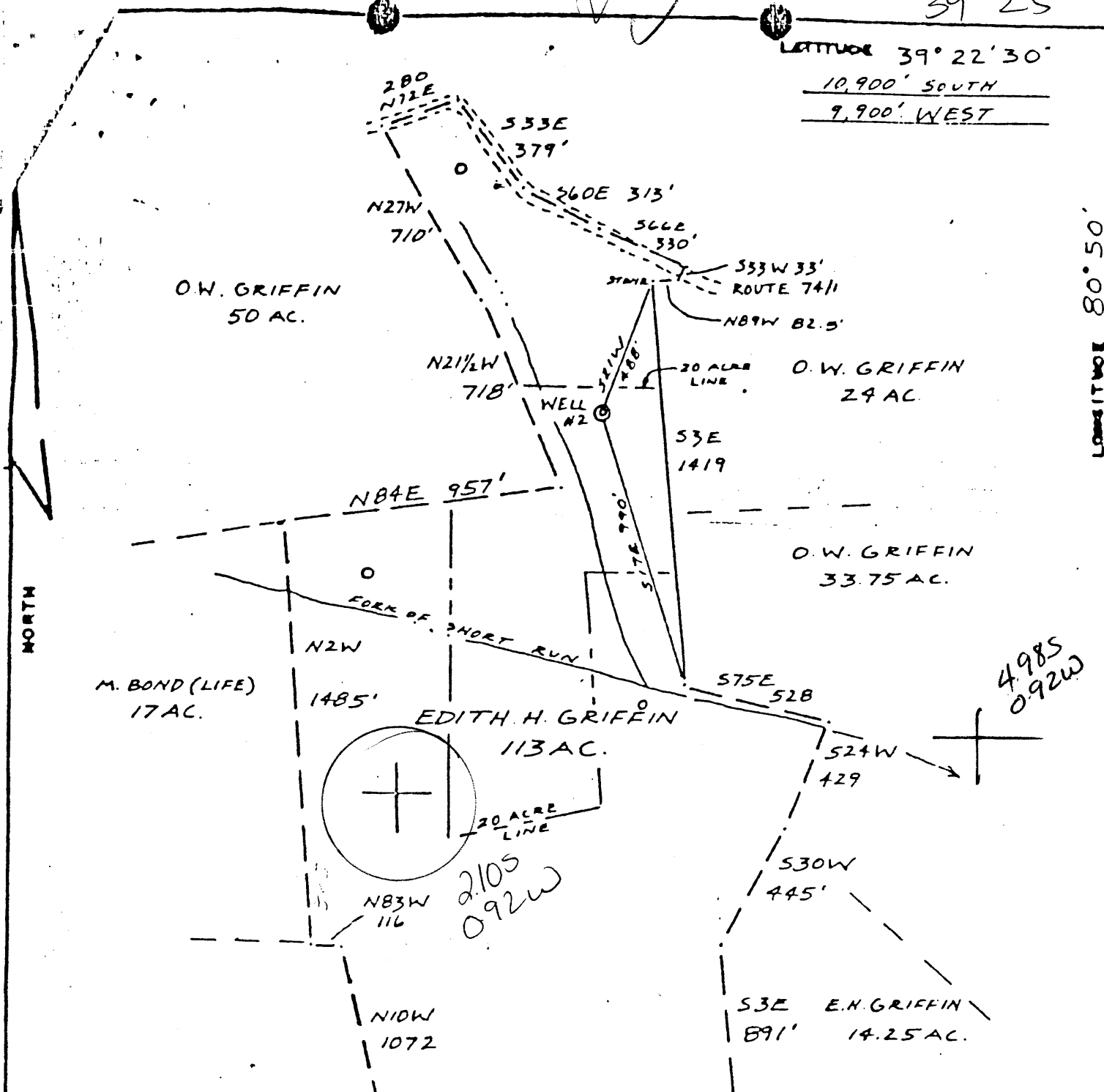


39 25

LATITUDE 39° 22' 30"
10,900' SOUTH
9,900' WEST



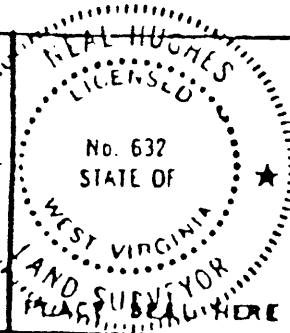
LONGITUDE 80° 50'

4985
092W

2105
092W

FILE NO. L+M
 DRAWING NO. 1
 SCALE 1"=500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION KNAB 1199'

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) Neil Hughes
 R.P.E. _____ L.L.S. 632



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



DATE AUG 19, 1980
 OPERATOR'S WELL NO. 2
 API WELL NO. 47-095-0851-Frac.
 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 1010' WATER SHED SHORT RUN
 DISTRICT CENTER KILL COUNTY TYLER
 QUADRANGLE WEST VIRGIN 7 1/2' 671 133 CS
 SURFACE OWNER EDITH H. GRIFFIN ACREAGE 113 AC
 OIL & GAS ROYALTY OWNER O.W. GRIFFIN, ET UX LEASE NO. 42831 LEASE ACREAGE 220 AC.
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUS OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

Deepening

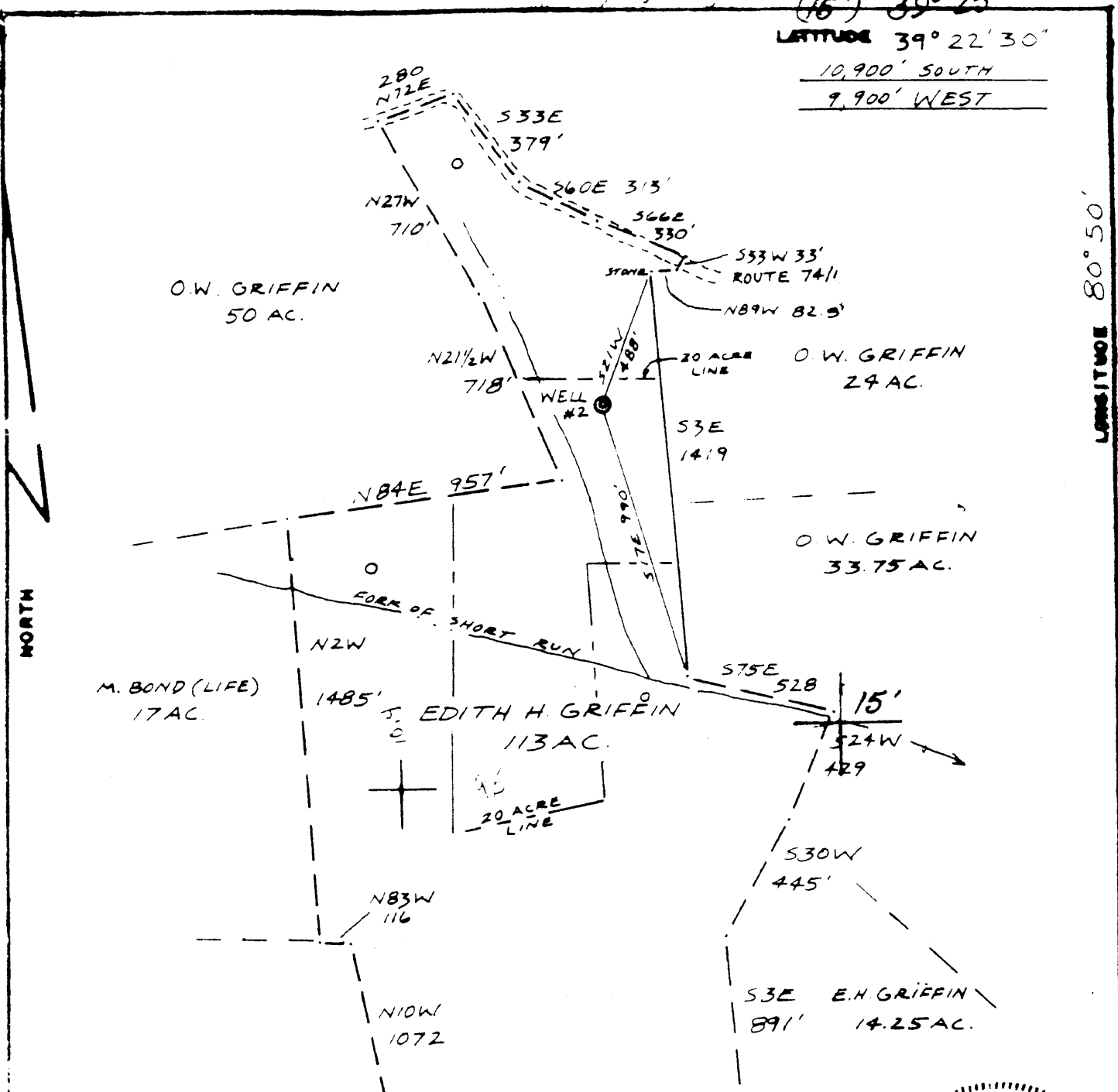
PLUS AND ABANDON _____ CLEAN OUT AND REPLUS _____
 TARGET FORMATION Deepening ESTIMATED DEPTH 4500' SEP 8 1986

Appalachian Energy Development . DEDICATED ADDRESS _____ George Williams, Agent _____
 P.O. Box 902- Belington, WVa. 26250 _____ P.O. Box 902- _____
 _____ Belington, WVa. 26250 _____

- O.W.D.D. - 397 6-6 Stanley (90)

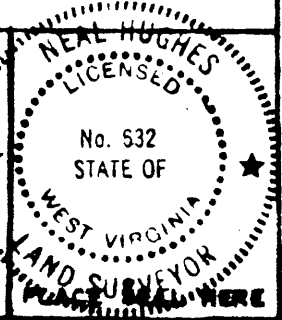
(15') 39° 25'
 LATITUDE 39° 22' 30"
 10,900' SOUTH
 9,900' WEST

LONGITUDE 80° 50'



FILE NO. L+M
 DRAWING NO. 1
 SCALE 1"=500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION KNOS 1179'

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



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



DATE AUG 19, 1980
 OPERATOR'S WELL NO. 2
 API WELL NO. 47-095-0851-Frac
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

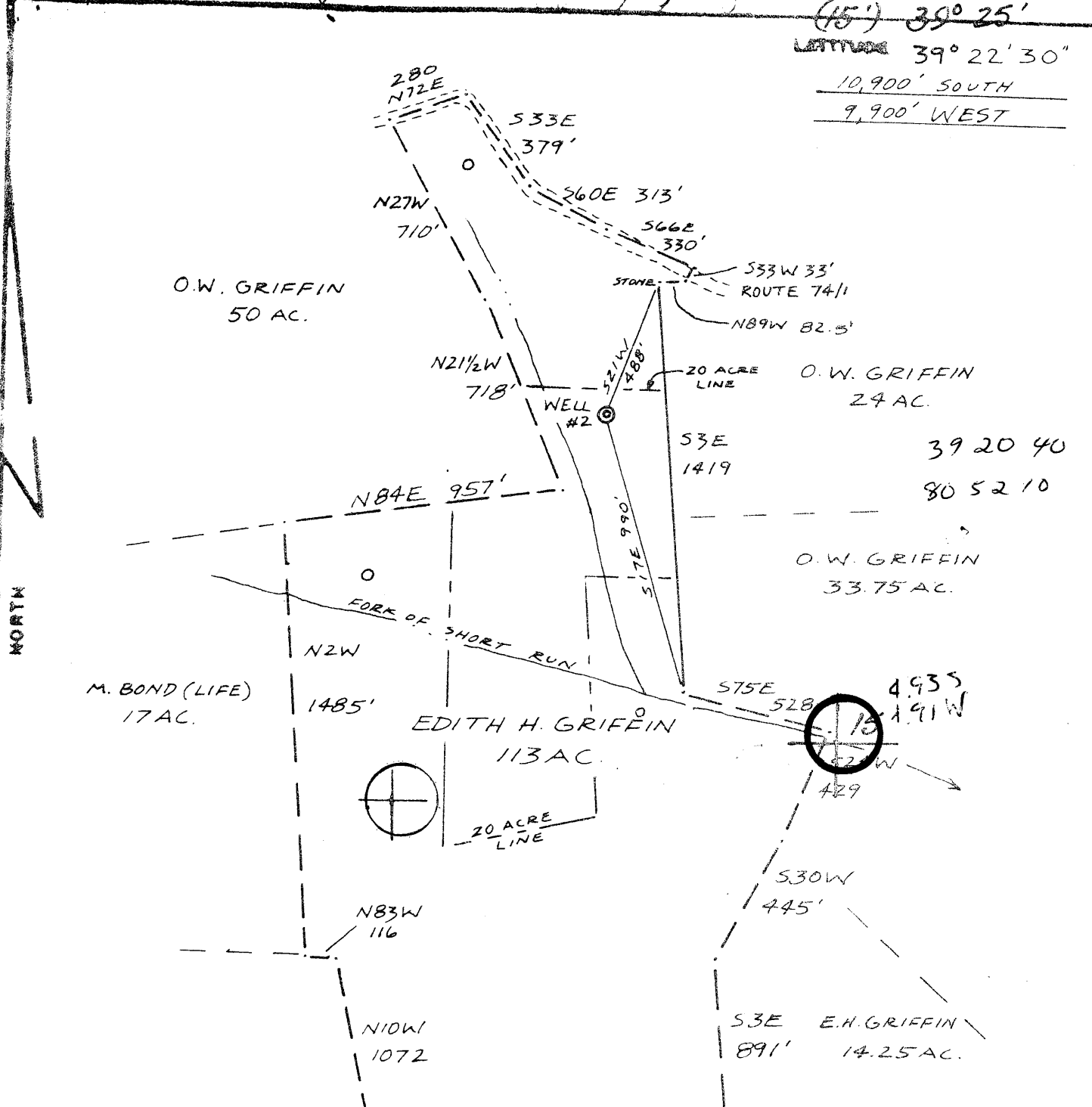
WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS", PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____)
 LOCATION: ELEVATION 1010' WATER SHED SHORT RUN
 DISTRICT CENTERVILLE COUNTY TYLER
 QUADRANGLE WEST UNION 7 1/2'
 SURFACE OWNER EDITH H. GRIFFIN ACREAGE 113 AC
 OIL & GAS ROYALTY OWNER O.W. GRIFFIN, ET UX LEASE ACREAGE 220 AC.
 LEASE NO. 42831
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUS OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION Shinarump shale ESTIMATED DEPTH 4500'
 Appalachian Energy Development
 P.O. Box 902
 Belington, WVa. 25250
 George Williams, AGent
 Same Address
 PH: 823-1746

JUL 15 1980

Map of this Plat as Original -

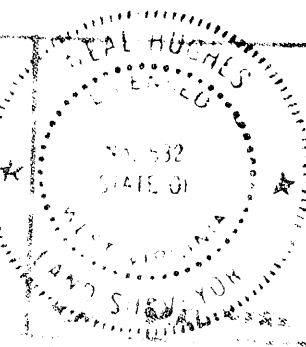
(15') 39° 25'
LATITUDE 39° 22' 30"
10,900' SOUTH
9,900' WEST



FILE NO. L+M
 DRAWING NO. 1
 SCALE 1"=500'
 MAXIMUM ERROR IN ACCURACY 1/200
 ELEVATION KNOWN 1199'
 DATE OF SURVEY 1978
 WELL OR OTHER IDENTIFICATION DATE
 FORM NO. 1
 18-78

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS A TRUE AND CORRECT COPY OF MY ORIGINAL SURVEY AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RECORDS THEREOF.

Neal Hughes



AUG 19 1980
 095 0851

EDITH H. GRIFFIN, ET AL. AND O.W. GRIFFIN, ET AL. DIVISION
 WELL TYPE OIL GAS OTHER WATER
 LOCATION ELEVATION 1010' SHORT RUN
CENTERVILLE TYLER
WEST UNION 7 1/2'
 LESSOR EDITH H. GRIFFIN ACRES 113 AC.
 OIL & GAS ROYALTY OWNER O.W. GRIFFIN, ET AL. LEASE NO. 42831 LEASE ACRES 220 AC.
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OTHER INFORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUS AND ABANDON CLEAR OUT AND REPLUG
 TARGET FORMATION Devonian Shale ESTIMATED DEPTH 4500'
 WELL OPERATOR AM Petroleum Co. DESIGNATED AGENT Neal Hughes
 ADDRESS 1411 Main St., Ohio ADDRESS Parkersburg, WV
373-8771 422-7208

6-6 Stanley (90)

SEP 25 1980

WR-35



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FEB 13 1987

State of West Virginia

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

DEPARTMENT OF ENERGY
Oil and Gas Division

Date 10-30-86
Operator's Well No. # 1
Farm Griffin
API No. 47 - 095 - 0851-D

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

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

LOCATION: Elevation: 1010' Watershed Short Run
District: Centerville County Tyler Quadrangle West Union

COMPANY Appalachian Energy Development, Inc.
ADDRESS PO Box 902, Belington, WV
DESIGNATED AGENT George Williams
ADDRESS PO Box 902, Belington, WV
SURFACE OWNER Edith Griffin
ADDRESS Rt. 2, Alma, WV
MINERAL RIGHTS OWNER
ADDRESS
OIL AND GAS INSPECTOR FOR THIS WORK
Robert Lowther ADDRESS Middlebourne, WV
PERMIT ISSUED 9-2-86
DRILLING COMMENCED 10-21-86
DRILLING COMPLETED 10-30-86
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED
CN NA

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	295'	295'	125 sks.
7			
5 1/2			
4 1/2	2467'	2467'	100 sks.
3			
2 7/8"		4975'	195 sks.
Liners used			

GEOLOGICAL TARGET FORMATION Benson Depth 4943' feet
Depth of completed well 4983' feet Rotary XX / Cable Tools
Water strata depth: Fresh None Reported feet; Salt None Reported feet
Coal seam depths: No Record Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Combination Benson/Riley Pay zone depth 4398'/4943' feet
Gas: Initial open flow 0 Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 1,127,000 Mcf/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 4 hours
Static rock pressure 1750 psig (surface measurement) after 48 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

FEB 18 1987

(Continue on reverse side)

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

PERFORATING Superior Wireline 11-6-86

Benson 4937-4943' 14 holes Avg. pressure 3400# Avg. Rate 15 BPM
 Riley 4398-4564' 16 holes Avg. pressure 4050# Avg. Rate 19.5 BPM

FRACTURING Halliburton Services 12-26-86

1st. Stage: 20,000 # 20/40 Sand
 2nd. Stage: 20,000 # 20/40 Sand

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Shale			2447'	2742'	
Gordon			2742'	2748'	
Shale			2748'	2930'	
5th. Sand			2930'	2938'	
Shale			2938'	4533'	
Riley			4533'	4571'	
Shale			4571'	4944'	
✓Benson			4944'	4949'	
Shale			4949'	5025'	
T.D.				5025'	

new TD 5025
 old TD 2465
 new ftg 2560

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DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

Appalachian Energy Development, Inc.

Well Operator

By: George R. Williams President

Date: February 1987

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 coal, encountered in the drilling of a well."



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OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Rotary Oil _____
Cable _____ Gas _____
Recycling _____ Comb.
Water Flood _____ Storage _____
Disposal _____ (Kind) _____

Quadrangle West Union

Permit No. 47-095-0851

Company L&M Petroleum Co.
Address P.O. Box 89, Reno, OH 45773
Farm Griffin/Taggart Acres 160
Location (waters) Short Run
Well No. 2 Elev. 1010
District Centerville County Tyler
The surface of tract is owned in fee by _____
O.W. Griffin
Address Box 3025 Parkersburg, WV 26101
Mineral rights are owned by See attached
Address _____
Drilling Commenced 12/29/80
Drilling Completed 1/2/81
Initial open flow _____ cu. ft. _____ bbls.
Final production 100 cu. ft. per day 0 bbls.
Well open 6 hrs. before test _____ RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
20-16			
Cond.			
13-10"			
9 5/8			
8 5/8	300'	300'	125 sk
7			
5 1/2			
4 1/2	2464.35'	2464.35'	100 sk
3			
2			
Liners Used			

Well treatment details: Attach copy of cementing record.
Frac well on 11/9/82 using 25,500# sand, 31,300 gal. fluid; BD: 1900; ATP: 2500;
RATE: 26 BPM; ISI: 1650; 5 Min: 1600

PERFS: 2258-66.9 shots; 2274-78.5 shots; 2332-42.11 shots; 2350-58.9 shots
2444-47: 4 shots

Coal was encountered at _____ Feet _____ Inches
Fresh water _____ Feet Salt Water _____ Feet
Producing Sand Weir & Berea Depth 2258'-2447'
2258-2358 2444-2447

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Clay			0	4		T.D. 2465(?)
Red Rock			4	52		
Lime			52	81		
Sand Rock			81	101		
Lime			101	135		
Lime			135	151		
Red Rock			151	190		
Slate			190	211		
Red Rock & Shale			211	307		
Red Rock			307	398		
Sand			403	423		
Pink Rock			423	468		
Slate			468	503		
Sand			503	544		
Lime & Slate			544	567		
Red Rock			567	633		
Lime			633	661		
Slate			661	713		
Pink Rock			713	722		
Lime			722	743		
Slate			743	817		
Sand			817	878		
Slate			878	900		
Slate			900	1011		

(over)

* Indicates Electric Log tops in the remarks section.

NOV 29 1982

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	• Remarks
Sand			1011	1033		
Slate			1033	1065		
Slate			1065	1109		
Sand			1109	1035		
Slate			1035	1072		
Sand			1072	1103		
Slate			1103	1135		
Sand			1135	1161		
Slate			1161	1213		
Sand			1213	1232		
Slate			1232	1270		
Sand			1270	1293		
Sand			1293	1313		
Slate			1313	1340		
Slate			1340	1389		
Sand			1389	1400		
SEE ATTACHED SHEETS						

Date 11/10, 19 82

APPROVED *Joanne C. [Signature]* Owner
 L&M Petroleum Co.

SAMPLE DESCRIPTION

O.W. GRIFFIN / Taggart #2
47-095-0851

1400-10 SHALE - med gy & dk gy, silty, with sandstone-cream,
Fn gr sub rdd/wl rdd, fairly srted, NO FL

1410-30 SANDSTONE - a/ab, NO FL shaley

1430-60 SANDSTONE - a/ab, POOR YELLOW-GREEN FL

1460-1500 SANDSTONE a/ab, NO FL

1500-1510 SANDSTONE, white, fn. gr., fairly srted., slightly mica.,
ferric stains tr. pyrite, POOR Y.G. FL

1510-50 SANDSTONE a/ab, NO FL

1550-90 SHALE, dk gy + med. gy., silty, interbedded with sandstone a/ab.

1590-1610 SANDSTONE, Lt. gy., fn. grain, v.poorly srted., calc., NO FL

1610-90 SHALE, med. & dk. gy., interbedded with sandstone, NO FL

1690-1710 SHALE, black, V. carbon, tr. coal

1710-30 SHALE - red, interbedded with sandstone- lt gy,
fn gr/v rn gr, p. srted, NO FL

1730-90 SANDSTONE - tan, v. fn. gr./fn. gr. arg, p. srted, NO FL

1790-1800 SHALE - med & dk gy, carbon in pt, sandy

1950-80 LIMESTONE - lt brn & cream, micxl, dense, FAIR Y-G OIL FL

1980-90 SANDSTONE - white, fn gr, calc, V GOOD YELLOW-GREEN FL

1990-2000 SHALE - red, med gy, w/ss-a/ab

2000-20 SANDSTONE - white, fn gr, ang/sub ang., fairly
srted, clean, POOR FL

2020-30 SS- a/ab w/ shale - red POOR/FAIR Y-G FL

2030-80 SS - a/ab POOR FL

2080-90 SANDSTONE - cream, fn gr/v fn gr, sl calc,
GOOD YELLOW-GREEN FL

2090-2100 SHALE - med gy, w/ss-a/ab

2250-2300 SANDSTONE - lt gy, v fn gr, ang, wl srted,
calc in pt, FAIR YELLOW-GREEN FL

OVER →

NOV 23 1982

SAMPLE DESCRIPTION - O.W. GRIFFIN # 2

2300-10 SS-a/ab, NO FL, shaley
2310-40 SS-cream, lt gy, v. fn. gr, sl strg, NO FL
2340-60 SS - a/ab POOR FL
2360-2420 SHALE - med gy, silty
2420 END OF SAMPLES

T.D. 2465(?)

CEMENTING REPORT

DATE: 1-2-81
WELL: Taggart/
O.W. Griffin #2 PERMIT: 47-095-0851
COUNTY AND STATE: Tyler Co., WVA
DATE SPUDDED: 12-29-80 DATE CEMENTED: 1-2-81
TD: 2484 SAND: Weir 2256-2370

CASING: 74 Joints of 9 $\frac{1}{2}$ #/ft, 2464.35

FLOAT EQUIPMENT: Cement show with latch-down insert .
3 centralizers 1,5,10
Cement basket @ 2237

CEMENT JOB: 400 lbs gel ahead of
100 sks 50/50 pozmix w/3% CaCl_2
150 sks RFC w/ 10 lbs kolite per sk

PLUG DISPLACEMENT:

- a) Fluid: Fresh Water
- b) Pressure: 1500 psig
- c) Circulation (cement to surface):

REMARKS:

NOV 29 1982

DIVISION OF GAS INTEREST
O.W. GRIFFIN/TAGGART #2

1.7076% LO	Roy Meredith RT # 223 233 Washington, WV 26181
2.2880% LO	Ralph Washburn 707 Caroline Ave. Williamstown, WV 26147
.3348% LO	Caroline Hill address unknown
.3348% LO	Mary J. Gregg address unknown
.3348% LO	Zilpha Doak address unknown
.3125% LO	Mabel L. Wagner, Power of Attorney for Vonda Wagner 206 Stuart St. West Union, WV 26456
.1042% LO	Mabel L. Wagner, Power of Attorney for Lavina O'Shea 206 Stuart St. West Union, WV 26456
.2083% LO	Mabel L. Wagner, Power of Attorney for Betty Ash Winn 206 Stuart St. West Union, WV 26456
.3125% LO	Mabel L. Wagner, Power of Attorney for Carrie E. Knight 206 Stuart St. West Union, WV 26456
.1042% LO	Charlotte Ash 205 Westwood Drive Beckley, WV 25801
.2083% LO	Robert Ash P O Box 1107 Banner Elk, North Carolina 28604
4.6875% LO	Edith A. Griffin 2604 - 26th Ave. Box 3025 Parkersburg, WV 26101

NOV 29 1982

DIVISION OF GAS INTEREST
O.W. GRIFFIN/TAGGART #2

1.5625% LO

Ora W. Griffin
2604 - 26th Ave.
Box 3025
Parkersburg, WV 26101

7/85

RECEIVED
AUG 27 1986



1) Date: 8-20-86, 12 _____
2) Operator's Well No. Griffin #1
3) API Well No. 47 095 851-D
State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil _____ / Gas X /
B (If "Gas", Production _____ / Underground storage _____ / Deep _____ / Shallow X /)
- 5) LOCATION: Elevation: 1010 Watershed: Short Run
District: Centerville 1 County: Tyler Quadrangle: West Union 670
- 6) WELL OPERATOR Appalachian Energy Development Inc. CODE: 2325 7) DESIGNATED AGENT George Williams
Address PO Box 902 Address PO Box 902
Belington WV 0397 Belington WV
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Bob Lowther
Address General Delivery
Middlebourne WV
- 9) DRILLING CONTRACTOR: Name _____ Address _____
- 10) PROPOSED WELL WORK: Drill _____ / Drill deeper X / Redrill _____ / Stimulate X /
Plug off old formation _____ / Perforate new formation _____
Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, _____
- 12) Estimated depth of completed well, Benson 435 feet
- 13) Approximate trata depths: Fresh, 5000' feet; salt, _____ feet.
- 14) Approximate coal seam depths: none Is coal being mined in the area? Yes _____ / No X /

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor									Kinds
Fresh water									
Coal	<u>8 5/8</u>			<u>X</u>			<u>295</u>	<u>125 SKS</u>	Sizes
Intermediate	<u>4 1/2</u>						<u>2467</u>	<u>100 SKS</u>	
Production	<u>2 7/8</u>						<u>4975</u>	<u>as required</u>	Depths <u>by rule 15-01</u>
Tubing									
Lin.									Perforations: Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-095-0851-D Date September 2 19 86

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
Permit expires September 2, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>-</u>	Agent: <u>AS</u>	Plat: <u>AS</u>	Casing: <u>AS</u>	Fee: <u>305-141</u>	WPCP: <u>AS</u>	S&E: <u>AS</u>	Other: _____
----------------	------------------	-----------------	-------------------	---------------------	-----------------	----------------	--------------

NOTE: Keep one copy of this permit posted at the drilling location.

John J. Johnston
Director, Division of Oil and Gas
Margaret J. House File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.



1) Date: April 1, 19 85
 2) Operator's Well No. Griffin #2
 3) API Well No. 47 - 095 - 851 Frac
 State County Permit

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES, OIL AND GAS DIVISION
 APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil / Gas
 B (If "Gas", Production / Underground storage Deep Shallow)
- 5) LOCATION: Elevation: 1010' Watershed: Short Run
 District: Centerville / County: Tyler Quadrangle: West Union (7.5') 670
- 6) WELL OPERATOR Appalachian Energy Development ³⁹⁷⁷ DESIGNATED AGENT George Williams
 Address P. O. Box 902 2325 Address P. O. Box 902
Belington, WV 26250 Belington, WV 26250
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Robert Lowther
 Address General Delivery
Middlebourne, WV 26149
- 9) DRILLING CONTRACTOR: Name Tri State Well Service
 Address P. O. Box 299
Bridgeport, WV 26330
- 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate
 Plug off old formation / Perforate new formation
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, Berea 395
 12) Estimated depth of completed well, 2475' feet
 13) Approximate strata depths: Fresh, cased off feet; salt, cased off feet.
 14) Approximate coal seam depths: cased off Is coal being mined in the area? Yes
- 15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	8 5/8"					300	300	125 sks.	Kinds
Fresh water									Sizes
Coal									Depths set
Intermediate									Perforations
Production	4 1/2"					2475'	2475'	100 sks.	Top
Tubing	1 1/2"					2310'	2310'		Bottom
Liners									

DEPT. OF MINES, OIL AND GAS DIVISION
 APR 18 1985
 APR 10 1985

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-095-851-F Date June 28 19 85

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector, (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
 Permit expires June 28, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
<u>228</u>	<u>SW</u>	<u>MU</u>	<u>MU</u>	<u>133</u>

Margaret J. Bass
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.



STATE OF WEST VIRGINIA

SEP 9 1980

DEPARTMENT OF MINES

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 September 8, 1980

Surface Owner Edith H. Griffin
 Address Centerville, WV
 Mineral Owner O.W. Griffin
 Address 2604 26th Ave, P'burg, WV
 Coal Owner same as above
 Address _____
 Coal Operator None
 Address _____

Company L&M Petroleum Co.
 Address Rt. #1, Marietta, OH 45750
 Farm O.W. Griffin Acres 220
 Location (waters) short run
 Well No. 2 Elevation 1010'
 District Centerville County Tyler
 Quadrangle West Union

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 5-9-81.

INSPECTOR
 TO BE NOTIFIED Phil Tracy
 ADDRESS Middlebourne, WV
 PHONE 758-4573

Thomas E. Heizer
 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 Dec. 8 1972 by O.W. Griffin made to R.W. Keener and recorded on the _____ day of _____ 19 in Tyler County, Book 196 Page 234
 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

Very truly yours, L&M Petroleum Co.
 (Sign Name) *[Signature]* Asst. Sec.
 Well Operator
 Address of Well Operator Rt. #1, Box 18-B
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.

47-095-0851

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 _____

BLANKET BOARD

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

PROPOSED WORK ORDER TO X DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT:
 NAME _____ NAME Richard Hudson
 ADDRESS _____ ADDRESS Parkersburg, WV 26101
 TELEPHONE _____ TELEPHONE 304-422-7208
 ESTIMATED DEPTH OF COMPLETED WELL: 4500' ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Devonian Shale
 TYPE OF WELL: OIL _____ GAS _____ COMB. X STORAGE _____ DISPOSAL _____
 RECYCLING _____ WATER FLOOD _____ OTHER _____

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LIFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8			
8 - 5/8	250		125 sx (To Surface)
7			
5 1/2			
4 1/2	TD	TD	400 sx
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS _____ FEET SALT WATER _____ FEET

APPROXIMATE COAL DEPTHS _____

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

SERVICE REPORT



DOWELL DIVISION OF DOW CHEMICAL U.S.A.

TREATMENT NUMBER: 01-12-4555
 DATE: 12-30-80
 STAGE: 1
 DOWELL DISTRICT: GLENVILLE, W.V.

PRINTED IN U.S.A.
 NAME AND NO.: Taggart/
 O.W. GRIFFIN # 2
 LOCATION-POOL-FIELD: SHORT RUN
 DOWELL REPRESENTATIVE: L.D. CHAPMAN
 COUNTY: TYLER
 STATE: W.V.

RIG NAME: CLINT HURT # 5
 WELL DATA:
 HOLE SIZE: 10 5/8" CASING OR LINER: A B C D
 DEPTH: 300' SIZE-WEIGHT: 8 3/4" 20#
 PROT CABLE TOP: 275' 18' LAND N.I.P.P.
 BHST: BOTTOM: 295'
 BHLT: GRADE & THREAD: GRD
 BHCT: CAPACITY: 18.5 BBL

NAME: L.M. PETROLEUM
 AND:
 ADDRESS:
 ZIP CODE:

MUD: TYPE: WT: VISC:
 SHOE FLOAT: TYPE DEPTH
 STAGE TOOL: TYPE DEPTH

SPECIAL INSTRUCTIONS:
 CEMENT 8 5/8" CASING

TBG D.P. HEAD & PLUGS: DOUBLE SINGLE
 NEW USED TOP R W
 DEPTH: BOT R W
 CAPACITY: OTHER

PRESSURE LIMIT: 500 PSI BUMP PLUG TO: PSI MIN
 ROTATE RPM RECIPROCATATE FT CENTRALIZERS NO.

JOB SCHEDULED FOR: TIME 0500 PM DATE 12-30-80
 ARRIVED ON LOCATION: TIME 0130 DATE 12-30-80
 LEFT LOCATION: TIME 0730 DATE 12-30-80

TIME	PRESSURE		VOLUME PUMPED	INJECT. RATE	SERVICE LOG DETAIL
	TBG OR D.P.	CASING			
0130					ARRIVE ON LOC. SET UNITS, HOLD SAFETY MEETING
0540					HOOK UP WAIT ON RIG TO FINISH HOLE & RUN PIPE.
0545			20 BBL	3 BBL	HOOK UP TO WELL. Pump 20 BBL WATER WASH DOWN 12' PIPE. PIPE DOWN, RIG CHAINED PIPE DOWN.
0552			28 "	4 1/2 BBL	TRIP & Pump 28 BBL CEMENT.
0558			17 1/2 "	3 1/2 BBL	Pump 17 1/2 BBL WATER DISPLACEMENT.
0603					DISPLACEMENT IN. SHUT DOWN. SHUT IN SWAGE
0730					TIEED OFF LINES. Rig DOWN. WASH UP & LEAVE LOCATION.

REMARKS:

SYSTEM CODE	NO OF SACKS	YIELD CU. FT/SK	COMPOSITION OF CEMENTING SYSTEMS		SACKS MIXED		
			WT	AT	WT	AT	
1	125	118	CLASS A CEMENT	7/8" CALCIUM	1/2" FLAKE BLEWED PIPERK.	26.3 BBL	15.6
2							
3							

BREAKDOWN FLUID: WT: SACKS MIXED: 125 PUMPED: 125 PRESSURE MAX: 500 PSI MIN: ---
 HESITATION SO. RUNNING SO. CIRCULATION LOST: YES NO
 CEMENT CIRCULATED TO SURF: YES NO
 CEMENT LEFT IN PIPE: 15 FT.
 WASHED THRU: YES NO TO: FT MEASURED: DISPLACEMENT WIRELINE HAS PLANNED UNAVOIDABLE
 TYPE OF: OIL STORAGE BRINE WATER INJECTION UNCOAT
 CUSTOMER REPRESENTATIVE: DOES CUSTOMER CONSIDER SERVICE: SATISFACTORY UNSATISFACTORY