



7.5 06/5 topo loc 15' loc
 1.89S 1.89S
 2.04W 4.30W

FILE NO. BK 57 P 57
 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. S. Yolley 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-1
 API WELL NO. 47-039-3656LI
 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 722.66 WATER SHED INDIAN CREEK
 DISTRICT ELK COUNTY KANAWHA
 QUADRANGLE BLUE CREEK T2 CLENDENIN WC
 SURFACE OWNER WESLEY H. O'DELL HRS ACREAGE 178
 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 ENERGY CORP DESIGNATED AGENT JAY J. VARGO
 ADDRESS FOUR INVERNESS COURT ADDRESS 1268 GREENBRIER ST.
ENGLEWOOD COLORADO 80112 CHARLESTON WV 25311 OCT 28 1980

8-D Blue Creek CO2 injection well (217)

RECEIVED

OCT 18 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINESIV-35
(Rev 8-81)Date October 1, 1982

Operator's

Well No. C-1Farm C.J. HuntAPI No. 47 - 039 - 3656-LI

State of West Virginia
Department of Mines
Oil and Gas Division

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: 723' 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 Russ & Olive Culpepper
ADDRESS 510 Kanawha Blvd. W, Charleston, W.Va.
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 December 21, 1980
DRILLING COMPLETED December 30, 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	300.20'	300.20'	Cement to Surface
7			
5 1/2			
4 1/2	1922'	1922'	Cement to Surface
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Pocono Weir Depth 1775' feet
Depth of completed well 1937' feet Rotary x / Cable Tools _____
Water strata depth: Fresh _____ feet; Salt 807' feet
Coal seam depths: 180'-188', 231'-248' Is coal being mined in the area? NO

OPEN FLOW DATA

Producing formation Weir Sand Pay zone depth 1775' 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 1937'.

Ran 300.20' of 8 5/8" ^{all new} casing (Grade H 40 20#/ft.) and cemented to surface.

Ran 1922' of 4 1/2" (J55 - 12.6) all new casing and cemented to surface.

We plan to use this well for CO₂ 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
Sub Base			0	10	
Rock, Sand and Shale			10	180	
Coal			180	188	
Sand and Shale			188	220	
Rock and Shale			220	231	
Coal			231	248	
Sand and Shale			248	305	
Shale			305	345	
Sand and Shale			345	807	
Salt Sand			807	1320	
Maxon Sand			1320	1359	
Shale and Sand			1359	1403	
Little Lime			1403	1451	
Pencil Cave			1451	1454	
Big Lime			1454	1629	
Injun Sand			1629	1646	
Shale			1646	1705	
Squaw Sand			1705	1734	
Shale			1734	1775	
<u>Weir Sand</u>			1775	1878	
Shale			1878	1937	

(Attach separate sheets as necessary)

GARY ENERGY CORPORATION

Well Operator

By:

Donald L. Paulsen

Date:

10-15-82

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-1

API Well No. 47 - 039 - 3656-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 / Waste Disposal
LOCATION: Elevation: 723 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
Address 112 Indian Lake Drive
Elkview, West Virginia 25071

DESIGNATED AGENT Dan Pauley
Address 112 Indian Lake Drive
Elkview, West Virginia 25071

ROYALTY OWNER See title opinion
Address _____

COAL OPERATOR NONE
Address _____

ACREAGE 700
SURFACE OWNER Russ & Olive Culpepper
Address 510 Kanawha Blvd. West
Charleston, W. Va. 25302
ACREAGE 178

COAL OWNER(S) ~~XXXXXXXXXXXXXXXXXXXX~~
Name D. L. Ray and Carol Ann Young
Address _____
Name _____
Address _____
OCT - 3 1980

OIL & GAS INSPECTOR TO BE NOTIFIED
Name Martin Nichols
Address P. O. Box 554
Clendenin, W. Va. 25045
548-6993

COAL LESSEE WITH DECLARATION ON RECORD:
Name NONE
Address _____

RECEIVED
OIL & GAS DIVISION
DEPT. OF MINES

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 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 / Drill deeper ___/ Redrill ___/ Fracture or stimulate
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
1515 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 548-1022

Gary Energy Corporation
Well Operator
By J. J. Vawter
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

DRILLING CONTRACTOR (IF KNOWN) Clint Hurt & Associates, Inc.Address P. O. Box 383Elkview, W. Va. 25071GEOLOGICAL 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 cased with a low water loss mud system.

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. Murray
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

039-03656