

10/5/79

Latitude 39° 20' 00"

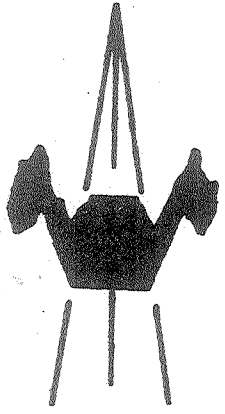
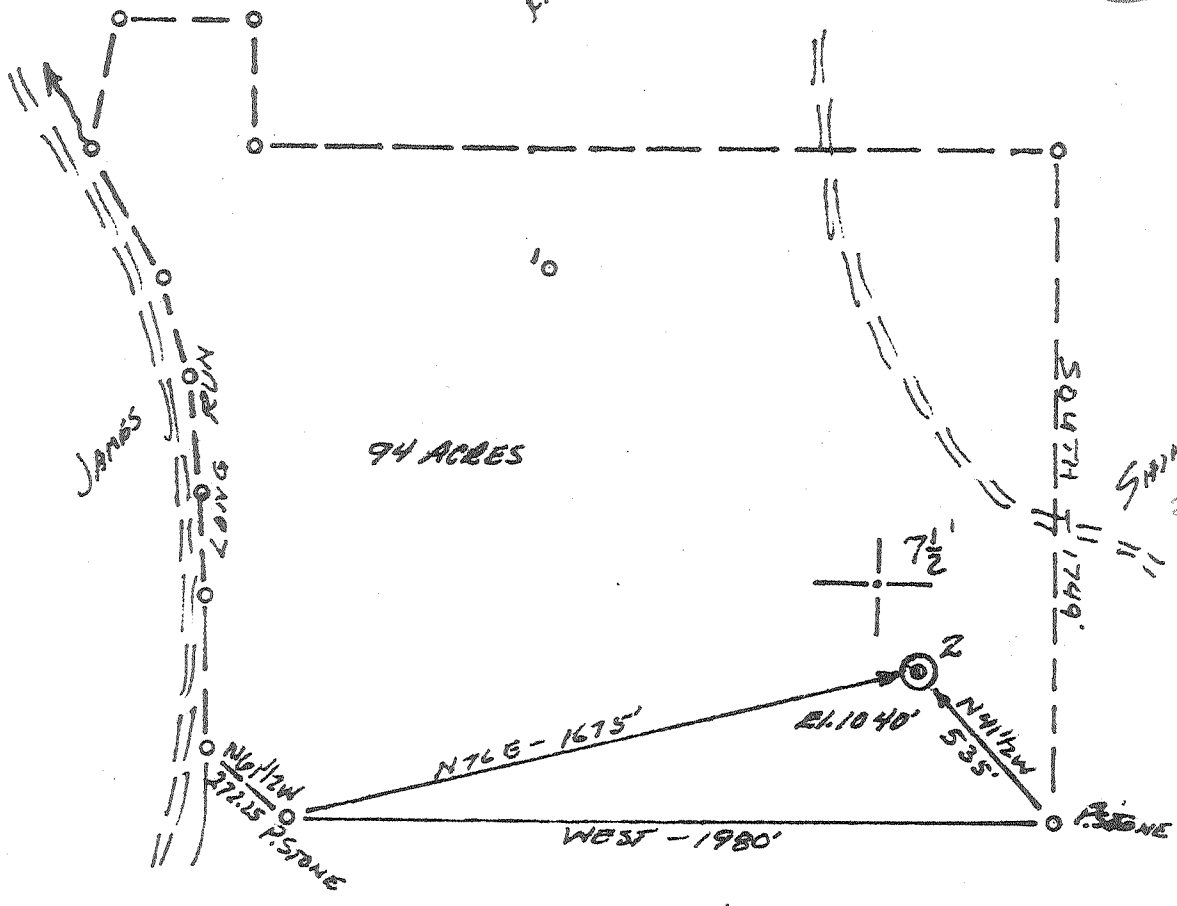
11400'S.
5320'W

Longitude 89° 50' 00"

2.165
0.81W



Ramsey



ACCURACY: 1" = 200'

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

Formation GORDON Oil

Est. Depth ~~2550~~ 2700 Gas

Other

Source of Elevation ARNOLD CEM. RD. & LONG RUN RD. (755')

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 GREENWICH, CONN.

Surface Owner GLADYS HURST

Mineral Owner GLADYS HURST ET AL

Well No. 2 Acres 94

Elevation 1040' 50

Quadrangle WEST UNION Series 7.5' 15'

County DODDRIDGE District CENTRAL

Date 10/1/79 Scale 1" = 500'

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

WELL LOCATION MAP
47 - 017 - 2498
STATE COUNTY PERMIT

+ Denotes location of well on United States Topographic Maps.
Engineer CHET WATERMAN OCT 22 1979
Engineer's Registration No. 3788 File No. 79-680

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

Date: October 26, 1979

FORM IV-35
(Obverse)

Operator's
Well No. Hurst #2
API Well No. 47 - 017² - 2498
State County Permit

[08-78]

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

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

LOCATION: Elevation: 1040 Watershed: Long Run
District: Central County: Doddridge Quadrangle: West Union 7 $\frac{1}{2}$

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

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

NOV 29 1979

PERMIT ISSUED ON October 14, 1979

OIL & GAS INSPECTOR FOR THIS WORK: PAINEE

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

Name Paul Garrett
Address 320 Beech Street
Clarksburg, WV

GEOLOGICAL TARGET FORMATION: Injun and Weir Depth 2005-2093 feet

Depth of completed well, 2420 feet Rotary X / 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 October 16, 1979, and completed October 20, 1979

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								Kinds	
Fresh water	8 5/8 CW	22	X			251	251	80 sks	Class A Neat
Coal									Sizes
Intermediate									
Production	4 $\frac{1}{2}$	CW	10.5	X			2409	125 sks	Depths set 2409
Tubing	1"	sml		X			2300		
Liners									Perforations:
									Top Bottom

OPEN FLOW DATA

Producing formation Keener Pay zone depth 2012-2022 feet

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

Final open flow, 350 Mcf/d Final open flow, 2 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 Weir Pay zone depth 2252-2370 feet

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

Final open flow, 410 Mcf/d Final open flow, 3 Bbl/d

Time of open flow between initial and final tests, ___ hours NOV 14 1979

Static rock pressure, 1200 psig (surface measurement) after 24 hours shut in

[08-78]

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

Weir - Perforated Intervals 2256-2262 5 holes
 Fraced with 333 bbls. water 2275-2279 4 holes
 and 28,000# sand and 2328-2338 6 holes
 50,000 SCF N₂ 2346-2356 6 holes

Keener - Perforated Intervals 2012-2022 10 holes
 Fraced with 329 bbls. water and 28,000# sand and 50,000 SCF N₂

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Soil	Brown	Soft	0	10	
Sand & Shale	Black	Soft	10	915	
Shale	Black	Soft	915	1085	
Shale	Black	Soft	1085	1279	
Sand	White	Hard	2179	1342	
Shale	Black	Soft	1342	1420	
Sand	White	Hard	1420	1432	
Shale	Black	Soft	1432	1465	
Sand	White	Hard	1465	1585	
Shale	Black	Soft	1585	1640	
Sand	White	Hard	1640	1690	
Shale	Black	Soft	1690	1740	
Sand	White	Hard	1740	1758	
Shale	Black	Soft	1758	1885	
Lime (little)	White	Hard	1885	1930	
Lime (big)	White	Hard	1930	2002	
Sand Keener	White	Hard	2002	2027	
Sand Big Injun	White	Hard	2027	2093	
Shale	Black	Soft	2093	2252	
Weir	Black	Soft	2252	2370	
Shale	Black	Soft	2370	2420	
TD				2420	

(Attach separate sheets to complete as necessary)

Industrial Gas Associates
Well Operator

By John Cushing
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

Mail Permit 10...
Petroleum Services, Inc.
Box 4081
Parkersburg, WV 26101

Oil and Gas Division

RECEIVED

OCT 4 1979

OIL AND GAS WELL PERMIT APPLICATION

OIL & GAS DIVISION
DEPT. OF MINES

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

DATE October 3, 1979

Surface Owner Gladys Hurst
Address Greenwood, WV
Mineral Owner Gladys Hurst Etals
Address Greenwood, WV
Coal Owner N/A
Address N/A
Coal Operator N/A
Address N/A

Company Industrial Gas Associates
Address Greenwich, CT 06830
Farm Hurst Acres 94
Location (waters) Long Run
Well No. 2 Elevation 1040
District Central County Doddridge
Quadrangle West Union 7 1/2

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 6-5-80

Robert R. [Signature]

Deputy Director - Oil & Gas Division
GENTLEMEN:

INSPECTOR
TO BE NOTIFIED Paul Garrett
ADDRESS 320 Beach St., Clarksburg, WV
PHONE 622-3871

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 July 17 1979 by Gladys Hurst made to Petroleum Services and recorded on the 20 day of July 1979, in Doddridge County, Book 109 Page 368

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

Address
of
Well Operator

Very truly yours, John Cushing
(Sign Name) Industrial Gas Associates
Well Operator
P.O. Box 1610
Street
Greenwich
City or Town
Connecticut 06830
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.

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