1983

A Study of Secondary and Tertiary Oil Recovery Potential in Mississippi

Clifford George

A Study of Secondary and Tertiary Oil Recovery Potential in Mississippi

Prepared For
The Mississippi Mineral Resources Institute
University, Mississippi

By
Clifford E. George
Mississippi State University
Mississippi State, Mississippi

August 1983

ACKNOWLEDGEMENTS

A number of people deserve thanks for helping to bring this study to a conclusion. Among these are the several Mississippi State University students who assisted in searching for data and putting it into computer format. D.O. Hill and J.L. Weeks offered the valuable support of the Mississippi State University Department of Chemical Engineering. Special thanks go to Professor C.H. Kuo for his encouragement and criticism during the course of this project.

A.R. Henderson of the Mississippi State Oil and Gas Board and his able Staff are to be commended for their patience in providing the author with information and relative personal remarks. Thanks also go to the Mississippi Mineral Resources Institute for the neccessary financial support during the course of the last year.

Personal thanks go to the 245 independent and major oil operators in the state who made this project possible. They offered their cooperation and candid comments concerning their respective oil production operations.

TABLE OF CONTENTS

ABSTRACT

A study was made of Mississippi's oil reservoirs to determine to what extent the use of secondary and tertiary oil recovery methods may be expected to play in the future development of Mississippi's oil industry. A survey was made of the current state of the art of chemical flooding, miscible (COp) flooding, and thermal recovery techniques. The primary source of reservoir information was that made available as public record by the Mississippi Oil and Gas Board with some information being furnished by oil operators and their employees throughout the state. The bulk of this information was entered into computer data storage and examined by specified screening criteria. At least 600 of the 1063 reservoirs checked showed at least some technical potential for enhanced oil recovery (EOR). However, since the majority of these fields contain 40 acres or less and are at depths of over 6000 feet, implementation costs will prevent all but a few from ever seeing any EOR efforts. For the reason of excessive depths, the method of steam stimulation, a method which is popular in some other locations, is all but eliminated from consideration in Mississippi. A survey was made of 245 known oil operators in the State. 46% of those responding indicated that they had made EOR studies in the past. Most of these stated that in order for these projects to be viable, it would be necessary for crude prices to rise about 25% to $40/barrel. The same result may be obtained by granting EOR projects total exemption from windfall profits tax. It was concluded that EOR is a way to increase the ultimate recovery of

the State’s oil thus sustaining the economic benifits of a healthy oil industry to this State. This study was supported and sponsored by a grant from the Mississippi Mineral Resources Institute.

INTRODUCTION

Enhanced Oil Recovery (EOR) is of vital importance to the development of society as we know it today. Each of our citizen’s demand the right to consume energy in the form of petroleum products without regard to any restrictions being placed on that use because of finite limited supplies or the fact that the United States controls only a small fraction of the world's known petroleum reserves (1,9). It is incumbent on the oil industry to meet this demand by finding more reserves. One way to increase recovery efficiency is through the application of enhanced oil recovery techniques on existing known oil reservoirs.

Primary production methods can only hope to produce about 20% of the oil in place from a given reservoir. The percentage usually used when calculating proven reserve is 35%. During the past 35 years, about 2 billion barrels of crude has been produced from Mississippi's oil fields by primary production methods. The challange is to increase the amount of oil which can be recovered from a given oil bearing formation thereby increasing amounts of available crude.

Water flood techniques are used by some in an attempt to drive oil towards producting wells. Water is pumped into a formation by injection wells causing a net flow of water to proceed from the injection wells towards the producers. With this movement, some of the oil in the reservoir is carried along with the water stream to the producing well where it can be pumped to the surface. However, even with a well designed and operated water flood operation, a majority of oil is left in the ground.(11)

EOR methods have been developed and tested which increase the recovery of oil. The methods used vary considerably and depend on the specific characteristics of the reservoir being considered for treatment. It is desired to use a method which will yield a reasonable amount of oil with minimal incremental cost increase of production. Unfortunately, by nature of the depth of most reservoirs, the cost of undertaking an EOR project is very great and it is often difficult to see sufficient economical justification for these projects. Capitial outlays and the cost of money too often outweigh benifits of an EOR project whose chance of technical success is always a matter of speculation.

There are some sucessful EOR projects being operated in the State of Mississippi at the present time. These projects have been developed in reservoirs that are rather large both in area and formation thickness. Some of these operations are being preformed at depths of up to 11,000 feet which adds greatly the the cost of development.(11,15)

A major portion of Mississippi's oil is produced from small fields with pay sands 10 feet in thickness and less. Application of EOR techniques to these fields at the present time would not be economically justifiable. However, as new drilling technology and EOR technology is developed, EOR may become a viable process even in these small fields.

Reservoir data were collected from information made available from the Mississippi Oil and Gas'Board. This data was used in a computer based screening process to select reservoirs in the State which may have potential for EOR applications.

It was found that on initial examination, 600 out of the 1068 reservoirs may have some potential for EOR although economical limitations would certainly prevent all but a few from further consideration.

A survey of current state of the art techiques for EOR methods is included in this report. Also included are the results of a survey made of oil lease operators during the past year pertaining to present and future EOR operations in the state.

ENHANCED OIL RECOVERY

EOR methods may be divided into groups as follows:

1. Chemical Flooding Techniques
   a. Polymer flooding
   b. Surfactant flooding
   c. Alkaline flooding
2. Miscible Flooding
   (Carbon dioxide)
3. Thermal Recovery Methods
   a. Hot Water Stimulation
   b. Steam
      i. Steam soak procedures
      ii. Steam flood
   c. In-situ Combustion

All of these methods have applications which depend on crude oil, reservoir, and economic considerations. Even with application of these techniques, all of the in place oil in a reservoir can never be captured.

Of the methods discussed, only in-situ combustion can be considered as an ultimate recovery method. Use of combustion requires a minimum consumption of 10% of in place oil with the possibility of recovering the remaining 90%.

Polymer Flooding

Polymer flooding is a term used to describe the enhancement of a water flood operation by adding high molecular weight polymers to the injected fluid. (13,16) The purpose of the polymer addition is to increase the sweep efficiency of the water drive and thus produce more oil for a given production cost. This is to say, the polymers inhibit driving fluid from flowing through larger pores in the formation and at the same time forcing more fluid through the smaller pores. The net result is that oil that would otherwise be bypassed is forced from the smaller pores.

To use polymer flooding, it is assumed that a water drive must be in operation. Thus, the use of this technique, as well as other chemical flooding, may well be limited to fields with sucessful water drive operations.

Surfactant Flooding

Surfactant is another term for surface active agent or soap. These a generally organic compounds which have a physical attraction for both water and oil. Hopefully, when a surfactant molecule is brought into contact with a glob of oil, it will cause the oil to become emulsified to some extent in the water phase. When this happens, both the oil and water are dispersed, one in the other, and they both have the same physical characteristics.(13,16)

This mixture will then move towards the producting well as one phase and there will be reduced tendency for separation of the oil and water either by gravity or by surface tension effects. Surfactant is introduced to the formation during water drive operations by mixing it with the injected water.

Alkaline Flooding

Alkaline or caustic flood is similar to surfactant flooding. Alkaline flood takes advantage of the chemical characteristics of the in place crude oil to create surface active effects by chemical combination of crude oil and caustic.(19) When this chemical combination takes place, it affects the physical characteristics of the water phase much like a soap reducing surface tension effects between the water phase and the oil phase. This surface tension reduction decreases mobility ratios and allows more effective sweeping of oil from the formation.

As with other chemical flood processes, alkaline flooding is used to improve efficiencies of water drive operations. Caustic is introduced at the injection well and is expected to move in the formation towards the producing well.

Miscible Flooding (Carbon Dioxide)

Carbon dioxide injection has many effects on crude oil. Favorable characteristics for oil recovery are that it is a means of pressure maintenance, it reduces surface tension and apparent viscosity of the oil, it increases apparent volume of the oil in place, and, under the right conditions, a phenomena called miscible displacement takes place(13,20)

Production of oil from any oil bearing formation depends on the presence of a pressure driving force moving oil to the face of the producing well. One means of providing that force is to pump gas down hole to maintain a minimum pressure in the reservoir. Carbon dioxide has an advantage of being fairly soluble in reservoir fluids which means that if a localized reduction in pressure occurs, as would happen during the course of flow, CO_2 is available to come out of solution to offset some of that pressure drop thus creating a more uniform flow of fluid and forcing more oil from smaller interstices of the reservoir.

The effect on dissolved CO_2 in oil is seen in a reduction of both surface tension and oil viscosity. Both of these effects are favorable factors in the release of oil from the reservoir rock and flow towards the producing well.

An additional positive effect is caused by oil increasing in volume as CO_2 is dissolved into the hydrocarbon phase. If a droplet of oil is swollen, then there is a better chance for it to move along with a driving fluid.

Miscible displacement can also take place under the right conditions. This effect occurs at high reservoir pressures and is a result of the in place hydrocarbons vaporizing at reservoir temperature and maintaining a vapor-liquid equilibrium with a miscible CO_2-oil phase. Thus, as the oil becomes part of this phase, the liquid oil is displaced by the carbon dioxide. The object of the operation is to maintain a miscible phase and make it move towards the producing well. Due to the sensitive nature of pressure, volume, and temperature relationships, this achievement is often difficult.

Thermal Recovery Methods

In general, thermal recovery techniques introduce heat to the reservoir in a effort to reduce oil viscosity and surface tension to make the oil more mobile and more likely to move towards the producing well. This means that thermal recovery would be more likely to be considered for a low gravity crude oil with high viscosity that for a light crude oil. In the case of the high viscosity oil, a small incremental temperature increase can significantly decrease oil viscosity and surface tension.(3,6,7,8,10,21)

The major cost factor for thermal recovery is the cost of heat. Thus, heat loss considerations must be studied carefully. The heat sink which is the limiting characteristic common to all thermal recovery is heat losses to the cap and base rock of the formation. Therefore, as the thickness of a given producing section decreases, the heat efficiency decreases and the cost of energy per barrel of oil generally increases.

To be assured success, a reservoir should have sufficient thickness to offset the cost of energy lost through the cap and base rock. A general statement can be made that one would expect a reservoir with a 50 foot pay zone to have better chances of success with thermal recovery techniques than a reservoir with a thickness of 15 feet. This statement assumes all other factors are equal and considers only heat losses from the reservoir.

Hot Water Flooding

Hot water stimulation has been reported in a few cases. Postitive effects are experienced due to heat from the injected water being introduced into the reservoir.

Use of hot water stimulation is limited by the depth of the formation due to heat losses from the water as it is being pumped down hole. So rapid is this heat loss, that use of hot water in formations over 1,500 to 2,000 feet is impractical. This is to say, most all of the heat energy put into the water at the surface will be dissipated through the walls of the well bore before it ever reaches oil bearing sand.

Steam Flooding

Steam flooding procedures share the same short falls as hot water injection due to heat loss from the steam through the injection string. However, since the energy content of steam is higher than that of hot water at the same temperature, it is able to deliver more heat per unit mass to the oil bearing formation at greater depths. Even so, energy losses become significant at depths of over 5000 feet.

Steam flooding procedures have been successful in several fields in other States and in Canada where formation thicknesses have exceeded 80 feet at depths of 1,000 to 3,000 feet.(16,19) There are two different kinds of steam recovery operations,

i. Steam Soak

Steam soak, sometimes called the huff and puff method, is effected by injecting steam into a formation for a period of a week to 30 days. At the end of this time, the steam is allowed to condense for a period of 3 to 10 days to allow time for the heat energy to be distributed throughout the formation. At the end of this soak period, oil is pumped from the same well which was used to inject the steam. The result of stimulation in this manner results in desirable oil production rates of several months in duration or until oil production tapers off to a degree where pumping becomes uneconomicial.

At the end of the production period, steam is injected once again and the cycle is repeated. This process of injection, heat soak, and production is repeated over a period of years. When steam soak procedures start yielding poor results, a given oil field may be converted over to a steam drive operation,

ii. Steam Drive

Steam drive operates in a fashion similiar to a water drive project where a single injection well is surrounded by several producing wells in certain patterns. Steam is continiously injected into the formation in a effort to force the heated oil to flow toward the producing wells. The field is operated in this fashion until steam breaks through to the producing wells. Sometimes water injection is alternated with steam injection in an effort to make the oil and water move together in a front.

In-Situ Combustion

In-Situ combustion or fireflood is a method of generating energy in a formation by burning a portion of the oil present in the reservoir. This is accomplished by pumping air or oxygen with or without water down an injection string, creating sufficient conditions for ignition, and sustaining sufficient air flow for continued combustion.(3)

Results from an operation such as this can vary but oil recoveries of up to 90% recovery of the oil in place at the time the project was started have been reported.(18) Exact procedures used for the combustion process differ greatly from field to field and even differ among several operators conducting combustion within the same field. Water is normally injected down hole to 1.) prevent excessive temperatures near the well bore and 2.) generate steam within the formation in an effort to distribute heat ahead of the combustion zone.

In-Situ combustion projects are generally operated in larger multi-well fields.(4,5,12,15,17,21) One injection or combustion well is located so that it is surrounded by several producing wells such as with 5-spot or 7-spot patterns. However, some success has been reported with a 2-spot arrangement as an experiment.(2)

Several problems arise during the application of combustion techniques. The most important are mechanical problems encounted in keeping high pressure, high volume air compressors operating, corrosion problems at both injection wells and producing wells, and pollution problems caused by escaping combustion gasses at the surface production facilities. All of these problems add hidden operating costs to a given proj ect.(12,15)

Reservoir Screening

Availiable published oil reservoir data were cataloged into a computer file so that pertinate data could be screened for the purpose of selecting those Mississippi reservoirs which have the greatest potential for EOR applications. Primary source of the information were production reports published by the Mississippi State Oil and Gas Board on a monthly basis. In some cases, inspection of discovery well electrical logs was made to fill in some details. Some of the data were incomplete so that it may be assumed that some reservoirs would not be selected in a screening process due to missing data. A list of the fields and production zones considered are given in the appendix.

Screening was preformed to seperated fields into three groups of EOR potential.(6,13) The groups were chemical flooding processes, CO2 miscible processes, and thermal recovery processes.

The chemical flooding group was further subdivided into the three additional catergories of surfactant flooding, polymer flooding, and alkaline flooding. The thermal recovery systems investigated were steam and in-situ combustion.

A field was said to have potential for surfactant flood if the reservoir met the basic criteria of oil gravity greater than 24 °API, a reservoir temperature less that 250 °F, and a permeablity greater than 20 millidarcies (md) .

The criteria for polymer flooding required that the reservoir temperature be less than 200 °F and the permeablity be greater than 20 md.

Alkūne flooding should be most effective with oil gravities less than 35 °API and a temperature of less than 200 °F.

Carbon dioxide miscible flooding requires an °API gravity of 27 or greater and a reservoir temperature of less than 250 °F.

Thermal recover with steam is most sensitive to depth. Depths of over 5000 feet should not be considered for these processes. In addition, API gravity of the oil should be 25 or less and thickness of the pay zone should be a minimum of 20 feet or greater.

Reservoirs determined to be canidiates for in-situ combustion are those with oil gravities of 25 °API or less and pay thicknesses of 10 feet or greater.

Results of the screening of the reservoirs is given in Table 1.

Table 1
Initial Screening of 1068 Oil Reservoirs in Mississippi

EOR Process	Number	Percent of Total
Surfactant flooding	600	56
Polymer flooding	390	36
Alkaline flooding	151	14
Carbon Dioxide (Miscible)	208	19
Thermal (Steam)	5	0.5
Thermal (Combustion)	64	6

Table one shows a rather large percentage (56%) of oil fields passing an intial inspection as having potential for EOR by surfactant flooding. This is due to the fact that most oil horizons in the State have oil with an API greater than 24. In addition, no restrictions were placed on depth of the reservoir or pay thickness during the screening processes. Both considerations are important factors in calculating cost of implementation and ultimate oil recovery.

Polymer flooding also lends itself to a significant percentage of oil fields screened. A limiting reservoir temperature of 200 °F eliminates many prospects from consideration here. Again, this screening procedure does not address depth or pay thickness.

Temperature is also a factor in determining the number of alkaline flood candidates selected (must be below 200 °F). Although there is quite a number of prospects, detailed economic analysis will need to be considered.

Carbon dioxide flooding also seems to fit a good many reservoirs with an initial screening. Predominately higher gravities of over 27 °API is a major factor in the choice of these reservoirs. CO_2 flooding is a method of special interest due to potentially availiablity of naturally occuring CO_2 in Rankin County. Again, detailed economic analysis of a project such as this one must be done to insure success.

Table one reflects only a small percentage of know reservoirs in the state as being suitable for EOR by thermal methods. Steam is all but eliminated as a candidate due to the excessive depths of most of the State's oil formations.

The thermal method of most interest is recovery by combustion processes. This recovery procedure has been a success in an operation in the State at Heidleberg.(6,15) Even so, the operator had to be very inovatitive to make the operation pay off due in part to the depth of the reservoir (11,000 feet).(15)

Survey of Oil Operators

A questionnaire was sent out to all known oil operators in Mississippi in order to determine what interest, if any, the operators have in EOR. A copy of the questionnaire and the cover letter sent is included in the appendix. Of 245 operators surveyed, 32 returned a completed form. A spot followup on those who did not return the form showed that most had little experiece in EOR and therefore felt that no contribution could be made by them sending the form in. Results are given below in Table 2.

Table 2

Summary of Results of

EOR Questionnaire

Question	Yes %	No %
1. Have you ever attempted EOR?	3	97
2. Were results successfull?	3	97
3. Have you conducted EOR studies?	46	44
Break down of types of studies		
Polymer flood	23	
Surfactant flood	0	
Alkaline flood	0	
CO_2	92	
Steam	27	
Combustion	23	
5. Are reservoir properties		
Well known	22	
Known within limits	60	
Not known at all	0	
6. Do you think EOR technology is adequate?	31	60

Note: Not all respondents answered all the questions.

Therefore percentages may not all up to 100%.

It would seem from the survey that several oil operators (44% of those responding) have made some studies into secondary and tertiary recovery in their existing fields. At the same time, only one of these respondents has carried a project through to a successful conclusion (3%).

Question 8 of the questionnaire inquired as to what price crude oil would need to acheive in order for a EOR operation to be economically justified. The answers ranged from a low of $11 a barrel to a high of $50 a barrel with the average response being $40 a barrel. The question was not clear as to what basis the price had (taxes, ect.) but it is assumed the operators responded with figures that include current severance tax and windfall profit tax structure.

Another question delt with amount of production increase that would be needed in order to justify an EOR operation. Apparently, most operators felt this question was too vague to answer with definite numbers. The respondents felt that incremental increases in pricing structures as being the real key of success to EOR.

Several operators throughout the state were contacted and interviewed either in person or by telephone. For the most part, operators feel general apathy towards EOR under current price and taxiation conditions. Of those interviewed, most felt that EOR technology has not progressed to a point where it will be feasible to conduct wide spread operations of this type in Mississippi. Some operators feel that they are achieving upwards of 2/3 recovery of original oil in place during primary production operations. This belief, along with the magnitude of capitial required to undertake EOR operations in the deeper horizons around the State support a general feeling among operators that Mississippi is a long way from being involved in large scale EOR operations.

CONCLUSIONS

Many of Mississippi's oil reservoirs have at least some possibility of being stimulated by EOR methods from a purely technical stand point. However, when examined from an economics point of view, applicablity of these methods may be limited due to constraints imposed by current technology.

EOR practices will need future development before EOR becomes a common place practice. If future developments are successful, then oil operators will be in a position to increase recoverable amounts of oil from existing reservoirs which will help stablize the general economy of the state. One fact is certain, however, the oil will remain in place until economics makes recovery justified.

At the current time excessive taxes imposed on the oil industry in the form of windfall profits tax is impeading the development of EOR operations in the state. The survey made of oil operators indicates an incremental increase in price of crude oil could make several prospective EOR projects viable. The windfall profit taxes have the effect of suppressing increases seen by domestic operators while at the same time keeping prices to the consumer inflated. If EOR operations could be given a complete exemption from windfall profit tax, there is a potential for a flurry of activity in our State to implement and maintain EOR production.

EOR methods are certain to improve and become more competitive as price and demand increase. Ultimately, all current reservoirs will be subjected to some form of EOR in order to recover amounts of oil remaining from primary production.

REFERENCES

1. Bois, C., "Reserves, Ressources et Disponibilités Mondiales en Hydrocarbures," Revue DE L'Institut Francais Du Petrole (March-April 1982), Vol. 37, No. 2, 135

2. Bowman, C.H., "A Two-Spot Combustion Recovery Project," Journal of Petroleum Technology (Sept 1965), 994

3. Buchwald, R.W., W.C. Hardy, and G.S. Neinast, "Case Histories of Three In-Situ Combustion Projects," Journal of Petroleum Technology (July 1973), 784

4. Burke, Robert G., "Combustion Project is making a Profit," Oil and Gas Journal (Jan 18, 1975), 44

5. Cato, R.W, and W.A. Frnka, "Getty Oil Reports Fireflood Pilot is Successful Project," Oil and Gas Journal (Feb 12, 1968), 93

6. Chu, Chieh, "State-of-the-Art Review of Fireflood Field Projects," Journal of Petroleum Technology (Jan 1982), 19

7. Clark, G.A. and others, "The Fry In Situ Combustion Test-Field Operations," Journal of Petroleum Technology (March 1965) 343

8. Fariuq Ali, S.M., "A Current Appraisal of In-Situ Combustion Field Tests," Journal of Petroleum Technology (April 1972) 477

9. Enright, Robert J., "World Oil Flow, Refining Capacity Fall; Reserves Rise," Oil and Gas Journal (Dec 27, 1982), Vol. 80 No 52, 75

10. Gates, C.F., "Combustion as a Primary Recovery Process-Midway Sunset Field," Journal of Petroleum Technology (Aug 1975), 983

11. Geffen, Ted M., "Oil Production to Expect From Known Technology," Oil and Gas Journal (May 7, 1973), 66

12. "Getty expands Bellevue fire flood," Oil and Gas Journal (Jan 13, 1975), 45

13. Haynex, H.J., Chairman, Committee on EOR, "Enhanced Oil Recovery," National Petroleum Council, 1976

14. lyoho, A.W., "Selecting Enhanced Oil Recovery Processes," World Oil (Nov 1978), 61

15. Mace, Charles, "Deepest combustion project proceeding successfully," Oil and Gas Journal (Nov 17, 1975), 75

16. Matheny, S.L. Jr., " EOR Methods Help Ultimate Recovery", Oil and Gas Journal (Mar 31, 1980), 79

17. Parish, D.R. and others, "Evaluation of COFACAW as a Tertiary Recovery Method, Sloss Field, Nebraska, " Journal of Petroleum Technology (June 1974), 676

18. Poettmann, Fred H. , "In situ combustion: a current appraisal, " World Oil (April 1964), 124

19. "Secondary and Tertiary Oil Recovery Processes, " Interstate Oil Compact Commission, Oklahoma City, OK 1974

20. Spooner, Michal, "Swelling Behavior of Carbon Dioxide-Hydrocarbon Systems, " M.S. Thesis, Louisiana State University, Baton Rouge, LA (1978)

21. "Texas Fireflood Looks Like a Winner, " Oil and Gas Journal (Feb 17, 1968) 52

APPENDIX A

Survey Questionnaire

MISSISSIPPI STATE UNIVERSITY

MISSISSIPPI STATE, MISSISSIPPI 39762

DEPARTMENT OF CHEMICAL ENGINEERING

PHONE **(601) 325-2480**
P. O. Box CN

October 28, 1982

Re: Secondary and Tertiary Oil Recovery Potential in Mississippi

Dear Sirs:

A study is being made of the secondary and tertiary oil recovery potential in Mississippi under a grant from the Mississippi Mineral Resources Institute (MMRI). As part of the study, it would be most helpful to have input from you, the oilfield operator. This study is being made to help your awarness of present and future development of trends in Mississippi.

Therefore, a questionnaire is enclosed to determine what information you might be willing to share with us for the purpose of this research project.

This study is strictly for academic purposes. You are under no obligation whatever to answer this questionnaire. Any data you do provide will be kept confidential as to its source. The data may be included in the final report as a part of a statistical sample. It will not refer to your name or operation.

Should you have questions about: any aspect of this project, please feel free to give me a call. Thanks.

Very truly yours,

Clifford E. George

Clifford E. George, *P.E.*
Department of Chemical Engineering
Mississippi State University

Mississippi State University
Department of Chemical Engineering

MMRI study of Secondary and Tertiary
Oil Recovery Potential in Mississippi

All questions relate to fields in Mississippi (do not consider water flooding operations)

1. Have you ever attempted any Secondary or Tertiary recovery operation s ?________.
Method used (Steam, combustion, C02,ect).

2. If so, were the results satisfactory?(yes/no)

3. Have you conducted any studies concerning secondary or tertiary recovery?(yes/no)

4. If so, what method (steam, combustion, CO2, ect.)__________

5. As a rule, would you say that the reservoir properties of your producing fields are well known___________ , known within certain limits, or, not known at all. ___________

6. Do you think existing secondary and tertiary technology is adequate?(yes/no)

7. In your opinion, what amount of production would be needed from a project to make secondary or tertiary recovery feasible? (BBL/Day)

8. What would the price of oil need to be in order for you to consider secondary and tertiary oil recovery methods?
________($/BBL)

9. Would you be willing to share some of your knowledge and experiences for the purpose of helping this research project?
______ . (yes/no)

10. Do you want a copy of the final report when the project is finished?(yes/no)

If your answer is yes to question 9, I will be in contact with you shortly.
Thank you very much for your time.

Send completed form to: Clifford E. George, P.E.
MMRI Project
P.O. Drawer CN
Mississippi State, MS 39762

Company Name ____

Person to contact Phone () ______________

APPENDIX B

List of Oil Fields in Survey

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
1	ABERDEEN	MISSISSIPPIAN CARTER GAS
2	ARLINGTON	THIRD SPARTA GAS
3	APTON ISH	ARTMAN OIL
4	ASHWOOD	FRIO GAS
5	BEAVER CREEK	TUSCALOOSA OIL
6	BOVINA	RODESSA OIL
7	COULSON BAYOU	TEW LAKE OIL
8	COULSON BAYOU	5800 WILCOX OIL
9	CYPRESS BAYOU	BAKER OIL
10	NORTH DARBUN	LOWER TUSCALOOSA OIL
11	NORTH DIXIE	FIRST WILCOX OIL
12	NORTH DOLOROSO	BENBROOK OIL
13	WEST FAIRCHILDS CREEK	ARTMAN OIL
14	NORTH FORT ADAMS	MINTER B OIL
15	GITANO	CHRISTMAS OIL
16	HUB	DANTZLER GAS
17	HUB	LOWER TUSCALOOSA OIL
18	HUB	WASHITA-FREDERICKSBURG 2 GAS
19	KNOXO	SLIGO GAS
20	SOUTH KNOXVILLE	FIRST WILCOX OIL
21	LADDS BRANCH	STEWART B. OIL
22	NORTH LESSLEY	WILCOX OIL
23	LOCKDALE	MINTER OIL
24	LOCKDALE	WILSON OIL
25	MAGEE	HOSSTON OIL
26	MAGEE	LOWER HELLS SANDSTONE OIL
27	EAST MAGEE	HOSSTON OIL
28	MAPLE BRANCH	MISSISSIPPIAN CARTER GAS
29	MART INVILLE	14050 HOSSTON DIL
30	MCKINLEY CREEK	DEVONIAN OIL
31	MCKINLEY CREEK	DEVONIAN LIME OIL
32	MCKINLEY CREEK	MISSISSIPPIAN LEWIS OIL
33	MISSIONARY	PALUXY OIL
34	MORGAN CREEK	CAMPBELL OIL
35	EAST MORGANTOWN	SIXTH HOSSTON GAS
36	MOSSELLE	RODESSA OIL
37	OAKGROVE	SLIGO GAS
38	WEST OAKVALE	BASAL PALUXY GAS-
39	WEST OAKVALE	HOSSTON BOOTH GAS
40	WEST OAKVALE	HOSSTON HARPER GAS
41	WEST OAKVALE	PALUXY GAS
42	OLIVE	LOWER TUSCALOOSA OIL
43	PINEVILLE	SMACKOVER OIL
44	PISTOL RIDGE	PALUXY OIL
45	PISTOL RIDGE	10380 WASHITA-FREDERICKSBURG GAS-
46	PISTOL RIDGE	1100 WASHITA-FREDERICKSBURG GAS
47	EAST QUITMAN	SMACKOVER C OIL
48	NORTHEAST QUITMAN	SMACKOVER OIL
49	SOUTH SAMMY CREEK	COFFMAN OIL
50	SANDY HOOKE	JAMES LIMESTONE GAS

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
51	SHARON	COTTON VALLEY OIL
52	ST.CATHERINES CREEK	WILSON OIL
53	SOUTH ST. CATHERINES CREEK	STEWART B.OIL
54	SOUTH ST.CATHERINES CREEK	WILSON OIL
55	STRONG FIELD	MISSISSIPPIAN CARTER GAS
56	VICKSBURG FIELD	RODESSA OIL
57	WHITESANDS	ARMSTRONG OIL
58	WHITES CREEK	MCKITTRICK OIL
59	WISHMORE	ARMSTRONG OIL
60	ABERDEEN	MISSISSIPPIAN LEWIS GAS
61	ABERDEEN	PENNSYLVANIA GAS
62	ALLOWAY	SPARTA OIL
63	SOUTH AMORY	MISSISSIPPIAN CARTER GAS
64	ANCHORAGE	WILCOX OIL
65	ANCHORAGE	TEW LAKE
66	ANNA	WILCOX OIL
67	ARLINGTON	FIRST WILCOX GAS
68	ARMSTONG	WILCOX OIL
69	ARNOT	WILCOX OIL
70	ARTONISH	BARCKSDALE OIL
71	ARTONISH	JENKINS OIL
72	AUBURN	LOWER TUSCALOOSA OIL
73	AVERA	EUTAW OIL
74	AVERA	MOORINGSPORT-RODESSA OIL
75	AVERA	RODESSA.OIL
76	AVERA	LOWER TUSCALOOSA OIL
77	BARBER CREEK	SMACKOVER OIL
78	EAST BARBER CREEK	SMACKOVER OIL
79	BARNETT	SMACKOVER OIL
80	BEAVER BRANCH	MCKITTRICH OIL
81	BEAVER BRANCH	MINTER DIL
82	BEAVER BRANCH	WALKER OIL
83	BELWOOD FIELD	STEWART B.OIL
84	BENTON	SMACKOVER GAS
85	BENTONIA	HOSSTON OIL
86	BENTONIA	PALUXY OIL
87	BAY SPRINGS	UPPER COTTON VALLEY OIL
88	BEANS FERRY	EVANS GAS
89	BEANS FERRY	LEWIS GAS
90	BEAVER BRANCH	BLANEY OIL
91	BEAVER BRANCH	MCKITTRICK OIL
92	BEAVER BRANCH	MINTER OIL
93	BEAVER BRANCH	WALKER OIL
94	BELWOOD	STEWART B OIL
95	BENTON	SMACKOVER 6AS
96	BENTONIA	HOSSTON OIL
97	BENTONIA	LOWER TUSCALOOSA OIL
98	BENTONIA	UPPER TUSCALOOSA OIL
99	BENTONIA	WASHITA-FREDERICKSBURG OIL
100	BISLAND BAYOU	ARMSTRONG OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
101	BISLANG BAYOU	4600 WILCOX OIL
102	BLACKBURN	PALUXY OIL
103	BLACKBURN	RODESSA OIL
104	DALTON	HOSSTON
105	DALTON	PALUXY OIL
106	DALTON	WEST RODESSA OIL
107	BOLTON	RODESSA OIL
108	BOLTON-WEST FAULT SEGMENT	LOWER RODESSA OIL
109	BOLTON	SLIGO OIL
110	BOLTON	WASHITA FREDERICKSBURG OIL
111	NORTH BOLTON	LOWER RODESSA OIL
112	BONUS	LOWER TUSCALUOOSA OIL
113	BOWIE CREEK	UPPER HOSSTON GAS
114	BOYCE	SMACKOVER OIL
115	BOOKHAVEN	12300
116	BROOKHAVEN	LOWER TUSCALOOSA OIL
117	BRYAN	COTTON VALLEY OIL
118	BRYAN	HOSSTON OIL
119	BRYAN	RODESSA OIL
120	BRYAN FIELD	SLIGO OIL
121	BUCATUNNA	SMACKOVER OIL
122	BUCKHURST	ARMSTRONG OIL
123	BUCKHURST	FOSTER OIL
124	BUDE	LOWER TUSCALOOSA OIL
125	WEST BUDE	LOWER TUSCALOOSA
126	BUNCKLEY	WILCOX OIL
127	WEST BUTLER	CAMPBELL OIL
128	BUTTAHTCHIE RIVER	MISSISSIPPIAN CARTER GAS
129	BUTTAHATCHIE RIVER	MISSISSIPPIAN-LEWIS GAS
130	CALHOUN	COTTON VALLEY GAS
131	CAMP SHELBY	CLAYTON OIL
132	CAMP SHELBY	PALUXY OIL
133	CARMICHHAEL	EUTAW OIL
134	CARROL	LOWER TUSCALOOSA OIL
135	CARSON	HOSSTON GAS
136	CARTHAGE POINT	WILCOX OIL
137	EAST CARTHAGE POINT	STEWART B OIL
138	WEST CARTHAGE POINT	WILCOX OIL
139	CEDAR GROVE	MISSISSIPPIAN CARTER GAS
140	CENTER POINT	LOWER TUSCALOOSA OIL
141	SOUTH CENTRAL RIDGE	RODESSA OIL
142	SOUTH CENTER RIDGE	SLIGO OIL
143	CHAPARRAL	COTTON VALLEY OIL
144	CHAPPARAL	EUTAW OIL
145	CHATAWA	LOWER TUSCALOOSA OIL
146	CHAPPARAL	RODESSA OIL
147	CHAPARRAL	SLIGO OIL
148	CHAR E STATION	BAKER OIL
149	CHATAWA	LOWER TUSCALOOSA OIL
150	CHOCTAW	SLIGO OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
151	DRY CREEK	BENBROOK OIL
152	WEST CLARA	PALUXY OIL
153	WEST CLARA	
154	CLEAR RUN FIELD	HOSSTON GAS
155	CLEAR RUN	HOSSTON OIL
156	CLEAR SPRINGS	FIRST WILCOX OIL
157	CLEAR SPRINGS	4600 WILCOX OIL
158	NORTH CLEAR SPRINGS	STEWART B.OIL
159	CLERMONT	BENBROOK-RATCLIFF OIL
160	CLIFFORD	WILCOX OIL
161	CLOVERDALE	WILCOX OIL
162	CONERLY	LOWER TUSCALOOSA OIL
163	COOPER HILL	WILCOX OIL
164	CORBIN BRANCH	BAKER OIL
165	NORTH CORBIN BRANCH	PARKER DIL
166	NORTH CORBIN BRANCH	WILSON OIL
167	CORRINE	MISSISSIPPIAN-BUSKIRK-GAS
168	CORINNE	MISSISSIPPI AN-L'F'PER CARTER GAS
169	CORINNE	HISSISSIPPIAN-LOWER CARTER GAS
170	CORINNE	MISSISSIPPIAN -LEWIS GAS
171	CORINNE	MISS I SS I PPI AN-SANDERS GAS
172	CORINNE	PENNSYLVANIAN-1900 SAND-GAS POOL
173	CORINNE	PENNSYLVANIA-NASON GAS
174	SOUTHEAST CORNER LAKE	ARMSTRONG OIL
175	SOUTHEASTERN CORNER LAKE	JENKINS OIL
176	SOUTHEAST CORNER LAKE	TEW LAKE OIL
177	COULSON BAYOU	LUCE OIL
178	COWPEN POINT	WILCOX-ARTMAN OIL
179	COWPEN POINT	WILCOX-6ILES OIL
180	COWPEN POINT	STRINGER OIL
181	COTTON VALLEY-	ARMSTRONG OIL
182	COTTON VALLEY	FOSTER OIL
183	COTTON VALLEY	MCKITTRICK OIL
184	CRANFIELD	LOWER TUSCALOOSA GAS
185	CRANFIELD	BLAKE OIL
186	CRANFIELD	3900 WILCOX GAS
187	CRANFIELD	4400 WILCOX OIL
188	CRANFIELD	5330 WILCOX OIL
189	CRANFIELD	5750 WILCOX OIL
190	CRANFIELD	5800 WILCOX OIL
191	CRANFORD CREEK	HOSSTON OIL
192	CROOKED CREEK	WILCOX DIL
193	CROSBY	WILCOX OIL
194	CYPRESS BAYOU	FREEWOODS OIL
195	CYPRESS BAYOU	JENKINS OIL
196	CYPRESS BAYOU	WALKER OIL
197	NORTH CYPRESS BAYOU	JENKINS OIL
198	CYPRESS CREEK	RODESSA DIL
199	CYPRESS CREEK	SMACKOVER OIL
200	SOUTH CYPRESS CREEK	SMACKOVER A OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
201	DARBUN	UPPER PALUXY GAS '
202	DARRINGTON	WILCOX OIL
203	SOUTHEAST DARRINGTON	FREEWOODS OIL
204	SOUTHEAST DARRINGTON	PARKER OIL
205	DAVIS	P-52 PALUXY OIL
206	DAVIS	P-8 PALUXY OIL
207	DAVIS	P-16 OIL
20B	DAVIS	P-18 PALUXY OIL
209	DAVIS	P-48 PALUXY OIL
210	DAVIS	P-54 PALUXY OIL
211	DAVIS	P-62 PALUXY OIL
212	DAVIS	P-68 PALUXY OIL
213	DAVIS	LT-16 LOWER TUSCALOOSA OIL
214	DAVIS	WF-72 WASHITA-FREDERICKSBURG OIL
215	DAVIS	WF-48 WASHITA-FREDERICKSBURG OIL
216	DAVIS	WF-52 WASHITA FREDERICKSBURG OIL
217	DAVIS	WF-54 WASHITA FREDERICKSBURG OIL
218	DAVIS	WF-56 WASHITA FREDERICKSBURG OIL
219	DAVIS	WF-5S WASHITA-FREDERICKSBURG OIL
220	DAVIS	NF-68 WASHITA FREDERICKSBURG OIL
221	DAVIS	WF-62 WASHITA FREDERICKSBURG OIL
222	DAVIS-	WF-68
223	DAVIS	WF-WASHITA FREDEREICKSBURG OIL
224	DAY CREEK	WILCOX OIL
225	SOUTH DAY CREEK	MINTER OIL
226	DEERFIELD	WILCOX OIL
227	SOUTH DEERFIELD	WILCOX OIL
228	DESOTO	LOWER SMACKOVER OIL
229	DEXTER	DANTZLER GAS
230	DEXTER	PALUXY GAS
231	DEXTER	RODESSA GAS
232	DEXTER	LOWER TUSCALOOSA GAS
233	DEXTER	LOWER TUSCALOOSA OIL
234	DEXTER	UPPER TUSCALOOSA GAS
235	DEXTER	WASHITA=FREDERICKSBURG GAS
236	DIAMOND	12100 COTTON VALLEY OIL
237	DIAMOND	12000 COTTON VALLEY OIL
238	DIAMOND	12350 COTTON VALLEY OIL
239	DIAMOND	12250 COTTON VALLEY OIL
240	DIAMOND	12500 COTTON VALLEY OIL
241	DIAMOND	GLEN ROSE OIL
242	DIAMOND	HOSSTON OIL
243	DINAN	LOWER TUSCALOOSA OIL
244	DIXIE	WILCOX OIL
245	DIXIE SPRINGS	LOWER TUSCALOOSA OIL
246	DIXONS BAYOU	ARMSTRONG OIL
247	DOLLAR LAKE	HOSSTON H OIL
248	DRY BAYOU	WILCOX OIL
249	DRY CREEK	ARMSTRONG 8B" OIL
250	DRY CREEK	BAKER OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
251	DRY CREEK	BENBROOK OIL
252	DRY CREEK	MCKITTRICK OIL
253	DRY CREEK	MCSHANE OIL
254	DRY CREEK	MINTER OIL
255	DRY CREEK	WALKER OIL
256	DUNBAR CREEK	FIRST WILCOX OIL
257	EAST FORK	LOWER TUSCALOOSA OIL
25S'	NORTH EAST FORK	LOWER TUSCALOOSA OIL
259	WEST EAST FORK	LOWER TUSCALOOSA
260	EDGEWOOD	ARMSTRONG OIL
261	ELLIS LAKE	WILCOX OIL
262	NORTH ELLIS LAKE	ARMSTRONG OIL
263	NORTH ELLIS OIL	PARKER OIL
264	ELYSIAN FIELDS PLANTATION	STEWART °B* OIL
265	ESPERANCE POINT	WILCOX OIL
266	EAST EUTECUTTA	EUTAW OIL
267	EAST EUCUTTA	10300 HOSSTON OIL
268	EAST EUCUTTA	10900 LOWER CRETACEOUS OIL
269	EAST EUCUTTA	PALUXY OIL
270	EAST EUCUTTA	LOWER TUSCALOOSA OIL
271	EAST EUCUTTA	UPPER TUSCALOOSA OIL
272	WEST EUCUTTA	EUTAW OIL
273	FAIRCHILDS CREEK	WILCOX OIL
274	WEST FAIRCHILDS CREEK	FOSTER OIL
275	EAST FAIRVIEW	WILCOX OIL
276	FAYETTE	LOWER TUSCALOOSA OIL
277	FAYETTE	WILCOX OIL
278	NORTH FAYETTE	WILCOX OIL
279	SOUTH FAYETTE	LOWER TUSCALOOSA OIL
280	FENWICK	STEWART "B" OIL
281	FLAT LAKE	ARTMAN OIL
282	FLAT ROCK	WILCOX OIL
283	NORTH FLAT ROCK	WILCOX OIL
284	FLORA	SELMA GAS ROCK OIL
285	FLUFFER LAKE	NORPHLET OIL
286	FONOSLA	SMACKOVER GAS
290	FORD CREEK	ARMSTRONG OIL
291	FORREST HOME	WILCOX GIL
292	NORTH FORREST HOME	STEWART 'B" OIL
293	NORTH FORT ADAMS	WILCOX OIL
294	FOURMILE CREEK	MISSISSIPPIAN-CARTER "A" GAS
295	FRANCES CREEK	PALUX Y OIL
296	FRANCES CREEK	P-2 PALUXY OIL
297	FRANCES CREEK	LT-6 LOWER TUSCALOOSA OIL
298	FRANCES CREEK	WF-48 WASHUTA FREDERICKSBURG OIL
299	FREEWOODS	WILCOX OIL
300	NORTH FREEWOODS	NORTH ARMSTRONG OIL
301	NORTH FREEWOODS	SOUTH ARMSTRONG OIL
302	NORTH FREEWOODS	SOUTHWEST ARMSTRONG OIL
303	NORTH FREEWOODS	ASHLEY OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
304	NORTH FREEWOODS	FREEWOODS OIL
305	NORTH FREEWOODS	STEWART "B" OIL
306	NORTHEAST FREEWOODS	WILCOX OIL
307	GALILEE	WILCOX OIL
308	NORTH GARDEN	JENKINS OIL
309	GARDENS	WILCOX OIL
310	NORTH GARDENS	BENBROOK
311	NORTH GARDENS	STEWART "B" OIL
312	GARLAND CREEK	SMACKOVER OIL
313	GIBSON	CARTER-ABERNATHY COMMINGLED OIL
314	GILES BEND	ARMSTRONG OIL
315	GILES BEND	PARKER A OIL
316	GILES BEND	RATCLIFF OIL
318	GILLIAM CHUTE	LOWER TUSCALOPOOSA OIL
319	GILLIARD LAKE	WILCOX DIL
320	GILLSBURG	LOWER TUSCALOOSA OIL
321	6ILLSBURG	UPPER TUSCALOOSA OIL
322	GITANO	MOORINGSPORT OIL
323	GITANO	PALUXY OIL
324	GITANO	WASHITA-FREDERICKSBURG OIL
325	GLANCY	HOSSTON GAS
326	GLASSCOCK	WILCOX OIL
327	SOUTH GLASSCOCK	SECOND WILCOX OIL
328	GLAZIER	UPPER TUSCALOOSA OIL
329	GLEN AUBIN	SPARTA OIL
330	GLEN AUBIN	WILCOX OIL
331	GLUCKSTADT	NORPHLET GAS
332	GOODWATER	SMACKOVER OIL
333	GRAFTON	WILCOX OIL
334	GREENS BAYOU	WILCOX OIL
335	GREENS CREEK	FIRST HOSSTON GAS
336	GREENS CREEK	FIFTH HOSSTON GAS
337	GREENS CREEK	HOSSTON-HARPER-GAS
338	GREENWOOD SPRINGS	MISSISSIPPIAN-UPPER-CARTER 0IL
339	GW INVILLE	EUTAW B GAS
340	GWINVILLE FIELD	EUTAW C GAS POOL
341	GWINVILLE	PALUXY GAS POOL
342	GWINVILLE	ilføø PALUXY GAS
343	GWINVILLE	11350 PALUXY GAS
344	GWINVILLE	11350 PALUXY GAS
345	GWINVILLE	RODESSA 6AS
346	GWINVILLE	SELMA CHALK GAS
347	GWINVILLE	SLIGO GAS
348	GWINVILLE	10700 WASHITA-FREDERICKSBURG GAS
349	GWINVILLE	10800 WASHITA-FREDERICKSBURG GAS
350	GWINVILLE	UNDEFINED WASHITA-FREDERICKSBURG GAS-
351	HALE	UPPER SMACKOVER OIL
352	HALE	UPER SMACKOVER OIL
353	HAMILTON	MISSISSIPPIAN GAS
354	SOUTH HAMILTON	MISSISSIPPIAN-LEHIS OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
ð 55	HARMONY	SMACKOVER OIL
356	SOUTH HARMONY	SMACKOVER OIL
357	HAZLIT CREEK	WILCOX OIL
358	HEIDELBUR6-CENTRAL SEGMENT	EUTAW MASONITE OIL
359	HEIDELBURG-CENTRAL SEGMENT	EUTAW OIL
360	EAST HEIDELSURG	CHRISTMAS OIL
361	EAST HEIDELSURG	EUTAW OIL
362	EAST HEIDELSURG	HOSSTON OIL
363	EAST HEIDELSURG	UPPER TUSCALOOSA 01
364	WEST HEIDELSURG	COTTON VALLEY
365	WEST HEIDELSURG	CHRISTMAS OIL
366	WEST HEIDELSURG	WHERE OIL
367	WEST HEIDELSURG	EUTAW OIL
368	WEST HEIDELBERG	MIDDLE HOSSTON OIL
369	WEST HEIDELBERG	LOWER CRETACEOUS OIL
370	WEST HEIDELSURG	PALUXY OIL
371	WEST HEIDELBURG	SELMA CHALK GAS
372	WEST HEIDELSURG	MASSIVE TUSCALOOSA OIL
373	HILO	WILCOX OIL
374	HOL ID AY CREEK	HOSSTON-BOOTH GAS
375	HOLIDAY CREEK	HOSSTON-HARPER GAS
376	HOLIDAY CREEK	HOSSTON-DIFFRIENT-OIL
377	WEST HEIDELSURG	UPPER TUSCALOOSA OIL
378	HORSESHOE LAKE	SMACKOVER GAS
37?	HUB	DANTZLER 5 OIL
380	HUB	10150 DANTZLER OIL
38!	HUB	EUTAW GAS
382	HUB	MOORINGSPORT GAS
383	HUB	11700 PALUXY GAS
384	HUB	11850 PALUXY GAS
385	HUB	12200 PALUXY GAS
386	HUB	LOWER TUSCALOOSA GAS
387	HUB	11000 WASHITA FREDERICKSBURG GAS
388	HUB	11200 WASHITA FREDERICKSBURG GAS
339	HUS	11250 WASHITA FREDERICKSBURG "A" GAS
390	HUS	11250 WASHITA FREDERICKSBURG GAS
39!	HUB	11300 WASHITA FREĐEREICKSBURG GAS
392	HUB FIELD EAST SEGMENT	LOWER TUSCALOOSA GAS
393	HURRICANE CREEK	LOWER TUSCALOOSA GAS
394	HURRICANE LAKE	LOWER TUSCALOOSA "A" OIL
395	HURRICANE LAKE	LOWER TUSCALOOSA "B" OIL
396	EAST HURRICANE LAKE	LOWER TUSCALOOSA OIL
397	IDLEWILDE	WILCOX OIL
398	IMPROVE	BOOTH-HARPER COMMINGLED GAS
399	IRELAND	SPARTA OIL
400	NORTH IRELAND	SPARTA OIL
40!	IVANHOE	CAMPBELL GIL
402	IVANHOE	WILSON OIL
403	JACKSON	SELMA GAS ROCK GAS
404	JAYNESVILLE	RODESSA GAS

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
405	SOUTH JEANETTE	BAKER OIL
40Ö	SOUTH JEANETTE	BENBROOK OIL
407	SOUTH JEANETTE	4600 WILCOX OIL
408	JOHNSON STATION FIELD	LOWER TUSCALOOSA
409	JUNCTION CITY FIELD	EUTAW OIL
410	JUNCTION CITY FIELD	SELNA CHALK OIL
41!	KEARNEY FIELD	RODESSA OIL
412	KELLY HILL FIELD	ARMSTRONG OIL
413	KELLY HILL	CROSBY OIL
414	KELLY HILL	JOHNSON OIL
415	EAST KELLY HILL	WILCOX OIL
416	KINGS	SPARTA GAS
417	KINOS BRANCH	CKHTRICK OIL
418	KINGSTON	BAKER OIL
419	KINGSTON	HARMON OIL
420	KINGSTON	PARKER OIL
421	NORTH KINGSTON	WILCOX OIL
422	SOUTH KINGSTON FIELD	WILCOX OIL
423	KIRBY FIELD	WILCOX OIL
424	KNOXO	LOWER PALUXY GAS
425	KNOXO	UPPER PALUXY GAS
426	KNOXO	WASHITA-FREDERICKSBURG GAS
427	KNOXVILLE	WILCOX OIL
428	NORTH KNOXVILLE	WILCOX OIL
429	EAST KNOXVILLE TOWER	MCSHANE OIL
430	KOKOMO	PALUXY GAS
431	KOLA	SLIGO GAS-
432	LAGRANGE	SPARTA OIL
433	LAGRANGE	ARMSTRONG OIL
434	LAGRANGE FIELD	BAKER OIL
435	LAGRANGE	4300 WILCOX OIL
436	LAGRANGE	4600 WILCOX OIL
437	LAGRANGE FIELD	SECOND WILCOX
438	LAGRANGE	NORTH WILSON OIL
439	LAGRANGE	SOUTH WILSON OIL
440	SOUTH LAGRANGE	WILCOX OIL
441	SOUTH LAGRANGE	WHITTINGTON OIL
442	LAKE COMO	SMACKOVER OIL
443	NORTH LAKE LUCILLE	WILCOX ARMSTRONG OIL
444	LAKE MARY	ALEXANDER OIL
445	LAKE MARY	BAKER OIL
446	LAKE NARY	BAKER "B" OIL
447	LAKE NARY	•C“ OIL POOL
448	NORTH LAKE MARY	TEW LAKE OIL
449	LOWER UTOPIA FIELD	LOWER SMACKOVER OIL
450	LAKE UTOPIA FIELD	UPPER SMACKOVER OIL
45!	LANGSDALE	EUTAW OIL
452	WEST LANGSDALE FIELD	SELMA CHALK OIL
453	LAUREL	RODESSA OIL
454	LAZY CREEK FIELD	LOWER TUSCALOOSA OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	FOOL
455	WEST LAZY CREEK	LOWER TUSCALOOSA OIL
456	LEARNED	SLIGO GAS
457	LEVEES CREEK	WILCOX OIL
458	WEST LINCOLN	LOWER TUSCALOOSA OIL
459	LINWOOD	MCKITTRICK OIL
460	LINWOOD	STEWART B
461	LINWOOD	WILSON DIL
462	WEST LINWOOD	SPARTA OIL
463	LITTLE CREEK	LOWER TUSCALOOSA OIL
464	LOCUST HILL	WILCOX OIL
465	WEST LOCUST HILL	WILCOX OIL
466	LONG LAKE	WILSON OIL
467	LORING	SMACKOVER LIME GAS
468	LUM BAYOU	STEWART B OIL
46?	MABEN	KNOX-ORDOVICIAN GAS
470	MABEE	MOORINGSPORT GIL
471	MAGEE	UPPER MOORINGSPORT
472	MAGEE	PALUXY OIL
473	MAGEE	RODESSA GAS
474	MAGEE	SLIGO
475	MAGEE	13075 SLIGO OIL
476	MAGNOLIA	FIRST WILCOX GAS
477	MAGNOLIA	ARMSTRONG OIL
478	MAGNOLIA	BENBROOK GIL
479	MAJORCA	STEWART B OIL
480	MALLALIEU -EAST	LOWER TUSCALOOSA
481	EAST MALLALIEU	10500' LOWER TUSCALOOSA
482	MALLALIEU-WEST	LOWER TUSCALOOSA OIL
483	MAMMOTH BAYOU	STEWART B OIL
484	MANTU	BARKSDALE OIL
485	MANTU	JENKINS GIL
486	MANTUA	MCKITTRICK OIL
487	MANTUA	OGDEN OIL
488	MANTUA	5340 WILCOX GIL
489	MANTUA	PARKER OIL
490	MANTUA	PEARLINE OIL
491	MAPLE BRANCH	MISSISSIPPIAN CARTER B GAS
492	MAPLE BRANCH	LEWIS OIL
493	MART INVILLE	14945 COTTON VALLEY OIL
494	MARTINVILLE	HOSSTON OIL POOL
495	MART INVILLE	14140 HOSSTON OIL
496	MARTINVILLE	14270 HOSSTON OIL
497	MARTINVILLE	14600 HOSSTON OIL
498	MARTINVILLE	MOORINGSPORT OIL
499	MARTINVILLE	RODESSA OIL
500	MARTINVILLE	SLIGO OIL
501	MARTINVILLE	9720 WASHITA-FREDERICKSBURG OIL
502	MARTINVILLE	9930 WASHITA FREDERICKSBURG OIL
503	SOUTHWEST MARTINVILLE	SLIGO OIL
504	MAXIE	EUTAW GAS

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
505	MAXIE	LOWER TUSCALOOSA GAS
506	MAΠE	UPPER TUSCALOOSA GAS
507	MCCOMB	LOWER TUSCALOOSA OIL
508	WEST MCCOMB	LOWER TUSCALOOSA OIL
509	EAST MCELVEEN	LOWER TUSCALOOSA OIL
510	MCKINLEY CREEK	MISSISSIPPIAN CARTER GAS
511	MCKINLEY CREEK FIELD	MISSISSIPPIAN LEWIS GAS
512	MCKINLEY CREEK	PENNSYLVANIAN-STRAY SAND-GAS
513	MCNEAL	LOWER COTTON VALLEY OIL
514	MCRANEY	HOSSTON BOOTH GAS
515	MCRANEY	HOSSTON HARPER GAS
516	MELTON	TUSCALOOSA OIL
517	MERCER	ARMSTRONG OIL
518	MERIT	PALUH OIL
519	MERIT	11900 PALUXY OIL
520	MERIT	RODESSA COX GAS
521	MERIT	SLIGO OIL
522	MIDDLETON CREEK	LOWER TUSCALOOSA OIL
523	MILLS BRANCH	FIRST WILCOX OIL
524	SOUTH MILLS BRANCH	FIRST WILCOX OIL
525	MISSIONARY	COTTON VALLEY OIL
526	MISTLETOE	LOWER TUSCALOOSA GAS
527	MIZE	PALUXY OIL
528	MIZE	WASHITA-FREDERICKSBURG OIL
529	MONTICELLO	HOSSTON GAS
530	MORELAND	WILCOX OIL
531	MORGAN	MCKITTRICK OIL
532	MORGAN FORK	MCKITTRICK OIL
533	MORGAN FORK	MCSHANE OIL
534	MORGANTOWN	WILCOX OIL
535	NORTON	HAYNESVILLE OIL
536	MOSS HILL	LUCE OIL
537	MOSS HILL	4300 OIL
538	NORTHWEST MOSS HILL	SPARTA OIL
539	NORTHWEST MOSS HILL	4600 WILCOX OIL
540	ROSSVILLE	COTTON VALLEY OIL
541	MOUNT HOPE	SPARTA
542	MOUNT HOPE	TEW LAKE OIL
543	WEST MOUNT OLIVE	HOSSTON GAS
544	WEST MOUNT OLIVE	SILIGO GAS
545	NORTH MUD CREEK	WILCOX OIL
546	MYSTIC BAYOU	STEWART B OIL
547	NANCY	SMACKOVER OIL
548	EAST NANCY	NORPHLET OIL
549	EAST NANCY	SMACKOVER OIL
550	NORTH NANCY	BUCKNER OIL
551	WEST NANCY	SMACKOVER OIL
552	NORTH NATCHEZ	WILCOX
553	NATCHEZ FERRY	ARMSTRONG OIL
554	NATCHEZ FERRY	BENBROOK OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
555	NATCHEZ FERRY	PARKER OIL
556	NATCHEZ PORT	ARTMAN OIL POOL
557	NEWSOM	HOSSTON IVY GAS-
558	OAK GROVE	RODESSA GAS
559	OAKLAND	WILCOX OIL
560	OAKVALE	HOSSTON HARPER GAS
56!	OGDEN BAYOU	SPARTA OIL
562	OGDEN BRANCH	SPARTA OIL
563	OLDENBURG	LOWER TUSCALOOSA GAS
564	OLDENBURG-	WILCOX OIL
565	EAST OLDENBURG	ARMSTRONG
566	OVERTON	BARKSDALE OIL
567	OVERTON	MCKETTRICK OIL
568	OVERTON	OGDEN
569	OVERTON	PARKER OIL
570	OVERTON	PEARLINE OIL
57!	EAST OLDENBURG	MCKITTRICK
572	OLD RIVER	MILLER OIL
573	OVERTON	ARMSTRONG OIL
574	OVERTON	SECOND WILCOX OIL
575	NORHT OVRTON	SPARTA OIL
576	NORTH OVERTON	SPARTA OIL
577	OVETT	EUTAW OIL
578	OVETT	LOWER TUSCALOOSA OIL
579	PACHUTA CREEK	SMACKOVER EAST OIL
580	PACHUTA CREEK	WEST SMACKOVER OIL
581	PAINTERS	WILCOX OIL
582	PALATINE HILLS	SPARTA OIL
583	PANTHER CREEK	WILCOX OIL
584	SOUTH PAULDING	UPPER SMACKOVER OIL
585	WEST PAULDING	SMACKOVER OIL
586	PERRYTOWN	BAKER OIL
587	PICKENS	EUTAW OIL
588	PICKENS	ELMA CHALK OIL
589	PINE RIDGE	WILCOX OIL
590	PINEY	FOSTER OIL
59!	PINEY CREEK	FREEWOODS OIL
592	PINEY WOODS	SMACKOVER GAS
593	SOUTHWEST PINEY WOODS	SMACKOVER GAS
594	PISGAH	HOSSTON OIL
595	PISGAH	RODESSA OIL
596	SOUTH PISGAH	NORPHLET (CO2> GAS
597	SOUTH PISGAH	SMACKOVER (CO2)GAS
598	PISTOL RIDGE	EUTAW-UPPER TUSCALOOSA
599	PISTOL RIDGE	SELMA CHAULK
600	PISTOL RIDGE	LOWER TUSCALOOSA
60!	PISTOL RIDGE	LOWER TUSCALOOSA MASSIVE SAND GAS
602	PISTOL RIDGE	STEVENS OIL SAND
603	PISTOL RIDGE	A SAND WASHITA-FREDRICKSBURG GAS
604	PISTOL RIDGE	10000^{5} WASHITA-FREDRICKSBURG GAS

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
605	WEST PISTOL RIDSE	HOSSTON OIL
606	WEST PISTOL RIDSE	RODESSA OIL
607	PLEASANT HILL	WILCOX OIL
608	POOL CREEK	COTTON VALLEY OIL
609	POOL CREEK	HOSSTON OIL
610	POOL CREEK	MOORINGSPORT OIL
611	POOL CREEK	PALUXY OIL
612	POOL CREEK	PINE ISLAND OIL
613	POOL CREEK	RODESSA OIL
614	POL CREEK	SMACKOVER OIL
615	POOL CREEK	WASHITA-FREDRICKSBURG OIL
616	POPLAR SROVE	BENBROOK OIL
617	POPLAR GROVE	BENBROOK-RATCLIFF OIL
618	POPLAR SROVE	MCKITTRICK OIL
619	POPLAR GROVE	MINTER OIL
620	WEST FOSSUM CORNER	ARMSTRONG OIL
621	WEST POSSUM CORNER	LUCE OIL
622	PRAIRIE BRANCH	NORPHLET OIL
623	PRAIRIE BRANCH	SMACKOVER OIL
624	PRETTY CREEK	WILCOX OIL
625	ROVIDENCE	WILCOX OIL
626	SOUTH PROVIDENCE	JENKINS OIL
627	SOUTH PROVIDENCE	MCSHANE OIL
628	SOUTH PROVIDENCE	FIRST WILCOX OIL
629	PUCKETT	9350' PALUXY GAS
630	PUCKETT FIELD	RODESSA OIL
631	PUCKETT	7650' UPPER TUSCALOOSA OIL
632	PUCKETT	7950' LOWER TUSCALOOSA OIL
633	PUCKETT	8050 LOWER TUSCALOOSA OIL
634	LEVEES CREEK	WILCOX OIL
635	PUCKETT	8220' WASHITA-FREDRICKSBURG OIL
636	PUCKETT	8500' WASHITA-FREDRICKSBURG OIL
637	PUCKETT	9050' WASHITA-FREDRICKSBURG OIL
638	QUITMAN	10150' COTTON VALLEY OIL
639	QUITMAN	11000' COTTON VALLEY OIL
640	QUITMAN	11150' COTTON VALLEY OIL
641	QUITMAN	11175' COTTON VALLEY OIL
642	QUITMAN	EUTAW OIL
643	QUITMAN	RODESSA-12 OIL
644	LORING	SMACKOVER LIME OIL
645	QI UTMAN BAYOU	ARMSTRONG OIL
646	QUITMAN BAYOU	MCKITTRICK OIL
647	QUITMAN BAYOU	4600' WILCOX OIL
648	WEST QUITMAN BAYOU	4600' WILCOX OIL
649	RALEIGH	12100' HOSSTON OIL
650	RALEIGH	12200' HOSSTON OIL
651	RALEIGH	12600' HOSSTON OIL
652	RALEIGH	12450' OIL
653	RALEIGH	13050' OIL
654	RALEIGH	13200' OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
655	RALEIGH	13400' OIL
656	REEDY CREEK	COTTON VALLEY OIL
657	REEDY CREEK	EUTAW OIL
658	REEDY CREEK	6200' OIL
659	REDDY CREEK	7100' OIL
660	REEDY CREEK-	7800' OIL
661	REEDY CREEK	9250' OIL
662	REEDY CREEK	9300' OIL
663	REEDY CREEK	9400' OIL
664	REEDY CREEK	12000' OIL
665	REEDY CREEK	11400' RODESSA OIL
666	REEDY CREEK	SMACKOVER OIL
667	REEDY CREEK	WASHITA-FREDRICKSBURG OIL
668	RICHARDSON CREEK	WILCOX OIL
669	ROBINS BAYOU	WILCOX OIL
670	RODNEY-	LOWER TUSCALOOSA GAS
671	RODNEY	WILCOX OIL
672	WEST RODNEY	FIRST WILCOX GAS
673	ROSE HILL	WILCOX OIL
674	ROSETTA	WILCOX OIL
675	ROXIE	ARMSTRONG OIL
676	ROXIE	BENBROOK OIL
677	ROXIE	MCKITTRICK OIL
678	SOUTH SAMMY CREEK	ROBINSON OIL
679	SOUTH SAMMY CREEK	ROBINSON OIL
680	SANDERSVILLE	LOWER EUTAW OIL
681	SANDERSVILLE	EUTAW OIL
682	NORTH SAND HILL	TUSCALOOSA OIL
683	SHARON	EUTAW GAS
684	SHIELDSBORO	BREAUX OIL
685	SHIELDSBORO	JENKINS OIL
686	SHIELDSBORO	NOLAND OIL
687	SHIELDSBORO	WALKER OIL
688	SHUBUTA	SMACKOVER OIL
689	NORTH SHUBUTA	SMACKOVER OIL
690	SIBLEY	ARMSTRONG OIL
691	SIBLEY	BALL OIL
692	SIBLEY	BLAKE OIL
693	SIBLEY	PARKER OIL
694	SILOAM	MISSISSIPPIAN GAS
695	SILOAM	PENNSYLVANIAN GAS
696	SILVER CREEK	PARKER OIL
697	SMITHDALE	LOWER TUSCALOOSA OIL
698	WEST SMITHDALE	LOWER TUSCALOOSA OIL
699	SOSO	14986' COTTON VALLEY
700	SOSO	STANLEY GAS
701	SOSO	12018 HOSSTON OIL
702	SOSO	12018' HOSSTON OIL
703	SOSO	12134' HOSSTON OIL
704	SOSO	12234' HOSSTON OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
705	SOSO	12303' HOSSTON OIL
706	SOSO	12799' HOSSTON OIL
707	SOSO	12877' HOSSTON OIL
708	SOSO	10914' MOORINGSPORT OIL
70?	SOSO	9411' PAULXY GAS
710	SOSO	9417' PAULXY GAS
711	SOSO	9151' PAULXY OIL
712	SOSO	9274' PAULXY OIL
713	SOSO	9274' PAULXY OIL
714	SOSO	9417' PAULXY OIL
715	SOSO	11081' RODESSA OIL
716	SOSO	11090' RODESSA OIL
717	SOSO	11151' RODESSA
718	SOSO	11180' RODESSA OIL
71?	SOSO	11385' RODESSA OIL
720	SOSO	11513' RODESSA OIL
721	SOSO	11707' BAILEY OIL
722	SOUTHHOOD	WILCOX OIL
723	SPLUNGE	MI SS I SSI PPI AN-CARTER GAS
724	SPLUNGE	MISSISSIPPI AN-LEWIS GAS
725	SPRING POND	STEWART B OIL
726	STAFFORD SPRINGS	SMACKOVER OIL
727	STAMPLEY FIELD	WILCOX OIL POOL
728	STAMPS FIELD	MILLER OIL POOL
72?	STAMPS FIELD	MINTER OIL POOL
730	STAMPS FIELD	PARKER OIL POOL
731	NORTH STAMPS FIELD	MINTER OIL POOL
732	NORTH STAMPS FIELD	6500 STRAY WILCOX OIL POOL
733	SOUTH STAMPS FIELD	•JENKINS OIL POOL
734	STANTON FIELD	SPARTA GAS POOL
735	STANTON	SPARTA GAS
736	SOUTH STATE LINE FIELD	NORPHLET GAS POOL
737	SOUTH STATE LINE OIL	SMACKOVER GAS POOL
738	STEELS CREEK FIELD	FIRST WILCOX OIL POOL
73?	STRINGER FIELD	MIDDLE COTTON VALLEY OIL POOL
740	STRINGER FIELD	MIDDLE HOSSTON OIL POOL
741	STRONG FIELD	MI SSI SSIPPI AN-SANDERS GAS POOL
742	SUMMERLAND FIELD	MOORINGSPORT OIL POOL
743	SUMMERLAND FIELD	LOWER PALUXY OIL POOL
744	SUMMERLAND FIELD	LOWER-LOWER PALUXY OIL FIELD
745	SUMMERLAND FIELD	UPPER PALUXY OIL POOL
746	SUMMERLAND FIELD	LOWER TUSCALOOSA OIL POOL
747	SUMMERLAND FIELD	LOWER WASHITA-FREDERICKSBURG
748	SUMMERLAND FIELD	MIDDLE WASHITA-FREDERICKSBURG
74?	SUMMERLAND FIELD	LWR-LKR WASHITA-FREDERICKSBURG
750	SUMMERLAND FIELD	UPPER WASHITA-FREDRICKSBURS
751	SUMMERLAND FIELD	UPPER-UPPER WASHITA-FREDERICKSBURG
752	SOUTH SUMMERLAND FIELD	COTTON VALLEY OIL POOL
753	SOUTH SUMMERLAND FIELD	HAYNESVILLE-BUCKNER OIL POOL
754	SUNNYSIDE FIELD	4600 WILCOX OIL POOL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
755	TALLAHALA CREEK FIELD	COTTON VALLEY HH OIL POOL
756	TALLAHALA CREEK FIELD	SLIGO OIL POOL
757	TALLAHALA CREEK FIELD	SMACKOVER II OIL POOL
758	TALLAHALA CREEK FIELD	MIDDLE SMACKOVER OIL POOL-EAST FLANK RES
759	EAST TALLAHALA CREEK FIELD	COTTON VALLEY OIL POOL
760	EAST TALLAHALA CREEK FIELD	SMACKOVER ᴮAᵃ OIL POOL
761	EAST TALLAHALA CREEK FIELD	SMACKOVER C OIL POOL
762	WEST TAR CREEK FIELD	FREEWOODS OIL POOL
763	WEST TAR CREEK FIELD	PARKER OIL POOL
764	TATUMS CAMP FIELD	HOSSTON GAS POOL
765	TCHULA LAKE FIELD	SMACKOVER GAS POOL
766	THOMASVILLE FIELD	SMACKOVER GAS POOL
767	THOMPSON'S CREEK FIELD	TUSCALOOSA OIL POOL
768	THOMPSON'S CREEK FIELD	WASHITA-FREDERICKSBURB OIL POOL
769	SOUTH THOMPSON'S CREEK FIELD	PALUXY OIL POOL
770	SOUTH THOMPSON'S CREEK FIELD	LOWER TUSCALOOSA MASSIVE OIL POOL
771	SOUTH THOMPSON'S CREEKPOOL	WASHITA-FREDRICKSBURG OIL POOL
772	SOUTH THOMPSON'S CREEK FIELD	9000 WASHITA-FREDRICKSBURG OIL POOL
773	TI6ER FIELD	HOSSTON GAS POOL
774	TINSLEY FIELD-EAST SEGMENT	SELMA-EUTAW-TUSCALOOSA OIL POOL
775	TINSLEY FIELD-NORTHSEGMENT	MCGRAW SAND WATER FLOOD UNIT
776	TINSLEY FIELD-NORTHSEGMENT	PERRY SAND WATERFLOOD UNIT
777	TINSLEY FIELD-NORTHSEGMENT	STEVENS SAND WATER INJECTION PROJECT
778	TINSLEY FIELD-NORTHSEGMENT	SELMA-EUTAW-TUSCALOOSA OIL POOL
779	TINSLEY FIELD-NORTHSEGMENT	WOODRUFF SAND WATERFLOOD UNIT
780	TINSLEY FIELD-WEST SEG WATERFLOOD	PERRY SAND
781	TINSLEY FIELD-WEST SEG WATERFLOOD	PERRY-WOODRUFF COMMINGLED POOL
782	TINSLEY FIELD-WEST SEGMENT	SELMA-EUTAW-TUSCALOOSA OIL POOL
783	TINSLEY FIELD-WEST SEG WATERFLOOD	WOODRUFF SAND
784	TOM BRANCH FIELD	BAKER OIL POOL
785	TOM BRANCH FIELD	FIRST WILCOX OIL POOL
786	TOM BRANCH FIELD	MCKITTRICK OIL POOL
787	TOM BRANCH FIELD	PARKER OIL POOL
788	TOM BRANCH FIELD	WILSON OIL POOL
789	SOUTH TOM BRANCH FIELD	FIRST WILCOX OIL POOL
790	TONY CREEK FIELD	MCSHANE OIL POOL
791	TREBLOC FIELD	MISSISSIPPIAN-ABERNATHY OIL POOL
792	TREBLOC FIELD	MISSISSIPPIAN GAS POOL
793	TURKEY CREEK FIELD	WILCOX OIL POOL
794	TYLERTOWN FIELD	12700 PALUXY GAS POOL
795	TYLERTOWN FIELD	12810 PALUXY GAS POOL
796	TYLERTOWN FIELD	12530 PALUXY GAS POOL
797	UNION CHURCH FIELD	RODESSA GAS POOL
798	VERBA FIELD	MOORINGSPORT OIL POOL
799	VERBA FIELD	PALUXY OIL POOL
800	VERBA FIELD	SLIGO OIL POOL
801	VOSSBURG FIELD	LOWER SMACKOVER OIL POOL
802	WALDRUP FIELD	COTTON VALLEY OIL POOL
803	WALNUT CREEK FIELD	FOSTER OIL POOL
804	WALNUT CREEK FIELD	MINTER OIL POOL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
805	WASHOUT BAYOU FIELD	CAMPBELL OIL POOL
806	WASHES FIELD	ARMSTRONG OIL POOL
807	WATTS CREEK FIELD	SMACKOVER OIL POOL
308	WAUSAU FIELD	UPPER PALUXY OIL POOL
809	WAUSAU FIELD	TUSCALOOSA OIL POOL
810	WAVELAND FIELD	DANTZLER OIL POOL
811	WAVELAND FIELD	MOORINGSPORT GAS POOL
812	EAST WAYNESBORO FIELD	UPPER WASHITA-FREDERICKSBURG OIL POOL
813	WAYSIDE FIELD	WILCOX OIL POOL
314	NEARLY BRANCH FIELD	JENKINS OIL POOL
815	WELLS CREEK FIELD	WILCOX OIL POOL .
816	WESLEY CHAPEL FIELD	ARMSTRONG OIL POOL
817	WESLEY CHAPEL FIELD	BALL OIL POOL
818	WESLEY CHAPEL FIELD	FIRST WILCOX OIL POOL
819	WESLEY CHAPEL FIELD	PARKER OIL POOL
820	WESLEY CHAPEL FIELD	WALKER OIL POOL
821	WHITESAND FIELD	HOSSTON GAS POOL
822	WHITESAND FIELD	UPPER SLIGO GAS POOL
823	SOUTH WILLIAMSBURG FIELD	HOSSTON GAS POOL
824	SOUTH WILLIAMSBURG FIELD	HOSSTON-SLIGO GAS POOL
825	WILLIS BRANCH FIELD	4600 WILCOX OIL POOL
826	WILLOW GLEN FIELD	ARMSTRONG OIL POOL
827	WILLOW GLEN FIELD	WILSON OIL POOL
828	WOLF CREEK FIELD	SMACKOVER OIL POOL
829	SOUTHEAST WOODLANDS FIELD	CAMPBELL OIL POOL
830	EAST YELLOW CREEK FIELD	EUTAW OIL POOL
831	EAST YELLOW CREEK FIELD UNIT	EUTAW OIL POOL
832	NORTH YELLOW CREEK FIELD	EUTAW OIL POOL
833	WEST YELLOW CREEK FIELD	LOWER COTTON VALLEY OIL POOL
834	WEST YELLOW CREEK FIELD	UPPER COTTON VALLEY ŪIL FOOL
835	WEST YELLOW CREEK FIELD	EUTAW OIL POOL
836	WEST YELLOW CREEK FIELD	LOWER-LOWER CRETACEOUS OIL POOL
837	WEST YELLOW CREEK FIELD	MIDDLE-LOWER CRETACEOUS OIL POOL
838	WEST YELLOW CREEK FIELD	UPPER-LOWER CRETACEOUS OIL FOOL
839	YORK FIELD	ARMSTRONG OIL POOL
840	YORK FIELD	WILCOX E-2 OIL POOL
841	ZEIGLER CREEK	WILCOX OIL
842	BENTONIA	PAULXY OIL
843	BAXTERVILLE	EUTAW-UPPER TUSCALOOSA GAS
644	BAX TERVILLE	HOSSTON GAS
845	BAXTERVILLE	SELMA CHALK GAS-
846	BAXTERVILLE	LOWER TUSCALOOSA OIL
847	BAXTERVILLE	LOWER TUSCALOOSA MASSIVE OIL
843	BAXTERVILLE	WILCOX GAS
849	BAXTERVILLE SOUTHEAST FAULT	LOWER TUSCALOOSA OIL
850	BAXTERVILLE SOUTHEAST FAULT	LOWER TUSCALOOSA MASSIVE OIL
851	BAXTERVILLE SOUTHEAST FAULT	8650 LOWER TUSCALOOSA OIL
852	BAXTERVILLE SOUTHEAST FAULT	3700 LOWER TUSCALOOSA OIL
854	EAST LA6RANGE	NORTH 4600 FT WILCOX
855	EAST LAGRANG FIELD	STEWART "B" OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
356	SANDY HOOK	PALUXY GAS
857	SANDY HOOK	WASHITA FREDERICKSBURG GAS
858	WEST SANDY HOOK	UPPER HOSSTON GAS
859	SATARTIA FIELD	HOSSTON OIL
86g	SATARTIA	SLIGO OIL
861	SEMINARY	HOSSTON GAS
862	ABERDEEN	MISSISSIPPIAN EVANS GAS
863	ABERDEEN	MISSISSIPPIAN SANDERS GAS
864	BEAVER BRANCH	BAKER OIL
865	BUTTAHATCHIE RIVER	MISSISSIPPIAN WALKER GAS
866	CARSON	HOSSTON SINCLAIR GAS
867	CARTHAGE POINT	MCKITTRICK OIL
868	WEST CLARA	PINE ISLAND OIL
869	NORTH GRANFIELD	SECOND WILCOX OIL
870	DENT PLACE	SECOND WILCOX OIL
871	DEXTER	LOWER WASHITA FREDERICKSBURG GAS-
872	DOUBLE CREEK	SMACKOVER OIL
873	SOUTHEAST ELL I SL IE	ARMSTRONG OIL
874	FOSTER CREEK	JENKINS OIL
875	NORTH GALILEE	STEWART B OIL
876	SLANGY	RODESSA GAS-
877	GLUCKSTADT	NORPHLET GAS
878	GRANGE	LOWER RODESSA GAS
879	GREENWOOD SPRINGS	MISSISSIPPIAN CARTER GAS
880	NORTH HI VANNEE	NORPHLET OIL
881	HUTCHINS LANDING	MCKITTRICK OIL
882	JANESVILLE	RODESSA OIL
383	KILLARNEY	MCKITTRICK OIL
884	KNOXO FIELD	HOSSTON GAS-
885	SOUTH LAGRANGE	FIRST WILCOX OIL
886.	LAKE LUCILLE	MINTER OIL
887	LAKE LUCILLE	SECOND WILCOX
888	MAGEE	10872 PALUXY OIL
889	MAGNOLIA PLTN.	JENKINS OIL
890	MAPLE BRANCH	MISS-LEWIS-SANDERS 'A' OIL
891	MAPLE BRANCH	MISS-WALKER OIL
892	MART INVILLE	9150 WASHITA-FREDERICKSBURG OIL
893	OAKVALE	SLIGO
894	PUCKETT	9700 PALUXY GAS-
895	POCKET	9950 PALUXY GAS
896	POCKET	10150 PALUXY GAS
897	POCKET	9270 WASHITA FREDERICKSBURG GAS
898	PUCKETT	8800 WASHITA-FREDERICKSBURG OIL
899	REEDY CREEK	6300 OIL
90g	RUCKER HOME	STEWART B OIL
901	SECOND CREEK	BENBROOK OIL
902	SHARON	MORRISON GAS
903	SILVER CREEK	ARMSTRONG OIL
904	SOAPSTONE	WILSON OIL
905	SOUTH SPRING POND	STEWART B OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
906	SUNNYSIDE	ARTMAN OIL
907	NORTH SUNNYSIDE	STEWART B OIL
908	SWEET GUN	BAKER OIL
909	TANGIPAHOA RIVER	LOWER TUSCALOOSA
910	NORTH TAR CREEK	BARKSDALE OIL
911	NORTH TAR CREEK	WILSON OIL
912	TOWN CREEK	MINTER OIL
913	TOWN CREEK-	WALKER OIL
914	WAVELAND	WASHITA-FREDERICKSBURG GAS
915	WHITESAND	SLIGO GAS
916	APPLE GROVE	WILCOX-WILSON
917	ARTONISH	MILLER OIL
918	ASHWOOD	LOWER TUSCALOOSA GAS
919	AVERA	LOWER TUSCALOOSA OIL
920	AVERA	7150 TUSCALOOSA OIL
921	BACON	MI SS I SS I PPI AN-ABERNATHY GAS
922	BACON	MISSISSIPPIAN EVANS GAS
923	BEASLEY CREEK	FRIO OIL
924	BLACK CREEK	66
925	BROWN CREEK-	WILCOX ROBINSON OIL
926	CALEDONIA	MISSISSIPPIAN-CARTER GAS
927	SOUTH CARTHAGE POINT	STEWART B - WILCOX OIL
928	COLUMBIA	FIRST HOSSTON GAS
929	COULSON BAYOU	5600 WILCOX OIL
930	COURTLAND	MINTER OIL
931	WEST CROSBY	WALKER OIL
932	CYPRESS BAYOU	SECOND WILCOX OIL
933	NORTH CYPRESS BAYOU	BARKSDALE OIL
934	NORTH CYPRESS BAYOU	FREEWOODS OIL
935	NORTH DARBUN FIELD	MORRINGSPORT
936	DENT PLACE	SECOND WILCOX GAS
937	DEXTER	UPPER WASHITA FREDERICKSBURG GAS
938	ELLIS CLIFFS	PARKER OIL
939	ELLIS CLIFFS	WILCOX-PEARLINE OIL
940	FIELDS LAKE	ARTMAN OIL
941	FIELDS LAKE	PEARLINE OIL
942	FLAT BRANCH FIELD	UPPER TUSCALOOSA OIL
943	FOSTER CREEK-	ARMSTRONG OIL
944	GIBSON	MISSISSIPPIAN-EVANS OIL
945	GORDON CREEK	LOWER TUSCALOOSA OIL
946	GOSHEN SPRINGS	NORPHLET (CO2) GAS
947	GRANGE	NORTHWEST FAULT BLOCK SLIGO GAS
948	GREENS CREEK	SLIGO
949	GW INVILLE	LOWER HOSSTON GAS
950	GW INVILLE	UPPER HOSSTON GAS
951	EAST HEIDELBERG	SELMA CHALK GAS
952	HOLIDAY CREEK	HOSSTON-HATTON GAS
953	HOLLY BUSH CREEK-	NORPHLET GAS (CO2)
954	HOOKER	HOSSTON OIL
955	HUB	WASHITA-FREDERICKSBURG GAS

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
956	HUTCHINS LANDING	SECOND WILCOX OIL
957	NEST IDLEWILD	WILCOX OIL
958	IVANHOE	WILCOX-PARKER A OIL
959	EAST KNOXO	LOWER PALUXY GAS
960	LAGRANGE	STEWART B OIL
961	NORTH LAGRANGE	BAKER OIL
962	MAGEE	LAVON-HOSSTON OIL
963	MAGEE	E-4 PALUXY OIL
964	MANDAMUS	MANDAMUS T OIL POOL
965	MAPLE BRANCH	MISSISSIPPIAN MILLERELLA OIL
966	MARTINVILLE	12374 SLIGO OIL
967	NCRANEY	HOSSTON DIFFRIENT GAS
968	MECHANICS GURG	COTTON VALLEY GAS
969	MECHANICSBURG	COTTON VALLEY FERGUSON OIL
970	MIDDLE FORK	FIRST WILCOX OIL
971	EAST MORGANTOWN	FIFTH HOSSTON GAS
972	EAST MORGANTOWN	FIRST HOSSTON GAS
973	EAST MORGANTOWN	HOSSTON BOOTH GAS
974	EAST MORGANTOWN	HOSSTON HARPER GAS
975	SOUTH MORGANTOWN	HOSSTON GAS
976	MOSELLE	HOSSTON OIL
977	OAK GROVE	RODESSA WALKER GAS
978	WEST OAKVALE	JAMES OIL
979	WEST OAKVALE	SLIGO-BARNES
980	ORANGE	COTTON VALLEY OIL
981	PISTOL RIDGE	PALUXY-GAMMILL GAS
982	PISTOL RIDGE	10350 WASHITA-FREDERICKSBURG GIL
983	POOL CREEK	LOWER TUSCALOOSA OIL
984	SOUTH PRENTISS	HOSSTON GAS
985	RODNEY	9466 LOWER TUSCALOOSA GAS
986	RODNEY	9544 LOWER TUSCALOOSA GAS
987	WEST SANDY HOOK	HOSSTON GAS
988	WEST SANDY HOOK	RODESSA GAS
989	SECOND CREEK	ARMSTRONG OIL
990	SILOAM	3400 PENNSYLVANIAN GAS
991	STAMPS FIELD	WILCOX-CAMPBELL OIL
992	TREBLOC	MISSISSIPPIAN-ABERNATHY GIL
993	VERBA	UPPER RODESSA OIL
994	VERNON	ARMSTRONG OIL
995	WAVELAND	PALUXY GAS-
996	EAST WAYNESBORO	MOORINGSPORT OIL
997	WELLS	MISSISSIPPIAN LEWIS GAS
998	WELLS CREEK	ASHLEY OIL
999	WEST POINT	MISSISSIPPIAN LEWIS GAS
1000	WINSTON	ARMSTRONG OIL
1001	EAST YELLOW CREEK	SMACKOVER OIL
1002	WEST YELLOW CREEK	LOWER TUSCALOOSA OIL
1003	NORTH CARTHAGE POINT	WILCOX OIL
1004	WEST CLARA	SMACKOVER OIL
1005	COBB BRANCH	LOWER TUSCALOOSA OIL

LIST OF FIELDS IN SURVEY

ID	FIELD	POOL
1006	COLES CRtEK	ARTMAN OIL
1007	COLLINS	HOSSTON OIL
1003	COLUMBIA	HOSSTON DIFFRI ENT GAS
1009	EAST COMMENCEMENT	ARMSTRONG OIL
1010	EAST COMMENCEMENT	STEWART B OIL
1011	CRAWFORD CREEK	SLIGO OIL
1014	GRANGE	HOSSTON GAS
1015	GRANGE FIELD	LOWER PALUXY GAS
1016	GRANGE	RODESSA GAS
1017	GRANGE	SILGO GAS
1018	WADES BAYOU	ARTMAN OIL
1019	BACON	MISSISSIPPIAN-LEWIS GAS
1020	BACON	MISSISSIPPIAN-LOWER SANDERS
1021	BAKERS CREEK	RODESSA OIL
1022	BALD HILL	WALKER OIL
1023	BAXTERVILLE	PALUXY GAS
1024	BLUE HOLE	ARTMAN GIL
1025	BLUE HOLE	PEARLINE OIL
1026	BOYKIN CHURCH	RGDESSA OIL
1027	BUFFALO	BAKER OIL
1028	CALEDONIA	MISSISSIPPIAN SANDERS OIL
1029	CALEDONIA	PENNESYLVAN I AN-NASON GAS
1030	CATAHOULA CREEK	COTTON VALLEY GAS
1031	COOPER CREEK FIELD	MISSISSIPPIAN CARTER "B" GAS
1032	COOPER HILL	MCKITTRICK OIL
1033	COWPENNA CREEK	EVANS GAS
1034	COWPENNA CREEK	MI SS I SS I PP I AN-CARTER GAS
1035	COWPENNA CREEK	MISSISSIPPIAN LEWIS GAS
1036	DAVIS	P-40 PALUXY OIL
1037	NORTH DOLOROSO	ARMSTRONG OIL
1038	ENTERPRISE FIELD	P-2 PALUXY OIL
1039	GREENWOOD SPRINGS	MILLERELLA GAS
1040	GREENWOOD SPRINGS	MISSISSIPPIAN ABERNATHY GAS-
1041	GREENWOOD SPRINGS	MI SS I SS I PPI AN CARTER A GAS
1042	GREENWOOD SPRINGS-	MISSISSIPPIAN CARTER B GAS
1043	HIGGINS	FIRST HOSSTON GAS
1044	JOHNS	SMACKOVER GAS
1045	KINGS BRANCH	MCKITTRICK ARMSTRONG OIL
1046	MAGEE	SILIGO GAS
1047	MATUBBY CREEK	REA SAND GAS
1048	MCKINLEY CREEK	MISSISSIPPIAN SANDERS GAS
1049	SOUTH MORGANTOWN	FIRST HOSSTON GAS
1050	SOUTH MORGANTOWN	HOSSTON HARPER GAS
1051	MOSS HILL	THIRD WILCOX OIL
1052	WEST MOUNT HOPE	WILSON OIL
1053	NETTLETON	MISSISSIPPIAN LEWIS GAS
1054	OWEN CREEK	BARKSDALE OIL
1055	PISTOL RIDGE	MIDWAY GAS-
1056	SPOKANE	PARKER OIL
1057	STAMPS	FRIO OIL

LIST OF FIELDS IN SURVE Y

ID	FIELD	POOL
1053	SUMRALL	SMACKOVER OIL
1059	TOWN CREEK	WALKER B OIL
løfcø	TRAINING SCHOOL	LOWER WASHITA FREDERICKSBURG GAS
1061	VINTAGE	HOSSTON BOOTH GAS
1062	VINTAGE	HOSSTON HARPER GAS
1063	VINTAGE	SLIGO GAS
1064	VINTAGE	SECOND SLIGO-BOOTH GAS
1065	WALKER LAKE	MISSISSIPPIAN LEWIS GAS
1066	WALNUT CREEK	GRANFI ELD OIL
1067	NORTH WAUSAU	RODESSA 3 OIL
1063	WHITES	MISSISSIPPIAN SANDERS OIL

Open-File Report 83-6S

A Study of Secondary and Tertiary Oil Recovery Potential in Mississippi

Clifford E. George

1983

The Mississippi Mineral Resources Institute
University, Mississippi 38677