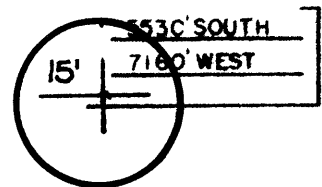
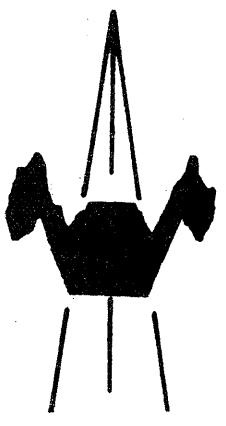
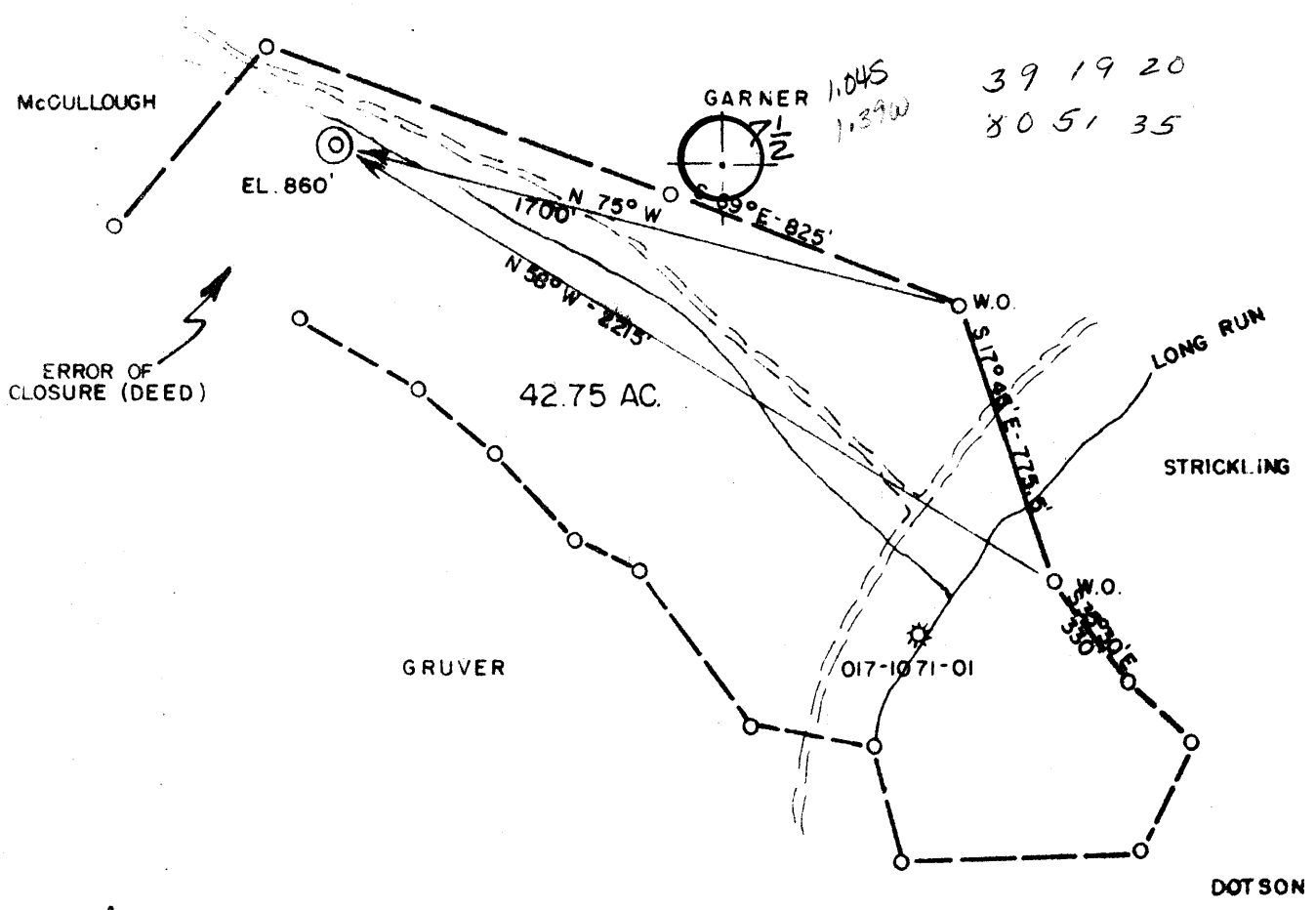


Latitude 39° 20' 00"

1.045
1.390



Longitude 80° 50' 00"



ACCURACY: 1'/200'

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

Formation GORDON
Est. Depth 2700'

Oil
Gas
Other

Source of Elevation OLD WELL (779')

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 INDUSTRIAL GAS ASSOCIATES
 Address PARKERSBURG, WV
 Surface Owner C. K. McCULLOUGH
 Mineral Owner J. STATLER ET AL
 Well No. 1 Acres 42.75
 Elevation 860' SC
 Quadrangle WEST UNION Series 7.5'
 County DODDERIDGE District CENTRAL
 Date 11/30/79 Scale 1" = 500'

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

WELL LOCATION MAP

47 - 017 - 2554
 STATE COUNTY PERMIT

+ Denotes location of well on United States Topographic Maps.
 Engineer **CHET WATERMAN**
 Engineer's Registration No. 3788 File No. 79-865

FORM IV-35
(Obverse)

Operator's
Well No. Richard McCullough

[08-78]

WELL OPERATOR'S REPORT #
OF

API Well No. 47 - 017 - 2554
State County Permit #1

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas / Liquid Injection / Waste Disposal
(If "Gas", Production / Underground storage / Deep / Shallow)

LOCATION: Elevation: 860 Watershed: Long Run
District: Central County: Doddridge Quadrangle: West Union 7 1/2

WELL OPERATOR Industrial Gas Associates DESIGNATED AGENT Dallas Frederick
Address Box 1610 Address Box 13
Greenwich, CT 06830 Nobe, WV 26158

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

MAR 17 1980

PERMIT ISSUED ON December 17, 19 79 OIL & GAS INSPECTOR FOR THE STATE OF WEST VIRGINIA
Name Paul Garrett
Address 321 Beech Street
Clarksburg, WV 26303

GEOLOGICAL TARGET FORMATION: Berea Depth _____ feet
Depth of completed well, 2264 feet Rotary / Cable Tools _____
Water strata depth: Fresh, 80 feet; salt, N/A feet.
Coal seam depths: N/A Is coal being mined in the area? NO
Work was commenced January 8, 19 80, and completed January 12, 19 80

LOGGING AND TUBING PROGRAM

LOGGING 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								Kinds	
Fresh water	8 5/8	CW	22	X		242	242	80 sks	Class A Neat
Oil									Sizes
Intermediate									
Production	4 1/2	CW	10.5	X			2218	125 sks	Depth set 2218
Casing	1"	SML		X			2075		
Tools									Perforations:
									Top Bottom

OPEN FLOW DATA
Producing formation Weir Pay zone depth 2024-2126 feet
Gas: Initial open flow, _____ Mcf/d Oil: Initial open flow, _____ Bbl/d
Final open flow, 210 Mcf/d Final open flow, 1 Bbl/d
Time of open flow between initial and final tests, 4 hours
Static rock pressure, _____ psig (surface measurement) after _____ hours shut in

[If applicable due to multiple completion--]
Second producing formation Injun & Keener Pay zone depth 1760-1864 feet
Gas: Initial open flow, _____ Mcf/d Oil: Initial open flow, _____ Bbl/d
Final open flow, _____ Mcf/d Final open flow, 1 Bbl/d
Time of open flow between initial and final tests, 4 hours
Static rock pressure, 400 psig (surface measurement) after 24 hours shut in

APR 9 1980

[08-78]

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

Weir - Fraced with 340 bbls water, 28,000# sand and 50,000 SCF N²

Perforated Intervals:
2024-32 7 holes
2042-46 3 holes
2052-58 6 holes
2098-2108 8 holes
2117-2126 5 holes

Injun & Keener - Fraced with 286 bbls water 28,000# sand and 50,000 SCF N²

Perforated Intervals: 1760-70 10 holes
1797-99 2 holes
1816-18 2 holes
1838-43 5 holes
1856-64 7 holes

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including Indications of coal, gas and salt water, con., oil and etc.
Soil	brown	soft	0	10	
Sand & Shale	black	soft	10	1000	
Shale	black	soft	1000	1145	
Sand - 1st salt	white	hard	1145	1170	
Shale	black	soft	1170	1190	
Sand - 2nd salt	white	hard	1190	1215	
Shale	black	soft	1215	1248	
Sand 3rd salt	white	hard	1248	1337	
Shale	black	soft	1337	1558	
Sand - Maxon	white	hard	1558	1650	
Shale	black	soft	1650	1694	
Big Lime	white	hard	1694	1740	
Sand - Keener	white	hard	1740	1775	
Sand - Big Injun	white	hard	1175	1870	
Shale	black	soft	1870	2023	
Sand - Weir	black	hard	2023	2144	
Shale	black	soft	2144	2212	
Sand <u>Berea</u>	white	hard	2212	2217	
Shale	black	soft	2217	2264	
TD				2264	

(Attach separate sheets to complete as necessary)

Industrial Gas Associates
Well Operator

By

Its

Agent

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."



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

DEC 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 December 14, 1979

Surface Owner C. K. McCullough
Address Greenwood, WV
Mineral Owner J. Statler et al
Address Greenwood, WV
Coal Owner N/A
Address N/A
Coal Operator N/A
Address N/A

Company Industrial Gas Associates
Address Box 1610, Greenwich, CT
Farm R. McCullough Acres 42.75
Location (waters) Long Run
Well No. 1 Elevation 860'
District Central County Doddridge
Quadrangle West Union 7.5

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 8-18-80.

Robert L. [Signature]

Deputy Director - Oil & Gas Division

INSPECTOR
TO BE NOTIFIED Paul Garrett
ADDRESS 321 Beech Street
PHONE Clarksburg, WV 26303

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 November 8 19 79 by Richard McCullough made to Petroleum Services, Inc. and recorded on the 15 day of November 1979, in Doddridge County, Book 112 Page 318

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, Industrial Gas Associates
(Sign Name) [Signature]
Well Operator
Address P.O. Box 1610
of Greenwich
Well Operator Greenwich
City or Town
Connecticut 06380
State

*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.

47-017-2554

PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-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 Gene Stalnaker, Inc. NAME Dallas Frederick
 ADDRESS Letter Gap, WV ADDRESS Nobe, WV
 TELEPHONE 462-7092 TELEPHONE 354-7484
 ESTIMATED DEPTH OF COMPLETED WELL: 2700 ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Gordon
 TYPE OF WELL: OIL X GAS _____ COMB. _____ 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	240	240	Circ.
7			
5 1/2			
4 1/2		2700	125 sks.
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 80 FEET 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 thereof.

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