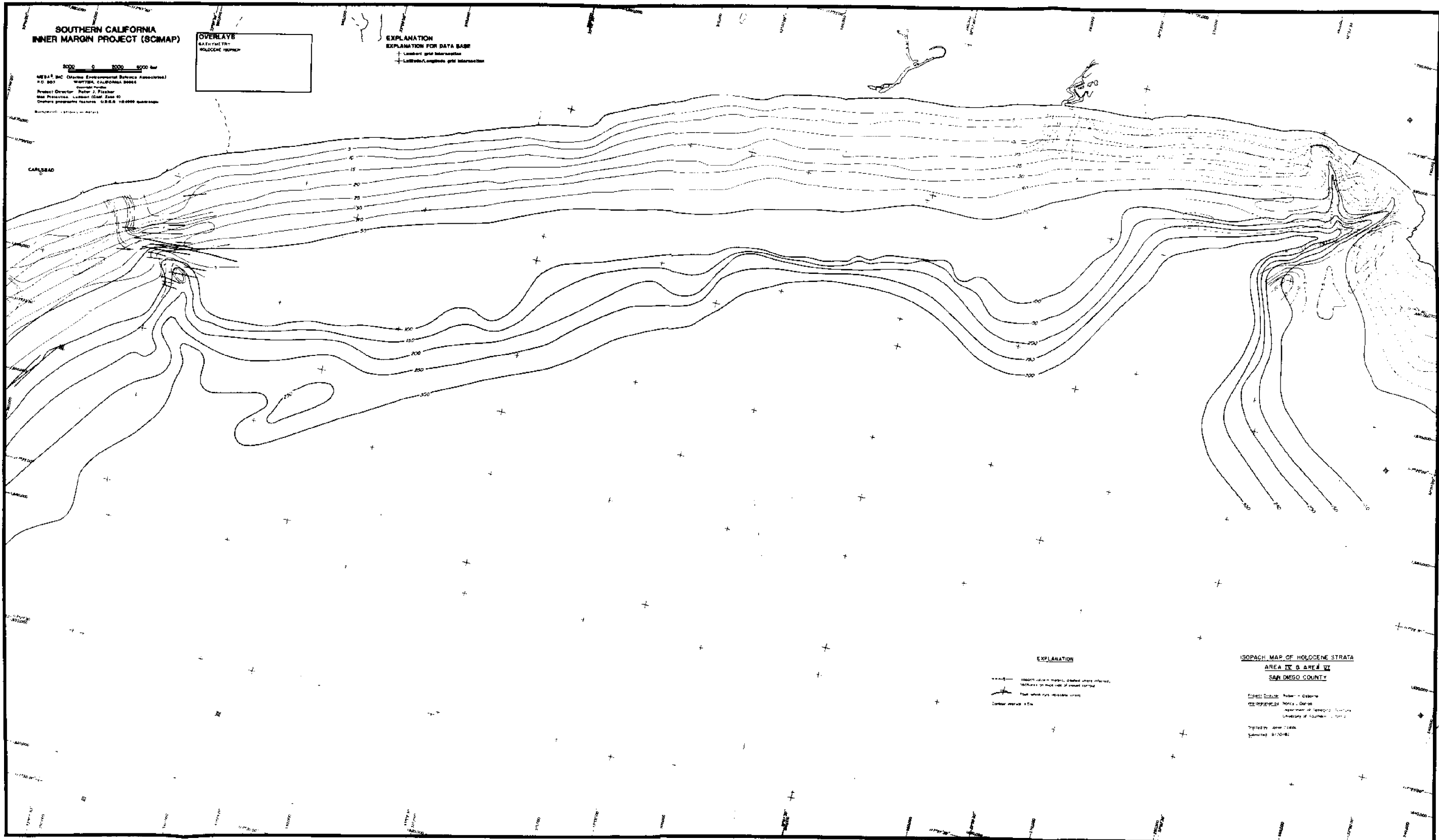
Project Director: Robert H. Cleary
Department of Geotechnical Engineering
University of California
DIVERSITY: JUNE 1982
Submitted: 9-30-82

SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)

MEBA INC. (Marine Environmental Benthic Assessment)
P.O. BOX 907
WATERS, CALIFORNIA 92081
Project Director: Peter J. Fisher
Map Projection: Lambert Conformal Conic
Datum: North American Datum of 1983
Scale: 1:25,000

OVERLAYS
SATURDAY
HOLOCENE STRATA

EXPLANATION
EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ L100000, Longitude, grid intersection



EXPLANATION

--- 10000, 1000, 500, 200, 100, 50, 25, 10, 5
--- 10000, 1000, 500, 200, 100, 50, 25, 10, 5
--- 10000, 1000, 500, 200, 100, 50, 25, 10, 5
--- 10000, 1000, 500, 200, 100, 50, 25, 10, 5

ISOPACH MAP OF HOLOCENE STRATA
AREA IV & AREA VI
SAN DIEGO COUNTY

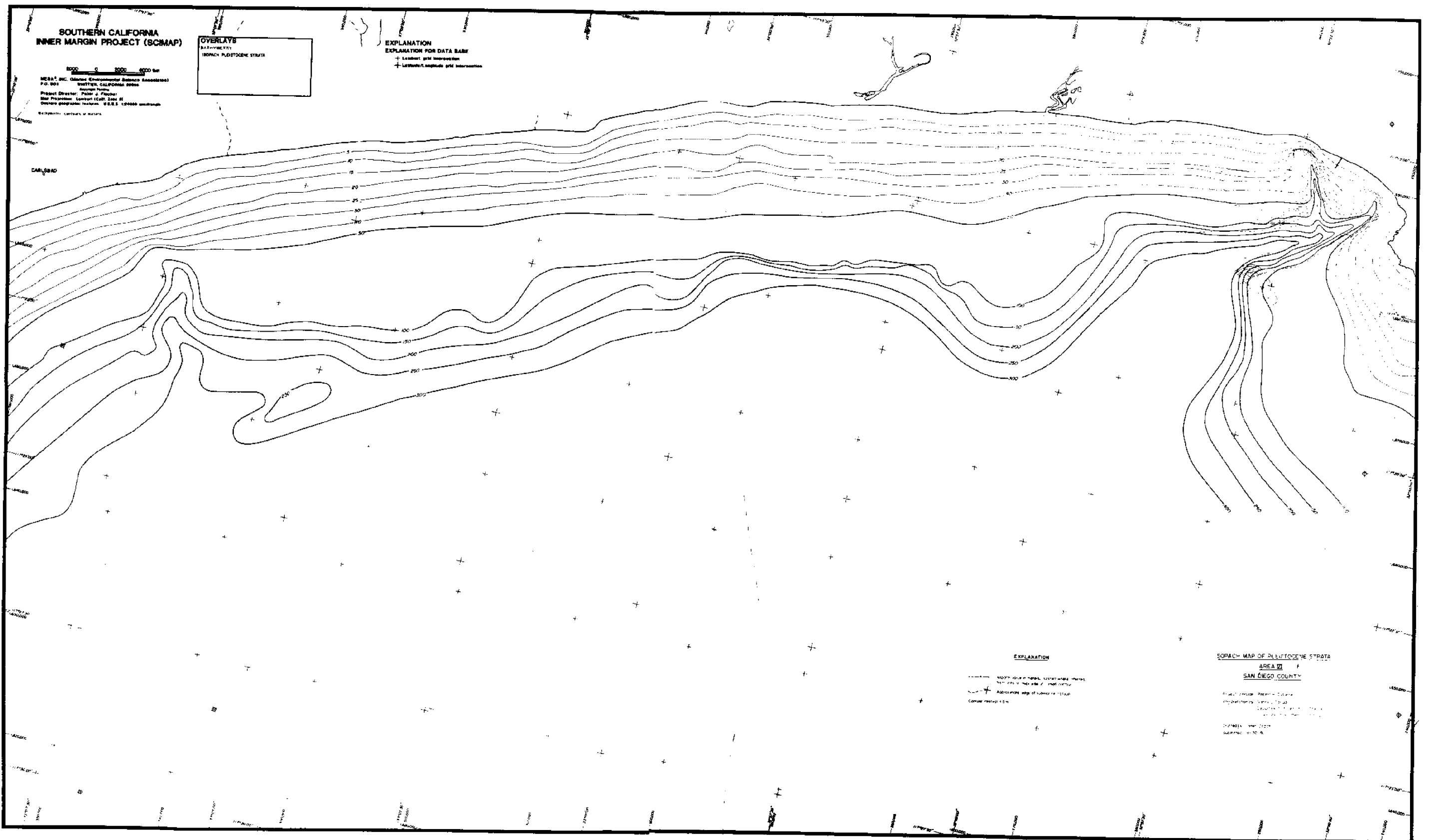
Project Director: Peter J. Fisher
Map Projection: North American Datum of 1983
Scale: 1:25,000
Date: 8/10/83

SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)

0 1000 2000 3000 4000 feet
MESEA, INC. Coastal Environmental Science Associates
P.O. BOX 1001
SUNNYVALE, CALIFORNIA 94089
Project Director: Peter J. Fischer
Site Preparation: Lambert Clark, John H.
Detailed geologic information: U.S.G.S. 1:250,000 scale map
SOUTHERN CALIFORNIA STATE UNIVERSITY

OVERLAYS
BATHYMETRY
BORNEO PLEISTOCENE STRATA

EXPLANATION
EXPLANATION FOR DATA BASE
+ Lowest grid intersection
+ Lithology/stratigraphic grid intersections



EXPLANATION

--- 100-foot contour interval, 100-foot above datum
--- 200-foot contour interval, 200-foot above datum
+ Approximate edge of Quaternary alluvium
Contour interval 10 ft

SCMAP MAP OF PLEISTOCENE STRATA
AREA VI
SAN DIEGO COUNTY

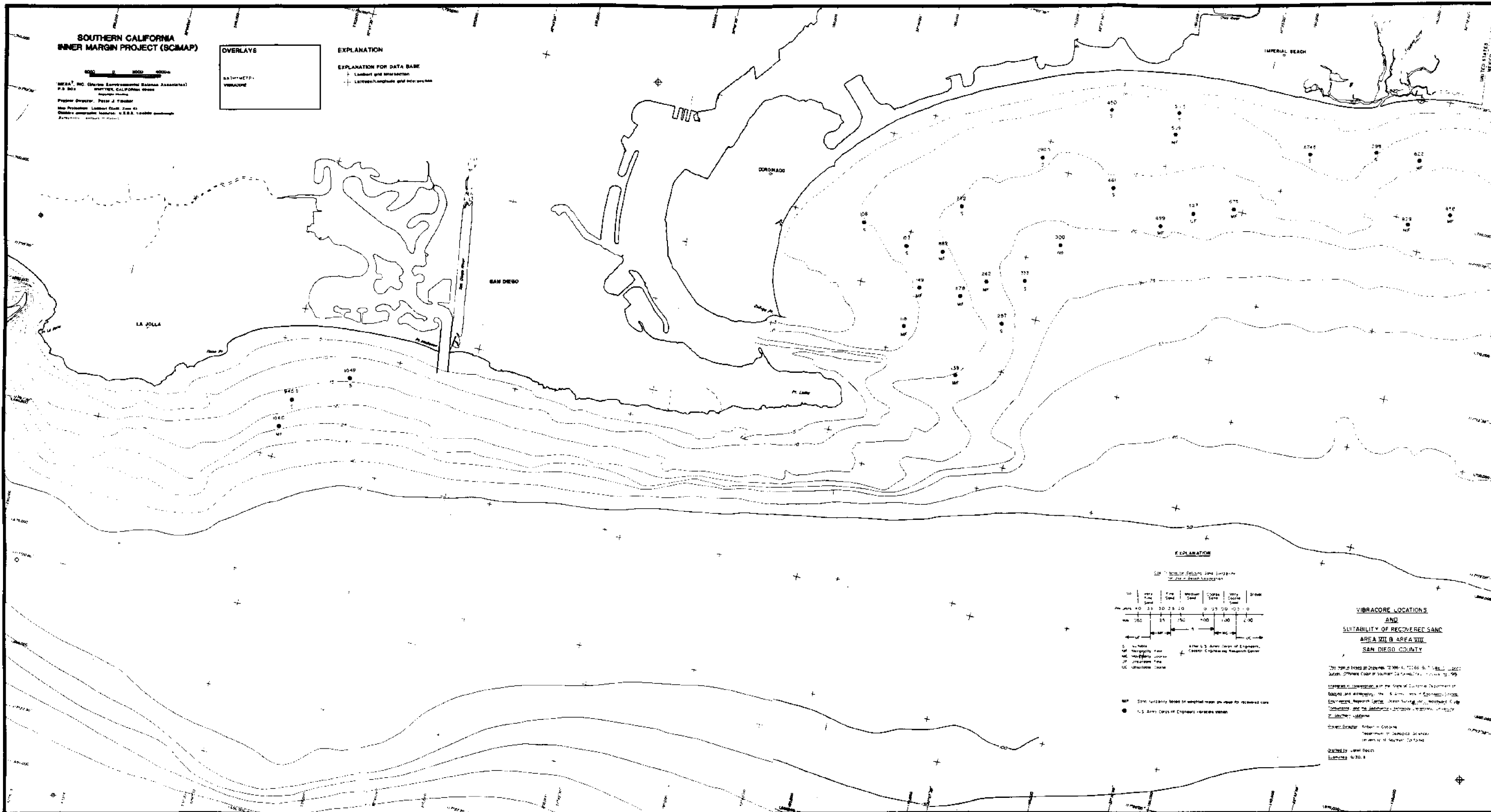
Project Director: Peter J. Fischer
Site Preparation: Lambert Clark, John H.
Detailed geologic information: U.S.G.S. 1:250,000 scale map
SOUTHERN CALIFORNIA STATE UNIVERSITY

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

BE&K, INC. (Division Environmental Sciences Associates)
P.O. Box 1000
San Diego, California 92101
Project Director: Peter J. Fisher
Map Projection: Lambert Conformal Zone 12
Datum: North American Datum of 1983
Scale: 1:50,000



EXPLANATION
EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ Latitude/longitude grid intersection



EXPLANATION

US Topographic Datum and Projection
of Area Shown Hereafter

Zone	Scale	Zone	Scale	Zone	Scale	Zone	Scale	Zone	Scale
18N	1:50,000	19N	1:50,000	20N	1:50,000	21N	1:50,000	22N	1:50,000
18S	1:50,000	19S	1:50,000	20S	1:50,000	21S	1:50,000	22S	1:50,000

S - State
 MF - Military Area
 MC - Military Control
 JF - Jurisdiction
 UC - Unclassified

© The U.S. Army Corps of Engineers,
 Coastal Engineering Research Center

**VIBRACORE LOCATIONS
AND
STABILITY OF RECOVERED SAND
AREA VII B AREA VIII
SAN DIEGO COUNTY**

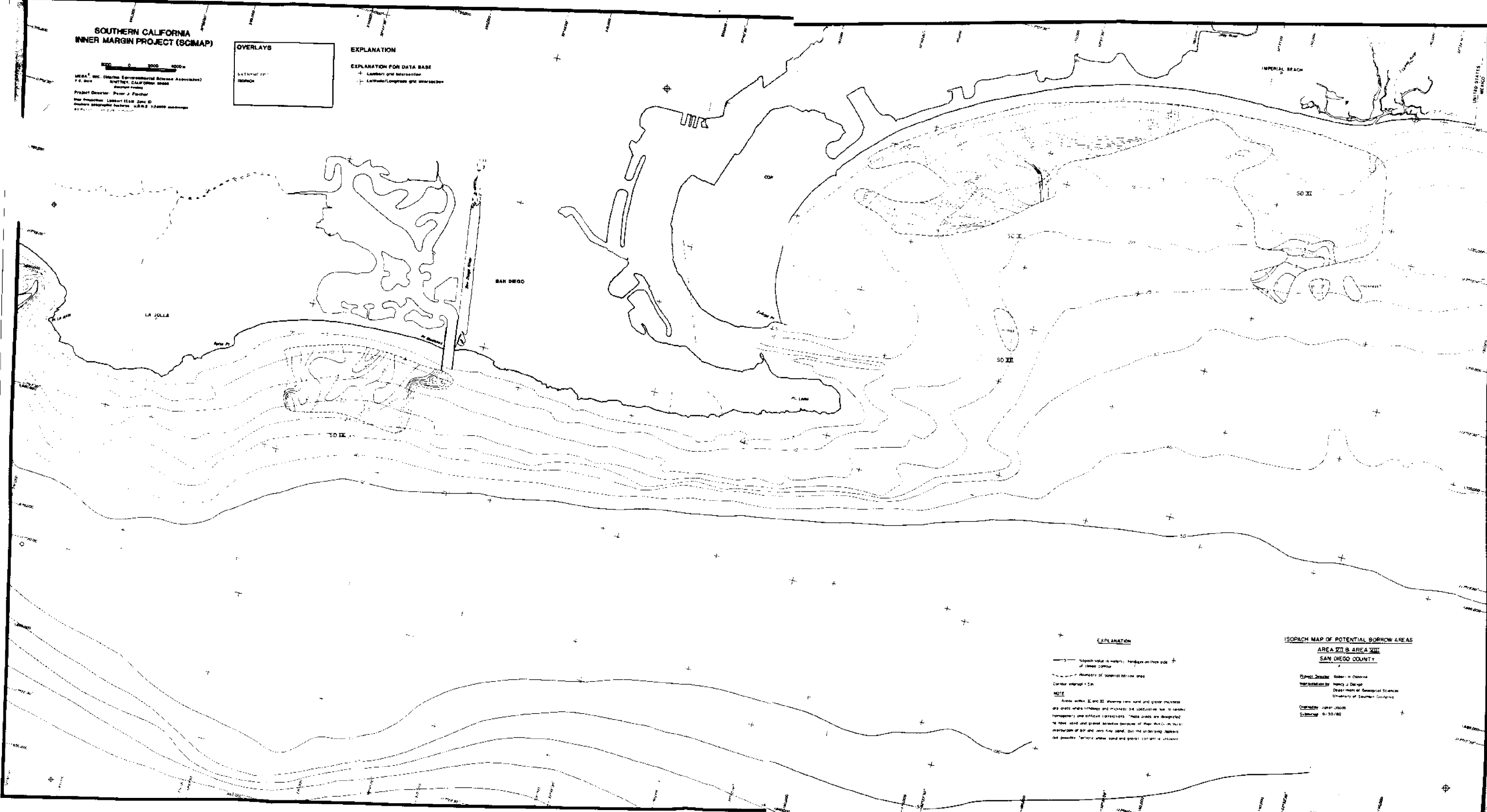
This map is based on drawings 72-066-A, 72-066-B, 72-066-C, 72-066-D, 72-066-E, 72-066-F, 72-066-G, 72-066-H, 72-066-I, 72-066-J, 72-066-K, 72-066-L, 72-066-M, 72-066-N, 72-066-O, 72-066-P, 72-066-Q, 72-066-R, 72-066-S, 72-066-T, 72-066-U, 72-066-V, 72-066-W, 72-066-X, 72-066-Y, 72-066-Z, 72-066-AA, 72-066-AB, 72-066-AC, 72-066-AD, 72-066-AE, 72-066-AF, 72-066-AG, 72-066-AH, 72-066-AI, 72-066-AJ, 72-066-AL, 72-066-AM, 72-066-AN, 72-066-AO, 72-066-AP, 72-066-AQ, 72-066-AR, 72-066-AS, 72-066-AT, 72-066-AU, 72-066-AV, 72-066-AW, 72-066-AX, 72-066-AY, 72-066-AZ, 72-066-BA, 72-066-BB, 72-066-BC, 72-066-BD, 72-066-BE, 72-066-BF, 72-066-BG, 72-066-BH, 72-066-BI, 72-066-BJ, 72-066-BL, 72-066-BM, 72-066-BN, 72-066-BO, 72-066-BP, 72-066-BQ, 72-066-BR, 72-066-BS, 72-066-BT, 72-066-BU, 72-066-BV, 72-066-BW, 72-066-BX, 72-066-BY, 72-066-BZ, 72-066-CA, 72-066-CB, 72-066-CC, 72-066-CD, 72-066-CE, 72-066-CF, 72-066-CG, 72-066-CH, 72-066-CI, 72-066-CJ, 72-066-CL, 72-066-CM, 72-066-CN, 72-066-CO, 72-066-CP, 72-066-CQ, 72-066-CR, 72-066-CS, 72-066-CT, 72-066-CU, 72-066-CV, 72-066-CW, 72-066-CX, 72-066-CY, 72-066-CZ, 72-066-DA, 72-066-DB, 72-066-DC, 72-066-DD, 72-066-DE, 72-066-DF, 72-066-DG, 72-066-DH, 72-066-DI, 72-066-DJ, 72-066-DL, 72-066-DM, 72-066-DN, 72-066-DO, 72-066-DP, 72-066-DQ, 72-066-DR, 72-066-DS, 72-066-DT, 72-066-DU, 72-066-DV, 72-066-DW, 72-066-DX, 72-066-DY, 72-066-DZ, 72-066-EA, 72-066-EB, 72-066-EC, 72-066-ED, 72-066-EE, 72-066-EF, 72-066-EG, 72-066-EH, 72-066-EI, 72-066-EJ, 72-066-EL, 72-066-EM, 72-066-EN, 72-066-EO, 72-066-EP, 72-066-EQ, 72-066-ER, 72-066-ES, 72-066-ET, 72-066-EU, 72-066-EV, 72-066-EW, 72-066-EX, 72-066-EY, 72-066-EZ, 72-066-FA, 72-066-FB, 72-066-FC, 72-066-FD, 72-066-FE, 72-066-FG, 72-066-FH, 72-066-FI, 72-066-FJ, 72-066-FL, 72-066-FM, 72-066-FN, 72-066-FO, 72-066-FP, 72-066-FQ, 72-066-FR, 72-066-FS, 72-066-FT, 72-066-FU, 72-066-FV, 72-066-FW, 72-066-FX, 72-066-FY, 72-066-FZ, 72-066-GA, 72-066-GB, 72-066-GC, 72-066-GD, 72-066-GE, 72-066-GF, 72-066-GG, 72-066-GH, 72-066-GI, 72-066-GJ, 72-066-GL, 72-066-GM, 72-066-GN, 72-066-GO, 72-066-GP, 72-066-GQ, 72-066-GR, 72-066-GS, 72-066-GT, 72-066-GU, 72-066-GV, 72-066-GW, 72-066-GX, 72-066-GY, 72-066-GZ, 72-066-HA, 72-066-HB, 72-066-HC, 72-066-HD, 72-066-HE, 72-066-HF, 72-066-HG, 72-066-HH, 72-066-HI, 72-066-HJ, 72-066-HL, 72-066-HM, 72-066-HN, 72-066-HO, 72-066-HP, 72-066-HQ, 72-066-HR, 72-066-HS, 72-066-HT, 72-066-HU, 72-066-HV, 72-066-HW, 72-066-HX, 72-066-HY, 72-066-HZ, 72-066-IA, 72-066-IB, 72-066-IC, 72-066-ID, 72-066-IE, 72-066-IF, 72-066-IG, 72-066-IH, 72-066-II, 72-066-IJ, 72-066-IL, 72-066-IM, 72-066-IN, 72-066-IO, 72-066-IP, 72-066-IQ, 72-066-IR, 72-066-IS, 72-066-IT, 72-066-IU, 72-066-IV, 72-066-IW, 72-066-IX, 72-066-IY, 72-066-IZ, 72-066-JA, 72-066-JB, 72-066-JC, 72-066-JD, 72-066-JE, 72-066-JF, 72-066-JG, 72-066-JH, 72-066-JI, 72-066-JJ, 72-066-JL, 72-066-JM, 72-066-JN, 72-066-JO, 72-066-JP, 72-066-JQ, 72-066-JR, 72-066-JS, 72-066-JT, 72-066-JU, 72-066-JV, 72-066-JW, 72-066-JX, 72-066-JY, 72-066-JZ, 72-066-KA, 72-066-KB, 72-066-KC, 72-066-KD, 72-066-KE, 72-066-KF, 72-066-KG, 72-066-KH, 72-066-KI, 72-066-KJ, 72-066-KL, 72-066-KM, 72-066-KN, 72-066-KO, 72-066-KP, 72-066-KQ, 72-066-KR, 72-066-KS, 72-066-KT, 72-066-KU, 72-066-KV, 72-066-KW, 72-066-KX, 72-066-KY, 72-066-KZ, 72-066-LA, 72-066-LB, 72-066-LC, 72-066-LD, 72-066-LE, 72-066-LF, 72-066-LG, 72-066-LH, 72-066-LI, 72-066-LJ, 72-066-LK, 72-066-LM, 72-066-LN, 72-066-LO, 72-066-LP, 72-066-LQ, 72-066-LR, 72-066-LS, 72-066-LT, 72-066-LU, 72-066-LV, 72-066-LW, 72-066-LX, 72-066-LY, 72-066-LZ, 72-066-MA, 72-066-MB, 72-066-MC, 72-066-MD, 72-066-ME, 72-066-MF, 72-066-MG, 72-066-MH, 72-066-MI, 72-066-MJ, 72-066-ML, 72-066-MM, 72-066-MN, 72-066-MO, 72-066-MP, 72-066-MQ, 72-066-MR, 72-066-MS, 72-066-MT, 72-066-MU, 72-066-MV, 72-066-MW, 72-066-MX, 72-066-MY, 72-066-MZ, 72-066-NA, 72-066-NB, 72-066-NC, 72-066-ND, 72-066-NE, 72-066-NF, 72-066-NG, 72-066-NH, 72-066-NI, 72-066-NJ, 72-066-NK, 72-066-NL, 72-066-NM, 72-066-NN, 72-066-NO, 72-066-NP, 72-066-NQ, 72-066-NR, 72-066-NS, 72-066-NT, 72-066-NU, 72-066-NV, 72-066-NW, 72-066-NX, 72-066-NY, 72-066-NZ, 72-066-OA, 72-066-OB, 72-066-OC, 72-066-OD, 72-066-OE, 72-066-OF, 72-066-OG, 72-066-OH, 72-066-OI, 72-066-OJ, 72-066-OK, 72-066-OL, 72-066-OM, 72-066-ON, 72-066-OO, 72-066-OP, 72-066-OQ, 72-066-OR, 72-066-OS, 72-066-OT, 72-066-OU, 72-066-OV, 72-066-OW, 72-066-OX, 72-066-OY, 72-066-OZ, 72-066-PA, 72-066-PB, 72-066-PC, 72-066-PD, 72-066-PE, 72-066-PF, 72-066-PG, 72-066-PH, 72-066-PI, 72-066-PJ, 72-066-PL, 72-066-PM, 72-066-PN, 72-066-PO, 72-066-PP, 72-066-PQ, 72-066-PR, 72-066-PS, 72-066-PT, 72-066-PU, 72-066-PV, 72-066-PW, 72-066-PX, 72-066-PY, 72-066-PZ, 72-066-QA, 72-066-QB, 72-066-QC, 72-066-QD, 72-066-QE, 72-066-QF, 72-066-QG, 72-066-QH, 72-066-QI, 72-066-QJ, 72-066-QL, 72-066-QM, 72-066-QN, 72-066-QO, 72-066-QP, 72-066-QL, 72-066-QR, 72-066-QS, 72-066-QT, 72-066-QU, 72-066-QV, 72-066-QW, 72-066-QX, 72-066-QY, 72-066-QZ, 72-066-RA, 72-066-RB, 72-066-RC, 72-066-RD, 72-066-RE, 72-066-RF, 72-066-RG, 72-066-RH, 72-066-RI, 72-066-RJ, 72-066-RK, 72-066-RL, 72-066-RM, 72-066-RN, 72-066-RO, 72-066-RP, 72-066-RQ, 72-066-RR, 72-066-RS, 72-066-RT, 72-066-RU, 72-066-RV, 72-066-RW, 72-066-RX, 72-066-RY, 72-066-RZ, 72-066-SA, 72-066-SB, 72-066-SC, 72-066-SD, 72-066-SE, 72-066-SF, 72-066-SG, 72-066-SH, 72-066-SI, 72-066-SJ, 72-066-SK, 72-066-SL, 72-066-SM, 72-066-SN, 72-066-SO, 72-066-SP, 72-066-SQ, 72-066-SR, 72-066-SS, 72-066-ST, 72-066-SU, 72-066-SV, 72-066-SW, 72-066-SX, 72-066-SY, 72-066-SZ, 72-066-TA, 72-066-TB, 72-066-TC, 72-066-TD, 72-066-TE, 72-066-TF, 72-066-TG, 72-066-TH, 72-066-TI, 72-066-TJ, 72-066-TK, 72-066-TL, 72-066-TM, 72-066-TN, 72-066-TO, 72-066-TP, 72-066-TQ, 72-066-TR, 72-066-TS, 72-066-TT, 72-066-TU, 72-066-TV, 72-066-TW, 72-066-TX, 72-066-TY, 72-066-TZ, 72-066-UA, 72-066-UB, 72-066-UC, 72-066-UD, 72-066-UE, 72-066-UF, 72-066-UG, 72-066-UH, 72-066-UI, 72-066-UJ, 72-066-UK, 72-066-UL, 72-066-UM, 72-066-UN, 72-066-UO, 72-066-UP, 72-066-UQ, 72-066-UR, 72-066-US, 72-066-UT, 72-066-UU, 72-066-UV, 72-066-UW, 72-066-UX, 72-066-UY, 72-066-UZ, 72-066-VA, 72-066-VB, 72-066-VC, 72-066-VD, 72-066-VE, 72-066-VF, 72-066-VG, 72-066-VH, 72-066-VI, 72-066-VJ, 72-066-VK, 72-066-VL, 72-066-VM, 72-066-VN, 72-066-VO, 72-066-VP, 72-066-VQ, 72-066-VR, 72-066-VS, 72-066-VT, 72-066-VU, 72-066-VV, 72-066-VW, 72-066-VX, 72-066-VY, 72-066-VZ, 72-066-WA, 72-066-WB, 72-066-WC, 72-066-WD, 72-066-WE, 72-066-WF, 72-066-WG, 72-066-WH, 72-066-WI, 72-066-WJ, 72-066-WK, 72-066-WL, 72-066-WM, 72-066-WN, 72-066-WO, 72-066-WP, 72-066-WQ, 72-066-WR, 72-066-WS, 72-066-WT, 72-066-WU, 72-066-WV, 72-066-WW, 72-066-WX, 72-066-WY, 72-066-WZ, 72-066-XA, 72-066-XB, 72-066-XC, 72-066-XD, 72-066-XE, 72-066-XF, 72-066-XG, 72-066-XH, 72-066-XI, 72-066-XJ, 72-066-XK, 72-066-XL, 72-066-XM, 72-066-XN, 72-066-XO, 72-066-XP, 72-066-XQ, 72-066-XR, 72-066-XS, 72-066-XT, 72-066-XU, 72-066-XV, 72-066-XW, 72-066-XX, 72-066-XY, 72-066-XZ, 72-066-YA, 72-066-YB, 72-066-YC, 72-066-YD, 72-066-YE, 72-066-YF, 72-066-YG, 72-066-YH, 72-066-YI, 72-066-YJ, 72-066-YK, 72-066-YL, 72-066-YM, 72-066-YN, 72-066-YO, 72-066-YP, 72-066-YQ, 72-066-YR, 72-066-YS, 72-066-YT, 72-066-YU, 72-066-YV, 72-066-YW, 72-066-YX, 72-066-YY, 72-066-YZ, 72-066-ZA, 72-066-ZB, 72-066-ZC, 72-066-ZD, 72-066-ZE, 72-066-ZF, 72-066-ZG, 72-066-ZH, 72-066-ZI, 72-066-ZJ, 72-066-ZK, 72-066-ZL, 72-066-ZM, 72-066-ZN, 72-066-ZO, 72-066-ZP, 72-066-ZQ, 72-066-ZR, 72-066-ZS, 72-066-ZT, 72-066-ZU, 72-066-ZV, 72-066-ZW, 72-066-ZX, 72-066-ZY, 72-066-ZZ

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

SCALE: 1" = 1000'
 0 1000 2000 3000 4000'
 DEPT. OF WATER (Marine Environmental Science Associates)
 P.O. BOX 107070, SAN DIEGO, CALIFORNIA 92110
 Project Director: Peter J. Fischer
 Map Projection: Lambert Equal Area II
 National Geographic datum: U.S.G.S. 1122000
 8/10/80

OVERLAYS
 LATEMUT 107
 108001

EXPLANATION
 EXPLANATION FOR DATA BASE
 + Lambert grid intersection
 - Latitude/Longitude grid intersection



EXPLANATION
 --- Isobath value in meters; height on the side of
 of lower contour
 --- Boundary of potential borrow area
 Contour interval = 2m
NOTE
 Areas within X and XI showing low sand and gravel thickness
 are shown within the borrow area. These areas are designated
 as potential borrow areas. These areas are designated
 as low sand and gravel because of their shallow depth
 measured at 10' and very fine sand. Due to the varying depths
 the potential borrow areas sand and gravel content is uncertain.

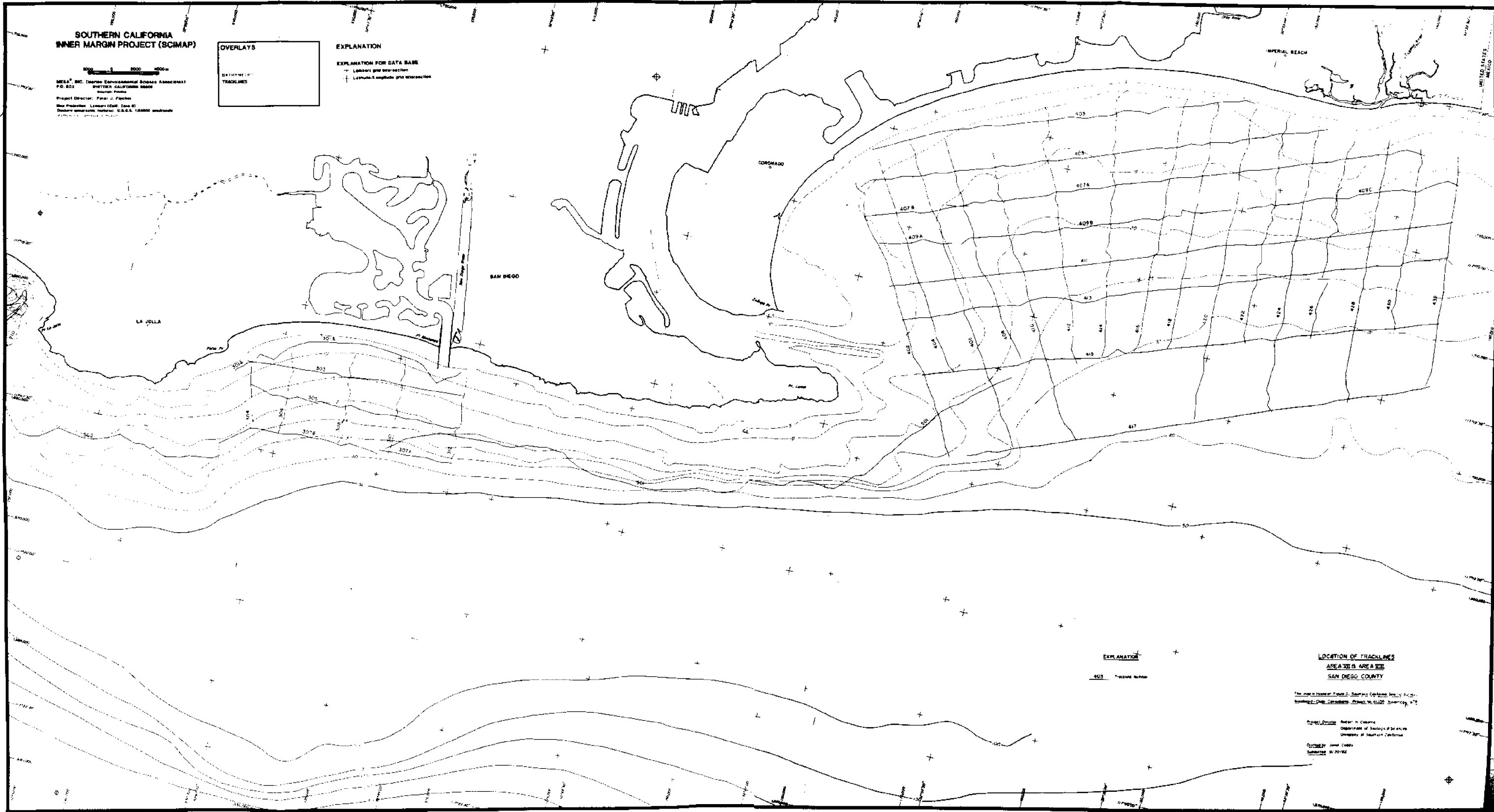
**ISOBATH MAP OF POTENTIAL BORROW AREAS
 AREA VII B, AREA VIII
 SAN DIEGO COUNTY**
 Compiled by: Peter J. Fischer
 Interpreted by: Peter J. Fischer
 Department of Geological Sciences
 University of Southern California
 Date: 8/10/80

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCIMAP)**

MESA, INC. (Marine Environmental Science Associates)
P.O. BOX 1000
SANTA ANA, CALIFORNIA 92701
Project Director: Peter J. Phipps
Map Produced: January 1984 (See 8)
Original Survey Date: U.S.S.S. 198000 (See 8)

OVERLAYS
DOTTED LINE
TRACKLINES

EXPLANATION
EXPLANATION FOR DATA BASE
+ Lowest grid intersection
+ Latitude X longitude grid intersection



EXPLANATION
403 Trackline Number

**LOCATION OF TRACKLINES
AREA III & AREA XII
SAN DIEGO COUNTY**

The map is based on Figure 2, Southern California Benthic Invertebrate Data Collection, dated 10/19/82, University of California, San Diego.
Map Produced: Peter J. Phipps
Department of Geological Sciences
University of Southern California
Checked by: Janet Cohen
Submitted: 01/29/84

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

NEEA, INC. Marine Environmental Services Associates
P.O. Box 1000
San Diego, California 92161
Project Director: Peter J. Fowler
Map Production: Lester (Call Zone #)
Contact: (619) 594-1234 FAX: (619) 594-1235

OVERLAYS
BATHYMETRY
HOLDICENE BENCH

EXPLANATION FOR DATA BASE
+ Lambert grid intersection
+ Lambert/Lamphoto grid intersection



EXPLANATION
--- Isobath lines (depth in meters)
--- Bathymetry (depth in meters)
--- Holdicene Bench (depth in meters)
--- General Bathymetric Chart of the World (GBRW) data

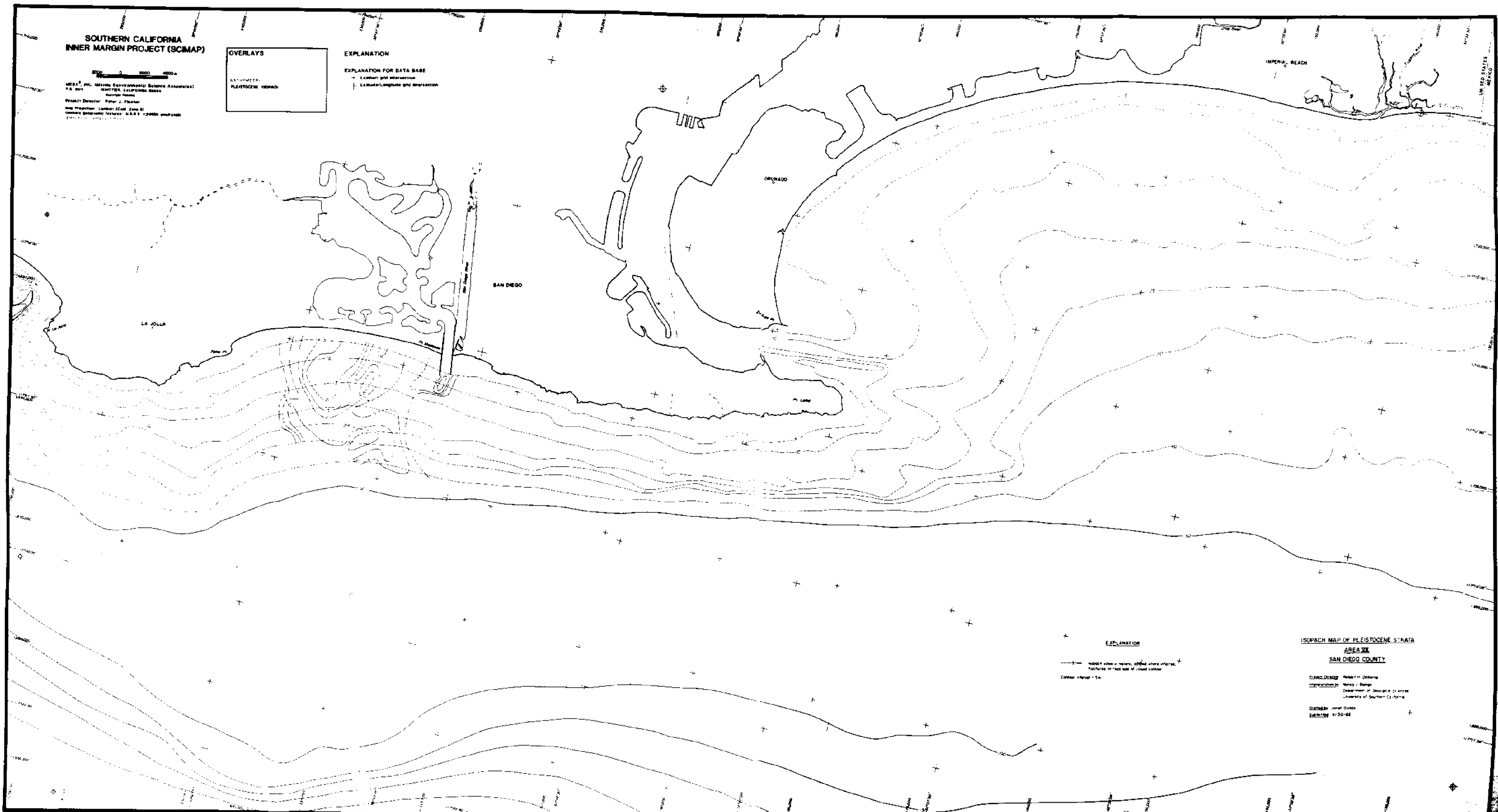
**ISOBATH MAP OF HOLDICENE STRATA
AREA VII & AREA VIII
SAN DIEGO COUNTY**
Compiled by: Peter J. Fowler
Checked by: Lester (Call Zone #)
Date: 10/19/88
Project: SCMAP

**SOUTHERN CALIFORNIA
INNER MARGIN PROJECT (SCMAP)**

MECA, INC. (Marine Environmental Science Associates)
P.O. Box 1000
San Diego, California 92101
Project Director: Peter J. Flaherty
Map Preparation: Lambert (Cart. Serv. B)
Graphic Preparation: Richard A. B. B. (Cart. Serv. B)

OVERLAYS
SATINWEED
PLEISTOCENE HORIZON

EXPLANATION
EXPLANATION FOR DATA BASE
+ Lambert grid intersection
| L. Mendocino/Laguna and Interaction



EXPLANATION
--- 1000' contour interval, shaded where appropriate.
+ 1000' contour interval, shaded where appropriate.
--- 1000' contour interval, shaded where appropriate.
+ 1000' contour interval, shaded where appropriate.

**ISOPACH MAP OF PLEISTOCENE STRATA
AREA VII
SAN DIEGO COUNTY**
Compiled by: Peter J. Flaherty
Interpretation by: Peter J. Flaherty
Department of Geology and Earth Science
University of Southern California
Checked by: Peter J. Flaherty
Date: 9/30/88