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EVALUATION OF LAND OWNERSHIP, LEASE STATUS,
AND SURFACE FEATURES IN FIVE
GEOPRESSURED GEOTHERMAL PROSPECTS

By
WILLIAM N. HACKENBRACHT, J.D.

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May 1981

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EVALUATION OF LAND OWNERSHIP, LEASE STATUS
AND SURFACE FEATURES IN FIVE
GEOPRESSURED GEOTHERMAL PROSPECTS

May 1981

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Department of Geothermal Energy

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AND SURFACE FEATURES IN FIVE
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SUMMARY AND CONCLUSIONS

This study was accomplished for the U.S. Department of Energy for the purpose of gathering information pertaining to land and lease ownership, surface features and use and relevant environmental factors in the Lake Theriot (West and East), Kaplan, Bayou Hebert and Freshwater Bayou geopressured geothermal prospects in Louisiana, and the Blessing geopressured geothermal prospect in Texas. This information and recommendations predicated upon it will then be used to augment engineering and geological data utilized to select geopressured geothermal test well sites within the prospects.

The five geopressured geothermal prospects are briefly described and recommendations given as follows:

1. Lake Theriot Prospect

A. West. The Lake Theriot Prospect (West) is contained within approximately 15 sections of marshland in Terrebonne Parish, Louisiana, which are owned by four landowners. More than one-half of this prospect is open for oil and gas leasing. This prospect is in marshland, is not used for farming or grazing and could only be drilled with a barge type drilling rig transported by canal from Houma, Louisiana. It is recommended that it would probably be easier to secure a geopressured geothermal lease for a test well in the portions of the prospect which are open to oil and gas leasing.

B. East. The Lake Theriot Prospect (East) is contained within approximately five and one-half atypically shaped sections in Terrebonne Parish, Louisiana, which are owned by three landowner groups. Forest Oil Company has outstanding oil and gas leases on all of this prospect. The prime test well site area in the western portion of Section 64 does not have access roads, has some cattle grazing but no farming, and a land type drilling rig could only be brought in by dredging a canal and building a plank road on the raised canal bank. If the western portion of Section 64 is selected as a test well site based upon geological criteria, it might be difficult to obtain the requisite canal dredging permit.

2. Kaplan Prospect

The Kaplan Prospect encompasses six sections of relatively firm farmland in Vermilion Parish, Louisiana, which are owned by numerous individual Acadian farmers. Superior Oil Company is the dominant lessee within all six sections of the prospect and has

had considerable production. There are several large tracts of land. It is recommended that if the geological determination is made that a good geopressured geothermal test well site could be on one of these large tracts of land, then a geopressured geothermal lease representative should endeavor to secure a geopressured geothermal lease from the individual landowner.

3. Bayou Hebert Prospect

The Bayou Hebert Prospect encompasses six sections of land in Vermilion Parish, Louisiana, which are owned by numerous individuals. C. Williams and Superior Oil Company are the outstanding oil and gas lessees. The three southern sections of the prospect are in marshland, but the three northern sections are on relatively flat and firm land that would nevertheless require plank roads for transportation and installation of drilling equipment. Section 2 of the prospect has the only good road access. Perhaps geological data will suggest that a geopressured geothermal lease should be obtained for one of the larger parcels of land.

4. Freshwater Bayou Prospect

The Freshwater Bayou Prospect includes approximately 10 sections of marshland in Vermilion Parish, Louisiana, which is owned by four large landowners plus private landowners in Section 11 and part of Section 14. Other than the oil and gas leases from Exxon Corporation to Union Oil of California which have been extended by production, the only other oil and gas leases in this prospect are those pursuant to which Pel-Oil Company, Inc. is drilling Pel-Tex - R. S. Sagrera Estate No. 2 in Section 11 with a land rig barged in from Intercoastal City, Louisiana. This prospect has no road access and is used for cattle grazing but not farming. It is suggested that if the Pel-Tex-R. S. Sagrera No. 2 is a dry hole, perhaps the geologists might recommend that this well should be used for a test well site.

5. Blessing Prospect

The Blessing Prospect includes all of the E.L. Holmes Survey and the J.W. Byrne Survey in Matagorda County, Texas. There are nine landowners within this prospect, where Davis Oil Company is the dominant lessee and has producing wells. The prospect has good road access and firm land that will support a drilling rig. This study does not suggest that any particular area of the prospect is more suitable for a test well site. If the geological determination is made that a good test well site could be located in this prospect, it is recommended that a geopressured

geothermal lease representative should endeavor to obtain Davis Oil Company's sanction and cooperation in establishing a test well site and obtaining a geopressured geothermal lease.

I. INTRODUCTION

This study was accomplished for the U.S. Department of Energy pursuant to Contract No. DE-AC08-81NV10194. Information was gathered for this report by obtaining requisite U.S.G.S. quadrangle maps, County and Parish highway and road maps, Soil Conservation maps and Tobin maps, and utilizing these maps to make on-site observations within the five geopressured geothermal prospect areas with which this study is concerned.

Upon request several individuals provided valuable information about land and lease ownership, surface utilization and environmental factors and problems and solutions concerning drill rig transportation and operation in the prospect areas.

In each prospect the District Conservationist of the Soil Conservation Service was consulted to obtain information concerning farm crops, cattle grazing and crop rotation with respect to possible differential land value based upon surface use for farming.

The name and address of the owner or owners of each parcel of land within each of the geopressured geothermal prospect areas was determined by a thorough search of all of the relevant records in the Assessor's and Clerk's Offices in the respective Parish and County Court Houses. The Land Ownership Maps at the end of this report show each tract owner or owners within each prospect. The Lease Status Maps show the extant oil and gas leases within each prospect.

The purpose of this study was to gather information about the five prospects pertaining to land and lease ownership, surface features and use and relevant environmental factors. This information will then be used to augment engineering and geological data for selection of geopressured geothermal test well sites within the prospects.

II. LOCATIONS OF THE FIVE GEOPRESSURED GEOTHERMAL PROSPECTS

For the purposes of this study, Dr. Don G. Bebout, Director of Research of the Louisiana Geological Survey, approved the delineation of the Lake Theriot, Kaplan, Bayou Hebert and Freshwater Bayou Prospects in Louisiana. Dr. Robert A. Morton,

Associate Director of the Texas Bureau of Economic Geology, selected the area contained within the E.L. Holmes Survey, Abstract 202, and the J.W. Byrne Survey, Abstract 447, Matagorda County, Texas, as the Blessing geopressed geothermal prospect.

The locations of the five prospects are shown in the following table.

<u>Prospect</u>	<u>Location</u>
Lake Theriot (West)	Area delineated in Figures 1, 2 and 5 including all of Secs. 13, 14, 15, 16, 17, 22, 23 and 24 and portions of Secs. 7, 8, 9, 10, 11, 12, 18, 19, 20, 21, 25, 26 and 27, T18S, R16E, Terrebonne Parish, Louisiana.
Lake Theriot (East)	Area delineated in Figures 3, 4 and 5 including all of Secs. 62, 63 and 64 of T19S, R17E, all of Secs. 24 and 25 and portion of Sec. 38, T18S, R17E, Terrebonne Parish, Louisiana.
Kaplan	Area delineated in Figures 7, 8 and 9 including all of Secs. 13, 14, 15, 22, 23 and 24, T12S, R1E, Vermilion Parish, Louisiana.
Bayou Hebert	Area delineated in Figures 11, 12 and 13 including all of Secs. 1, 2, 3, 10, 11 and 12, T14S, R4E, Vermilion Parish, Louisiana.
Freshwater Bayou	Area delineated in Figures 15, 16 and 18 including all of Secs. 4, 5, 9, 10 and 11 and portions of Secs. 2, 3, 6, 7, 8, 14, 15 and 16, T17S, R2E, portions of Secs. 31, 32, 33 and 34, T16S, R2E, and part of Sec. 1, T17S, R1E, Vermilion Parish, Louisiana.
Blessing	Area delineated in Figures 20, 21 and 22 including all of the E.L. Holmes Survey, Abstract 202 and the J.W. Byrne Survey, Abstract 447, Matagorda County, Texas.

III. LAKE THERIOT GEOPRESSURED GEOTHERMAL PROSPECT

A. Lake Theriot Prospect (West)

The Lake Theriot Prospect (West) as shown on Figures 1 and 5 is contained within approximately fifteen sections of marshland which are owned by the following landowners:

1. Louisiana Land and Exploration Co.
Suite 1200, 225 Baronne Street
P.O. Box 60350
New Orleans, LA 70160
William L. Johnson, Jr., Landman (504)566-6311
2. Terrebonne Parish School Board
Houma, LA 70361
(504)876-7400
3. Valhi; Pelto Oil
Valhi Inc.
P.O. Box 3067
Houma, LA 70361

Pelto Oil Company
Two Greenspoint Plaza, Suite 400
16825 Northchase
Houston, TX 77060
Kenny W. Tidwell, Landman (713)820-0942
4. Tenneco Oil Company
P.O. Box 2511
Houston, TX 77001
Van Parham, Chief Landman, Gulf Coast Division
(713)757-4323

On Figure 1 the surface of sections marked Valhi; Pelto Oil is owned by Valhi Inc. but the minerals are owned by Pelto Oil and Aminol. Although Aminol has interests in some of the minerals owned by Pelto Oil, leasing is nevertheless controlled by Pelto Oil Company.

The surface and minerals of sections marked Tenneco-La Terre on Figure 1 are owned by Tenneco Oil Company. Tenneco-La Terre of Houma, Louisiana, merely manages surface operations such as hunting and fishing camp leases, and, therefore, any surface right of way negotiations would be made with Tenneco Oil Company.

Figure 2 is the Oil and Gas Lease Status Map for the Lake Theriot Prospect (West). The termination date of each oil and gas lease is shown beneath the name of the individual lessee. The inscription "Prod." beneath a lessee's name indicates that the lease has been extended by production.

The lease information contained on Figure 2 was obtained from the individual landowners. More than one half of this prospect is open for oil and gas leasing.

As the Access Road Map on Figure 5 indicates, the Lake Theriot Prospect (West) is entirely in marshland and is inaccessible by road. Malcolm (Mac) Poincot, a lifetime resident of Theriot, Louisiana, and the pipeline inspector for Louisiana Land and Exploration Co. in Houma, Louisiana, has advised the author of this report that only a barge type drilling rig could be utilized in the prospect area and that drilling equipment would have to be transported by canal from Houma, Louisiana.

Mr. Poincot also stated that the surface of this prospect is not utilized for farming or grazing.

Dr. Don Bebout has provided a structure map of this prospect which is shown on Figure 6 as an aid to correlation.

The information set forth in Figures 1, 2, and 5 and in the preceding paragraphs suggest that the only factor that would apparently make one area within the prospect better than the other areas is that some sections or parts of sections are open for oil and gas leasing. It would probably be easier to secure a geopressed geothermal lease for test well site purposes in the portions of the prospect which are presently open to oil and gas leasing.

B. Lake Theriot Prospect (East)

The Lake Theriot Prospect (East) as originally suggested by Dr. Zaki Bassiouni only included the western portion of Section 64, T19S, R17E, Terrebonne Parish, Louisiana. Adjacent Sections 62, 63 and 64, T19S, R17E, Sections 24 and 25, and the lower portion of Section 38, T18S, 17E, Terrebonne Parish, Louisiana, have been added as part of this prospect because of continuity of landownership and lease status.

This prospect is contained within five and one half atypically shaped sections portions of which as shown on Figure 3 are owned by the following three groups of landowners. Each group's name and address is given as listed in the Assessment Rolls of Terrebonne Parish, Louisiana,

and the individuals having undivided interests in each group are listed.

1. Dr. F. Theo Beatrous Heirs
C/o Marvin and Robert Marmande
121 St. Michel Road
Du Large Route
Houma, LA 70360

Dr. William P. Beatrous
Frank Hayne Beatrous
Grace Phyllis Beatrous Rachal
Robert H. and Myrn M. Marmande
Marvin V. and Loretta Y. Marmande

The partitioned and subdivided surface lots along both sides of Beatrous Road in the extreme eastern portion of Section 24, T18S, R17E and Sections 62, 63 and 64, T19S, R17E, Terrebonne Parish, Louisiana, have been sold to other parties who have constructed homes on them.

2. Butley Mahler and Robert C. Milling et al.
P.O. Box 69
Houma, LA 70360

Butley Mahler
Dorothy S. Milling
Burton B. Marmande
William A. Marmande
Patricia M. Trahan
Marion M. Doucet
Virginia M. Powers
Marie A.T. Marmande

Marvin V. Marmande
Kearney Mahler
Rhea M. St. Martin
Dr. Eugene C. St. Martin
Roy J. St. Martin, Inc.
Roy J. St. Martin, Jr.
H.P. St. Martin, Jr.
3. Widow M.V. Marmande et al.
C/o Mrs. M.V. Marmande
Box 122, Du Large Route
Houma, LA 70360

Dorothy S. Milling
R. King Milling
Claudia Pipes Milling McGowin
Robert E. Milling, III
David Pipes Milling
Marvin V. Marmande

Burton M. Marmande
William A. Marmande
Patricia M. Trahan
Marion M. Doucet
Virginia M. Powers
Marie A. T. Marmande

The foregoing twelve individuals have undivided interests in the Section 24 Widow M.V. Marmande et al. property and also in the Section 38 Widow M.V. Marmande et al. property along with the following seven individuals:

John C. Christian, Jr.
Mrs. Gayly M. Gardner
Mrs. Dorothy Sharp Milling
Margaret G. Milling
Dixie Milling Sherman
Ida Milling Chapman
Mrs. Odelle C. Beavers

The Forest Oil Corporation, P.O. Box 51125, Lafayette, Louisiana, 70505, has outstanding oil, gas and mineral leases covering the entire prospect area as shown on the Lake Theriot Prospect (East) Oil and Gas Lease Status Map. See Figure 4. These leases which are from all of the aforementioned landowners are filed as Entries 638832 through 638836 in the Office of the Clerk of the Court, Terrebonne Parish, Louisiana. The address of each landowner-lessor is in the Rental Division Orders of the five oil, gas and mineral leases.

The only road access to the prospect is from Houma on Highway 315, across a small bridge over Bayou Du Large and between the subdivided lots in the eastern portion of the prospect. See Figure No. 5. Malcolm (Mac) Poincot confirmed that there are no access roads into the western portion of Section 64 of the prospect, and stated that the prospect area was being pumped to keep the water table down and that to get a land type drilling rig to that area a canal would have to be dredged and a plank road built on the raised canal bank. Mr. Poincot said that no one is presently drilling in the prospect area and that although some of the area is used to graze cattle, no farming is done there.

If the western portion of Section 64 of the prospect were selected for a geopressured geothermal test well site based upon geological data, obtaining the requisite authorization from the Louisiana Department of Natural Resources to dredge a canal in this Coastal Zone Management Area to facilitate transporting and setting up the drilling rig might be so difficult as to warrant selecting another prospect.

IV. KAPLAN GEOPRESSURED GEOTHERMAL PROSPECT

The Kaplan Geopressured Geothermal Prospect as exhibited on Figures 7 and 9 encompasses six sections of land. The owners of the tracts within these six sections are shown on Figure 7. The author of this report has obtained the addresses of all of the tract owners and these addresses will be provided upon request.

Figure 8 is the Oil and Gas Lease Status Map for the Kaplan Prospect. Because of the large number of private landowners

in this prospect, the lease data was not obtained from the landowners but was obtained from the most recent Tobin map and that information was corrected and updated by researching the records in the Office of the Clerk of the Court of Vermilion Parish in Abbeville, Louisiana.

The termination date of each oil and gas lease is shown beneath the name of the individual lessee. It is, however, impossible to know the precise lease status without contacting the individual landowners to determine whether or not the lessee has a valid lease in accordance with terms of the lease such as rental payments.

Superior Oil Company is the dominant oil, gas and mineral lessee within all six sections of the prospect and apparently has had considerable production.

Figures 7, 8 and 9 graphically display the fact that this prospect has very good road access.

On-site observations indicated that the six sections of the prospect are relatively flat and firm but that plank roads are used to facilitate transportation and installation of land type drilling rigs.

Since there were no fields of planted and growing crops, it was not possible to make a determination of differential surface land values based upon use for farming. District Conservationist Don Menard of the Soil Conservation Service explained that the fields would not be plowed until March and that the best time to see what crops had been planted was in the last part of May. Mr. Menard said the typical crop rotation was two years each for rice, soybeans and cattle grazing. Mr. Menard also said that since the new owner of the Acadia-Vermilion Rice Irrigation Company charges \$75.00 per acre to irrigate the rice, many farmers are not inclined to plant rice unless they have their own alternate source of water.

Dr. Don Bebout has provided a structure map of this prospect which is shown on Figure 10 as an aid to correlation.

There are several tracts of land in excess of 160 acres within the prospect such as the Greene & Broussard Plantations Inc. property in Sections 14, 22 and 23 and the Nadine Dickerson Romaine and Mary A. Romaine property in the southeastern portion of Section 24. See Figure 7. It is recommended that the geologists should ascertain if the requisite geological criteria exist for a geopressed geothermal test well site in one of these large tracts. Then a geopressed geothermal lease representative can

approach the individual landowner and endeavor to secure a geopressured geothermal lease. The lease representative should be accompanied by a friendly Acadian intermediary and interpreter, such as Perlis Trahan, Chief Deputy Assessor of Vermilion Parish, Louisiana. (318) 893-2837.

V. BAYOU HEBERT GEOPRESSURED GEOTHERMAL PROSPECT

The Bayou Hebert Geopressured Geothermal Prospect as exhibited on Figures 11 and 13 includes six sections of land. The owners of the tracts within these six sections are shown on Figure 11. The author of this report has obtained the addresses of all of the tract owners and these addresses will be provided upon request.

Figure 12 is the Oil and Gas Lease Status Map for the Bayou Hebert Prospect. Because of the large number of private landowners in this prospect, the lease data was not obtained from the landowners but was obtained from the most recent Tobin map and that information was corrected and updated by researching the records in the Office of the Clerk of Vermilion Parish in Abbeville, Louisiana.

The termination date of each oil and gas lease is shown beneath the name of the individual lessee. It is, however, impossible to know the precise lease status without contacting the individual landowners to determine whether or not the lessee has a valid lease in accordance with terms of the lease such as rental payments.

C. Williams and Superior Oil Company are the two outstanding oil and gas lessees in the Bayou Hebert Prospect.

Figures 11, 12 and 13 graphically display the fact that Section 2 is the only one of the six sections in the prospect that has any hard surface road access. Highway 685 goes South to the center of Section 2 and then a dirt road jogs to the West and then continues South to the Hebert Boat Dock in Section 11.

The three northern sections (Sections 1, 2 and 3) of the prospect are on relatively flat and somewhat firm land that would nevertheless require plank roads for transportation and installation of drilling equipment. The three southern sections (Sections 10, 11 and 12) are in marshland.

District Conservationist Don Menard of the Soil Conservation Service stated that although rice is not grown and cattle are not grazed in Sections 10, 11 and 12 of the prospect because those sections are too marshy, rice is grown and cattle are grazed in Sections 1, 2 and 3 alternately at two year rotation intervals to weed out the wild red rice. No soy beans are grown in the prospect because the soil moisture is too high.

Dr. Don Bebout has provided a structure map of this prospect which is shown on Figure 14 as an aid to correlation.

The Willis Hulin and Annese Thibodeaux Broussard tract in the SE $\frac{1}{4}$ of Section 2 and the Rosy, Henrietta and Josephine Nunez tract in the E $\frac{1}{2}$ of the SW $\frac{1}{4}$ of Section 2 are recommended for consideration for a geological test well site determination based upon the factors of large tracts of uncomplicated land ownership, good road access at least to the center of Section 2, and ground that is relatively firm even though it has fairly high soil moisture. The Hulin well is in the Willis Hulin and Annese Thibodeaux Broussard tract of land.

It is also suggested that if the geologists do decide that a good geopressured geothermal test well site could be established in one of these tracts, then a geopressured geothermal lease representative should approach the individual landowner and endeavor to secure a geopressured geothermal lease. The lease representative should be accompanied by a friendly Acadian intermediary and interpreter, such as Perlis Trahan, Chief Deputy Assessor of Vermilion Parish, Louisiana. (318) 893-2837.

VI. FRESHWATER BAYOU GEOPRESSURED GEOTHERMAL PROSPECT

The Freshwater Bayou Geopressured Geothermal Prospect as shown on Figures 15 and 18 is contained within approximately 10 sections of marshland. The landowners of tracts within Section 11 and the N $\frac{1}{2}$ of the N $\frac{1}{2}$ of Section 14, T17S, R2E, Vermilion Parish, Louisiana, are shown on Figure 17. The author of this report has obtained the addresses of all of the tract owners indicated on Figure 17 and these addresses will be provided upon request.

The rest of the landowners in this prospect as designated on Figure 15 are as follows:

1. Exxon Corporation
P.O. Box 61812
New Orleans, LA 70161
2. E.A. McIlhenny Estate
Avery Island, LA 70513
3. Vermilion Parish School Board
220 S. Jefferson
Abbeville, LA 70510
Supt. Henry Bernard (318)893-3973
4. National Audubon Society
950 3rd Avenue
New York 28, NY 10011
(212)832-3200

The E.A. McIlhenny Estate owns the minerals in the National Audubon Society property within this prospect. Surface right of way and canal passage permission must be obtained from the National Audubon Society as surface owner.

Although the current Tobin map indicated that the 54.04 acre parcel of land in the northwestern portion of Section 14 as shown on Figure 17 belongs to Mary M. McIlhenny et al., which became E.A. McIlhenny Estate, Edward Simmons of E.A. McIlhenny denies that his company owns that parcel and doesn't know who might own it. The author of this report and the Chief Deputy Assessor of Vermilion Parish were not able to ascertain whether anyone claims that 54.04 acre parcel.

The surface of the Exxon Corporation property within this prospect is leased to Vermilion Corporation, 115 Tivoli Avenue, Abbeville, LA 70510, whose agent is John Donohue (318)893-2703. This is a 99 year lease executed in 1958.

Figure 16 is the Oil and Gas Lease Status Map for the Freshwater Bayou Geopressured Geothermal Prospect. The landman contact for each of the four major landowners in this prospect as designated in the above landowner address list has provided information concerning his organization's outstanding oil and gas leases as shown on Figure 16. Other than the oil, gas and mineral leases from Exxon Corporation to Union Oil of California which have been extended by production, the only other outstanding private oil, gas and mineral leases are those in Sections 11 and 15 to Earl P. Burke Jr., Suite 3333, 1100 Milam Building, Houston Texas, 77002, who is the President of Pel-Tex Oil Company, Inc., and to Hargrove Oil Company, Inc. which have been assigned to Earl P. Burke, Jr. The address of Pel-Tex Oil Company, Inc. is P.O. Box 4416, Houston, Texas 77210.

Note that although in Figure 17 Martin O. Miller II et al. is shown as the owner of property in the northeastern part of Section 11, Martin O. Miller II et al. only owns the surface and the minerals belong to the State of Louisiana, which has an outstanding lease to Earl P. Burke, Jr.

Pel-Tex Oil Company, Inc. has a surface lease from the National Audubon Society for a portion of its surface ownership in the northwestern part of Section 11. The lease term is from August 1, 1980 to July 1, 1981 with one year extension options.

Figure 18, which is the Freshwater Bayou Access Map, shows that this prospect has no access roads to it. A rough dirt road goes East to the Acadiana Marina from just North of the intersection of Highway 82 and Road 3147. The

Acadiana Marina is operated by Semmes Lynch, who is the son of Mary Zoe Sagera, one of the landowners in Section 11 of the prospect. See Figure 17. Semmes Lynch, whose address is Acadiana Marina, Inc., P.I. Rt. Box 250, Kaplan, LA 70548, (318)737-9358, is a very cooperative and knowledgeable contact regarding this prospect.

Semmes Lynch has advised that crops are not grown and harvested in the Freshwater Bayou Prospect but that the land is used to graze cattle. The normal graze lease periods are October through March.

Mr. Lynch stated that the Martin O. Miller et al. family grazes cattle on their own property in the prospect and on E.A. McIlhenny Estate property pursuant to a grazing lease and the remainder of the landowners in Section 11 graze cattle on their own property and National Audubon Society property pursuant to grazing leases.

At the end of March all but a few cattle are removed from Section 11 and all of the cattle are removed from the remainder of the prospect and put on feed lots to prevent storms and mosquitos from killing the cattle. Cattle grazing leases would only be a problem regarding oil, gas and mineral or geopressed geothermal right of way procurement if it were necessary to cut through the levees upon which the cattle graze.

The Office of Conservation of the Louisiana Department of Natural Resources, Baton Rouge, Louisiana, has provided the following information about recent oil and gas drilling activity in the prospect. Pel-Tex Oil Company, Inc. drilled Pel-Tex-R.S. Sagera Estate No. 1 (Serial No. 171183) to a depth of 15,905 feet where the casing ruptured and salt water blew out. See Figure 16. This well was plugged and abandoned on March 5, 1981. Pel-Tex-R.S. Sagera Estate No. 2 (Serial No. 174561) as shown on Figure 16 is being drilled to a proposed depth of 18,800 feet and on May 7, 1981, it was at a depth of 9,514 feet.

Pel-Tex is drilling with a land rig that was barged from Intercoastal City along the Intercoastal Waterway, then down the Freshwater Bayou Channel and East between navigational markers 12 and 10 into Freshwater Bayou Canal and ultimately to the landing area in the northwestern portion of Section 11. See Figure 18. Then the rig was taken from the landing across a plank road to the well site.

The drill rig crews go by boat from Acadiana Marina to the landing in Section 11 and then by car to the well site.

Dr. Don Bebout has provided a structure map of this prospect which is shown on Figure 19 as an aid to correlation.

If the Pel-Tex-R.S. Sagrera Estate No. 2 is a dry hole like the others drilled around it, perhaps the geologists might recommend that this well should be used for a geopressured geothermal test well site.

VII. BLESSING GEOPRESSURED GEOTHERMAL PROSPECT

The Blessing Geopressured Geothermal Prospect as shown on Figures 20 and 22 includes all of the E.L. Holmes Survey, Abstract 202 and the J.W. Byrne Survey, Abstract 447, Matagorda County, Texas. The landowners of the tracts contained within the prospect as indicated in Figure 20 are as follows:

1. John W. Graff
Rt. 1, Box 255-H
Palacios, Texas 77465
2. Martha Graff
Rt. 1, Box 155-G
Palacios, Texas 77465
3. Palacios Townsite Co.
206 Duson Avenue
Palacios, Texas 77465
4. Farmers Canal Co.
Box WB-7D
Palacios, Texas 77465
5. Dr. B.C. Berger
Box 277
West Columbia, Texas 77486
6. Edward A. Keprta
Box 56
East Bernard, Texas 77435
7. M. Fay Harvey
9898 Club Creek Dr. No. 911
Houston, Texas 77036
8. Alton Nelsen
Rt. 1, Box 155A
Palacios, Texas 77465
9. Southern Pacific Co.
Tax Dept.
Box 1319
Houston, Texas 77001

Figure 21 is the Oil and Gas Lease Status Map for the Blessing Prospect. The lease information was obtained by researching the records in the Assessor's and Clerk of the

Court's Offices in Matagorda County, Bay City, Texas, and re-searching the abstract plant of the Southwest Land Title Co. of Bay City, Inc., Bay City, Texas. The information concerning the wells in Figure 21 was obtained from the Cambe Geological Services Strip Map T-4 (Frio Trend - West Half) as revised through February 5, 1980.

The termination date of each oil and gas lease is shown beneath the name of the lessee. As shown on Figure 21, Davis Oil Company, 527 Entex Building, Houston, Texas, 77002, is the dominant lessee and has producing wells within the Blessing Prospect.

Figures 20, 21 and 22 show that there is good road access into this prospect via Texas State Highway 35 and the Southern Pacific Company road. Also, there are several farm and oil and gas access roads throughout the prospect.

Since at the time of on-site inspection there were no fields of planted and growing crops, it was not possible to make a determination of differential surface land value based upon use for farming. District Conservationist Glyn Kinsey of the Soil Conservation Service explained that the two crop rotation systems to try to eliminate wild red rice was one year of rice and three years of cattle pasture or one year each for rice, soybeans, grain sorghum and cattle pasture.

All of the land within this prospect is sufficiently firm to support a land type drilling rig.

The foregoing information that was gathered concerning land ownership, oil and gas lease status, surface use and environmental factors does not suggest that any particular portion of the Blessing Prospect is more suitable than the rest of the prospect for a geopressured geothermal test well site. Subject to the determination that the requisite geological criteria exist for a good test well site, it is recommended that a geopressured geothermal lease representative should endeavor to obtain Davis Oil Company's sanction and cooperation in establishing a geopressured geothermal test well site in this prospect and obtaining a geopressured geothermal lease.

FIGURE 3
LAKE THERIOT PROSPECT (EAST)
TERREBONNE PARISH, LOUISIANA
LAND OWNERSHIP MAP

FIGURE 4
LAKE THERIOT PROSPECT (EAST)
TERREBONNE PARISH, LOUISIANA
LEASE STATUS MAP (OIL & GAS)

FIGURE 5
LAKE THERIOT PROSPECT
(WEST & EAST)
TERREBONNE PARISH, LOUISIANA
ACCESS ROAD MAP

FIGURE 8
KAPLAN PROSPECT
VERMILION PARISH,
LOUISIANA

LEASE STATUS MAP
(OIL AND GAS)

FIGURE 9
KAPLAN PROSPECT
VERMILION PARISH, LOUISIANA
ACCESS ROAD MAP

FIGURE 10
KAPLAN PROSPECT
VERMILION PARISH, LOUISIANA
STRUCTURE MAP

FIGURE 12
BAYOU HEBERT PROSPECT
VERMILION PARISH,
LOUISIANA

LEASE STATUS MAP
(OIL AND GAS)

FIGURE 14
BAYOU HEBERT PROSPECT
VERMILION PARISH, LOUISIANA
STRUCTURE MAP

FIGURE 15
FRESHWATER BAYOU PROSPECT
VERMILION PARISH, LOUISIANA
LAND OWNERSHIP MAP

FIGURE 17
FRESHWATER BAYOU PROSPECT
VERMILION PARISH, LOUISIANA

LARGE SCALE LAND OWNERSHIP
MAP OF SEC. 11 & N $\frac{1}{2}$ OF N $\frac{1}{2}$ OF
SEC. 14, T17S, R2E.

FIGURE 20
BLESSING PROSPECT
MATAGORDA COUNTY, TEXAS

LAND OWNERSHIP MAP

1" = 1000'

FIGURE 21
BLESSING PROSPECT
MATAGORDA COUNTY, TEXAS
LEASE STATUS MAP (OIL & GAS)
1"= 1000'

FIGURE 22
BLESSING PROSPECT
MATAGORDA COUNTY, TEXAS
ACCESS ROAD MAP