



Minimum Error of Closure 1 in 200

Source of Elevation Elev Well No. 1 - Location - 827

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.

- Fracture.....
- New Location.....
- Drill Deeper.....
- Abandonment.....

Signed: [Signature]  
Squares: N S E W

Map No. \_\_\_\_\_

Company SECURITY GAS & OIL INC.  
 Address 100 BUSH ST. SUITE 2301  
SAN FRANCISCO, CA. 94106

Farm Iva B. Horner

Tract \_\_\_\_\_ Acres 238.38 Lease No. \_\_\_\_\_

Well (Farm) No. Two Serial No. \_\_\_\_\_

Elevation (Spirit Level) 880 EC

Quadrangle Bens Run 7 1/2', St Marys 15'

County Pleasants District Union

Engineer [Signature]

Engineer's Registration No. 1227 643200

File No. \_\_\_\_\_ Drawing No. \_\_\_\_\_

Date April 28, 1978 Scale 1" = 1000'

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

WELL LOCATION MAP  
FILE NO. 47-073-0746

+ Denotes location of well on United States Topographic Maps, scale 1 to 25,000, latitude and longitude lines being represented by border lines as shown.

— Denotes one inch spaces on border line of original tracing.



State of West Virginia DEPARTMENT OF ENERGY Oil and Gas Division

Date December 14, 1990 Operator's Well No. 2 Farm Iva Horner API No. 47 - 073 - 0746

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

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

LOCATION: Elevation: 880 Watershed Big Run District: Union County Pleasants Quadrangle Bens Run

COMPANY Halwell Company, Inc. ADDRESS 423 Second Street, Marietta, OH 45750 DESIGNATED AGENT Roy C. Martin, Esquire ADDRESS 2020 Kanawha Blvd., E., Charleston WV 25311 SURFACE OWNER Norman Horner ADDRESS Star Route, Box 121, Bens Run, WV 26135 MINERAL RIGHTS OWNER Norman Horner ADDRESS Star Route, Box 121, Bens Run, WV 26135 OIL AND GAS INSPECTOR FOR THIS WORK Sam Hershman ADDRESS Route 1, Box 240 Harrisville, WV 26362 PERMIT ISSUED April 9, 1979 DRILLING COMMENCED April 27, 1979 DRILLING COMPLETED April 30, 1979 IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Table with 4 columns: Casing & Tubing Size, Used in Drilling, Left in Well, Cement fill up Cu. ft. Rows include sizes 20-16, 13-10, 9 5/8, 8 5/8, 7, 5 1/2, 4 1/2, 3, 2, and Liners used.

GEOLOGICAL TARGET FORMATION Gordon Depth 2746 feet Depth of completed well 3012 feet Rotary x / Cable Tools Water strata depth: Fresh 35 feet; Salt 0 feet Coal seam depths: 0 Is coal being mined in the area?

OPEN FLOW DATA

Producing formation Gordon Pay zone depth 2746 feet Gas: Initial open flow Unknown Mcf/d Oil: Initial open flow Unknown Bbl/d Wells purchased 8 years after completion and information is not available Final open flow Mcf/d Final open flow Bbl/d Time of open flow between initial and final tests hours Static rock pressure Unknown psig (surface measurement) after hours shut in (If applicable due to multiple completion--)

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

Perfs from 2748' to 2754'

Slick water frac

110,000 lbs. sand

52,500 gal. water

Break 2000 psi

Rate 25.4 BPM

ISIP 1400 psi

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Sandy shale	gray		0	1536	
3rd Salt sand	gray	hard	1536	1590	
Shale	gray	hard	1590	1648	
Maxton	gray	hard	1648	1662	
Shale	gray	hard	1662	1754	
Keener	gray	hard	1754	1772	
Sand	gray	hard	1772	1956	
Squaw	gray	hard	1956	1978	
Shale	gray	hard	1978	2447	
Berea	gray	hard	2447	2452	
Shale	gray	hard	2452	2746	
Gordon	gray	hard	2746	2755	
Shale	gray	hard	2755	3012	

(Attach separate sheets as necessary)

Halwell Company, Inc.

Well Operator

By:

Date: Robert N. Pennock December 14, 1990  
Petroleum Engineer

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."

2 def



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

RECEIVED

APR 24 1979

OIL & GAS DIVISION  
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

DATE April 9, 1979

Surface Owner Iva B. Horner

Company Security Gas & Oil Inc.

Address Wilber W. Va. c/o Borman Pierson

Address 100 Bush St. Suite 2301

Mineral Owner Same

Farm Iva B. Horner Acres 238.38

Address \_\_\_\_\_

Location (waters) Big Run

Coal Owner Same

Well No. Two (2) Elevation 880

Address \_\_\_\_\_

District Union County Pleasants

Coal Operator None

Quadrangle Bens Run

Address \_\_\_\_\_

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 12-25-79.

INSPECTOR  
TO BE NOTIFIED Philip Tracey

ADDRESS Middlebourne, W. Va.

PHONE 1-304-758-4573

*Robert S. [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 April 18 1978 by Iva B. Horner made to Frank W. Bethel and recorded on the 19th day of April 1978, in Pleasants County, Book 149 Page 495

~~XXXX~~ 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,

(Sign Name) Frank E. Bethel

Well Operator  
Security Gas & Oil Inc.  
100 Bush St. Suite 2301

Address  
of  
Well Operator

San Francisco, Ca 94104

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.

CASH DEPOSIT  
HELD BY TREASURER

47-073-0746

PERMIT NUMBER

**THIS IS AN ESTIMATE ONLY  
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION**

PROPOSED WORK ORDER TO XXXX DRILL \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE-STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) \_\_\_\_\_ RESPONSIBLE AGENT: \_\_\_\_\_  
 NAME \_\_\_\_\_ NAME Burl W. Smith  
 ADDRESS \_\_\_\_\_ ADDRESS Rt. 39, St. Marys, W.Va. 26170  
 TELEPHONE \_\_\_\_\_ TELEPHONE 1-304-684-7259  
 ESTIMATED DEPTH OF COMPLETED WELL: 3000' ROTARY XXXX CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Gordon Series  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS \_\_\_\_\_ COMB. XXXX STORAGE \_\_\_\_\_ DISPOSAL \_\_\_\_\_  
 RECYCLING \_\_\_\_\_ WATER FLOOD \_\_\_\_\_ OTHER \_\_\_\_\_

**TENTATIVE CASING PROGRAM:**

CASING AND TUBING SIZE	USED FOR DRILLING	LIFT IN WELL	CEMENT FILL UP OR SACKS CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8			
8 - 5/8	250'	250'	Fill-up
7			
5 1/2			
4 1/2	3000'	3000'	180 sacks
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 100 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