



FILE NO. Bk 57 P 58  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1" = 2500'  
 PROVEN SOURCE OF ELEVATION USGS BM 2-JJS EL 763.42'

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) C. J. Valley Jr.  
 R.P.E. \_\_\_\_\_ L.L.S. 92

PLACE SEAL HERE

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



DATE SEPT 1, 1980  
 OPERATOR'S WELL NO. C-5  
 API WELL NO. 47-039-3660 LI  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL \_\_\_ GAS \_\_\_ LIQUID INJECTION X WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW \_\_\_  
 LOCATION: ELEVATION 959.25 WATER SHED INDIAN CREEK  
 DISTRICT ELK COUNTY KANAWHA  
 QUADRANGLE BLUE CREEK CLENDENIN NC  
 SURFACE OWNER FAYETTE LUMBER CO ACREAGE 500  
 OIL & GAS ROYALTY OWNER C. J. HUNT LEASE ACREAGE 700  
 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 WEIR ESTIMATED DEPTH 2000  
 WELL OPERATOR GARY ENEGRY CORP DESIGNATED AGENT JAY J. VARGO  
 ADDRESS FOUR INVERNESS COURT ADDRESS 1268 GREEN BRIER ST.  
ENGLEWOOD COLORADO 80112 CHARLESTON WY 25311 OCT 28 1980

8-0 Blue Creek (217)

CO2 injection



IV-35  
(Rev 8-81)

Date October 6, 1982  
Operator's  
Well No. C - 5  
Farm C.J. Hunt  
API No. 47 - 039 - 3660 -LI

**RECEIVED** State of West Virginia  
Department of Mines  
Oil and Gas Division

OCT 18 1982

OIL AND GAS DIVISION WV DEPARTMENT OF MINES WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 959' Watershed Indian Creek  
District: Elk County Kanawha Quadrangle Blue Creek

COMPANY GARY ENERGY CORPORATION

ADDRESS 112 Indian Lake Dr., Elkview, W.Va.

DESIGNATED AGENT DANIEL L. PAULEY

ADDRESS 112 Indian Lake Dr., Elkview, W.Va.

SURFACE OWNER Fayette Lumber Company

ADDRESS P.O. Box A Dixie, W.Va. 25059

MINERAL RIGHTS OWNER See Title Opinion

ADDRESS \_\_\_\_\_

OIL AND GAS INSPECTOR FOR THIS WORK Homer

H. Dougherty ADDRESS Looneyville, W.Va.

PERMIT ISSUED October 3, 1980

DRILLING COMMENCED November 17, 1980

DRILLING COMPLETED November 23, 1980

IF APPLICABLE: PLUGGING OF DRY HOLE ON  
CONTINUOUS PROGRESSION FROM DRILLING OR  
REWORKING. VERBAL PERMISSION OBTAINED  
ON \_\_\_\_\_

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	548'	548'	Cement to Surface
7			
5 1/2			
4 1/2	2154'	2154'	Cement to Surface
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Pocono Weir Depth 2005 feet

Depth of completed well 2167 feet Rotary X / Cable Tools \_\_\_\_\_

Water strata depth: Fresh \_\_\_\_\_ feet; Salt 939 feet

Coal seam depths: 268'-272'; 465'-477' Is coal being mined in the area? NO

OPEN FLOW DATA

Producing formation Weir Sand Pay zone depth 2005 feet

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 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

OCT 25 1982

(Continue on reverse side)

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

NOTES

This is a new well. Drilled to 2167'.

Ran 548' of all new 8 5/8" (Grade H 40 20#/ft.) casing and cemented to surface.

Ran 2154' of all new 4 1/2" (J55 12.6) casing and cemented to surface.

We plan to use this well for CO<sub>2</sub> Injection.

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			0	200	
Sand and Shale			200	268	
Coal			268	272	
Sand and Shale			272	465	
Coal			465	477	
Rock, sand with shale			477	485	
Sand Shale			485	554	
Sand and Shale			554	575	
Shale with sand			575	915	
Sand Shale			915	939	
Salt Sand			939	1485	
Sand Shale			1485	1575	
Maxon Sand			1575	1630	
Sand Shale			1630	1666	
Little Lime			1666	1770	
Big Lime			1770	1905	
Shale			1905	1924	
Squaw Sand			1924	1946	
Shale			1946	2005	
Weir Sand			2005	2107	
<u>Shale</u>			2107	<u>2167</u>	

(Attach separate sheets as necessary)

GARY ENERGY CORPORATION

Well Operator

By:

*David L. Paulsen*

Date:

10-16-82

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 coal, encountered in the drilling of a well."

[08-78]

Operator's Well No. C-5  
 API Well No. 47 - 039 - 3660-LI  
 State County Permit

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

LIQUID INJECTION OR WASTE DISPOSAL WELL PERMIT APPLICATION

WELL TYPE: Liquid Injection X / Waste Disposal      /  
 LOCATION: Elevation: 959 ft. Watershed: Indian Creek  
 District: Elk County: Kanawha Quadrangle: Blue Creek  
 GEOLOGICAL TARGET FORMATION: Pocono (Weir) Approximate depth 2000 feet  
 Virgin reservoir pressure in target formation 150 psig (surface measurement)  
 Source of information on virgin reservoir pressure Measurement from adjacent new well  
(C. J. Hunt 3-T)

WELL OPERATOR Gary Energy Corporation DESIGNATED AGENT Dan Pauley  
 Address 112 Indian Lake Drive Address 112 Indian Lake Drive  
Elkview, West Virginia 25071 Elkview, West Virginia 25071

ROYALTY OWNER See title opinion COAL OPERATOR NONE  
 Address \_\_\_\_\_ Address \_\_\_\_\_

Acraage 700 COAL OWNER(S) ~~XXXXXXXXXXXXXXXXXXXX~~:  
 SURFACE OWNER Fayette Lumber Company Name D. L. Ray and Carol Ann Young  
 Address P. O. Box A Address \_\_\_\_\_  
Dixie, W. Va. 25059  
 Acraage 470 Name \_\_\_\_\_  
 Address \_\_\_\_\_

OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name Martin Nichols Address \_\_\_\_\_  
 Address P. O. Box 554 COAL LESSEE WITH DECLARATION ON RECORD:  
Clendenin, W. Va. 25045 Name NONE  
548-6993 Address \_\_\_\_\_

The undersigned well operator is entitled to operate for liquid injection or waste disposal purposes at the above location under a deed      / lease      / other contract X / dated July 30, 1980, to the undersigned well operator from Permeator Corporation.

[If said deed, lease, or other contract has been recorded:]  
 Recorded on August 18, 1980, in the office of the Clerk of the County Commission of Kanawha County, West Virginia, in Assignment Book 93 at page 201. A permit is requested as follows:

PROPOSED WORK: Convert      / Drill X / Drill deeper      / Redrill      / Fracture or stimulate X  
 Plug off old formation      / Perforate new formation       
 Other physical change in well (specify) \_\_\_\_\_

--planned as shown on the work order on the reverse side hereof.  
 Date of first liquid injection or waste disposal: June 1, 1981

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code § 22-4-3 must be filed with the Department of Mines within thirty (30) days after the receipt of this Application by the Department.

Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:  
 WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION  
 1615 WASHINGTON STREET EAST  
 CHARLESTON, WV 25311  
 TELEPHONE: (304) 548-3092

Gary Energy Corporation  
 Well Operator  
 By J. J. Vargo  
 Its Production Manager

**BLANKET BOND**

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:  
ACTUAL INFORMATION MUST BE SUBMITTED ON  
FORM IV-35 AND/OR FORM IV-37 UPON COMPLETION

DILLING CONTRACTOR (IF KNOWN) Clint Hurt & Associates, Inc.

Address P. O. Box 383

Elkview, W. Va. 25071

GEOLOGICAL TARGET FORMATION, Pocono (Weir)

Estimated depth of completed well, 2000 feet Rotary  Cable tools

Approximate water strata depths: Fresh, N/A feet; salt, 740 feet.

Approximate coal seam depths: 555-559 Is coal being mined in the area? Yes  No   
641-644

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	13	H40		X		30'	0		Kinds
Fresh water									
Coal									Sizes
Intermediate	8 5/8	H40	20#	X			<u>674</u> 400'	To Surface	
Production	4 1/2	K55	105#	X			2000'	To Surface	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

NOTE 1: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-3 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2a, (iii) unless previously paid on the same well, the fee required by Code § 22-4-12a, (iv) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-3 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-3 filed in connection therewith.

NOTE 2: In addition to the permit required from the Department of Mines, the operator of a disposal well must obtain a separate permit from the Department of Natural Resources under the provisions of Code § 20-5A-5(b)(7).

NOTE: This well will be drilled and cored with a low water loss mud system.  
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 6-7-81.

J. E. Huzzey  
Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code § 22-4-20, if the permit is to be issued within thirty (30) days of receipt thereof:

W A I V E R

The undersigned coal operator          / owner          / lessee          / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: \_\_\_\_\_, 19\_\_\_\_\_

By \_\_\_\_\_

Its \_\_\_\_\_

REC'D PERMITS