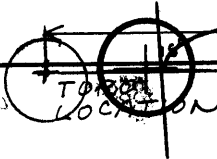


Plot Card CSD

0.025  
1.75W



0.03s  
~~4.07W~~  
3.97W

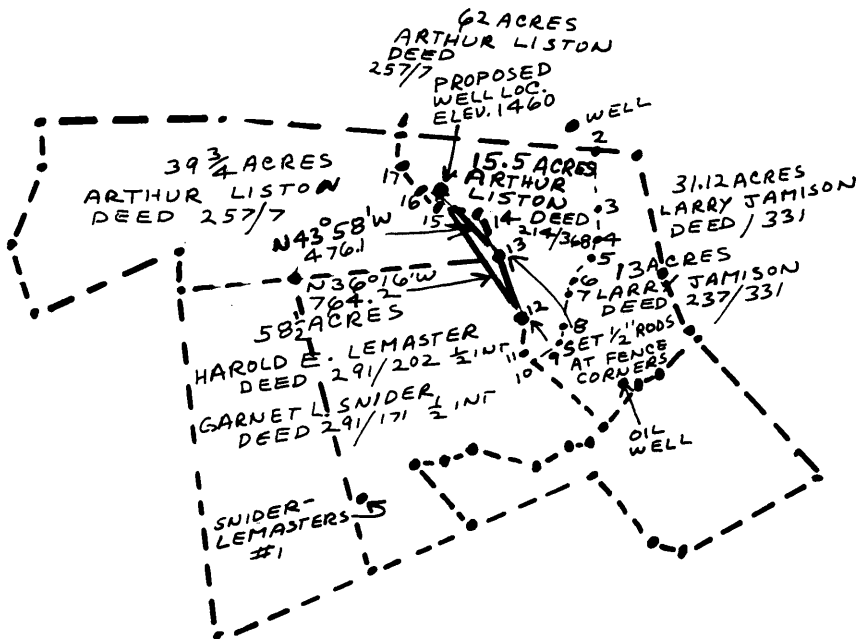
LATITUDE 39° 40'

SOLID LINES - NORTH  
1903 PLAT 137/407

LONGITUDE 80° 37' 30"  
80° 35'

15 1/2 ACRES

- 1-2 S84°30'E 1015.5
- 2-3 S00°30'E 305.2
- 3-4 S1°00'E 148.5
- 4-5 S25°00'W 107.2
- 5-6 S36°00'W 165
- 6-7 S23°00'W 86.6
- 7-8 S3°30'W 156.7
- 8-9 S17°30'W 99
- 9-10 S49°30'W 194.7
- 10-11 N47°00'W 98
- 11-12 N3°15'W 166.5
- 12-13 N26°45'W 283 (N23°57'W 299.26)
- 13-14 N26°45'W 235
- 14-15 N79°42'W 204
- 15-16 N49°30'W 116
- 16-17 N30°15'W 164
- 17-1 N6°15'E 241

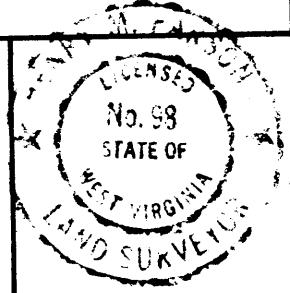


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. 80-5749-Z  
 DRAWING NO. 80-5749-Z  
 SCALE 1"=1000  
 MINIMUM DEGREE OF ACCURACY 1 IN 2500  
 PROVEN SOURCE OF ELEVATION B.M. 1588 ON WILEYVILLE TOPO

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) Henry M. Parsons  
 R.P.E. \_\_\_\_\_ L.L.S. #98



PLACE SEAL HERE

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION



DATE AUGUST 5, 1983  
 OPERATOR'S WELL NO. LISTON#2  
 API WELL NO. 103  
47 WETZEL 1292  
 STATE COUNTY PERMIT

WELL TYPE: OIL  GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS,") PRODUCTION \_\_\_\_\_ STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW

LOCATION: ELEVATION 1460 WATER SHED RUSH RUN  
 DISTRICT PROCTOR COUNTY WETZEL  
 QUADRANGLE WILEYVILLE, W. VA. Littleton 15' C  
 SURFACE OWNER ARTHUR LISTON ACREAGE 15.5  
 OIL & GAS ROYALTY OWNER C. LEMASTER, L. LEMASTER, S. TAYLOR, J. SMITH HEIRS LEASE ACREAGE 148  
LEASE NO. HB-324-648

PROPOSED WORK: DRILL  CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_  
 TARGET FORMATION GORDON ESTIMATED DEPTH 3560'  
 WELL OPERATOR HADDAD & BROOKS, INC. DESIGNATED AGENT HENRY M. PARSONS  
 ADDRESS 905 WASHINGTON RD., BOX 714 WASHINGTON, PA. 15301-1153 ADDRESS 121 GLENVIEW DR., NEW MARTINSVILLE WV 26155

FORM IV-6 (8-78) H.T. HALL

COUNTY NAME PERMIT



IV-35  
(Rev 8-81)

**APPROVED**  
SPEC. PERMITS  
DEPT. OF MINES

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date September 18, 1984  
Operator's Well No. #2  
Farm Liston  
API No. 47 - 103 - 1292

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 X /)

LOCATION: Elevation: 1460 Watershed Rush Run  
District: Proctor County Wetzel Quadrangle Wileyville

COMPANY Haddad and Brooks, Inc.  
ADDRESS 905 Washington Rd., Box 714, Washington, PA  
DESIGNATED AGENT Henry M. Parsons  
ADDRESS 121 Glenview Dr., New Martinsville, WV 26155  
SURFACE OWNER Arthur Liston  
ADDRESS Rt. 1, Box 78, Morgantown, WV 26505  
MINERAL RIGHTS OWNER C. Lemasters et al  
ADDRESS New Martinsville, WV 26155  
OIL AND GAS INSPECTOR FOR THIS WORK Robert A. Lowther ADDRESS Middlebourne, WV 26149  
PERMIT ISSUED 10-31-83  
DRILLING COMMENCED 12-27-83  
DRILLING COMPLETED 4-27-84

Casing & Tubing Size	Used in Drilling	Left in Well	Cement fill up Cu. ft.
20-16 Cond.			
13-10"			
9 5/8			
8 5/8	1800	1800	360 sx 50:50 Poz 75 sx Neat
7			
5 1/2			
4 1/2	3563	3563	100 sx Thix.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Gordon Depth 3421 feet  
Depth of completed well 3566 feet Rotary X / Cable Tools     
Water strata depth: Fresh Unknown feet; Salt Unknown feet Drilled with fluid.  
Coal seam depths: 1299' (Pittsburgh Coal) Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Gordon Stray, Gordon Pay zone depth 3404-3439 feet  
Gas: Initial open flow 26 Mcf/d Oil: Initial open flow 26 Bbl/d  
Final open flow (26) Mcf/d Final open flow (26) Bbl/d  
Time of open flow between initial and final tests 2 hours  
Static rock pressure 1500 psig (surface measurement) after 64 hours shut in

<sup>23</sup>/<sub>26</sub> (If applicable due to multiple completion--)  
149 MCF  
+30 Bbl  
PDF for well  
Second producing formation Berea Pay zone depth 3164-3170 feet  
Gas: Initial open flow 151 Mcf/d Oil: Initial open flow 4 Bbl/d  
Final open flow (123) Mcf/d Oil: Final open flow (4) Bbl/d  
Time of open flow between initial and final tests 6 hours  
Static rock pressure 530 psig (surface measurement) after 13 hours shut in

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.  
7/5/84 Perf Gordon with 16 holes 3428-3432'. Perf Gordon Stray with 6 holes 3409-3412'.

7/6/84 Frac Gordon and Gordon Stray with 619 barrels gelled diesel 29,000# 20/40 sand, 4800# 10/20 sand. BDP: 2850 psi. ATP 3150 psi. ATR: 20 BPM. Perf Berea with 20 holes 3162-3167'. Frac Berea with 700 barrels foamed diesel, 25,500# 20/40 sand, 14,300# 10/20 sand. BDP: 3500 psi. ATR 17 BPM. ATP: 3070 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
Undifferentiated Sand and Shale			0	2506'	Pittsburgh Coal @ 1299'.
Greenbrier		Tn-Wt H	2506'	2584'	
Big Injun		Clr-Wt H-M	2584'	2814'	
Shale & Slst		Gy-Bn M-S	2814'	2958'	
Weir		Wt. H-S	2958'	3003'	
Shale & Slst		Gy-Gn S	3003'	3164'	
Berea		Clr. H	3164'	3204'	SG
Shale & Slst		Gy-Gn S	3204'	3404'	
Gordon Stray		Wt. M	3404	3414'	SOG
Shale		Gy S	3414'	3421'	
Gordon		Wt. M	3421'	3439'	SOG
Shale		Gy-Bn S	3439'	3470'	
<u>Fourth</u>		Wt. M	3470'	3475'	SG
Shale		Gy S	3475'	3576'	TD

All depths from G.L.



1) Date: \_\_\_\_\_, 19\_\_\_\_  
 2) Operator's Well No. Liston #2  
 3) API Well No. 47 - 103 - 1292  
 State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES, OIL AND GAS DIVISION  
 APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil  / Gas   
 B (If "Gas", Production  / Underground storage \_\_\_\_\_ / Deep \_\_\_\_\_ / Shallow )  
 5) LOCATION: Elevation: 1460 Watershed: Rush Run  
 District: Proctor County: Wetzel Quadrangle: Wileyville 7.5'  
 6) WELL OPERATOR Haddad & Brooks, Inc.  
 Address 905 Washington Rd., P.O. Box 714  
Washington, PA 15301-1153  
 7) DESIGNATED AGENT Henry M. Parsons  
 Address 121 Glenview Drive  
New Martinsville, WV 26155  
 8) OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name Robert A. Lowther  
 Address General Delivery  
Middlebourne, WV 26149  
 9) DRILLING CONTRACTOR:  
 Name Not yet known  
 Address \_\_\_\_\_  
 10) PROPOSED WELL WORK: Drill  / Drill deeper \_\_\_\_\_ / Redrill \_\_\_\_\_ / Stimulate   
 Plug off old formation \_\_\_\_\_ / Perforate new formation \_\_\_\_\_  
 Other physical change in well (specify) \_\_\_\_\_

**RECEIVED**

OCT 11 1983

- 11) GEOLOGICAL TARGET FORMATION, Gordon  
 12) Estimated depth of completed well, 3560 feet  
 13) Approximate strata depths: Fresh, N/A feet; salt, 2330 feet.  
 14) Approximate coal seam depths: 1309' Is coal being mined in the area? Yes \_\_\_\_\_  
 15) 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	11 3/4"					80'	80'		Kinds
Fresh water									
Coal									Sizes
Intermediate	8 5/8"					1399'	1399'	400 sacks	By Rule 15-05
Production	4 1/2"					3560'	3560'	200 sacks or	
Tubing								as required	Depths set
Li. str.								by Rule 15	Perforations:
									Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-103-1292 Date October 31, 1983

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.

Permit expires October 31, 1985 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <b>LANCET BOND</b>	Agent: <u>[Signature]</u>	Plat: <u>[Signature]</u>	Casing: <u>[Signature]</u>	Fee: <u>487</u>
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[Signature]  
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

File