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ANNOTATED BIBLIOGRAPHY OF THE LAKE CHARLES, MOBILE AND PENSACOLA
HARBOR APPROACH AREAS

Project 98 is a literature survey of the Lake Charles, Mobile
and Pensacola Harbor Approach Areas sponsored by the U. S.
Hydrographic Office (Contract N62306s-235)

Report prepared March 30, 1955

by

Lela M. Jeffrey and George Moskovits

John P. Barlow
Project Supervisor

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ANNOTATED BIBLIOGRAPHY OF LAKE CHARLES, MOBILE AND
PENSACOLA HARBOR APPROACH AREAS

Geology

1. American Petroleum Institute. Research Project 51.
Study of near shore recent sediments and their environments in the Northern Gulf of Mexico. F. P. Shepard, Director. Report nos. I-X. (Bottom topography information is plotted for an area off Pass A. Loutre with a contour interval of 6 feet from the soundings made by the Coast & Geodetic Survey in 1940. Soundings were made by Research Project 51 in 1953 in the East Mississippi Delta Area and depth changes were illustrated. Lithology data is presented and discussed also for the East Mississippi Delta Area)
2. Barton, D. C. and Hickey, M. 1933.
The continental margin at Texas-Louisiana Gulf Coast. Trans. Amer. Geophys. Union, 14th Annual Meeting, pp. 16-20.
(Paper cites evidence for a geosyncline. Thickness of sediments are probably greater than 20,000 feet at Houston, greater than 25,000 feet at Louisiana and greater than 30,000 feet to the south of New Orleans)
3. Barton, D. C., Ritz, C. H. and Hickey, M. 1933.
Gulf Coast Geosyncline. Bull. Amer. Assoc. Petrol. Geol., 17(12): 1446-1458.
(Paper cites evidence for a geosyncline in the Texas-Louisiana area, also evidence for subsidence. They also indicate stratigraphy in an area near Jennings, La.)
4. Bates, C. C. 1953.
Rational theory of delta formation. Bull. Amer. Assoc. Petr. Geol., 37: 2119-2162.
(This paper is a detailed discussion of some new concepts involving the deposition of sediments brought into a lake or ocean by river inflow. The nature of the jet flow and their effects are discussed with particular reference to the Mississippi Delta region not only with regard to sediment deposition, but also with regard to the seaward movement of the river water and the effect of Coriolis force on this movement)
5. Bates, C. C. 1953.
Physical and geological processes of delta formation. Thesis. Texas A. & M. College, 1953.
(The thesis contains practically the same information as the above paper with added information on suspended matter, currents, hydrography,

water level of the area around the Mississippi Delta. Discussions of many other deltas (not in our survey area) are also included)

6. Bernard, H. A. 1950.
Quaternary geology of southeast Texas. Ph.D. Thesis. University of Illinois.
7. Bigelow, H. W., Jr. 1949.
Sea level changes along the coasts of the U. S. in recent years. Trans. Amer. Geophys. Union, 30: 201-204.
(At Pensacola, sea level appears to have risen more or less steadily since 1924 at the rate of .02 ft/year. In the latter half of this period the rate of rise is greater than in the first half. So far as the Gulf coast is concerned, the indications are for greater relative subsidence since 1930)
8. Bowie, W. 1927.
Isostasy, Dulton and Co., New York, 275 pp.
(Pook reports gravity anomalies for 8 stations on the Mississippi Delta)
9. Brown, G. F.; Foster, V. M.; Adams, R. W.; Reed, E. W. and Padgett, H. D., Jr. 1944.
Geology and ground water resources of the coastal area in Mississippi. Mississippi State Geological Survey, Bulletin 60. 232 pp.
(This paper discusses the geological formations of the coastal area of Mississippi. Maps indicate where water wells have been sunk for the coastal area and for the offshore islands. Geological cross-sections and driller's logs give detailed sediment and foraminifera information for the wells drilled on the off-shore islands)
10. Carlston, C. W. 1950.
Pleistocene history of coastal Alabama. Bull. Geol. Soc. Amer. 61: 1119-1130.
(Report contains geologic map of coastal Alabama and distribution of marine scarps on the east Gulf coast)
11. Carsey, J. B. 1948.
Basic geology of the Gulf coastal area and the continental shelf. Oil and Gas Journal 47(8): 246-251.
(Paper shows north-south section through eastern Louisiana showing stratigraphy of formations dipping under the continental shelf)
12. Carsey, J. B. 1950.
Geology of the Gulf coastal area and continental shelf. Bull. Amer. Assoc. Petrol. Geol. 34(3): 361-85.
(The continental shelf is 50 miles wide off Mobile, Ala., 140 miles wide off southwest Louisiana. Paper contains chart on distribution and average relief of topographic features on the continental shelf)
13. Cooke, C. W. 1945.
Geology of Florida. Bull. Florida Geol. Survey, no. 29, 339 pp.
(Good discussion of geology of state of Florida)

14. Daly, R. A. 1940.
Strength and structure of the earth's crust. Prentice-Hall, New York, 434 pp.
(Daly discusses gravity characteristics of the Gulf of Mexico area and the Mississippi Delta. Evidence is that the Mississippi Delta is a compensated load and that compensation is proceeding concomitantly with deposition of the load)
15. Dent, E. J. 1927.
The mouths of the Mississippi River. Trans. Amer. Soc. Civil Engrs. 37: 997-1006.
(Dent discusses rate of change in the Mississippi Delta. He reports soundings taken at South Pass, La. in Feb., 1923)
16. Doering, J. 1935.
Post-Fleming surface formations of coastal southeast Texas and South Louisiana. Bull. Amer. Assoc. Petrol. Geol., 19: 651-688.
(This paper is a discussion of the physiography, stratigraphy, origin, history and structure of the four surface formations (Recent, Beaumont, Lissie and Willis) of the Post-Fleming group in an area extending from the Colorado River in Texas to the Pearl River at the eastern boundary of Louisiana and into the interior for a distance of 75 to 100 miles)
17. Ewing, H. 1955.
Structure and sedimentation in the Gulf of Mexico. Amer. Assoc. Petrol. Geol. Symposium. 28 March 1955, p. 6 (Abstract).
(The basin of the Gulf of Mexico is bounded on all sides by long escarpments which in some cases are more than a mile high. Its floor has conical shape, with vertex off the Mississippi River. He discussed the role of the Mississippi River in Pleistocene sedimentation)
18. Fisk, H. M. 1949.
Depositional environments of the Mississippi Delta. Oil and Gas Journal 47: 150, March 17.
(Paper contains a good general discussion of geology of depositional environments from the Mississippi River seaward)
19. Fisk, H. M. 1944.
Geological investigation of the alluvial valley of the lower Mississippi River. Mississippi River Commission, Dec. 1, 1944; (78 p., 33 pls., 80 figs, geol. maps, 11 tables, separate folder of plates.) See also Tulsa Geol. Soc. Digest, 15: 50-55, (2 figs, incl. geol. maps). 1947.
(This paper is a lengthy discussion of the geological history of the Mississippi Valley Region. A cross section from Harrisonburg, La. to Natchez, Miss. shows the alluvial filling of valleys cut during the last glacial stages)
20. Fisk, H. M. 1949.
Recent sediments of the Mississippi deltaic mass. Bull. Amer. Petrol. Geol. 33: 103 (abst.)
(The recent deltaic mass of the Mississippi River is a huge pile of

seaward-thickening deposits which underlies the deltaic plain and continental shelf. It rests upon and buries a rugged surface sculptured during the last ice age when sea level was 450 feet lower than at present. The sediments were deposited as the last Pleistocene ice sheets melted and sea level rose and their main lithologic characteristics reflect the gradual lowering of stream gradients)

21. Fisk, H. N.; McFarlan, E., Jr.; Kolb, C. R. and Wilbur, L. J. 1954. Sedimentary framework of the modern Mississippi Delta. Jour. Sed. Petrology 24: 76-99.
(Discussed in this paper are such aspects as the sediment load of the Mississippi River, its depositional processes and environments, sedimentary facies, clay wedges, mudlumps, development of the delta platform and sedimentary volumes in the delta framework. An excellent diagram showing the Gulf Bottom facies out to 50 fathoms, south, southeast and southwest of the delta)
22. Gealey, Margaret. 1955. Bottom topography of northwestern Gulf of Mexico. Bull. Geol. Soc. Amer. Feb. 1955.
(Title is self explanatory)
23. Geological Survey of Alabama. 1926. Special report no. 14, University of Alabama.
(Book discusses the topographic divisions, geological setting and historical summary of the survey of Alabama)
24. Geyer, R. A. 1948. Annotated bibliography of marine geophysical and geological surveys. Bull. Geol. Soc. Amer. 59(7): 671-695.
25. Goldstein, A., Jr. Sedimentary petrologic provinces of the Northern Gulf of Mexico. Jour. Sed. Petr. 12: 77-84.
(Sediment samples from the northern border of the Gulf of Mexico show regional differences in mineral composition which permit the distinction of 4 areas of sediments, each with a characteristic mineral suite)
26. Haerberle, F. R. 1951. Gulf coast geosyncline. Texas Jour. Sci. III, no. 3, 368-75.
(He gives a thorough discussion of the marine geosyncline. A diagrammatic cross section of sediment layers with depth through Shreveport and Jennings, La., ending in the Gulf of Mexico is presented)
27. Harris, G. D. 1902. The geology of the Mississippi embayment with special reference to the State of Louisiana. La. St. Exp. Sta. Geol. and Agri., Pt. 6, Sp. Rept. no. 1, pp. 1-39.
(Contains a description of marshes and beach ridges of southwest Louisiana)

28. Harris, G. D. and Veatch, A. C. 1899.
A preliminary report on the geology of Louisiana. La. St. Exp. Sta. Geol. and Agri., Pt. 5, sec. 2, pp. 52-133.
(Report contains a description of recent coastal formations of Louisiana, with the conclusion that active subsidence of the coast is now in progress)
29. Hayes, C. W. and Kennedy, W. 1903.
Oil fields of the Texas-Louisiana Gulf coastal plains, Bull. U. S. Geol. Survey, No. 212, 174 pp.
(On pp. 104-107 they mention the presence of oil ponds in the Gulf about 2 miles offshore near the mouth of the Sabine River)
30. Howe, H. V. W.; Russell, R. J.; McGuirt, V. H.; Croft, B. C. 1935.
Report on the geology of Cameron and Vermillion Parishes. Dept. Conservation, Louisiana Geol. Survey, Geol. Bull. No. 6.
(Physiography of the coastal parishes from the Atchafalaya basin to the Texas border was discussed)
31. Jones, P. H.; Turcan, A. N., Jr.; Skibitzke, H. E. 1954.
Geology of ground water resources of southwestern Louisiana. Dept. Conservation, La. Geol. Surv., Bull. No. 30.
(Paper contains brief discussion of physiography and geology of Southwestern La. Two maps give geological cross section extending into Gulf of Mexico. The locations of the South La. salt domes in the Gulf of Mexico are given)
32. Lawson, A. C. 1942.
Mississippi Delta - a study in isostasy. Geol. Soc. Amer. 53: 1231-1254.
(Lawson maintains that the Delta is in isostatic balance and will continue to be throughout its growth up to a limit of thickness that is determined by the initial depth of water)
33. LeBlanc, R. J. and Bernard, H. A. 1954.
Resume of late recent geological history of the Gulf Coast. Overdruk uit Geologie en Mijnbouw, nr 6. Nw Serie 16 e. Jaargang pp 185-194, Juni 1954.
(In this paper recent geomorphology and stratigraphy of the Gulf Coast, particularly Louisiana, is reviewed, and it was concluded that sea level reached its present stand 5000 years ago. Comparisons are made of Quaternary geology of Louisiana with that of the Netherlands)
34. LeRoy, T. E. 1941.
Topography of the submerged Gulf Coast continental platform; Southwest Pass, Mississippi River to Galveston Bay. U.S. Thesis. Louisiana State University.
35. Lowman, S. W. 1949.
Sedimentary facies in Gulf Coast. Bull. Amer. Assoc. Petrol. Geol. 33(12): 1929-1997 (Illus.)
(This paper gives some foraminifera distribution information in

bottom samples off Corpus Christi, Texas, the Mississippi Delta and Pensacola, Fla. The data gives the percentage distribution of the various species and the water depths in which they are found. The Pensacola profiles give some information on the type of bottom sampled)

36. Lynch, S. A. 1954.
Geology of the Gulf of Mexico. Fish. Bull. of Fish and Wildlife Service. U. S. Dept. of Interior, pp. 67-86.
(Summarizes the geology and sedimentology of the Gulf of Mexico by sections)
37. Malkin, D. S. and Jung, D. A. 1941.
Marine sedimentation and oil accumulation on Gulf Coast. Amer. Assoc. Petrol. Geol. Bull. 25: 2010-20.
(Paper discusses general history of marine invasion and retreat in the Texas-Louisiana area)
38. Marmer, H. A. 1949.
Sea level changes along the coasts of the U. S. in recent years. Trans. A. G. U. 30: 201-204.
(At Pensacola the rise in sea level from 1924 to 1950 is nearly half a foot, at Cedar Keys, Fla. a rise of .3 foot from 1939 to 1950, a rise of a foot from 1909 to 1950 at Galveston, Tex)
39. Mason, H. A. 1952.
Pertinent factors in the protection of the Gulf Coast. Proc. 2nd Conference on Coastal Engineering, pp. 217-225.
(Paper contains a figure on typical profiles of Gulf bottom at Cedar Keys, Fla., Mobile Point, Ala. and Isles Dernieres, La.)
40. Phleger, F. B. and Parker, F. L. 1950.
Gulf of Mexico foraminifera. Scripps Inst, Oceanogr., Submarine Geology Rept. No. 16 from Foraminifera Laboratory, Dec., 1950, pp. 1-6.
(Unavailable)
41. Price, W. A. 1954.
Dynamic environments: reconnaissance mapping, geologic and geomorphic, of continental shelf of the Gulf of Mexico. Trans. Gulf Coast Assoc. of Geol. Soc. IV: 75-107.
(A new approach to the mapping of a continental shelf utilizing oceanographic and geological data is discussed. Classification of all portions of the Gulf Coast continental shelf is given)
42. Price, W. A. 1947.
Equilibrium of form and forces in tidal basins of coast of Texas and Louisiana. Bull. Amer. Assoc. Petrol. Geol. 31: 1619-1663.
(In discussing the theory of basin equilibrium, Dr. Price also reviews historical information on the origin of the coastal features on the Texas and Louisiana coastal area)

43. Price, W. A. 1953.
The low energy coast and its new shoreline types on the Gulf of Mexico. 9 pp. illus. 27 July 1953 Contract N7onr-48702)
(Among many other subjects he discusses retreat and advance of various portions of the Gulf coast)
44. Richards, H. G. 1939.
Marine Pleistocene of the Gulf coastal plain of Alabama, Mississippi, and Louisiana. Bull. Geol. Soc. Amer. 50: 297-315.
(Good summary of land geology in most of the states related to this survey)
45. Richardson, Carl P. 1941.
A comparative study of the origin and distribution of the Gulf Coast Tertiary sediments. Abstract. Meeting of Amer. Assoc. Petrol. Geol. in Houston, Texas in April 1941.
(Bottom sample descriptions from Coast and Geodetic Survey charts were compiled on a map of the Gulf of Mexico. The shape of the Gulf bottom based upon soundings has been studied with respect to the action of currents and waves upon distribution of sediments. The following zones of deposition are outlined and discussed: Continental, lagoonal, sand, mud coral zones and the deep sea muds. Four cross sections, exaggerated 20 times vertically, have been drawn from the Cretaceous outcrop across the Gulf)
46. Roy, C. J. and Glockzin, A. R. 1941.
Tentative correlation chart of Gulf coast. Amer. Assoc. Petrol. Geol. Bull. 25: 742-6.
(Paper contains Gulf coast stratigraphic correlation for Texas, Louisiana, Mississippi, Alabama and Florida)
47. Russell, R. J. 1936.
Physiography of lower Mississippi River Delta. Louisiana Dept. Conservation, Geol. Bull. No. 8, pp. 3-199.
(This paper is a detailed discussion of the geomorphology of St. Bernard and Plaquemines Parishes, Louisiana, which constitute practically the lower Mississippi River delta. The hydrography of the river channels and briefly the nature of sedimentation in the lower delta is discussed. He gives information on the thickness, age and sediment load of the delta, the evidence for and causes of its submergence and the nature of the Gulf coast geosyncline)
48. Russell, R. J. 1939.
Morphologie des Mississippi delta. Geographische Zeitschr., Jahrg. 45, Heft 8: 281-293.
(Leipzig)
49. Russell, R. J. 1951.
Recent geology of coastal Louisiana. Proc. 2nd conference on Coastal Engineering. pp. 101-110.
(Paper is a good general discussion of the Louisiana Coast)

50. Russell, R. J. 1952.
Coastal advance and retreat in Louisiana. *Congres Geologique International. Comptes rendus de la dix - neuvieme session, Alger, 1952. Topographic Sons - Marine et Sedimentation Achulle. Section IV. Alger, 1953.*
51. Russell, R. J. and Howe, H. V. 1935.
Cheniers of southwestern Louisiana, *Geog. Rev.*, 25(3): 449-461.
(The authors outline the physiographic history of coastal southwest Louisiana)
52. Shepard, F. P. 1928.
Significance of submerged deltas in the interpretation of the continental shelves. *Bull. Geol. Soc Amer.* 39: 1157-1170.
(It was pointed out that although almost all deltas overlap somewhat onto broad shelves, this is not the case in the Mississippi Delta region where there is almost no shelf directly off the delta. The situation is stated here as the delta having eliminated the shelf)
53. Shepard, F. P. and Moody, C. L. 1953.
API research project 51 - study of near-shore recent sediments and their environments in the northern Gulf of Mexico. *Proc. Amer. Petrol. Inst.* 33(VI): 34-49.
(Report contains a chart showing depth changes from Breton Sound to Pass a Loure from 1860-1952. They also present cross sections showing north-south lines of cores obtained transverse to the delta on the eastern side. Appropriate discussions are built around these two charts)
54. Smith, E. A.; Johnson, L. C. and Langdon, D. W. 1894.
Geology of the coastal plain of Alabama. Ala. Geol. Survey, Spec. Rept. No. 6.
(Paper supplies much evidence concerning recent subsidence and sedimentation in the coastal region east of the Mississippi)
55. Stephenson, H. E. 1928.
Major marine transgressions and regressions and structural features of the Gulf Coastal Plain. *Amer. Jour. Sci.* 5th ser. 16: 281-298.
(This paper is a discussion of the paleogeography and structural history of the Gulf Coastal Plain. Author estimates the sediments in the Gulf to be 25,000 feet deep)
56. Stephenson, L. E. 1928.
Structural features of the Atlantic and Gulf coastal plain. *Bull. Geol. Soc. Amer.* 39: 837-899.
(Author suggests that folds of the Gulf coast region have been caused by deep scaled movements of basement rocks rather than by load of sediments. Salt domes as characteristic features of the Gulf coastal plain are briefly discussed)
57. Trask, P. D. 1942.
Report of the Committee on sedimentation, 1940-41, with charts for

the determination of detrital minerals, Nat. Res. Council, Div. Geology and Geography.
(Ann. Rept., App. C, Exhibit A-S) 110 p. 2 pls. charts.

58. Wasson, T. 1948.

Creole Field Gulf of Mexico, Coast of Louisiana. In: Structure of Typical American Oil Fields, Vol. III. Alexander Watts McCoy Memorial Volume. pp. 281-298. Published by AAPG, Tulsa, Okla. (This is a discussion of the first oil well drilled in the Gulf of Mexico (Location $29^{\circ}45'30''N$, $93^{\circ}11'42''W$) in 15 feet of water. Information is given on stratigraphy, subsurface structure and producing sands. A vertical section from 2000 feet below sea level to approximately 7000 feet is shown, but no information is given on the surface sediments.)

59. Williams, N. 1948.

Continental shelf in the Gulf of Mexico. Oil and Gas Jour. 47(8): 152-5. June 24.

(Continental shelf width varies from 10-12 miles off the Mississippi Delta to 140 miles off Alabama and Mississippi. Oil well development in offshore waters up to 1948 was discussed)

Sediments

1. American Petroleum Institute. Research Project 51. 1953.
Study of near shore recent sediments and their environments in the Northern Gulf of Mexico. Progress Reports, F. P. Shepard, Director. Reports V-X.
(Extensive data on sediments, rate of sedimentation, shell content, grain size analyses, lithology in the East Mississippi Delta Area are presented)
2. Andersen, H. V. 1951.
Reports on the mudlumps at the mouths of the Mississippi River. Part II. Foraminiferal faunules from the mudlumps and environments in the vicinity of the mouths of the Mississippi River; unpublished report. New Orleans District, Corps of Engineers. 214 pp.
3. Bandy, O. L. 1954.
Distribution of some shallow water foraminifera in the Gulf of Mexico. U. S. Geol. Survey. Prof. Paper 254-F (June 1954), pp. 125-142, plates and one map.
(Bottom samples were collected in the Gulf of Mexico at stations on three offshore traverses between Sabine Pass, Texas and Grand Cheniere, Louisiana in water of depths ranging from 27 feet to 130 feet. Median grain sizes are presented along with foram data, temperatures and salinity information)
4. Barton, C. A. 1952.
The sediments of Biloxi Bay, Mississippi. M.S. Thesis. University of Illinois.
5. Bissell, H. J. 1940.
Organic content of cores from Gulf of Mexico off the Mississippi Delta. Bull. Geol. Soc. America, 51 (12), pt. 2, 1920.
(Reducing power determinations and organic content analyses were carried out on samples from 24 Piggot cores. Organic content ranged from 2 to 4%)
6. Bissell, H. J. 1947.
Bottom sediments from Mississippi River Delta and Gulf of Mexico. Utah Acad. Sci., Proc. 23: Feb. 1947.
(Piggot cores and grab samples from the subaqueous portion of the Mississippi delta and from the Gulf bottom were analyzed for size distribution, calcium carbonate, total moisture and organic matter)
7. Buchanan, Spencer J. 1952.
The foundation problems on the Gulf Coast. 2nd Conference on Coastal Engineering, pp. 158-165, 1952.
(A general discussion of foundation problems in the Mississippi Delta area. Author reported that deposits were soft and unconsolidated and present special problems to the engineer)
8. Dohm, C. F. 1936.
Petrography of two Mississippi River subdeltas. Bull. La. Dept.

- Gulf of Mexico. Amer. Soc. of Civil Engineers, Soil Mechanics Division, Reprint no. 16, March 5-7, 1952, 18 pp.
(Discusses the nature of the Pleistocene and Recent foundation soils off Louisiana and Texas coasts, their distribution, thickness and physical properties)
17. Mario, C. P. 1951.
A study of recent marine sediments in the Biloxi-Ocean Springs area of the Mississippi Gulf Coast. M.A. Thesis. Mississippi State College.
 18. Moore, H. F. 1913.
Conditions and extent of the natural oyster beds and barren bottoms of Mississippi coast east of Biloxi, Report, U. S. Comm. Fish., 1911, 41 pp. Also as Doc. 774 (one map).
(A detailed hydrographic and biological survey with special reference to factors involved in oyster culture, such as type of bottom)
 19. Morgan, James P. 1952.
Mud lumps at the mouths of the Mississippi River. Proc. 2nd Conference on Coastal Engineering, pp. 130-145, 1952.
(Paper includes a map of submarine mud lumps outside of South Pass and Southwest Pass. Made predictions as to future mud lump formation)
 20. Richardson, Carl B.
A comparative study of the origin and distribution of the Gulf Coast Tertiary sediments. Abstract. Meeting of Amer. Assoc. Petrol. Geol. in Houston, Texas in April, 1941.
(Bottom sample descriptions from Coast and Geodetic Survey charts were compiled on a map of the Gulf of Mexico. The shape of the Gulf bottom based upon soundings has been studied with respect to the action of currents and waves upon distribution of sediments. The following zones of deposition are outlined and discussed: continental, lagoonal, sand, mud, coral zones and the deep sea muds. Four cross sections, exaggerated 20 times vertically, have been drawn from the Cretaceous outcrop across the Gulf)
 21. Ritter, H. P. 1895.
Report of a reconnaissance of the oyster beds of Mobile Bay and Mississippi Sound, Alabama, U. S. Fisheries Commission Bulletin, pp. 325-339.
(Ritter recorded visual bottom type observations for several spots in Mobile Bay and Mississippi Sound, Alabama.)
 22. Russell, R. D. 1940.
Cores from the Gulf of Mexico off the Mississippi Delta. Geol. Soc. Amer. 51: 1943.
(Paper contains summary of results of analyses of 24 Piggot cores taken from the Mississippi Delta to 8,000 feet in the Gulf)
 23. Russell, R. J. and R. D. Russell. 1939.
Mississippi River Delta sedimentation. In Recent Marine Sediments, 1939.
(Good general discussion, but little specific data)

24. Scruton, P. C. 1953.
Distribution and origin of sediment units in the Eastern Mississippi Delta. Jour. Sed. Petrol. 23: 125-128.
(Summary of sediment data collected on the East Mississippi Delta area on API Project 51)
25. Scruton, P. C. 1952.
Distribution and origin of sediment units in the Eastern Mississippi Delta, p. 125-26, 5th annual meeting, Bull. Geol. Soc. Amer. 63, Dec.
(Brief summary of some of the sediment data collected on the eastern side of the Mississippi Delta)
26. Scruton, P. C. and Moore, D. G. 1952.
Depositional environment characteristics along the Gulf Coast, Part 2: East Mississippi Delta Area, p. 129, 5th annual meeting, Bull. Geol. Soc. Amer. 63, Dec.
(Discusses briefly factors affecting sedimentation in the East Mississippi Delta area)
27. Shaw, E. W. 1913.
The mud lumps at the mouths of the Mississippi. U. S. Geol. Survey Prof. Paper 85, Part B, 1913.
(Discussion of mud lumps and their possible origin)
28. Shaw, E. W. 1916.
Sedimentation along the Gulf coast of the United States. (Abstract) Bull. Geol. Soc. Amer. 27: 71.
(General description of the sedimentation processes in various sections of the Gulf of Mexico (no data))
29. Shepard, F. P. and Moody, C. L. 1953.
API research project 51 - study of near-shore recent sediments and their environments in the northern Gulf of Mexico. Proc. Amer. Petrol. Inst. 33(VI): 34-49.
(Authors discuss rate of sedimentation and types of sediments in the Eastern Mississippi Delta area)
30. Stetson, H. C. 1949.
Sediments of western half of Gulf of Mexico. Oil and Gas Journal 47: 150, March.
(General discussion with no presentation of data)
31. Stetson, H. C. and Trask, P. D. 1953.
The sediments of the Western Gulf of Mexico. Part I. The continental terrace of the western Gulf of Mexico: its surface sediments, origin, and development. By Henry Stetson. Part II. Chemical studies of the western Gulf of Mexico. By Parker D. Trask. Papers in Physical Oceanography and Meteorology 12(4): 1-120.
(Paper contains tabulated information on grain size, water content, organic content, calcium carbonate, and other information for a traverse off Trinity Shoal in the Lake Charles survey area)

32. Trask, P. D. 1949.
Recent sediments in the Gulf of Mexico as source beds of petroleum. Oil and Gas Journal, 47(46): 109.
(Discussion and summary of known information. No presentation of data)
33. Trask, P. D. 1952.
Strength of sediments in the Gulf of Mexico. Proc. 2nd Conf. on Coastal Engineering, pp. 145-157, 1952.
(Trask presents a graph of median diameter vs. water content of sediment samples showing relation of strength to these two factors. He also presents a map of water content distribution of sediments in the Gulf of Mexico and a range of strengths for these sediments)
34. Trowbridge, A. C. 1927.
Disposal of sediments carried to the Gulf of Mexico by Southwest Pass, Mississippi River. (Abstract) Bull. Geol. Soc. Amer. 38: 148.
(Results of analysis of 541 sediment samples collected by U.S.C. & G.S. in 1921-22 taken near the mouth of Southwest Pass at depths of 3 to 2500 fathoms were summarized)
35. Trowbridge, A. C. 1930.
Building of Mississippi Delta. Bull. Amer. Assoc. Petrol. Geol., 14: 867-901.
(This paper deals with the sedimentation of the lower Mississippi Delta and particularly with sedimentation occurring at the mouths of the various passes. A map shows the distribution of sediments in the Gulf adjacent to Southwest Pass)
36. Turner, H. J. 1903.
Examination of mud from the Gulf of Mexico, Bull. U. S. Geol. Survey, no. 212, pp. 107-112.
(No data, just a general discussion of some mud collected from one place in Gulf of Mexico)
37. Weaver, P. 1951.
Continental shelf of the Gulf of Mexico. Bull. Amer. Assoc. Petrol. Geol. 35: 393-398.
(General discussion of geology in this area with regard to oil deposits and sedimentary layers offshore)
38. Willey, M. B. 1948.
Engineering characteristics of the Gulf Coast continental shelf. Amer. Inst. Min. Met. Eng. Petr. Tech Paper 2323, pp. 29-39.
(An engineer discusses the sediment in 7 offshore localities under the headings (1) composition (2) pile bearing tests (3) freezing action and possible safe bearing tests and (4) soil mechanics)
39. Friddy, R. R. 1955.
Recent Mississippi Sound sediments compared with some upper cretaceous sediments. Trans. Gulf Coast Assoc. of Geol. Soc. 1, 159-168, 5 figures.

Salinity

1. Adams, Richard M. 1953.
Oceanographic survey of the Gulf of Mexico. Annual report for period June 15, 1952 to June 30, 1953. OWR Contract N7onr-48702, Bureau of Ships NE120219-5.
(Report contains some scattered salinity data along the Alabama and Florida coasts for summer season)
2. American Petroleum Institute, Research Project 51.
Study of near shore recent sediments and their environments in the Northern Gulf of Mexico. F. P. Shepard Director. Report No. IV.
(Salinity data for East Mississippi Delta in tabular and chart form were presented)
3. Atwood, William G. and Johnson, A. A. 1924.
Marine structures, their deterioration and preservation. Washington: National Research Council, 534 pp, 168 figs, xiv plates.
(Report gives daily salinity records at the major ports on the Gulf coast for one year, 1922)
4. Austin, George B. 1954.
On the circulation and tidal flushing of Mobile Bay, Alabama, Part I. Oceanographic survey of the Gulf of Mexico. Tech. Report 12, April 1954. OWR Contract N7onr-48702, Bureau of Ships NE120219-5.
(Report contains isohalines of Mobile Bay along with other information for survey conditions October 1952)
5. Bandy, O. L. 1954.
Distribution of some shallow-water foraminifera in the Gulf of Mexico. H. S. Geol. Survey. Prof. Paper 254-F (June, 1954) pp. 125-142 plus plates & 1 map.
6. Bates, C. C. 1953.
Physical and geological processes of delta formation. Thesis, Texas A & M.
(Thesis contains some isohalines and salinity data for the Mississippi Delta area for February and June 1950)
7. Bell, J. 1952.
A study of oyster production in Alabama waters. M.S. thesis, Texas A. & M., 81 pp.
(Thesis contains bottom and surface temperature data for Mobile Bay and Mississippi Sound and daily salinity records from Marine Laboratory, Alabama from July to September 1951)
8. Blackman, Berkeley and Lindner, C. P. 1951.
Harbor and coastal problems of the East Gulf coast. Proc. 2nd Conference of Coastal Engineering, pp. 226-235.
(Paper reports some salinity data for Pensacola, Fla. and Eugene Island, La. among other topics)

9. Geyer, R. A. 1950.
The occurrence of pronounced salinity variations in Louisiana coastal waters. J. Mar. Res. 9: 100-110.
(Data reported is not specifically in the survey areas but the general discussion of the variations and their causes is pertinent. A well defined correlation exists between the seasonal variations in salinity and the amount of Mississippi River discharge--in the Grand Isle area. Available information also indicates that salinity variations are affected by local drainage patterns and current characteristics)
10. Lipsey, T. E. L. 1919.
Currents at or near the mouth, Southwest Pass, Mississippi River, Prof. Memoirs U. S. Eng. School 11: 65-122.
(Paper contains longitudinal profiles of salinity at mouth of Mississippi River on April 25, 1916)
11. Oceanographic Survey of the Gulf of Mexico.
Annual report for period 30 June 1953 to 30 June 1954 ONR contract N7onr-48702. Bureau of Ships NE120219-5.
(Isohalines for Lake Charles and other areas for May, June, August were reported)
12. Parker, W. F. 1934.
Variation in salinity, coasts of Louisiana and Texas. U. S. Coast and Geodetic Survey Field Eng. Bull., June, no. 7, p. 57.
(Discusses the variability of salinity in nearshore areas in Louisiana and Texas)
13. Parr, A. E. 1935.
Report on hydrographic observations in the Gulf of Mexico and the adjacent straits made during the Yale Oceanographic expedition on the "Mabel Taylor" in 1932. Bull. Bingham Ocean. Collect. 5, part. 1, pp. 1-93.
(Paper contains salinity data for four stations which are in the survey areas for spring months)
14. Phleger, F. B. 1954.
Ecology of foraminifera and associated microorganisms from Mississippi Sound and environs. Amer. Assoc. Petrol. Geol. Bull. 38(4): 584-618.
(General discussion of general salinity distribution in that area to explain the foraminifera distribution, but no data was given. Foraminifera have been studied from approximately 400 surface-sediment samples in Mississippi Sound, the marsh and estuaries on the adjacent mainland, the barrier islands bounding Mississippi Sound on the south and the open gulf outside the barrier islands. The microfaunas in this area were divided into four geographic and ecologic facies)
15. Phleger, F. B. 1951.
Ecology of foraminifera of Northwest Gulf of Mexico, Pt. I. Foraminifera distribution. Mem. Geol. Soc. America, no. 46, pp. 1-88.
(Paper contains some salinity data in the Lake Charles area from 1947 Atlantic Cruise)

16. Riley, G. A. 1938.
The significance of the Mississippi River drainage for biological conditions in the Northern Gulf of Mexico. J. Mar. Research, 1: 60-74.
(Riley reported some isohalines for the east Mississippi Delta and a portion of the Lake Charles area and published a table of values and a station map)
17. Ritter, H. P. 1895.
Report of a reconnaissance of the oyster beds of Mobile Bay and Mississippi Sound, Alabama, U. S. Fisheries Commission Bulletin, pp. 325-339.
(Report contains some density data for Mobile Bay and Mississippi Sound for December and March, 1894)
18. Simmons, H. B. 1952.
Salinity problems. Proc. 2nd Conf. on Coastal Engineering, pp. 68-83.
(He reports some salinity data at Calcasieu River, La. up river and at the mouth. He also discusses the salt wedge in the Mississippi River)
19. U. S. Coast and Geodetic Survey. 1946.
Density of sea water at Coast and Geodetic Survey Tide Stations.
(Gives average monthly density values for Pensacola, Fla. and Eugene Island, La.)
20. U. S. Army Corps of Engineers, Mississippi River Commission. 1951, 1952 and 1953. Stages and discharges of the Mississippi River and its outlets and tributaries.
(Reports contain data on daily discharge at many points along the Mississippi River)
21. U. S. Geological Survey.
Surface water supply of the United States. Geological Survey Water-Supply Paper 1242, 1952.
(Daily river flow data for rivers in the Western Gulf of Mexico basin)
Geological Survey Water Supply Paper #1177, 1950.
(Daily river flow for lower Mississippi River Basin river flow for 1949-50)
Geological Survey Water Supply Paper 1204. 1951.
(Daily river flow for the South Atlantic Slope and Eastern Gulf of Mexico basins for 1950-51)

Temperature

1. Adams, R. H. 1953.
Annual report for period June 15, 1952 to June 30, 1953. Oceanographic survey of the Gulf of Mexico. ONR Contract N7onr-48702, Bureau of Ships NE120219-5.
(Report contains some temperature data from Mansen bottle casts in the Mobile, Ala. and Pensacola, Fla. survey areas)
2. Adams, R. H. and Sorgnit, E. F. 1951.
Comparison of summer and winter sea temperatures, Gulf of Mexico: Texas A & M Research Foundation. Department of Oceanography. July, 1951.
(Report contains all then available typical bathythermograph traces for 1° quadrants of the Gulf of Mexico for winter and summer)
3. American Petroleum Institute, Project 51.
Study of near shore recent sediments and their environments in the Northern Gulf of Mexico. F. P. Shepard, director. Report No. IV.
(This report contains extensive bathythermograph information and surface temperature information in the East Mississippi Delta Area. Other data was collected but is not yet reported)
4. Atwood, W. G. and Johnson, A. A. 1924.
Marine structures, their deterioration and preservation. Washington. National Research Council. 534 pp, 168 figs. xiv plates.
(Daily surface temperature records are recorded for a period of a year at several of the Gulf ports)
5. Austin, G. B., Jr. 1954.
On the circulation and tidal flushing of Mobile Bay, Alabama, Part I. Oceanographic survey of the Gulf of Mexico. Tech. Report 12, April 1954. ONR Contract N7onr-48702, Bureau of Ships NE, 120219-5.
(Report contains temperature values and isotherms for Mobile Bay for the survey made in October, 1952)
6. Bandy, O. L. 1954.
Distribution of some shallow water foraminifera in the Gulf of Mexico. U. S. Geological Survey. Prof. Paper 254-F (June 1954), 125-142.
Plates. 14p.
(Water samples and temperature data were collected at stations on 3 offshore traverses between Sabine Pass, Texas and Grand Cheniere, La. in water depths ranging from 27 to 130 feet)
7. Bell, J. 1952.
A study of oyster production in Alabama waters. M.S. thesis, A. & M. College of Texas, 81 pp.
(Thesis contains bottom and surface temperature values for Mobile Bay and Mississippi Sound and temperature records from Marine Laboratory, Alabama from July to September, 1951)
8. Blackman, B. and Lindner, C. P. 1951.
Harbor and coastal problems of the East Gulf Coast. Proc. 2nd Conf.

Coastal Engineering, 1951, pp. 226-235.

(Paper discusses general features of the Gulf Coast, and gives temperature records for Pensacola, Fla. and Eugene Island, La.)

9. Fuglister, F. C. 1947.

Average monthly sea surface temperatures of the western North Atlantic Ocean. Papers in Physical Oceanography and Meteorology 10: 3-25.

(Paper contains seasonal isotherms for the Gulf of Mexico)

10. Hirsch, A. A. 1939.

Mississippi River water temperature at New Orleans. Monthly Weather Review, 67: p. 415.

(The 68-year average monthly air temperature and the 24-year monthly average river water temperature are plotted)

11. McDonald, W. F. 1935.

Seasonal variation in North Atlantic surface temperature. Trans. Amer. Geophys. Union, 16th Annual Meeting, pt. 1, pp. 228-239.

(He discusses temperature variation in Gulf of Mexico, North Atlantic, Caribbean. Data is based on averages of 63 years of observation (1855-1917). A number of figures showing various aspects of these temperature variations are presented)

12. McDonald, W. F. and Showalter, A. K. 1933.

Air and water temperatures in the West Indian Region. Trans. Amer. Geophys. Union 14th Annual Meeting, pp. 197-209.

(They present detailed information on air-water temperatures gathered from ships in the Antillean area (Incl. Gulf of Mexico) south of Bermuda and eastward to 52.5° Long. between 1915 and 1929. Numerous charts and graphs)

13. Oceanographic Survey of the Gulf of Mexico. Texas A & M Research Foundation Data Report No. 1, Nov. 1952. Physical and meteorological data, cruises 1, 2 and 3 of the Fish and Wildlife vessel ALASKA.

ONR Contract N7onr-48702, Bureau of Ships ME120219-5.

(Report contains some temperature depth data for several stations in the survey area)

14. Oceanographic Survey of the Gulf of Mexico. Texas A & M Research Foundation. Annual report for period 15 June 1952 to 30 June 1953.

ONR Contract N7onr-48702, Bureau of Ships ME120219-5.

(Isotherms for May, June, August, January for part of survey areas)

15. Oceanographic Survey of the Gulf of Mexico. Texas A & M Research Foundation. Annual report for period 30 June 1953 to 30 June 1954.

ONR Contract N7onr-48702, Bureau of Ships ME120219-5.

(Isotherms for April, May, 1953 for Lake Charles, La. survey area)

16. Parr, A. E. 1935.

Report on hydrographic observations in the Gulf of Mexico and the adjacent straits made during the Yale Oceanographic expedition on

the "Mabel Taylor" in 1932. Bull. Bingham Ocean. Collection 5,
art. 1, pp. 1-93.
(Report contains some temperature-depth data for four stations in
the survey areas)

17. Phleger, F. B. 1951.
Ecology of foraminifera of northwest Gulf of Mexico, Pt. I. Foraminifera distribution. Mem. Geol. Soc. America, No. 46, 1-88.
(Paper reports bathythermograph data in Lake Charles, La. area from the 1947 Atlantis Cruise)
18. Reid, Robert O. and Clayton, William H. 1952.
Progress report for period March 15, 1951 to March 14, 1952. Texas A & M Research Foundation.
(Report contains data on daily temperatures of the water, air and sediment as well as water level, wind direction, wave height, solar radiation at Eugene Island, La.)
19. Ritter, H. P. 1895.
Report of a reconnaissance of the oyster beds of Mobile Bay and Mississippi Sound, Alabama, U. S. Fisheries and Commission Bulletin, pp. 325-339.
(He recorded temperature data for Mobile Bay and Mississippi Sound for December and March, 1894)
20. Slocum, G. 1935.
Sea surface temperature summary for the north-central Gulf of Mexico, 1912-33. Monthly Weather Review 63: 174.
(Paper gives monthly averages of sea surface temperatures for 1912-33 for north central section of the Gulf)
21. U. S. Coast and Geodetic Survey. 1944.
Surface water temperatures at Coast and Geodetic survey tide stations Atlantic and Gulf coasts.
(Report contains monthly averages for surface temperatures at Pensacola, Fla. from 1924-42 as well as the means and extremes)
22. U. S. Corps of Engineers, Department of the Army and Maritime Commission. 1949.
The ports of Mobile, Alabama and Pensacola, Fla. Port series 18. Revised 1949.
(Monthly mean maximum and minimum temperatures averaged from 75 years of data are recorded as well as monthly maximum wind velocities and direction for 34 years and monthly mean precipitation for 76 years at Mobile and Pensacola)
23. U. S. Corps of Engineers. Department of the Army and Maritime Commission. 1947.
The port of Lake Charles, La. Port series no. 21.
(Report gives monthly maximum and minimum temperatures averaged over 47 years as well as wind direction, speed and rainfall)

24. U. S. Department of the Navy. Bureau of Yards and Docks.
Report on marine borers and fouling organisms in 56 important
harbors and tabular summaries of marine borer data from 160 wide-
spread locations. Navdocks TP-Re-1, April 1951. Washington 25, D.C.
(Report contains monthly averages of water temperature at Pensacola,
Fla. taken from 1944 to 1947)

Transparency

- American Petroleum Institute. Research Project 51.
Study of near shore recent sediments and their environments in the northern Gulf of Mexico. F. P. Shepard, Director. Report No. VI.
(A short summary of transparency observations was given)
2. Bates, C. C. 1953.
Physical and geological processes of delta formation. Thesis. Ph.D. Texas A. & M. 1953.
(The boundary line of the turbid and clear water off various passes remains essentially fixed though it is shifted to a minor extent. Off the mouth of the Mississippi the location of the boundary is apparently a function of slope of the water surface along and seaward of the passes)
 3. Bumpus, D. F. and Clarke, G. L. 1947.
Woods Hole Oceanographic Institute Technical Report No. 10 on the hydrography of the western Atlantic; transparency of the coastal and oceanic waters of the western Atlantic. 1947.
(Paper contains some scattered transparency values on the east Mississippi Delta)
 4. Butler, P. A. 1949.
An investigation of oyster producing areas in Louisiana and Mississippi damaged by flood waters in 1945. Special Scientific Report Fisheries, No. 8, U. S. Dep't of Interior, Fish and Wildlife Service.
(Paper contains turbidity indices for points of Mississippi Sound and Lake Pontchartrain)
 5. Butler, P. A. and Engle, J. B. 1950.
The 1950 opening of the Bonnet Carre Spillway: its effect on oysters. Special Scientific Report, Fisheries No. 14, U. S. Dep't of Interior, Fish and Wildlife Service.
(Paper contains turbidity indices for Mississippi Sound and Lake Pontchartrain - % light passing thru samples)
 6. Clarke, G. L. 1938.
Light penetration in the Gulf of Mexico. J. Mar. Res. 1: 85-94, 1938.
(Clarke made several measurements of light penetration east of the Mississippi Delta. Paper contains a station map, table of light penetration values, and a graph showing the relation between depth and irradiation expressed as per cent light just over surface)
 7. Lipsey, T. E. L. 1919.
Currents at or near the mouth, Southwest Pass, Mississippi River. Prof. Memoirs, U. S. Eng. School. 11: 65-122.
(Paper reports longitudinal profiles of turbidity at the mouth of Southwest Pass, Mississippi River on April 25, 1916. Deeper water is much less turbid than the surface water because clear Gulf water underlays the muddy river water.)
- Oceanographic Survey of Gulf of Mexico. 1953.
Mississippi Delta cruise report. In process ONR Contract N7onr-48702,

Bureau of Ships NE 120219-5.

(Secchi disc data for Lake Charles, La. and Mobile, Ala. survey areas)

9. Scruton, P. C. and Moore, D. G. 1953.
Distribution of surface turbidity off the Mississippi Delta. Bull. Amer. Assoc. Petroleum Geol. 37: 1067-74.
(They report turbidity and water color from aerial observations and 300 Secchi disc observations for the east Mississippi Delta Area. Observations around the Mississippi Delta show a great quantity of suspended sediment in the water close inshore and under certain conditions turbid water extends to sea for distances of at least 65 miles as long plumes off the mouths of the important passes. The direction and seaward distribution of the turbid plumes is controlled chiefly by the wind and to a less extent by semi-permanent currents, tidal currents and by river flow)

Currents

1. American Petroleum Institute Research Project 51.
Study of near shore recent sediments and their environments in the Northern Gulf of Mexico. F. P. Shepard, director. Reports No. III, IV, and V.
(Reports contain extensive current data for east Mississippi Delta area)
2. Bates, C. C. 1953.
Physical and geological processes of delta formation. Thesis. Texas A. & M. College, 1953.
(Summarized published data for over-all currents at or near the mouths of the Mississippi River)
3. Cefalu, F. D. 1918.
Report on current observations in the Gulf. New Orleans District, U. S. Corps of Engineers file SW Pass 12815 of June 18, 1918, 29 pp, 48 charts.
(Report contains rather extensive series of current measurements out from Southwest Pass)
4. Cline, I. M. 1933.
Tides and coastal currents developed by tropical cyclones. Monthly weather review. 61: 36-38.
(From observations made on the Texas and Louisiana coasts Cline concluded that in the building up of the storm tide, powerful currents are developed which run coastwise from right to left across the right hand front of the cyclone)
5. Cobb, W. C. 1952.
The passes of the Mississippi River. P reprint No. 13, Amer. Soc. Civil Eng. 23 pp.
(Reports current measurements at and near the mouths of the Mississippi River)
6. Dent, E. J. 1924.
The mouths of the Mississippi River. Trans. Amer. Soc. Civil Eng. 87: 997-1006.
(Paper contains a set of current observations at the surface and at 6-foot depths on South Pass Bar taken July, 1920)
7. Holle, C. G. 1952.
Sedimentation at the mouth of the Mississippi River. Proc. 2nd Conf. on Coastal Engineering Council on wave research. Berkeley, Calif. pp. 111-129.
(Holle states that relatively strong littoral currents about 1 foot per second, flow generally in an east to west direction, just Gulfward of the Passes of the Mississippi)
8. Lipsey, T. E. L. 1919.
Currents at or near the mouth, Southwest Pass, Mississippi River. Prof. Memoirs, U. S. Eng. School, 11: 65-122.
(Limited description of currents near Southwest Pass)

9. Marmer, H. A. 1942
The tides at Pensacola. U. S. Naval Institute Proc. 68, No. 10,
1427-1431.
10. Marmer, H. A. 1951.
Tidal datum planes. U. S. Coast and Geodetic Survey. Spec. Pub.
135. U. S. Government Printing Office, 142 pp.
11. U. S. Coast Pilot 1949.
Gulf Coast, Key West to Rio Grande, 3rd ed., U. S. Printing Office.
(Contains some current data near ports which are of aid to navigation)
12. U. S. Corps of Engineers. 1953.
Beach erosion control report. Cooperative study of Perdido Pass, Ala.
(Current measurement records in and around Perdido Pass)
13. U. S. Corps of Engineers. 1939.
The Passes - Mississippi River, pp. 1-25, 16 plates.
(In the South Pass Area there exists along the shore an east to west
current with a velocity of approximately 1.5 ft. per sec. Because
of this current, the bar channel lying to the east of the foot of the
pass is a salt water channel and a channel excavated by the river)
14. U. S. Corps of Engineers. Department of the Army and U. S. Maritime
Comm., 1949.
The ports of Mobile, Ala. and Pensacola, Fla., Port Series No. 18,
revised 1949.
(Report states the magnitude of tidal currents in the ship channel
to be 2 mph. diminishing to one-half mph. in the river channel. With
strong winds the maximum current velocity may be 4 mph. on the outer
bar, 3 mph. in bay channel and 2 mph. in river channel)
15. U. S. Corps of Engineers. 1947.
The port of Lake Charles, La., Revised 1947.
(The normal tidal current in the ship channel of the Calcasieu is
one-fourth mph.)
16. U. S. Department of Commerce. Coast and Geodetic Survey, 1952.
Current tables, Atlantic Coast, North America, pp. 112-117.
(Presents monthly current averages for 1^o quadrants for Gulf of
Mexico as well as for the Atlantic)

Sea and Swell

1. Army Air Force, Weather Information Branch, 1943
Hurricanes affecting the Atlantic Coast, the Gulf Coast and the Southern California Coast of the United States, report No. 636.
(Unavailable at present, but efforts are being made to obtain the report)
2. Bretschneider, C. L. 1955.
Generation of wind waves on the Continental Shelf. Texas A & M Research Foundation. For Beach Erosion Board.
(Report has not yet been completed, but it will contain actual wave height data at several points along the northern Gulf and hindcast information by a new method for areas in between data stations)
3. Cline, I. M. 1926.
Tropical cyclones, comprising an exhaustive study of features and recorded sixteen tropical cyclones which have moved in on Gulf and south Atlantic coasts during the twenty-five years, 1900 to 1924, inclusive. New York, the Macmillan Co., 1926.
4. Escoffier, F. F. 1951.
Design and performance of sea walls in Mississippi Sound. Proc. 2nd Conference in Coastal Engineering, pp. 257-267.
(Publication contains information on major hurricane paths in the survey area and the heights of storm tides at Pascagoula, Biloxi, Gulfport and Bay Saint Louis, Mississippi. There is some discussion of coincident wind directions and effect of bottom on tide heights)
5. Finley, J. P. 1884.
Charts of relative storm frequency for a portion of the northern hemisphere. Incl. Gulf of Mexico. Prof. Papers of the Signal Service XIV, U. S. War Dep't, 9 pp., 13 pl.
(Unavailable at present but efforts are being made to obtain it)
6. Fleming, R. H. and Bates, C. C. 1950.
The engineering application of sea and swell data, 2nd conference on Coastal Engineering, pp. 88-98.
(Publication contains wave height data outside Sabine Pass with an indication of procedures used to convert published sea and swell data to wave heights)
7. Glenn, A. H. 1950.
Wave tide, current and hurricane problems in coastal operations. Oil and Gas Journal, June 22, 1950.
(Paper gives record of observed wave height data with associated wind data for a winter month in the delta area)
8. Mason, M. A. 1952.
Pertinent factors in the protection of the Gulf Coast. Proc. 2nd Conference on Coastal Engineering, pp. 217-225.
(Paper shows a figure on significant periods and heights of waves at Humble Platform 8 miles offshore from Grand Isle, La., 1948-1949 and

a graph of hurricane tide frequency from 1900-1951 with record highs for Mobile, Ala.; Pass Christian, Miss.; Tampa, Fla. and normal tidal fluctuations and hurricane paths on record)

9. Oceanographic Survey of the Gulf of Mexico. Texas A & M Research Foundation.
Annual report for period 15 June 1952 to 30 June 1953. Annual report for period 30 June 1953 to 30 June 1954. Data report No. 1, Nov. 1952. ONR Contract N7onr-48702, Bureau of Ships, NE 120219-5.
(Sea and swell data recorded for almost every hydrographic station occupied in the Gulf from 1951 to 1954)
10. Price, W. A. 1954.
Dynamic environments: reconnaissance mapping, geologic and geomorphic, of Continental Shelf of Gulf of Mexico. Trans. Gulf Coast Assoc. of Geol. Soc. 4, 75-107.
(Paper shows among other things relative wave energy on the continental shelf and the shelf conditions of the Gulf of Mexico. The energies were computed from hindcasting methods using wind speeds and directions)
11. Tannehill, I. R. 1944.
Hurricanes. Princeton University Press, 269 pp.
(In this book Tannehill records the highest tides of record on the Gulf Coast and a chronological account of hurricanes on record on the Gulf Coast)
12. Tannehill, I. R. 1936.
Sea swells in relation to movement and intensity of tropical storms. Monthly Weather Review, 64: 231-38.
(Tannehill discusses in general terms the relation of wind direction and movement of swell)
13. Thompson, W. C. 1954.
Energy of waves expended on the continental shelf of the Gulf of Mexico. Contribution from the Department of Oceanography of Texas A. & M. College conducted for the Texas A & M Research Foundation by sponsorship of ONR.
(Report contains a summary of total work done by wind waves at Galveston, Texas, Burrwood, La., Tampa, Fla. and Vera Cruz, Mexico)
14. U. S. Army. Corps of Engineers. 1953.
Beach erosion control report. Cooperative study of Perdido Pass, Ala. (Report contains swell diagrams and wind charts for Perdido Pass, Ala.)
15. U. S. House of Representatives.
Document No. 682. 80th Congress, 2nd session. Harrison County, Miss. Beach Erosion Control Study.
(Gives wind charts for Biloxi, Miss. and Mobile, Ala.)
16. Wilson, B. E. 1955
Gradual approach to the forecasting of waves in moving fetches. Technical Report 95-1. Beach Erosion Board. Corps of Engineers.

Negotiated Contract No. DA-49-055-eng-45. Texas A&M Project 95 -
Reference 55-6T, January 1955.

(This is a theoretical paper elaborating on a graphical approach for
hindcasting wind waves. There is a brief discussion on the influences
of depth, ocean currents and local winds on the results of the fore-
casting method)

Sources Checked for Information

1. Bibliography of geology theses of colleges and universities of the United States.
2. Geological abstracts (Amer. Geol. Inst.).
3. Bibliography of North American Geology, U. S. Geol. Survey.
4. Contributions from the Cushman Foundation for foraminiferal research.
5. Bibliography of the Gulf of Mexico by Geyer.
6. Galtsoff card bibliography on the Gulf of Mexico.
7. Journal of Marine Research.
8. Transactions, American Geophysical Union.
9. Journal of Sedimentary Petrology.
10. Journal of Economic Paleontology and Mineralogy.
11. Hydrographic Review.
12. Bingham Oceanographic Laboratory Publications.
13. Institute of Marine Science Publications.
14. Woods Hole Oceanographic Institution Collected Publications.
15. Scripps Institution of Oceanography Collected Publications.
16. Reports and contributions from the Department of Oceanography, Texas A. & M. College.
17. Warren Thompson's card bibliography from pipe line projects in the Louisiana area. (Dep't of Oceanography, Texas A. & M. College)
18. Dr. Lynch's (Geology Dept., Texas A. & M.) bibliography on Gulf of Mexico geology.
19. API Project 51, progress reports.
20. U. S. Fishery reports.
21. Index to Bulletin of the American Association of Petroleum Geologists.
22. Conferences on Coastal Engineering.
23. Recent Marine Sediments, edited by Trask.
24. The Oceans - Johnson, Sverdrup and Fleming.
25. Submarine Geology - Shepard.
26. Historical Geology, Antillean-Caribbean Region-Schuckert.
27. Principles of Sedimentation, Twenhofel.
28. Marine Geology, Kuenen.
29. American Soc. Civil Engineers, Trans. Proc.
30. American Journal of Science.
31. L.S.U. Thesis Abstracts
32. Bibliography of Gulf Coast Cenozoic Formations (Univ. of Texas Geol. Soc., Austin, Texas).
33. Index to Bull. Geol. Soc. Amer.
34. Annotated bibliography of economic geology.
35. Industrial Arts Index.
36. Agricultural Index.
37. Publications relating to the following
 - (a) State Conservation Dep'ts
 - (b) Public health and pollution boards
 - (c) Coast & Geodetic Survey (Catalogue of papers)
 - (d) Fish & Wildlife (U.S. & State)
 - (e) Corps of Engineers
 - (f) Dep't of Agriculture
 - (g) Cyster Bibliography by Baughman
 - (h) Phleger's papers on Gulf sediments

List of Government Agencies, Private Firms, and Individuals Who Have
Been Contacted About Unpublished Information.

1. Brown & Root, Marine Operators, P.O. Box 3, Houston 1, Texas.
They have observed in marine piling construction that the bearing required in their piling is achieved at a lesser penetration as they move westward along the Coast from the Mississippi Delta.
2. William F. Clapp Laboratories, Inc., Duxbury, Mass.
They have sent cards listing boring and fouling data for Mobile, Ala. and Pensacola, Fla. and a place in Louisiana.
3. Coastal Studies Institute, Louisiana State University, Baton Rouge, La.
Have studied physical properties of sediments out to about 5 fathoms. Treadwell has a report in progress concerning the sediments and ecology of Breton Sound. They also made suggestions for further contacts.
4. Eustis Engineering Co., Consulting Foundation Engineers, 3635 Airline Highway, New Orleans 30, La.
Have made a number of borings across Mississippi Sound from Gulfport and Biloxi, Mississippi, in connection with proposed causeways connecting these cities with offshore islands. A report on the above was released to us. Eustis has made a number of deep offshore borings east, south and west of the Mississippi Delta, but these cannot be released as yet.
5. A. H. Glenn and Associates, New Orleans Airport, New Orleans, La.
Have a large amount of wind and swell data, most of which is not from the immediate regions with which this survey is concerned. They have only a few observations on properties of the water and currents.
6. Greer and McClelland, Consulting Foundation Engineers, 2649 N. Main St., Houston 9, Texas.
Work from foundation investigations consists of moisture content, unit dry weight and strength of soils near the mudline. They have taken structurally undisturbed cores to depths of 200 and 300 feet below the Gulf floor. Several of these borings are restricted by the oil companies who hired them to do the surveys.
7. Gulf States Marine Research Laboratory. Ocean Springs, Mississippi.
Only pertinent work known of by Mr. Demoran, biologist, was that of R. R. Priddy (see bibliography) on sediments of Mississippi Sound. However, other sources suggested that some salinities have been taken in the Sound by personnel at the laboratory.
8. Harrison County Engineer, Gulfport, Mississippi.
County officers have made a few soil analyses in very shallow water off Hancock County in connection with construction of an artificial beach.
9. Harrison County Health Officer, Gulfport, Mississippi.
Have made very limited studies of pollution in some embayments; studies are accompanied by practically no physical or chemical determinations.

10. Harrison County Supervisor's Office
Have there a report on soil investigations that were made for the County in Mississippi Sound by the Eustis Engineering Co.
11. Humble Oil and Refining Co., Exploration Dept., Houston, Texas
Salinity, temperature and current data has been obtained in local areas in the Mississippi Delta region and also offshore from Grand Isle, La. It has not yet been determined how much of this data can be made available.
12. Magnolia Petroleum Co., P.O. Box 900, Dallas 21, Texas.
A report is being written on 6,000 - 7,000 bottom samples with a map showing the distribution of the recent sediments collected from Sabine Pass to High Island. May be released for publication soon.
13. J. Ray McDermott Co., Harvey, La.
Though they have done construction work in Gulf, field engineers' reports contain general weather observations only.
14. Mobile County, Board of Health, Mobile, Ala.
Have cooperated in salinity and pollution surveys in Mobile Bay. State Health agency has some of information on file.
15. Mississippi Seafood Commission, Mr. Walter Gex, President, Bay St. Louis, Mississippi.
The Mississippi Seafood Commission has had salinities taken in connection with surveys of oyster reefs in Mississippi Sound. Salinity records are believed to be at Gulf States Research Laboratory, Ocean Springs, Mississippi.
16. H. D. Shaw and Associates, Civil Engineers, Gulfport, Mississippi.
They have little information on file except for some foundation investigations made in connection with dock and seawall construction near Gulfport. They have, however, assisted in surveying for proposed causeways across Mississippi Sound.
17. Shell Development Co., 3737 Bellaire Blvd., Houston, 25, Texas.
They have data on recent sediments in the Calcasieu Lake-Vermilion Lake areas, but they cannot be released because of company restrictions.
18. Sutter Well Works, Pass Christian, Mississippi.
Have kept logs of water wells drilled from about 1900 to present. Some of these wells are along coast and on sea islands.
19. Tulane University, New Orleans, La.
Steinmayer's group in the Geology Department at Tulane have done nothing of interest to this project but made some suggestions as to further contacts.
20. United States Army Corps of Engineers, Mobile District, Mobile, Ala.
Corps of Engineers maintain a number of tide gages in the intercoastal waterway, records from which are kept in this office. They also have

analyses of samples taken from several series of borings taken in relatively shallow water near Mobile. The only studies on chemistry and other properties of the water appear to have been in connection with salt wedge studies in the Mobile River system.

21. United States Army Corps of Engineers, New Orleans District, Foot of Prytania Street, New Orleans, La.
The Corps of Engineers has analyses of samples taken from borings made off Lake Charles, and some salinity records from the same region. They also have scattered soil analyses from other adjacent regions.
22. United States Coast and Geodetic Survey, New Orleans, La.
Basic data from all Coast and Geodetic Surveys is on file in Washington. The Coast and Geodetic Survey is not now making any surveys in the area, and are not planning any in the near future. They do plan to establish some supplementary tide stations sometime in the future.
23. United States Department of the Interior. Geological Survey.
Maps showing results of a gravity survey and of an aeromagnetic survey in or near the Lake Charles area. We now have copies of these.
24. United States Fish and Wildlife Service, Pascagoula, Mississippi.
U.S.F.W.S. has done some shallow water trawling in the survey area and have surface and bottom temperatures for each trawl.
25. United States Soil Conservation Service, New Orleans, La.
This organization does have some aerial surveys that may include some aerial photographs of the shoreline, but only where agricultural lands border the ocean.
26. United States Department of the Navy, Bureau of Yards and Docks, Washington 25, D.C.
Have provided Navy publications containing marine borer data and some information on fouling.
27. Horace Williams Co., 833 Howard Ave., New Orleans, La.
Construction foremen keep records relative to weather and working conditions in constructing offshore platforms, but records are not summarized in any way. The records may give some information about the character of the bottom as indicated by resistance to penetration by piling.