

# THE LOWER TUSCALOOSA TREND OF SOUTH-CENTRAL LOUISIANA: "YOU AIN'T SEEN NOTHING TILL YOU'VE SEEN THE TUSCALOOSA"

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## EXTENDED ABSTRACT

The Tuscaloosa trend of south-central Louisiana is one of the most active and highly potential deep gas plays in the United States today. The trend covers a band 275 mi long and 30 mi wide. It extends from the Louisiana-Mississippi border, northwesterly through Lake Pontchartrain to Baton Rouge, and continues westerly through Vernon and Beauregard Parishes to the Louisiana-Texas border (fig. 1). To date there have been 15 new fields discovered and two potential new discoveries in the trend (fig. 1). In the last four years a total of 142 wells have been drilled to an average depth of 18,800 ft to test sandstones within the Tuscaloosa Formation (Upper Cretaceous). More than 4 million acres are now under lease in the trend.

The center of the play is located north of Baton Rouge where the Baton Rouge mega-structure (figs. 2 and 4), a giant structural complex at least 20 mi long and approximately 15 mi wide, is emerging as the dominant feature of several exceptionally large structural features. Six new discoveries, one potential new discovery and one new field reservoir extension, are located on this mega-structure. Other fields surely will be found within the 300-sq-mi area presently indicated to be productive. The Judge Digby structure, located west of the Baton Rouge mega-structure (F in fig. 2), is a slightly smaller feature containing major gas reserves. To the east of the Baton Rouge mega-structure is the Denham Springs structure now being evaluated by the Amoco #1 Barnett Heirs, presently drilling below 14,600 ft.

Potential reserves on these features total approximately 17 trillion cubic feet of gas and one billion barrels of distillate.

The Tuscaloosa play began in May 1975, with the discovery of False River field by Chevron #1 Alma Plantation, located approximately 12 mi northwest of Baton Rouge. This well tested gas at the rate of 20 million cubic feet per day from a Tuscaloosa sand at 19,800 ft (figs. 3 and 4). The trend was confirmed with the completion of Chevron #1 S.L. 6646 in December 1975, as the discovery well for Rigolets field located approximately 120 mi southeast of False River field near the Louisiana-Mississippi state line. Subsequent discoveries include North Bayou Jack, False River Reservoir 'B', Moncrief and South Moncrief fields.

A major development occurred on August 13, 1977, when the Chevron #1 Parlange blew out at a depth of 21,346 ft (figs. 4 and 5). This well, located eight miles northwest of the False River discovery, was later brought under control and produced gas into the Florida Gas sales line for 60 days at the rate of 140 million cubic feet of gas per day. This production rate clearly established excellent reservoir conditions to complement the giant structures, and a new deep gas frontier had been established. This discovery was named Judge Digby field.

Shortly thereafter a significant discovery was made at Port Hudson field, located approximately nine miles northeast of False River field. The Amoco #1 Georgia Pacific flowed 4.8 million cubic feet of gas per day plus 696 barrels of distillate and encountered 161 ft of net gas sand (figs. 4 and 6).

In July 1978, Irene field was discovered on the Baton Rouge mega-structure with the completion of the South Louisiana Production Company #1 Kizer, located 12 mi northeast of False River. The #1 Kizer, encountered 68 ft of net gas sand and was tested at the rate of 10 million cubic feet of gas per day plus 228 barrels of distillate. One month later Hunt Petroleum Corporation completed its #1 Trans Match, located midway between False River and Irene. The #1 Trans Match was tested at the rate of 14.1 million cubic feet of gas per day plus 650 barrels of distillate.

Subsequent new discoveries include Fort Pike, with the completion of Natomas #1 S.L. 7260, located six miles west of Rigolets field. This well tested 11 million cubic feet of gas per day. Natomas recently completed its #1 S.L. 7186, located in Lake Pontchartrain, and tested 92 barrels of distillate plus 2.1 million cubic feet of gas. The most significant recent discovery is the Amoco and Banner #1 Hurst located six miles north of Judge Digby field. The well is being completed after testing 336 barrels of distillate per day plus 11.8 million cubic feet of gas per day.

The discovery wells to date in the Tuscaloosa trend have been drilled to an average depth of 18,850 ft. A summary of these discoveries including well name and location, total depth, perforations and tests is shown in table 1.

As of May 1, 1979, more than 70 development wells have been completed or are presently drilling or active. Depth of these development wells ranges from 17,000 ft to 23,500 ft. Average dry hole cost is approximately \$3.5 to \$4 million; average drilling time is from 125 to 200 days; average completion time is approximately 30 days to 45 days; and average completed well cost ranges from \$4 million to \$6.8 million.

Since the discovery of False River field there have been 56 wildcats drilled in the trend. At least 12 of these wells

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were drilled on the shelf, behind the the barrier reef and did not evaluate the Tuscaloosa sand at its optimum position. Drilling activity in the trend has increased considerably in the past few weeks, and it is expected to continue. Within the next six months operations will probably have commenced on at least 45 additional wells across the trend. Truly, the Tuscaloosa trend of south-central Louisiana is one of the most active and highly potential deep gas plays in the United States today!

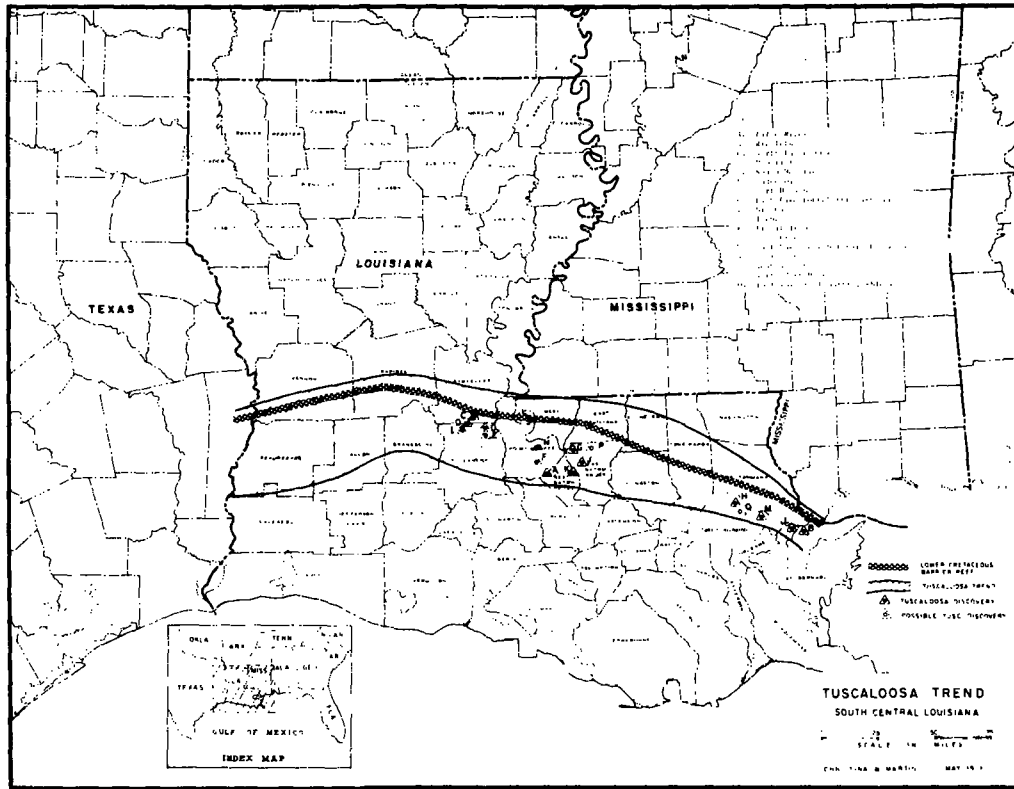


Figure 1.

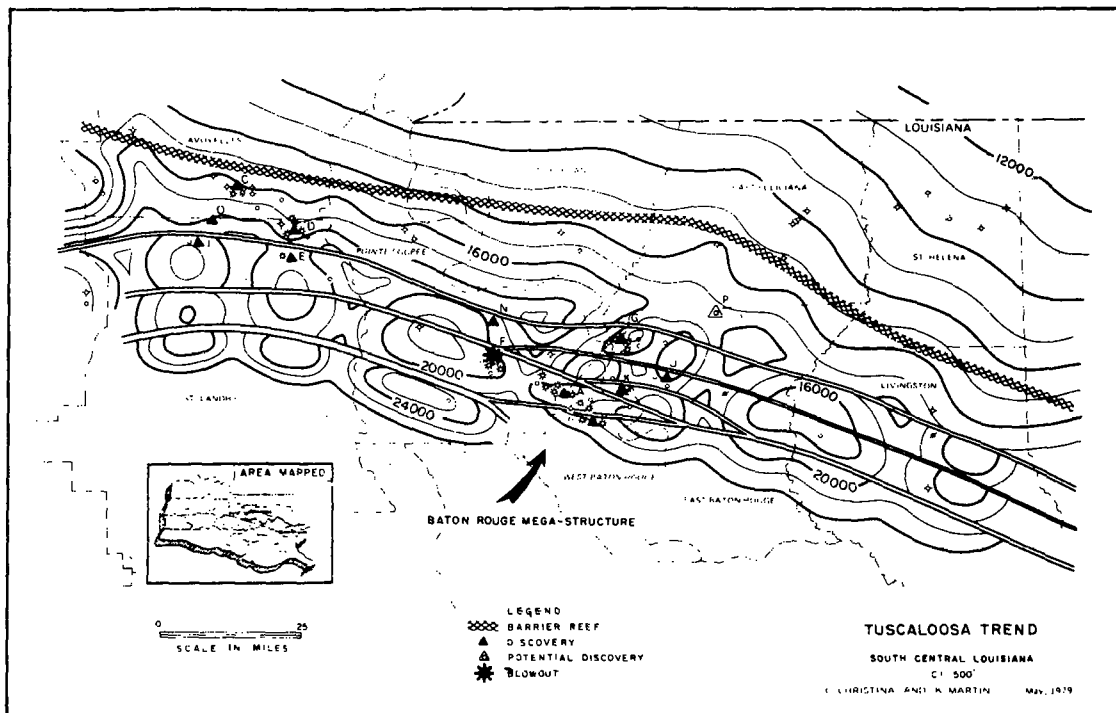


Figure 2.

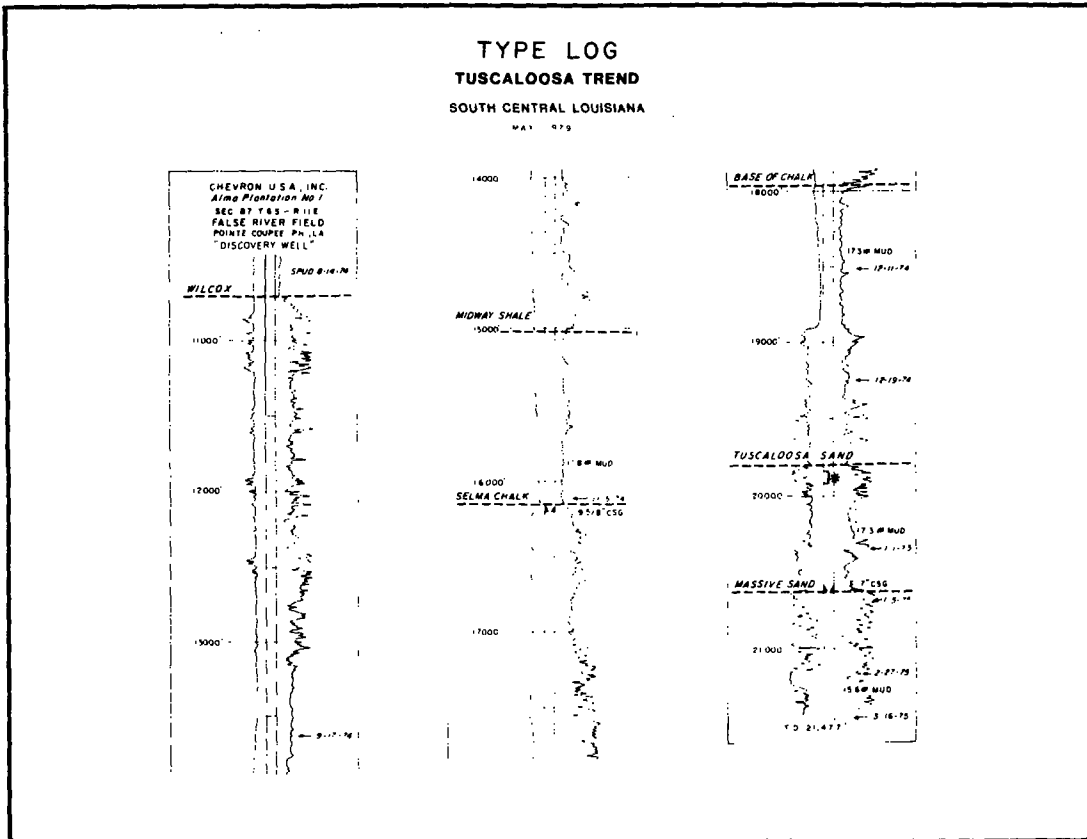


Figure 3.

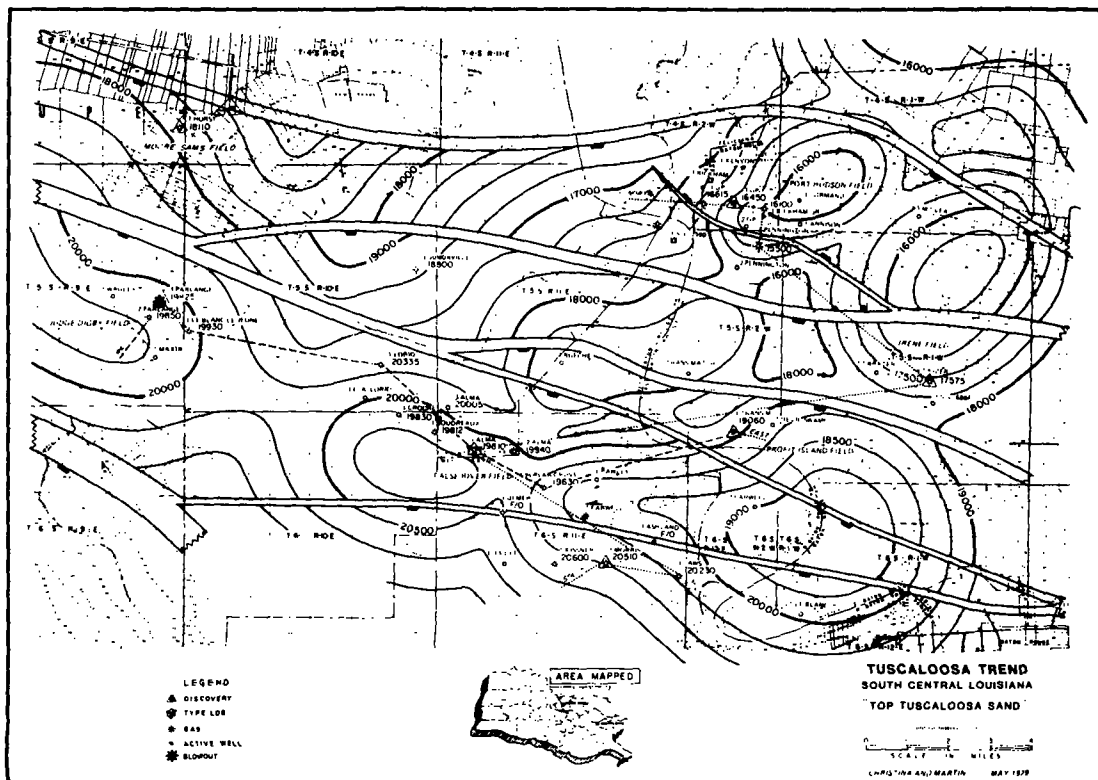


Figure 4.

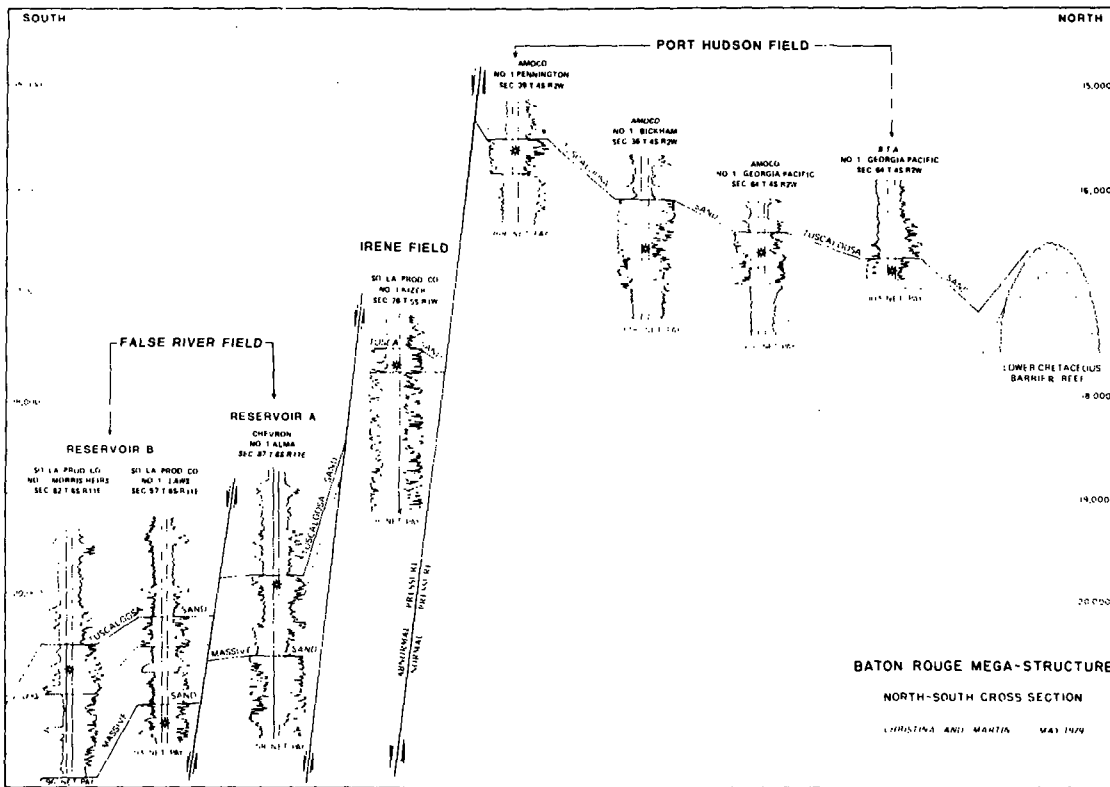


Figure 5.

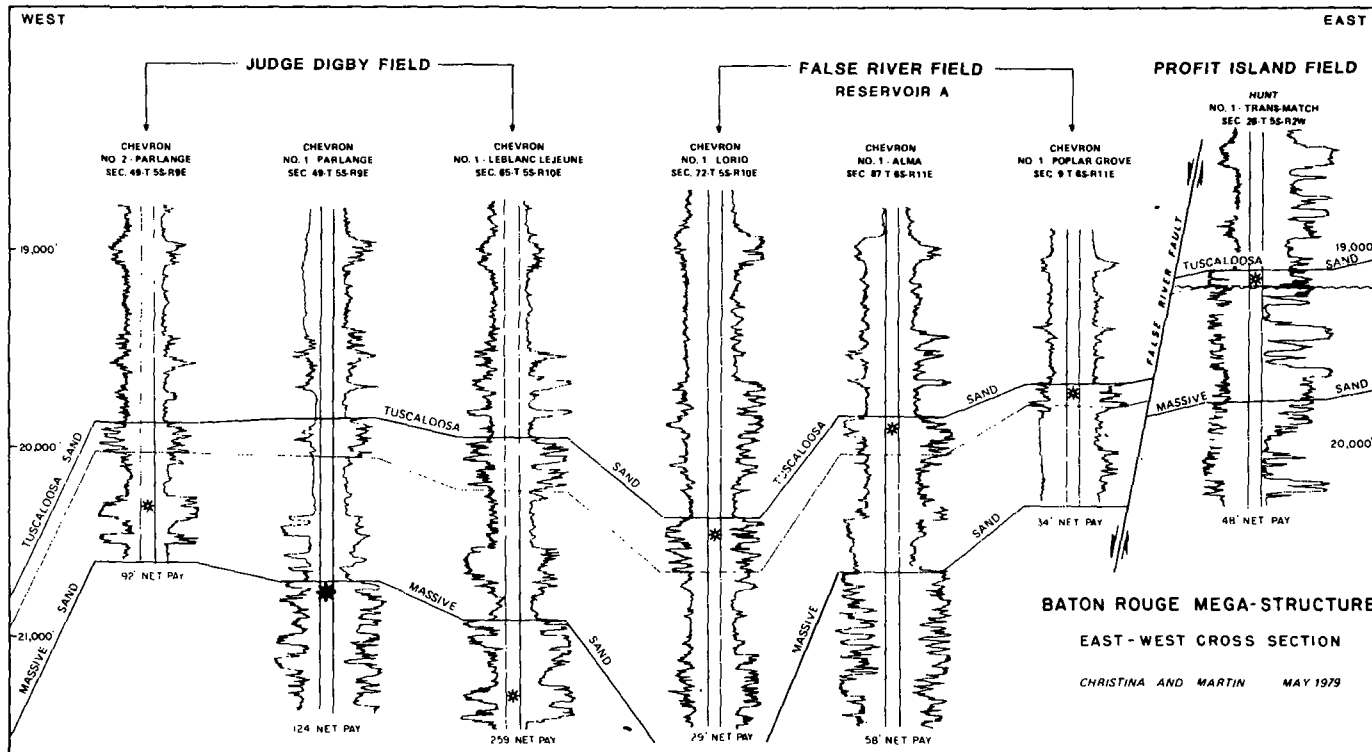


Figure 6.

Table 1.

TUSCALOOSA TREND - SOUTH CENTRAL LOUISIANA							
<u>TUSCALOOSA DISCOVERIES</u>							
(Shown on Fig. 1)							
<u>FIELD NAME</u>	<u>WELL NAME</u>	<u>LOCATION PARISH - SEC/T-R</u>	<u>DATE COMPLETED</u>	<u>TOTAL DEPTH</u>	<u>PERFORATIONS</u>	<u>TESTS</u>	
A	False River						
	Reservoir "A"	Chevron USA, Inc. #1 Alma Plantation	Pointe Coupee Sec 87 - T6S-R11E	May, 1975	21,477'	19,836-916'	80 BDPD + 20,000 MCFG 19/64" CK - TP 8800# SITP - 13,100# BHP - 16,806#
	Reservoir "B"	So. Louisiana Production Company #1 Morris	West Baton Rouge Sec 82 - T6S-R11E	Nov, 1976	21,794'	20,568-982'	20,102 MCFG 24/64" CK - TP 5500# SITP 11,820#
B	Rigolets	Chevron USA, Inc. #1 S. L. 6646	St. Bernard Lk. Borgne-Blk 23	Dec, 1975	14,946'	14,724-776'	48 BDPD + 7454 MCFG 18/64" CK - TP 6800#
C	North Bayou Jack	Gulf & Moncrief #A-1 R. O. Martin	Avoyelles Sec 9 - T2S-R5E	Oct, 1977	19,093'	16,128-114'	156 BDPD + 5457 MCFG 12/64" CK - TP 4200# SITP 5300#
D	Moncrief	Gulf & Moncrief #1 Turner Lumber Co.	St. Landry Sec 4 - T3S-R6E	Dec, 1976	18,050'	16,498-508'	79 BDPD + 7500 MCFG 15/64" CK - TP 5200# SITP 5800#
E	South Moncrief	Shell Oil Co. #1 Turner Lumber Co.	St. Landry Sec 20 - T3S-R6E	July, 1977	20,150'	19,281-107'	5000 MCFG 22/64" CK - TP 6800#
F	Judge Digby	Chevron USA, Inc. #1 W. Parlange Jr.	Pointe Coupee Sec 49 - T5S-R9E	Aug, 1977	21,346'	Open Hole 20,635-21,346'	Flowed 140 mil. cu. ft. gas per day for 60 days. (controlled blowout)
G	Port Hudson	Amoco Production Co. #1 Georgia Pacific	East Baton Rouge Sec 64 - T4S-R2W	Dec, 1977	17,450'	16,616-537'	672 BDPD + 4800 MCFG 16/64" CK - TP 4664# SITP 4830#
H	East Lake Pontchartrain Block 7	Union Oil of Calif. #1 S. L. 7183	St. Tammany E. Lk. Pont. 7		20,445'	Productive sands at 20,100'	Not tested as of 5/1/79
I	Big Cane	Shell Oil Co. #1 Hagggar	St. Landry Sec 11 - T3S-R4E	Aug, 1978	19,690'	18,276-303'	13,000 MCFG 34/64" CK - TP 11,050# SITP 14,570#
J	Irene	So. La. Prod. Co. #1 Kizer	East Baton Rouge Sec 76 - T5S-R1W	Sept, 1978	19,180' ST Hole	17,776-788'	228 BDPD + 10,000 MCFG 17/64" CK - TP 7095# SITP 8400#
K	Profit Island	Hunt Petro. Corp. #1 Trans Match	East Baton Rouge Sec 26 - T5S-R2W	Oct, 1978	20,225'	19,069-079'	650 BDPD + 14,100 MCFG 18/64" CK - TP 7600# SITP 8400#
L	Fort Pike	Natomas No. Amer. #1 S. L. 7260	Orleans Sec 34 - T10S-R15E	Oct, 1978	16,910' ST Hole	16,778-808'	6 BDPD + 11,000 MCFG 16/64" CK - TP 10,146# SITP 11,598#
M	East Lake Pontchartrain Block 14	Natomas No. Amer. #1 S. L. 7186	St. Tammany E. Lk. Pont. 14	Jan, 1979	15,200' ST Hole	14,870-15,006'	92 BDPD + 2109 MCFG 12/64" - TP 3050# SITP 9302#
N	Moore-Sams	Amoco & Banner #1 Hurst	Pointe Coupee Sec 55 - T4S-R9E	May, 1979	19,500'	18,204-212'	336 BDPD + 11,800 MCFG 24/64" CK - TP 4570# SITP 5900#
O	West Nugent	Sabine Production Co. #1 Goodeau	St. Landry Sec 26 - T2S-R4E				Drilled to 17,629' and stuck drill pipe. Electric logs indicate 16" net pay. Drilling at 17,120' in sidetrack hole (5/1/79).
<u>POTENTIAL DISCOVERIES</u>							
P	North Port Hudson	CNG Producing Co. #1 Fulkerson	East Baton Rouge Sec 16 - T4S-R11E	Nov, 1978			Temporarily abandoned. Not tested.
Q	East Lake Pontchartrain-Blk 11	Natomas #1 S. L. 7185	St. Tammany E. Lk. Pont. 11	Dec, 1978	20,290 OH 19,496' ST Hole		Well blew out and flowed gas in original hole. Stuck drill pipe in sidetrack hole. Junked and abandoned. Now drilling 2nd well.