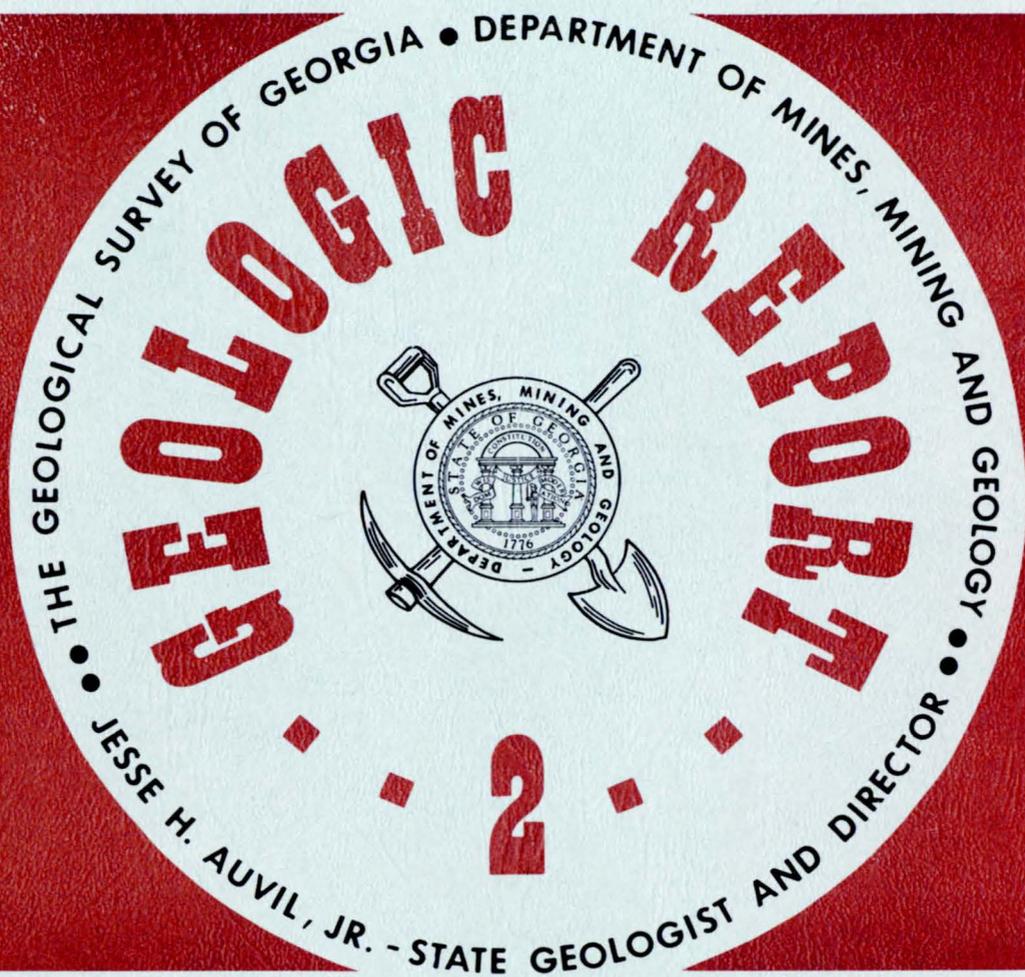


# OIL SEEPS IN GEORGIA

## A Reinvestigation

by

Richard H. Sams



ATLANTA

1971

For convenience in selecting our reports from your bookshelves, they will be color-keyed across the spine by subject as follows:

Red	Valley & Ridge mapping and structural geology
Dk. Purple	Piedmont & Blue Ridge mapping and structural geology
Maroon	Coastal Plain mapping and stratigraphy
Lt. Green	Paleontology
Lt. Blue	Coastal Zone studies
Dk. Green	Geochemical and Geophysical studies
Dk. Blue	Hydrology
Olive	Economic geology
	Mining directory
Yellow	Environmental studies
	Engineering studies
Dk. Orange	Bibliographies and lists of publications
Brown	Petroleum and natural gas
Black	Field trip guidebooks.

Colors have been selected at random, and will be augmented as new subjects are published

# **OIL SEEPS IN GEORGIA**

## **A Reinvestigation**

by

**Richard H. Sams**



**ATLANTA**

**1971**

**OIL SEEPS IN GEORGIA, A Reinvestigation**  
**Richard H. Sams<sup>1</sup>**

**INTRODUCTION**

Several surface oil seepages have in the past been reported and verified in the state of Georgia. As early as 1918 state geologists were assigned to investigate an oil seep near Scotland, Georgia, in Telfair County, and a few years later several seeps were described in a rather comprehensive report (Prettyman and Cave, 1923) on the possibilities of petroleum occurrence in Georgia. Because it has been almost fifty years since these seeps were investigated and described, a reinvestigation of the sites was made by the author. Their locations particularly, needed to be updated and their present conditions observed. A recent compilation (Sever, 1965) of the previous reports served as a guide, although the earlier works themselves were reviewed. The author visited all of the sites listed by Sever with the exception of his "Seep One" near Cedar Springs, Early County, Georgia. This site was excluded because it is a considerable distance from the remaining seeps. However, the seep at Scotland, Telfair County, Georgia, described in detail by Hull and Teas (1919) but omitted by Sever, was included in this reinvestigation.

Fifty years of erosion, reforestation, and relocation of highways and landmarks hindered returning with complete confidence to the exact locations originally reported. With one or two possible exceptions, each site previously described was located. Included in this report is a sketch map of each area visited, indexed on the latest official Highway Department county road map, should the reader desire to inspect the sites himself. Also, since each of the seeps was assigned a number by Sever, but may be more conveniently known by the nearest principal town, reference is made to both Sever's numbers and the town. The Scotland Seep is added as No. 8 following the numerical order previously set by Sever.

**ACKNOWLEDGEMENTS**

Support for this investigation by L. H. Meeker & Co. of Fort Worth, Texas, as well as the cooperation extended by the

---

1. Independent petroleum geologist, Corpus Christi, Texas

Georgia Department of Mines, Mining and Geology is gratefully appreciated.

## GENERAL RESULTS OF REINVESTIGATION

In general, the author found a lack of any clear evidence for active oil seepages at the locations previously reported. However, it should not be inferred that they were not valid oil seeps at some time in the past; nor is it the author's intention to imply that proper excavation of the areas might not reactivate the seeps; but as found in their present state all seeps have become inactive, or possibly so much declined as to no longer be recognized as true oil seeps. Certainly by comparison to those the author has observed in California they should no longer be called "seeps." However, reports from local persons or newspapers at each seep area did indicate that at one time there had been valid oil seeps, particularly at the following places: Sandersville, Louisville, Wrightsville, Scotland and Unadilla. The term "relict seep" may therefore be more appropriate. Although several reasons for their disappearance may be offered, generalities should be drawn only with caution because each seep is separated both geographically and physiographically from the others.

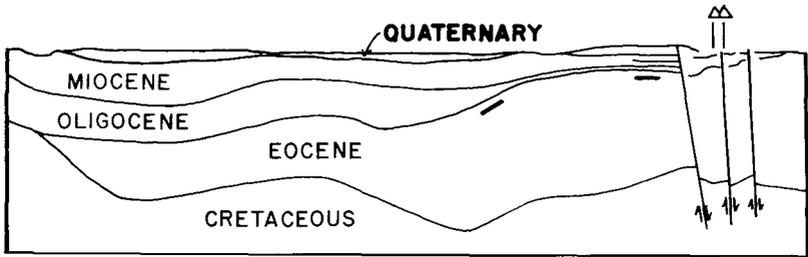
The value of seeps as indicators of a possible oil and gas province is well illustrated by Link (1952) when he writes:

"A look at the exploration history of the important oil areas of the world proves conclusively that oil and gas seeps gave the first clues to most oil-producing regions. Many great oil fields are the direct result of seepage drilling."

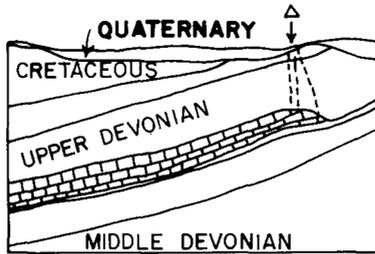
"Seepages are most numerous in the youngest sediments, especially where they have been folded, faulted, and eroded, and on the margins of basins. Exceptions are easily explained by a comparatively calm geological history as depicted by the Gulf Coast region, West Texas, the Mid-Continent, and areas bordering stable masses."

In a rather monumental work on seepages of the world, Link has described the inter-relationship between oil and gas seeps, geology, and the occurrence of proven reserves associated with such seepages. Several of his examples are included here to illustrate possibilities which may exist for those in the Georgia Coastal Plain. The ones selected are those with the setting which is geologically most similar to that of Georgia's Coastal Plain.

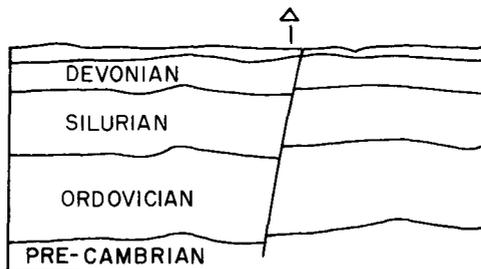
SEEPS FROM UNCONFORMITY  
AND  
ERODED OIL-BEARING WEDGE



SEEP OVER A LEAKING REEF RESERVOIR



SEEP ON A NORMAL FAULT



△ Oil seep

Modified After Link, 1952

## LOCATION AND DESCRIPTION OF THE SEEP AREAS

### Seep One The Cedar Springs Seep Early County

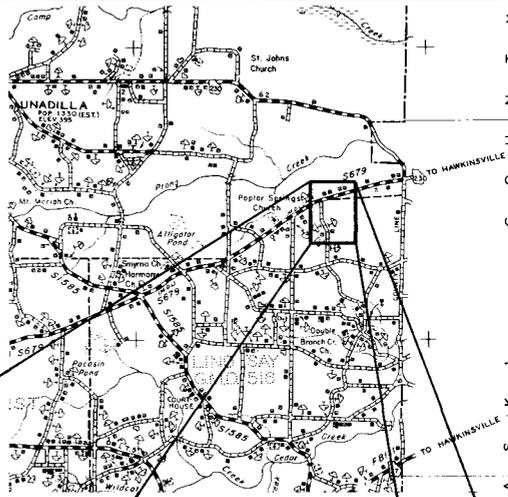
Not visited.

### Seep Two The Unadilla Seep Dooly County

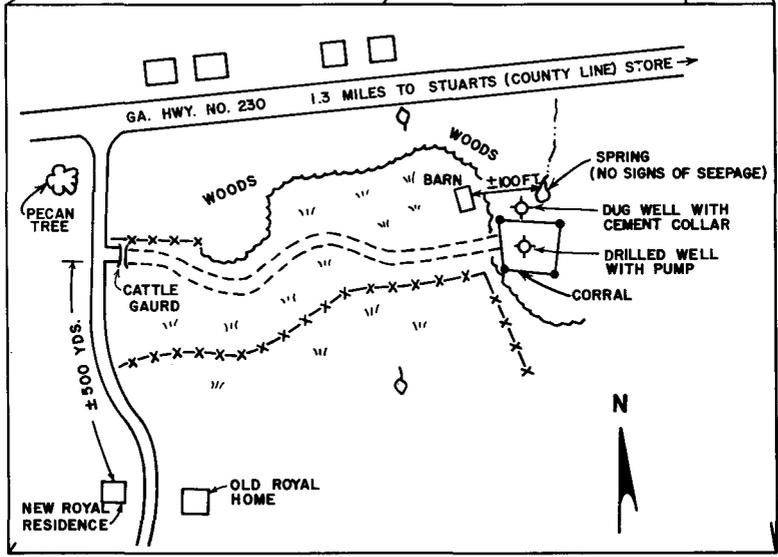
Prettyman and Cave reported two seeps in the Hawkinsville area: one "on the R. A. Seales place ½ mile east of the river at Hawkinsville" and another on the "Fitzroyal Farm, 12 miles west of town." The location of each of these needs to be clarified.

The Unadilla Seep area is not in Pulaski County, but in Dooly County, 6 ½ airline miles east-southeast of the town of Unadilla. Also, the previous authors, or their printer, mistook the landowner's name to be "Fitzroyal" instead of Mr. Fitz Royal. The farm is now owned by his two sons and a daughter. Miss Royal reported to the author that the last person who looked at the seep (about 1950) claimed it was a gas seep, although Prettyman and Cave reported it as an oil seep. No trace of either oil or gas was evident on this reinvestigation. A water well had been dug about 100 feet uphill from the spring, described as having had hydrocarbons associated with it. It was dry and had no odor of either oil or gas. Another water well had been drilled about 100 feet from the spring and apparently this well was in use since it had a pump installed on it. There was no indication from the interview that noticeable amounts of oil or gas were associated with the water from this well.

**SEEP NO. 2**  
**UNADILLA SEEP**  
**(DOOLY COUNTY)**



A S K I C O U N T Y

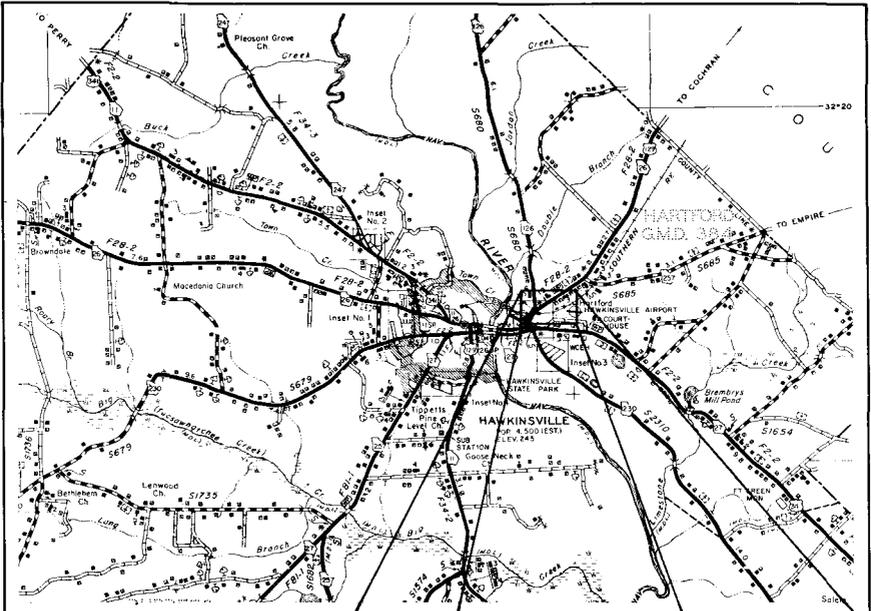


### Seep Three The Hartford Seep Pulaski County

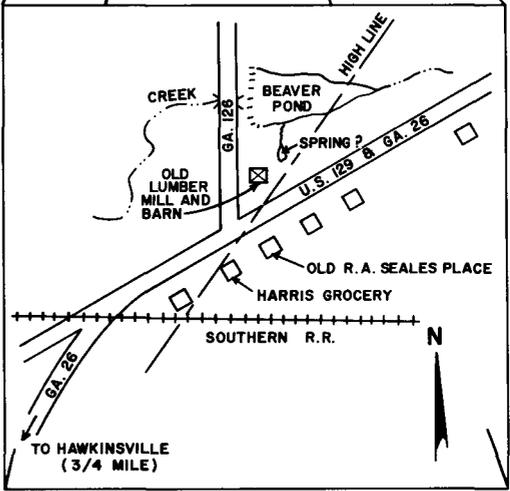
The location of the seep, described as being on the R. A. Seales place (Prettyman and Cave, 1923) is actually in the town of Hartford, Georgia, across the Ocmulgee River from Hawkinsville. This seep will be called the Hartford Seep. The other location, 12 miles west of Hawkinsville, is actually in another county and closer to the town of Unadilla. It is therefore called the Unadilla Seep here in order to avoid further confusion.

The particular oil-seeping spring referred to by Prettyman and Cave on the R. A. Seales place was not definitely located since the highway has been re-routed. What looked like a spring house that had been cemented over was found, but no water was flowing from it. It had a 6 inch pipe leading horizontally out of it which resembled surface casing pipe common to oil field wells. Some of the local people said there had been an oil test drilled there years ago. However, no record of this test is published.

On a beaver pond below this spring house, a very thin film of oil occurs. The film was too thin to obtain a sample, even with a blotter. A similar film of oil was observed on the water in the Georgia Highway Department's borrow pit on the south side of U. S. Highway 341--a location described as an outcrop of the Irwinton Sand by Carver (1969, p. 10). There was little doubt that it was an oil film because when stirred with a stick it did not break up as iron oxide films do. Moreover, agitating the water produced bubbles with a light brown coating over them. The film did not have the iridescent color usually characterizing petroleum, and was not clearly related to subsurface seepage. Therefore, the author would not claim this to be a natural oil seep because both the well-water and the water in the oil film could have been dropped by machinery cutting the right-of-way. Highway Department equipment likewise may have spilled onto the flooded borrow pit. In addition, with the very thick underbrush present, it could possibly represent some sort of vegetable oil which would account for the lack of rainbow iridescence.



**SEEP NO. 3**  
**HARTFORD SEEP**  
**(PULASKI COUNTY)**



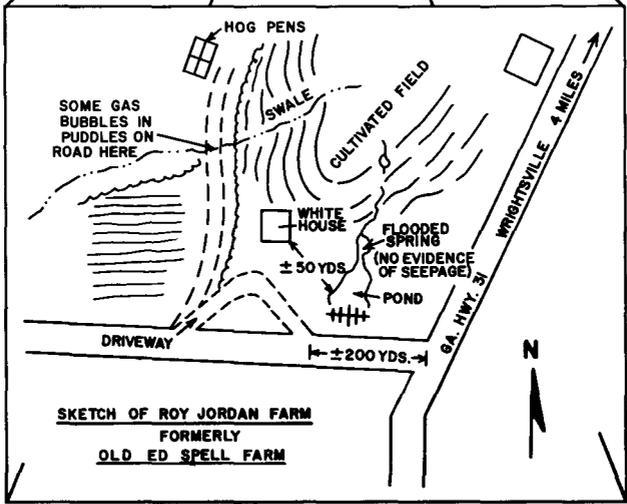
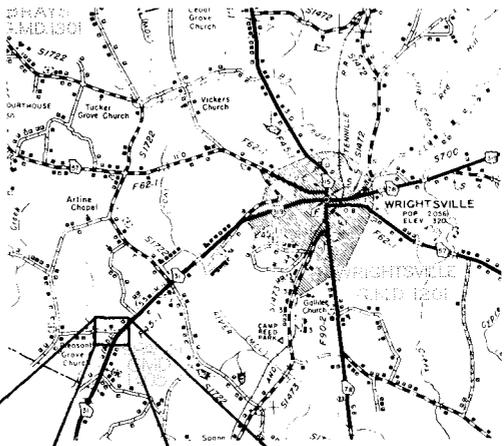
**Seep Four**  
**The Wrightsville Seep**  
**Johnson County**

The fourth seep area inspected occurs at Wrightsville, Georgia, in Johnson County. Prettyman and Cave's original location description should be corrected to read, "four miles west southwest of Wrightsville" instead of "west northwest." Furthermore, the old "Ed Spell farm" is now owned by Roy Jordan of Wrightsville.

The spring that contained the reported "thick globules of oil" was just 50 yards south of Spell's house. It has been dammed, and a small, barely visible pond has flooded the spring itself. No trace of oil on the water could be seen; but, as in previous cases, the investigation was preceded by a rather heavy rain only hours before which undoubtedly disturbed the surface of the water. Some gas bubbles were observed occasionally rising to the surface on a large mud puddle in the road behind the house. The puddle was in a low area about midway between the house and some hog pens. The gas bubbles were  $\frac{1}{4}$  to  $\frac{3}{4}$  inch in diameter. They rose intermittently, remained awhile on the surface, then popped. On one occasion a lighted match held near the bubbles as they popped made an igniting sound as if some gas were burning. A large swampy area on the adjacent property to the west was also searched but no traces of hydrocarbons were evident there.

There could have been a very minor amount of gas seeping through this sandy soil behind the house. Whether it represented natural hydrocarbons seeping from below or simply entrapped air or marsh gas, could not be verified. If it were natural gas, the amount detectable would have been insufficient for the area to warrant the title of a gas seep.

**SEEP NO. 4**  
**WRIGHTSVILLE**  
**SEEP**  
**(JOHNSON COUNTY)**



**Seep Five**  
**The Louisville Seep**  
**Jefferson County**

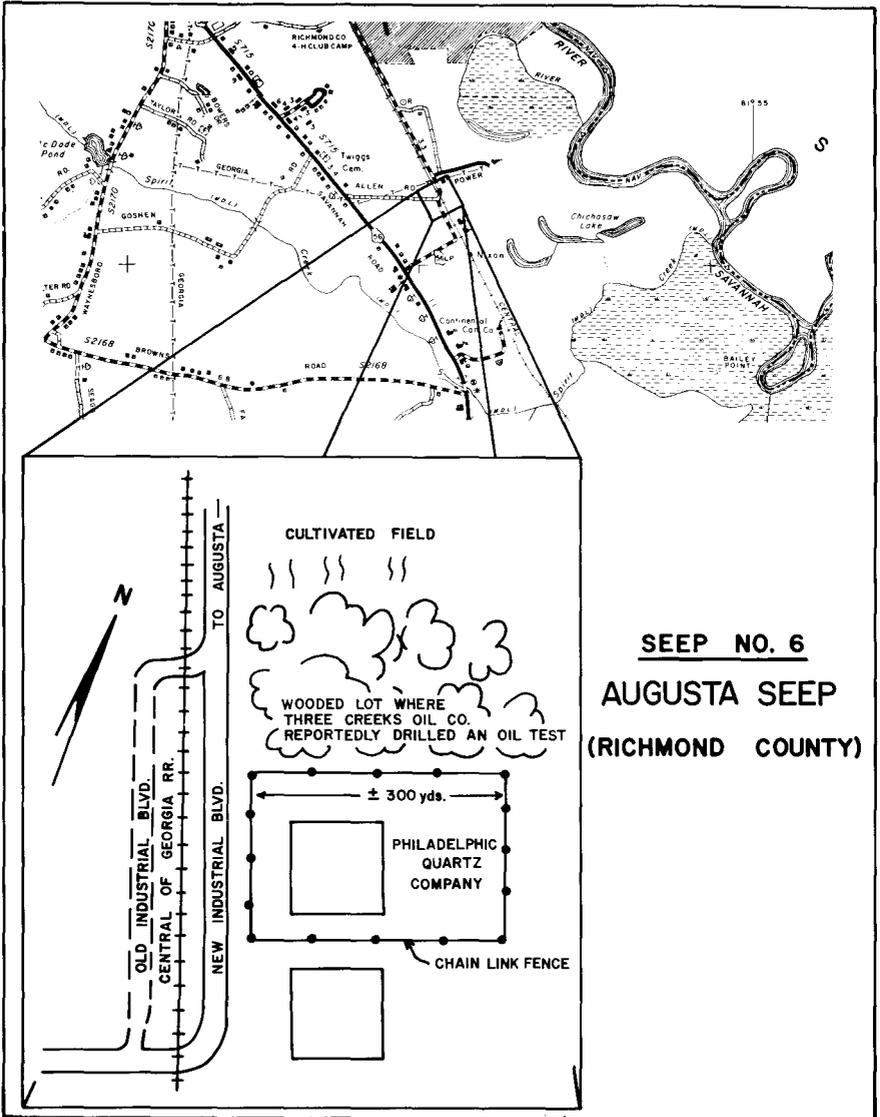
The Louisville Seep was reported to have been located on the "Old Black Farm, 3½ miles southwest of Louisville, Georgia." In 1905, Capt. A. F. Lucas of Spindletop fame drilled a well at the location of this seep. His well was drilled to a depth of 500 feet but was abandoned at that depth when they encountered "quicksand" and lost circulation of fluids in the hole. The well was later deepened by the Georgia Petroleum Oil Company to 1,143 feet at which depth it encountered crystalline basement rock and was abandoned. The records indicate that this was the only attempt by petroleum interests to evaluate this oil seep.

The farm is now owned by Mr. Ash Stavelly. Stavelly showed the author the surface casing of the old well drilled by Capt. Lucas and the precise locations of the reported seeps. He claimed that there is still an occasional oil film to be seen around the edge of his pond. No film was observable on this occasion, however.



**Seep Six**  
**The Augusta Seep**  
**Richmond County**

The description in the literature of the location of the Augusta Seep was extremely vague. It was given as "5 to 15 miles south of Augusta, along the Savannah River." A check of the local newspaper files did not reveal a more precise description. The literature reported, however, that the Three Creeks Oil Company, in the summer of 1921, had drilled a well in the vicinity of Allen's station, and it is presumed that this was near the seep. The Philadelphia Quartz Company now owns the property where the well was reported to have been drilled. The area investigated is shown on the enclosed sketch map. Again there was no evidence for any active seepages, but the exact location here is still in question.

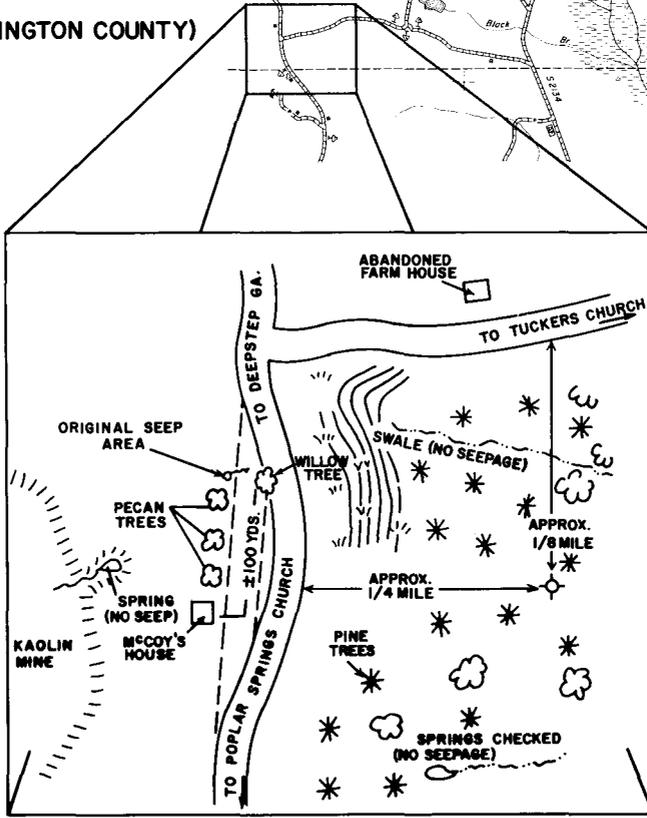
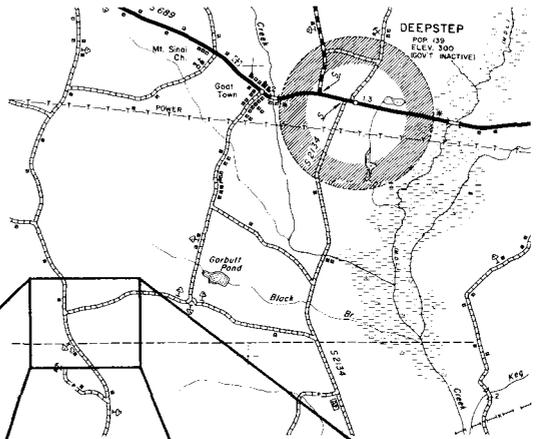


**Seep Seven**  
**The Sandersville Seep**  
**Washington County**

The Sandersville Seep was located 12 miles west of Sandersville, near the town of Deepstep, on property now owned by Mr. Pete McCoy. Mr. McCoy's son, Bob, of Columbus, Georgia, said he definitely remembers playing in the seep as a boy some twenty years ago. The oil was a "bluish color and was thick," he said. The seep itself, as he pointed it out to me, was located on very high ground in a road cut which passed below his house. Newspapers on file in the Ordinary's Office in Sandersville indicated that the seep was discovered in 1920 by a work gang while they were cutting a road through the area. The report said that the gang noticed some gas associated with the oil at that time. The Middle Georgia Oil & Gas Company drilled one well near the seep. Bob McCoy pointed out the approximate location of the old well, but the casing could not be found. The reported seep area itself no longer shows signs of any seepage of oil, and the road cut which was responsible for the discovery of the seepage has been backfilled. The road itself has been rerouted so that earth has been pushed over the area referred to as the seep. The newer excavation for the road is located only a few feet downhill, but it contained no indications of seepage.

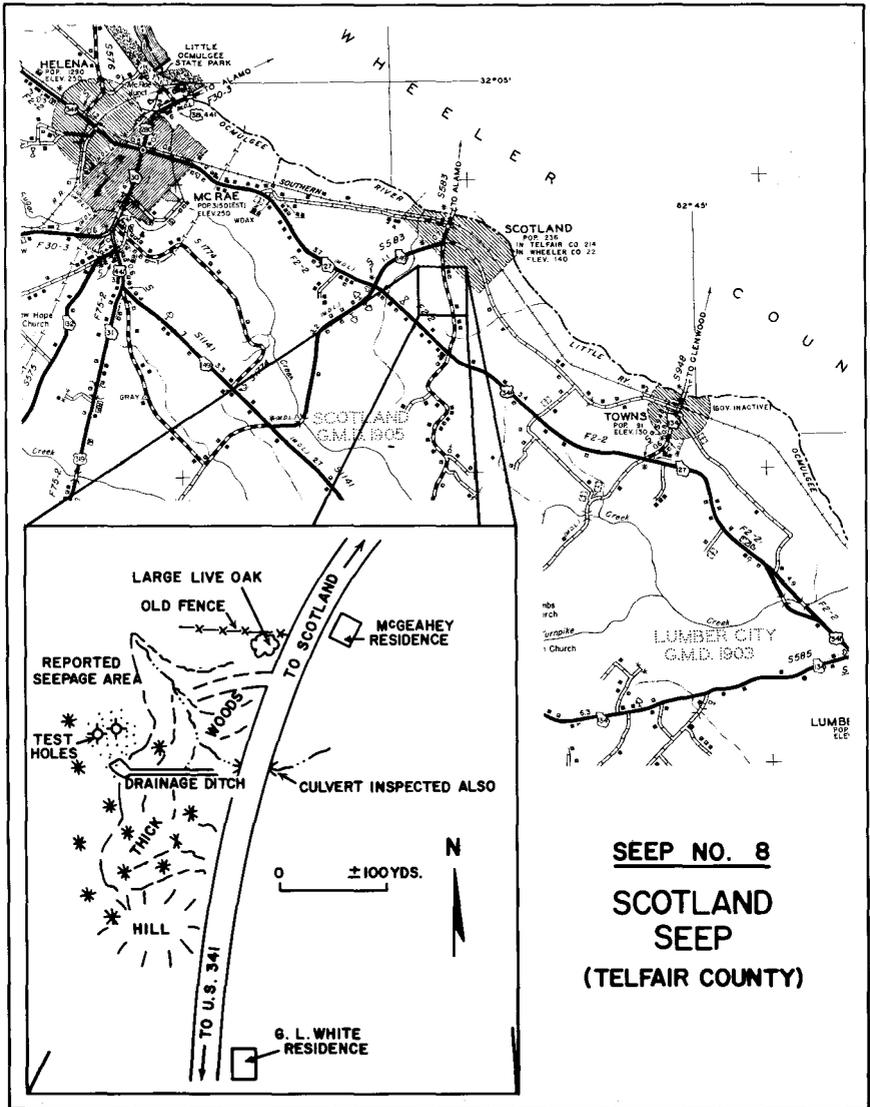
In addition to checking this area, several low places and a spring in the approximate vicinity of the old well site were checked. A spring behind McCoy's house was also checked, but at none of these areas were there any traces of substances that could positively be identified as petroleum.

SEEP NO. 7  
**SANDERSVILLE SEEP**  
**(WASHINGTON COUNTY)**



**Seep Eight**  
**The Scotland Seep**  
**Telfair County**

Of all the oil seeps previously investigated, the location of the Scotland Seep was most accurately described. This seep was the subject of an extensive report by Hull and Teas in 1919. After fifty years, however, the appearance of the location changed from a plowed field to a twice cut-over timberland, thick with underbrush. The remains of H. G. Sample's house could not be found, although the old driveway was located and a drainage ditch, which Hull and Teas had described in their report, was still identifiable. The remains of some of the holes that had been dug, presumably at the time of the original investigation, were also identifiable. There is still some degree of uncertainty as to the exact spot originally described because the area is no longer "swampy." Some holes two to three feet deep dug near the former ones revealed no trace of oil or moisture. Several unsuccessful oil test wells have been drilled in this area, two in 1953.



## SUMMARY AND CONCLUSIONS

Legitimate oil seeps probably did occur at many of those places visited, but they are no longer active. Thus, as suggested by Prettyman and Cave, the seeps themselves probably signified only small accumulations. On the other hand, perhaps they do indicate the presence of an oil and gas province as suggested by Link.

Clearly, few of the seep areas have been explored at all by test drilling. Only at Sandersville, where extensive kaolin mining has occurred nearby, has there been any real effort to expose subsurface strata, but this was not with the intent of finding petroleum. The two dry holes drilled in the vicinity of the reported seep at Scotland are spaced approximately 5 miles apart and none reached the basement rocks. It would therefore appear that this area also lacks adequate testing.

Oil seeps, active or relict, having been found on the Georgia Coastal Plain, should be sufficient encouragement for industry to make a careful reappraisal of the possibilities for oil and gas occurrence within the state of Georgia.

## REFERENCES

- Carver, Robert E., 1964, Reconnaissance Geology of Pulaski County, Georgia: Report to the Pulaski County Area Development Corporation, in open file at the University of Georgia Library, Athens, Georgia, p. 10.
- Hull, J. P. D., and Teas, L. P., 1919, A Preliminary Report on the Oil Prospect near Scotland, Telfair County, Georgia: Geological Survey of Georgia, 23 p.
- Link, Walter K., 1952, Significance of Oil and Gas Seeps in World Oil Exploration: Bull. Amer. Assoc. Petroleum Geol., v. 36, no. 8, pp. 1505-1540.
- Pettyman, T. M., and Cave, H. S., 1923, Petroleum and Natural Gas Possibilities in Georgia: Geological Survey of Georgia, Bull. 40, 164 p.
- Sever, Charles W., 1965, Oil Seeps Along the Chattahoochee Anticline in Georgia: Georgia Mineral Newsletter, Georgia Department of Mines, Mining and Geology, Vol. XVII, pp. 43-45.

