

2,320'

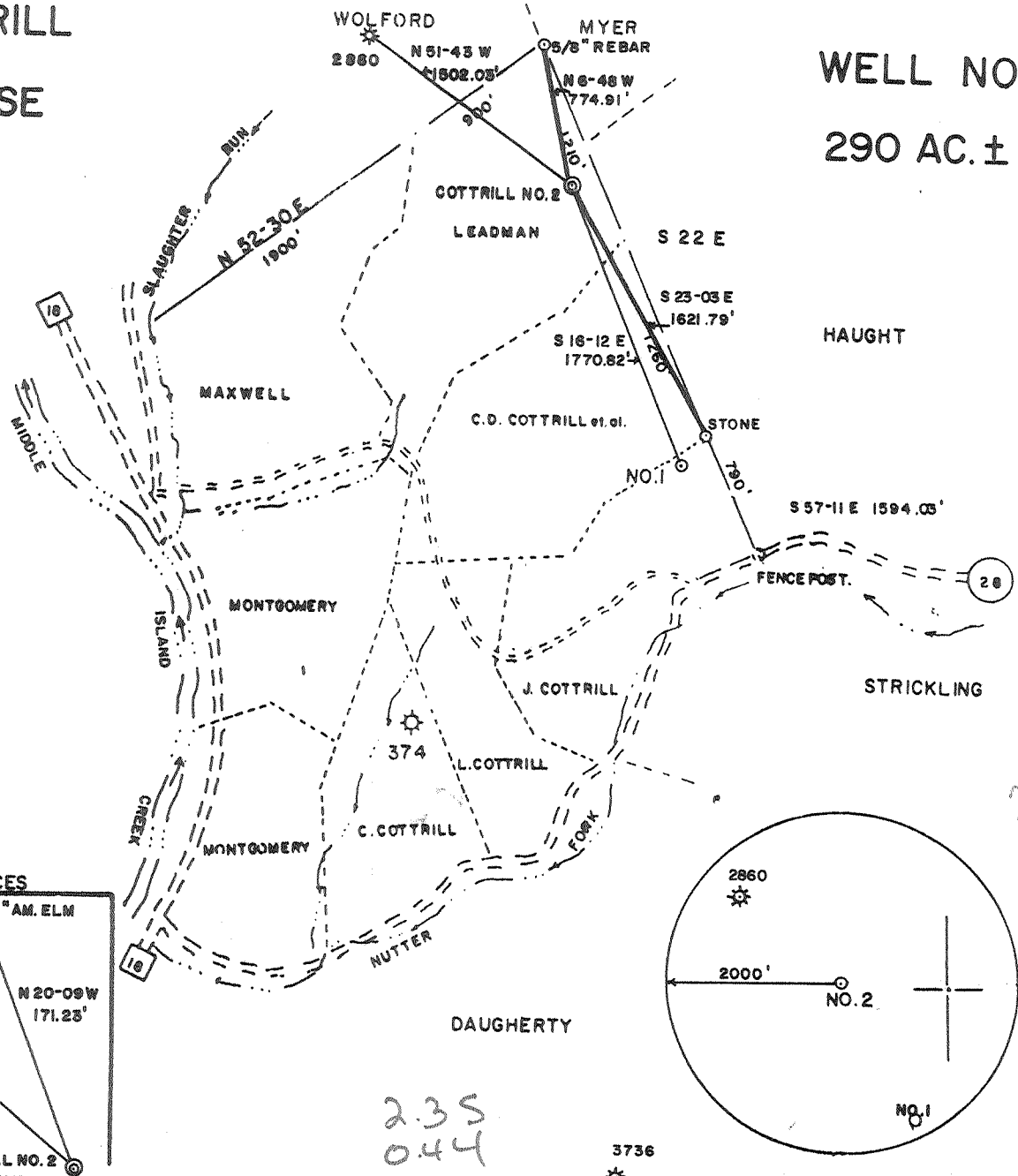
LATITUDE 39-22-30

LONGITUDE 80-47-30

*Janice - 9/25/90*

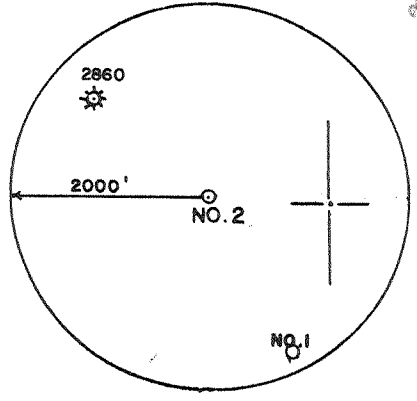
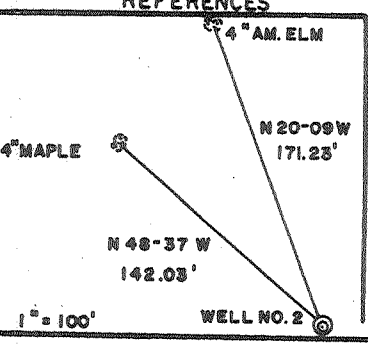
# COTTRILL LEASE

# WELL NO. 2 290 AC. ±



NORTH

### REFERENCES



*2.35  
0.44*

*2.35  
0.44*

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1/200  
 PROVEN SOURCE OF ELEVATION JUNCT. ROADS  
 ELEV. 765'

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) *Robert H. Davis*  
 R P E \_\_\_\_\_ L L S 800

PLACE SEAL HERE

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



DATE APRIL 5 19 90  
 OPERATOR'S WELL NO COTTRILL NO. 2  
 API WELL NO \_\_\_\_\_  
47 - 017 - 3854-F  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION ELEVATION 1052' WATER SHED NUTTER FORK  
 DISTRICT WEST UNION COUNTY DODDRIDGE  
 QUADRANGLE WEST UNION 7.5' T15 2L  
 SURFACE OWNER DELBERT L. LEADMAN ACREAGE 45 of 290  
 OIL & GAS ROYALTY OWNER MARY WELCH ADMIX LEASE ACREAGE 290  
 LEASE NO \_\_\_\_\_  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5400'  
 WELL OPER: Term Energy Corporation DESIGNATED AGENT. \_\_\_\_\_  
 ADDRESS: 713 E. Main Street ADDRESS Jean Freeland  
Harrisville, wVa. 26362 Same Address PH: 304-643-4500

JUN 3 1994

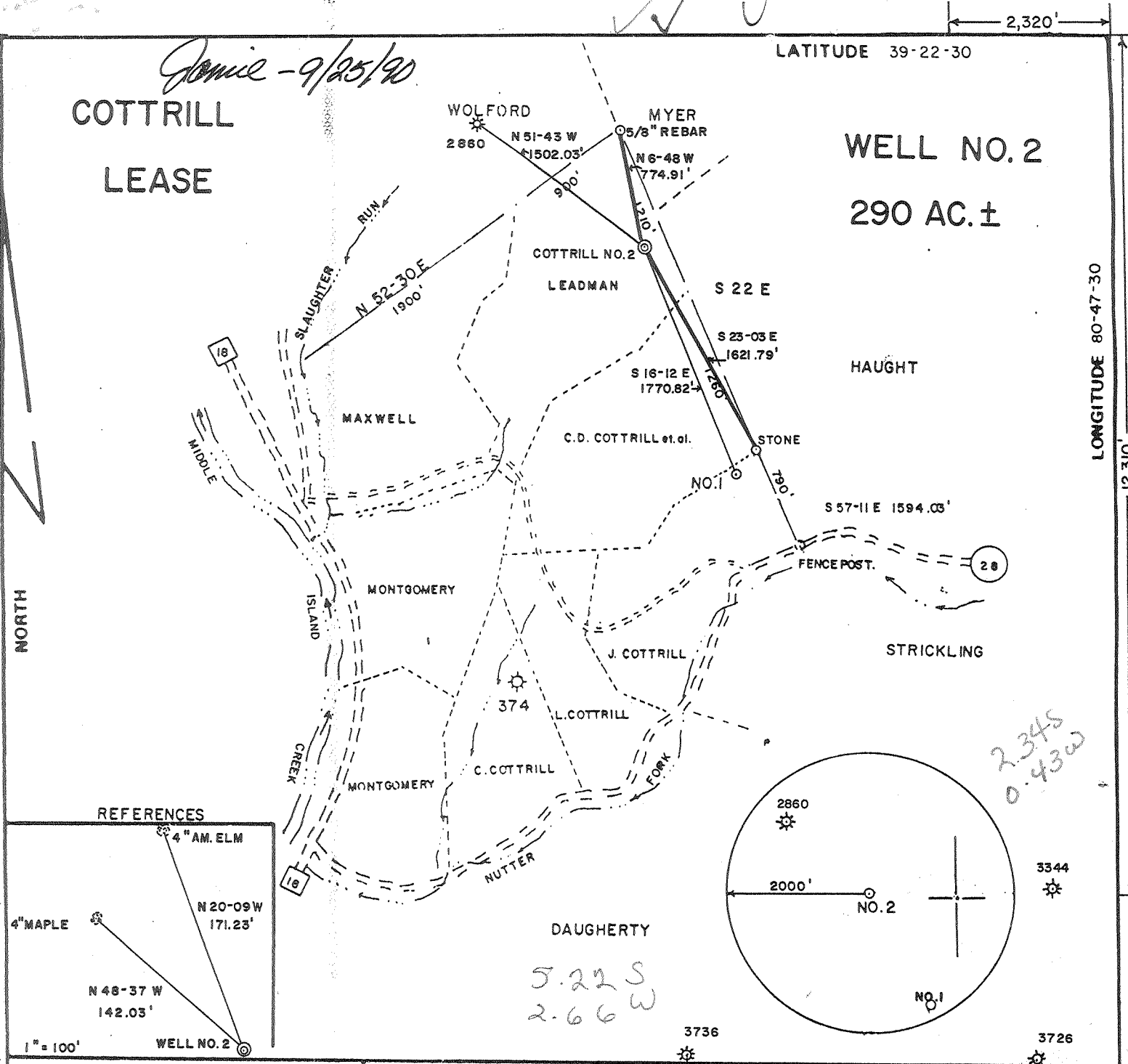
*Janie - 9/25/90*

# COTTRILL LEASE

LATITUDE 39-22-30

2,320'

## WELL NO. 2 290 AC. ±

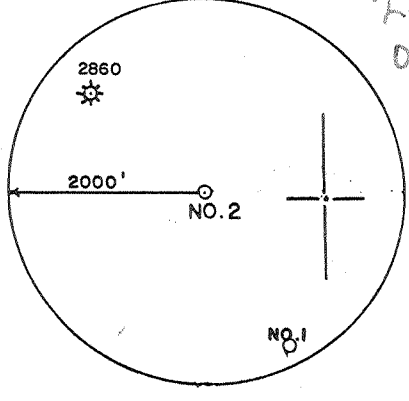
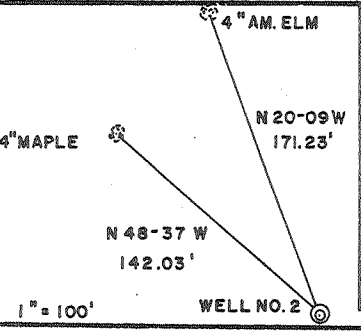


LONGITUDE 80-47-30

12,310

NORTH

### REFERENCES



*2.345  
0.430*

*5.22 S  
2.66 W*

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1/200  
 PROVEN SOURCE OF ELEVATION JUNCT. ROADS  
ELEV. 765'

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) *Robert M. Davis*  
 R P E \_\_\_\_\_ L L S 800



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



DATE APRIL 5 19 90  
 OPERATOR'S WELL NO. COTTRILL NO. 2  
 API WELL NO. \_\_\_\_\_  
47 - 017 - 3854  
 STATE COUNTY PERMIT

### STATE OF WEST VIRGINIA DEPARTMENT OF MINES OIL AND GAS DIVISION

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION ELEVATION 1052' WATER SHED NUTTER FORK  
 DISTRICT WEST UNION COUNTY DODDRIDGE  
 QUADRANGLE WEST UNION 7.5' + CC  
 SURFACE OWNER DELBERT L. LEADMAN ACREAGE 45 of 290  
 OIL & GAS ROYALTY OWNER MARY WELCH ADMIX LEASE ACREAGE 290  
 LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR  
 STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW  
 FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
 PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5400'  
 WELL OPERATOR TERM ENERGY CORP. DESIGNATED AGENT JEAN FREELAND  
 ADDRESS 110 N SPRING ST. ADDRESS 110 N SPRING ST.  
HARRISVILLE, WV 26362 HARRISVILLE, WV 26362

OCT 1 1990

*6-86 Wilbur (092)*

JUN 28 94

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas

Permitting  
Office of Oil & Gas

Well Operator's Report of Well Work

Farm name: LEADMON, DELBERT L. Operator Well No.: COTTRILL #2

LOCATION: Elevation: 1,052.00 Quadrangle: WEST UNION

District: WEST UNION County: DODDRIDGE  
Latitude: 12310 Feet South of 39 Deg. 22Min. 30 Sec.  
Longitude 2320 Feet West of 80 Deg. 47 Min. 30 Sec.

Company: TERM ENERGY CORP.  
713 EAST MAIN STREET  
HARRISVILLE, WV 26362-0000

Agent: JEAN FREELAND

Inspector: MIKE UNDERWOOD  
Permit Issued: 06/02/94  
Well work Commenced: 06/07/94  
Well work Completed: 06/07/94  
Verbal Plugging  
Permission granted on:  
Rotary N/A Cable        Rig  
Total Depth (feet) N/A  
Fresh water depths (ft) 50'  
Salt water depths (ft) N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	17'	0	0
8 5/8"	1151'	1151'	354
4 1/2"	5336'	5336'	714

Is coal being mined in area (Y/N)? N  
Coal Depths (ft):       

OPEN FLOW DATA

Producing formation Alexander, Bradford Benson & Pay Weir  
zone depth (ft) 2243 - 5285  
Gas: Initial open flow        MCF/d Oil: Initial open flow        Bbl/d  
Final open flow 103 MCF/d Final open flow 0 Bbl/d  
Time of open flow between initial and final tests        Hours  
Static rock Pressure 105 psig (surface pressure) after 76 Hours

Comingled Production  
Second producing formation Big Injun Pay zone depth (ft) 2046 - 2064  
Gas: Initial open flow N/A MCF/d Oil: Initial open flow        Bbl/d  
Final open flow 146 MCF/d Final open flow 0 Bbl/d  
Time of open flow between initial and final tests        Hours  
Static rock Pressure 80 psig (surface pressure) after 24 Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: Jean Freeland  
TERM ENERGY CORP.

BY: Designated Agent  
Date: June 17, 1994

JUN 30 1994

COTTRILL #2

06/07/94

PERFORATED: BIG INJUN 2046 - 2064; 15 HOLES .39

SET WIDE MOUTH PLUG AT 2076'

- BIG INJUN: MAX TR PRESS 2600; AVG RATE 20; AVG PRESS 2530;  
30,000# 20/40; MAX CONC 3; TOTAL ACID 500 GAL; ISIP  
1750; 5 MIN SIP 1500; TOTAL NITROGEN 73,450 SCF;  
TOTAL FLUIDS 467 BBLs.

1903

APR 04 91

State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

Oil Well Operator's Report of Well Work

Farm name: LEADMAN, DELBERT L. Operator Well No.: COTTRILL #2

LOCATION: Elevation: 1052.00 Quadrangle: WEST UNION

District: WESTUNION County: DODDRIDGE  
Latitude: 12310 Feet South of 39 Deg. 22Min. 30 Sec.  
Longitude 2320 Feet West of 80 Deg. 47 Min. 30 Sec.

Company: TERM ENERGY CORP.  
713 EAST MAIN STREET  
HARRISVILLE, WV 26362-0000

Agent: JEAN FREELAND

Inspector: MIKE UNDERWOOD  
Permit Issued: 09/26/90  
Well work Commenced: 10/16/90  
Well work Completed: 10/31/90  
Verbal Plugging \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary x Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 5410  
Fresh water depths (ft) 50'  
Salt water depths (ft) N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	17'	0	0
8 5/8"	1151'	1151'	354
4 1/2"	5336'	5336'	714

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): N/A

OPEN FLOW DATA

Producing formation Alexander Pay zone depth (ft) 5251 - 5285  
 Gas: Initial open flow 500 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock Pressure 925 psig (surface pressure) after 12 Hours

Comingled Production Weir 2243 -  
 Second producing formation Bradford, Benson & Pay zone depth (ft) 4954  
 Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: TERM ENERGY CORP.

By: Jean Freeland Agent  
Date: 11/7/90

revised record  
MAY 6 1991

Done 38511

COTTRILL #2

1/7/90

PERFORATED ALEXANDER	5251 - 5285;	16 HOLES .39
BENSON	4950 - 4954;	6 HOLES .39
BRADFORD	4502 - 4521;	7 HOLES .39
WEIR	2243 - 2313;	18 HOLES .39

THREE STAGE WATER FRAC

- ALEXANDER: MAX TR PRESS 3110; AVG RATE 36.5; AVG PRESS 2350; 50,000# 20/40; 10,000# 80/100; MAX CONC 4; TOTAL ACID 500 GAL; ISIP 1440; 5 MIN SIP 1330; TOTAL FLUIDS 707 BLS
- BENSON & BRADFORD: MAX TR PRESS 3420; AVG RATE 32; AVG PRESS 2770; 40,000# 20/40; 10,000# 80/100; MAX CONC 4; TOTAL ACID 500 GAL; ISIP 1690; 5 MIN SIP 1330; 10 MIN SIP 1290; TOTAL FLUIDS 620 BLS
- WEIR: MAX TR PRESS 3460; AVG RATE 27.8; AVG PRESS 3350; 30,000# 20/40; 7,500# 80/100; MAX CONC 3.5; TOTAL ACID 500 GAL; ISIP 1900; 5 MIN SIP 1630; TOTAL FLUIDS 492 BLS

<u>WELL LOG</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>WATER</u>
SAND, SHALE & RR	0	1872	50' - DAMP
LITTLE LIME	1872	1885	
SAND & SHALE	1885	1906	
BIG LIME	1906	1976	
BIG INJUN	1976	2055	
SAND & SHALE	2055	5410	

<u>GEOPHYSICAL LOG</u>	<u>TOP</u>	<u>BOTTOM</u>
BIG LIME	1912	1990
BIG INJUN	1990	2077
WEIR	2229	2337
BEREA	2442	2446
GORDON	2650	2701
WARREN	3310	3403
SPEECHLY	3435	3954
BALLTOWN	3954	4424
BRADFORD	4486	4565
RILEY	4750	4780
BENSON	4950	4954
ALEXANDER	5200	5288

11308

RECEIVED  
Division of Energy

APR 04 91

State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: LEADMAN, DELBERT L. Operator Well No.: COTTRILL #2

LOCATION: Elevation: 1052.00 Quadrangle: WEST UNION

District: WESTUNION County: DODDRIDGE  
Latitude: 12310 Feet South of 39 Deg. 22Min. 30 Sec.  
Longitude 2320 Feet West of 80 Deg. 47 Min. 30 Sec.

Company: TERM ENERGY CORP.  
713 EAST MAIN STREET  
HARRISVILLE, WV 26362-0000

Agent: JEAN FREELAND

Inspector: MIKE UNDERWOOD  
Permit Issued: 09/26/90  
Well work Commenced: 10/16/90  
Well work Completed: 10/31/90  
Verbal Plugging  
Permission granted on:  
Rotary x Cable Rig  
Total Depth (feet) 5410  
Fresh water depths (ft) 50'

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	17'	0	0
8 5/8"	1151'	1151'	354
4 1/2"	5336'	5336'	714

OPEN FLOW DATA

Producing formation Alexander Pay zone depth (ft) 5251 - 5285  
 Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow ? MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock Pressure 925 psig (surface pressure) after 12 Hours  
 Comingled Production Weir 2243 -  
 Second producing formation Bradford, Benson & Pay zone depth (ft) 4954  
 Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow ? MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: TERM ENERGY CORP.

By: Jean Freeland Agent  
Date: 11/7/90

APR 12 1991

COTTRILL #2

11/7/90	PERFORATED ALEXANDER	5251 - 5285;	16 HOLES .39
	BENSON	4950 - 4954;	6 HOLES .39
	BRADFORD	4502 - 4521;	7 HOLES .39
	WEIR	2243 - 2313;	18 HOLES .39

THREE STAGE WATER FRAC

- ALEXANDER: MAX TR PRESS 3110; AVG RATE 36.5; AVG PRESS 2350; 50,000# 20/40; 10,000# 80/100; MAX CONC 4; TOTAL ACID 500 GAL; ISIP 1440; 5 MIN SIP 1330; TOTAL FLUIDS 707 BBLs
- BENSON & BRADFORD: MAX TR PRESS 3420; AVG RATE 32; AVG PRESS 2770; 40,000# 20/40; 10,000# 80/100; MAX CONC 4; TOTAL ACID 500 GAL; ISIP 1690; 5 MIN SIP 1330; 10 MIN SIP 1290; TOTAL FLUIDS 620 BBLs
- WEIR: MAX TR PRESS 3460; AVG RATE 27.8; AVG PRESS 3350; 30,000# 20/40; 7,500# 80/100; MAX CONC 3.5; TOTAL ACID 500 GAL; ISIP 1900; 5 MIN SIP 1630; TOTAL FLUIDS 492 BBLs

<u>WELL LOG</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>WATER</u>
SAND, SHALE & RR	0	1872	50' - DAMP
LITTLE LIME	1872	1885	
SAND & SHALE	1885	1906	
BIG LIME	1906	1976	
BIG INJUN	1976	2055	
SAND & SHALE	2055	5410	

<u>GEOPHYSICAL LOG</u>	<u>TOP</u>	<u>BOTTOM</u>
BIG LIME	1912	1990
BIG INJUN	1990	2077
WEIR	2229	2337
BEREA	2442	2446
GORDON	2650	2701
WARREN	3310	3403
SPEECHLY	3435	3954
BALLTOWN	3954	4424
BRADFORD	4486	4565
RILEY	4750	4780
BENSON	4950	4954
ALEXANDER	5200	5288

11308

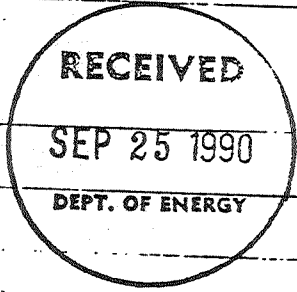


STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
 WELL WORK PERMIT APPLICATION

Issued 9/26/90 expires 9/26/92

4/10/90

- 1) Well Operator: TERM Energy Corporation 49105 (8) (670)
- 2) Operator's Well Number: Cottrill #2
- 3) Elevation: 1052'
- 4) Well type: (a) Oil  / or Gas  /  
 (b) If Gas: Production  / Underground Storage  /  
 Deep  / Shallow  /
- 5) Proposed Target Formation(s): Alexander
- 6) Proposed Total Depth: 5400' feet
- 7) Approximate fresh water strata depths: 160'
- 8) Approximate salt water depths: 1270'
- 9) Approximate coal seam depths: none
- 10) Does land contain coal seams tributary to active mine? Yes  / No  /
- 11) Proposed Well Work: Drill and stimulate new well
- 12)



CASING AND TUBING PROGRAM

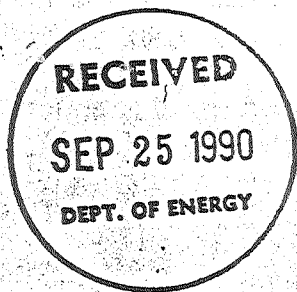
TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT Fill-up (cu. ft.)
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	11 3/4"	J-55	42#	17'	0	
Fresh Water	8 5/8"	J-55	20#	1152'	1152'	<u>O.K. M.H. CTS</u>
Coal						
Intermediate						
Production	4 1/2"	J-55	11.6# <u>10.5#</u>	84' 5316'	84' 5316'	250
Tubing						
Liners						

PACKERS : Kind \_\_\_\_\_  
 Sizes \_\_\_\_\_  
 Depths set \_\_\_\_\_

For Division of Oil and Gas Use Only

Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
 Plat  WW-9  WW-2B  Bond Blanket (Type)  Agent

45727



1) Date: April 10, 1990  
2) Operator's well number  
Cottrill #2  
3) API Well No: 47 - 017 - 3854  
State - County - Permit

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- |   |  |
|---|--|
| <p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Delbert L. Leadman</u><br/>Address <u>Rt. 3 Box 341B</u><br/><u>Elizabeth, WV 26143</u></p> <p>(b) Name _____<br/>Address _____</p> <p>(c) Name _____<br/>Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>N/A - None</u><br/>Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name _____<br/>Address _____</p> <p>Name _____<br/>Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name _____<br/>Address _____</p> |
| <p>6) Inspector <u>Mike Underwood</u><br/>Address <u>Rt. 2 Box 135</u><br/><u>Salem, WV 26426</u><br/>Telephone (304)- <u>782-1043</u></p>  |  |

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

\_\_\_\_\_ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

\_\_\_\_\_ Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_\_\_ on the above named parties, by:

\_\_\_\_\_ Personal Service (Affidavit attached)

\_\_\_\_\_ Certified Mail (Postmarked postal receipt attached)

\_\_\_\_\_ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

OFFICIAL SEAL  
ELIZABETH A. MCGILL  
NOTARY PUBLIC  
STATE OF WEST VIRGINIA  
My Commission Expires Oct. 15, 1994  
920 SOUTH SPRING ST.  
HARRISVILLE, WV 26362

Well Operator TERM Energy  
By: [Signature]  
Its: Agent  
Address 110 N. Spring st.  
Harrisville, WV 26362  
Telephone 304 643-4500

Subscribed and sworn before me this 11th day of April, 19 90

[Signature] Notary Public  
My commission expires October 15, 1994

RECEIVED  
Division of Environmental Protection

017-3854 Frac.  
Issued 06/02/94  
Expires 06/02/96  
Page \_\_\_ of \_\_\_

FORM WW-2B

MAY 17 94

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

- 1) Well Operator: Term Energy Corporation <sup>886</sup> 49105 (8) 671
- Operator's Well Number: Cottrill #2 47-017-3854 3) Elevation: 1052
- Well type: (a) Oil \_\_\_ / or Gas X /
- (b) If Gas: Production X / Underground Storage \_\_\_ /  
Deep \_\_\_ / Shallow X /
- Proposed Target Formation(s): Big Injun 371
- Proposed Total Depth: 5336 actual feet
- 7) Approximate fresh water strata depths: 160'
- 8) Approximate salt water depths: 1270'
- 9) Approximate coal seam depths: None
- 10) Does land contain coal seams tributary to active mine? Yes \_\_\_ / No X /
- 11) Proposed Well Work: Run Bond Log to find top of cement, calculated at 1800',  
If necessary squeeze cement. Set wide mouth plug at 2080',  
Frac Big Injun, Comingled with lower production.
- 12)

19203

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	11 3/4"	J-55	42#	17'	0	Fill-up (cu. ft.) OTS 354
Fresh Water	8 5/8"	J-55	20#	1151'	1151'	
Coal						IF BOND IS NOT SET YOU MUST DO SO
Intermediate						
Production	4 1/2"	J-55	11.6 10.5	84' 5252'	84' 5252'	993.36
Tubing						
Liners						

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

For Division of Oil and Gas Use Only

311/17

Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
 Plat  WW-9  WW-2B  Bond LC  Agent  
(Type)

RECEIVED  
Environmental Protection  
MAY 17 94  
Permitting  
Office of Oil & Gas

- 1) Date: May 5, 1994
- 2) Operator's well number  
Cottrill #2
- 3) API Well No: 47 - 017 - 3854-Frac  
State - County - Permit

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
  - (a) Name Delbert L. Leadmon  
Address Rt. 3 Box 341B  
Elizabeth, WV 26143
  - (b) Name \_\_\_\_\_  
Address \_\_\_\_\_
  - (c) Name \_\_\_\_\_  
Address \_\_\_\_\_
- 5) (a) Coal Operator:
  - Name N/A  
Address \_\_\_\_\_
  - (b) Coal Owner(s) with Declaration  
Name N/A  
Address \_\_\_\_\_
  - Name \_\_\_\_\_  
Address \_\_\_\_\_
  - (c) Coal Lessee with Declaration  
Name N/A  
Address \_\_\_\_\_
- 6) Inspector Mike Underwood  
Address Rt. 2 Box 135  
Salem, WV 26426  
Telephone (304)-782-1043

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

\_\_\_\_\_ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR  
 \_\_\_\_\_ Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)  
 I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_\_\_ on the above named parties, by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.  
 I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.  
 I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Well Operator Term Energy Corporation  
 By: Jean Freeland Jean Freeland  
 Its: Designated Agent  
 Address 713 E. Main St.  
Harrisville, WV 26362  
 Telephone (304) 643-4500

Subscribed and sworn before me this 17<sup>th</sup> day of May, 1994  
Judith Isner Notary Public  
 My commission expires September 15, 2003