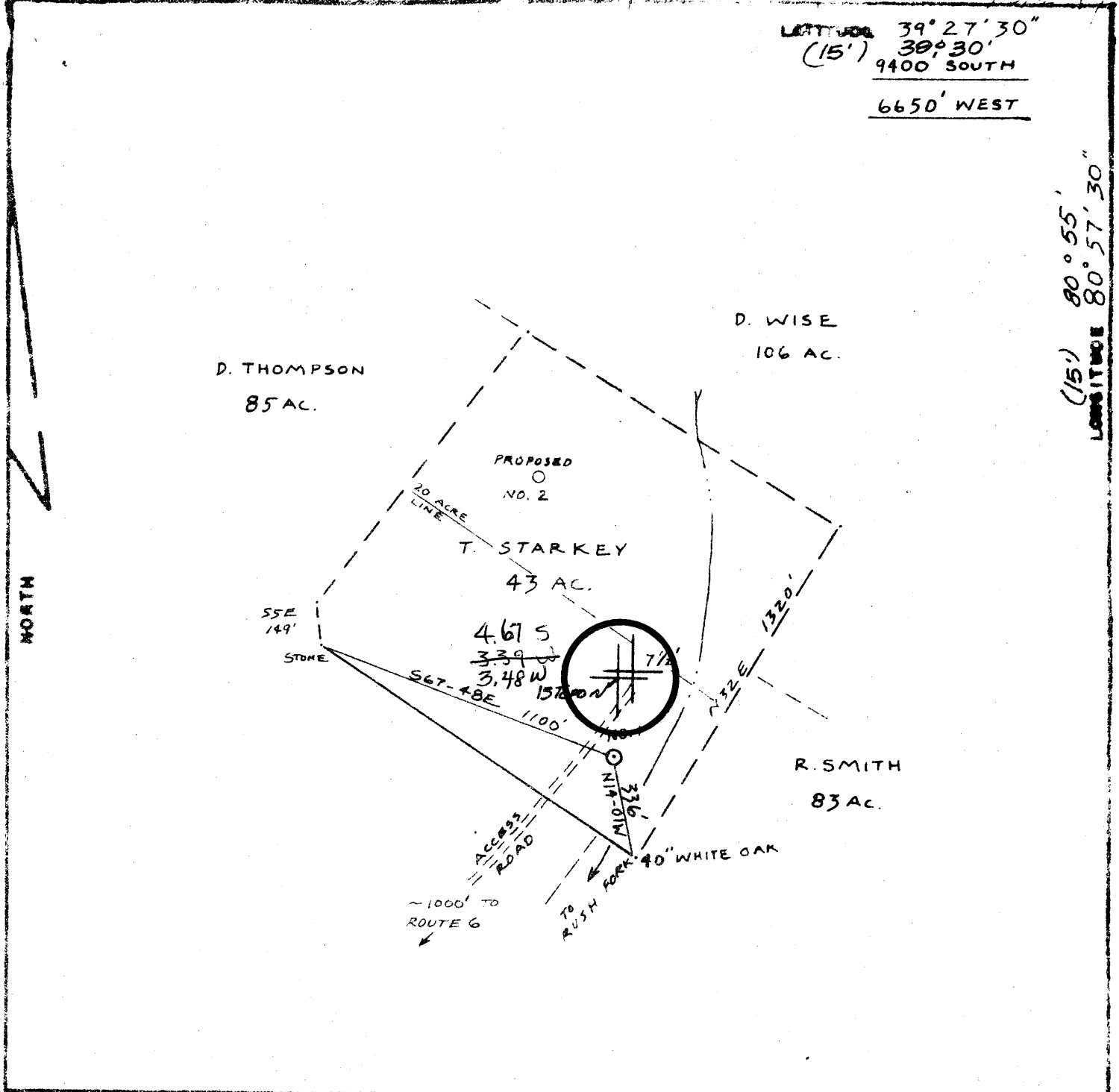


Latitude 39° 27' 30"
(15') 30° 30'
9400 SOUTH
6650' WEST

(15') 80° 55'
LONGITUDE 80° 57' 30"



FILE NO. L+M
 DRAWING NO. T. ST 1
 SCALE 1"=500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION INTER. ROADS 807

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.
 (SIGNED) Neal Hughes
 R.P.E. _____ L.L.S. 632

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6
 (8-78)



DATE FEBRUARY 4, 1980
 OPERATOR'S WELL NO. 1
 WELL NO. 47-095-0783
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS", PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____)
 LOCATION: ELEVATION 855' WATER SHED RUSH FORK
 DISTRICT MEADE COUNTY TYLER
 QUADRANGLE MIDDLE BOURNE 7E WEST UNION 15'NW
 SURFACE OWNER T. STARKEY ACRES 43 AC.
 OIL & GAS ROYALTY OWNER TERRELL STARKEY LEASE ACRES 43 AC.
 LEASE NO. _____
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUS OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUS AND ABANDON _____ CLEAN OUT AND REPLUS _____
 TARGET FORMATION GORDON ESTIMATED DEPTH 2800
 WELL OPERATOR LEM PETROLEUM CO DESIGNATED AGENT RICHARD HUDSON
 ADDRESS RT Bx18-B ADDRESS GENE STALNAKER
MARIETTA OH PARKERSBURG / LETTER CAMP WV

CORRECTED COPY



IV-35
(Rev 8-81)

Date 3/2/82
Operator's
Well No. 1
Farm Terrell Starkey
API No. 47 - 095 - 0783

State of West Virginia
Department of Mines
Oil and Gas Division

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil X / Gas X / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production ___ / Underground Storage ___ / Deep ___ / Shallow ___ /)

LOCATION: Elevation: 855 Watershed Rush Fork
District: Meade County Tyler Quadrangle Middlebourne

COMPANY L&M Petroleum Co.
ADDRESS P.O. Box 89, Reno, OH 45773
DESIGNATED AGENT David Clovis
ADDRESS Box 288, Parkersburg, WV 26101
SURFACE OWNER Terrell Starkey
ADDRESS Rt. #1, Middlebourne, WV
MINERAL RIGHTS OWNER same as above
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK _____
Phil Tracey ADDRESS Rt. 23, Alma, WV
PERMIT ISSUED 1980
DRILLING COMMENCED 6/9/80
DRILLING COMPLETED 6/26/80

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"			
9 5/8			
8 5/8	250	250	55 sx
7			
5 1/2			
4 1/2	2813	2813	150 sx
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 2230-3451 feet
Depth of completed well 3440 feet Rotary X / Cable Tools _____
Water strata depth: Fresh _____ feet; Salt _____ feet
Coal seam depths: _____ Is coal being mined in the area? _____

OPEN FLOW DATA
Producing formation Devonian Shale ^{Up. Dev. and diff.} Pay zone depth 2726-3451 feet
Gas: Initial open flow 150 Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 100 Mcf/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 6 hours
Static rock pressure _____ psig (surface measurement) after _____ hours shut in
(If applicable due to multiple completion--)
Second producing formation _____ Pay zone depth _____ feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ Mcf/d Oil: Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure _____ psig (surface measurement) after _____ hours shut in

(Continue on reverse side)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Frac well 8/19/81 w/1027MSCF Nitrogen, BD:2700; ATP:2400; RATE:45MSCF/mi.
ISI:2200; 5 Min: 2100

Perfs: Open Hole

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Clay			0	25	
Red Rock			25	89	
Lime			89	113	
Sand & slate			113	125	
Slate			125	145	
Slate			145	170	
Red Rock			170	190	
Slate			190	200	
Lime			200	215	
Slate			215	255	
Red Rock			255	273	
Sand			273	290	
Red Rock & Shale			290	400	
Sand			400	440	
Slate			440	485	
Lime			485	521	
Red Rock			521	608	
Sand			608	632	
Slate			632	650	
Slate			650	700	
Shale			700	741	
Slate			741	773	
Sand			773	805	
Black Shale			805	840	
Slate			840	877	
Sand			877	910	
White slate			910	935	
Lime			935	952	
First Salt sand			952	1041	
Brwn. Shale			1041	1056	
Lime			1056	1085	
Black slate			1085	1120	
Sand			1120	1146	
Slate			1146	1199	
Black slate			1199	1238	
Lime			1238	1250	
2nd Salt Sand			1250	1293	
Slate			1293	1308	

(Attach separate sheets as necessary)

L&M Petroleum Co.

Well Operator

By: Jean Kettering

Date: 3/3/82

Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic
detailed geological record of all formations, including
minerals, encountered in the drilling of a well."

WELL NAME & NO.: Terrell Starkey #1

FORMATION	TOP FEET	BOTTOM FEET
Black lime	1308	1315
Shale	1315	1383
Sand	1383	1399
Break	1399	1405
Sand	1405	1419
Shale	1419	1460
Maxon	1450	1483
Break	1483	1509
Lime	1509	1515
Sand	1515	1563
Slate	1563	1598
Shale	1598	1621
lime	1621	1653
Sand	1653	1679
Shale	1679	1704
Big Lime	1704	1763
shale	1763	1778
B. Injun Sand	1778	1930
Shale	1930	1952
Shale	1952	1986
Siltstone	1986	2032
Shale	2032	2069
Siltstone	2069	2100
Siltstone & shale	2100	2173
Weir Sand	2173	2195
Shale	2195	2210
Shale	2210	2250
Sand	2250	2295
Berea ✓	2295	2298
NO SAMPLES AVAILABLE		
Shale	2400	2470
Sandstone	2470	2490
Shale	2490	2500
Shale	2500	2550
Shale	2550	2580
Shale	2580	2610
Shale	2610	2640
Siltstone	2640	2660
Shale	2660	2680
Siltstone	2680	2690
Shale & Siltstone	2690	2716
Gordon	2716	2726
Devonian Shale	2726	3451

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of Dev. undiff.

70

3451
2298

1153



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED
FEB 11 1980

Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

DATE February 7, 1980

Surface Owner Terrell Starkey
Address Rt. 1, Middlebourne, WV
Mineral Owner Same as above
Address _____
Coal Owner Same as above
Address _____
Coal Operator None
Address _____

Company L & M Petroleum Co.
Address Rt. #1, Box 18-B, Marietta, OH
Farm Terrell Starkey Acres 43
Location (waters) Rush Fork
Well No. 1 Elevation 855'
District Meade County Tyler
Quadrangle Middlebourne

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 10-13-80.

INSPECTOR
TO BE NOTIFIED Phillip Lee Tracy
ADDRESS P.O. Box 173-Dodd Street
Middlebourne, WV 26149
PHONE 758-4573

Robert L. ...
Deputy Director - Oil & Gas Division
GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated August 8 1979 by Terrell Lee Starkey made to Key Oil Company and recorded on the 21 day of August 1979 in Tyler County, Book 220 Page 384

NEW WELL DRILL DEEPER REDRILL FRACTURE OR STIMULATE
OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days.

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address _____ day _____ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND
ECONOMIC SURVEY
P. O. BOX 879
MORGANTOWN, WEST VIRGINIA 26505
AC-304 - 292-6331

Address
of
Well Operator

Very truly yours, L & M Petroleum Co.
(Sign Name) Phillip C. Hunter
Well Operator
Phillip C. Hunter
Street
Rt. #1, Box 18-B, Newport Pike
City or Town
Marietta, Ohio 45750
State

SECTION 3. ... If no objections are filed or found by the Department of Mines within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

BLANKET BOND

47-095-0783

PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-b and will carry out the specified requirements."

Signed by _____

THIS IS AN ESTIMATE ONLY
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOSED WORK ORDER TO DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT: _____
 NAME _____ NAME Richard Hudson
 ADDRESS _____ ADDRESS Parkersburg, WV
 TELEPHONE _____ TELEPHONE 304-424-0876
 ESTIMATED DEPTH OF COMPLETED WELL: 2800' ROTARY CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Devonian Gordon
 TYPE OF WELL: OIL _____ GAS _____ COMB. STORAGE _____ DISPOSAL _____
 RECYCLING _____ WATER FLOOD _____ OTHER _____

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8			
8 - 5/8	250	250	Surface
7			
5 1/2			
4 1/2	TD	TD	400
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 150 FEET SALT WATER _____ FEET
 APPROXIMATE COAL DEPTHS None
 IS COAL BEING MINED IN THE AREA? No BY WHOM? _____

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for _____ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the _____ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

For Coal Company

Official Title