AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Twenty-sixth Annual Meeting

Houston, Texas, March 31
through
April 5, 1941

Under Sponsorship of

Houston Geological Society

Guide for Field Trips

Alexander Deussen,

General Chairman for Houston Geological Society

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Marcus A. Hanna

GUIDES FOR REDFISH REEF TRIP

Ed. Hamner
G. J. Smith
O. C. Clifford

GUIDE FOR AIR TRIPS

M. H. Steig

GUIDES FOR TRIP TO HASTINGS, GALVESTON,
HOSKINS MOUND AND DAMON MOUND

M. M. Sheets
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This guide prepared by J. A. Culbertson, J. Brian Eby and Wallace C. Thompson.

GUIDE MAP courtesy of Edgar Tobin Aerial Surveys.

MAPS AND SECTIONS

HOUSTON

GALVESTON BAY

GULF OF MEXICO

WEST GALVESTON ISLAND

ROUTE OF MAIN FIELD TRIP
SAT., APRIL 5TH, 1941

GUIDE MAP FOR FIELD TRIPS
A. A. P. G. 26TH ANNUAL MEETING
HOUSTON, TEXAS - APRIL 1-5, 1941

SCALE 1" = 4 MILES

GUIDE MAP BY COURTESY OF EDGAR TOBIN AERIAL SURVEYS

HOCKLEY DOME SALT MINE TRIP

Thursday, April 3, 1941

Lv. Rice Hotel 9:45 a.m. Arr. Hockley Dome 11:00 a.m.
Lv. Hockley Dome 12:30 p.m. Arr. Houston 1:45 p.m.

Registrations must be in hands of committee by Thursday noon, April 3. Trip limited to 25.

LEADERS: A. G. Wolf and Marcus A. Hanna

Trip will be repeated on Friday afternoon if registration is sufficient. Trip limited to 25.

Lv. Rice Hotel at 2:45 p.m. Return 6:00 p.m.
LEADERS: A. G. Wolf and Marcus A. Hanna

Map and Section, Figures 2 and 3

GALVESTON BAY DRILLING (REDFISH REEF FIELD)

Friday, April 4, 1941

Lv. Rice Hotel 1:00 p.m. Arr. Clifton-by-the Sea 2:00 p.m.
Lv. Clifton-by-the-Sea 5:00 p.m. Arr. Houston 6:00 p.m.

Registrations must be in hands of committee by Thursday noon, April 3.

Sponsored by Humble Oil and Refining Company

LEADERS: Ed Hamner, G. J. Smith and O. C. Clifford

Map, Figure 4

AIR TRIPS

Arrangements have been made for a number of one-hour air trips over Texas coastal areas at a price of $7.50 each or less.

Registration must be made before Thursday noon, and time of trips will be available at registration desk.

LEADER: M. H. Steig

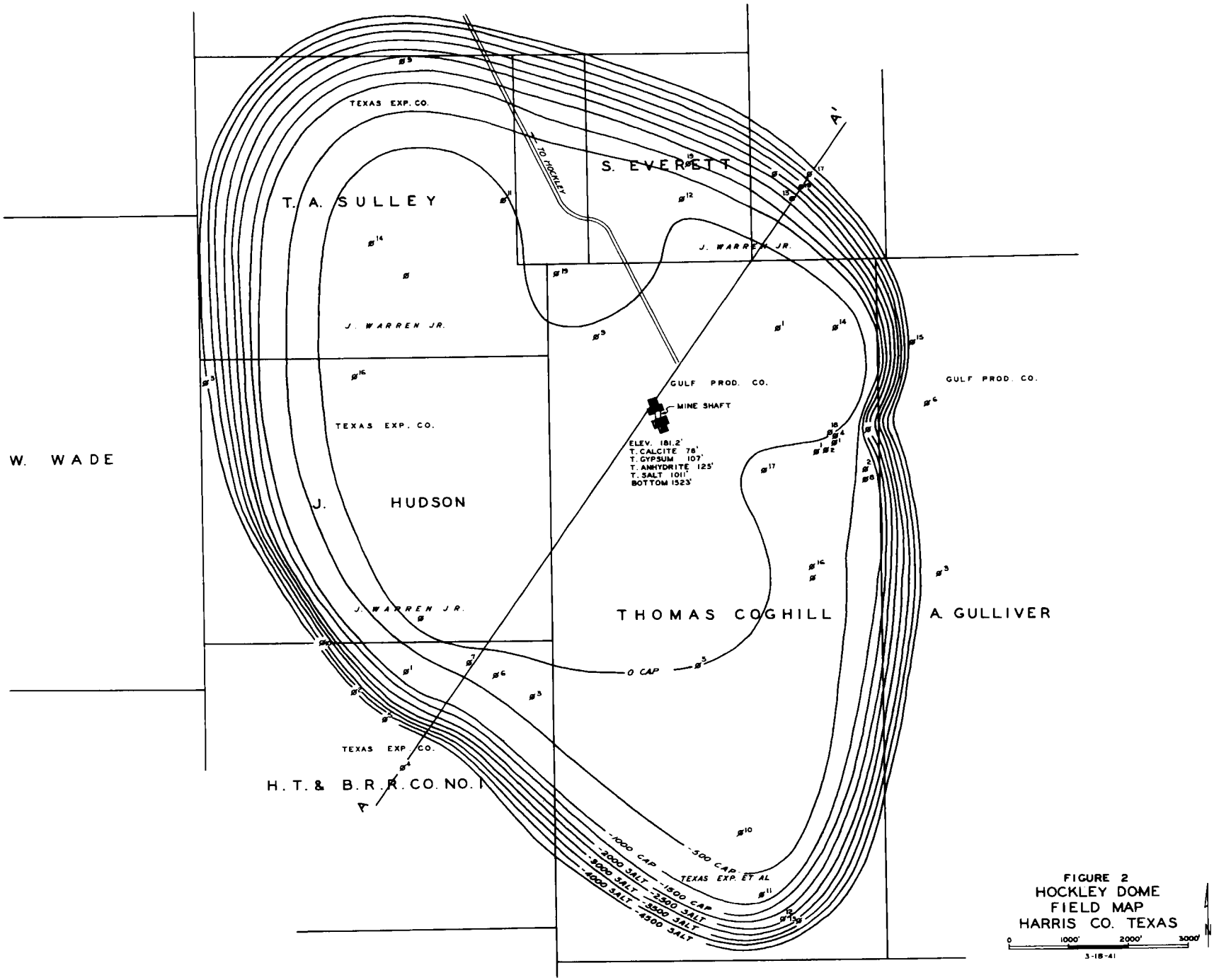


FIGURE 2
HOCKLEY DOME
FIELD MAP
HARRIS CO. TEXAS

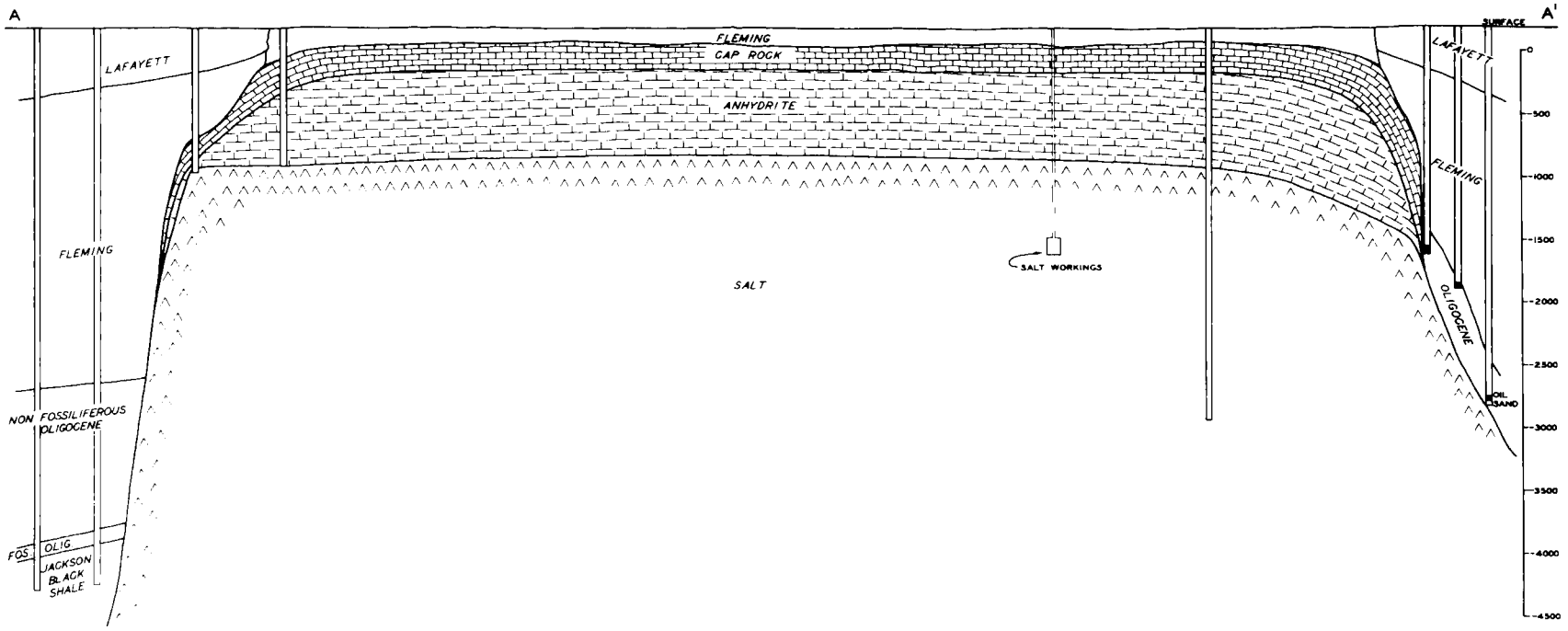


FIGURE 3
HOCKLEY DOME
CROSS SECTION
HARRIS CO. TEXAS

THE HOCKLEY DOME

The Hockley Dome, Harris County, Texas, was found by surface indications. The first well to produce was the Texas Exploration Company's Warren 13, completed October 15, 1923 for 25 barrels daily of 26 gravity oil from a depth of 1820 feet. The deepest well drilled for oil on or near the dome was the Zeni Oil Company's Perkins No. 1 which was abandoned July 1936 at a depth of 7510 feet. No oil is now being produced on or around the dome.

The salt shaft was opened for production March 24, 1924, and salt has been produced continuously since that time.

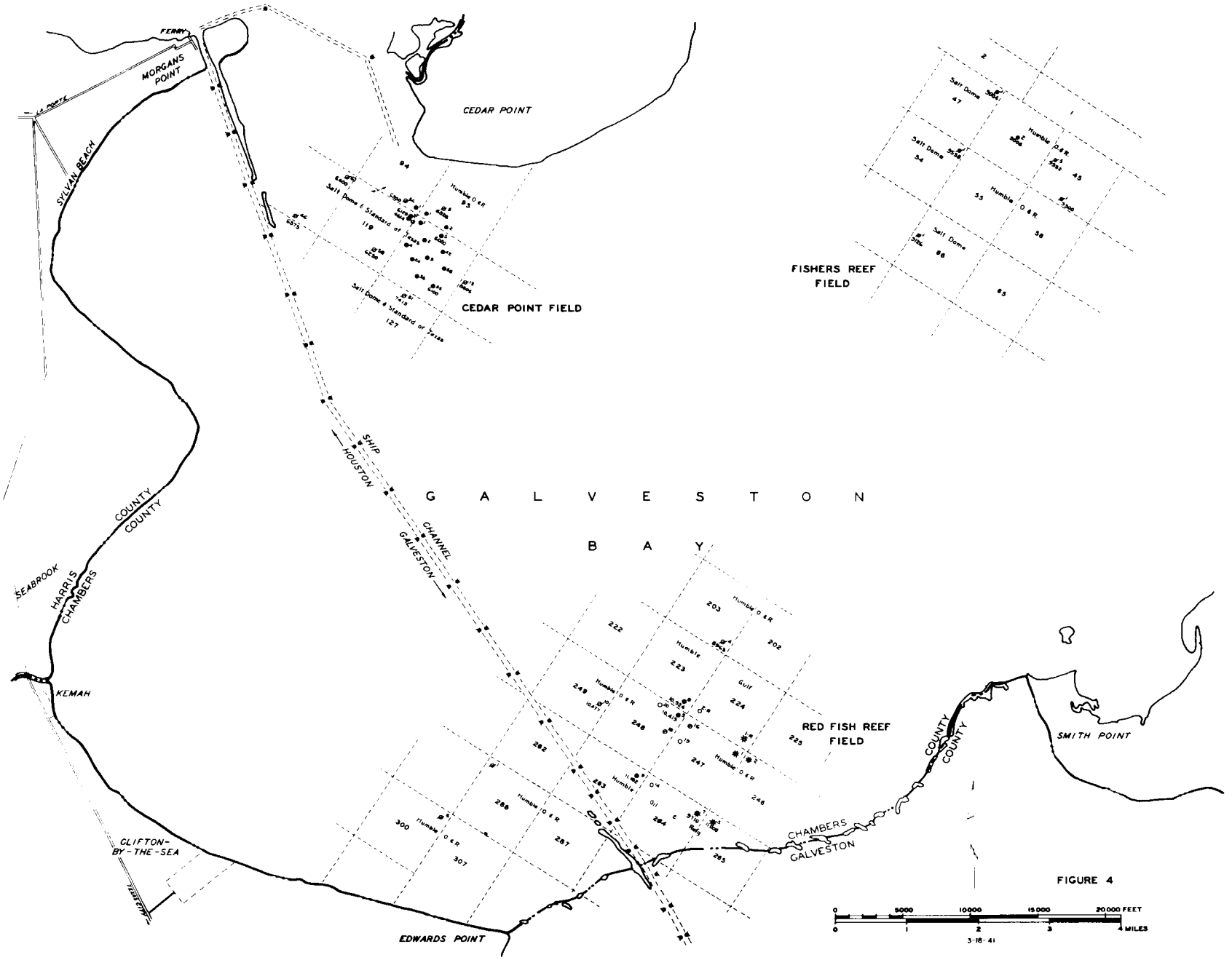


FIGURE 4

RED FISH REEF FIELD

The Red Fish Reef Field, Chambers County, Texas was discovered by reflection seismograph by the Humble Oil and Refining Company. The field was opened by the Humble's State No. 1-A-247 and was drilled to a total depth of 9125 feet but completed in oil sand at a depth of 8814 feet making 25 barrels of 43-gravity distillate daily with 1,350,000 cubic feet through an one-eighth choke, August 21, 1940. Production occurs in several sands ranging in depth from 8796 feet to 11,000 feet. There are eight gas and gas distillate wells on this structure to March 17, 1941.

FIELD EXCURSION TO HASTINGS FIELD, GALVESTON, HOSKINS MOUND, AND DAMON MOUND

Saturday, April 5, 1941

LEADERS: M. M. Sheets, J. K. Rogers, Jerome S. Smiser, Wayne Bowman, John M. Brokaw.

Identification necessary at Hoskins Mound, account Government regulations. Bring an identification card.

LUNCH at Galveston, not included in cost of ticket.

LEAVE Rice Hotel, 9:00 a.m.

BUSSES, Texas Avenue side of Rice Hotel.

ROAD LOG TO GALVESTON, HOSKINS AND DAMON MOUND

Time of Departure and Arrival	Miles	Total	
Leave 9:00 a.m.	0	0	Rice Hotel, corner Main and Texas. Start south on Main.
	1.8	1.8	Stop light Alabama Street. Turn left.
	0.4	2.2	Stop sign Almeda Road (R-288). Turn right.
	1.5	3.7	Intersection Almeda Road and North MacGregor Drive. Straight ahead.
	1.0	4.7	Stop light at R-90 cutoff. Straight ahead.
	2.0	6.7	Underpass.
	0.5	7.2	Pierce Junction Field. See Map and Section, Figures 5 and 6.
	3.6	10.8	Almeda-Genoa Road. Turn left across Railroad.
	2.3	13.1	Turn left. Then right.
	1.6	14.7	Chocolate Bayou Road. Straight ahead.
	0.4	15.1	Turn left. Then right.
	2.9	18.0	Cross Railroad. Mykawa Field on right.
	1.1	19.1	Telephone Road (R-35). Turn right.
	1.6	20.7	Enter Brazoria County.
	2.3	23.0	Caution light Pearland-Friendswood Road, left, and Manvel Road right. Straight ahead on R-35.
	1.7	24.7	Manvel Field in distance on right.
Arr. 10:00 a.m.	1.3	26.0	Enter Hastings Field. See Map and Section, Figures 7 and 8.
	2.0	28.0	Stanolind Camp on left. Stop 30 minutes.
Lv. 10:30 a.m.	1.7	29.7	Leave Hasting Field.
	2.7	32.4	Intersection with Route 6, Alvin, Turn left.
	3.0	35.4	Enter Galveston County.
	1.6	37.0	Algoa Station on right.
	3.6	40.6	Arcadia cross road. Alta Loma Field road right.
	1.1	41.7	Alta Loma Field in view on right.
	1.4	43.1	Alta Loma Station.
	1.4	44.5	Galveston City Water Works.
	0.5	45.0	Camp Hitchcock.
	2.1	47.1	Hitchcock.
	2.4	49.5	Texas City refineries in view on left.
	0.2	49.7	Hitchcock Field. Map, Figure 9.

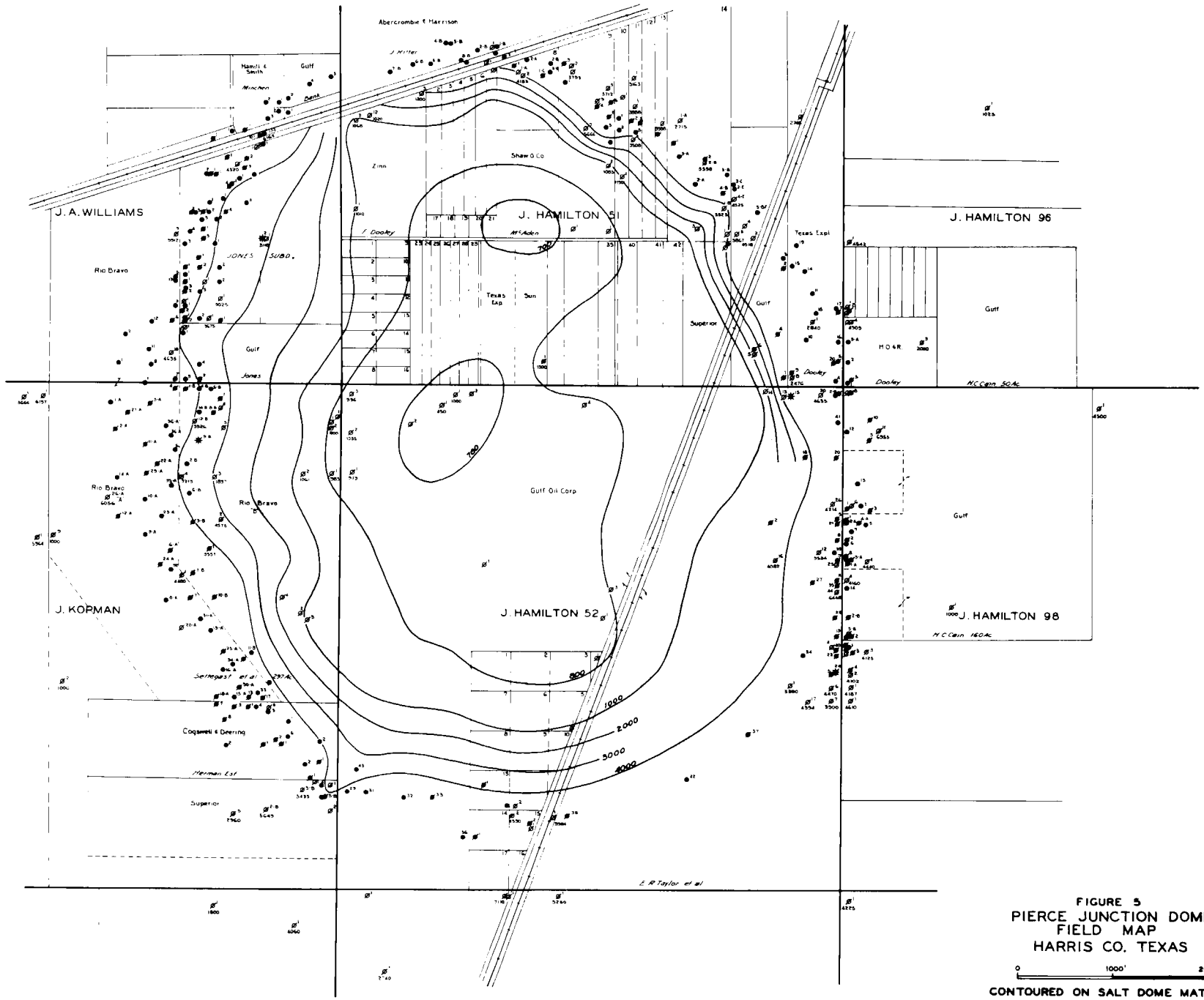
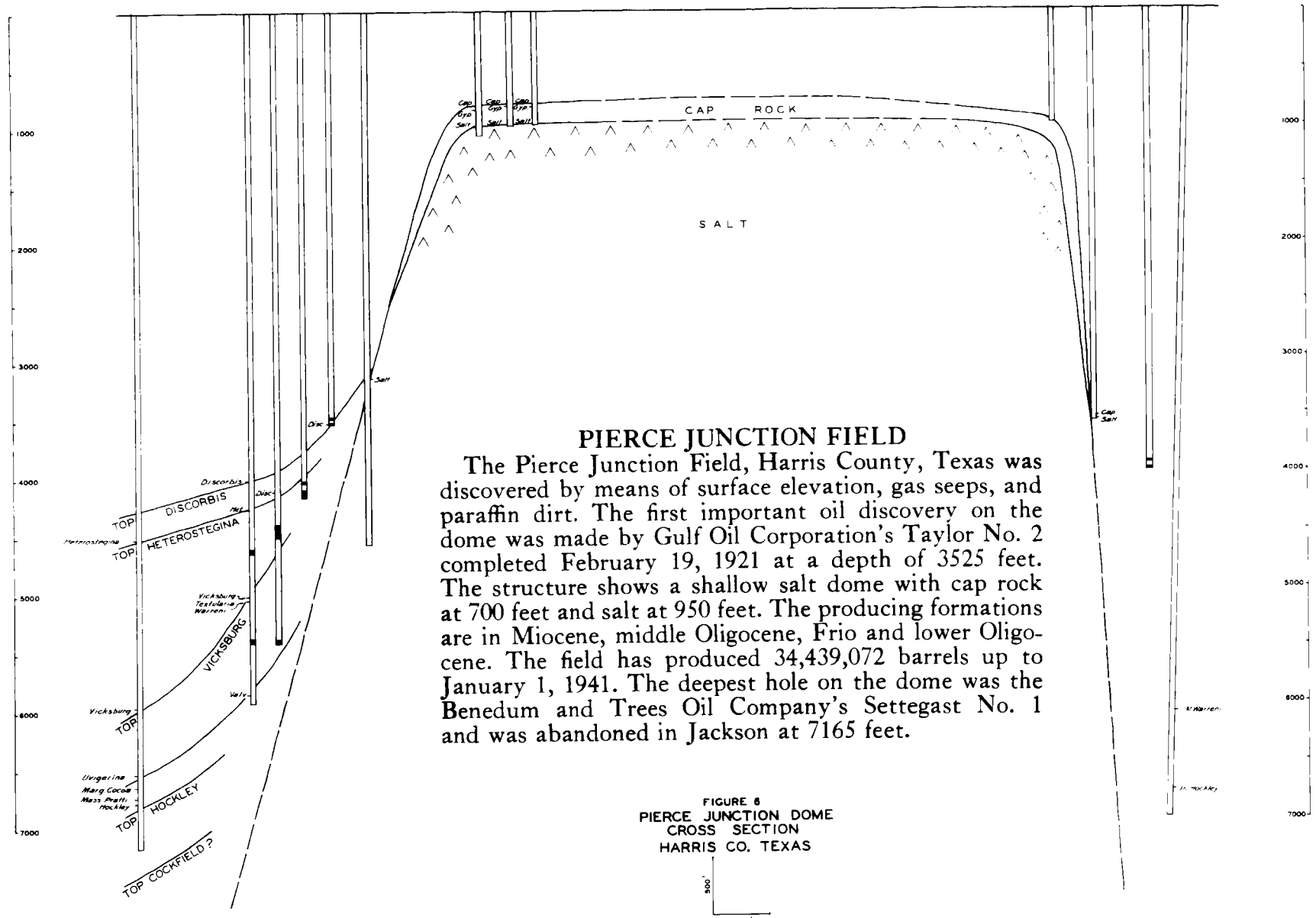


FIGURE 5
PIERCE JUNCTION DOME
FIELD MAP
HARRIS CO. TEXAS

0 1000' 2000'

CONTOURED ON SALT DOME MATERIAL



PIERCE JUNCTION FIELD

The Pierce Junction Field, Harris County, Texas was discovered by means of surface elevation, gas seeps, and paraffin dirt. The first important oil discovery on the dome was made by Gulf Oil Corporation's Taylor No. 2 completed February 19, 1921 at a depth of 3525 feet. The structure shows a shallow salt dome with cap rock at 700 feet and salt at 950 feet. The producing formations are in Miocene, middle Oligocene, Frio and lower Oligocene. The field has produced 34,439,072 barrels up to January 1, 1941. The deepest hole on the dome was the Benedum and Trees Oil Company's Settegast No. 1 and was abandoned in Jackson at 7165 feet.

FIGURE 6
PIERCE JUNCTION DOME
CROSS SECTION
HARRIS CO. TEXAS

500'
500'

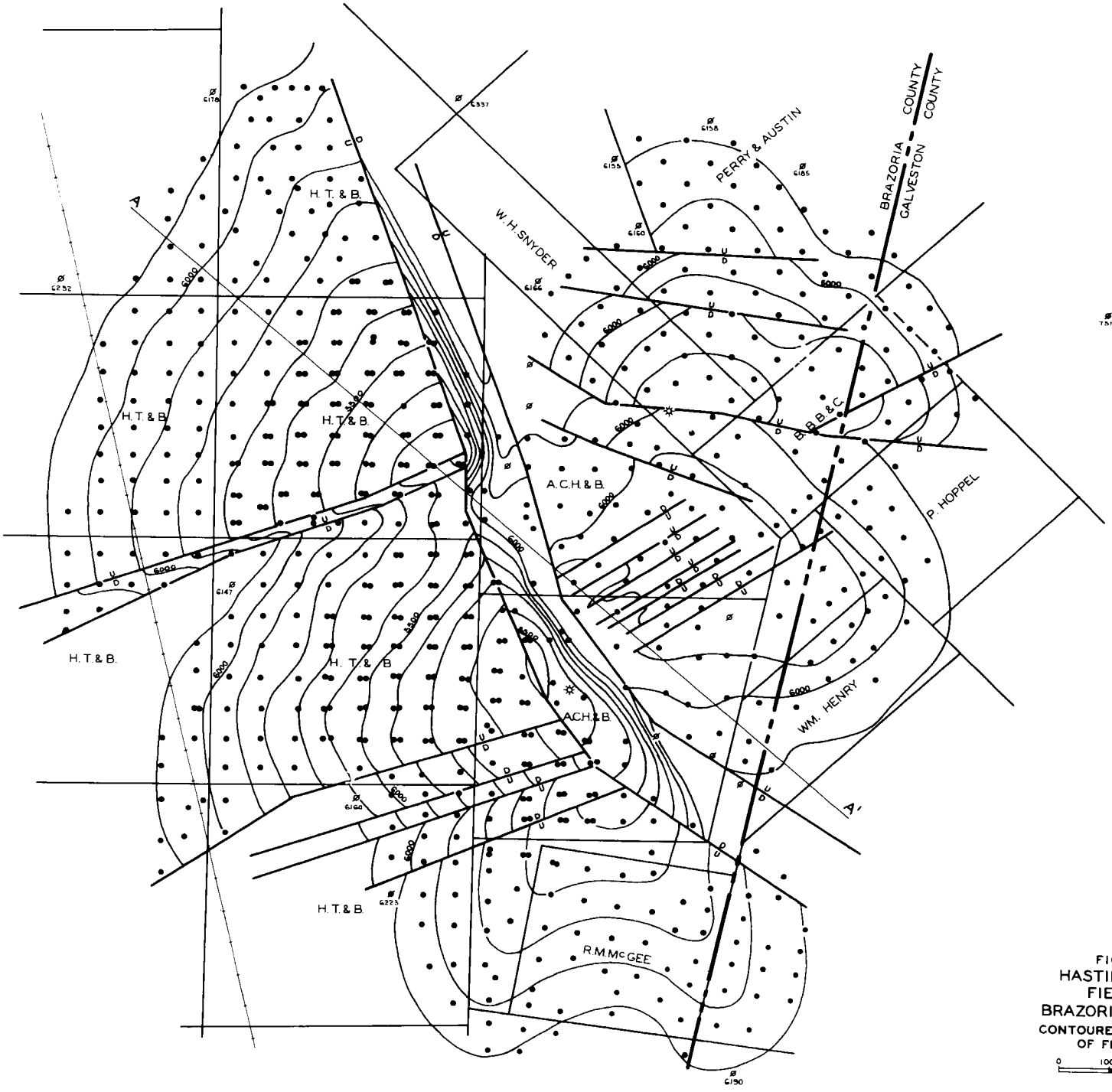


FIGURE 7
HASTINGS FIELD
FIELD MAP
BRAZORIA CO. TEXAS
CONTOURED ON THE TOP
OF FRIO SAND

0 1000' 2000' 3000'

3-18-41

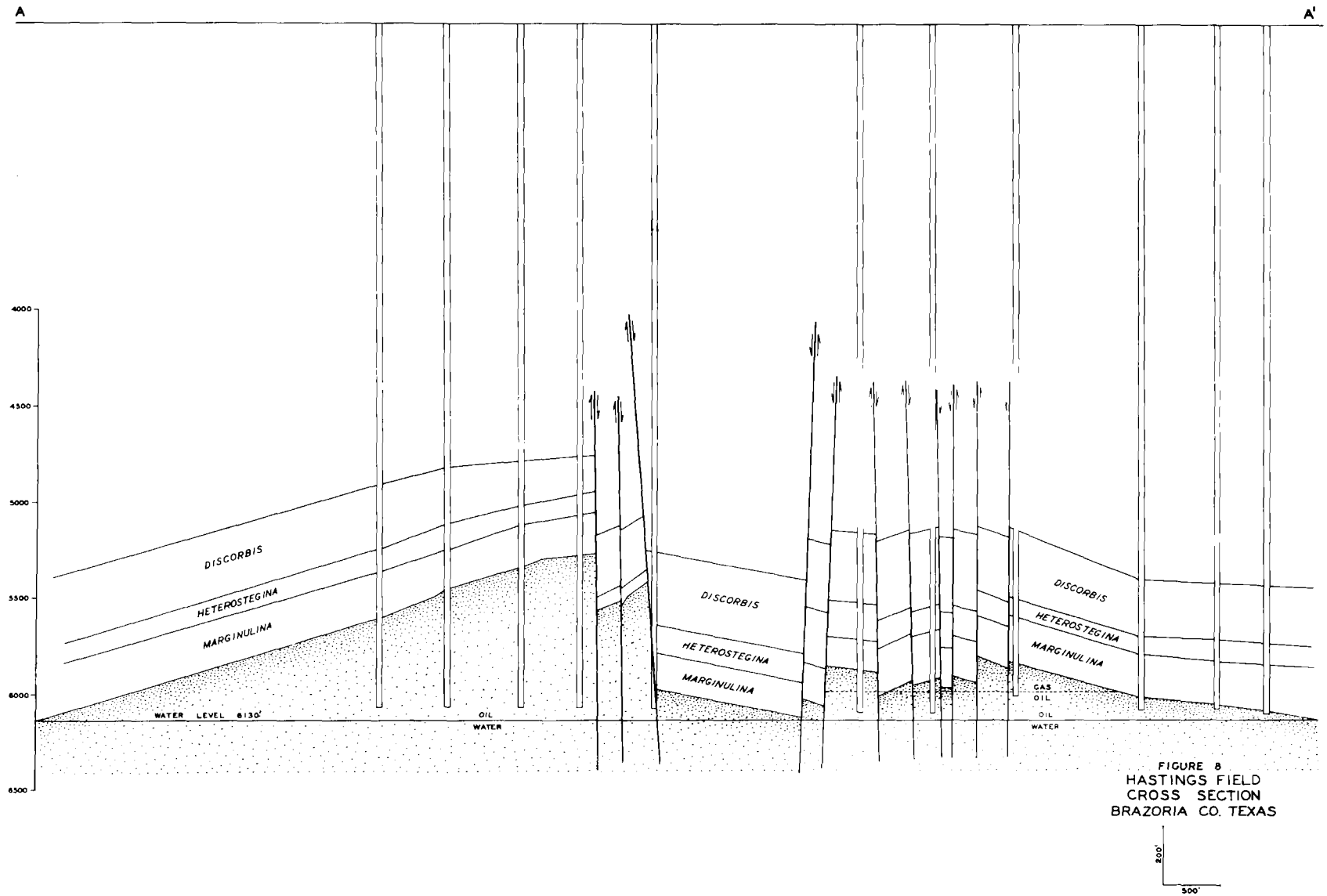
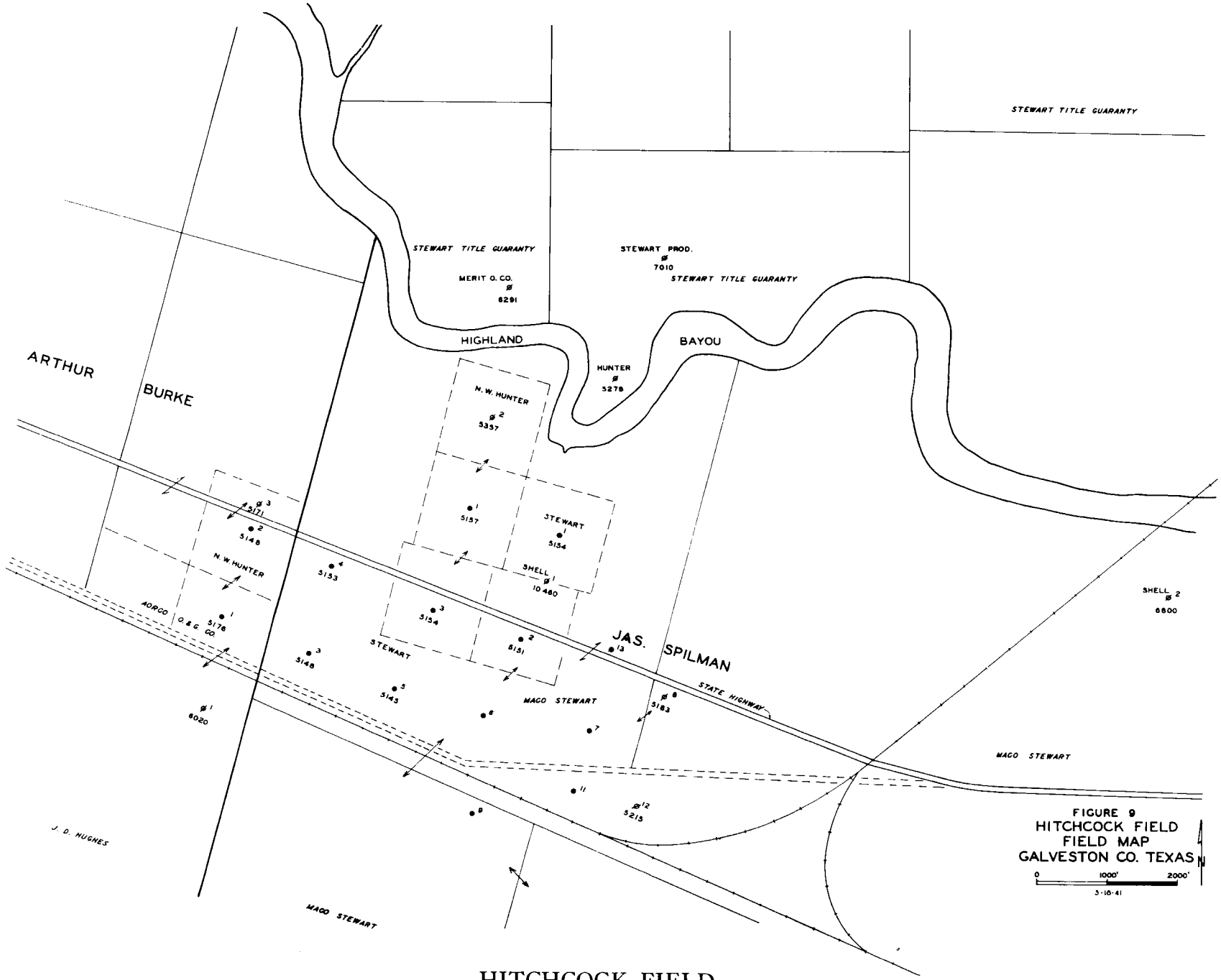


FIGURE 8
HASTINGS FIELD
CROSS SECTION
BRAZORIA CO. TEXAS

HASTINGS FIELD

The Hastings Field, Brazoria County Texas was outlined by the torsion balance and reflection seismograph by rhe Stanolind Oil and Gas Company in the spring of 1934. The Standard Oil Company of Kansas also checked the structure. The Stanolind's J. W. Surface No. 1 was completed for 240 barrels daily in oil sand from 5975 feet to 6003 feet. It is a non-piercement type of salt dome with a considerable amount of faulting. The oil sand was found in the lower Marginulina-Frio section. The field is one of the most prolific in the Gulf Coast with an indicated remaining reserve of 339,973,026 barrels of oil. The deepest hole drilled in the field was the Stanolind's Sneed No. 4 which reached a total depth of 8793 feet.



HITCHCOCK FIELD

The Hitchcock Field, Galveston County, Texas was found by means of torsion balance and reflection seismograph by the Shell Oil Company at various times between 1929, 1935, and 1936. The discovery well was Maco Stewart's Fee No. 1, completed September 5, 1937 for 60 barrels 32 gravity oil daily from a depth of 5146 feet. It is a deep dome type structure. The oil comes from the Miocene formation and sand from an average thickness of 12 feet.

Time of Arrival and Departure	Miles	Total	
	2.0	51.7	Beginning Coastal marsh.
	0.6	52.3	Junction R-75. Turn right.
	2.2	54.5	Overpass—slow for view of Bay area. Greens Lake Field in distance on right.
	0.5	55.0	West end of Causeway.
	1.6	56.6	East end of Causeway. On Galveston Island.
	2.5	59.1	61st Street, Straight ahead on R-75.
	0.2	59.3	Galveston City limit. Straight ahead on Avenue J. (R-75).
	2.4	61.7	25th Street Statue. Business District to left. Straight ahead.
	1.4	63.1	Seawall and beach. Turn right along seawall. Note piling piers in Gulf to arrest erosion.
Arr. 11:15 a.m.	1.5	64.6	Seawall Cafe. STOP FOR LUNCH
Lv. 1:00 p.m.			Leave Seawall Cafe.
	1.1	65.7	Fort Crockett Military Reservation. Straight ahead.
	1.5	67.2	End of Seawall, 61st Street. Turn right.
	0.7	67.9	Stop light at "S" Road. Straight ahead on 61st.
	1.0	68.9	Junction R-75. Turn left. (Retrace to Alvin).
	6.6	75.5	Road Fork. Turn left on R-6.
	5.3	80.8	Hitchcock Station.
	11.3	92.1	Enter Brazoria County.
Arr. 1:45 p.m.	3.0	95.1	Junction R-35. Turn left into Alvin.
	0.4	95.5	Alvin traffic light. Straight ahead on R-35.
	1.0	96.5	Road Fork. Keep to right on R-35.
	1.4	97.9	Chocolate Bayou Field in distance on left.
	3.2	101.1	Rowan Field on right Map, Figure 10.
	0.8	101.9	Chocolate Bayou.
	2.9	104.8	Rice Canal.
	2.4	107.2	Danbury Dome. Map, Figure 11.
	1.0	108.2	2000-foot well on left near road.
Arr. 2:00 p.m.	1.1	109.3	Junction R-28. Turn left on shell road.
	1.5	110.8	Danbury Railroad crossing. Straight ahead through town.
	0.4	111.2	Turn left 2 blocks, then right.
	0.7	111.9	Turn left 45 degrees.
	1.2	113.1	Dipping vat on right.

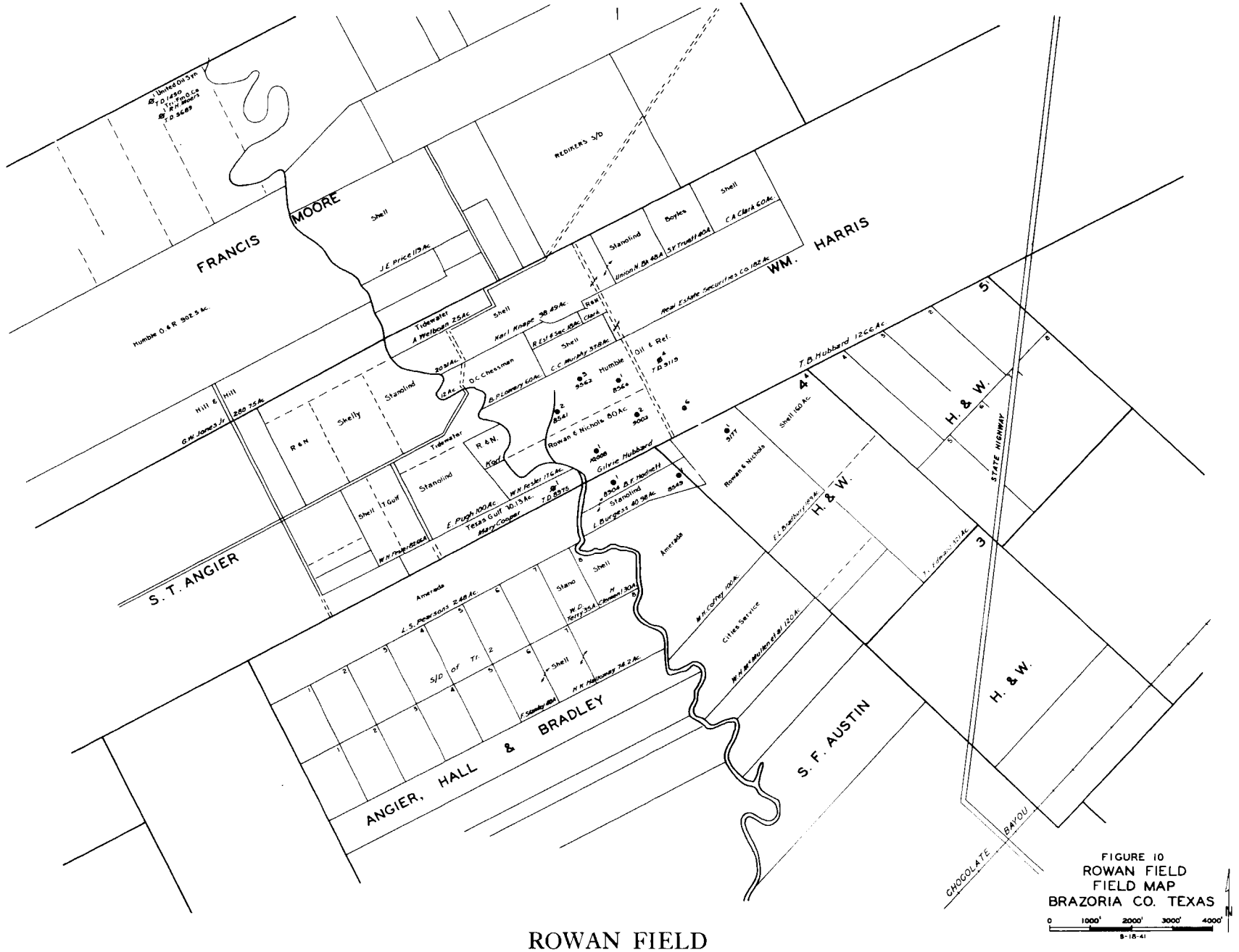


FIGURE 10
ROWAN FIELD
FIELD MAP
BRAZORIA CO. TEXAS
0 1000' 2000' 3000' 4000'
8-18-41

ROWAN FIELD

The Rowan Field, Brazoria County, Texas was found by refraction seismograph by The Texas Company and by reflection seismograph by the Sun, Humble, Pure, and Stanolind Oil Companies. The discovery well was Rowan and Nichols' Hubbard No. 1, which showed production in the Frio formation at 8538-54 feet, July 1, 1940. Gas-distillate production also occurs at 8911 feet. Six oil wells in the 8500 feet zone and two gas distillate wells in the 8900 feet zone have been completed to March 17, 1941.

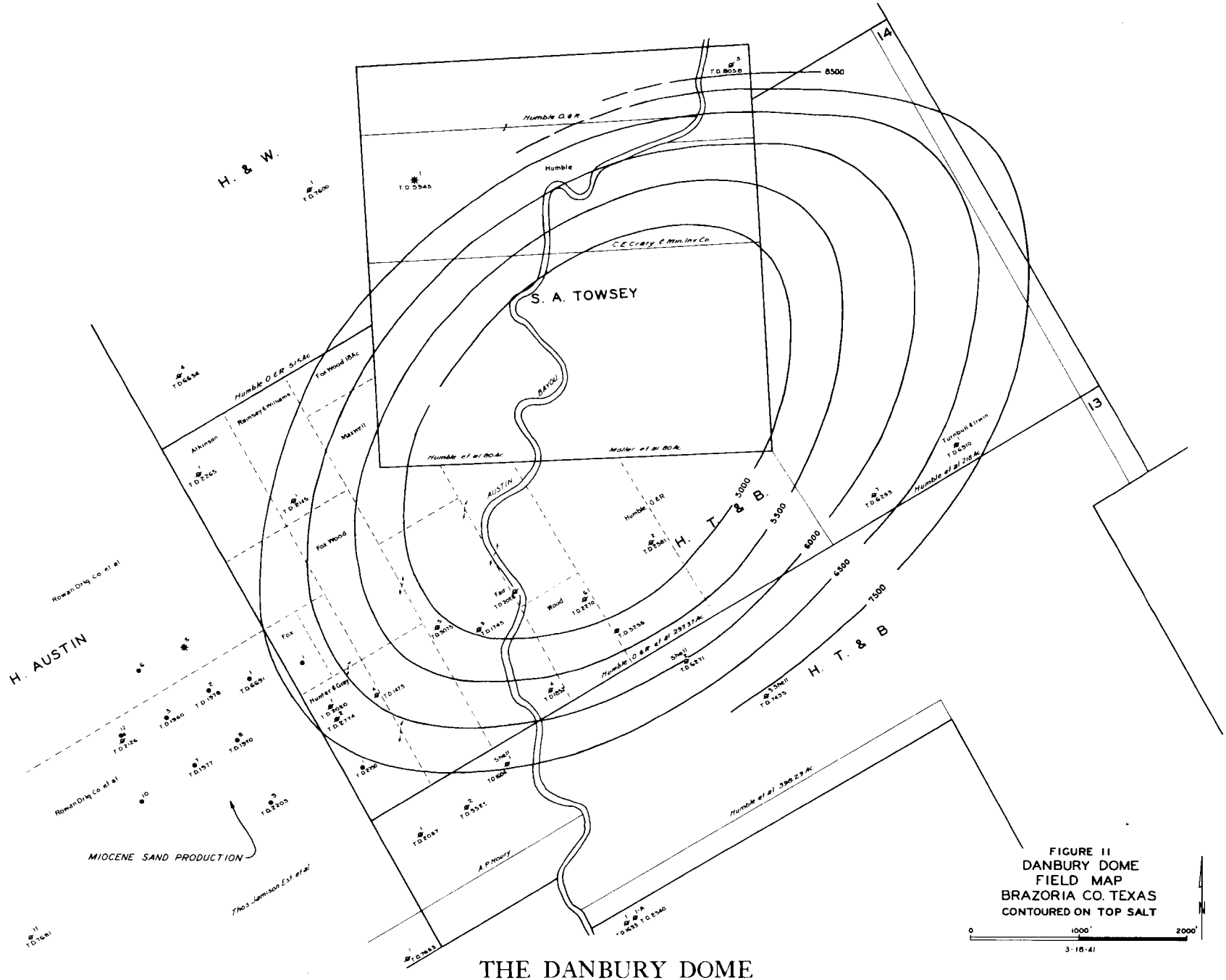


FIGURE 11
DANBURY DOME
FIELD MAP
BRAZORIA CO. TEXAS
CONTOURED ON TOP SALT

0 1000' 2000'

3-18-41

THE DANBURY DOME

The Danbury Dome, Brazoria County, Texas was found by refraction seismograph by the Shell Oil Company in 1929. Salt occurs at 6231 feet. Some oil has been produced from Miocene sands between 1559 and 2141 feet; some oil and gas has also been found in the Frio formation. The first commercial producer was the Rowan Drilling Company and Shell's Jamison No. 1 which produced 183 barrels daily from 1970 feet.

This field has produced 390,601 barrels up to the first of this year.

Time of Arrival and departure	Miles	Total	
	1.5	114.6	Austin Bayou Bridge.
	2.2	116.8	Hoskins in view ahead on left. Note erosion. May indicate recent uplift.
	3.2	120.0	Canal Bridge.
	0.5	120.5	Junction Stratton-Hoskins road and underpass. Continue through underpass and turn left.
Arr. 2:00 p.m.	0.7	121.2	Stop. Entrance Hoskins Mound Reservation. Map and Section, Figures 13 and 14. Pick up Freeport Sulphur Company representative. Have Identification Cards ready.
	0.2	121.4	"T" turn—turn left, then right and right again to
	0.2	121.6	Field office of Freeport Sulphur Company.
	0.5	122.1	Relay Station Number 10.
	0.7	122.8	Stock pile and vats. Turn around and retrace to office.
	1.2	124.0	Back at Field office. Leave the field, retrace to the gate.
Leave 3:30 p.m.	0.4	124.4	Back at gate entrance to Hoskins Mound Reservation—continue on toward the underpass.
	0.6	125.0	Through the underpass. Turn left toward Stratton Ridge parallel to Railroad.
	2.7	127.7	Cattle guard.
	0.7	128.4	Bayou crossing on Railroad bridge.
	4.7	133.1	Junction R-288 at Stratton Ridge. Note surface expression of Stratton Ridge Dome on right. Map Figure 15. Turn left toward Freeport.
	2.7	135.8	Oyster Creek.
	2.5	138.3	Dow Chemical Freeport Plant on left.
	0.8	139.1	Dow Chemical Water Return Canal.
	0.8	139.9	Velasco City Limit.
	0.2	140.1	Road "T" Turn left with R-288.
	0.3	140.4	Bridge over former Brazos River Channel.
	0.2	140.6	Turn right one block.
Arr. 4:05 p.m.	0.1	140.7	Junction with R-36. Turn right.
	1.3	142.0	Brazos River. Bryan Mound in left distance.
	8.0	150.0	Clemens State Prison Farm.
	3.5	153.5	Hinkle Ferry Road. Straight ahead on R-36.
	2.3	155.8	Railroad crossing at Brazoria.

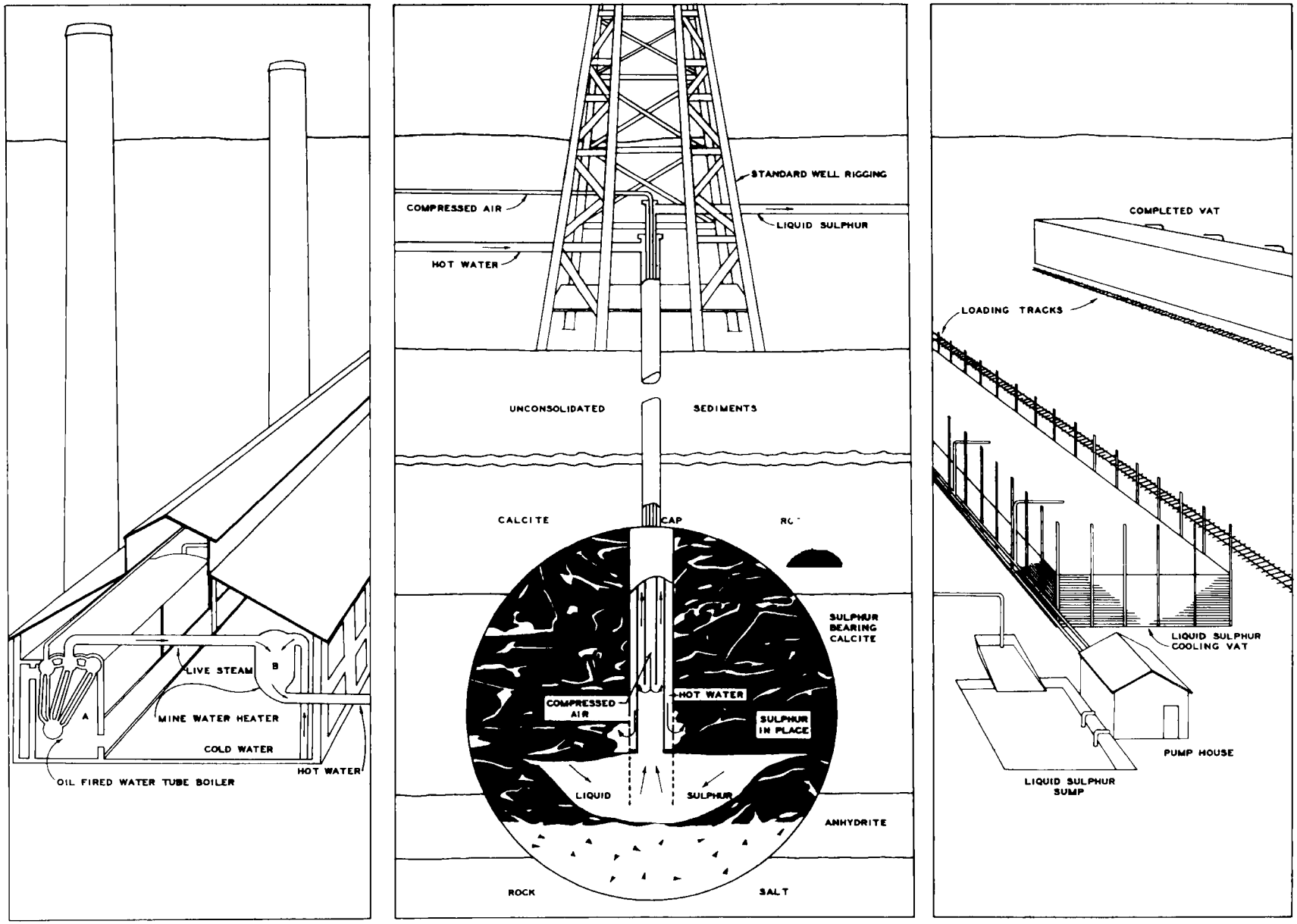


FIGURE 12

Steam generated in "A" is passed into "B" where it heats cold water to a temperature of about 325 F. The hot water from "B" is pumped down the outer of three concentric pipes, to the sulphur formation which it enters through openings in the pipe. The sulphur thus melted, being heavier than water, collects at the bottom of the well. Compressed air introduced through the center pipe forces the liquid to the surface where it is collected in sumps.

Centrifugal pumps lift the sulphur into the vats, where it solidifies and is later broken down for shipping.

Courtesy Texas Gulf Sulphur Company

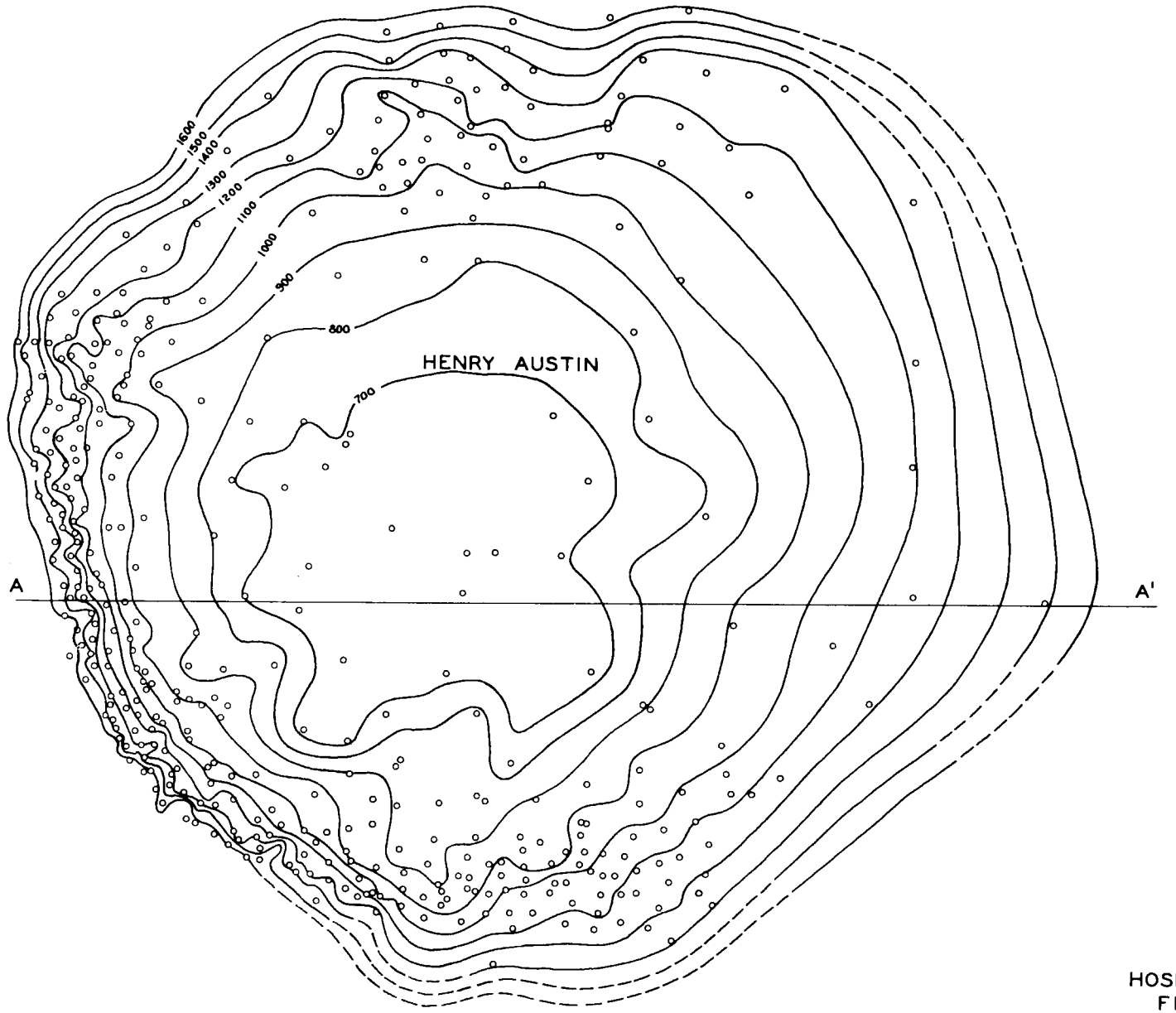


FIGURE 13
HOSKINS MOUND
FIELD MAP
BRAZORIA CO. TEXAS
CONTOURED ON THE TOP
OF CAP ROCK

0 500' 1000'

O SULPHUR WELLS

N

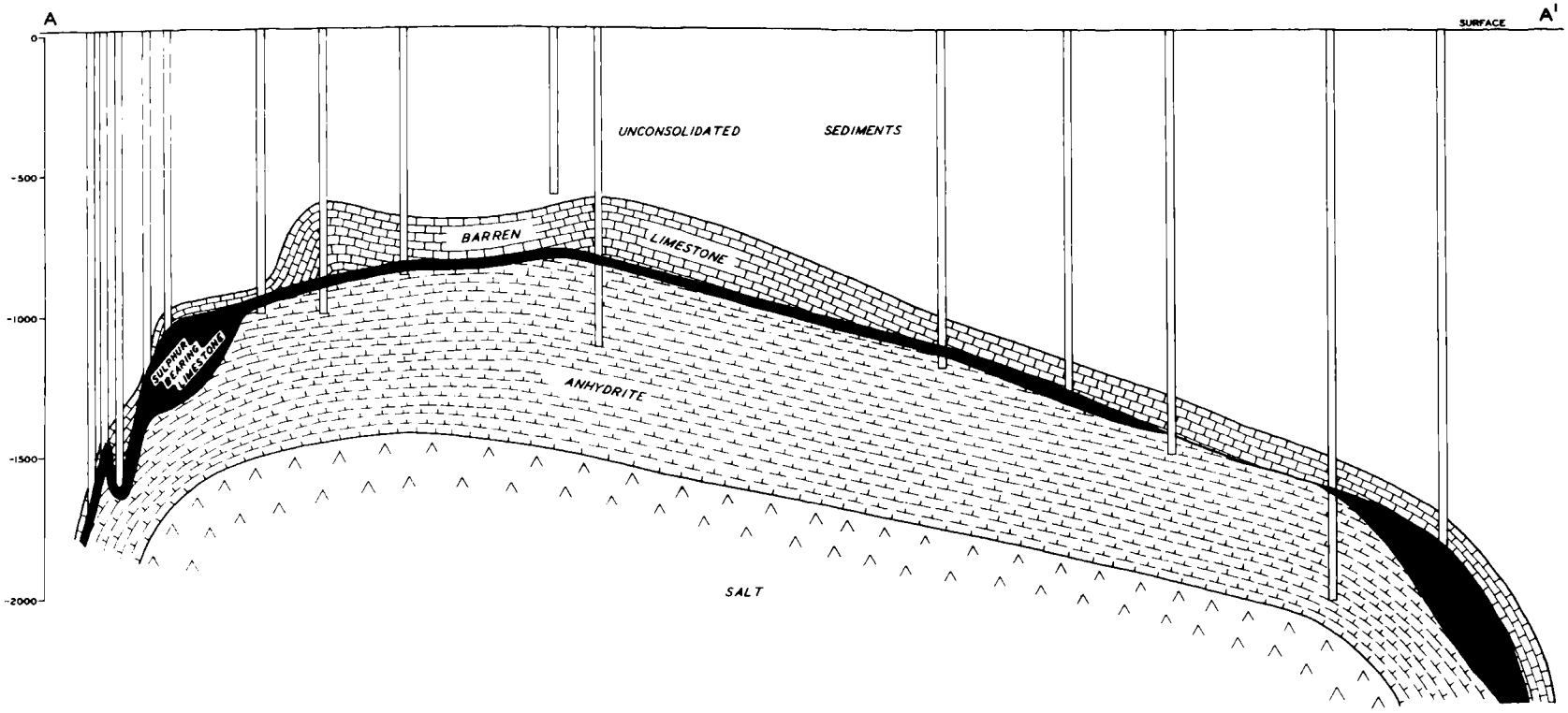


FIGURE 14
HOSKINS MOUND
CROSS SECTION
BRAZORIA CO. TEXAS

250'
250'

HOSKINS MOUND

The Hoskins Mound, Brazoria County, Texas was found by means of surface elevation, gas seeps, and sulphur water. The discovery well was drilled by the Mound Oil Company in 1904 which yielded gas at 585 feet. It is a shallow salt dome structure with top of cap rock at 623 feet and top of salt at 1150 feet. About 32,000 barrels of oil have been produced above the cap rock up to the present time. There has been no oil development since 1907. The cap rock of the dome, however, is rich in sulphur and the Freeport Sulphur Company started operations on the dome on March 31, 1923. Up to January 1, 1941, a total of 6,085,340 tons of sulphur has been produced from thisdome.

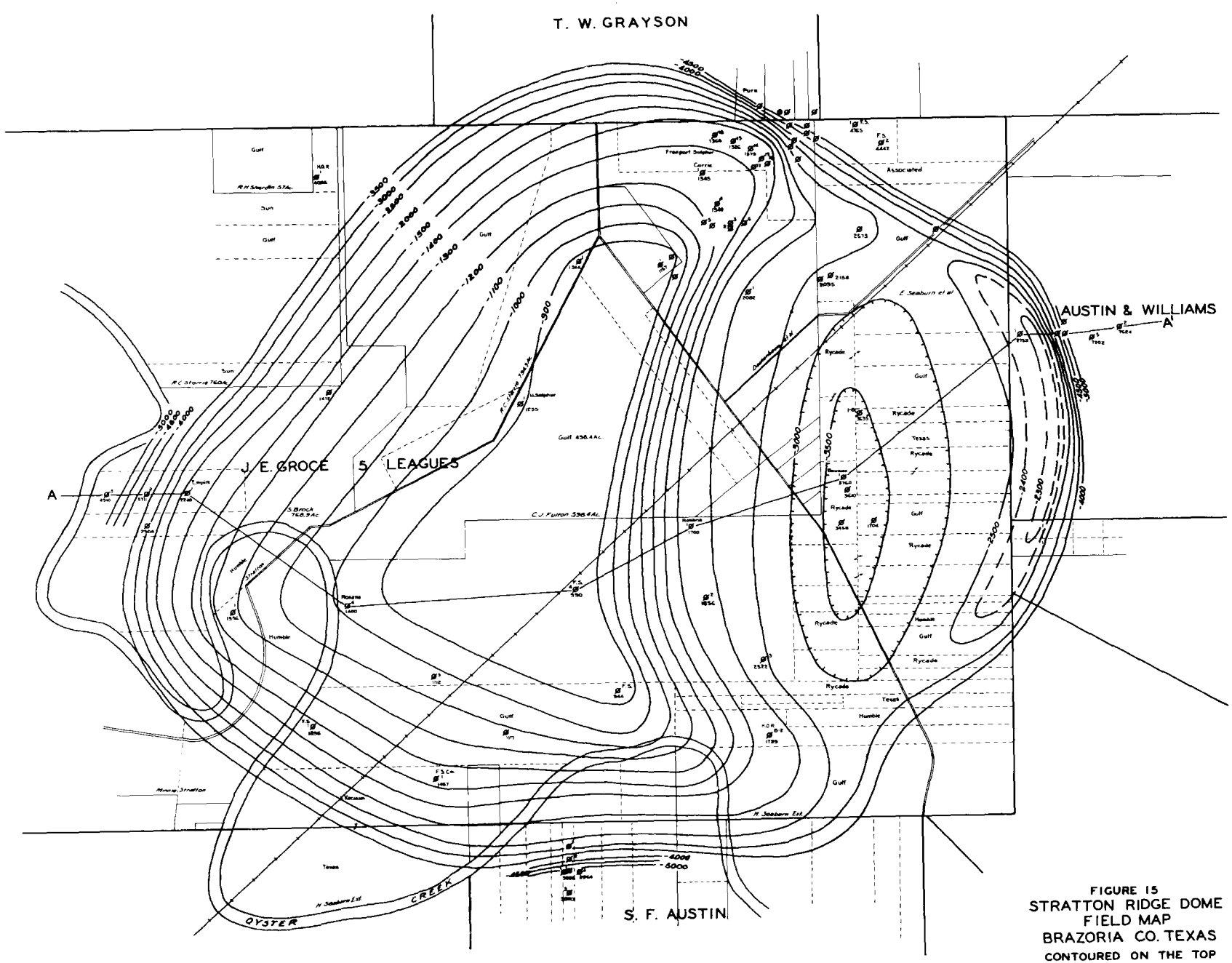


FIGURE 15
STRATTON RIDGE DOME
FIELD MAP
BRAZORIA CO. TEXAS
CONTOURED ON THE TOP
OF CAP ROCK

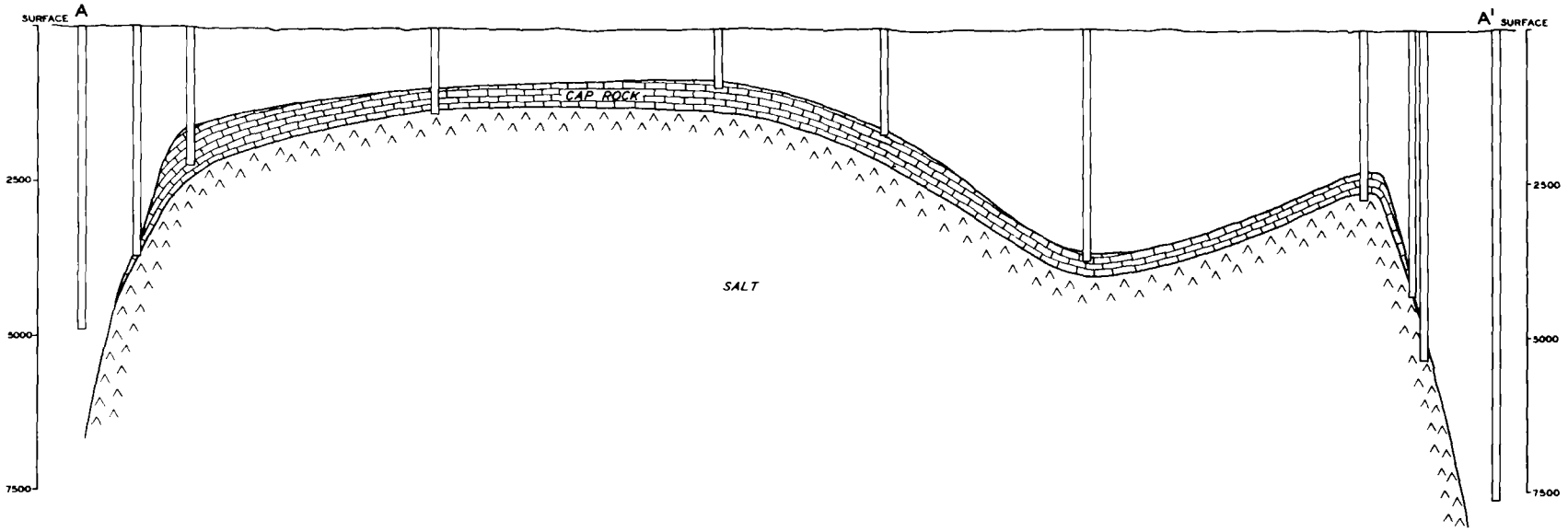


FIGURE 16
STRATTON RIDGE DOME
CROSS SECTION
BRAZORIA CO. TEXAS

STRATTON RIDGE DOME

The Stratton Ridge Dome, Brazoria County, Texas was found by means of surface elevation, gas seeps, and sulphur water. It is a very large dome with the top of the salt at about 1330 feet. Some Miocene sands between 4300 and 4600 feet have been found. The deepest holes are the Rycade Oil Corporation and the Amerada Petroleum Corporation's Seaburn No. 2, which was abandoned in 1931 at 7624 feet.

DAMON MOUND FIELD

The Damon Mound Field, Brazoria County, Texas was discovered by ground elevation, gas seeps, and mineral water. It is a piercement salt dome with the top of the cap rock at the surface and the top of the salt at 529 feet. The discovery well on this dome was the Texas Exploration Company's Wisdom No. 1 completed November 15,1915 for 100 barrels daily from a depth of 1953 feet. The field has produced up to January 1, 1941 only 9,634,737 barrels of oil. The deepest hole drilled on or near the dome is the Sinclair Prairie Oil Company's Bryan 31-A, which was abandoned September 1933 at 8112 feet.

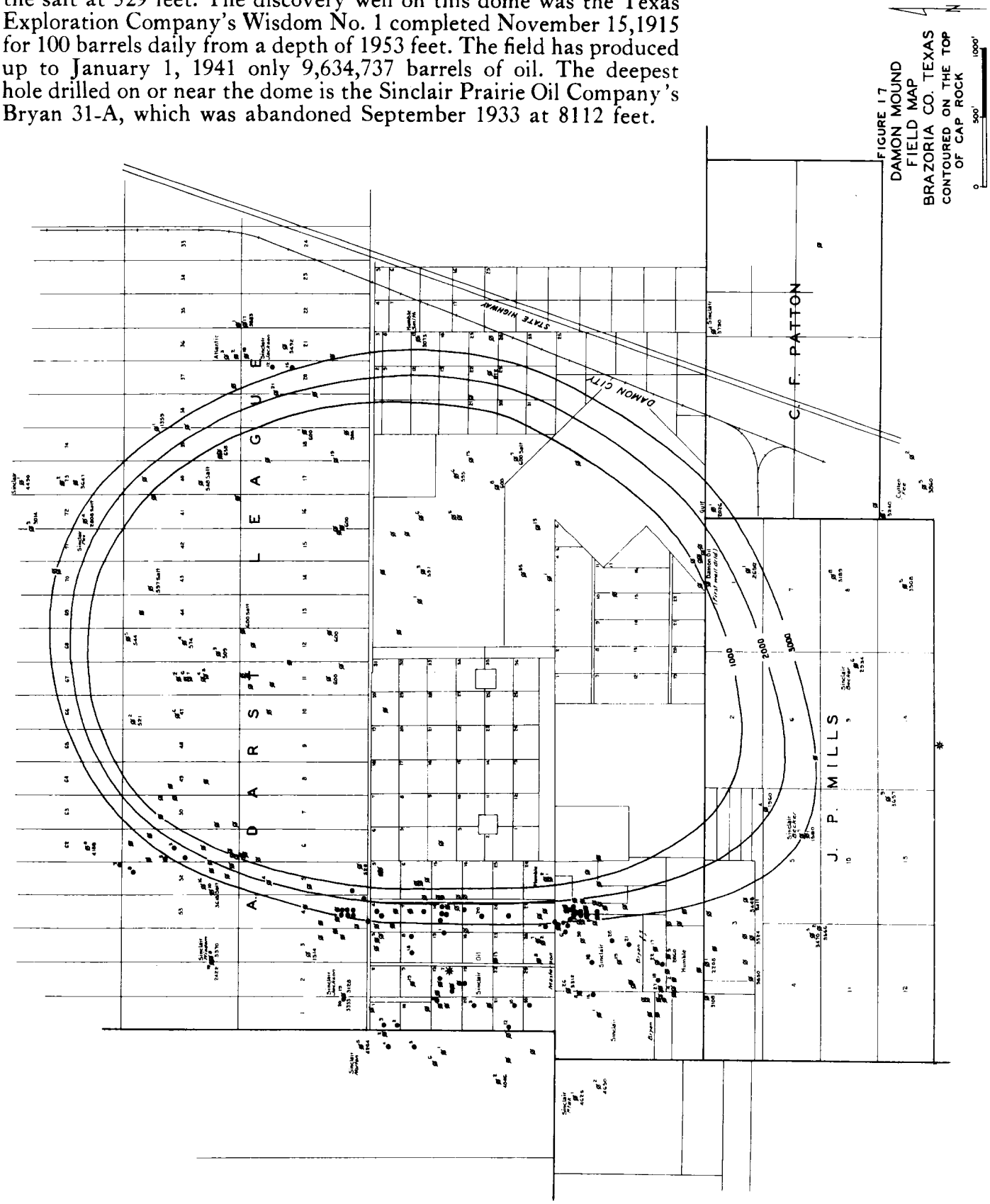


FIGURE 17
DAMON MOUND
FIELD MAP
BRAZORIA CO. TEXAS
CONTOURED ON THE TOP
OF CAP ROCK

Time of Arrival and Departure	Miles	Total	
	8.3	164.1	Junction R-35. Straight ahead on R-36.
Arr. 4:35 p.m.	0.2	164.3	West Columbia Dome and Field on right.
	0.4	164.7	Junction R-59. Straight ahead on R-36.
	1.1	165.8	West Columbia North Flank production on right. Map and Section, Figures 18 and 19.
	1.2	167.0	Former earthen oil storage tanks on left.
	5.1	172.1	View of Damon Mound ahead on left. Note production on west flank. Smokestacks to left are at Texas Gulf Sulphur Company's plant at Boling Dome.
Arr. 4:50 p.m.	3.1	175.2	Turn left on black-top road to Damon.
	0.3	175.5	Turn right on black-top.
	0.2	175.7	Damon Post Office. Turn left.
	0.9	176.6	Good view to west and south.
	0.6	177.2	Road "T" Shallow pumping wells actuated by central power. Turn around and retrace to R-36. Map, Figure 17.
	1.2	178.4	Note sulphur stockpile at Long Point Dome in extreme left distance.
Lv. 5:05 p.m.	0.2	178.6	Damon P. O. Turn right.
	0.5	179.1	Back at R-36. Turn left.
	2.5	181.6	Fort Bend County line.
	2.5	184.1	Guy
	4.5	188.6	Road Fork. Keep to right on R-36.
	10.8	199.4	Rosenberg City Limit. Straight ahead.
Lv. 5:45 p.m.	0.5	199.9	Junction R-90. Turn right.
	3.5	204.4	Fort Bend County Court House. Richmond. Straight ahead.
	0.2	204.6	Brazos River.
Arr. 6:00 p.m.	8.0	212.1	Sugarland. Oyster Creek; former Brazos River channel.
	7.0	219.1	Enter Harris County. Blue Ridge Field in view on right.
	4.9	225.0	Holmes Road. Pierce Junction in view ahead on right. Keep to left on R-90.
	0.4	225.4	Underpass.
Arr. 6:30 p.m.	2.9	228.3	Sivil's Drive-In Stand. (See page 28.)

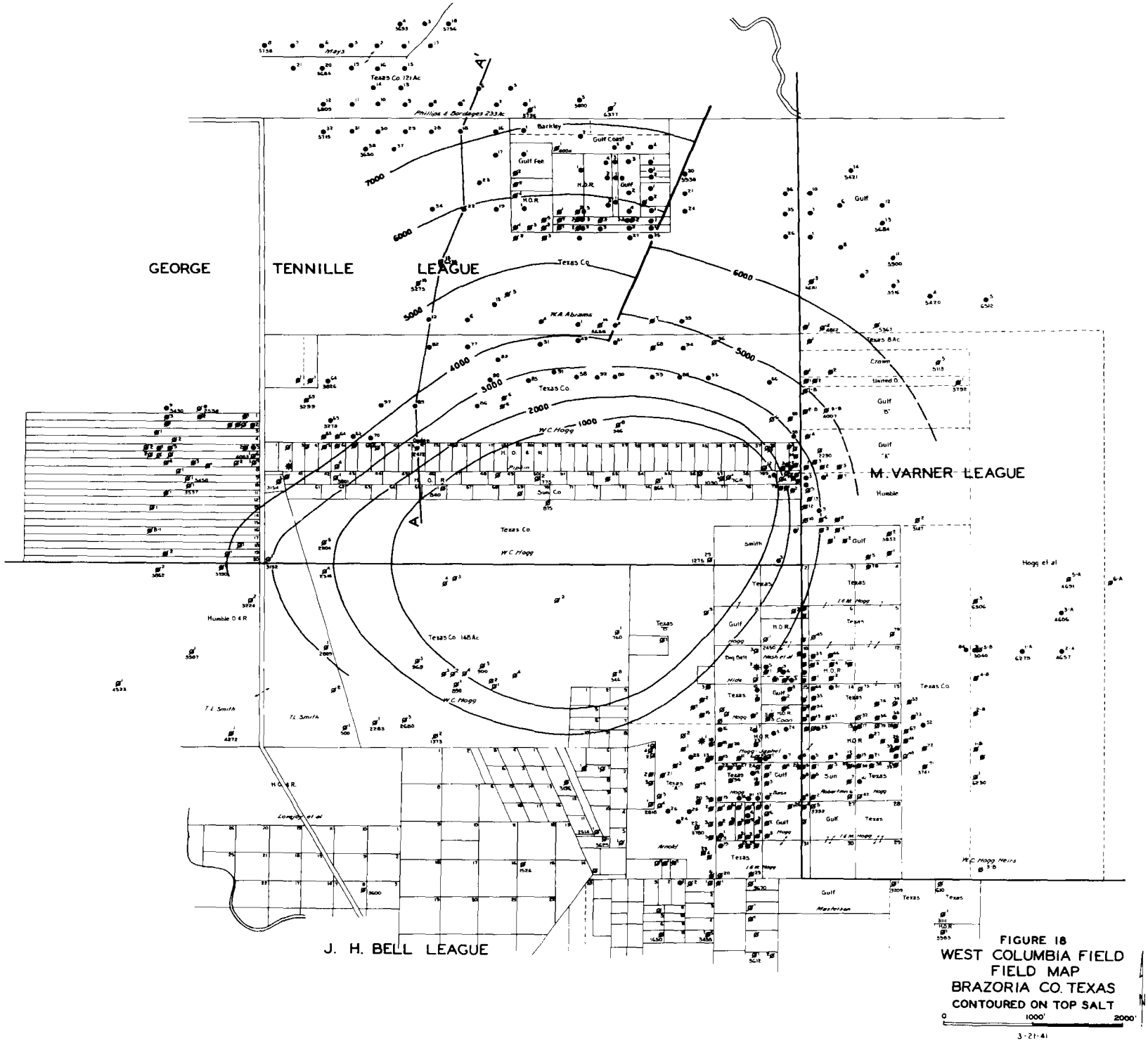


FIGURE 18
WEST COLUMBIA FIELD
FIELD MAP
BRAZORIA CO. TEXAS
CONTOURED ON TOP SALT

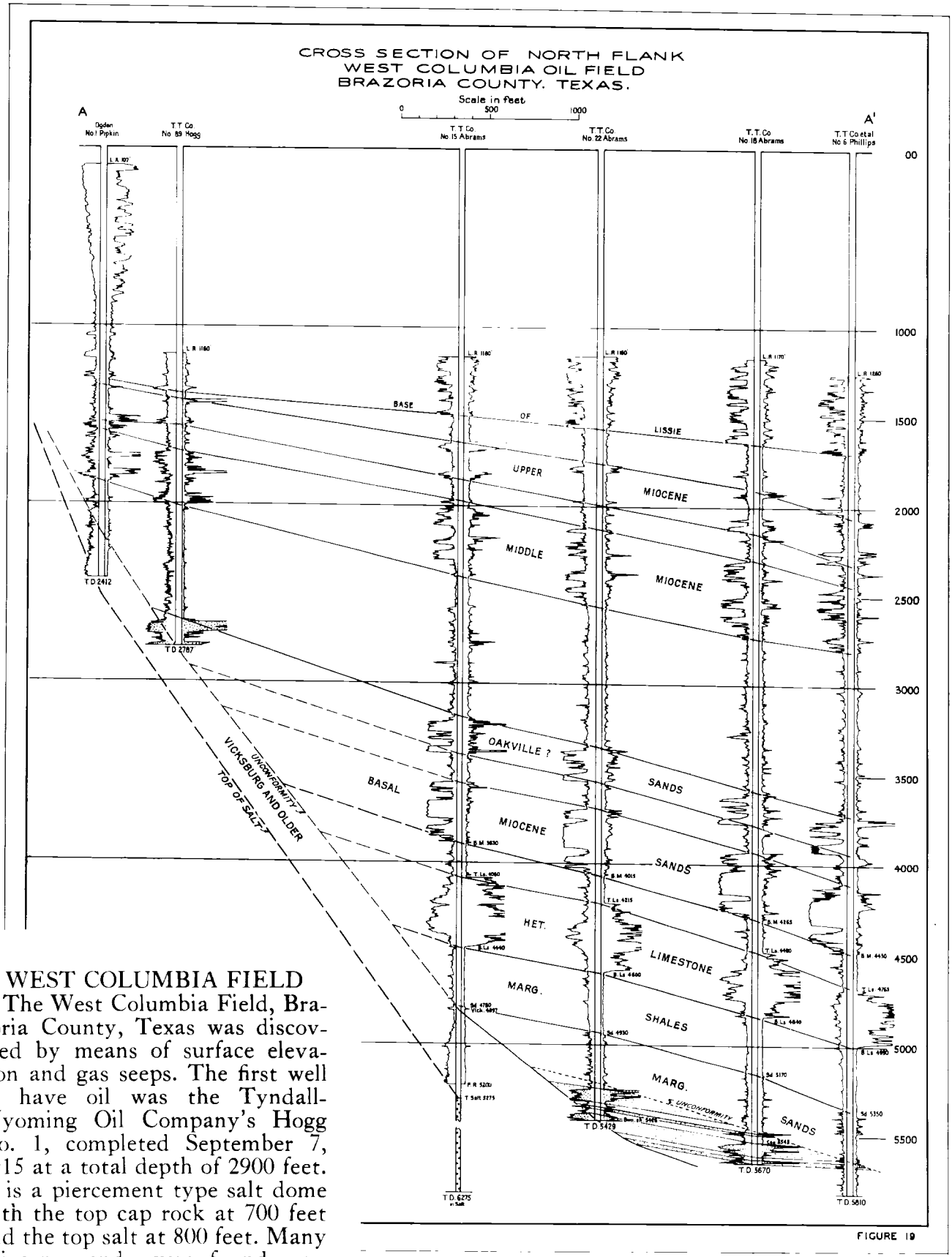


FIGURE 19

WEST COLUMBIA FIELD

The West Columbia Field, Brazoria County, Texas was discovered by means of surface elevation and gas seeps. The first well to have oil was the Tyndall-Wyoming Oil Company's Hogg No. 1, completed September 7, 1915 at a total depth of 2900 feet. It is a piercement type salt dome with the top cap rock at 700 feet and the top salt at 800 feet. Many Miocene sands were found, one of the earlier wells in the field produced over 5,000,000 barrels from a depth of 2800 feet. Up to January 1, 1941 the field has produced 86,559,766 barrels of oil.

Gregg and Son Photo

A SIVIL GIRL