

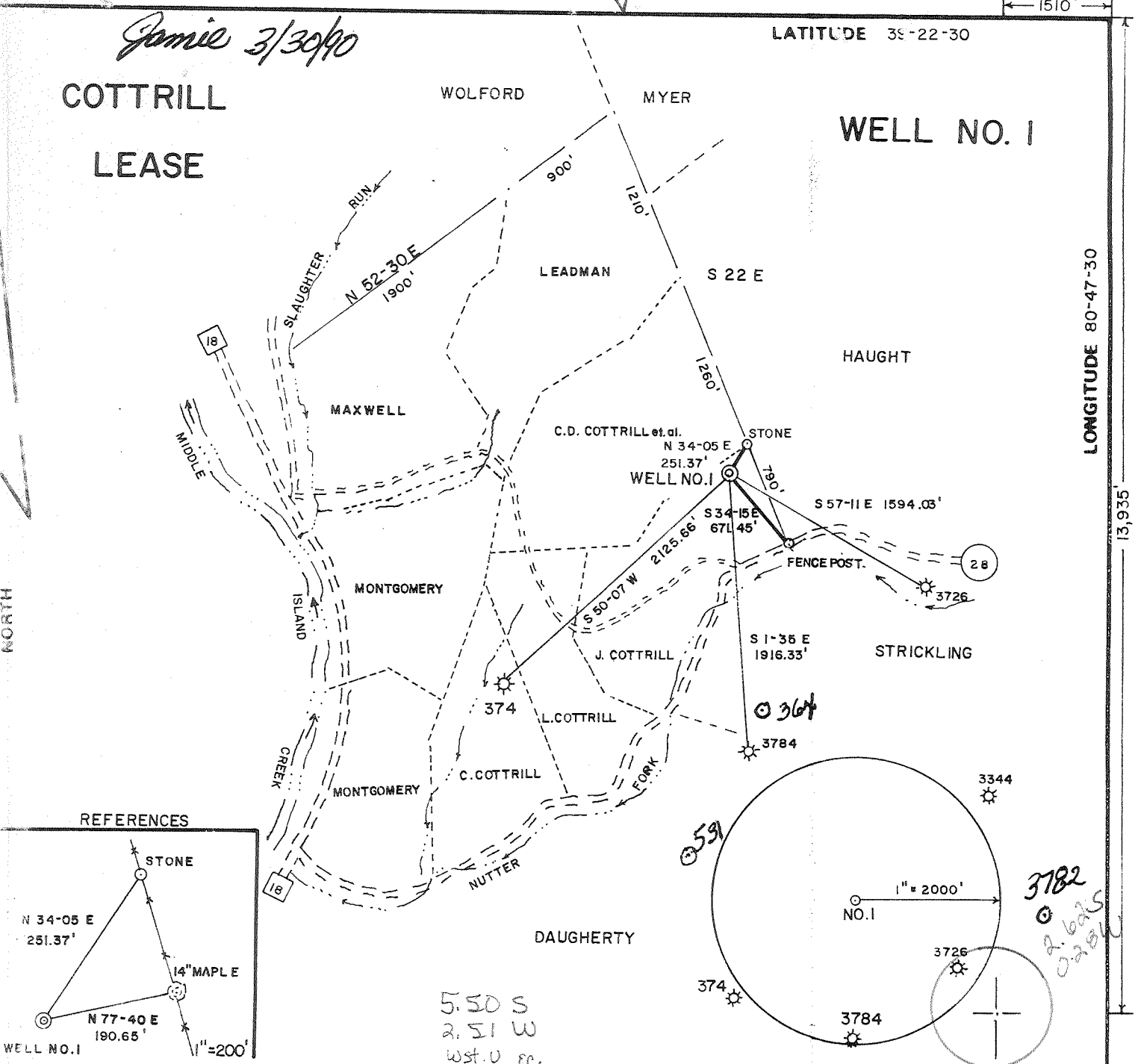
Jamie 3/30/90

LATITUDE 39-22-30

1510'

COTTRILL LEASE

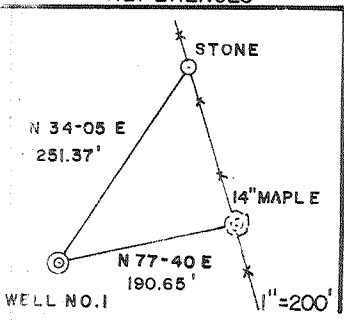
WELL NO. 1



LONGITUDE 80-47-30

13,935

REFERENCES



5.50 S
2.51 W
Wst. U ee

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) [Signature]
 R.P.E. _____ L.L.S. 800

PLACE SEAL HERE

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



DATE MARCH 5, 19 90
 OPERATOR'S WELL NO. COTTRILL NO. 1
 API WELL NO. _____
47 - 017 - 3802
 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 1010' WATER SHED NUTTER FORK
 DISTRICT WEST UNION COUNTY DODDRIDGE
 QUADRANGLE WEST UNION 7.5'
 SURFACE OWNER JACOB COTTRILL ACREAGE 39.49
 OIL & GAS ROYALTY OWNER MARY WELCH ADM.IX 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 FRELAND
 ADDRESS 110 N SPRING ST. HARRISVILLE, WV 26362 ADDRESS 110 N SPRING ST. HARRISVILLE, WV 26362

APR 06 1990

6-6 Wilbur (092)

REC'D
Division

AUG 07 1990

Permitting
Oil and Gas Section

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

02-Apr-90
API # 47- 17-03802

Well Operator's Report of Well Work

Farm name: COTTRILL, JACOB Operator Well No.: COTTRILL #1

LOCATION: Elevation: 1010.00 Quadrangle: WEST UNION

District: WESTUNION County: DODDRIDGE
Latitude: 13935 Feet South of 39 Deg. 22Min. 30 Sec.
Longitude 1510 Feet West of 80 Deg. 47 Min. 30 Sec.

Company: TERM ENERGY CORP.
110 N. SPRING ST.
HARRISVILLE, WV 26362-0000

Agent: JEAN FREELAND

Inspector: MIKE UNDERWOOD
Permit Issued: 04/02/90
Well work Commenced: 4/15/90
Well work Completed: 4/25/90
Verbal Plugging
Permission granted on: _____
Rotary Cable _____ Rig _____
Total Depth (feet) 5370
Fresh water depths (ft) 430'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	15'	-0-	-0-
11 3/4"	25'	-0-	-0-
8 5/8"	1108'	1108'	
4 1/2"	5328.9'	5328.9'	697.95'

Salt water depths (ft) NONE

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

OPEN FLOW DATA

Producing formation Alexander Pay zone depth (ft) 5243-5270
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 530 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 950 psig (surface pressure) after 25 Hours

COMINGLED PRODUCTION

Second producing formation Bradford & Benson Pay zone depth (ft) 4506-4940
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
Date: 5-10-90

AUG 10 1990

4/25/90

PERFORATED ALEXANDER
BENSON
BRADFORD

5243 - 5270; 17 HOLES .39
4935 - 4940; 6 HOLES .39
4506 - 4511; 6 HOLES .39

2 STAGE FRAC-ENERGIZED WATER

- ALEXANDER: MAX TR PRESS 3509; AVG RATE 23.5; AVG PRESS 3039; 50,000# 20/40; 10,000# 80/100, MAX CONC 4, TOTAL ACID 500 GAL, TOTAL NITROGEN 149,000 SCF, TOTAL FLUID 683 BBLs ISIP 1550; 5 MIN SIP 1372
- BENSON & BRADFORD: MAX TR PRESS 3600; AVG RATE 20.4; AVG PRESS 3160; 39,200# 20/40; 10,000# 80/100; MAX CONC 4; TOTAL ACID 1000 GAL; TOTAL NITROGEN 138,000 SCF; TOTAL FLUIDS 666 BBLs; ISIP 2800

WELL LOG
SAND & SHALE
BIG LIME
BIG INJUN
SAND & SHALE

<u>TOP</u>	<u>BOTTOM</u>
0	1888
1880	1990
1990	2076
2076	5379

WATER
1/2" STREAM - 430'

GEOPHYSICAL LOG
BIG LIME
BIG INJUN
WEIR
BEREA
GORDON
WARREN
SPEECHLY
BALLTOWN
BRADFORD
BENSON
ALEXANDER

<u>TOP</u>	<u>BOTTOM</u>
1900	1980
1980	2076
2216	2334
2428	2434
2637	2688
3296	3383
3418	3937
4255	4412
4476	4552
4935	4941
5184	5274

10365

017 3802
 Issued 3/4/2/90
 Expires 4/2/92
 Page 2 of 2
 DEPARTMENT OF ENERGY
 DIVISION OF OIL AND GAS
 1990

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

- 1) Well Operator: 286 TERM Energy Corporation 49105 (8) 670
- 2) Operator's Well Number: Cottrill #1 3) Elevation: 1010'
- 4) Well type: (a) Oil / or Gas x /
 (b) If Gas: Production x / Underground Storage /
 Deep / Shallow x /
- 5) Proposed Target Formation(s): 439 Alexander
- 6) Proposed Total Depth: 5400 feet
- 7) Approximate fresh water strata depths: 140', 457', 265', 515'
- 8) Approximate salt water depths: 1250', 1183'
- 9) Approximate coal seam depths: none *OK. None from Inspection Reports.*
- 10) Does land contain coal seams tributary to active mine? Yes / No x /
- 11) Proposed Well Work: *Drill & Stimulate New Well*
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	11 3/4"	J-55	42#	17'	0	<i>as usual</i>
Fresh Water	8 5/8"	J-55	20#	1110'	<i>CS</i> 1110'	CTS
Coal						<i>SECTION 3</i>
Intermediate						<i>SECTION 2</i>
Production	4 1/2"	J-55	11.6 10.5	84 5202	84 5202	250
Tubing						<i>SECTION 1</i>
Liners						

PACKERS : Kind _____
 Sizes _____
 Depths set _____

For Division of Oil and Gas Use Only

425
 Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond *Blanket letter* Agent
 (Type)

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

RECEIVED
MAR 27 1990

- 1) Date: March 6, 1990
- 2) Operator's well number
Cottrill #1
- 3) API Well No: 47 - 017 - 3802
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
 - (a) Name Jacob Cottrill
Address 207 E. Crown Ave.
Pennsboro, WV 26415
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 6) Inspector Mike Underwood
Address Rt. 2 Box 135
Salem, WV 26426
Telephone (304)- 782-1043

- 5) (a) Coal Operator:
 - Name N/A
Address _____
 - (b) Coal Owner(s) with Declaration
Name N/A
Address _____
 - Name N/A
Address _____
 - (c) Coal Lessee with Declaration
Name _____
Address _____

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 Ireland
 Its: Agent
 Address 110 North Spring Street
Harrisville, WV 26362
 Telephone 304 643-4500

Subscribed and sworn before me this 6th day of MARCH, 19 90

Elizabeth A. McGill
 My commission expires Oct. 15, 1994 Notary Public

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