

Janie 8/14/89

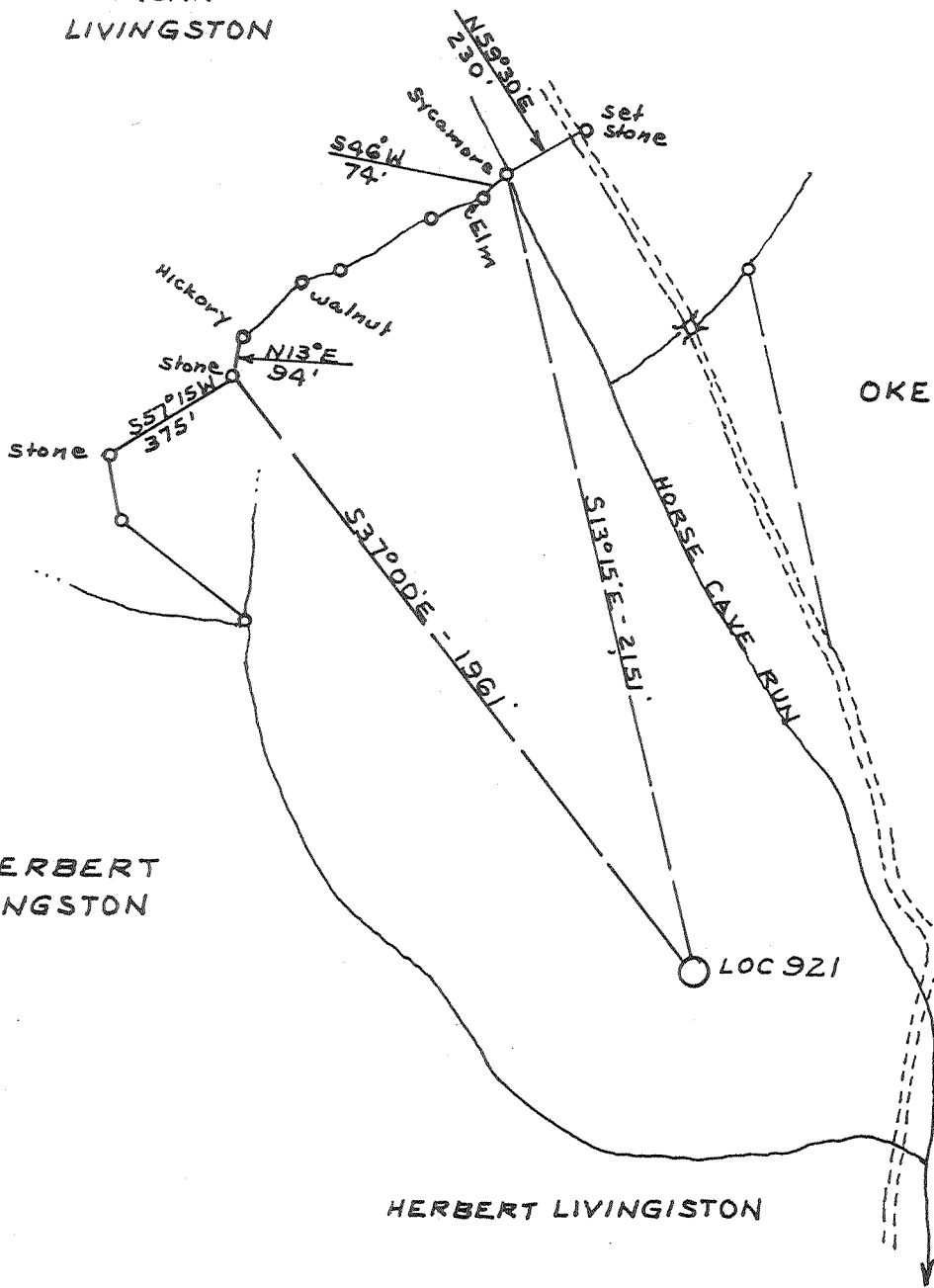
Latitude 38° 47' 30"  
(15') 38° 50'

LABAN LIVINGSTON

OKEY LIVINGSTON

HERBERT LIVINGSTON

HERBERT LIVINGSTON



4.80  
0.21



1.95  
0.20

10,350'

Longitude 81° 50' 00"

source of elevation Road Forks  
1500± North of well location  
E1.745.0'

- New Location
- Storage
- Drill Deeper
- Abandonment
- Re-Drill/Fracture

"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 the rules and regulations of the oil and gas section of the mining laws of West Virginia. Minimum degree of accuracy is one part in 200. I am a Licensed Land Surveyors license N992 Legg star Rt Box 549-B Sissonville wva 25320 Signed C J Yalley Jr.

Company Quinoco Petroleum 1039  
 Address 1207 Quamina Street, P.O. Box 1433, Char. W. 25325  
 Farm ERMA LIVINGSTON  
 Lease \_\_\_\_\_ Acres 69  
 Well Farm No. 1 Ser. No. 921  
 Elevation - Spirit Level 838.0  
 Quadrangle COTTAGEVILLE, ROVENSWOOD 15,307  
 Township or District UNION 9 110  
 County MASON 8  
 Sec., Lot, Qr. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_  
 Coordinates \_\_\_\_\_  
 File No. \_\_\_\_\_ Dwg. No. \_\_\_\_\_  
 Date 6-3-78 Scale 1" = 500'

**WELL LOCATION MAP**  
THE STATE OF WEST VIRGINIA

(+) Denotes Values Of Well On United States Topographic Maps

**MAS - 156** TEMPORARY  
 Scale 15'  7 1/2'  Plusback  
 FRAC NEW FORMATIONS

47-053

AUG 25 1989

4825' OHISKANY

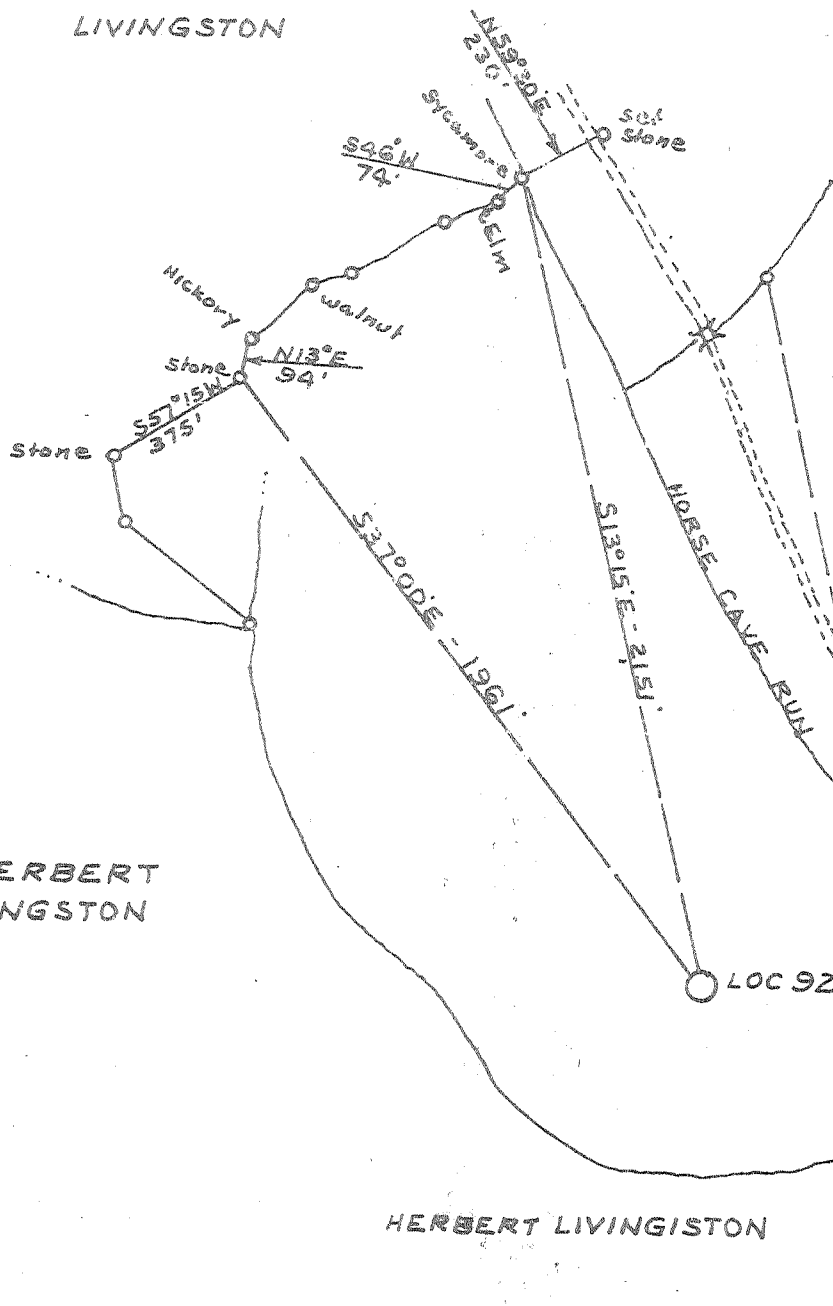
Latitude 38° 47' 30"  
(15') 38° 50'

LABAN LIVINGSTON

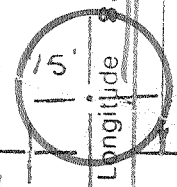
OKEY LIVINGSTON

HERBERT LIVINGSTON

HERBERT LIVINGSTON



4.885  
0.23W



7 1/2

60 45 45  
81 50 15

source of elevation Road Forks  
1,500± North of well location  
E1. 745.0'

- New Location
- Storage
- Drill Deeper
- Abandonment
- Re-Drill/Fracture

"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 the rules and regulations of the oil and gas section of the mining laws of West Virginia.  
Minimum degree of accuracy is one part in 200.  
Land surveyors license N992 Legg Star Rt Box 549-B  
Sissonville WVA 25320 Signed C. J. Yolley Jr.

Company DEVON CORP  
 Address PO BOX 1433 CHARLESTON WV  
 Farm ERMA LIVINGSTON  
 Lease \_\_\_\_\_ Acres 69  
 Well Farm No. 1 Ser. No. 921  
 Elevation - Spirit Level 838.0 SC  
 Quadrangle COTTAGEVILLE, ROVENSWOOD 15'  
 Township or District UNION  
 County MASON  
 Sec., Lot, Qr. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_  
 Coordinates \_\_\_\_\_  
 File No. \_\_\_\_\_ Dwg. No. \_\_\_\_\_  
 Date 6-3-78 Scale 1" = 500'

WELL LOCATION MAP  
THE STATE OF WEST VIRGINIA

(+) Denotes Values Of Well On United States Topographic Maps

MAS - 156

Scale 15'  7 1/2'

47-053

Deep Well

4825' Oilfield 6-6 Providence (359)



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

Oil and Gas Division  
WELL RECORD <sup>34</sup>

**RECEIVED**  
SEP - 4 1979  
47-053-0156  
OIL & GAS DIVISION  
DEPT. OF MINES  
Rotary XXX Oil XXX  
Cable XXX Gas XXX  
Recycling XXX Comb. XXX  
Water Flood XXX Storage XXX  
Disposal XXX (Kind)

Quadrangle Cottageville  
Permit No. MAS-156

Company DEVON CORPORATION  
Address PO Box 1433, Charleston, WV  
Farm Erma Livingston Acres 69  
Location (waters) Horse Cave Run  
Well No. 921 Elev. 841  
District Union County Mason  
The surface of tract is owned in fee by Erma Livingston, Box 52  
Address Evans, WV 25241  
Mineral rights are owned by Same as above  
Address \_\_\_\_\_  
Drilling Commenced December 14, 1978  
Drilling Completed December 22, 1978  
Initial open flow 3 MCFD ~~XXXXX~~ bbls.  
Final production 307 MCFD ~~XXXXX~~ per day bbls.  
Well open 4 hrs. before test 1875# RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			
Cond. 13-10"			
9 5/8	250	250	100 sax=to surface
8 5/8			
7	2524	2524	75 sax=625'
5 1/2			
4 1/2		4768	200 sax=2400'
3			
2			
Liners Used			

Well treatment details:  
Perforated 4 1/2" csg @ 4691' to 4693'  
Fractured Oriskany Sand with 865 BBLs water & 45,000# sand

Attach copy of cementing record. 307 MCF

Coal was encountered at None reported Feet \_\_\_\_\_ Inches \_\_\_\_\_  
Fresh water \_\_\_\_\_ Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet \_\_\_\_\_  
Producing Sand Oriskany Sand Depth 4691-4693

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Sand			0	25		
Shale			25	103		
Sand			103	142		
Shale			142	648		
Sand			648	700		
Shale			700	743		
Sand			743	838		
Shale			838	935		
Sand			935	967		
Shale			967	1116		
Sand			1116	1198		
Shale			1198	1294		
Sand			1294	1355		
Shale			1355	1395		
Sand			1395	1482		
Shale			1482	1750		
Maxon Sand			1750	1813		
Big Lime			1813	1946		
Shale			1946	1978		
Injun Sand			1978	2055		
Shale			2055	2417		
Coffee Shale			2417	2439		
Berea Sand			2439	2454		
Shale			2454	3608		

(over)

\* Indicates Electric Log tops in the remarks section.

47-053-0156

Formation	Color	Hard or Soft	Top Feet <sup>34</sup>	Bottom Feet	Oil, Gas or Water	Remarks
Br. Shale			3608	4056		
Shale			4056	4438		
Marcellus Shale			4438	4594		
Onondaga L. S.			4594	4673		
Oriskany Sand			4673	4698		
Helderberg L. S.			4698	4803		
Log Total Depth				4803'		

GR log - of 82130

H 3608  
 J 4050  
 A 4188  
 Sh 4336  
 On 4594

Date January 9, 1979

APPROVED A. C. House Owner

By A. C. House  
 District Geologist  
 (Title)



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

RECEIVED  
MAY 21 1978  
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 May 9, 1978  
Company DEVON CORPORATION  
Address Box 1433, Charleston, W. Va. 25325  
Farm Erma Livingston Acres 69 ac  
Location (waters) Horse Cave Run  
Well No. 921 Elevation 841  
District Union County Mason  
Quadrangle Cottageville

Surface Owner Erma Livingston  
Address Rt. 1, Box 52, Evans, W. Va. 25241  
Mineral Owner Erma Livingston  
Address Rt. 1, Box 52, Evans, W. Va. 25241  
Coal Owner Same as above  
Address \_\_\_\_\_  
Coal Operator Not operated  
Address \_\_\_\_\_

THIS PERMIT MUST BE POSTED AT THE WELL SITE

If 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 10-7-78  
Robert S. Bell  
Deputy Director - Oil & Gas Division  
INSPECTOR Kenneth Butcher  
TO BE NOTIFIED  
ADDRESS Barboursville, W. Va.  
PHONE 736-4885

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 January 28 1978 by Cecil Livingston, et ux made to Commonwealth Gas and recorded on the \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_, in Mason County, Book 35 Page 421  
XXX 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:

W. VA. OIL & GAS CONSERVATION COMMISSION  
613 WASHINGTON STREET, EAST  
CHARLESTON, WEST VIRGINIA 25311

Very truly yours,  
(Sign Name) A. C. Youse  
A. C. Youse, <sup>Well Operator</sup> Dist. Geologist  
PO Box 1433  
Street  
Charleston,  
City or Town  
West Virginia 25325  
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.

BLANKET BOARD

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

PROPOSED WORK ORDER TO XXX DRILL \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE-STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:  
 NAME FWA Drilling Co. NAME Bill Endicott  
 ADDRESS Box 448, Elkview, W. Va. ADDRESS Box 1433, Charleston, W. Va.  
 TELEPHONE 965-3379 TELEPHONE 342-3171  
 ESTIMATED DEPTH OF COMPLETED WELL: 4825 ROTARY XXX CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Oriskany  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS XXX 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	250	250	100 sax=to surface
8 - 5/8			
7	2525	2525	75 sax=625'
5 1/2			
4 1/2		4825	150 sax=1800'
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS \_\_\_\_\_ FEET \_\_\_\_\_ SALT WATER \_\_\_\_\_ FEET \_\_\_\_\_  
 APPROXIMATE COAL DEPTHS None anticipated  
 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

053-0156-F

Issued 8/23/89 Expires 8/23/91  
Page \_\_\_ of \_\_\_

FORM WW-2B

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

- 1) Well Operator: Quinoco Petroleum, Inc. 40475 (9) 307
- 2) Operator's Well Number: 921 - Livingston (47-053-0156) 3) Elevation: 841
- 4) Well type: (a) Oil  / or Gas  /  
(b) If Gas: Production  / Underground Storage  /  
Deep  / Shallow  / 401
- 5) Proposed Target Formation(s): Brown Shale/Berea
- 6) Proposed Total Depth: ±4150 feet
- 7) Approximate fresh water strata depths: none reported
- 8) Approximate salt water depths: none reported
- 9) Approximate coal seam depths: none reported
- 10) Does land contain coal seams tributary to active mine? Yes  / No  /
- 11) Proposed Well Work: Set bridge plug above Oriskany sand, cement squeeze 4-1/2" casing, perforate and fracture the Brown Shale and Berea.

CASING AND TUBING PROGRAM

*True*

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT	
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	9-5/8"			250'	250'	to surface
Fresh Water						
Coal						
Intermediate	7"			2524	2524	75 sxs to 1900'
Production	4-1/2"				4768	2298-logged <i>38CSR18-11.1</i>
Tubing						
Liners						

**RECEIVED**  
AUG 07 1989

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

For Division of Oil and Gas Use Only

01490  
211 Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
 Bond Blanket  Agent

RECEIVED  
AUG 07 1989

Page 1 of 4  
Form WW2-A  
(09/87)  
File Copy

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

Date: July 25, 1989  
Operator's well number  
921 - Erma Livingston  
API Well No: 47 - 053 - 0156-FRAC  
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- |  |  |
|--|--|
| <p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Erma &amp; Cecil Livingston</u><br/>Address <u>Route 1, Box 106</u><br/><u>Evans, WV 25241</u></p> <p>(b) Name _____<br/>Address _____</p> <p>(c) Name _____<br/>Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>N/A</u><br/>Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name <u>N/A</u><br/>Address _____</p> <p>Name <u>N/A</u><br/>Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name <u>N/A</u><br/>Address _____</p> |
| <p>6) Inspector <u>Jerry Tephabock</u><br/>Address <u>Route 1, Box 101-A</u><br/><u>Ripley, WV 25271</u><br/>Telephone (304)- <u>372-6805</u></p>  |  |

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

       Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR  
  X   Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 4 on the above named parties, by:

       Personal Service (Affidavit attached)  
  X   Certified Mail (Postmarked postal receipt attached)  
       Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: Quinoco Petroleum, Inc.  
By: [Signature]  
Its: District Manager/District Agent  
Address 1207 Quarrier Street, P. O. Box 1433  
Charleston, WV 25325  
Telephone (304) 342-6193

Subscribed and sworn before me this 25th day of July, 1989

[Signature] Notary Public  
My commission expires December 9, 1997