

*Jamie
4/24/97*

Latitude 39° 25' 00" 2,300'

3800' SOUTH
3200' WEST

Longitude 81° 02' 30" 4,300'

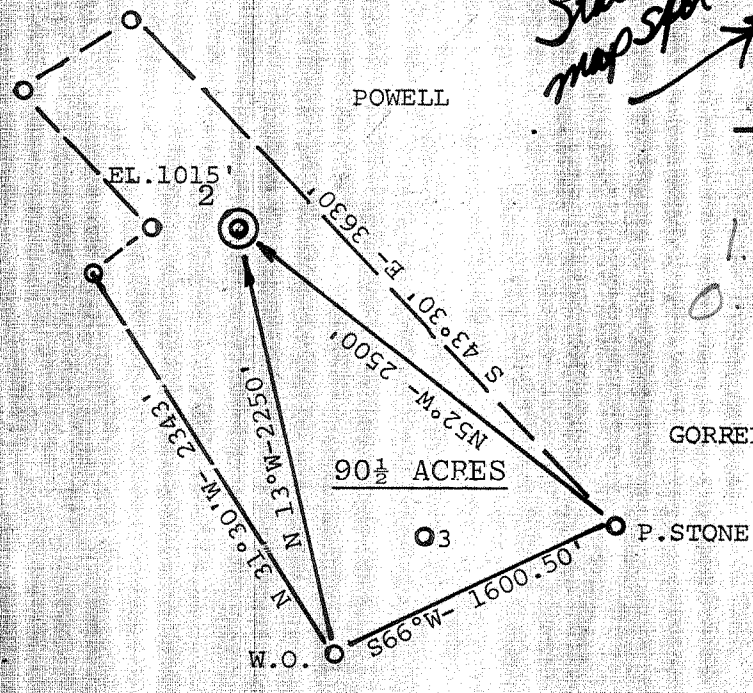
POWELL

POWELL

POWELL

GORRELL

WAGNOR



State map spot here?



*1.03 S
0.45 W*

90 1/2 ACRES

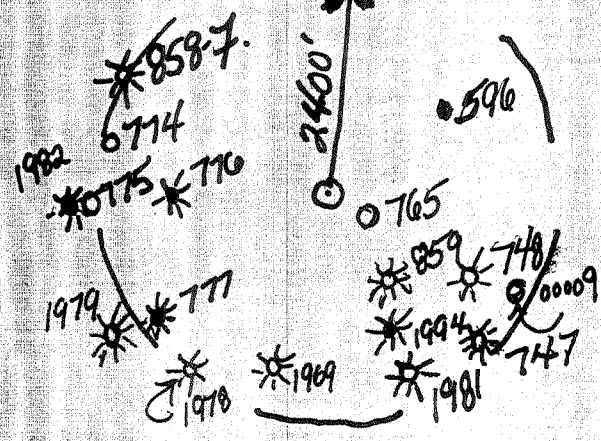
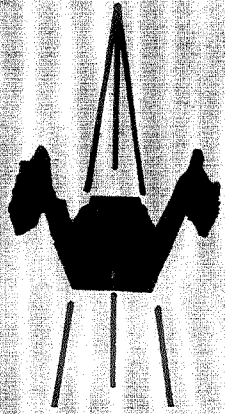
03

P. STONE

W.O.

*194

*886



ACCURACY: 1 / 200'

New Location

Drill Deeper

Abandonment

Fracture

Redrill

Other

Formation GORDON

Est. Depth 2750'

Oil

Gas

Other

Source of Elevation NEAR CRAIG CEM. (974')

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Chas. Waterman REGISTERED

Ecological Energy, Inc.
P.O. box 730
St. Marys, wVa. 26170-0730
Surface: Donald Lilly

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL & GAS
#10 McJUNKIN ROAD
NITRO, WEST VIRGINIA 25143-2506

Mineral Owner JIMMIE A. POWELL

Well No. 2 Acres 90 1/2

Elevation 1015'

Quadrangle BENS' RUN Series 7.5'

County PLEASANTS District UNION

Date 9/7/79 Scale 1" = 1000'

WELL LOCATION MAP
Well no. 47 - 073-00791-7
STATE COUNTY PERMIT

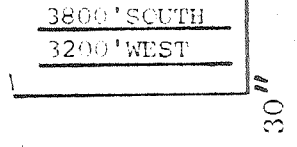
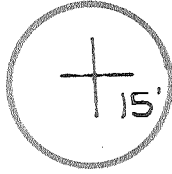
*Well drilled in 1979 by L & M Petroleum
to 3500' Production from Gordon.
Set Temporary Plug. Free to be
Remove Plug coming with Gordon.*

ADD 2

9/18/79

Latitude 39° 25' 00"

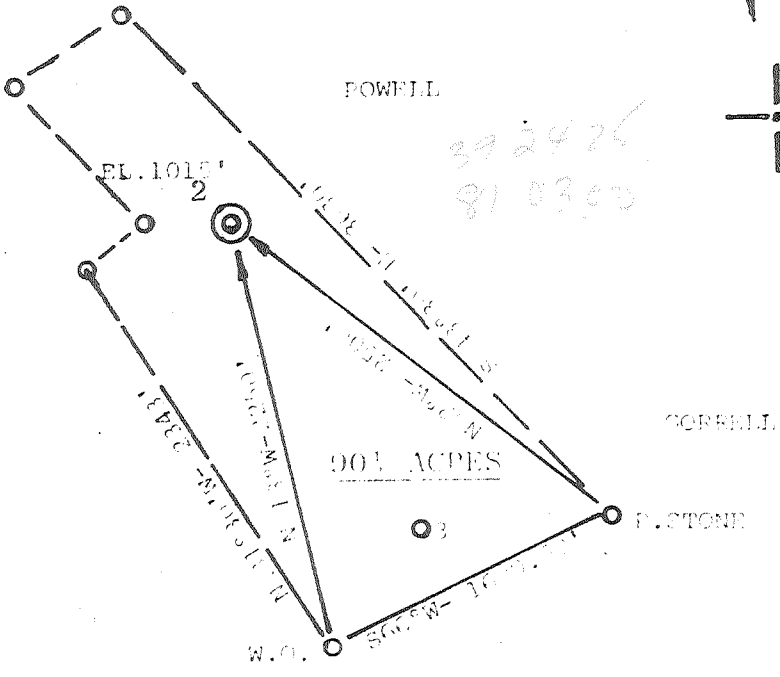
1.035
0.735
2.69W



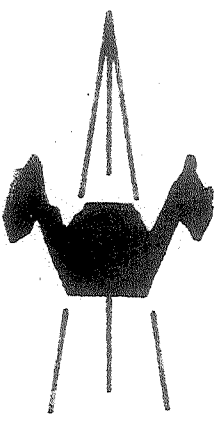
00' 02' 30"
81° 02' 30"
81° 02' 30"
Longitude (15')

POWELL

POWELL



45
223
2.68



ACCURACY: 1/200'

- New Location
- Drill Deeper
- Abandonment
- Fracture
- Bedrill
- Other

Formation GORDON
Est. Depth 2750'

Oil
Gas
Other

Source of Elevation NEAR CRAIG CEM. (974')

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Chet Waterman

Company L & M OIL COMPANY
 Address PARLIETTA, OHIO
 Surface Owner JIMMIE A. POWELL
 Mineral Owner JIMMIE A. POWELL
 Well No. 47 Acres 901
 Location 1015
 Quadrangle ST. MARYS Series 7.5
 County PLEASANTS District UNION
 Date 9/7/79 Scale 1" = 1000'

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

WELL LOCATION MAP
 47 - **073** - **0791**
 STATE COUNTY PERMIT

+ Denotes location of well on United States Topographic Maps.
 Engineer **CHET WATERMAN** OCT 9 1979
 Engineer's Registration No. 3788 File No. 79-616

NOV 0 1997

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: LILLY, DONALD Operator Well No.: J. POWELL #2

LOCATION: Elevation: 1,015.00 Quadrangle: BENS RUN

District: UNION County: PLEASANTS Latitude: 3800 Feet South of 39 Deg. 25Min. 0 Sec. Longitude 3200 Feet West of 81 Deg. 2 Min. 30 Sec.

Company: ECOLOGICAL ENERGY, INC. P. O. BOX 730 ST. MARYS, WV 26170-0000

Agent: BERNARD TICE

Inspector: SAM HERSMAN Permit Issued: 04/04/97 Well work Commenced: 06/23/97 Well work Completed: 09/15/97

Verbal Plugging Permission granted on: Rotary Cable Rig Total Depth (feet) Fresh water depths (ft)

Salt water depths (ft)

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

Table with 4 columns: Casing & Tubing Size, Used in Drilling, Left in Well, Cement Fill Up Cu. Ft. Rows include 7" (1036') and 4 1/2" (2993').

EXISTING

OPEN FLOW DATA

Producing formation Squaw Pay zone depth (ft) 2090 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

Second producing formation Pay zone depth (ft) 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: ECOLOGICAL ENERGY, INC. By: [Signature] Consultant Date: 9/16/97

Temporary bridge plug: Set 4 1/2" solid bridge plug at 2210'.

Perforated Interval: (2088' - 96") 12 holes, 0.41".

Fracturing treatment: 500 gals. 7 1/2% HCL acid, Halliburton Delta frac,
238 BBLs. total fluid, Breakdown press: 4000#,
Avg. rate: 12 BPM., Avg. press.: 2300#, 25000 lbs.
20/40 sand, ISIP: 1821.

See original IV-35 State report for additional formation information and flow data.

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OCT 31 1980



RECEIVED
OCT 15 1980

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL & GAS DIVISION
DEPT. OF MINES and Gas Division DEPT. OF MINES

WELL RECORD

Quadrangle Bens Run
Permit No. 47-073-0791

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

Company L&M Petroleum Co.
Address Rt. #1, Box 18-B, Marietta, OH
Farm James Powell Acres 90.5
Location (waters) Sugar Creek
Well No. 2 Elev. 1015
District Union County Pleasants
The surface of tract is owned in fee by James Powell
Address Harmony Ac., St. Marys, WV
Mineral rights are owned by same as above
Address _____
Drilling Commenced Sept. 27, 1979
Drilling Completed October 7, 1979
Initial open flow 150M cu. ft. _____ bbls.
Final production 80 M cu. ft. per day _____ 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 | | | |
| 7 | 1036' | | 120 Sx |
| 5 1/2 | | | |
| 4 1/2 | 2995' | 2995' | 200 Sx |
| 3 | | | |
| 2 | | | |
| Liners Used | | | |

Well treatment details: F/W 856 BW, 60M# sand at 2600 psig, 15 BPM, w/ 135MSCF Nitrogen frac'd - August 15, 1980:::

Attach copy of cementing record.

Coal was encountered at _____ Feet _____ Inches
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Gordon 80MCF Depth 2884-2895

| Formation | Color | Hard or Soft | Top Feet | Bottom Feet | Oil, Gas or Water | * Remarks |
|--------------------|-------|--------------|-------------|-------------|-------------------|-----------|
| Maxon Sand | | | 1810 | 1830 | | |
| Big Lime | | | 1855 | 1900 | | |
| B. Injun Sand | | | 1974 | 2116 | | |
| Weir Sand | | | 2208 | 2256 | | |
| Berea Sand | | | 2408 | 2420 | | |
| <u>Gordon Sand</u> | | | <u>2884</u> | <u>2894</u> | <u>Oil/Gas</u> | |

Note: No logs or samples taken above these depths.

6 1/2" csg
2995
log TD 3049

(over)

* Indicates Electric Log tops in the remarks section.



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

SEP 17 1979

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 14, 1979

Surface Owner Jimmie A. Powell

Company L & M Oil Company

Address St. Marys, WV

Address R.D. #1, Box 18-B, Marietta, OH

Mineral Owner Same

Farm Jimmie A. Powell Acres 116

Address

Location (waters) Sugar Creek

Coal Owner Same

Well No. 2 Elevation 1015

Address

District Union County Pleasants

Coal Operator None

Quadrangle Willow Island

Address

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 5-18-80.

INSPECTOR Phil Tracy
TO BE NOTIFIED

ADDRESS Middlebourne, W.Va.

PHONE 758-4573

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 11/15 19 77 by James A. Powell made to J. E. Olds and recorded on the 21 day of NOV. 19 77 in Pleasants County, Book 148 Page 558, 559

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 Oil Company

(Sign Name) Phillip C. Hunter
Well Operator

Phillip C. Hunter

Street

R.D. #1, Box 18-B, Newport Pike

City or Town

Marietta, Ohio 45750

State

Address of Well Operator

Well Operator

"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

47-073-0791

PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 2-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 X DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT: _____
 NAME _____ NAME Richard Hudson
 ADDRESS _____ ADDRESS Parkersburg, WV
 TELEPHONE _____ TELEPHONE 1-304-424-0876
 ESTIMATED DEPTH OF COMPLETED WELL: X ROTARY _____ CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Gordon
 TYPE OF WELL: OIL _____ GAS _____ COMB. X 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 1500 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 hereof.

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

**STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION**

23350

Well Operator: Ecological Energy, Inc. ⁵⁰⁴⁵ 15240 (5) 241

Operator's Well Number: J. Powell #2 3) Elevation: 1015'

Well type: (a) Oil ___ / or Gas X / *Drilled 04/04/97*
 (b) If Gas: Production ___ / Underground Storage ___
 Deep ___ / Shallow X / *Expires 04/04/99*

- 5) Proposed Target Formation(s): Pocono ³⁷¹
- 6) Proposed Total Depth: 2100 feet
- 7) Approximate fresh water strata depths: _____
- 8) Approximate salt water depths: _____
- 9) Approximate coal seam depths: _____
- 10) Does land contain coal seams tributary to active mine? Yes ___ / No ___
- 11) Proposed Well Work: Set temporary plug, frac Pocono sand, remove plug, commingle with original production.
- 12) _____

RECEIVED
 WV Division of
 Environmental Protection
MAR 19 1997
 Permitting
 Office of Oil & Gas

CASING AND TUBING PROGRAM

| TYPE | SPECIFICATIONS | | Weight per ft. | For drilling | FOOTAGE INTERVALS | Left in well | CEMENT Fill-up (cu. ft.) |
|--------------|----------------|-------|----------------|--------------|-------------------|--------------|-----------------------------|
| | Size | Grade | | | | | |
| Conductor | | | | | | | |
| Fresh Water | | | | | | | |
| Coal | | | | | | | |
| Intermediate | 7" | | | 1036' | 1036' | 120 sks. | |
| Production | 4½" | | | | 2995' | 200 sks. | |
| Tubing | | | | | | | |
| Liners | | | | | | | |

Splicing well records from

Existing

PACKERS : Kind _____
 Sizes _____
 Depths set _____

For Office of Oil and Gas Use Only

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

1) Date: 1/15/97
2) Operator's well number
J. Powell #2
3) API Well No: 47-73 - 791-F
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served: 5) (a) Coal Operator:
 (a) Name DONALD MALLY Name N/A
 Address 4288 NORTH ST. RT 376 Address _____
MCCONNELLSVILLE, OHIO 43756
 (b) Name _____ (b) Coal Owner(s) with Declaration
 Address _____ Name N/A
 Address _____
 (c) Name _____ Name _____
 Address _____ Address _____

6) Inspector Sam Hersman (c) Coal Lessee with Declaration
 Address Rt. 1, Box 248 Name N/A
Harrisville, WV Address _____
 Telephone (304)-628-3185

RECEIVED
WV Division of
Environmental Protection
Office of Oil & Gas
Permitting
MAR 19 1997

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 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22 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 22-6 and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

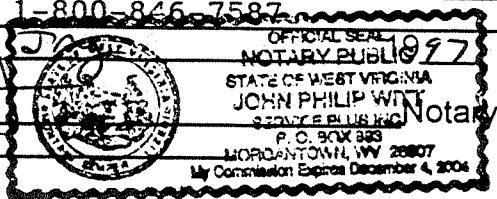
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true,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

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

Well Operator Ecological Energy, Inc.
By: David E. Loftercamp
Its: President
Address Box 893
Morgantown, WV 26507
Telephone 1-800-846-7587

Subscribed and sworn before me this 30 day of JANUARY

My commission expires _____



Notary Public