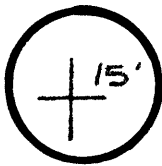


Latitude 39° 20' 00"

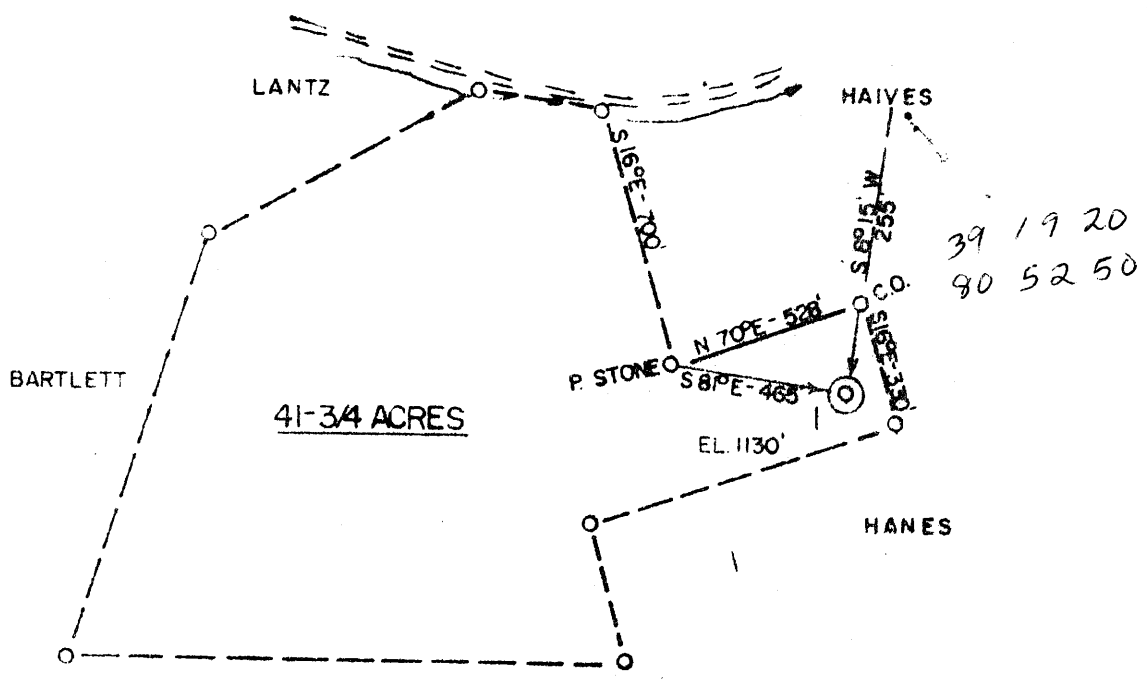
4330' SOUTH
3050' WEST



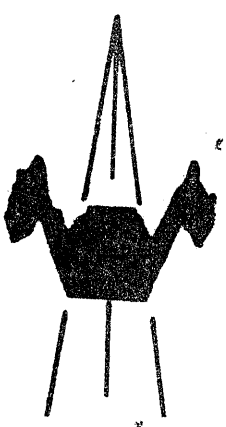
0.78 S
2.55 W
2.79 W



50' 52"
80'
Longitude (15')



39 19 20
80 52 50



ACCURACY: 1" / 200'

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

Formation GORDON
Est. Depth 2700'

- Oil
- Gas
- Other

Source of Elevation MOUTH OF SHORT RUN (832')
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 Bx 1610 GREENWICH CONN PARKERSBURG, WV
 Surface Owner E. D. MULVAY
 Mineral Owner " " " "
 Well No. 1 Acres 41-3/4
 Elevation 1130'
 Quadrangle WEST UNION Series 15' 50'
 County TYLER District CENTERVILLE
 Date 12/26/79 Scale 1" = 500'

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

WELL LOCATION MAP
 47 - 095 - 0759
 STATE COUNTY PERMIT

+ Denotes location of well on United States Topographic Maps.
 Engineer CHET WATERMAN
 Engineer's Registration No. 3788 File No. 79-933

Berea 2600' 6-6 Stanley (90)

FEB 13 1980

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

Date March 17, 1980

FORM IV-35
(Obverse)

Operator's
Well No. Mulvay #1

[08-78]

WELL OPERATOR'S REPORT 36
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

API Well No. 47 - 095 - 0759
State County Permi

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

LOCATION: Elevation: 1130 Watershed: Burton Run
District: Centerville County: Tyler Quadrangle: Pennsboro 7 1/2

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

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

PERMIT ISSUED ON _____, 19 _____

OIL & GAS DIVISION
OIL & GAS INSPECTOR FOR THIS WORK
DEPT. OF MINES

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

Name Phillip Tracey
Address Rt. 23
Alma, WV 26320

GEOLOGICAL TARGET FORMATION: Berea Depth _____ feet

Depth of completed well, 2531 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 19, 1980, and completed January 24, 1980

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		
Conductor								Kinds
Fresh water	8 5/8 CW	CW	22	X		243	243	80 sks Class A Neat
Gal								Sizes
Intermediate								
Production	4 1/2 CW	CW	10.5	X			2525	125 sks Depths set 2525
Logging	2"	SML	4.0	X			2450	
Packers								Perforations:
								Top Bottom

PERFORATION FLOW DATA

350 MCF + 6 BOPD

Producing formation Weir Pay zone depth 2383-2490 feet

Gas: Initial open flow, _____ Mcf/d Oil: Initial open flow, _____ Bbl/d

Final open flow, 150 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 Keener & Injun Pay zone depth 2091-2208 feet

Gas: Initial open flow, _____ Mcf/d Oil: Initial open flow, _____ Bbl/d

Final open flow, 200 Mcf/d Final open flow, 5 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 345 bbls water and
28,000 # sand and 50,000 SCF N₂

Perforated Intervals:
2303-89 5 holes
2401-04 2 holes
2408-20 10 holes
2464-72 8 holes
2486-90 4 holes

Keener & Injun - Fraced with 345 bbls water
28,000# sand and 50,000 SCF N₂

Perforated Intervals: 2091-97 6 holes 2176-80 5 holes
2107-2111 4 holes 2191-80 4 holes
2119-22 3 holes 2201 1 hole
2140 1 hole 2206-08 2 holes
2170-73 2 holes

WELL LOG

FORMATION	Color	Hard or Soft	30 Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Soil	brown	soft	0	20	
Sand & Shale	black	soft	20	1268	
Shale - Cow Run	white	hard	1268	1300	
Shale	black	soft	1300	1500	
Sand - 1st salt	white	hard	1500	1672	
Shale	black	soft	1672	1704	
Sand - 2nd Salt	white	hard	1704	1778	
Shale	black	soft	1778	1820	
Sand 3rd salt	white	hard	1820	1880	
Shale	black	soft	1880	2020	
Lime - Big	white	hard	2020	2090	
Sand - Keener	white	soft	2090	2150	
Sand Injun	white	soft	2150	2212	
Shale	black	soft	2212	2280	
Sand - Weir	black	hard	2280	2492	
Shale	black	soft	2492	2531	
TD				2531	

(Attach separate sheets to complete as necessary)

Industrial Gas Associates

Well Operator

By

John Cushing

Its

Agent

NOTE: Regulation 2.03(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

JAN - 9 1980

Oil and Gas Division
OIL AND GAS WELL PERMIT APPLICATION

OIL & GAS DIVISION
DEPT. OF MINES

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

DATE January 7, 1980

Surface Owner Edwin Mulvay

Company Industrial Gas Associates

Address Star Route, West Union, WV

Address Box 1610, Greenwich, CT

Mineral Owner Edwin Mulvay

Farm Mulvay #1 Acres 41 3/4

Address Star Route, West Union, WV

Location (waters) Burton Run

Coal Owner N/A

Well No. 1 Elevation 1130

Address N/A

District Centerville County Tyler

Coal Operator N/A

Quadrangle Pennsboro 7 1/2

Address N/A

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 9-11-80.

INSPECTOR
TO BE NOTIFIED Phillip Tracey

ADDRESS Rt. 23, Alma, WV 26320

PHONE 758-4573

Robert H. [Signature]
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 August 18 19 79 by Edwin and Patricia Mulvay made to Petroleum Services and recorded on the 12 day of Oct. 1979, in Tyler County, Book 221 Page 613

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) BY: *[Signature]*
Well Operator

Address
of
Well Operator

Box 1610 Street
Greenwich City or Town
Connecticut 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.

47-095-0759

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 Box, 9 Letter Gap, WV ADDRESS Box 13, Nobe, WV
 TELEPHONE 462-7092 TELEPHONE 354-7484
 ESTIMATED DEPTH OF COMPLETED WELL: 2600 ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Berea
 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	240	240	Circ.
7			
5 1/2			
4 1/2		2600	124 sks.
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 80 FEET _____ SALT WATER _____ FEET _____
 APPROXIMATE COAL DEPTHS N/A
 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