



# PERMIT RENEWAL APPLICATION

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*CLASS II-D*

PRODUCTION FLUID DISPOSAL WELL

# Permit Application

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## 1.0 Introduction

EnerVest Operating, LLC (EnerVest) with its Virginia operations office located in Abingdon and Clintwood, Virginia, is submitting this permit application for the renewal of EPA Underground Injection Control (UIC) Permit VAS2D957BDIC. This well is a Class II-D oil and gas production fluid disposal well in Nora, Virginia.

EnerVest has operated this injection well since January 14, 2016, taking over operations from Range Resources – Pine Mountain, Inc. which was the original permit holder. This permit renewal application will present the necessary information and supporting documentation to renew the permit and continue the disposal of gas and oil production fluids.

## 2.0 Permit P-205: EPA UIC Permit VAS2D957BDIC

UIC Permit VAS2D957BDIC is known by the following:

- **P-205** – Well Number assigned by Philadelphia Oil Company when the well was permitted.
- **Commonwealth of Virginia** – Permit No. DI-0249 was issued for the drilling, completion , and operation of Well P-205.
- **Commonwealth of Virginia** – Division of Gas and Oil has developed a digital mapping and records management system. In doing so, Well P-205 has been assigned map and file number PWD-750205.
- **API# 45-051-00249-00** : The Commonwealth of Virginia has instituted a new numbering system for American Petroleum Institute numbers on wells in Virginia.

For this permit application, Well P-205, *EPA UIC Permit VAS2D957BDIC*, is requested to be renewed as a Class II-D production fluid disposal well. However, should any of the above well names and/or references appear on any documents, letters, drawings, etc., the meaning is Well P-205.

## 3.0 Well History

Permit No. 837 to drill for oil and gas was issued on November 1, 1985 to Philadelphia Oil Company by the Commonwealth of Virginia to drill Well P-205. Drilling of Well P-205 commenced on November 7, 1985 and was completed on November 21, 1985. A total depth of 6,153 feet was reached, with the Berea and Brown Shale formations being completed for the production of natural gas.

In June 2005, Equitable Production Company made the required notice and received approval from the DMME to modify Well P-205. The modification was to allow Equitable Production Company to re-enter Well P-205 to perforate, hydro-frac, stimulate, test, and produce the Weir formation. The Weir formation was perforated between the interval of 4,512 to 4,542 feet below ground surface and treated for the production of natural gas.

The Weir formation was determined to be an insufficient economic gas reserves to justify the production of the Weir formation. With this determination by Equitable Production Company, the well was evaluated as a candidate for conversion to an underground injection control well. Based on this evaluation, Well P-205 was chosen to be converted to an underground injection control well.

The original permit was submitted to EPA in May 2007. Injection began in May 2008. The permit's cover page was updated to reflect the company's name change to Range Resources – Pine Mountain, Inc. in April 2008. EnerVest Operating, LLC purchased Range Resources – Pine Mountain, Inc. in January 2016. The EPA UIC permit was transferred to EnerVest on January 14<sup>th</sup>, 2016.

## **4.0 Permit Application Layout**

The renewal of injection well BU-1614 (23606) will include:

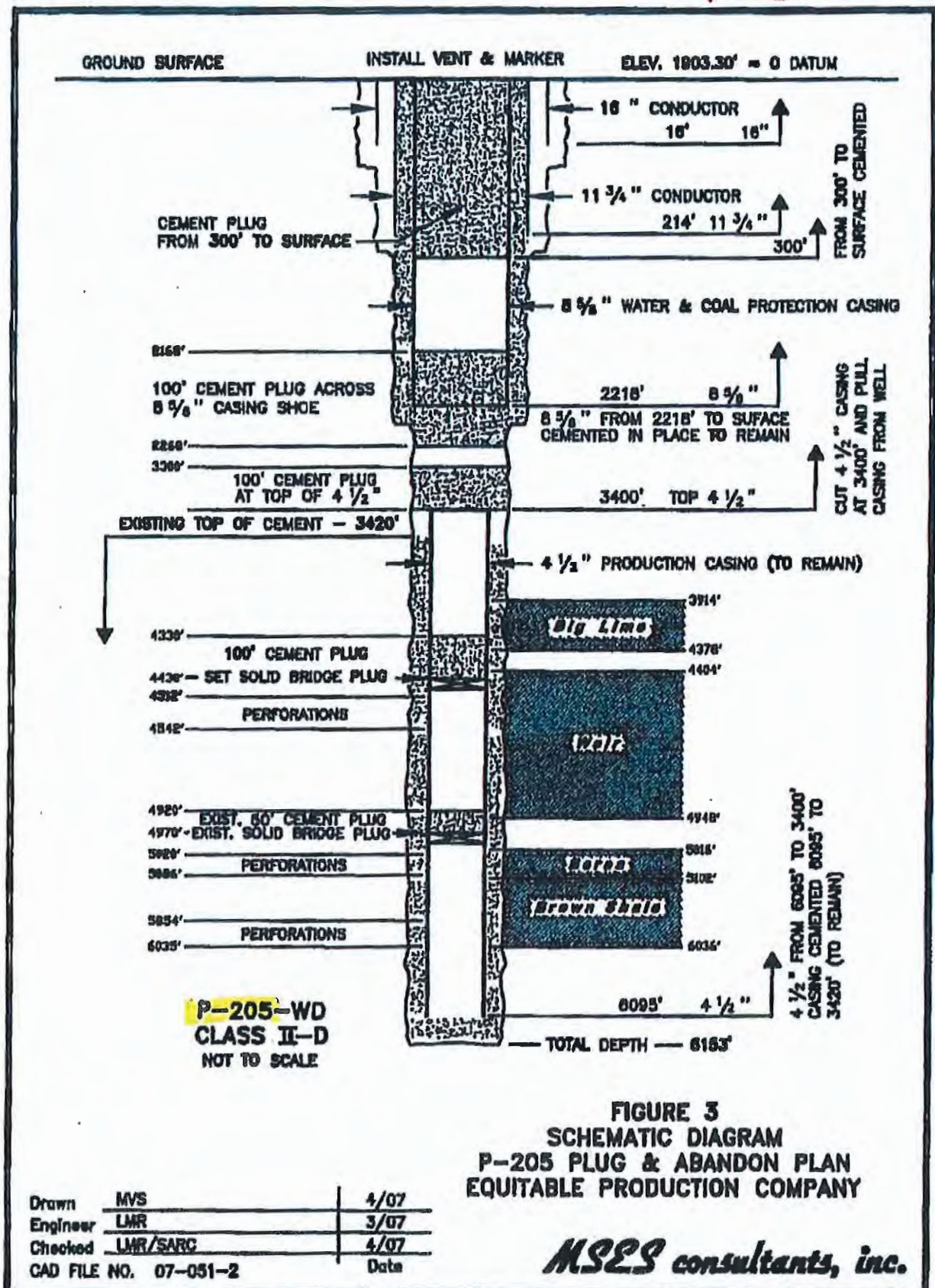
- Signed EPA Form 7520-6
- Attachments A, B, C,G, H, and Appendix C.







P-205



# ATTACHMENT A

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AREA OF REVIEW

## 1.0 INTRODUCTION

The fixed radius of ¼-mile from existing Well P-205 was used for the area of review. All information presented and mapping provided are based upon the ¼-mile radius using Well P-205 as the center.

On some selective mapping, a radius of ½-mile and one-mile, using Well P-205 as the center, will be the area of review as required by this permit application.

Table A-1

Parameter	Value
Reservoir Pressure in Injection Formation	2,474 $\frac{lbs}{in^2}$
Permeability	0.059 mD
Porosity	5-6%
Annual Average Monthly Injection Volume (bbls)	2016 – 15,604.6 bbls average 2015 – 15,445.0 bbls average 2014 – 15,036.5 bbls average 2013 – 14,640.0 bbls average 2012 – 14,552.0 bbls average

$$\text{Calculation: } BHP = 121 \frac{lbs}{in^2} + (8.8 \frac{lbs}{gal} * 5148 ft * \frac{12in}{ft} * \frac{gal}{231in^3})$$

$$BHP = 121 \frac{lbs}{in^2} + \frac{2,353lbs}{in^2}$$

$$BHP = 2,474 \frac{lbs}{in^2}$$

# ATTACHMENT B

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REVIEW AREA AND WELL INFORMATION



## 1.0 AREA OF REVIEW MAP

EnerVest (formerly Range Resources – Pine Mountain) used 1/4-mile as the Area of Review for UIC Permit Number VAS2D957BDIC (P-205). Drawing 1 is a topographic map that identifies the area within a 1/4-mile, one mile, and 1/2-mile radius of UIC P-205. This drawing provides the following information:

- ☐ **Location of P-205** – The permitted injection zone is the Weir formation from 4,512 to 4,542 feet deep. There are three coalbed methane wells within the 1/4-mile area of review. These wells are outlined in section 4.0 and are shown on the attached map.
- ☐ **Existing Well Information** – All wells within one mile are identified by operator's well number, state file number and well type for all known producing, abandoned, dry holes, and injection. This information was gathered from well and map records on file with the Virginia Division of Gas and Oil and from EnerVest's company files.
- ☐ **Surface and Subsurface Features** – The map identifies no surface bodies of water, springs, underground sources of drinking water ("USDW"), mines (surface and deep), quarries, roads, and other pertinent surface and subsurface features. Structures were examined using aerial photography.
- ☐ **Geologic Features** – There are no identified faults within one-mile of UIC P-205.
- ☐ **Intake and Discharge Structures (as originally submitted)** – A state and federal records review was conducted for the one (1) mile radius using the data resources firm of Environmental Data Resources, Inc. (EDR). A copy of EDR's report was submitted with the original application. The surficial reconnaissance and state and federal records review showed no water intake or discharge structures were present within the one (1) mile radius.
- ☐ **Hazardous Waste Facilities (as originally submitted)** - A state and federal records review was conducted for the one (1) mile radius using the data resources firm of Environmental Data Resources, Inc. (EDR). A copy of EDR's report was submitted with the original application. The



surficial reconnaissance and state and federal records review showed no hazardous waste treatment, storage, or disposal facilities were present within one mile.

## 2.0 UIC Permit Number VAS2D957BDIC (P-205)

UIC P-205 is located within the Ervinton District of Dickenson County, Virginia. The P-205 was drilled and completed in 1985 as a producing natural gas well. The well was drilled to a total depth of 6,153 feet and produced from the Berea and Brown Shale formation.

There are two UIC Class IID Injection Wells permitted and operating within the one-mile radius of P-205. These two wells are also permitted to inject into the Weir Formation and are owned and operated by EnerVest.

The P-205 was converted to a UIC in 2007, with the target injection zone (Weir formation) being more than 4,500 feet deep. The geologic formations and depths for this well are included as Attachment G.

## 3.0 SURFACE OWNERS

The surface owners within the ¼-mile radius of UIC well P-205 are listed below. Addresses and tax map identification information are listed for each owner. A certified plat is also attached.

### One-Quarter Mile Radius Surface Ownership

#### P-205

<u>Owner Name and Address</u>	<u>Tax Map ID</u>
1. Heartwood Forestland Fund IV Limit 19045 Stone Mountain Road Abingdon, VA 24210	2HH-272-003

**¼-Mile Surface Owners**

<u>Owner Name and Address</u>	<u>Tax Map ID</u>
2. Heartwood Forestland Fund IV Limit 19045 Stone Mountain Road Abingdon, VA 24210	2HH-271-032 2HH-271-033 2HH-271-034A
3. Wilma & Charles Helton 199 Harris Road Gray, KY 40734	Map 148 A, Parcel 1571 219.45 Acres

**4.0 SURROUNDING NATURAL GAS WELLS**

Within a one mile radius of UIC well P-205, a total of 52 natural gas wells exist with five additional coalbed methane wells are permitted to be drilled (or in the process of being permitted), based on Virginia Division of Gas and Oil and EnerVest's (formerly Range Resources – Pine Mountain) records as of March 2017. The existing wells consist of:

- **Vertical Natural Gas Wells** – There are 5 vertical wells within one mile that penetrate the Weir formation (Figure B-1). Drilling and completion reports are attached as Appendix C.



Figure B-1. Vertical wells within one mile of VAS2D957BDIC



- **Coalbed Methane Wells** – There are 47 drilled and five permitted CBM wells within one mile. Of those, ten drilled CBM wells fall within ½-mile (Figure B-2). Information on these wells, such as total depth (TD) and formation at TD, is presented as Appendix C. The injection zone in the permitted UIC well is within the Weir formation. The CBM wells within the ½-mile radius are more than 2,200 feet deep, which provides for a minimum separation of approximately 2,000 feet to the injection zone. Many low permeability formations such as tight sands, shales and limestones form the layers separating the coals and the injection zone. These include the Mauch Chunk Group (Ravencliff sand and Maxton sands) and the Greenbrier Limestone (Big Lime). More detailed information on these formations is included in Attachment G.



Figure B-2. Coalbed methane wells within one mile

- **Horizontal Wells** – There are no existing horizontal wells within one mile of the proposed UIC well.
- **Existing UIC Disposal Wells** – There two operating UIC Class II-D injection wells within one mile (Permit #'s VAS2D937BDIC and VAS2D947BDIC). These wells are depicted on Figure B-1. The injection formation for these wells is also the Weir and they are both owned and operated by EnerVest (formerly Range Resources – Pine Mountain).

Appendix C is a listing of all the wells, their total depths and the geologic formation at total depth. Additionally, all wells penetrating the Weir formation have been noted and the drilling and completion reports have been attached. These reports were obtained from the Virginia Division of Gas and Oil.

## **5.0 WATER SOURCES**

A survey of the area within a one mile radius of UIC well P-205 was conducted to identify water wells, springs, and other drinking water sources. This survey was performed by Environmental Monitoring, Inc. and included a compilation of groundwater monitoring results conducted as part of Virginia Division of Gas and Oil permitting requirements for existing natural gas and coal bed methane wells. The results of the survey indicated there are no water wells within ¼-mile of the proposed well. The survey identified 19 water wells and six springs between ¼-mile and one mile of P-205. All water wells and springs are shown on the attached Drawing-1. The results are outlined in Attachment E.

## **6.0 MINING ACTIVITIES**

Data obtained from the Virginia Department of Mines, Minerals and Energy indicates there are no active deep or surface mining operations within one mile of the proposed injection well. There is an inactive surface mine within ¼-mile, and one additional inactive surface mine within the one mile radius of the proposed well. There are three inactive deep mines within one mile of the proposed site. These deep mines targeted the Hagy and Clintwood seams located several thousand feet above the intended injection zone.

Associated with these inactive mines, are several surface and ground water monitoring points and National Pollutant Discharge Elimination System ("NPDES") points that have been identified.





The P-205 well site falls within the Appalachian Plateau geologic province, dominated by relatively flat-lying strata typically dipping one to two degrees (Nolde, et.al., 1984). Rocks near the P-205 have an average dip of 0.6 degrees toward the northwest, while rocks south of the P-205 dip slightly to the southeast. This

indicates the P-205 is located along the northwestern limb of the Sourwood Anticline, which is a broad, gentle fold with the axis in Russell County to the east (Diffenbach, 1989).

There are no faults identified within the Area of Review. The entire Appalachian Plateau is considered geologically stable with no active faults. These inactive faults located throughout the southern Appalachians originated during the Acadian and Alleghanian Orogenies approximately 375 million to 260 million years ago. The closest mapped fault to the P-205 is the Russell Fork Fault located more than four (4) miles to the east. The Russell Fork is a right-lateral fault forming the eastern boundary of the Pine Mountain Thrust Block with as much as six miles of lateral displacement. The Pine Mountain decollement underlies the thrust block at an approximate depth of 6,000 feet. Some indications of minor thrust faulting have been noted within the Pennsylvanian coal beds in response to the Pine Mountain Overthrust (Diffenbach, 1989).

Maps depicting all recorded seismic activity (see Attachment G) show there is no activity in the vicinity of the P-205. More detailed geologic information is contained in Attachment G.



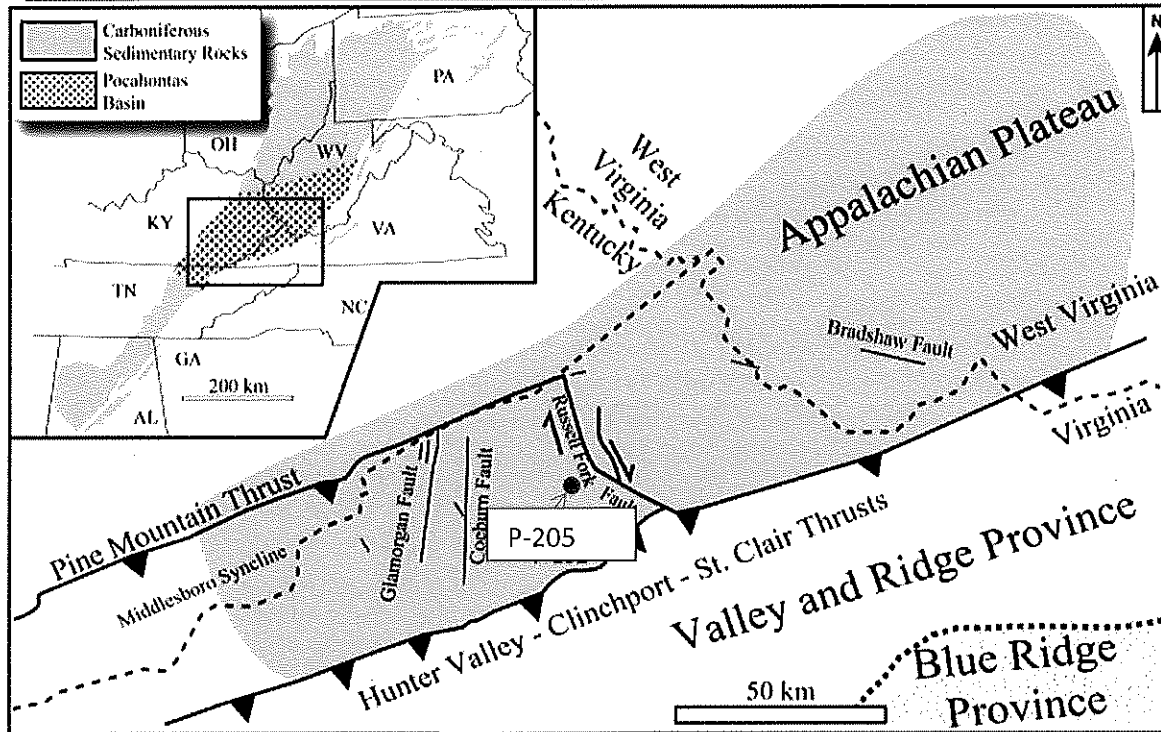


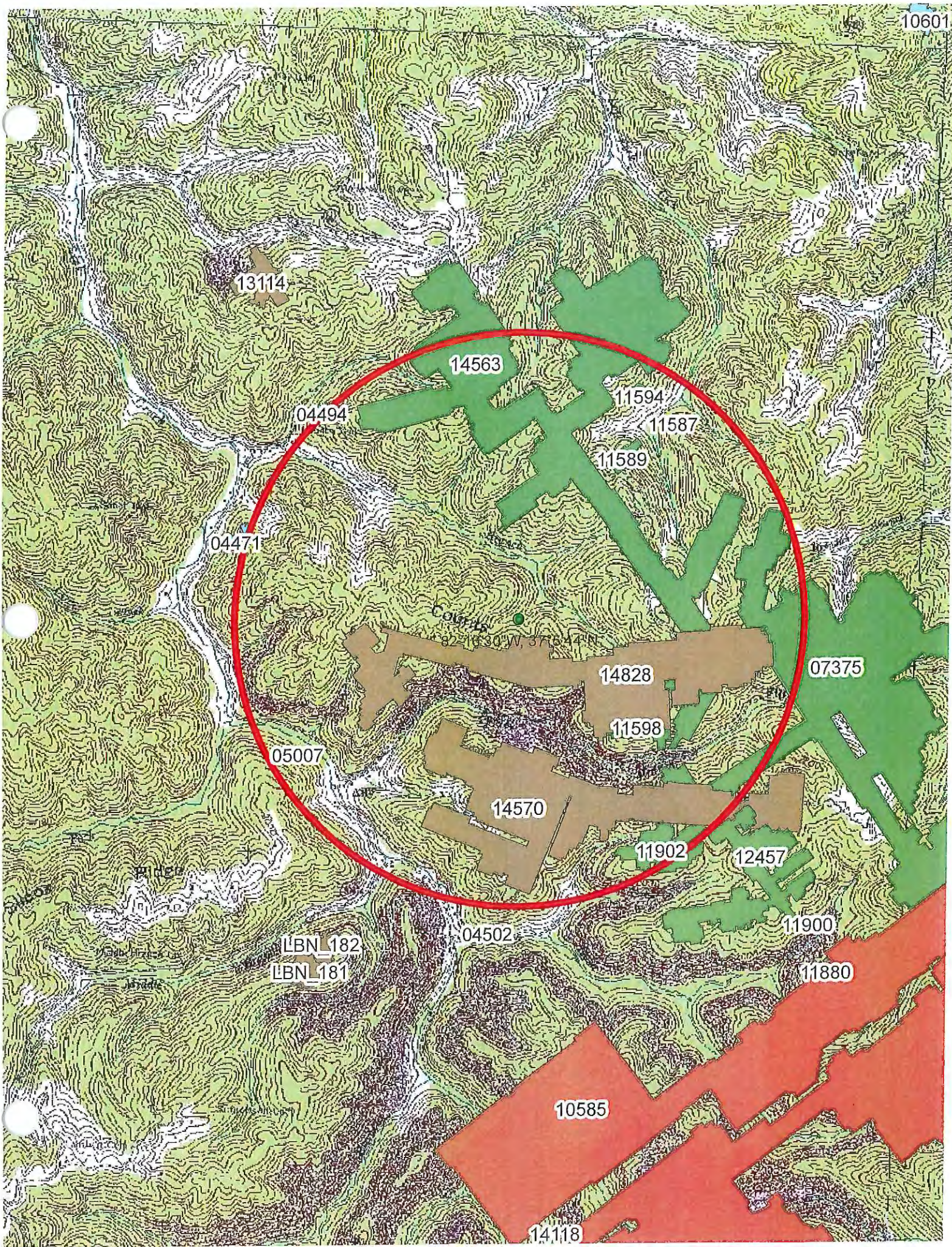
Figure B-4. Regional Faults adapted from Grimm, et.al., 2012

## REFERENCES

Diffenbach, Robert N., 1989, Geology of the Nora Quadrangle, Virginia, Virginia Division of Mineral Resources Publication 92.

Grimm, Ryan P., et al, 2012, Seal evaluation and confinement screening criteria for beneficial carbon dioxide storage with enhanced coal bed methane recovery in the Pocahontas Basin, Virginia, *International Journal of Coal Geology*, V. 90-91, p. 110-125.







# Attachment C

Existing Wells  
Within  
Area of Review

## EXISTING WELLS IN AREA OF REVIEW

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### 1.0 WELL DATA

Provided in Appendix C is a summary of well data for a one mile radius from existing Well P-205. These wells are located on Drawing-1. Appendix C also provides a reprint of the well plats and drilling and completion reports for vertical wells penetrating the Weir within the one mile radius of UIC well P-205.

### 2.0 WELLS WITHIN AREA OF REVIEW (¼-MILE)

The location of existing Well P-205 is shown on Drawing-1. As shown, there is a total of one conventional gas well (active, abandoned, or plugged) and two permitted UIC wells of record within the ½ mile radius of Well P-205. There are ten coal bed methane wells located within the ½ miles radius of Well P-205. The coal bed methane wells do not penetrate any of the formations completed in Well P-205. There are no known plugged or abandoned coal bed methane wells of record within the ½ mile radius of Well P-205.

### 3.0 CORRECTIVE ACTION PLAN

The production fluid will be injected into Well P-205 at less than fracture pressure of the Weir formation. The maximum surface injection pressure will be 1,170 psig (90% of Weir formation instantaneous shut-in pressure) or less. Should this pressure or other operating and injection problems be encountered in Well P-205 the following will be undertaken:

- Immediately stop all injections and allow well to stabilize.
- If well cannot be stabilized and problems encountered cannot be corrected to the satisfaction of the state and federal agencies, Well P-205 will be plugged, as outline by Attachment Q.

EnerVest (formerly Range Resources – Pine Mountain) has conducted a detailed record and field search for existing, abandoned, plugged, and unplugged wells within the 1/2-mile radius around existing Well P-205. Should an abandoned and/or unplugged well be found in the future within the ¼-mile radius, EnerVest will plug the abandoned well, in accordance with a Plugging and Abandonment Plan approved by Virginia Division of Gas and Oil.

## EXISTING WELLS IN AREA OF REVIEW

<b>TOTALS</b>	CBM	47	Within 1 Mile
	Conv-Gas	5	Within 1 Mile
	SWD	2	Within 1 Mile

*Figure C-1. Existing Wells in Area of Review. P-205.*

### 1.0 OPERATION DATA

NO CHANGE.

### 2.0 FLOW RATES

SEE ANNUAL REPORTS FOR 2016.

### 3.0 INJECTION PRESSURES

SEE ANNUAL REPORTS FOR 2016.

### 4.0 INJECTION FLUID

On June 5, 2015, the following fluid sample was obtained for analysis.

- Typical Produced Fluids – A fluid sample from tanks at the off-loading site at P-171 owned and operated by EnerVest, that routes fluid to the P-205 injection well, was collected. The analytical results are included on the following pages. A review of the fluid sample will show the produced fluids to be similar in character and composition as previous submittals and will be compatible with the intended injection zone.



ENVIRONMENTAL MONITORING, INCORPORATED  
ENVIRONMENTAL CONSULTANTS & ANALYTICAL LABORATORIES  
5730 INDUSTRIAL PARK RD. ▲ NORTON, VIRGINIA 24273 ▲ 276/679-6544

**Certificate of Analysis**

Page: 1 of 1

Client Name: RANGE RESOURCES - PINE MTN. INC.  
Address: P.O. BOX 2136  
ABINGDON, VA 24212

Report Date: 06/05/15  
Lab Sample No.: **1525895**  
Client No.: 372  
EMI Project No.: 605

Sample Identification: P-171/205/132 INJECTION WELL

Date Collected: 05/26/15

Site Description:

Time Collected: 1110

Sample Matrix: AQ

Collected By: BAKER, BRANDON

Parameter	Sample Result	Units	MDL	RL	Method	Date Analyzed	Time Analyzed	Analyst
Alkalinity	56.0	mg/l CaCO <sub>3</sub>	4.00	4.00	SM 2320B-2011	5/27/2015	1138	MCF
Chloride	54483	mg/l	1000	1000	SM 4500-Cl B-2011	6/2/2015	1230	AWM
Conductivity	141300	umhos/cm	1000	1000	SM 2510B-2011	5/28/2015	1258	CNS
Dissolved Oxygen (Not NELAP)	1.66	mg/l			SM 4500-O G-2011	5/26/2015	1110	FLD
Hardness, Total	20400	mg/l CaCO <sub>3</sub>	100	100	SM 2340 C-2011	5/28/2015	1710	CNS
pH (Not NELAP)	5.80	STD			SM 4500-H+B-2011	5/26/2015	1110	FLD
Specific Gravity (Not NELAP)	1.07				SM 2710 F-2011	6/1/2015	1440	THR
Sulfide	BDL	mg/l	1.00	1.00	SM 4500 S2-F-2011	6/1/2015	1330	THR
Total Dissolved Solids	97895	mg/l	1.00	1.00	SM 2540 C-2011	5/27/2015	1321	JRS
Barium, Total	1571	mg/l	0.050	3.00	200.7	5/31/2015	1539	AWM
Iron, Total	62.5	mg/l	0.0091	0.050	200.7	5/28/2015	811	AWM
Magnesium, Total	1214	mg/l	0.690	50.0	EPA 200.7	5/28/2015	1531	AWM
Manganese, Total	2.91	mg/l	0.0016	0.050	200.7	5/28/2015	811	AWM
Sodium, Total	24400	mg/l	1.97	50.0	EPA 200.7	5/28/2015	1531	AWM

To the best of our knowledge and belief, the collection, preservation, and analysis of all parameters represented by this report have been determined to comply the requirements as specified in 40 CFR, Part 136.

This report may not be reproduced except in full, without the written approval of the laboratory.



VA Laboratory ID#: 460038  
WV Laboratory ID#: 105  
KY Laboratory ID#: 98012  
EPA Laboratory ID#: VA00010

The release of this report is authorized by:

R. J. Porter  
Technical Director

Flow If Available (GPM):

Temp. If Available (C): 26.0

Depth If Available (Ft):

Analysis Package Code: BF3

Type of Sample: Grab

BDL = Below Detection Limit

FLD = Field Technician

MR = Multiple analytical runs were used for this result

IV = Flag Indicates Insufficient Sample Volume

SV = Sample Volume Indicated by method not used

AB = Analyte found in Method Blank

MSF = Matrix Spike Failure - Method In Control

EV = Estimated Value; Outside of calibration range

J = Flag Indicates estimated value below Report Limit

T = Results indicate possible toxicity which is expected to influence reported value.

NA = A result for this analyte is not available.

MI = Matrix Interference - Final result may not be representative.

BQ = Batch QC Outside Acceptable Range

HE = Parameter Hold Time Exceeded

FC = Failure to Comply Current SOP

R = Sample results rejected because of gross deficiencies in QC or method performance.

DC = Duplicate did not meet method criteria, method process in control

P = Sample was not properly preserved for this parameter.





## SAMPLE LOG SHEET &amp; CHAIN OF CUSTODY

C040273

STANDARD COPY TO C

ENVIRONMENTAL MONITORING, INCORPORATED  
ENVIRONMENTAL CONSULTANTS & ANALYTICAL LABORATORIES  
5730 Industrial Park Rd. A Norton, Virginia 24273 A 276-679-6544\*CLIENT: Range  
\*CONTACT: TON LAWSONBILLING ADDRESS:  
CITY:TESTED BY (print) Brandon Baker  
SIGNATURE(S) Brandon Baker  
ROUND (circle): 2 Day (Working Days) 3 Day (Working Days) 5 Day (Working Days) 10 Day (Working Days) Regular (5 Working Days)  
Cost May Apply - Any TAT Not Specified Will Be Regular

P-171/P-205/P-132 Injection Well 1

PROJ. NO.

PROJECT NO.: 372. 605

EMI PROJECT MANAGER  
bwp

Special Instructions / QC Requirements &amp; Comments

NO. EMI SAMPLE # \*CUSTOMER SAMPLE IDENTIFICATION \*DATE COLLECTED \*TIME COLLECTED \*SAMPLE No. of MATRIX CONTR.

150505 0171/P-205/P-132 5-26-15 11:10 A Q 3

Cool °C

X

HNO<sub>3</sub>

X

HCl

H<sub>2</sub>SO<sub>4</sub>

Na OH

Other

NaOH

2N-Ace

X

5.8

26

166

*PARAMETER (ANALYSIS REQUESTED)					
BF3 Code					
Metals					
Sulfide					
PH					
TEMP					
D.O.					

Preservation Checked By Date:

SAMPLES WILL BE IN ACCORDANCE WITH EMI'S TERMS &amp; CONDITIONS OR RETURNED ARCHIVE FOR

REMARKS

All samples requiring pH preservation were verified to be as indicated on COC by Paul Nelson Date: 5/26/15 Time: 11:22

Sample Account Condition C (SOP61) follow Yes or No If No, Atom Required.

Additional Information: (circle) Non Hazard Flammable Skin Irritant Poison B Unknown

Quarantined By (Sign) Brandon Baker Date/Time 5-26-15 16:15Received By (Sign) Lab Cooler Date/TimeFalsely Quarantined By (Sign) Cool Date/TimeReceived By (Sign) Paul Nelson Date/Time 5/26/15 11:22

Report to be sent (if different than customer information)

NAME:

ADDRESS:

CITY:

STATE/ZIP:

FAX ( )

MODE OF SHIPMENT TO LAB (circle) (EM-DIRECT) EMI PICKUP PERSONAL DELIVERY OTHER

EMI PICKUP

PERSONAL DELIVERY

OTHER

Temperature of Cooler upon Receipt by Lab

5°C REB

Additional Remarks:

Order # 0887

BN # 22

No. of Containers 3

# Attachment G

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Geological Information  
Well P-205

## 1.0 INTRODUCTION

The permitted injection well P-205 is in the Appalachian Basin in an area with an extensive, thick sedimentary sequence with an adequate injection interval and numerous confining strata. The injection zone includes a limestone and siltstone, the Big Lime and Weir formations respectively, that are each relatively homogeneous with no highly permeable zones or major lithologic differences across their vast lateral extent. The lateral extent, which covers most of southwest Virginia, into Kentucky, West Virginia and beyond, is large enough to minimize injection pressure variations. The zones have confining strata above and below of sufficient thickness and low enough permeability to confine the injection interval and isolate injected fluids to that zone. The injection zone is thousands of feet below any known underground source of drinking water, thereby allowing adequate separation from potable water zones.

The overall geology in the area is structurally simple with flat-lying strata and no active fault systems. There are no identified faults within the Area of Review. Faults in the region were active hundreds of millions of years ago with no current tectonic forces on fault planes resulting in movement. Since the forces that caused faulting in the area occurred hundreds of millions of years ago, the fault zones are considered inactive and the triggering of seismic activity by fluid injection is unlikely.

The P-205 has been operating since 2007. Rock characteristics at this location allow for an effective injection zone with lithology above and below for adequate confinement.

## 2.0 INJECTION ZONE

The target formation for the injection of produced fluid is within the Mississippian Price Formation, also known as the Weir. This formation is considered a hydrocarbon reservoir across the Basin. As such, the Weir has sufficient porosity and permeability to allow the storage and accumulation of fluids under adequate confining conditions. This formation is the target zone in many existing injection wells throughout southwest Virginia, including two EnerVest Operating, LLC

existing UIC Class II-D injection wells located approximately 0.4 miles to the north and east of the P-205.

The Weir formation consists of a very fine-grained siltstone. The lower portion of the Weir, locally referred to as the Weir Shale, is finer grained with slightly higher organic content. The target interval within the Weir is in the upper siltstone section with an average offset porosity of approximately six percent. Water saturation in the Weir is around 35% and is mainly associated with bound water found in its clay constituents. Only minor amounts of water were reported when the P-205 was producing natural gas. The perforated interval is from 4,512 to 4,542 feet deep. Below the Weir is the Weir shale, Sunbury shale and Berea formation.

A local geologic stratigraphic column is included in this section as Figure G-1. Figure G-6 is cross section extending from the P-205 to a vertical well located within the one mile radius showing no faulting between the wells.

### 3.0 CONFINING ZONES

The sedimentary sequence in the southern Appalachian Basin contains several confining zones above and below the injection zone. Since the Weir is a hydrocarbon reservoir across the Basin, there are adequate confining strata above the injection zone that act as barriers to the upward movement of hydrocarbons and fluids. These confining rock layers are stratigraphic traps as a result of lithologic changes in reduced porosity and permeability.

Figure G-1 is a geologic column indicating the formations above and below the permitted injection zone. The following is a brief description of these formations.

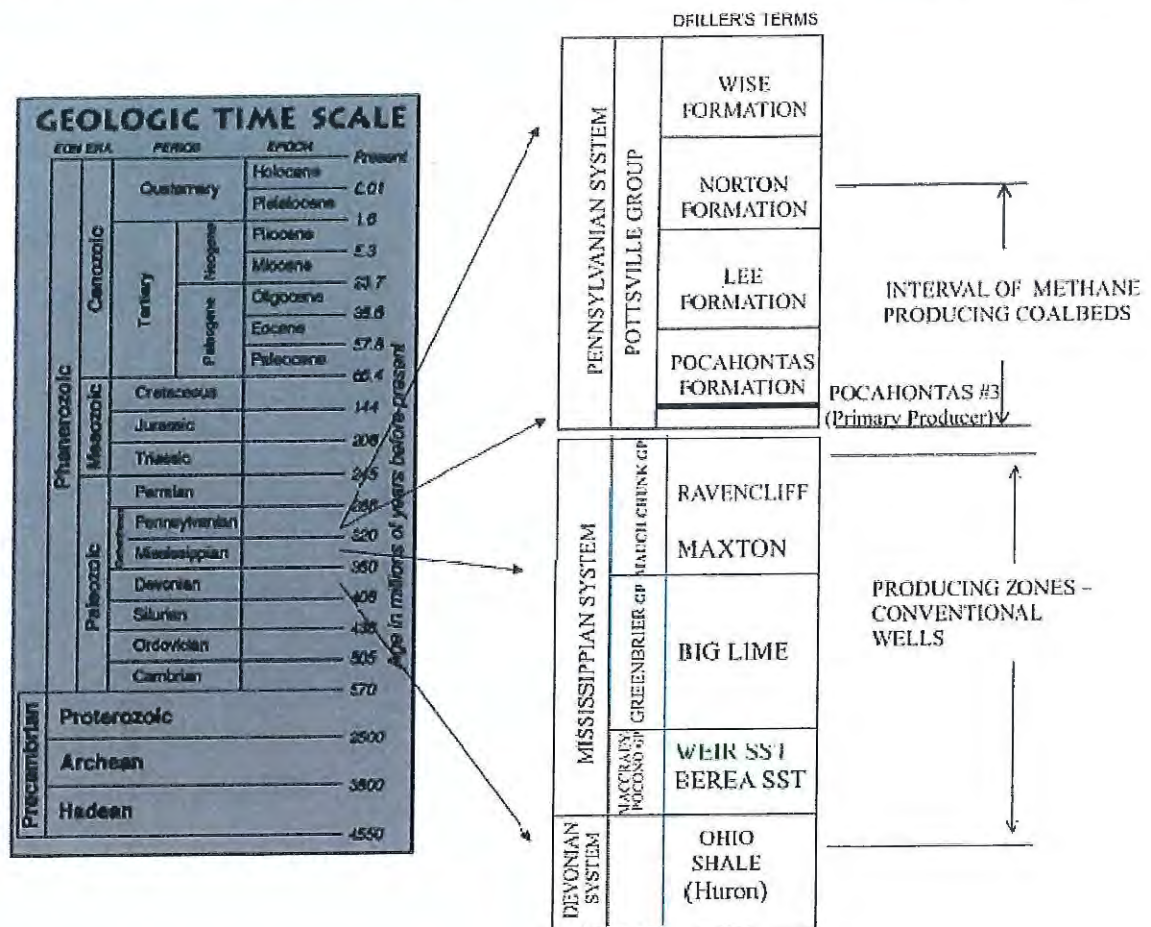


Figure G-1. Virginia Geologic Column

The confining zone directly above the injection zone is the upper Mississippian Greenbrier Group, locally referred to as the Big Lime. This is a dense, thick carbonate. The porosity zones in the Big Lime consist of thin oolitic channel deposits. Overall porosity in the upper Big Lime, based on offset data, is around two percent. Water saturation for the Big Lime is typically near zero. A structure map for the base of the Big Lime/top of the Weir is attached as Figure G-7.

Above the Big Lime is the Mauch Chunk Group consisting of over 1,000 feet of tight sands, siltstones and limestones that act as further barriers to the upward migration of fluids. Above the Mauch Chunk are several thousand feet of siltstone, tight sands and coal beds that also inhibit the migration of injected fluid.

There are also several confining zones below the Weir, such as the Weir shale and below that the Sunbury shale. The very low permeability of shale inhibits the downward migration of produced fluids.

Additionally the Pocono Formation, locally known as the Berea Sandstone, consists of a fine-grained, dirty siltstone. Offset data indicate the Berea has an average porosity of about four percent. In this area, the Berea is approximately 90 feet thick. As mentioned, directly above the Berea is the Sunbury (or Coffee) Shale. This shale is also about 70 feet thick and acts as a further barrier for downward migration of fluid. The top of the Sunbury is at 4,948 feet and the top of the Berea at 5,016 feet.

Figure G-2 is the stratigraphic column for well P-205 as drilled.:

Formation	Depth in Feet (From Surface)		Formation Thickness (Feet)
	Top	Bottom	
Fill, Sand, & Shale	0.00	2670	2670
Ravenclyff	2670	2792	122
Little Stone	2792	2856	64
Shale	2856	2929	73
Maxon Sands	2929	3410	481
Shale	3410	3712	302
Little Lime	3712	3785	73
Lime & Shale	3785	3914	129
Big Lime	3914	4378	464
Keener	4378	4404	26
Weir	4404	4948	544
Coffee Shale	4948	5016	68
Berea	5016	5102	86
Brown Shale	5102	6036	934
White Slate	6036	6153	117
Total Depth	6153	--	--

Figure G-2. Stratigraphic Column for UIC well P-205

#### 4.0 STRUCTURAL GEOLOGY



As stated, the site falls with the Appalachian Plateau geologic province. This region is dominated by relatively flat-lying strata. Rocks near the P-205 have an average dip of 0.6 degrees toward the northwest, while rocks south of the P-205 dip slightly to the southeast. This indicates the P-205 is located along the northwestern limb of the Sourwood Anticline, which is a broad, gentle fold with the axis in Russell County to the east (Diffenbach, 1989).

There are no faults identified within the Area of Review. There are no active tectonic forces in the region since Virginia lies on a passive continental margin. Minimal thrust faulting has been mapped within a few coal beds in the region resulting from the Pine Mountain Thrust Fault (Diffenbach, 1989). Figure G-6 is a cross-section indicating no measureable offset through the permitted injection zone.

One of the main structural features in the region is the Pine Mountain Thrust Block (Figure G-3). Movement along this block occurred several hundred million years ago and was due to regional compression oriented northwest-southeast causing the block to move in a northwest direction. Crustal rupturing occurred along the eastern most extent of this block resulting in the Russell Fork Fault. This fault is a high angle, right-lateral strike-slip fault with the fault plane dipping 75° to 90° to the southwest. Overall vertical movement is slight, with numerous slickensides existing along the fault trace (Giles, 1921).

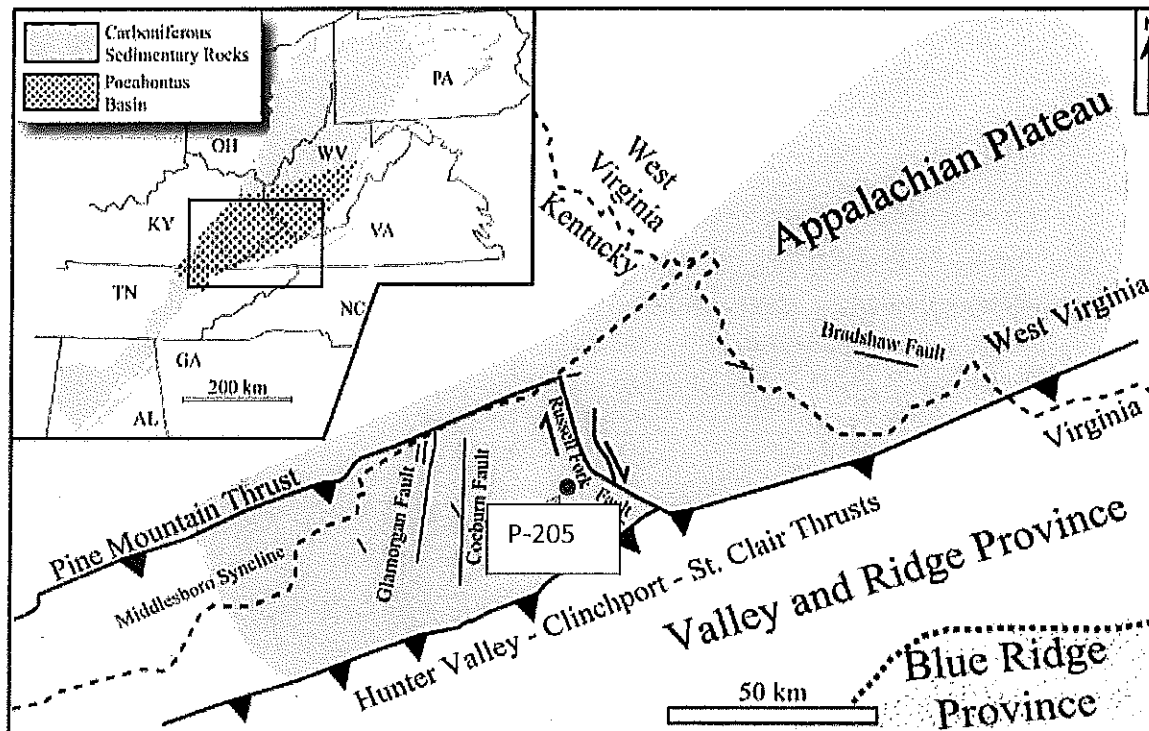


Figure G-3. Regional Geology. (Adapted from Grimm, et al, 2012)

### Local Seismic Activity

Historically, seismic activity in Virginia has been minor. The faults that exist in the region were active during the Acadian and Alleghanian Orogenies approximately 375 million to 260 million years ago. The P-205 well is in a region that is not susceptible to earthquakes since there are no active forces causing crustal movement. Figure G-5 is a map from the Advanced National Seismic System (ANSS) of the area around P-205. On their system, earthquakes are shown by red dots. As seen on this map, there are no recorded earthquakes within the area of review.

Two main concentrations of earthquakes in the state are the Central Virginia seismic zone and the Giles County/New River seismic zone. The Eastern Tennessee seismic zone crosses into the southwestern tip of Virginia. Figure G-4 indicates that the P-205 does not coincide with one of these zones and falls within a relatively low density earthquake zone.

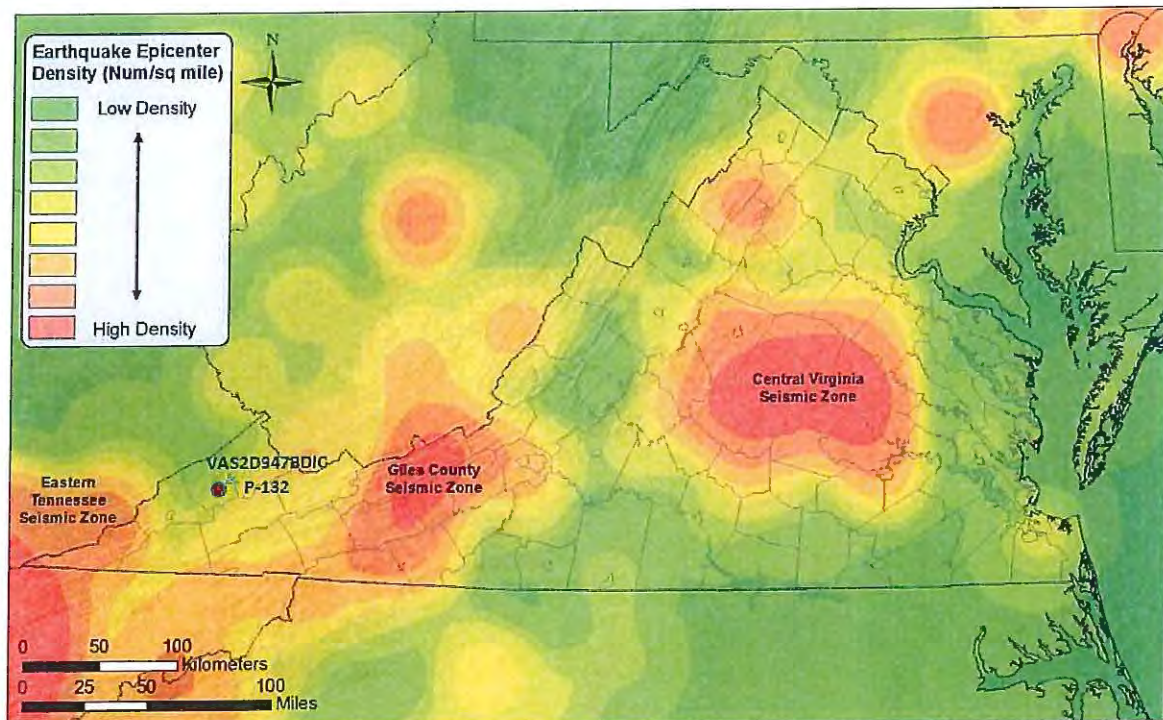


Figure G-4. Seismic Zones in Virginia (<http://www.dmme.virginia.gov/dgmr/earthquakes.shtml>)

The mechanism for Virginia's earthquakes has been attributed to residual stresses from the formation of the Appalachian Mountain range and the Piedmont province hundreds of millions of years ago. Most of the earthquake hypocenters are located miles below the target injection zone at depths between 3-15 miles and are not associated with faults mapped at the surface (VADMME, 2007). As stated, ANSS maps show no earthquake activity recorded in the vicinity of UIC well P-205.

Also of note is that several injection wells have been in operation in Virginia for more than a decade with no associated seismic activity.



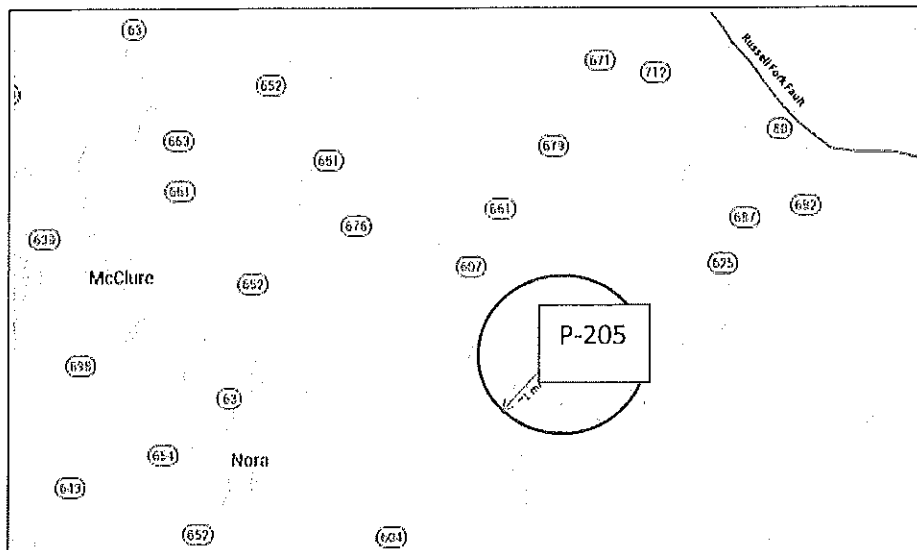


Figure G-5. Location of seismic activity from ANSS (Advanced National Seismic System) (<http://www.dmme.virginia.gov/DGMR/earthquake2011.shtml>)

## 5.0 FRACTURE PRESSURES

The fracture pressures and instantaneous shut-in pressures for the Weir injection zones, as recorded by the Report of Completion of Well Work dated June 30, 2005, are listed below:

### P-205 Weir Formation

Fracture (breakdown) pressure*	1,346 psig Treatment Pressure (max) – 2,564 psig
Instantaneous shut-in pressure*	1,873 psig
Rock pressure*	180 psig for a 60-hour test

\*surface pressures

The overlying Big Lime formation in Well P-205 was not completed. The underlying Berea formation was completed and the pressures are listed below:

### P-205 Berea formation

Fracture (breakdown) pressure*	3,400 psig
Instantaneous shut-in pressure*	2,000 psig
Rock pressure*	680 psig for a 48-hour test

\*surface pressures

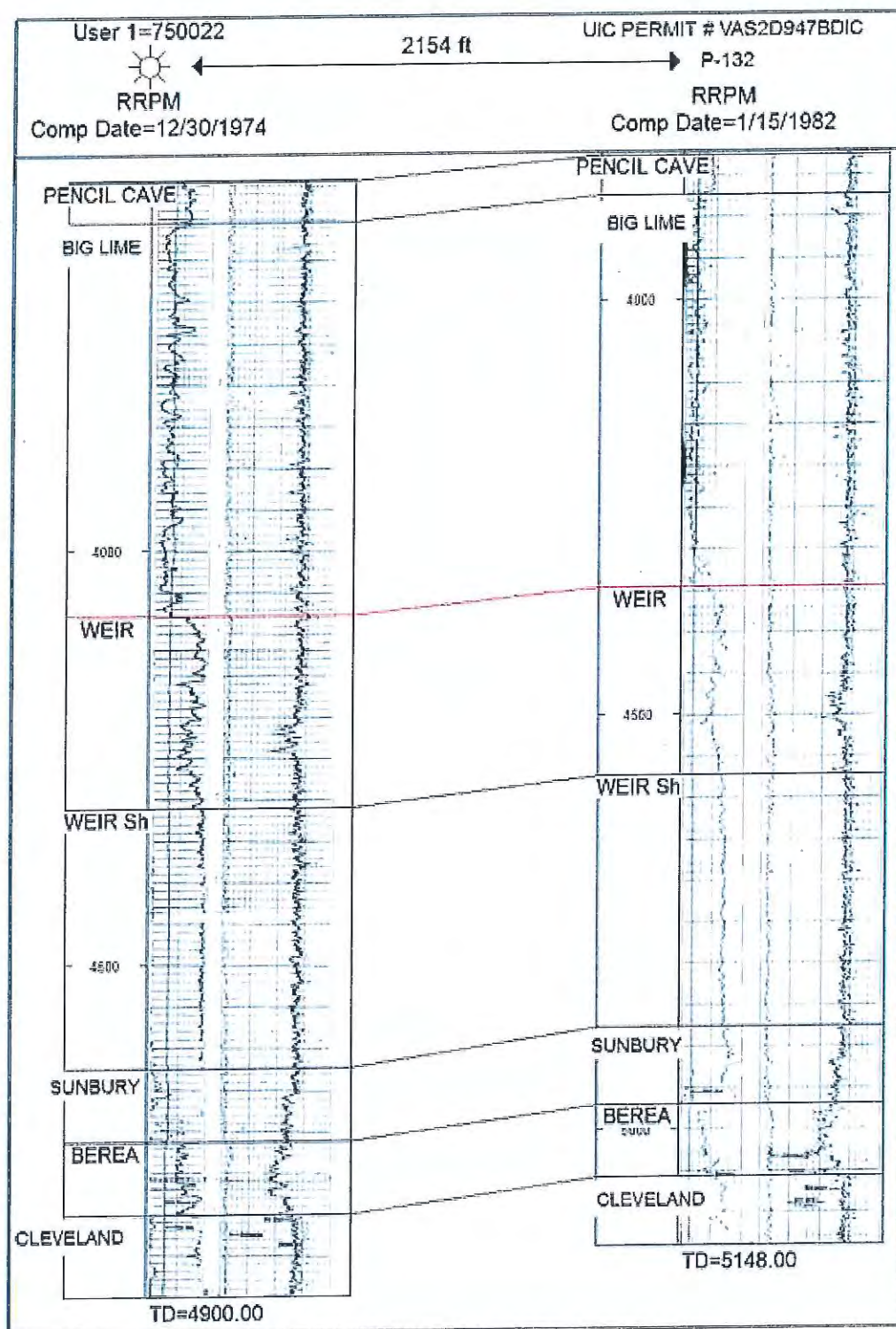


Figure G-6. Cross-Section across injection zone

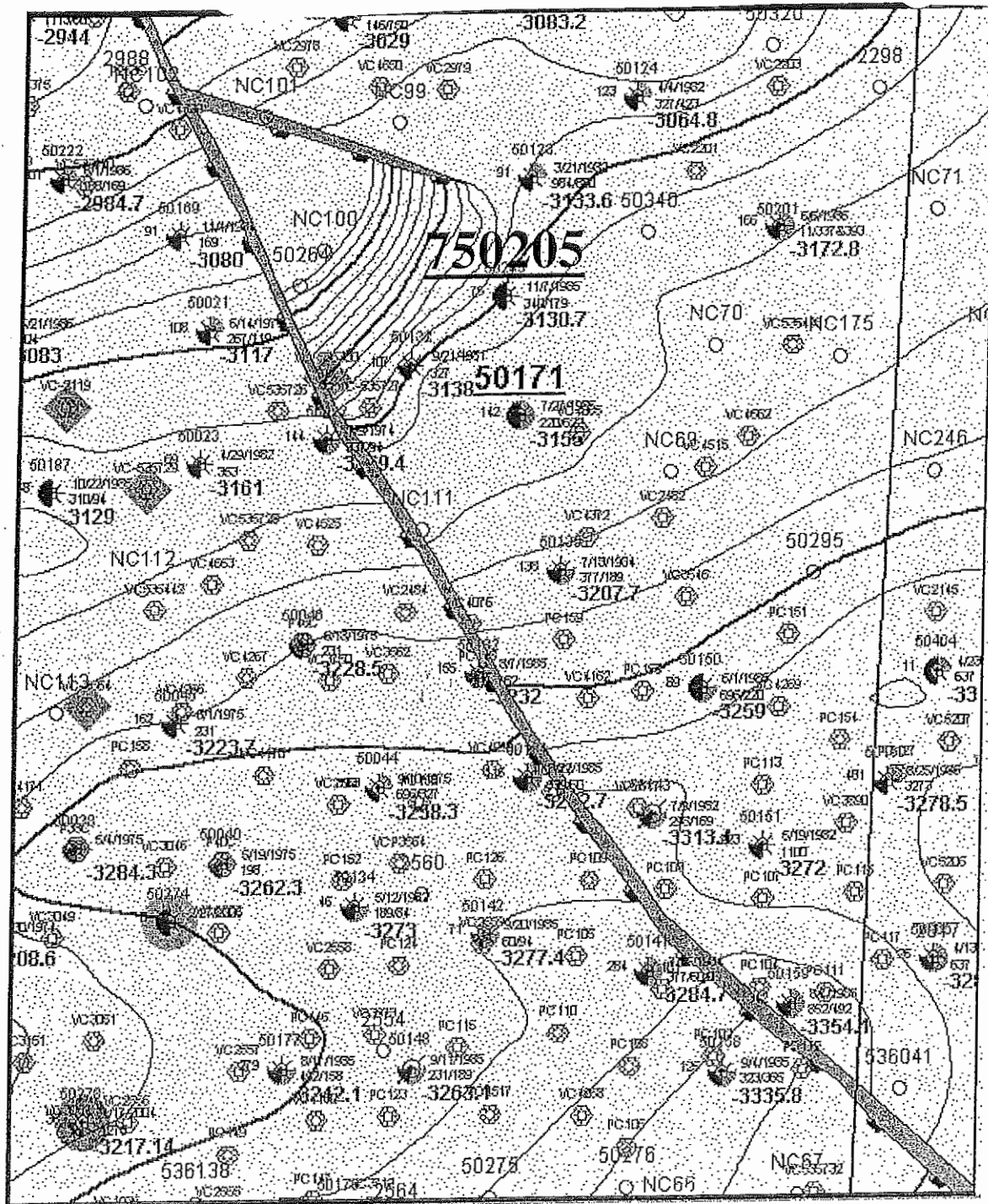


Figure G-7. Structure Map – Top of Berea



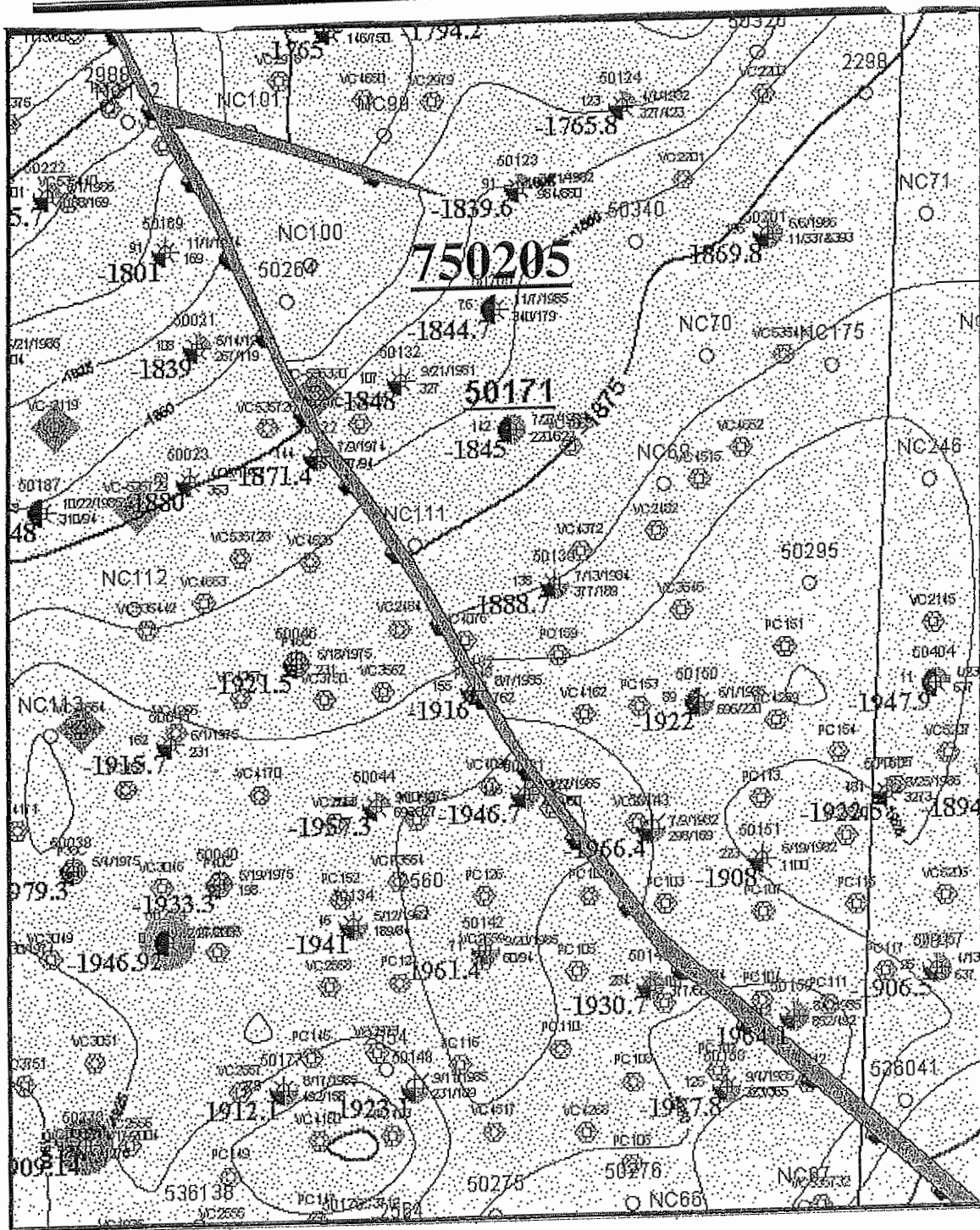


Figure G-7a. Structure Map – Base of Little Lime

**REFERENCES**

Byington, Craig B., 2007, The Tectonic History and Characteristics of Fracture Systems Affecting Coal Mine Roof Stability in Southwest Virginia, Virginia Division of Mineral Resources Open0File Report 07-01.

Diffenbach, Robert, 1989, Geology of the Nora Quadrangle, Virginia. Virginia Division of Mineral Resources, Publication 92.

Giles, Albert W., 1921, *The Geology and Coal Resources of Dickenson County, Virginia*, Virginia Geological Survey, Bulletin No. XXI.

Grimm, Ryan P., et al, 2012, Seal evaluation and confinement screening criteria for beneficial carbon dioxide storage with enhanced coal bed methane recovery in the Pocahontas Basin, Virginia, *International Journal of Coal Geology*, V. 90-91, p. 110-125.

Molinda, M. and D.K. Ingram, 1989, Effects of structural faults on ground control in selected coal mines in southwest Virginia, *International Journal of Mining and Geological Engineering*, V. 1990, 8, p. 332-347.

Virginia Department of Mines, Minerals and Energy, Division of Geology and Mineral Resources, 2007, Earthquake Factsheet (<http://www.dmme.virginia.gov/dgmr/earthquakes.shtml>), and Major Earthquake 2011 (<http://www.dmme.virginia.gov/DGMR/earthquake2011.shtml>).

# Appendix C

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Existing Well Records  
Within  
One-Mile Radius of Well P-205



## **APPENDIX C**

### **EXISTING WELL RECORDS WITHIN ONE-MILE RADIUS OF WELL P-205**

#### **1.0 INTRODUCTION**

This Appendix provides the following information:

- A Summary of the known wells contained in the Virginia Division of Gas and Oil (DGO) records is provided by Pages 2 and 3 of this Appendix. This well summary is provided by the tables identified as:
  - Existing Well P-205
  - UIC Class IID Wells within ½ mile radius of Well P-205.
  - Coal Bed Methane Wells of Record within ½ mile radius of Well P-205.
  - Vertical Wells of Record within ½ mile radius of Well P-205.
  - Coal Bed Methane Wells of Record from ½ mile to 1 mile radius of Well P-205.

Each table provides the well permit number Virginia file number, operator's well number, total drilled depth and the Formation at Total Depth (TD).

- A total of fifty-two (52) wells were found to be present within the one mile radius of P-205. These wells consist of:
  - Two (2) UIC Class IID Wells.
  - Ten (10) Coal Bed Methane wells within ½ mile, with two (2) additional permitted, not drilled.
  - One (1) Conventional wells within ½ mile.
  - Thirty-five (35) Coal Bed Methane wells and four (4) conventional wells from ½ mile to one (1) mile.

#### **2.0 WELL RECORDS**

Copies of well records are provided following Page 3 of the Appendix.

## APPENDIX C

### EXISTING WELL RECORDS WITHIN ONE-MILE RADIUS OF WELL P-205

Existing Well P-205				
Permit No.	Virginia File No.	Well No.	Total Depth (feet)	Formation at TD
837	DI-0249	P-205	6,153	Berea

UIC CLASS IID WELLS WITHIN ½ - MILE				
Permit No.	Virginia File No.	Well No.	Total Depth (feet)	Formation at TD
437	DI-0192	P-132	5,148	Berea
733	DI-230	P-171	6,271	Big Lime, Weir, Berea, Brown Shale

COAL BED METHANE WELLS OF RECORD WITHIN 1/2-MILES OF WELL P-205				
Permit No.	Virginia File No.	Well No.	Total Depth (feet)	Formation at TD
-	DI-2688	VC-530431	Not Drilled	Permitted, Not Drilled
-	DI-2713	VC-536370	Not Drilled	Permitted, Not Drilled
13068	DI-2669	VC-530415	2,430	Pocahontas
13055	DI-2666	VC-530416	2,758	Pocahontas
13069	DI-2670	VC-530417	2,642	Pocahontas
12824	DI-2586	VC-536378	2,619	Pocahontas
10278	DI-2153	VC-535911	2,599	Pocahontas
12856	DI-2593	VC-536369	2,755	Pocahontas
7534	DI-1577	VC-536363	2,653	Pocahontas
12863	DI-2595	VC-536376	2,660	Pocahontas
12879	DI-2602	VC-536377	2,745	Pocahontas
12828	DI-2589	VC-502202	2,750	Pocahontas

CONVENTIONAL GAS WELLS OF RECORD WITHIN ½ MILE RADIUS OF WELL P-205				
Permit No.	Virginia File No.	Well No.	Total Depth (feet)	Formation at TD
464	DI-195	P-123	5,574	Berea

## APPENDIX C

### EXISTING WELL RECORDS WITHIN ONE-MILE RADIUS OF WELL P-205

CONVENTIONAL GAS WELLS OF RECORD FROM ½ MILE TO ONE-MILE RADIUS OF WELL P-205				
Permit No.	Virginia File No.	Well No.	Total Depth (feet)	Formation at TD
866	DI-0266	P-201	5,260	Berea
462	DI-0194	P-124	5,144	Berea
161	DI-100	P-22	4,900	Berea
530	DI-219	P-139	5,392	Berea

COAL BED METHANE WELLS OF RECORD FROM ½ - MILE TO ONE MILE RADIUS OF WELL P-205				
Permit No.	Virginia File No.	Well No.	Total Depth (feet)	Formation at TD
4226	DI-958	VC-4065	1,913	Pocahontas
5026	DI-1066	VC-504372	2,021	Pocahontas
6206	DI-1253	VC-536330	2,242	Pocahontas
5672	DI-1141	VC-535726	2,018	Pocahontas
5682	DI-1143	VC-535727	2,220	Pocahontas
12855	DI-2592	VC-536368	2,710	Pocahontas
2600	DI-0725	VC-702979	2,608	Pocahontas
7542	DI-1579	VC-536360	2,516	Pocahontas
6779	DI-1376	VC-536375	2,246	Pocahontas
12862	DI-2594	VC-536367	2,634	Pocahontas
13054	DI-2665	VC-536337	2,560	Pocahontas
12989	DI-2639	VC-502481	2,720	Pocahontas
12990	DI-2640	VC-535886	2,608	Pocahontas
13077	DI-2672	VC-530419	2,468	Pocahontas
13081	DI-2673	VC-530420	2,507	Pocahontas
4675	DI-1036	VC-504515	2,500	Pocahontas
13076	DI-2671	VC-530421	2,732	Pocahontas
7580	DI-1590	VC-535444	2,772	Pocahontas
5350	DI-1101	VC-504662	-	Pocahontas
13044	DI-2661	VC-530413	2,770	Pocahontas
12823	DI-2585	VC-536371	2,676	Pocahontas
13099	DI-2677	VC-530426	2,749	Pocahontas
7535	DI-1578	VC-536364	2,557	Pocahontas
1780	DI-0616	VC-702201	2,642	Pocahontas
13126	DI-2689	VC-538590	2,841	Pocahontas

## APPENDIX C

### EXISTING WELL RECORDS WITHIN ONE-MILE RADIUS OF WELL P-205

13111	DI-2686	VC-538955	2,790	Pocahontas
13177	DI-2710	VC-530444	Not Drilled	Pocahontas
13175	DI-2708	VC-536361	Not Drilled	Pocahontas
13101	DI-2679	VC-530430	2,828	Pocahontas
7534	DI-1577	VC-536363	2,653	Pocahontas
13167	DI-2702	VC-530449	Not Drilled	Pocahontas
7528	DI-1576	VC-536088	2,675	Pocahontas
13173	DI-2706	VC-530450	2,769	Pocahontas
5531	DI-1123	VC-504650	-	Pocahontas
13043	DI-2660	VC-530414	2,790	Pocahontas

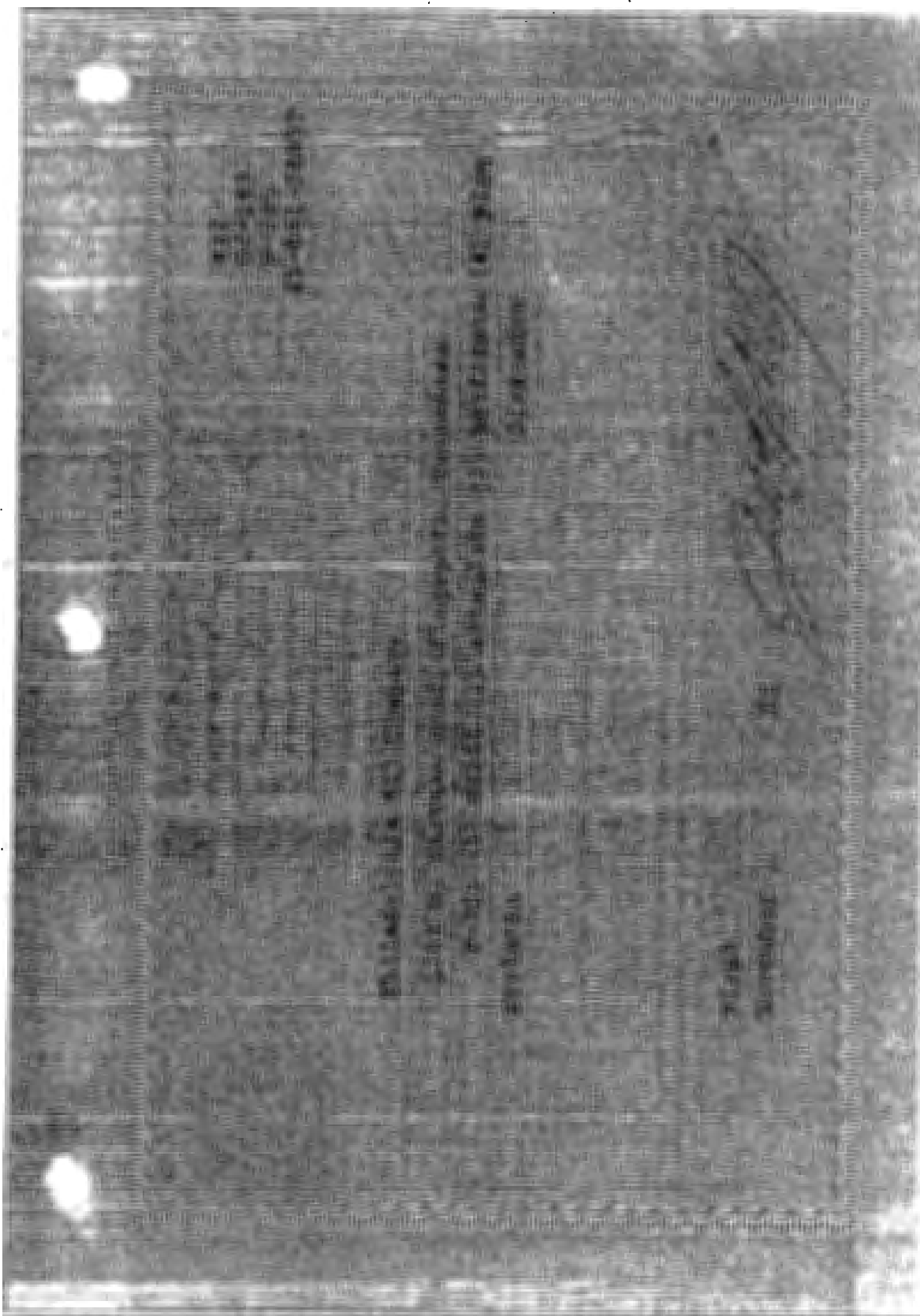


# Conventional Wells Within 1-Mile

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EXISTING WELLS WITHIN AREA OF REVIEW

WELL VAS2D957BDIC



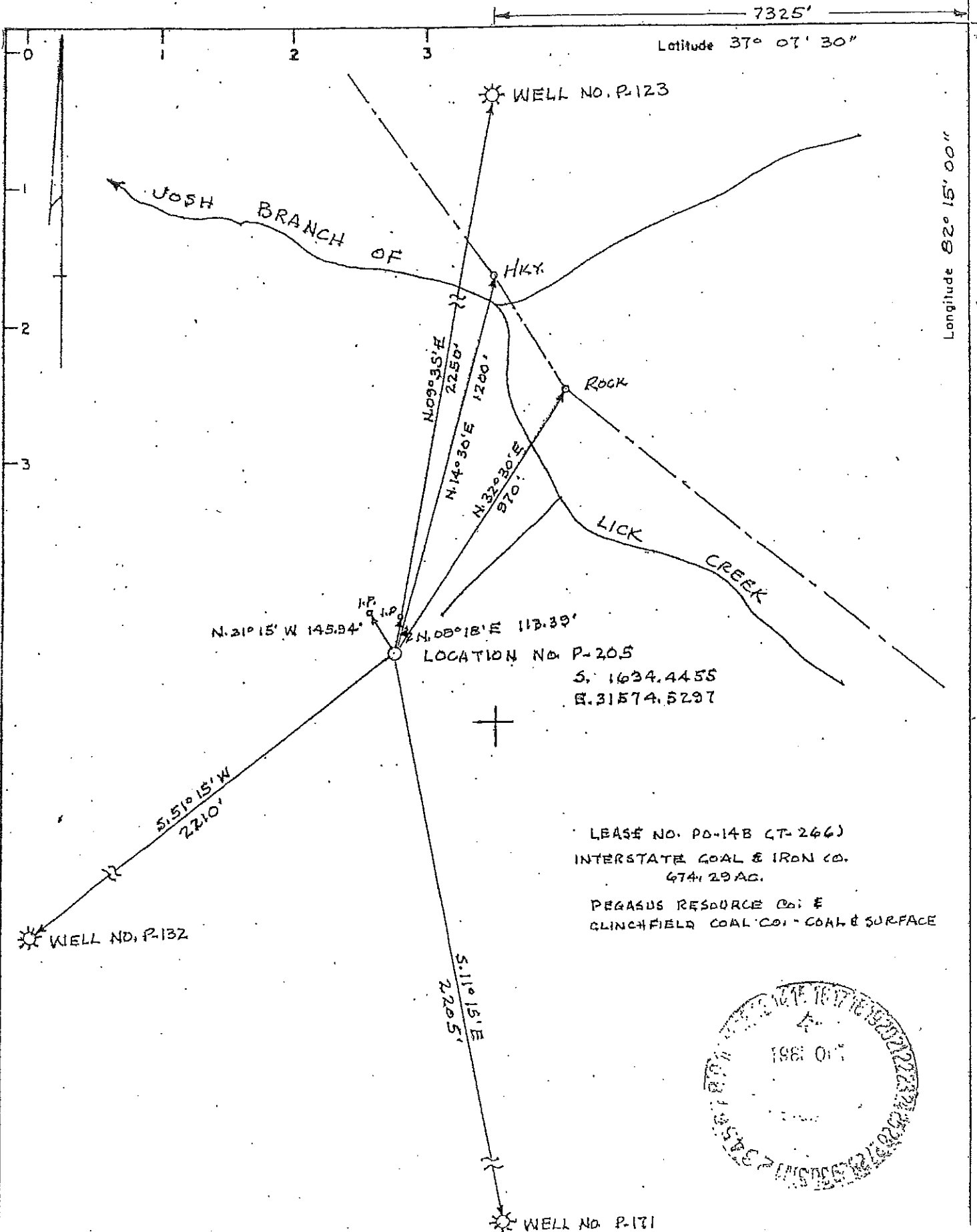
DD-299

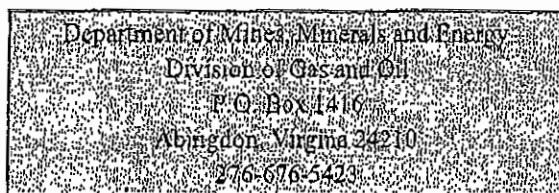
FORM 5 (Draft 07-09-82)

7325'

Latitude 37° 07' 30"

Longitude 82° 15' 00"





Permit:

Well: 750205

FILE COPY

Completion Report

Well Type: Gas Well

Date Well Completed

Total Depth of Well: 6,149.00

LTD:

Attach the drilling report if not previously submitted. In addition, submit any changes in casing and tubing that were approved after the driller's report was submitted.

Stimulation RecordZone 1

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:

Formation Broke Down at: PSIG Average Injection Rate: BPM

ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG

Stimulated: Yes: X No: Date Stimulated:

Zone 2

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:

Formation Broke Down at: PSIG Average Injection Rate: BPM

ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG

Stimulated: Yes: X No: Date Stimulated:

Zone 3

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:

Formation Broke Down at: PSIG Average Injection Rate: BPM

ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG

Stimulated: Yes: X No: Date Stimulated:

Zone 4

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:

Formation Broke Down at: PSIG Average Injection Rate: BPM

ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG

Stimulated: Yes: X No: Date Stimulated:

Final ProductionAfter StimulationInitial Production if Gas Zones  
are commingledBODMCFDHours TestedRock Pressure

188

0

180

Permittee: EQUITABLE PRODUCTION COMPANY (Company)By: [Signature] (Signature)

DGO-GO-15

REV 7/00

1/9/07



Well: 750205

Formation Record

Permit:

Well: 750205

Date Well Completed:

Total Depth of Well: 6,149.00

Permit:

Stage 1	
to	06/30/2005
h/Type	variable
na	Weir
f Perfs	15
in/To	4,512- 4,542
Press	1,346
T Psi	2,462
g Rate	26
a Press Psi	2,564
Psi	1,873
in SIP	1,604 5 min.
c Gradient	0.59
ni Proppant	261.63
bl	152
bl	284,774
bl-gal	400 gal
	15%HCL

I SEP

Permit:

Well:

750205

Loggings or samples are not available for examination by a member of the Virginia Division of Mineral Resources  
Loggings or samples have not been furnished to the Virginia Division of Mineral Resources

**Electric Logs and Surveys**

List logs run on wellbore: GR/Density/Temp/Induction/Neutron

Did Logs disclose vertical location of a coal seam? Yes: ☐ No: ☒**Survey Results**

Depth Direction/Distance/Degrees From True Vertical

**Casing Data**

Casing Outside Diameter	Casing Interval	Hole Size	Cement used in Cu. ft.	Cmtd To Surface	Date Cemented	Cement Baskets
	0					

**Tubing Size**

X 2 3/8

**Footage**

5,951.85

\* to report new log in well All other drlg information previously reported

(FOR OFFICE USE ONLY: API Well No. 45 -          -           
State County Permit

Date: September 5, 1985

Operator's  
Well No. P-205

VIRGINIA OIL AND GAS INSPECTOR  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES

OIL AND GAS SECTION  
205 W. MAIN STREET  
ABINGDON, VIRGINIA 24210  
PHONE 703 628-1115

WELL PLAT

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000. Latitude and longitude lines are represented by border lines as shown.

This plat is new X / updated      /

This plat is X / is not      / based on a mine coordinate system established for the areas of the well location.

Well operator Philadelphia Oil Company  
1101 N. Eastman Road  
Address Kingsport, TN. 37664  
Farm Interstate Coal & Iron Co.  
Tract T-266 Acres 674.29 Lease No. PO-148  
Elevation 1885.66'  
Quadrangle Nora, VA.  
County Dickenson District Ervin  
Registered Engineer          Registration No.           
Certified Land Surveyor          Cert. No.           
File No.          Drawing No.           
Date 9-5-1985 Scale 1"=400'

Certification of Well Plat

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 of the Virginia Well Review Board.

Luther Adkins, Jr., Va # 591  
~~Registered Engineer~~ or Certified Land Surveyor  
in Charge

(FOR OFFICE USE ONLY: APL Well No. 45 -  
State County Permit

Date: September 5, 1985

Operator's  
Well No. P-205

VIRGINIA OIL AND GAS INSPECTOR  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES

OIL AND GAS SECTION  
205 W. MAIN STREET  
ABINGDON, VIRGINIA 24210  
PHONE 703 628-1115

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Quadrangle Nora, VA.  
County Dickenson District Ervinton  
Registered Engineer            Registration No.             
Certified Land Surveyor            Cert. No.             
File No.            Drawing No.             
Date 9-5-1985 Scale 1"=400'

Certification of Well Plat

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 of the Virginia Well Review Board.

Luther R. Perkins, Jr., Va. # 891  
~~Registered Engineer~~ or Certified Land Surveyor  
in Charge



FORM 16

API WELL NO. 45 - 051 - 20837

State County Permit

Date: April 1, 1986

Operator's Well

Name Interstate Coal & Iron P-205

OS-249

VIRGINIA OIL AND GAS INSPECTOR

205 W. MAIN STREET

ABINGDON, VA 24210

703-628-8115



REPORT OF COMPLETION OF WELL WORK

Pursuant to Regulation 4.06 of the Regulations under the Virginia Oil and Gas Act, the undersigned well operator reports completion of the type(s) of well work specified below on the referenced well in Ervinton District, Dickenson County, Virginia on 26 day, 3 month, 19 86.

WELL TYPE: Oil      / Gas X / Enhanced recovery      / Waste Disposal      / If "Gas", Production X / Underground Storage     

Exempt by Code Section 45.1-300.B.1. from general oil and gas conservation law: yes      / no     

WELL WORK: Drill X / Deepen      / Redrill      / Stimulate      / Plug off old formation      / Perforate new formation      / Plug      / Replug      / Other physical change in well (specify     )

The well work was done as shown in the Appendix(es) applicable to the type(s) of well work involved.

CONFIDENTIALITY STATUS UNDER CODE OF VIRGINIA SECTION 45.1-332.

X Ninety days from the filing of this report  
OR

     Two years from     , 19     , the date on which the referenced well was COMPLETED, the well being an exploratory well as defined in Code of Virginia Section 45.1-288.21.

APPLICANT: Philadelphia Oil Company

BY Brint Camp

TTS District Geologist

ADDRESS 1101 N. Eastman Road, Kingsport, TN 37664

TELEPHONE 615-246-4332

Form 16

Appendix A, Sheet 1 (Reverse)

Continued from Obverse side

#### OTHER GENERAL INFORMATION

An electric log survey was ☐ / was not ☐ / conducted pursuant to Code of Virginia Section 45.1-333.B.2, at the coal owner's or operator's request.

An electric log survey was ☒ / was not ☐ / run for other purposes. This survey did ☐ / did not ☒ / disclose the vertical location of a coal seam.

Note: If a coal seam was located, the part of the survey from the surface through the coal is attached in accordance with Code of Virginia Section 45.1-333.B.3.

Deviation surveys were ☒ / were not ☐ / required under Code of Virginia Section 45.1-333.C "to the bottom of the lowest published coal seam depth."

Note: If deviation surveys were required, the survey results are attached.

A continuous survey was ☐ / was not ☒ / required under Code of Virginia Section 45.1-333.C.

Note: If a continuous directional survey was required, the survey results are attached.

#### CHANGES IN THE PERMITTED WELL WORK

The well operator did ☐ / did not ☒ / make any change(s) in the permitted well work, verbally approved by the Inspector or Assistant Inspector under Regulation 4.03 of the Regulations under the Virginia Oil and Gas Act, for the purpose of insuring successful completion of the well work.

Note: The nature and purpose of each such change, if any, is set out below or on additional sheets if such are required.

CASING AND TUBING PROGRAM

PRELIMINARY INFORMATION

Is the subject well underlaid by the red shales? Yes X / No      /  
If Yes, was a coal protection string set to the red shales? Yes X / No      /

	SIZE	TOP	BOTTOM	LENGTH	PERFORATIONS FROM TO
<u>CONDUCTOR:</u>	16"	0	16'	16'	
	11 3/4"	0	214'	214'	

<u>CASING CIRCULATED AND CEMENTED IN TO SURFACE:</u>	8 5/8"	0	2218'	2218'	
--	--------	---	-------	-------	--

COAL PROTECTION CASING  
SET UNDER SPECIAL RULE OF  
CODE OF VIRGINIA 45.1-334.B:

<u>OTHER CASING AND TUBING LEFT IN WELL;</u>	4 1/2"	0	6095'	6095'	5020-5086 5854-6035
	2 3/8"	0	5940'	5940'	

LINERS LEFT IN WELL UNDER  
CODE OF VIRGINIA SECTION  
45.1-336 OR OTHERWISE:

<u>PACKERS OR BRIDGE PLUGS:</u>	<u>KIND</u>	<u>SIZE</u>	<u>SET AT</u>
		2 3/8 X 4 1/2"	5480

REMARKS: SHUT DOWN DEPTHS, DATES; FISHING JOB DEPTHS, DATES; CAVING;  
ETC.)

SAMPLES AND CUTTINGS

     X WILL NOT      BE AVAILABLE FOR EXAMINATION BY A MEMBER OF THE  
VIRGINIA DIVISION OF MINERAL RESOURCES  
WILL X WILL NOT      BE FURNISHED THE VIRGINIA DIVISION OF MINERAL  
RESOURCES UPON REQUEST  
WILL      WILL NOT X REQUIRE SACKS TO BE FURNISHED BY THE VIRGINIA  
DIVISION OF MINERAL RESOURCES.

M 16  
APPENDIX A,  
SHEET 1, (OBVERSE)

API WELL NO. 45 - 051 - 20837  
State County Permit  
Date: April 1, 1986  
Operator's Well  
Name Interstate Coal & Iron

REPORT OF COMPLETION OF WELL WORK  
IF DRILLING, REDRILLING, OR DEEPENING IS INVOLVED

DRILLING CONTRACTOR Union Drilling, Inc.  
ADDRESS P. O. Drawer 40, Buchannon, WV 26201  
TELEPHONE 304-472-4610

GEOLOGICAL TARGET FORMATION Brown Shale  
DEPTH OF COMPLETED WELL 6153 FEET  
DATE DRILLING COMMENCED 11/7/85  
DATE DRILLING COMPLETED 11/21/85  
DRILLING RIG: ROTARY ☒ / CABLE TOOL ☐

GEOLOGICAL DATA	Depth		Thickness
	Top	Bottom	
sh Water	49'	1038'	

Salt water

	Name	MINING IN AREA		
		Yes	No	
Coal Seams	289-294	657-660	788-790	1160-1162
	442-445	661-665	1086-1088	1490-1495
	535-542	680-683	1121-1123	1545-1550
Oil				1615-1620
	Formation			

Gas Formation

The data on depth of strata is based on the source(s) checked below:  
☒ Applicant's own drilling experience in the area  
☐ Information supplied by the coal operator in the area  
☐ Information already in possession of the Inspector  
☐ Other (as follows)



FORM 16

Appendix A, Sheet 2 (Reverse)

DRILLER'S LOGCompiled by Brint Camp

Geolo- gical Age	Formation	General Lithology	Color	Depth (feet)		Thickness	Remarks
				Top	Bottom		
Pennsylvanian	Sand & Shale			0	2670	2670	
Mississippian	Ravenscliff			2670	2792	122	
"	Little Stone			2792	2856	64	
"	Shale			2856	2929	73	
"	Maxon Sands			2929	3410	481	
"	Shale			3410	3712	302	
"	Little Lime			3712	3785	73	
"	Lime & Shale			3785	3914	129	
"	Big Lime			3914	4378	464	
"	Keener			4378	4404	26	
"	Weir			4404	4948	544	
"	Coffee Shale			4948	5016	68	
"	Berea			5016	5102	86	
"	Brown Shale			5102	6036	934	
"	White Slate			6036	6153	117	
	Logger's Total Depth			6153			

Complete on supplemental sheet as necessary

Form 16  
Appendix D

API No. 45 - 051 - 20837

APPENDIX TO REPORT OF COMPLETION OF WELL WORK  
ON A WELL DRILLED IN SEARCH OF OIL OR GAS

DISCOVERY OF OIL OR INDICATIONS THEREOF

Indicated potential flow before stimulation --- BOD  
Gravity and grade: ---

DISCOVERY OF GAS OR INDICATIONS THEREOF

Indicated potential flow before stimulation --- MCFD  
Rock pressure: --- psig --- hour test

RECORD OF STIMULATION

Full description of stimulation:

Zone 1: Brown Shale Formation  
was stimulated with a 75 Q foam using 1.1' mmcf of N<sub>2</sub>, 306 BBL  
fluid and 42,500# 20/40 and 7500# 10/20 sand.  
Perforated 5854-6035 # Perfs. 35 Perf. Size .50  
Breakdown 2950 psig. Avg. Injection 4000 psig.  
Avg. I.R. 10 BPM Init. S.I.P. 2000 psig 15 Min. S.I.P. N/A psig

Zone 2: Berea Formation  
was stimulated with a 75 Q foam using 766,000 Scf N<sub>2</sub>, 336 BBL  
fluid and 52,500# 20/40 and 7500# 10/20.  
Perforated 5020-5086 # Perfs. 29 Perf. Size .50  
Breakdown 3400 psig. Avg. Injection 3900 psig.  
Avg. I.R. 21 BPM Init. S.I.P. 2000 psig 15 Min. S.I.P. N/A psig

Zone 3: --- Formation

Perforated --- # Perfs. --- Perf. Size ---  
Breakdown --- psig. Avg. Injection --- psig.  
Avg. I.R. --- BPM Init. S.I.P. --- psig 15 Min. S.I.P. --- psig

Final production ( ) natural ( X ) after stimulation

	BOD	MCFD	Hours Tested	Rock Pressure	Hours Tested
Zone 1:	<u>---</u>	<u>179</u>	<u>6hrs.</u>	<u>930</u>	<u>48hrs.</u>
Zone 2:	<u>---</u>	<u>340</u>	<u>6hrs.</u>	<u>680</u>	<u>48hrs.</u>
Zone 3:	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

Final production if gas zones are coningled: --- MCFD

--- hours tested: --- psig. --- hours tested

DIRECTIONAL SURVEY

P-205

<u>DEPTH</u>	<u>DEGREES</u>
233	3/4
452	3/4
668	1/2
887	1/2
1106	1
1322	1/2
1540	1/2
1759	3/4
1946	1/2
2382	0

01230

RE VISEN PLAT

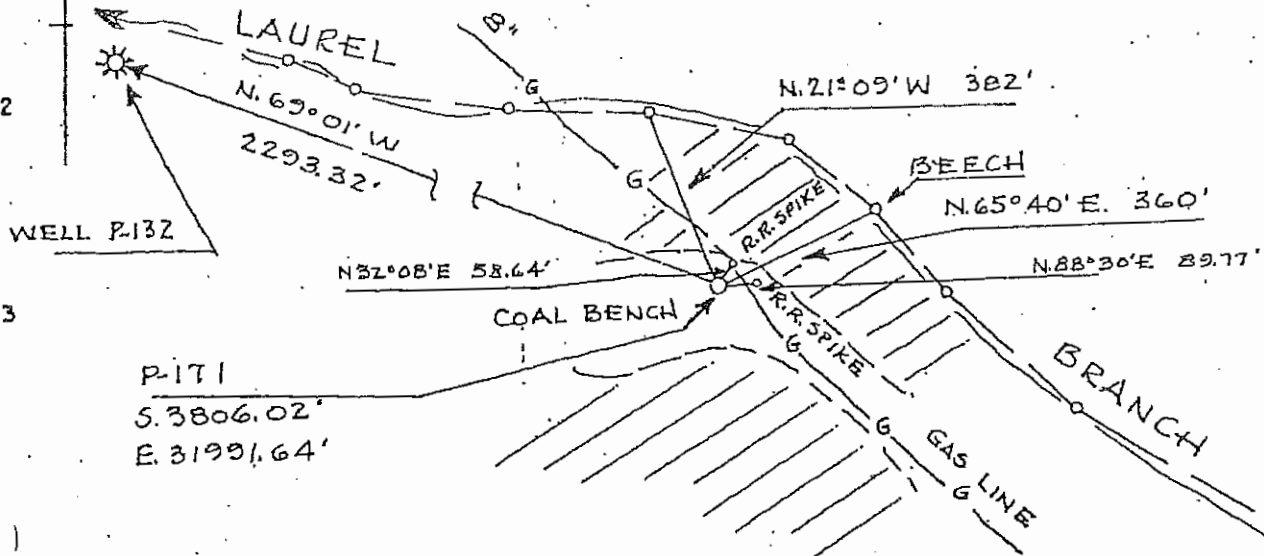
FORM 5 (Draft 07-09-82)

6900'

Latitude 37° 07' 30"

Longitude 82° 15' 00"

PO-148 (T-266)  
INTERSTATE COAL & IRON CO.  
614.29 AC.  
CLINCHFIELD COAL CO.



PO-148 (T-450)  
JESSE WAMPLER  
347.90 AC.  
CLINCHFIELD COAL CO.



THIS IS THE  
CORRECTED PLAT  
OF P-171  
B.S. Spradlin  
4/18/85



(FOR OFFICE USE ONLY: API Well No. 45 -            -             
State County Permit

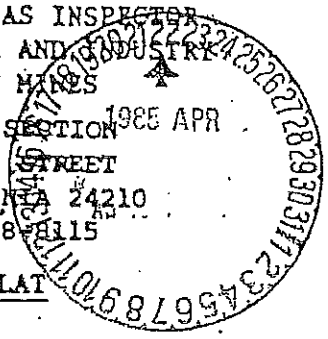
Date: Sept. 26, 1984

Operator's  
Well No. P-171

VIRGINIA OIL AND GAS INSPECTOR  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES

OIL AND GAS SECTION  
205 W. MAIN STREET  
ABINGDON, VIRGINIA 24210  
PHONE 703 628-1115

WELL PLAT



+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000. Latitude and longitude lines are represented by border lines as shown.

This plat is new X/ updated       /

This plat is X/ is not       / based on a mine coordinate system established for the areas of the well location.

Well operator Philadelphia Oil Company

Address Box 431 Prestonsburg, KY. 41653  
Farm Jesse Wampler  
Tract T-450 Acres 347.90 Lease No. PO-148  
Elevation 1933.57'  
Quadrangle Nora, VA.  
County Dickenson District Ervington  
Registered Engineer            Registration No.             
Certified Land Surveyor            Cert. No.             
File No.            Drawing No.             
Date 9-26-1984 Scale 1"=400'

Certification of Well Plat

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 of the Virginia Well Review Board.

Luther A. King, Jr. Va. # 871  
Engineer or Certified Land Surveyor  
in Charge

(FOR OFFICE USE ONLY: API Well No. 45 -          -           
State County Permit

Date: June 19 1984

Operator's  
Well No. P-171

VIRGINIA OIL AND GAS INSPECTOR  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES

OIL AND GAS SECTION  
205 W. MAIN STREET  
ABINGDON, VIRGINIA 24210  
PHONE 703 628-8115

WELL PLAT

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000. Latitude and longitude lines are represented by border lines as shown.

This plat is new X / updated          /

's plat is X / is not          / based on a mine  
ordinate system established for the areas  
the well location.

Well operator PHILADELPHIA OIL COMPANY

Address BOX 431 PRESTONSBURG, KY. 41653  
Farm Interstate Coal and Iron Co.  
Tract T-266 Acres 674.29 Lease No. PO-148  
Elevation 1939.45'  
Quadrangle Nora  
County Dickenson District Ervinton  
Registered Engineer          Registration No.           
Certified Land Surveyor          Cert. No.           
File No.          Drawing No.           
Date 6-19-1984 Scale 1"=400'

Certification of Well Plat

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 of the Virginia Well Review Board.

          
Registered Engineer or Certified Land Surveyor  
in Charge

6600'

Latitude 37° 07' 30"

Longitude 82° 15' 00"

PO-148 (T-266)  
INTERSTATE COAL & IRON CO.  
674.29 AC.  
CLINCHFIELD COAL CO.

WELL P-132

N. 88° 18' W  
248.5'

S. 3093.59  
E. 32308.31

WELL NO. R171

N. 49° 58' 57" E 328.46'

IRON PIN

IRON PIN

N. 82° 43' 45" E 291.98'

LAUREL

BEECH.

LYNN.

BRANCH

PO-148 (T-450)  
JESSE WAMPLER  
347.90 AC.  
CLINCHFIELD COAL CO.





APPENDIX TO REPORT OF COMPLETION OF WELL WORK  
ON A WELL DRILLED IN SEARCH OF OIL OR GAS

DISCOVERY OF OIL OR INDICATIONS THEREOF

Indicated potential flow before stimulation \_\_\_\_\_ BOD  
Gravity and grade: \_\_\_\_\_

DISCOVERY OF GAS OR INDICATIONS THEREOF

Indicated potential flow before stimulation 47 MCFD  
Rock pressure: N/A psig \_\_\_\_\_ hour test

RECORD OF STIMULATION

Full description of stimulation:

Zone 1: Brown Shale Formation

The Brown Shale was treated with a 75 Q foam frac using  
348 Bbl. of fluid, 60,000# sand and 1,025,000 scf N<sub>2</sub>  
Perforated 5949-6046 # Perfs. 22 Perf. Size .5  
Breakdown 2500 psig. Avg. Injection 3450 psig.  
Avg. I.R. 11BPM Init. S.I.P. N/A psig 15 Min. S.I.P. \_\_\_\_\_ psig

Zone 2: Berea Formation

The Berea was stimulated with a 75 Q foam frac using 50,000#  
sand, 339 Bbl. fluid, and 704 scf N<sub>2</sub>  
Perforated 5106-5167 # Perfs. 18 Perf. Size .5  
Breakdown 3100 psig. Avg. Injection 2200 psig.  
Avg. I.R. 8 BPM Init. S.I.P. 1900 psig 15 Min. S.I.P. \_\_\_\_\_ psig

Zone 3: Weir Formation

The weir was treated with a 75 Q foam frac with 40,000#  
sand, 518,000 scf N<sub>2</sub>, and 280 Bbl. fluid.  
Perforated 4599-4636 # Perfs. 13 Perf. Size .5  
Breakdown 2500 psig. Avg. Injection 2100 psig.  
Avg. I.R. 8 BPM Init. S.I.P. 1700 psig 15 Min. S.I.P. N/A psig

Final production ( ) natural (X) after stimulation

	BOD	MCFD	Hours Tested	Rock Pressure	Hours Tested
Zone 1:	_____	_____	_____	_____	_____
Zone 2:	_____	_____	_____	_____	_____
Zone 3:	_____	_____	_____	_____	_____

Final production if gas zones are comingled: 622 MCFD

7 hours tested: 600 psig. 48 hours tested



Form 16  
Appendix D

API No. 45 - 051 - 20733

APPENDIX TO REPORT OF COMPLETION OF WELL WORK  
ON A WELL DRILLED IN SEARCH OF OIL OR GAS

## DISCOVERY OF OIL OR INDICATIONS THEREOF

Indicated potential flow before stimulation \_\_\_\_\_ BOD  
Gravity and grade: \_\_\_\_\_

## DISCOVERY OF GAS OR INDICATIONS THEREOF

Indicated potential flow before stimulation 47 MCFD  
Rock pressure: N/A psig \_\_\_\_\_ hour test

## RECORD OF STIMULATION

Full description of stimulation:

Zone 1: Big Lime Formation

The lime was acidized with 3,500 gal. 15% HCL and 55,000 scf N<sub>2</sub>

Perforated 4013 - 4018 # Perfs. 6 Perf. Size .4

Breakdown 2150 psig. Avg. Injection 1700 psig.

Avg. I.R. 10 BPM Init. S.I.P. 400 psig 15 Min. S.I.P. \_\_\_\_\_ psig

Zone 2: \_\_\_\_\_ Formation

Perforated \_\_\_\_\_ # Perfs. \_\_\_\_\_ Perf. Size \_\_\_\_\_

Breakdown \_\_\_\_\_ psig. Avg. Injection \_\_\_\_\_ psig.

Avg. I.R. \_\_\_\_\_ BPM Init. S.I.P. \_\_\_\_\_ psig 15 Min. S.I.P. \_\_\_\_\_ psig

Zone 3: \_\_\_\_\_ Formation

Perforated \_\_\_\_\_ # Perfs. \_\_\_\_\_ Perf. Size \_\_\_\_\_

Breakdown \_\_\_\_\_ psig. Avg. Injection \_\_\_\_\_ psig.

Avg. I.R. \_\_\_\_\_ BPM Init. S.I.P. \_\_\_\_\_ psig 15 Min. S.I.P. \_\_\_\_\_ psig

Final production ( ) natural ( x ) after stimulation

	BOD	MCFD	Hours Tested	Rock Pressure	Hours Tested
Zone 1:	_____	220	7	900	48
Zone 2:	_____	_____	_____	_____	_____
Zone 3:	_____	_____	_____	_____	_____

Final production if gas zones are comingled: \_\_\_\_\_ MCFD

\_\_\_\_\_ hours tested: \_\_\_\_\_ psig. \_\_\_\_\_ hours tested

RM 16  
APPENDIX A,  
SHEET 1, (OBVERSE)

API WELL NO. 45 - 051 - 20733  
State County Permit  
Date: October 28, 1985  
Operator's Well  
Name Jesse Wampler, No. P-171

REPORT OF COMPLETION OF WELL WORK  
IF DRILLING, REDRILLING, OR DEEPENING IS INVOLVED

DRILLING CONTRACTOR Union Drilling  
ADDRESS 1101 N. Eastman Rd., Kingsport, TN 37664  
TELEPHONE (615) 246-4332

GEOLOGICAL TARGET FORMATION Brown Shale  
DEPTH OF COMPLETED WELL 6271 FEET  
DATE DRILLING COMMENCED 7-27-85  
DATE DRILLING COMPLETED 8-6-85  
DRILLING RIG: ROTARY X / CABLE TOOL

GEOLOGICAL DATA      Depth      Thickness  
                         Top   Bottom

Fresh Water      45'

Salt water

MINING IN AREA  
Name      Yes   No   Mined Out

Coal Seams      98-100, 319-324, 574-576, 680-683, 1593-1600

Oil      Formation

Gas      4055, 5231.  
                         Formation  
                         Big Lime, Berea

blow:      The data on depth of strata is based on the source(s) checked

x Applicant's own drilling experience in the area  
       Information supplied by the coal operator in the area  
       Information already in possession of the Inspector  
       Other (as follows) \_\_\_\_\_

Form 16  
Appendix A, Sheet 1 (Reverse)  
Continued from Obverse side

#### OTHER GENERAL INFORMATION

An electric log survey was ☐ / was not ☐ / conducted pursuant to Code of Virginia Section 45.1-333.B.2, at the coal owner's or operator's request.

An electric log survey was ☒ / was not ☐ / run for other purposes. This survey did ☐ / did not ☒ / disclose the vertical location of a coal seam.

Note: If a coal seam was located, the part of the survey from the surface through the coal is attached in accordance with Code of Virginia Section 45.1-333.B.3.

Deviation surveys were ☒ / were not ☐ / required under Code of Virginia Section 45.1-333.C "to the bottom of the lowest published coal seam depth."

Note: If deviation surveys were required, the survey results are attached.

A continuous survey was ☐ / was not ☒ / required under Code of Virginia Section 45.1-333.C.

Note: If a continuous directional survey was required, the survey results are attached.

#### CHANGES IN THE PERMITTED WELL WORK

The well operator did ☐ / did not ☒ / make any change(s) in the permitted well work, verbally approved by the Inspector or Assistant Inspector under Regulation 4.03 of the Regulations under the Virginia Oil and Gas Act, for the purpose of insuring successful completion of the well work.

Note: The nature and purpose of each such change, if any, is set out below or on additional sheets if such are required.

Form 16  
Appendix A, Sheet 2 (Obverse)

API NO. 45-051-20733

CASING AND TUBING PROGRAM

PRELIMINARY INFORMATION

Is the subject well underlaid by the red shales? Yes X / No      /  
If Yes, was a coal protection string set to the red shales? Yes X / No      /

	SIZE	TOP	BOTTOM	LENGTH	PERFORATIONS FROM TO
<u>CONDUCTOR:</u>	11-3/4"	Surface	25		
<u>CASING CIRCULATED AND CEMENTED IN TO SURFACE:</u>	8-5/8"	Surface	2277		
<u>COAL PROTECTION CASING SET UNDER SPECIAL RULE OF CODE OF VIRGINIA 45.1-334.B:</u>					
<u>OTHER CASING AND TUBING LEFT IN WELL;</u>	4-1/2"	Surface	6223	5949 5106 4599 4013	6046 5167 4636 4018
<u>LINERS LEFT IN WELL UNDER CODE OF VIRGINIA SECTION 45.1-336 OR OTHERWISE:</u>	2"	Surface	6043		

<u>PACKERS OR BRIDGE PLUGS:</u>	<u>KIND</u>	<u>SIZE</u>	<u>SET AT</u>
	Larkin	4-1/2" X 2"	4220

REMARKS: SHUT DOWN DEPTHS, DATES; FISHING JOB DEPTHS, DATES; CAVING;  
ETC.)

SAMPLES AND CUTTINGS

WILL X WILL NOT      BE AVAILABLE FOR EXAMINATION BY A MEMBER OF THE  
VIRGINIA DIVISION OF MINERAL RESOURCES  
WILL X WILL NOT      BE FURNISHED THE VIRGINIA DIVISION OF MINERAL  
RESOURCES UPON REQUEST  
WILL      WILL NOT X REQUIRE SACKS TO BE FURNISHED BY THE VIRGINIA  
DIVISION OF MINERAL RESOURCES.

FORM 16

Appendix A, Sheet 2 (Reverse)

DRILLER'S LOG

P-171

Compiled by Brint Camp

Geolo- gical Age	Formation	General Lithology	Color	Depth (feet)		Thickness	Remarks
				Top	Bottom		
	Sand & Shale			0	2682	2682	
	Ravencliff			2682	2846	164	
	Little Stone Gap			2846	2910	64	
	Sandy Shale			2910	3214	304	
	Maxon Sands			3214	3660	446	
	Shale			3660	3777	117	
	Little Lime			3777	3833	56	
	Limey Shale			3833	3980	147	
	Big Lime			3980	4458	478	
	Keener			4458	4550	92	
	Weir			4550	5018	468	
	Coffee Shale			5018	5102	84	
	Berea			5102	5186	84	
	Brown Shale			5186	6152	966	
	White Slate			6152	6271	119	
	Logger's T.D.			6271			

Complete on supplemental sheet as necessary



DIRECTIONAL SURVEY

P-171

DEPTH

DEGREES

204'  
361'  
562'  
739'  
942'  
1111'  
1174'  
1420'  
1637'  
1826'  
2315'

0°  
3/4°  
3/4°  
0°  
0°  
1-1/4°  
1°  
3/4°  
3/4°  
1°  
3/4°

THIS PERMIT IS NOT TRANSFERABLE



Commonwealth of Virginia  
Department of Labor and Industry  
DIVISION OF MINES

Big Stone Gap, Virginia  
WELL WORK PERMIT

Permit No. 733  
File No. DI-230  
Well No. P-171  
API No. 45-051-20733

This is to certify that on this date a well work permit

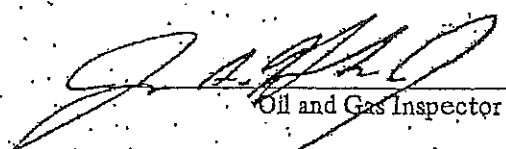
was issued to Philadelphia Oil Company  
whose address is 1101 N. Eastman Road, Kingsport, TN 37554  
for the operation of P-171 (1) drill (2) stimulate (3) perforate (4) plug  
located in Ervington District, County of Dickenson

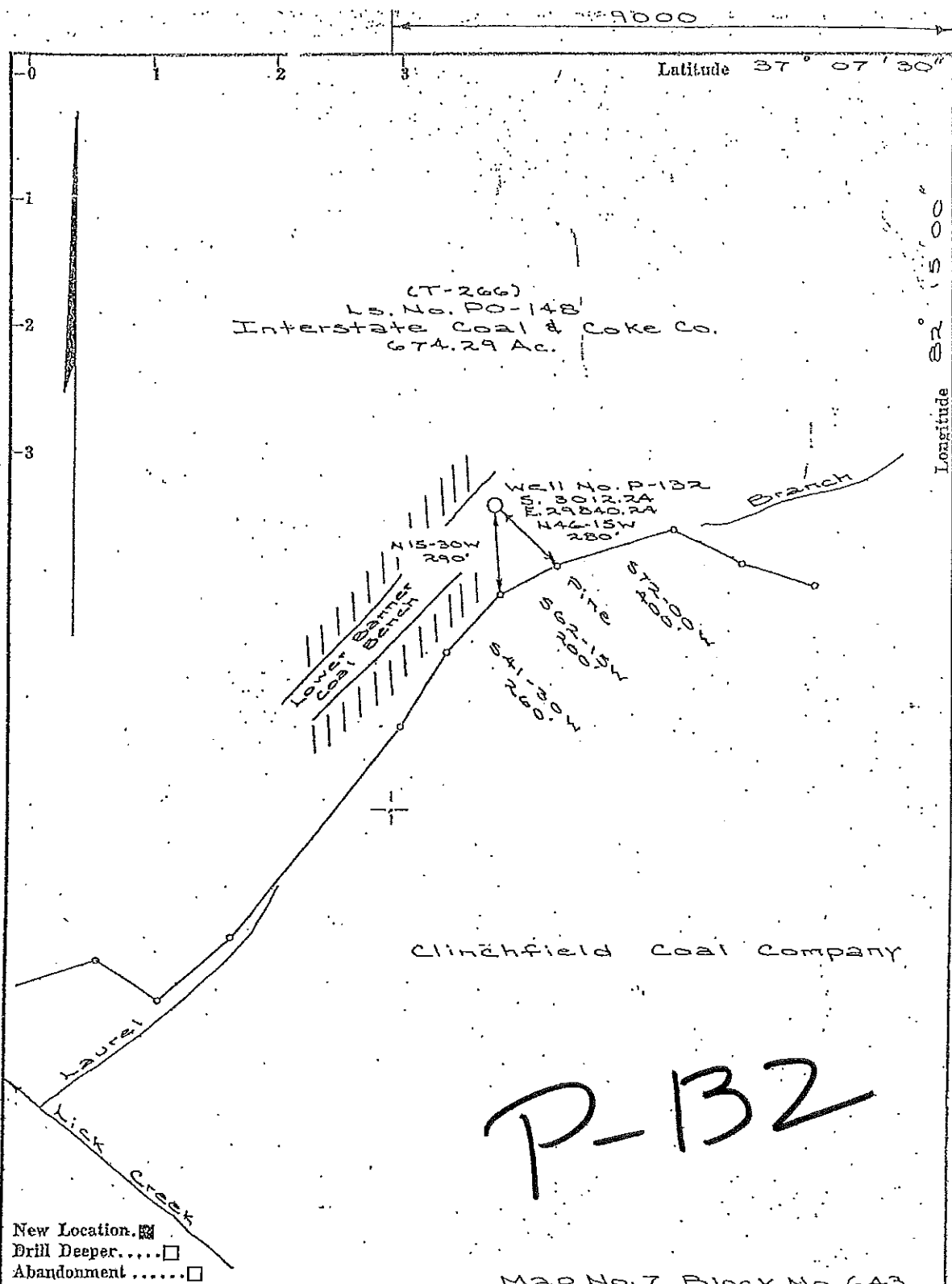
THIS WELL WORK PERMIT IS ISSUED IN COMPLIANCE WITH  
TITLE 45.1, CHAPTER 22, CODE OF VIRGINIA 1950 AS AMENDED

Any person operating a well within the State without first obtaining a well work permit as provided herein shall be guilty of a class one misdemeanor or other penalties as prescribed in Title 45, Chapter 22, Article 7 of the Code of Virginia. Each day any person operates a well without first obtaining a well work permit shall constitute a separate offense.

Issued this Fourth day  
of December 19 84

Fee Paid \$100.00

  
Oil and Gas Inspector



Company Philadelphia Oil Co.  
Address Nora, Va.  
Farm Interstate Coal & Iron Co.  
(T-266)  
Tract Acres 674.29 Lease No. PO-148  
Well (Farm) No. P-132 Serial No. P-132  
Elevation (Spirit Level) 1822.99'  
Quadrangle Nora, Va.  
County Dickenson District Ervinton  
Surveyor B. C. Spradlin  
Surveyor Registration No. 782  
File No. 6-35-B1 Drawing No. 1  
Date 6-30-31 Scale 1" = 400'

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR & INDUSTRY  
DIVISION OF MINES  
BIG STONE GAP

# WELL LOCATION MAP

FILE NO. DI-192

PN-437

+ Denotes location of well on United States  
Topographic Maps, scale 1 to 24,000, latitude  
and longitude lines being represented by  
border lines as shown.

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

(To be filled in by  
Division of Mines)COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY(To be filled in by  
Division of Mines)DICKENSON

County

ERVINGTON

District

NORA

Quadrangle

D1-192

File

## DIVISION OF MINES

BIG STONE GAP, VIRGINIA

DEEPEMED  
OIL AND GAS WELL COMPLETION REPORT  
ABANDONMENTWell No. P-132Permit No. 437County Code 051Well  
Classification DEVELOPMENT(This report and a copy of electrical log, if made, must  
be submitted to the Division of Mines within 30 days after  
abandonment or completion of well, as required by Section  
45-113, Code of Virginia, 1950.)Company Philadelphia Oil CompanyAddress P. O. Box 431  
Prestonsburg, KY 41653Farm Interstate Coal & Iron Co.Acres 674.92County DickensonDistrict ErvingtonWell No. (Company) P-132Elevation (ground surface) 1822.99 ft.Location: (Give direction and distance in feet from two (2) map coordinates (Latitude and Longitude) shown  
on location plat or map previously filed with the Division of Mines or shown on quadrangle topo-  
graphic map of area.)9,000 feet West of 82° 15' 00" and12,050 feet South of 37° 07' 30"Surface of tract is owned in fee simple by Clinchfield Coal CompanyAddress Dante, Virginia 24237Mineral rights are owned by Clinchfield Coal CompanyAddress Dante, Virginia 24237Location made by B. C. SpradlinDrilling commenced 9-21-81Drilling contractor Union Drilling CompanyDrilling completed 10-06-81Address P. O. Drawer 40, Buckhannon WVAWell completed as <sup>gas</sup>~~oil~~ well on 1-15-82

Well abandoned at \_\_\_\_\_ feet on \_\_\_\_\_: Reason \_\_\_\_\_

Well plugged on \_\_\_\_\_, 19 \_\_\_\_\_ Affidavit filed \_\_\_\_\_, 19 \_\_\_\_\_

Total depth 5,148' feet. Steel line measurement \_\_\_\_\_ feet.Commenced producing on not connected to pipeline ~~xxx~~ system.

## Oil Well

Initial production, \_\_\_\_\_ Barrels per day.

Stimulation Record \_\_\_\_\_

Breakdown Pressure \_\_\_\_\_ psi; Average Injection Pressure \_\_\_\_\_ psi;

Average Injection Rate \_\_\_\_\_ BPM; Instant Shut-in Pressure \_\_\_\_\_ psi;

Min. Shut-in Pressure \_\_\_\_\_ psi;

Final Production \_\_\_\_\_ Barrels per day.

Gravity and grade of oil \_\_\_\_\_

Oil pays at (1) \_\_\_\_\_ feet to \_\_\_\_\_ feet. Oil shows at (1) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(2) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (2) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(3) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (3) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(4) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (4) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

Main production at \_\_\_\_\_ feet to \_\_\_\_\_ feet. (5) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

## Gas Well

Gaged \_\_\_\_\_ 10/10ths. Water in \_\_\_\_\_ 1 inch.

Initial open flow, gas: \_\_\_\_\_ /10ths. Mercury in \_\_\_\_\_ inch.

Volume \_\_\_\_\_ 33 Mcf.; Rock Pressure \_\_\_\_\_ lbs. \_\_\_\_\_ hrs.

Stimulation Record The Berea was foam fractured with 50,000 pounds of sand  
and 224 Barrels of water.Breakdown Pressure 900 psi; Average Injection Pressure 1200 psi;Average Injection Rate 7 BPM; Instant Shut-in Pressure 3400 psi;

Min. Shut-in Pressure \_\_\_\_\_ psi.

To operator requests that information given herein and log or logs be kept confidential for a period of ninety days after completion of the well covered by this report Yes




Well No. P-132File No. DI-192Permit No. 437**LOG**Furnished by E. R. Minns Date 4-19-82Compiled by J. R. McCleese Date 4-20-82

GEOLOGIC AGE	FORMATION	GENERAL LITROLOGY	COLOR	TOP (feet)	BOTTOM (feet)	THICKNESS (feet)	REMARKS OIL, GAS WATER DEPTHS SHUT DOWN FISHING, ETC.
	Fill			0	5	5	
	Sand & Shale			5	8	3	
	Sand			8	483	475	
	Coal			483	486	3	
	Shale			486	505	19	
	Sand			505	555	50	
	Shale			555	603	48	
	Sand & Shale			603	630	27	
	Coal			630	634	4	
	Sand			634	683	49	
	Sand & Shale			683	688	5	
	Sand			688	1005	317	
	Sand & Shale			1005	1044	39	
	Sand			1044	1079	35	
	Coal			1079	1082	3	
	Sand & Shale			1082	1511	429	
	Coal			1511	1516	5	
	Sand & Shale			1516	2122	606	
	Red Rock			2122	2126	4	
	Sand & Shale			2126	2637	511	
	Ravencliff			2637	2747	110	
	Sand			2747	2825	78	
	Maxon			2825	3662	837	
	Sand			3662	3728	66	
	Shale			3728	3796	68	
	Big Lime			3796	4345	549	
	Keener			4345	4560	215	
	Weir			4560	4889	329	
	Coffee Shale			4889	4970	81	Gas 4927'-73
	Berea			4970	5064	94	
	Sand & Shale			5064	5148	84	
	Total Depth			5148			33 MCF @ T.D

--	--	--	--	--	--	--	--

THIS FORM MUST BE SIGNED BY AUTHORIZED PERSON:

  
\_\_\_\_\_

EQUITABLE PRODUCTION COMPANY  
Treatment Summary

Well Name: P-750132 (P-132) Date: 6/29/2005

Service Co.: B.J. Services Stage/Formation: 1 | Weir

Service Co. Treater Rep.: Billy Burdette EPC Rep: Benjamin Kose

# of Perfs: 16 Perf Depths: 4474.0' - 4506.0' Baffle #: CIBP @ 4530'

Displacement: To baffle: 72.0 bbl To Top Perf: 71.1 bbl

Type of Treatment: Var. Qual. FF BD Pressure: 2699 psi Initial ISIP: N/A

F.G.: 0.61 ATP: 2440 psi MTP: 2475 psi Final ISIP: 1715 psi

ISIP @ 2 Min: 1498 psi 5 Min: 1479 psi

Avg. Rate: 25.9 BPM Foam

Designed	Material Volumes	Pumped	% of Design
30,000	# of proppant	31,642	105
135	bbls of water	110	81
465,000	SCF N <sub>2</sub>	373,777	80
400	Gal of Acid - 15 %	400	100

\*List all materials pumped\*

JOB NOTES:

B.J. Services arrives @ 11:30 A.M.  
B.J. Services starts pumping @ 1:15 P.M.  
B.J. Services ends pumping @ 1:40 P.M.

On The Fly	
16 gal	FAW-5
4.75 gal	Enzyme G-NE
4.25 gal	Claytreat 3C
2.5 gal	Inflo-102
2.5 gal	Flo-Back 30

Premix	
150 #	GW-27
0.5 gal	Mag 575



### Completion Report

Well Type: Gas Well

Date Well Completed                      Total Depth of Well: 5,142.00                      LTD:

Attach the drilling report if not previously submitted. In addition, submit any changes in casing and tubing that were approved after the driller's report was submitted.

### Stimulation Record

#### Zone 1

Formation Stimulated With:

Perforated: to                      No. of Perforations:                      Perforation Size:  
 Formation Broke Down at: PSIG                      Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG                      Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No:                      Date Stimulated:

#### Zone 2

Formation Stimulated With:

Perforated: to                      No. of Perforations:                      Perforation Size:  
 Formation Broke Down at: PSIG                      Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG                      Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No:                      Date Stimulated:

#### Zone 3

Formation Stimulated With:

Perforated: to                      No. of Perforations:                      Perforation Size:  
 Formation Broke Down at: PSIG                      Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG                      Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No:                      Date Stimulated:

#### Zone 4

Formation Stimulated With:

Perforated: to                      No. of Perforations:                      Perforation Size:  
 Formation Broke Down at: PSIG                      Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG                      Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No:                      Date Stimulated:

### Final Production

### After Stimulation

	<u>BOD</u>	<u>MCFD</u>	<u>Hours Tested</u>	<u>Rock Pressure</u>
Final Production if Gas Zones are commingled		230	0	0

Permittee: EQUITABLE PRODUCTION COMPANY (Company)

By: \_\_\_\_\_ (Signature)

Well: 750132

Formation Record

Permit: 43700 Well: 750132

Date Well Completed:

Total Depth of Well: 5,142.00

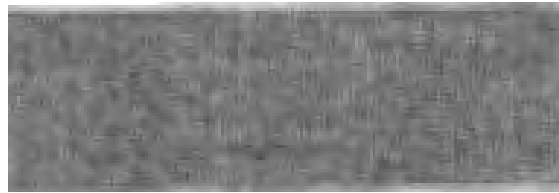
Permit: 43700

**Stage1**

Date	06/30/2005
FracType	Variable
Zone	Weir
# of Perfs	16
From/To	4,474- 4,506
BD Press	2,699
ATP Psi	2,440
Avg Rate	26
Max Press Psi	2,475
ISIP Psi	1,715
10min SIP	1,479 5 min.
Frac Gradient	0.61
Sand Proppant	316.42
Water-bbl	110
SCF N2	373,777
gal	400 gal
	15%HCL



Permit: 43700 Well: 750132



Drilling Report

Attach a final location Plat as required by 4 VAC 25-150-360.C

Drilling Data

Date Drilling Commenced:

Drilling Contractor:

Date Drilling Completed:

Date Well Completed:

Rig Type: Rotary: X Cable Tool:

DTD: 5,142.00

Geological Data

LTD:

Type

From / GPM per Inch

Geological Data

Type

From

Gas Tests

Gas Tests

Depth

Remarks

Cuttings or samples are not available for examination by a member of the Virginia Division of Mineral Resources  
 Cuttings or samples have not been furnished to the Virginia Division of Mineral Resources

**Logging and Surveys**

List logs run on wellbore: GR/Density/Temp/Induction/Neutron

Did Logs disclose vertical location of a coal seam? Yes: ☐ No: ☒

**Directional Data**

Depth      Direction/Distance/Degrees From True Vertical

**Cementation**

Casing Outside Diameter	Casing Interval	Hole Size	Cement used in Cu. ft.	Cmtd To Surface	Date Cemented	Cement Baskets
	0-					

<u>Tubing Size</u>	<u>Footage</u>
2 3/8	5,031.95

# Drillers Log

Permit: 43700

Well: 750132

<u>Formation Name</u>	<u>Depth Top</u>	<u>Depth Bottom</u>	<u>Formation Thickness</u>
Fill	0.00	5.00	5.00
Shale	5.00	8.00	3.00
Coal	8.00	483.00	475.00
Shale	483.00	486.00	3.00
Sand	486.00	505.00	19.00
Shale	505.00	555.00	50.00
Sand & Shale	555.00	603.00	48.00
Coal	603.00	630.00	27.00
Sand	630.00	634.00	4.00
Sand & Shale	634.00	683.00	49.00
Sand	683.00	688.00	5.00
Sand & Shale	688.00	1,005.00	317.00
Sand	1,005.00	1,044.00	39.00
Coal	1,044.00	1,079.00	35.00
Sand & Shale	1,079.00	1,082.00	3.00
Coal	1,082.00	1,511.00	429.00
Sand & Shale	1,511.00	1,516.00	5.00
Red Rock	1,516.00	2,122.00	606.00
Sand & Shale	2,122.00	2,126.00	4.00
Ravencliff	2,126.00	2,637.00	511.00
Sand	2,637.00	2,747.00	110.00
Maxton	2,747.00	2,825.00	78.00
Sand	2,825.00	3,662.00	837.00
Shale	3,662.00	3,728.00	66.00
Big Lime	3,728.00	3,796.00	68.00
Weir	3,796.00	4,345.00	549.00
Weir Shale	4,345.00	4,534.00	189.00
Fee Shale	4,534.00	4,889.00	355.00
Sand & Shale	4,889.00	4,970.00	81.00
Total Depth	4,970.00	5,064.00	94.00
	5,064.00	5,148.00	84.00
	5,148.00	0.00	0.00

Total Depth of Well: 5,142.00

Permittee: EQUITABLE PRODUCTION COMPANY (Company)

By: \_\_\_\_\_ (Signature)



225 North Shore  
Pittsburgh, PA 15212-5861

Mr. Robert Wilson  
Commonwealth of Virginia  
Division of Gas and Oil  
P. O. Box 1416  
Abington, Virginia 24214

August 25, 2005

Dear Mr. Wilson:

While preparing the paperwork associated with a recent recompletion of the Weir interval in EPC well P-132 (45-051-20437), I noticed the Keener was incorrectly listed on the original 1982 drillers log submitted to the State. The correct Formation name for the interval originally reported as Keener should have been Weir. I have corrected the Formations and reported tops and associated Formation thickness on the attached Drillers log portion of the Completion Report form.

Should you have any questions concerning the attached material, I can be contacted at (412) 395-2568.

Sincerely,

A handwritten signature in cursive script that reads "Fil Sciallo".

Fil Sciallo  
Operations Project Engineer

CC: Vicky Dugan - Charleston

RECEIVED AUG 28 2005

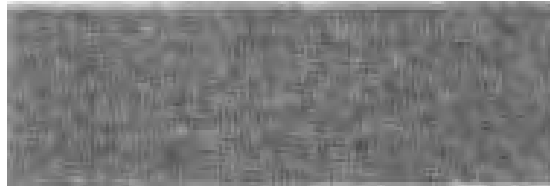
Drillers Log

Permit: 43700 Well: 750132

<u>Formation Name</u>	<u>Depth Top</u>	<u>Depth Bottom</u>	<u>Formation Thickness</u>
Fill	0.00	5.00	5.00
Sand & Shale	5.00	8.00	3.00
Shale	8.00	483.00	475.00
Coal	483.00	486.00	3.00
Shale	486.00	505.00	19.00
Sand	505.00	555.00	50.00
Shale	555.00	603.00	48.00
Sand & Shale	603.00	630.00	27.00
Coal	630.00	634.00	4.00
Sand	634.00	683.00	49.00
Sand & Shale	683.00	688.00	5.00
Sand	688.00	1,005.00	317.00
Sand & Shale	1,005.00	1,044.00	39.00
Sand	1,044.00	1,079.00	35.00
Coal	1,079.00	1,082.00	3.00
Sand & Shale	1,082.00	1,511.00	429.00
Coal	1,511.00	1,516.00	5.00
Sand & Shale	1,516.00	2,122.00	606.00
Red Rock	2,122.00	2,126.00	4.00
Sand & Shale	2,126.00	2,637.00	511.00
Ravencliff	2,637.00	2,747.00	110.00
Sand	2,747.00	2,825.00	78.00
Maxton	2,825.00	3,662.00	837.00
Sand	3,662.00	3,728.00	66.00
Shale	3,728.00	3,796.00	68.00
Big Lime	3,796.00	4,345.00	549.00
Weir	4,345.00	4,534.00	189.00
Weir Shale	4,534.00	4,889.00	355.00
Coffee Shale	4,889.00	4,970.00	81.00
Shale	4,970.00	5,064.00	94.00
Sand & Shale	5,064.00	5,148.00	84.00
Total Depth	5,148.00	0.00	0.00

Total Depth of Well: 5,142.00

Permitee: EQUITABLE PRODUCTION COMPANY (Company)By: Felix C. Sciallo 8/25/05 (Signature)



### Completion Report

Well Type: Gas Well

Date Well Completed: Total Depth of Well: 5,142.00 LTD:

Attach the drilling report if not previously submitted. In addition, submit any changes in casing and tubing that were approved after the drilling report was submitted.

### Stimulation Record

#### Zone 1

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:  
 Formation Broke Down at: PSIG Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No: Date Stimulated:

#### Zone 2

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:  
 Formation Broke Down at: PSIG Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No: Date Stimulated:

#### Zone 3

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:  
 Formation Broke Down at: PSIG Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No: Date Stimulated:

#### Zone 4

Formation Stimulated With:

Perforated: to No. of Perforations: Perforation Size:  
 Formation Broke Down at: PSIG Average Injection Rate: BPM  
 ISIP: PSIG 5 Min SIP PSIG Average Downhole Injection Pressure: PSIG  
 Stimulated: Yes: X No: Date Stimulated:

### Final Production

### After Stimulation

	<u>BOD</u>	<u>MCFD</u>	<u>Hours Tested</u>	<u>Rock Pressure</u>
Final Production if Gas Zones are commingled	230	0	0	

Permitee: EQUITABLE PRODUCTION COMPANY (Company)

By: \_\_\_\_\_ (Signature)



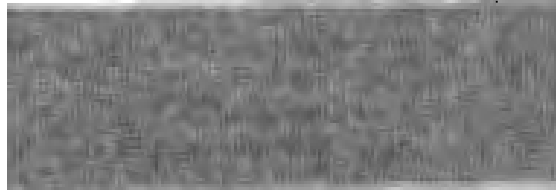
Well: 750132  
Date Well Completed:  
Total Depth of Well: 5,142.00  
Permit: 43700

Formation Record

Permit: 43700 Well: 750132

Stage1	
Date	06/30/2005
FracType	Variable
Zone	Weir
# of Perfs	16
From/To	4,474- 4,506
BD Press	2,699
ATP Psi	2,440
Avg Rate	26
Max Press Psi	2,475
ISIP Psi	1,715
10min SIP	1,479 5 min.
Frac Gradient	0.61
Sand Proppant 316.42	
Water-bbl 110	
CF N2 373,777	
gal 400 gal	
15%HCL	

Permit: 43700 Well: 750132



**Drilling Report**

Attach a final location Plat as required by 4 VAC 25-150-360.C

**Drilling Data**

Date Drilling Commenced:

Drilling Contractor:

Date Drilling Completed:

Date Well Completed:

Rig Type: Rotary: X Cable Tool:

DTD: 5,142.00

**Geological Data**

LTD:

Type

From / GPM per Inch

**Well Logs & Open Mines**

Type

From

**Gas Tests**

Gas Tests

Depth

Remarks

Permit: 43700 Well: 750132

Cuttings or samples are not available for examination by a member of the Virginia Division of Mineral Resources  
Cuttings or samples have not been furnished to the Virginia Division of Mineral Resources

List logs run on wellbore: GR/Density/Temp/Induction/Neutron

Did Logs disclose vertical location of a coal seam? Yes: ☐ No: ☒

Depth Direction/Distance/Degrees From True Vertical

Casing Outside Diameter	Casing Interval	Hole Size	Cement used in Cu. ft.	Cmtd To Surface	Date Cemented	Cement Baskets
	0-					

<u>Tubing Size</u>	<u>Footage</u>
2 3/8	5,031.95

Drillers Log

Permit: 43700

Well: 750132

<u>Formation Name</u>	<u>Depth Top</u>	<u>Depth Bottom</u>	<u>Formation Thickness</u>
Fill	0.00	5.00	5.00
1 & Shale	5.00	8.00	3.00
)	8.00	483.00	475.00
Coal	483.00	486.00	3.00
Shale	486.00	505.00	19.00
Sand	505.00	555.00	50.00
Shale	555.00	603.00	48.00
Sand & Shale	603.00	630.00	27.00
Coal	630.00	634.00	4.00
Sand	634.00	683.00	49.00
Sand & Shale	683.00	688.00	5.00
Sand	688.00	1,005.00	317.00
Sand & Shale	1,005.00	1,044.00	39.00
Sand	1,044.00	1,079.00	35.00
Coal	1,079.00	1,082.00	3.00
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Sand	3,662.00	3,728.00	66.00
Shale	3,728.00	3,796.00	68.00
Bie Lime	3,796.00	4,345.00	549.00
Weir	4,345.00	4,534.00	189.00
Weir Shale	4,534.00	4,889.00	355.00
fee Shale	4,889.00	4,970.00	81.00
)	4,970.00	5,064.00	94.00
Sand & Shale	5,064.00	5,148.00	84.00
Total Depth	5,148.00	0.00	0.00

Total Depth of Well: 5,142.00

Permittee: EQUITABLE PRODUCTION COMPANY (Company)

By: \_\_\_\_\_ (Signature)

THIS PERMIT IS NOT TRANSFERABLE

Commonwealth of Virginia  
Department of Labor and Industry  
DIVISION OF MINES

Permit No. 437  
File No. DI-192  
Well No. P-132

Big Stone Gap, Virginia  
PERMIT TO DRILL FOR OIL OR GAS

This is to certify that on this date a permit to drill for oil or gas  
1 to Philadelphia Oil Company  
n office is at Box 431, Prestonsburg, Kentucky 41653  
eration of Gas Well (Pittston Farm)

Nora Quadrangle

County of Dickenson

THIS PERMIT IS ISSUED IN COMPLIANCE WITH  
TITLE 45, CHAPTER 8, CODE OF VIRGINIA 1950 AS AMENDED

ng for oil or gas within the State without first obtaining a permit as provided herein shall be guilty of a misdemeanor or other  
ribed in Title 45, Chapter 8, Article 7 of the Code of Virginia. Each day any person drills any oil or gas well without first  
rmit shall constitute a separate offense.

DIVISION OF MINES

13th

day

McLYNN SHARPE

; Chief

August

19 81

By [Signature]

0.00



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES AND QUARRIES  
BIG STONE GAP, VIRGINIA 24219

## NOTICE OF INTENTION TO (DRILL) (REDRILL) (DEEPEN) OIL OR GAS WELL

(One copy of this report and three identical copies of a plat or map, on a scale not smaller than 400 feet to the inch, and showing information required by Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement, must be submitted to the Division of Mines and Quarries, and copies sent by registered mail to all persons defined in above law, prior to obtaining a permit to drill.)

TO: Division of Mines and Quarries  
Drawer V  
Big Stone Gap, Virginia 24219

Box 431  
Prestonsburg, Kentucky 41653  
Place  
March 11, 1974  
Date

Gentlemen:

The undersigned proposes to begin as soon as a permit therefor is obtained from the Division of Mines and Quarries, to drill, ~~redrill or deepen~~ (strike out two) a well for oil or gas on the Interstate Coa. Iron Co. (Carter) Farm, comprising 674.29 acres, in the Ervinton District of Dickenson County, Virginia, having the fee title thereto, or as the case may be, under grant or lease dated July 25, 1972, made by The Pittston Company to Philadelphia Oil Company and recorded on the 30th day of March, 1973 in the office of the County Clerk for said County in Book 159 Page 431. The proposed location of the well, as shown on the attached plat or map, is about 3.52 (feet/miles) Northeast of Nora, Virginia and about 4.13 (feet/miles) East of Stratton, Virginia.

It is proposed to drill this well to a depth of about 4754 feet. Samples or cutting therefrom will ~~or will not be available for examination by a member of the staff of the Virginia Geological Survey.~~ Cuttings will ~~or will not~~ be furnished the Survey.

A plat or map, in triplicate, on a scale not smaller than 400 feet to the inch, showing the proposed location of the well and other information, required in Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement is attached hereto. Copies of the plat and notice of intention to drill, redrill or deepen the aforementioned well have been sent to all interested persons as required by Section 45.1-114, above cited, as follows (list names and mail address of each. Use back of sheet if additional space is required):

1. The Pittston Company, Lebanon, Virginia 24266, Attention: J. E. Yates,
2. Vice President of Engineering, Pittston Coal Group
3. Glinchfield Coal Company, Dante, Virginia 25237, Attention: Robert
4. Ryland, Division Engineer.
5. \_\_\_\_\_
6. \_\_\_\_\_

Signature of officer or certifying party:

Edward O. Ray  
Name

Edward O. Ray  
MINER

Very truly yours,  
PHILADELPHIA OIL COMPANY  
Drilling Company or Operator  
Box 431  
Street Address  
Prestonsburg, Kentucky 41653  
City or Town and State

File DZ-100 Date Received 3-13-74 Well No. P-22



# COPY

Form 1

(To be filled in by  
Division of Mines)

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY

(To be filled in by  
Division of Mines)

DICKENSON  
County

DIVISION OF MINES

Well No. P-22

ERVINTON  
District

BIG STONE GAP, VIRGINIA

Permit No. 161

NORA QUAD.  
Map

DEEPEINED  
OIL AND GAS WELL COMPLETION REPORT  
ABANDONMENT

Office No. \_\_\_\_\_

PT-100  
File

Location Plat \_\_\_\_\_

(This report and a copy of electrical log, if made, must  
be submitted to the Division of Mines within 30 days after  
abandonment or completion of well, as required by Section  
45-113, Code of Virginia, 1950.)

Company Philadelphia Oil Company

Address P. O. Box 313  
Nora, Virginia

Farm Interstate Coal & Iron Co.

Acres 674.29

County Dickenson

District Ervinon

Well No. (Company) P-22

Elevation (ground surface) 1561.23 ft.

Location: (Give direction and distance in feet or tenths of a mile from two (2) location reference points or map coordinates shown on location plat or map previously filed with the Division of Mines or shown on quadrangle topographic map of area.)

6000 feet Southeast of Counts Cemetery and

4500 feet Northeast of Middle Branch Church

Surface of tract is owned in fee simple by Clinchfield Coal Company

Address Dante, Virginia

Mineral rights are owned by Clinchfield Coal Company

Address Dante, Virginia

Location made by Mr. B. G. Spradlin

Drilling commenced July 9, 1974

Drilling contractor Union Drilling, Incorporated

Drilling completed July 20, 1974

Address P. O. Drawer 40, Buckannon, W. Va.

Well completed as gas well on 12-30-74

oil Final open flow - Weir - 94 MGF - Berea - 337 Total Prod. 431 MGF

Well abandoned at \_\_\_\_\_ feet on \_\_\_\_\_ : Reason \_\_\_\_\_

Well plugged on \_\_\_\_\_, 19\_\_\_\_ Affidavit filed \_\_\_\_\_, 19\_\_\_\_

Total depth 4900' KB feet. Steel line measurement \_\_\_\_\_ feet.

Commented producing on not connected to pipeline; 19\_\_\_\_

Oil Well

Initial production, oil: 1st 24 hours \_\_\_\_\_ bbls.; 2nd 24 hours \_\_\_\_\_ bbls.

After shot on \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet with \_\_\_\_\_ lbs. qts.

After shot on \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet with \_\_\_\_\_ lbs. qts.

1st 24 hours \_\_\_\_\_ bbls.; 2nd 24 hours \_\_\_\_\_ bbls.

Settled production \_\_\_\_\_ bbls. per day after producing \_\_\_\_\_ days weeks

Gravity and grade of oil \_\_\_\_\_

Oil pays at (1) \_\_\_\_\_ feet to \_\_\_\_\_ feet. Oil shows at (1) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(2) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (2) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(3) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (3) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(4) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (4) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

Main production at 189101122 feet to \_\_\_\_\_ feet. (5) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

Gas Well

Gaged \_\_\_\_\_/10ths. Water in \_\_\_\_\_ inch.

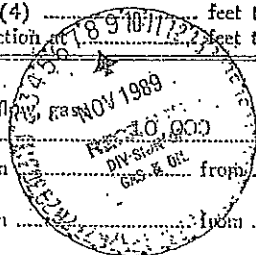
Initial open flow \_\_\_\_\_/10ths. Mercury in \_\_\_\_\_ inch.

Volume \_\_\_\_\_ cu. ft.

After shot on \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet with \_\_\_\_\_ lbs. qts.

After shot on \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet with \_\_\_\_\_ lbs. qts.

1st 24 hours \_\_\_\_\_ cu. ft., 2nd 24 hours \_\_\_\_\_ cu. ft.



Rock pressure: Initial ..... hours ..... lbs.  
 Sealed production ..... after producing .....  
 Gas pays at (1) ..... feet to ..... feet. Gas shows at (1) ..... feet to .....  
 (2) ..... feet to ..... feet. (2) ..... feet to .....  
 (3) ..... feet to ..... feet. (3) ..... feet to .....  
 (4) ..... feet to ..... feet. (4) ..... feet to .....  
 Main production 4728 feet to 4776 feet. (5) ..... feet to .....

Fresh water at (1) 25 feet, 8" GPM; (2) 680 feet, show GPM; (3) ..... feet, .....  
 Salt water at (1) ..... feet; (2) ..... feet; (3) ..... feet; (4) ..... feet.  
 Coal: from 102 feet inches to 103 feet inches; from 109 feet inches to  
 feet inches; from 125 feet inches to 221 feet inches.  
 Well acidized from ..... feet to ..... feet with ..... (quantity) of ..... acid.  
 from ..... feet to ..... feet with ..... (quantity) of ..... acid.  
 from ..... feet to ..... feet with ..... (quantity) of ..... acid.  
 Remarks: Sand fractured in Berea and Weir with 1000 bbls. water, 55,000# sand, 1000 gals  
 MA, 1200# J-140, 60 gal. F-52. Set frac over plug at 4720. Perforated Weir and  
 Berea formations.

CASING AND TUBING				PACKERS		
Size	USED IN DRILLING	LEFT IN WELL	PERFORATED	KIND	SIZE	SET AT
(inch)	(feet)	(feet)	(feet) to (feet)			
16	16	16		Frac-Over	4 1/2	4720
11 3/4	311	311				
8 5/8	1885	1885				
4 1/2	4915	4915				
			Weir			
			4211-15 5 shots			
			4219-22 4 shots			
			4226-28 3 shots			
			4237-42 6 shots			
			Berea			
			4738-62 13 shots			
			4768-76 13 shots			
2	4720	4720				
					NONE	
Casing Cemented: 11 3/4 inch. from 311 feet to surface feet. Date July 11, 1974						
8 5/8 inch. from 1885 feet to surface feet. Date July 15, 1974						
4 1/2 inch. from 4915 feet to 3965 feet. Date July 21, 1974						

Remarks: (Shut down, depths, dates; fishing jobs, depths, dates; caving; other notes)

Heavy water flow at 25'

Samples or cuttings will be available for examination by a member of the Virginia Geological Survey

Will be furnished the Virginia Geological Survey upon request (Yes) if sacks for same are furnished by Survey (Yes) (No)

Electrical log made X or not made (check which).

Copy furnished herewith or will be submitted on or by as soon as available  
 Depths Gamma Density Philadelphia Oil Company  
 Temperature P. O. Box 431  
 Prestonsburg, Kentucky

The operator requests that information given herein and log or logs be kept confidential for a period of ninety days completion of the well covered by this report (Yes) (No)

Well No. P-205

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

Permit No. \_\_\_\_\_

## LOG

Furnished by E. B. Jenkins Date 12-30-74Compiled by E. B. Jenkins Date 12-30-74

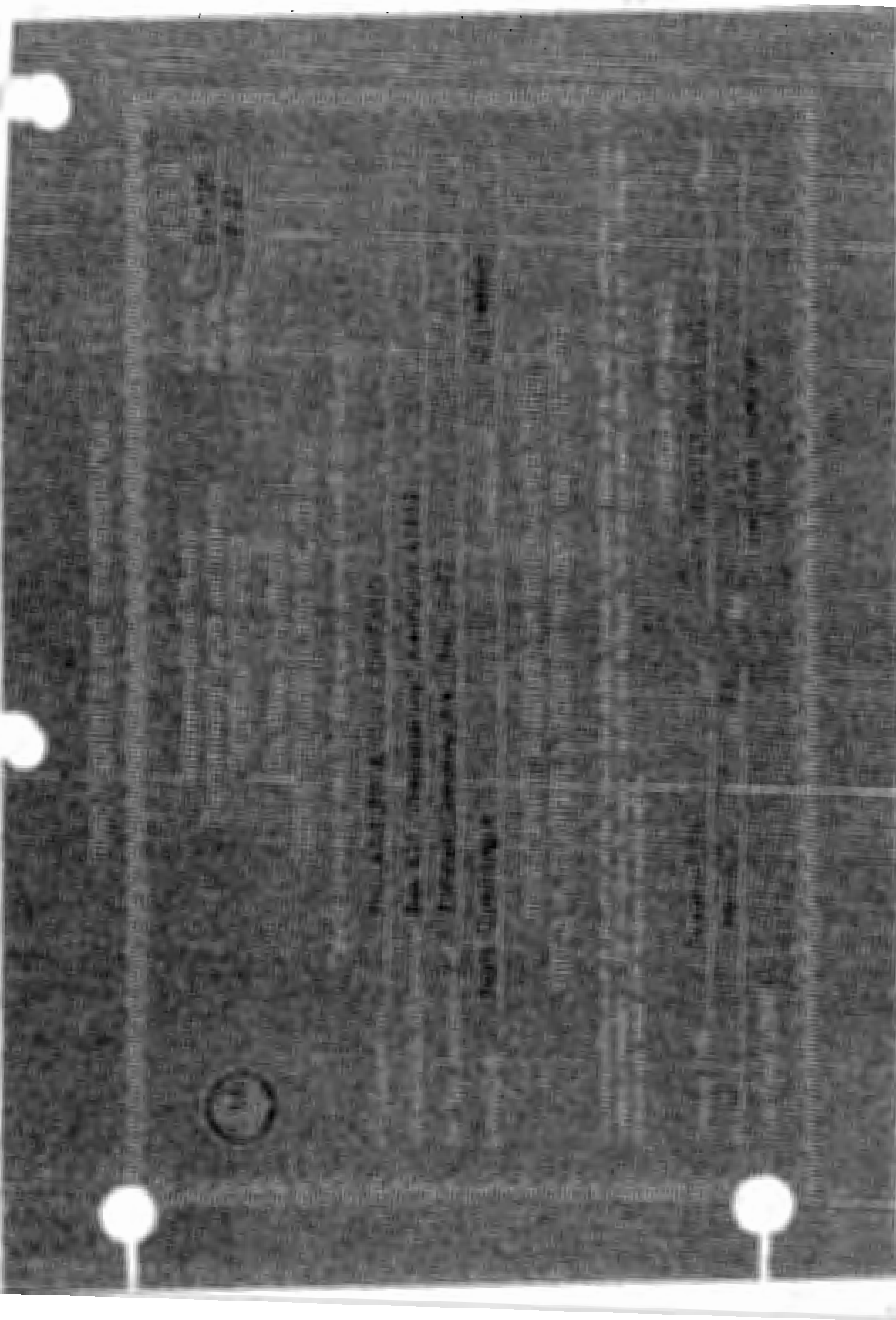
SAMPLE No.	FORMATION	COLOR	HARD OR SOFT	Top (feet)	Bottom (feet)	THICKNESS (feet)	REMARKS OIL, GAS, WATER DEPT. SHOT DOWN FISHERY, ETC.
	Mud			0	25	25	
	Sand			25	102	78	
	Coal			102	103	1	
	Sand			103	109	6	
	Coal			109	111	3	
	Sand			111	122	11	
	Coal			122	125	3	
	Sand			125	221	96	
	Coal			221	223	2	
	Sand			223	285	62	
	Sand & Shale			285	447	142	
	Shale			447	475	28	
	Coal			475	479	4	
	Sand			479	514	35	
	Sand & Shale			514	588	74	
	Coal			588	591	13	
	Sand & Shale			591	621	20	
	Coal			621	623	2	
	Sand & Shale			623	678	55	
	Sand			678	742	64	
	Coal			742	744	2	
	Sand & Shale			744	779	35	
	Coal			779	782	3	
	Sand & Shale			782	1020	238	
	Coal			1020	1022	2	
	Sand & Shale			1022	1057	35	
	Shale			1057	1100	43	
	Coal			1100	1102	2	
	Sand & Shale			1102	1140	38	
	Coal			1140	1142	2	
	Sand & Shale			1142	1178	36	
	Coal			1178	1179	1	
	Sand & Shale			1179	1190	11	
	Coal			1190	1193	3	
	Sand & Shale			1193	1240	47	
	Coal			1240	1242	2	
	Sand & Shale			1242	1255	13	
	Coal			1255	1259	4	
	Sand & Shale			1259	1316	57	
	Coal			1316	1320	4	
	Sand & Shale			1320	1450	130	
	Sand			1450	1652	202	
	Coal			1652	1654	2	
	Sand & Shale			1654	1749	95	
	Coal			1749	1751	2	
	Sand & Shale			1751	1764	13	
	Sand			1764	1800	36	
	Shale			1800	1854	54	
	Red Rock			1854	1855	1	
	Sand & Shale			1855	1888	33	
	Red Rock			1888	1974	86	

Sand & Shale	1774	2193	2235
Shale	2190	2380	190
Sand	2380	2481	101
Sand & Shale	2481	2540	59
Red Rock	2540	2570	30
Shale	2570	2665	90
Red Rock	2665	2695	30
Shale	2695	2705	10
Red Rock	2705	2710	5
Sand & Shale	2710	2839	129
Sand	2839	2900	71
Sand & Shale	2900	3020	220
Sand	3020	3083	63
Shale	3083	3129	46
Sand & Shale	3129	3400	271
Little Lime	3400	3468	68
Sand & Shale	3468	3609	141
Big Lime	3609	4080	471
Injun	4080	4140	60
Weir Shells	4140	4310	170
Shale	4310	4630	320
Coffee Shale	4630	4715	85
Berea Sand	4715	4804	89
Shale	4804	4900	96
Total Depth	4900	KB	

NOTE: Driller's Log has been adjusted to Electric Logs

THIS FORM MUST BE SIGNED BY AUTHORIZED PERSON:

E. B. Jenkins (dc)





(To be filled in by  
Division of Mines)COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY(To be filled in by  
Division of Mines)Dickenson  
CountyErvinton  
DistrictNova  
QuadrangleD1-195  
File

## DIVISION OF MINES

BIG STONE GAP, VIRGINIA

DEEPENED  
OIL AND GAS WELL COMPLETION REPORT  
ABANDONMENTWell No. P-123Permit No. 464County Code 051Well  
Classification DEVELOPMENT(This report and a copy of electrical log, if made, must  
be submitted to the Division of Mines within 30 days after  
abandonment or completion of well, as required by Section  
45-113, Code of Virginia, 1950.)

Company Philadelphia Oil Company Address P.O. Box 431  
Prestonsburg, KY 41653  
Farm Wilma C. Helton, et al. Acres 238.00  
County Dickenson District Ervinton  
Well No. (Company) P-123 Elevation (ground surface) 2261.51 f

Location: (Give direction and distance in feet from two (2) map coordinates (Latitude and Longitude) shown on location plat or map previously filed with the Division of Mines or shown on quadrangle topographic map of area.)

8520 feet south of 37° 07' 30" an6960 feet west of 82° 15' 00"Surface of tract is owned in fee simple by Anthony WeingartenAddress Star Route Box 350, Dante, VA 24237Mineral rights are owned by Clinchfield Coal CompanyAddress Dante, VA 24237Location made by Mr. B. C. SpradlinDrilling commenced 3-21-82 Drilling contractor Union Drilling, IncorporatedDrilling completed 4-3-82 Address P. O. Drawer 40, Buckhannon, W VA 2Well completed as <sup>gas</sup>~~oil~~ well on 4-26-82

Well abandoned at \_\_\_\_\_ feet on \_\_\_\_\_: Reason \_\_\_\_\_

Well plugged on \_\_\_\_\_, 19\_\_\_\_ Affidavit filed \_\_\_\_\_, 19\_\_\_\_

Total depth 5574 feet. Steel line measurement \_\_\_\_\_ feetCommenced producing on Not connected to pipeline system, 19\_\_\_\_

## Oil Well

Initial production, \_\_\_\_\_ Barrels per day.

Stimulation Record \_\_\_\_\_

Breakdown Pressure \_\_\_\_\_ psi; Average Injection Pressure \_\_\_\_\_ psi;

Average Injection Rate \_\_\_\_\_ BPM; Instant Shut-in Pressure \_\_\_\_\_ psi;

\_\_\_\_ Min. Shut-in Pressure \_\_\_\_\_ psi;

Final Production \_\_\_\_\_ Barrels per day

Gravity and grade of oil \_\_\_\_\_

Oil pays at (1) \_\_\_\_\_ feet to \_\_\_\_\_ feet. Oil shows at (1) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(2) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (2) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(3) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (3) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

(4) \_\_\_\_\_ feet to \_\_\_\_\_ feet. (4) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

Main production at \_\_\_\_\_ feet to \_\_\_\_\_ feet. (5) \_\_\_\_\_ feet to \_\_\_\_\_ feet.

## Gas Well

Initial open flow, gas: Gaged \_\_\_\_\_/10ths. Water in \_\_\_\_\_ inch.

Volume 384 MCF \_\_\_\_\_ Mcf.; Rock Pressure \_\_\_\_\_ lbs. \_\_\_\_\_ hrs.

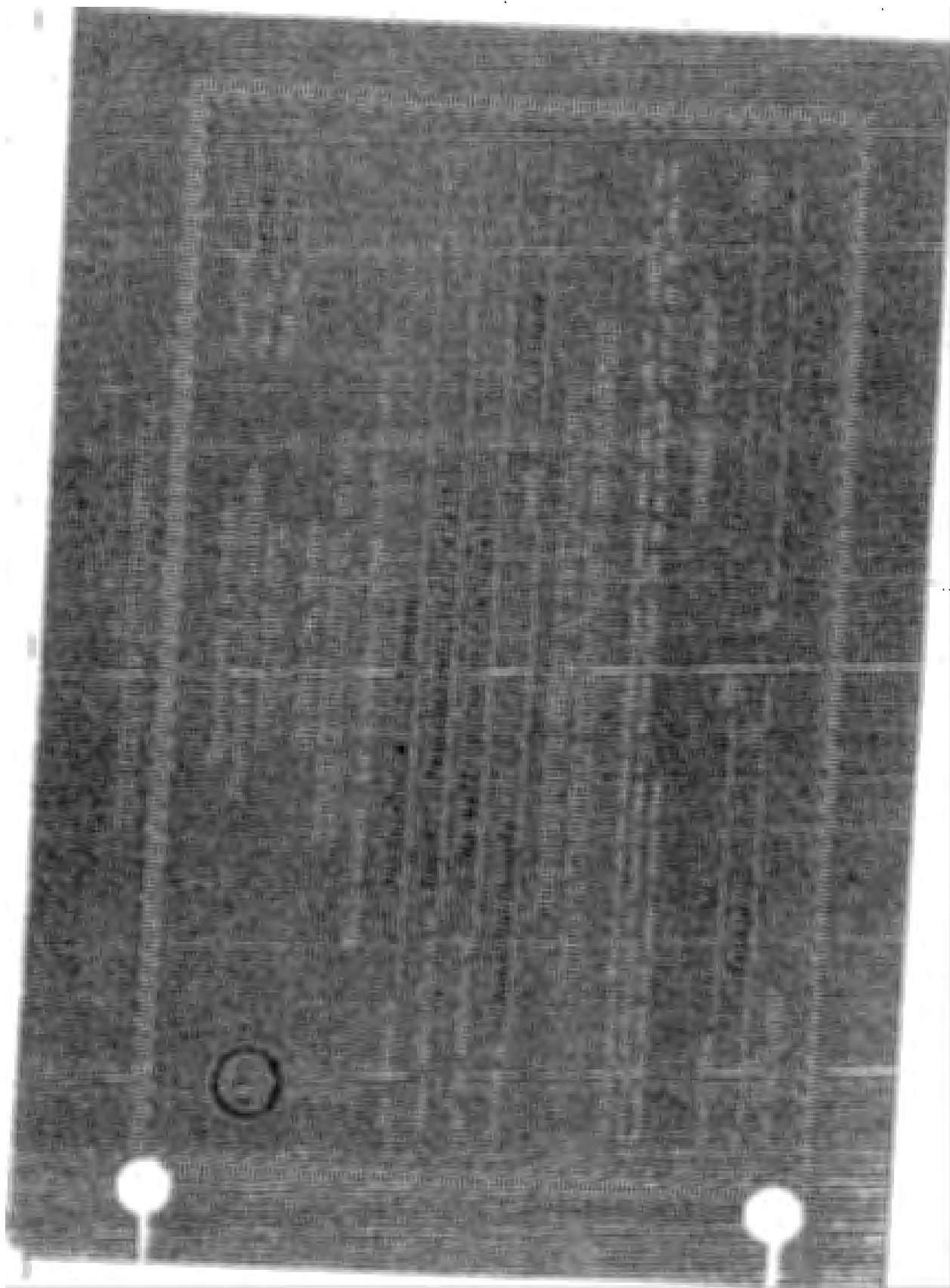
Stimulation Record \_\_\_\_\_

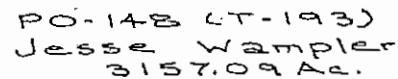


To operator requests that information given herein and log or logs be kept confidential for a period of ninety days after completion of the well covered by this report (Yes)  
~~NO~~

Well No. P-123File No. DI-195Permit No. 464**LOG**Furnished by E.R. Minns Date 7-13-82Compiled by R. McCleese Date 7-5-82

GEOLOGIC AGE	FORMATION	GENERAL LITHOLOGY	COLOR	TOP (feet)	BOTTOM (feet)	THICKNESS (feet)	REMARKS OIL, GAS WATER DEPTHS SHUT DOWN FISHING, ETC.
	Fill			0	10	10	
	Shale			10	30	20	
	Sd & Sh			30	90	60	
	Sand			90	338	248	
	Coal			390	393	3	
	Sand & Shale			393	1377	984	
	Sand			1377	1560	183	
	Sand			1560	1730	170	
	Sand & Shale			1730	2058	328	
	Sand			2058	2519	461	
	Sand & Shale			2519	2570	51	
	Red Rock			2570	2590	20	
	Sand & Shale			2590	2596	6	
	R.R.			2596	2598	2	
	Shale & R.R.			2598	2776	178	
	Sand & Shale			2776	3028	252	
	Bay Encliff			3028	3182	154	
	Sand & Shale			3182	3260	78	
	Sand			3260	3435	175	
	Maxon			3435	4216	781	
	L. Lime			4216	4240	24	
	Sand & Shale			4240	4290	50	Gas @ 4340 -
	Big Lime			4290	4755	465	1387 MCF
	Keener			4755	4940	185	
	Weir			4940	5320	380	Gas @ 4700 -
	Coffee Shale			5320	5395	75	620 MCF
	Berea			5395	5482	87	
	Shale			5482	5574	92	Gas @ 5574 -
	T.D.			5574			260 MCF





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

DM Form 7

(To be filled in by  
Division of Mines)DICKENSON

County

KENADY

District

NORA

Quadrangle

D1-219

File

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF LABOR AND INDUSTRY

DIVISION OF MINES

BIG STONE GAP, VIRGINIA

OIL AND GAS WELL COMPLETION REPORT  
ABANDONMENT(To be filled in by  
Division of Mines)Well No. P-139Permit No. 530County Code 051Well  
Classification DEVL(This report and a copy of certified log, if made, must  
be submitted to the Division of Mines within 30 days after  
abandonment or completion of well, as required by Section  
45-113, Code of Virginia, 1950.)

Company Philadelphia Oil Company Address P. O. Box 431  
Prestonsburg, KY 41653  
 Farm Jesse Wampler Acres 3157.09  
 County Dickenson District Kenady  
 Well No. (Company) P-139 Elevation (ground surface) 1729.57

Location: (Give direction and distance in feet from two (2) map coordinates (Latitude and Longitude) shown on location plat or map previously filed with the Division of Mines or shown on quadrangle topographic map of area.)

5990' feet West of 82° 15' 00" at  
550' feet South of 37° 05' 00"

Surface of tract is owned in fee simple by Clinchfield Coal Company  
 Address P. O. Box 7, Dante, VA 24237  
 Mineral rights are owned by Clinchfield Coal Company  
 Address P. O. Box 7, Dante, VA 24237  
 Location made by Mr. Bill C. Spradlin  
 Drilling commenced 7-13-84 Drilling contractor Union Drilling Co., Inc.  
 Drilling completed 7-23-84 Address Buckhannon, W. VA

Well completed as <sup>gas</sup> well on 9-21-84  
<sup>oil</sup>

Well abandoned at - feet on -: Reason -  
 Well plugged on -, 19 - Affidavit filed -, 19 -  
 Total depth 5,392' feet. Steel line measurement - feet  
 Commenced producing on not connected to pipeline system, 19 -

Oil Well

Initial production, - Barrels per day.Stimulation Record -

Breakdown Pressure - psi; Average Injection Pressure - psi  
 Average Injection Rate - BPM; Instant Shut-in Pressure - psi  
- Min. Shut-in Pressure - psi;

Final Production - Barrels per dayGravity and grade of oil -

Oil pays at (1) - feet to - feet. Oil shows at (1) - feet to - feet  
 (2) - feet to - feet. (2) - feet to - feet  
 (3) - feet to - feet. (3) - feet to - feet  
 (4) - feet to - feet. (4) - feet to - feet  
 Main production at - feet to - feet. (5) - feet to - feet

Gas Well  
 Initial open flow, gas: -

Gaged - 6 /10ths. Water in 1 inch  
 /10ths. Mercury in - inch

To operator requests that information given herein and log or logs be kept confidential for a period of ninety days after completion of the well covered by this report (Yes)  
XXXXX

# LOG

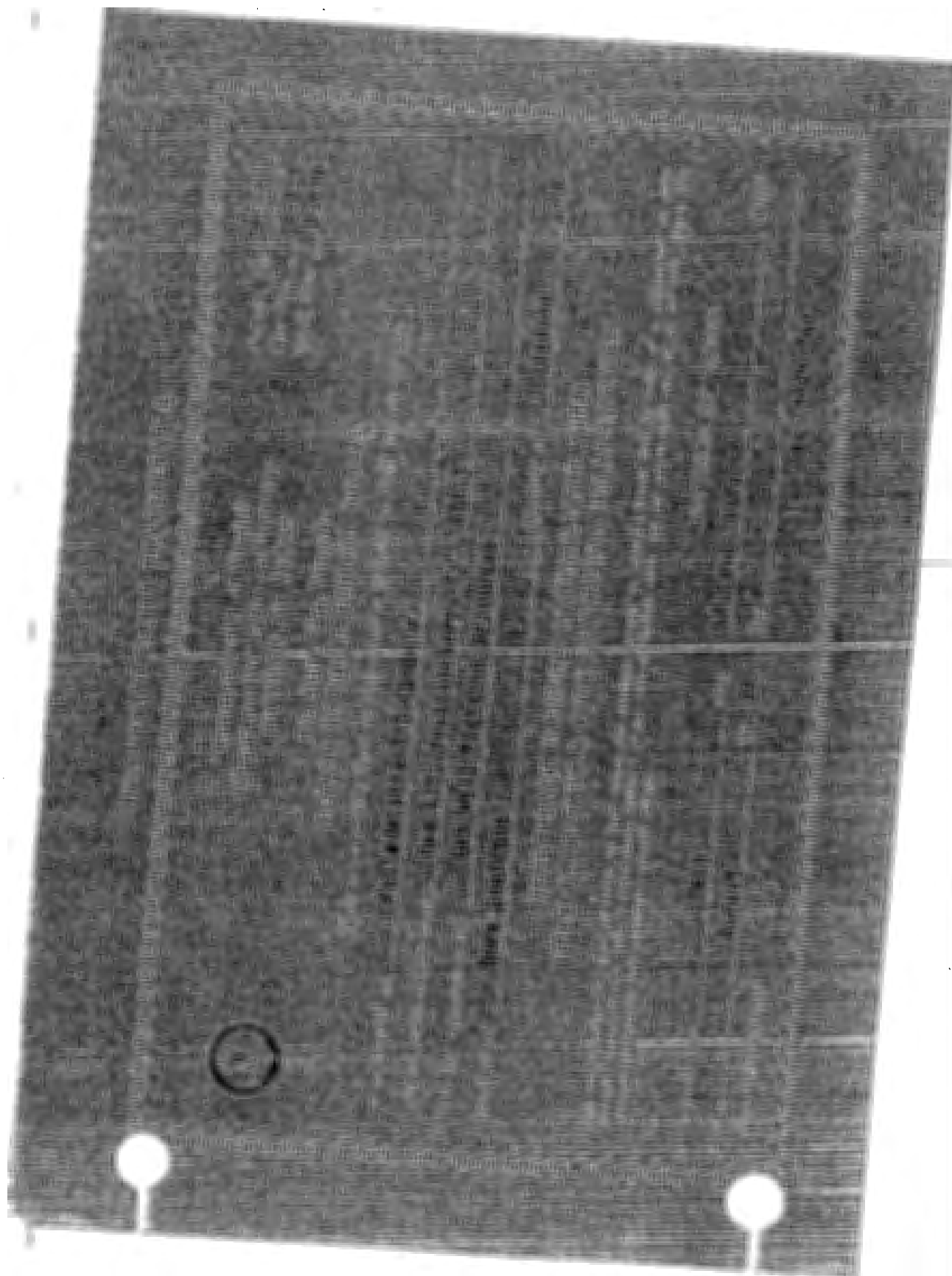
Furnished by H.R. Gardner, Jr Date 10-09-84

Compiled by G.B. Camp Date 10-5-84

GEOLOGIC AGE	FORMATION	GENERAL LITHOLOGY	COLOR	TOP (feet)	BOTTOM (feet)	THICKNESS (feet)	REMARKS OIL, GAS WATER DEPTHS SHUT DOWN FISHING, ETC.
	Sand & Shale			0	30	30	Water @ 17'
	Shale			30	72	42	
	Coal			72	75	3	
	Shale			75	111	36	
	Sand			111	254	143	
	Coal			254	257	3	
	Shale & Sand			257	360	103	
	Coal			360	365	5	
	Sand			365	422	57	
	Shale			422	484	62	
	Coal			484	487	3	
	Sand			487	505	18	
	Coal			505	508	3	
	Sand			508	759	251	
	Shale			759	772	13	
	Sand			772	789	17	
	Shale			789	803	14	
	Sand			803	904	101	
	Shale			904	945	41	
	Coal			945	947	2	
	Shale			947	1443	496	
	Sand			1443	1461	18	
	Shale			1461	1474	13	
	Coal			1474	1477	3	
	Shale			1477	1506	29	
	Sand			1506	1796	209	
	Shale			1796	1821	25	
	Sand			1821	1908	87	
	Shale			1908	1923	15	
	Coal			1923	1928	5	
	Shale			1928	1930	2	
	Sand & Shale			1930	2150	220	
	Sand			2150	2515	365	
	Ravencliff			2515	2728	213	
	Sand & Shale			2728	3038	310	
	Maxon			3038	3678	640	
	Sand & Shale			3678	3732	54	
	Little Lime			3732	3814	82	
	Big Lime			3814	4304	490	
	Keener			3404	4364	60	
	Weir			4364	4882	518	
	Coffee Shale			4882	4942	60	
	Berea			4942	5023	81	
	Brown Shale			5023	5392	369	
	Total Depth			5392			

DI 219









## LOG

Furnished by E. R. Mims Date 7-12-82Compiled by R. McCleese Date 7-5-82

Geologic Age	FORMATION	GENERAL LITHOLOGY	COLOR	TOP (feet)	BOTTOM (feet)	THICKNESS (feet)	REMARKS OIL, GAS WATER DEPTHS SHUT DOWN FISHERY, ETC.
	Fill			0	15	15	
	Sd & Sh			15	52	37	
	Coal			52	54	2	
	Sd & Sh			54	250	196	Water @ 60'
	Coal			250	255	5	
	Sd & Sh.			255	575	320	
	Shale			575	928	353	
	Sand			928	1039	111	
	Sd & Sh.			1039	1061	22	
	Coal			1061	1065	4	
	Sd & Sh			1065	2120	1055	
	Red Rock			2120	2130	10	
	Sd & Sh			2130	2607	477	
	Havencliff			2607	2810	203	
	Sd & Sh			2810	3100	290	
	Maxon			3100	3722	622	
	Sd & Sh			3722	3786	64	
	L. Lime			3786	3860	14	
	Shale			3860	3865	65	
	B. Lime			3865	4326	461	
	Keener			4326	4520	194	Water @ 4395 880r
	Weir			4520	4900	380	
	Coffee Sh.			4900	4974	74	
	Berea			4974	5056	82	
	Brown Sh.			5056	5144	88	Gas @ 5144 75N
	T.D.			5144			

THIS FORM MUST BE SIGNED BY AUTHORIZED PERSON:

  
 E. R. Mims, Chief Geologist

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES AND QUARRIES  
BIG TONE GAP, VIRGINIA 24219  
PHONE 703-523-0335

## APPLICATION FOR PERMIT TO (DRILL) (REDRILL) (DEEPEN) OIL OR GAS WELL

(Required by Section 45.1-115.1, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement. To be accompanied by Permit fee of one hundred dollars and bond and surety therefor, as specified by Section cited. To be submitted in triplicate, one copy to be returned to applicant after action by Division of Mines and Quarries.

TO: Division of Mines and Quarries  
219 Wood Avenue  
Big Stone Gap, Virginia 24219

Box 431  
Prestonsburg, KY 41653

Place  
December 28, 1981  
Date

Gentlemen:

The undersigned hereby makes application for a Permit to drill, ~~redrill or deepen~~ (strike out two) a well for oil or gas on the Wilma Helton et al Farm, comprising 238.00 acres, in the Ervington District of Dickenson County, Virginia, having the fee title there-to or as the case may be, under grant or lease dated July 26, 1974 made by Wilma C. Helton et al to Philadelphia Oil Company and recorded on the 25 day of August, 1975 in the office of the County Clerk for the said County in Book 172 page 576.

The proposed location of the well is shown on a location plat or map submitted to the Division of Mines and Quarries, by the undersigned, together with Notice of Intention to Drill, ~~redrill or deepen~~ a Well for Oil or Gas on the 1 day of May, 1982. The proposed well will be known as Well No. P-124 of Philadelphia Oil Company (company, etc.) It is proposed to drill this well to a depth of about 5089 feet. The proposed location is about 670 feet distant from the nearest property or lease line; about 7500 feet distant from the nearest mining opening, ~~XXXXXX~~ (strike out words not applicable) and/or about 11400 feet distant from the nearest drilling, ~~XXXXXX~~ (strike out words not applicable) ~~XXXXXX~~ (strike out words not applicable) ~~XXXXXX~~ gas (strike out words not applicable) well.

There is enclosed herewith a certified check or U. S. Postal Money Order, in the amount of one hundred dollars (\$100), payable to the Treasurer of Virginia, covering fee for a Permit to Drill a Well for Oil or Gas, as required by Section 45.1-115.1, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement. Bond and Surety therefor to insure compliance with the provisions of Chapter 8, Title 45, Code of Virginia, 1950 and the 1966 Supplement, for this well, in the amount of \$ 25,000.00 is submitted herewith of (give status of) Blanket Bond covering Wells Nos. P-116 through P-140. Correspondence regarding this well should be addressed to Mr. B. D. Hager, Box 431, Prestonsburg, Kentucky 41653.

Very truly yours,

Signature of officer or certifying party:

B. D. Hager  
Name  
B. D. Hager, Operating Manager

Philadelphia Oil Company  
Drilling Company or Operator  
Box 431

XXXXXX  
Street  
Prestonsburg  
City or Town  
Kentucky 41653  
State

Space below this line is for the use of the Board only.

## ACTION OF DIVISION OF MINES AND QUARRIES

Received on January 11, 1982.Approved and Permit (no. 462) granted on January 11, 1982.

Reasons for denial \_\_\_\_\_

Division of Mines and Quarries  
By B. D. Hager State Oil and Gas Insp.  
Title

File No. DI-195Well No. P-124Permit No. 462



Address Correspondence to:  
P. O. Box 313  
Zip Code 24272

#### OPERATIONS PLAN

- (1) Philadelphia Oil Company proposes to drill Well No. P-124 situated on Left Fork of Lick Creek in Dickenson County, Virginia. A rotary rig will be used to drill this well requiring approximately fourteen (14) days to drill this well to total depth. Approximately thirty (30) days after the well has been drilled a cable tool spudder will be moved onto the location to fracture and complete the well. The casing program is as follows:

<u>Casing Size</u>	<u>Depth</u>	<u>Remarks</u>
16 inch	30'	Case off fresh water.
8-5/8 inch	2,155'	Set in top of Red Rock and cemented to surface to contain possible formation water and protect all coal seams.
4-1/2 inch	5,089'	Production casing to be set at total depth and cemented through gas bearing formations.
2 inch	5,064'	Production string.

- (2) Site preparation is expected to begin January 20, 1982 and final well completion is expected July 17, 1982. Reclamation is expected to be completed by October 17, 1982.
- (3) Soils are of the loam to silt type, medium depth, with no erosion problems anticipated. No timber will be encountered in the project area. The well site and pit areas will be constructed on a flat with a 2° slope. Approximately 100 feet of access road will be constructed from a public road to gain access to the drill site. Pipe culverts will be maintained along the existing road to provide proper drainage. Cut and fill areas along the

December 16, 1981

constructed road will be sown with Ryegrass and KY 31 Fescue to stabilize the affected areas and prevent erosion. The entire project area comprises of 1.22 acres.

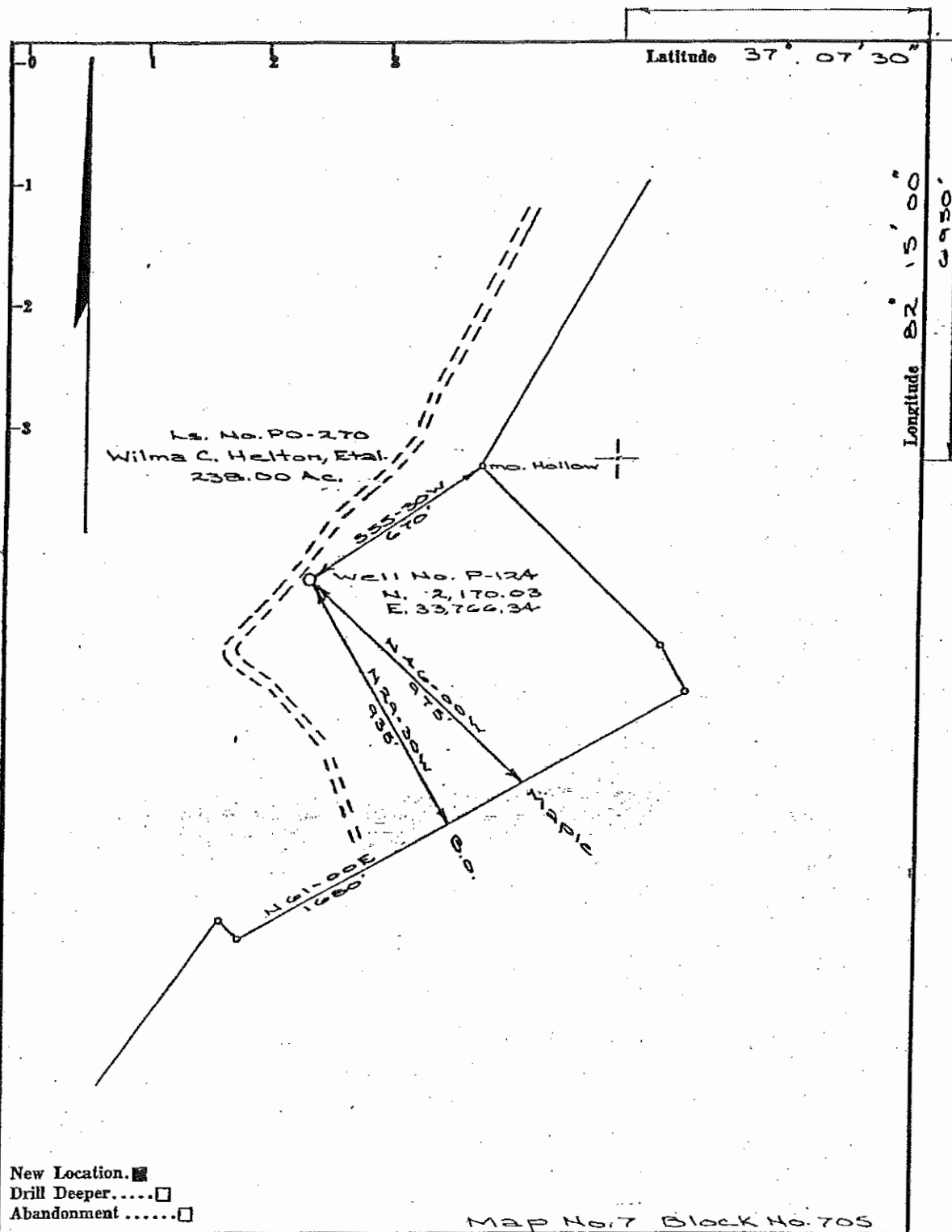
- (4) After grading is completed on the well site and pit areas all unstable areas will be sown immediately to prevent erosion (Pit 100' x 75') (Auxillary Pit 100' x 75') Well site (100' x 200')
- (5) Upon completion of the well and pipeline operations, pit areas will be filled and covered with adequate top soil and entire well site will be graded and seeded with approximately 250 pounds of Ryegrass and KY 31 Fescue and ten bales of straw is to be used as mulch in critical areas to prevent erosion and to stabilize the area.

12-16-81

rf







Company Philadelphia Oil Co.  
Address Norfolk, Va.  
Farm Wilma C. Helton, Etal.  
Tract Acres 238.00 Lease No. PO-270  
Well (Farm) No. P-124 Serial No. P-124  
Elevation (Spirit Level) 1911.87'  
Quadrangle Norfolk, Va.  
County Dickenson District Ervinton  
Surveyor B.C. Spradling  
Surveyor Registration No. 782  
File No. 12-11-81 Drawing No. 1  
Date 12-11-81 Scale 1" = 400'

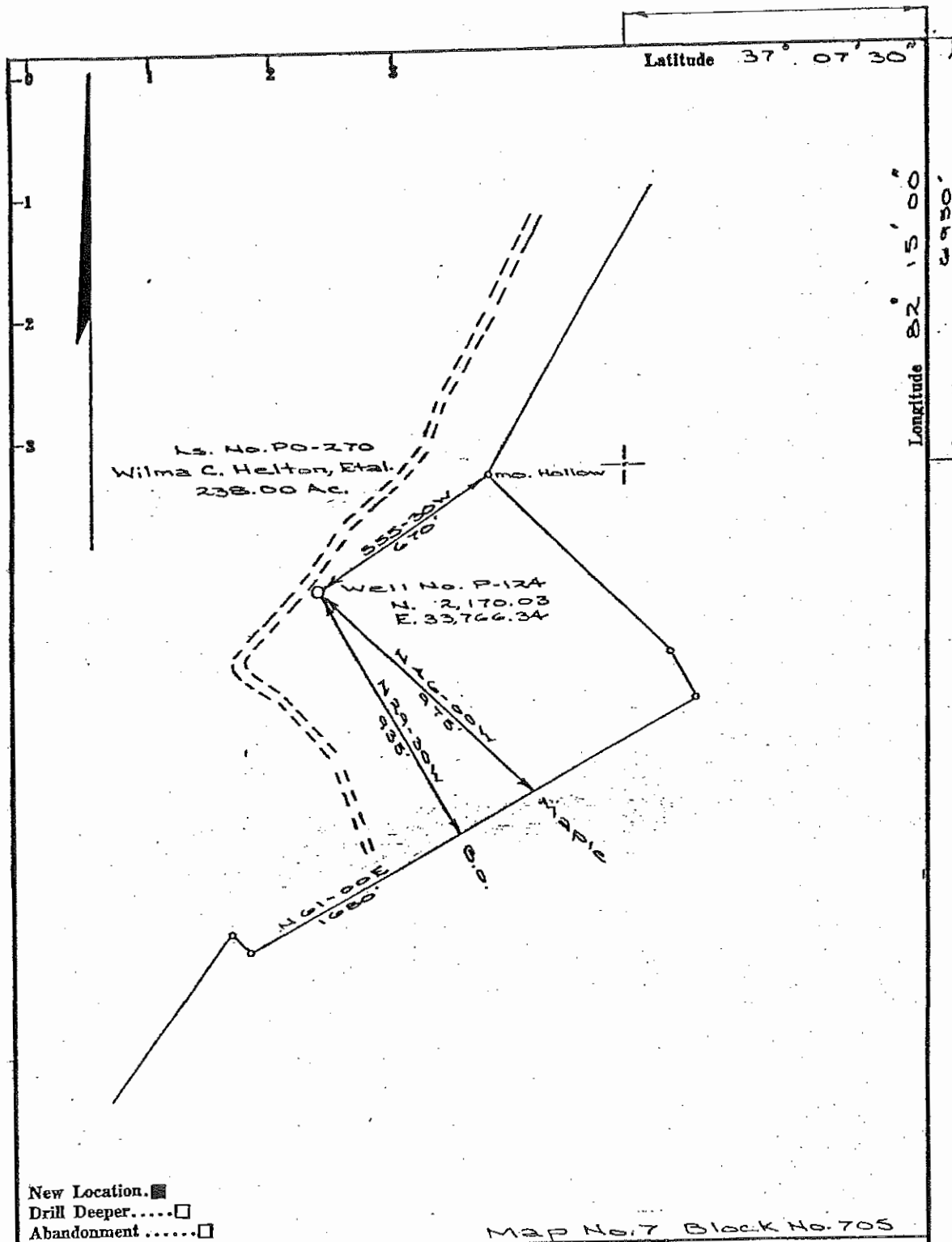
COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR & INDUSTRY  
DIVISION OF MINES  
BIG STONE GAP

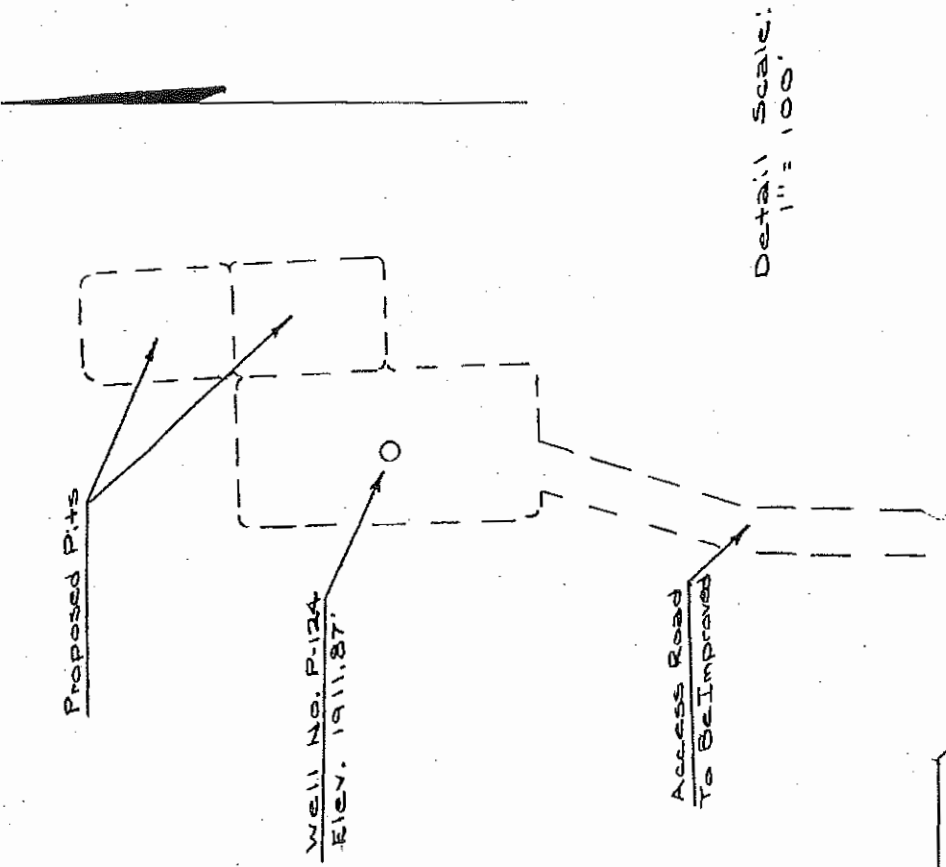
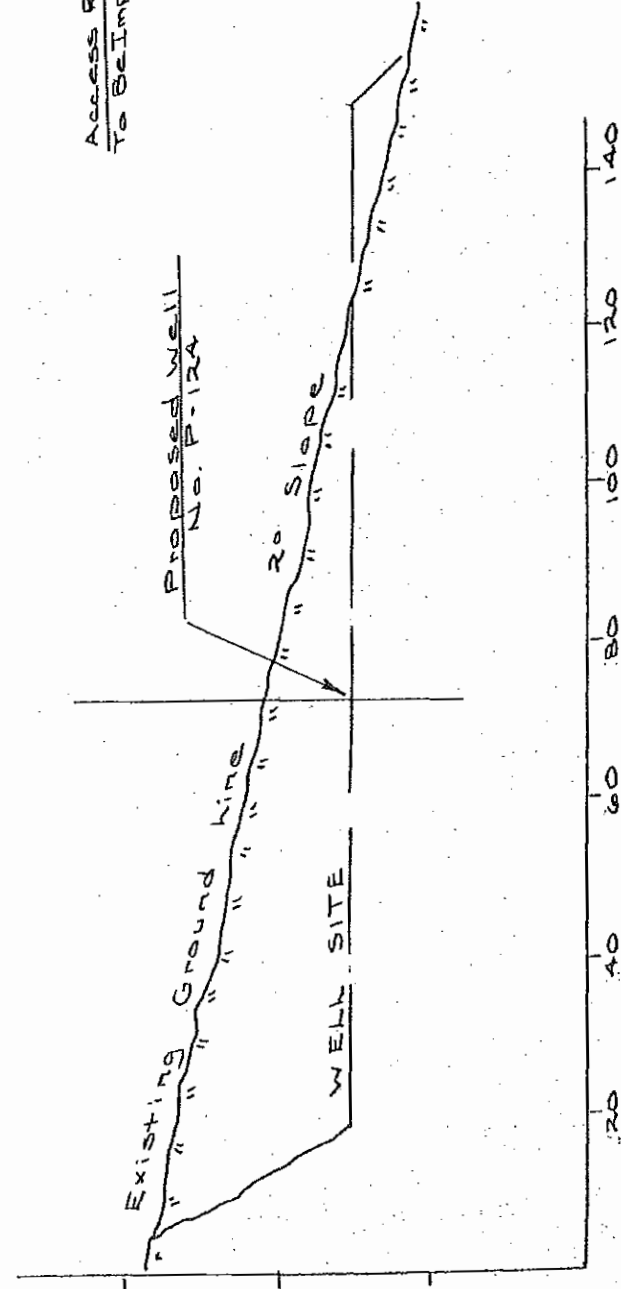
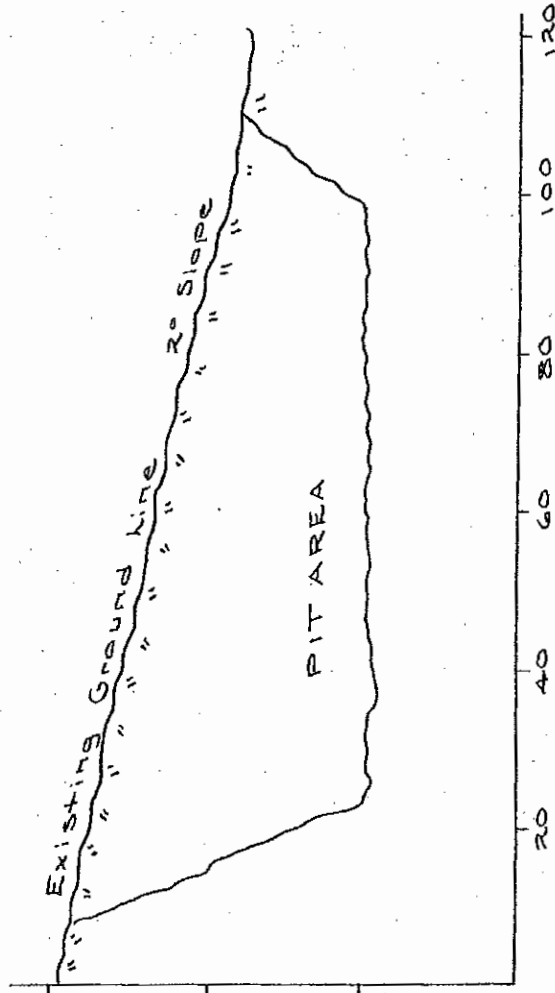
### WELL LOCATION MAP

FILE NO. \_\_\_\_\_

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

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





Detail Scale:  
1" = 100'







COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES AND QUARRIES  
BIG STONE GAP, VIRGINIA 24219

NOTICE OF INTENTION TO (DRILL) (REDRILL) (DEEPEN) OIL OR GAS WELL

(One copy of this report and three identical copies of a plat or map, on a scale not smaller than 400 feet to the inch, and showing information required by Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement, must be submitted to the Division of Mines and Quarries, and copies sent by registered mail to all persons defined in above law, prior to obtaining a permit to drill.)

TO: Division of Mines and Quarries  
Drawer V  
Big Stone Gap, Virginia 24219

Box 431  
Prestonsburg, KY 41653  
Place  
December 28, 1981  
Date

Gentlemen:

The undersigned proposes to begin as soon as a permit therefor is obtained from the Division of Mines and Quarries, to drill, ~~redrill or deepen~~ (strike out two) a well for oil or gas on the Wilma C. Helton, et al farm, comprising 238.00 acres, in the Ervinton District of Dickenson County, Virginia, having the fee title thereto, or as the case may be, under grant or lease dated July 26, 1974, made by Wilma C. Helton et al to Philadelphia Oil Company and recorded on the 25 day of August, 19 75 in the office of the County Clerk for said County in Book 172 Page 576. The proposed location of the well, as shown on the attached plat or map, is about 5100 (feet/miles) West of 82°15'00" and about 6950 (feet/miles) South of 37°07'30" 6500' East of Counts Cemetary - 4700' Northwest of Rasnick Cemetary. It is proposed to drill this well to a depth of about 5089 feet. Samples or cutting therefrom will or will not be available for examination by a member of the staff of the Virginia Geological Survey. Cuttings will or will not be furnished the Survey.

A plat or map, in triplicate, on a scale not smaller than 400 feet to the inch, showing the proposed location of the well and other information, required in Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement is attached hereto. Copies of the plat and notice of intention to drill, redrill or deepen the aforementioned well have been sent to all interested persons as required by Section 45.1-114, above cited, as follows (list names and mail address of each. Use back of sheet if additional space is required):

1. Clinchfield Coal Company, Dante, Virginia 24237 (Coal owner)
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

Very truly yours,

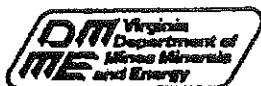
Signature of officer or certifying party:

B. D. Hager  
Name  
B. D. Hager, Operating Manager  
Hager

Philadelphia Oil Company  
Drilling Company or Operator  
Box 431  
Street Address  
Prestonsburg, KY 41653  
City or Town and State

File D1-195 Date Received January 11, 1982 Well No. P-124

Department of Mines, Minerals and Energy  
Division of Gas and Oil



Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P. O. Box 1416  
Abingdon, Virginia 24210  
703/676-5423

Equitable Resources Exploration  
A Division of

Operations Name: Equitable Resources Energy Company  
Permit #: 462 (P-124)



#### APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

Pursuant to VR 480-05-22.1, § 1.42, the undersigned permittee requests:

- A. ☒ Approval to transport and dispose of pit or produced fluids through an approved disposal site, which accepts pit or produced fluids from gas and oil operations.
- B. ☐ Approval for a one time application of pit fluids on the permitted site.

For applications under A, the permittee is required to submit the following with this application.

1. Submit the appropriate federal, state, and/or local permit number of the facility the permittee is proposing to dispose of the fluids under.
2. Attach a copy of the appropriate sections of the permit, which allows acceptance of fluid waste from the gas and oil operations.
3. Submit the total estimated volume of fluid to be transported.

**SEE ATTACHED**

For applications under B, the permittee must complete the following information with the appropriate documentation with this application.

A. Pit Fluid Characterization:

Date Pit was First Used \_\_\_\_\_ Estimated Volume of Pit Fluid \_\_\_\_\_ (Gals.)  
Description of the Constituents of the fluid placed in Pit \_\_\_\_\_

B. Analysis of the Pit Fluid:

<u>Analysis</u>	<u>Standard Limits</u>
pH _____	6-9 Standard Units
Oil and Grease _____	< 15 mg/l
Iron _____	< 7 mg/l
Manganese _____	< 4 mg/l
Acidity _____	< alkalinity
Alkalinity _____	> acidity
Chlorides _____	5,000 mg/l *
Sodium Balance _____	SAR of 8-12 **

\* For chlorides above 5,000 mg/l, the application will be reviewed to determine whether a permit would be required from the Virginia Water Control Board.

\*\* The Sodium Absorption Rate shall be determined on the soils to which the liquid is to be applied.

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Exploration  
A Division of  
Equitable Resources Energy Corp.  
Operations Name: \_\_\_\_\_  
Permit #: 462 (P-124)

C. Verification of Analysis:

Attach the lab analysis and its results. Denote on the attachment the data, time, and method of collection and the date of the analysis.

D. Description of Application Area:

Soil Type \_\_\_\_\_ Soil Permeability \_\_\_\_\_ Depth to Bedrock \_\_\_\_\_ Depth to Water Table \_\_\_\_\_  
Nearest Water Supply \_\_\_\_\_ Type: Well \_\_\_\_\_ Spring \_\_\_\_\_ Nearest Surface Water Courses \_\_\_\_\_  
Nearest Occupied Dwelling \_\_\_\_\_  
Total Acreage of Proposed Application Area \_\_\_\_\_ Average slope of the proposed area of land application \_\_\_\_\_

E. Location and Design Map:

A map on the scale of 1" = 400' showing the acreage within the permitted site to be used for land application identifying all surface waters, wells, springs, natural rock outcrops and property lines in relation to the proposed area of land application. The map shall also delineate any buffer zones.

F. Method of Land Application:

Provide a narrative, describing the method in which you plan to land apply the pit fluids. The description shall include supporting calculations and other data to justify the flow rates, erosion controls and monitoring to be used during the application of the pit fluids. The narrative shall include supporting site measurements and other data concerning the noninterference to the groundwater within and adjacent to the land application and supporting site measurements and other data concerning the protection of the existing vegetation.

CERTIFICATION:

I the undersigned applicant or permittee, certify that this document and all attachments were prepared under my direction. The information submitted is, to the best of my knowledge, true, accurate, and complete.

(Signature) \_\_\_\_\_

(Title) Operations Manager - Va.

(Date) October 15, 1993

(FOR OFFICE USE ONLY: )

(Approved ☒ Denied \_\_\_\_\_ )

B. D. Palmer )

(State Gas and Oil Inspector )

Date 11/1/93 )

ATTACHMENT TO

APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

PART A Submittal:

1. The coalbed methane and/or convention wells and/or pipeline fluids will be disposed of utilizing UIC permitted wells P-148-WD, KYI-0507, KYI-0508 and KYI-0222.

2. The appropriate sections of UIC disposal permits for P-148-WD Well, KYI-0507 Well, KYI-0508, Well and the Magnum KYI-0222 Well are all separately filed with the Division of Gas and Oil in Abingdon, VA.

3. Equitable Resources Exploration will report produced fluid volumes in the monthly VA DGO production report. The volumes of fluid hauled will be tracked by Equitable Resources Exploration as required by DGO, and the tracking records will be available to DGO upon request.

CBM - Nora Field

DPT/ 9-27-93



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF MINES, MINERALS AND ENERGY  
DIVISION OF GAS AND OIL  
P. O. BOX 1416  
ABINGDON, VIRGINIA 24210



INSPECTION REPORT

COMPANY EREX  
WELL P-124  
COUNTY DICKENSON

FILE DI-194  
TIME 3:35 DATE 9/1/90  
INSPECTOR MJS

SITE INSPECTION

PRE-PERMIT:

PLAN ACCEPTABLE    LOCATION CORRECT    DRAINAGE CONTROLLED    SEDIMENTATION CONTROLLED     
COMMENTS   

SITE CONDITION:

DRAINAGE OK TEMPORARY SEEDING ✓ SEEDING ✓  
DRAINAGE CONTROL ✓ BACKFILLED ✓ TRASH ng  
SEDIMENT CONTROL ✓ SUBSIDENCE ~ SIGN ✓  
COMMENTS Reclaim OK

PIT CONDITION:

APPROXIMATE SIZE    PLASTIC LINED    BACKFILLED ✓ STABILITY OK  
COMMENTS   

ROAD CONDITION:

GRADE: STEEP    MODERATE ✓ FLAT    GRAVEL OK  
COMMENTS   

PIPELINE CONDITION:

SIZE    SURFACE    BURIED    LENGTH (INSPECTED)     
COMMENTS   

RIG AND WELL INSPECTION

TYPE: ROTARY    CABLE TOOL    WORKOVER    COMPANY NO. 216  
SAFETY EQUIPMENT: HARD HATS    BLOWOUT EQUIPMENT    WORK AREA     
HARD TOES    FIRE EXTINGUISHERS    WORKMEN ON RIG     
DEPTH    DEVIATION    DEGREES AT    FEET CASING IN HOLE     
COMMENTS   

EQUIPMENT

PLUGGED NO PRODUCING ✓ TANKS NO  
MONUMENT NO CASING IN HOLE 4 1/2" DYKES NO  
SIGN ✓ EQUIPMENT net LEAKS NO  
COMMENTS   

ACTIONS OF INSPECTOR

SECTION OR REGULATION CITED   

COMPANY NOTIFIED   

COMMENTS   

INSPECTOR Milford J. H.

TYPE OF INSPECTION

PRE-APPLICATION	0
PRE-PERMIT	1
DRILLING	2
COMPLETION	3
PRODUCING	4
PLUGGED	5
AERIAL	6
COMPLAINT	7
SHUT-IN	8
CONSTRUCTION	9
OTHER	10
RE-INSPECTION	11
RECORD	12
RECLAIMING	13
PIPELINE	
PRE-PERMIT	14
CONSTRUCTION	15
OPERATION	16
RE-INSPECTION	17
COMPLAINT	18

ACTION OF INSPECTOR

NONE	0
SITE OK	1
OPERATOR INFORMED OF	
POTENTIAL PROBLEM	2
VIOLATION ISSUED	3
OPERATIONS HAULTED	4
SITE POSTED	5
PLAN APPROVED	6
VIOLATION CANCELLED	7
CONSULTATION	8
PLAN NOT APPROVED	9

FOLLOW-UP

NONE	0
CONTACT COMPANY	1
CONTACT COMPLAINANT	2
RE-INSPECTION NECESSARY	3
REDUCE INSPECTION	
FREQUENCY	4

COMMENTS ON BACK  
(LIMIT COMMENTS TO  
50 CHARACTERS)

ON COMPUTER

**POOR  
QUALITY**

**ORIGINAL(S) FOLLOW**

**THIS IS THE BEST COPY  
AVAILABLE**

**VCE DOCUMENT CONVERSION CENTER**

## INSPECTION REPORT

COMPANY EREX  
 WELL NAME/NUMBER P-124  
 COUNTY DICKENSON

FILE NUMBER 01-194  
 TIME 12:30 PM DATE 3-30-89  
 INSPECTOR MJS

## SITE INSPECTION

## PRE-PERMIT:

PLAN ACCEPTABLE \_\_\_\_\_ LOCATION CORRECT \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## SITE CONDITION:

DRAINAGE OK BACKFILLED ✓  
 DRAINAGE CONTROL ✓ SUBSIDENCE NO  
 SEDIMENT CONTROL \_\_\_\_\_ SEEDING ✓  
 TEMPORARY SEEDING \_\_\_\_\_ TRASH NO  
 COMMENTS \_\_\_\_\_

## PIT CONDITION:

APPROXIMATE SIZE \_\_\_\_\_ BACKFILLED ✓  
 PLASTIC LINED \_\_\_\_\_ STABILITY OK  
 COMMENTS \_\_\_\_\_

## ROAD CONDITION:

GRADE: STEEP \_\_\_\_\_ MODERATE ✓ FLAT \_\_\_\_\_  
 GRAVEL \_\_\_\_\_  
 COMMENTS OK

## RIG INSPECTION

TYPE: ROTARY \_\_\_\_\_ CABLE TOOL \_\_\_\_\_ WORKOVER \_\_\_\_\_ COMPANY NO RIG  
 SAFETY EQUIPMENT: HARD HATS \_\_\_\_\_ BLOWOUT EQUIPMENT \_\_\_\_\_  
 HARD TOES \_\_\_\_\_ FIRE EXTINGUISHERS \_\_\_\_\_  
 WORK AREA \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## WELL PROGRESS

DEPTH \_\_\_\_\_ CASING IN HOLE \_\_\_\_\_  
 DEVIATION \_\_\_\_\_ DEGREES AT \_\_\_\_\_ FEET \_\_\_\_\_  
 NUMBER OF WORKMEN ON RIG \_\_\_\_\_ TOOL PUSHER \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## EQUIPMENT

PLUGGED \_\_\_\_\_ EQUIPMENT 2 METERS  
 MONUMENT/SIGN ✓ TANKS N/A  
 PRODUCING ✓ DYKES N/A  
 CASING IN HOLE \_\_\_\_\_ LEAKS NO  
 COMMENTS \_\_\_\_\_

## TYPE OF INSPECTION

PRE-APPLICATION 0  
 PRE-PERMIT 1  
 DRILLING 2  
 COMPLETION 3  
 PRODUCING 4  
 PLUGGED 5  
 AERIAL 6  
 COMPLAINT 7  
 SHUT-IN 8  
 CONSTRUCTION 9  
 OTHER 10  
 RE-INSPECTION 11  
 RECORD 12  
 PIPELINE  
 PRE-PERMIT 13  
 CONSTRUCTION 14  
 OPERATION 15  
 RE-INSPECTION 16  
 COMPLAINT 17

## ACTION OF INSPECTOR

NONE 0  
 SITE OK 1  
 OPERATOR INFORMED OF  
 POTENTIAL PROBLEM 2  
 VIOLATION ISSUED 3  
 OPERATIONS HALTED 4  
 SITE POSTED 5  
 PLAN APPROVED 6  
 VIOLATION CANCELLED 7  
 CONSULTATION 8  
 PLAN NOT APPROVED 9

## FOLLOW-UP

NONE 0  
 CONTACT COMPANY 1  
 CONTACT COMPLAINANT 2  
 RE-INSPECTION NECESSARY 3  
 REDUCE INSPECTION  
 FREQUENCY 4

## ACTION OF INSPECTOR

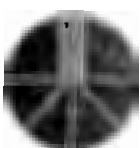
SECTION OR REGULATION CITED \_\_\_\_\_  
 COMPANY NOTIFIED \_\_\_\_\_  
 VIOLATION ISSUED \_\_\_\_\_ POSTED \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

COMMENTS ON BACK \_\_\_\_\_  
 (LIMIT COMMENTS TO  
 50 CHARACTERS)

ON COMPUTER ✓

*Mullford Sten*  
 INSPECTOR

01-194  
Oke  
Oct 16/93



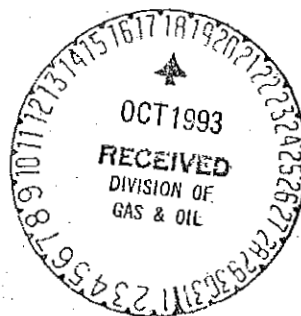
# EQUITABLE RESOURCES EXPLORATION

A Division of EQUITABLE RESOURCES ENERGY COMPANY

P. O. Box 313  
Nora, VA 24272

October 15, 1993

B. T. Fulmer  
Oil and Gas Inspector  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, VA 24210



RE: DGO Permit No. 462 (P-124)

Dear Mr. Fulmer:

Enclosed please find an application for produced fluid disposal for the above Equitable Resources Exploration operated conventional well located in the Nora Field.

Should you have any questions, please feel free to contact me at Phone # 1-703-835-9134.

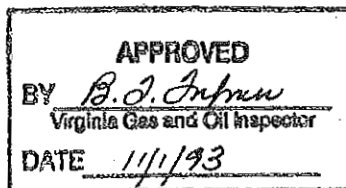
Sincerely,

*Douglas P. Terry*  
Douglas P. Terry  
Operations Manager-VA

Certified RRR  
Enclosures

CC: Well Files  
Lee Talbott  
Don Hall

PC: CBM-haul.1





Philadelphia  
Oil Company

Nora, Virginia

Address Correspondence to:  
P. O. Box 313  
Zip Code 24272

December 28, 1981

Commonwealth of Virginia  
Division of Mines and Quarries  
Department of Labor and Industry  
Big Stone Gap, Virginia 24219

Re: Permit to Drill Well No. P-124, Philadelphia  
Oil Company, Lease No. 270

Gentlemen:

We submit herewith Philadelphia Oil Company's application for permit to drill a well for oil and/or gas upon the tract of land described therein.

This well will be drilled by Union Drilling Company, P.O. Drawer No. 40, Buckhannon, West Virginia 26201.

Agent's Check No. 245 in the amount of One Hundred Dollars (\$100.00), payable to Treasurer of Virginia is attached, said sum being payment of well permit fee.

Yours very truly,

B. D. Hager  
Operating Manager

BDH/gjw

Enclosures

CC: Mr. J. E. Nypaver, Vice President  
of Operations  
The Pittston Company  
Lebanon, Virginia 24266

Mr. Ray S. Dixon, Property Manager  
Clinchfield Coal Company  
Dante, Virginia 24237

Mr. E. B. Jenkins  
Mr. James G. Tilton  
Mr. Don C. Hall



Philadelphia  
Oil Company

Nora, Virginia

Address Correspondence to:  
P. O. Box 313  
Zip Code 24272

July 25, 1984

Mr. Milford Stern  
Oil and Gas Section  
205 West Main Street  
Abingdon, Virginia 24210

Dear Milford:

Beginning today Philadelphia Oil Company plans to begin producing the Berea formation of the following wells:

P-20	P-88	P-134	P-151
P-21	P-106	P-135	P-166
P-22	P-122	P-136	
P-23	P-123	P-140	
P-63	P-124	P-143	
P-64	P-132	P-145	
P-87	P-133		

Yours very truly,

DON C. HALL  
Field Agent

CC: Bob Hager  
E. B. Jenkins  
Ed Minns  
Chuck Stewart  
John Billips  
Brint Camp  
Charles Martin



**PITTSSTON Clinchfield**

Pittston Coal Group  
Clinchfield Coal Company  
P.O. Box 4000  
Lebanon, Virginia 24266

An Affiliate of The Pittston Company

January 20, 1982

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. B. T. Fulmer  
State Oil and Gas Inspector  
Division of Mines and Quarries  
Big Stone Gap, Virginia 24219

Re: Permit to Drill Well No. P-124,  
Philadelphia Oil Company,  
Lease No. 270

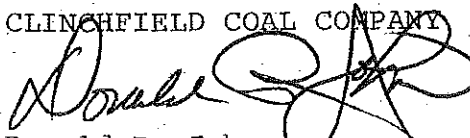
---

Dear Mr. Fulmer:

Our company is in receipt of a copy of a letter addressed to your division from Mr. B. D. Hager, Operating Manager of Philadelphia Oil Company, enclosing the permit application on the above well. I am advised that the proposed well is located on surface property on which Clinchfield Coal Company has an outstanding mining permit from the Division of Mined Land Reclamation and that such well is proposed within the bonded area. Therefore, we must object to the well application until satisfactory arrangements are made to insure that our company will not incur any additional environmental liabilities resulting from the placement of a well within the bonded area.

Sincerely yours,

CLINCHFIELD COAL COMPANY



Donald R. Johnson  
Senior Assistant General Counsel

DRJ:wF

cc: Mr. B. D. Hager



THIS PERMIT IS NOT TRANSFERABLE



Commonwealth of Virginia  
Department of Labor and Industry  
DIVISION OF MINES

Permit No. 118  
File No. 01-194  
Well No. P-124

Big Stone Gap, Virginia  
PERMIT TO DRILL FOR OIL OR GAS

This is to certify that on this date a permit to drill for oil or gas

was issued to Philadelphia Oil Company  
whose main office is at Box 431, Prestonsburg, Ky., 41653  
for the operation of Gas Well (Wilma Helton et al.)  
located at Nora Quadrangle County of Dickenson

THIS PERMIT IS ISSUED IN COMPLIANCE WITH  
TITLE 45, CHAPTER 8, CODE OF VIRGINIA 1950 AS AMENDED

Any person drilling for oil or gas within the State without first obtaining a permit as provided herein shall be guilty of a misdemeanor or other penalties as prescribed in Title 45, Chapter 8, Article 7 of the Code of Virginia. Each day any person drills any oil or gas well without first obtaining such permit shall constitute a separate offense.

DIVISION OF MINES

Issued this 13th day McLynn Sharpe, Chief  
of January 19 82 By B. T. Fulmer  
Fee Paid \$100.00 State Oil & Gas Inspector

FORM 16  
APPENDIX A,  
SHEET 1, (OVERSE)

API WELL NO. 45 - 051 - 20866  
State County Permit  
Date: September 11, 1986  
Operator's Well  
Name W. F. Grizzle No. P-201

REPORT OF COMPLETION OF WELL WORK  
IF DRILLING, REDRILLING, OR DEEPENING IS INVOLVED

DRILLING CONTRACTOR Union Drilling, Inc.  
ADDRESS P. O. Drawer 40, Buckhannon, WV 26201  
TELEPHONE 304-472-4610

GEOLOGICAL TARGET FORMATION Berea  
DEPTH OF COMPLETED WELL 5260 FEET  
DATE DRILLING COMMENCED 6/6/86  
DATE DRILLING COMPLETED 6/19/86  
DRILLING RIG: ROTARY ☒ / CABLE TOOL ☐ /

GEOLOGICAL DATA      Depth      Thickness  
                         Top      Bottom

Fresh Water    75, 240, 619, 927

Salt water

				Name	MINING IN AREA	
					<del>YES</del>	<del>NO</del> <del>MINING</del>
Coal Seams	288,94	530,34	927,30	2145,52		
	348,52	556,59	1131,34	2155,63		
	445,48	619,21	1552,56			

Oil      Formation

Gas      Formation

The data on depth of strata is based on the source(s) checked below:

☒ Applicant's own drilling experience in the area  
☐ Information supplied by the coal operator in the area  
☐ Information already in possession of the Inspector  
☐ Other (as follows) \_\_\_\_\_

CASING AND TUBING PROGRAM

PRELIMINARY INFORMATION

Is the subject well underlaid by the red shales? Yes X / No \_\_\_ /  
If Yes, was a coal protection string set to the red shales? Yes X / No \_\_\_ /

	SIZE	TOP	BOTTOM	LENGTH	PERFORATIONS FROM TO
<u>CONDUCTOR:</u>	16"	0	19'	19'	
	11 3/4"	0	196'	196'	

<u>CASING CIRCULATED AND CEMENTED IN TO SURFACE:</u>	8 5/8"	0	2203'	2203'	
--	--------	---	-------	-------	--

COAL PROTECTION CASING  
SET UNDER SPECIAL RULE OF  
CODE OF VIRGINIA 45.1-334.B:

<u>OTHER CASING AND TUBING LEFT IN WELL;</u>	4 1/2"	0	5204'	5204'	5082'-5147'
	2 3/8"	0	5065'	5065'	4572'-4597'
					4376'-4380'

LINERS LEFT IN WELL UNDER  
CODE OF VIRGINIA SECTION  
45.1-336 OR OTHERWISE:

<u>PACKERS OR BRIDGE PLUGS:</u>	<u>KIND</u>	<u>SIZE</u>	<u>SET AT</u>
---------------------------------	-------------	-------------	---------------

Butler-Larkin 4 1/2" X 2 3/8" 4518'

REMARKS: SHUT DOWN DEPTHS, DATES; FISHING JOB DEPTHS, DATES; CAVING;  
ETC.)

SAMPLES AND CUTTINGS

WILL X WILL NOT \_\_\_ BE AVAILABLE FOR EXAMINATION BY A MEMBER OF THE  
VIRGINIA DIVISION OF MINERAL RESOURCES  
WILL X WILL NOT \_\_\_ BE FURNISHED THE VIRGINIA DIVISION OF MINERAL  
RESOURCES UPON REQUEST  
WILL \_\_\_ WILL NOT X REQUIRE SACKS TO BE FURNISHED BY THE VIRGINIA  
DIVISION OF MINERAL RESOURCES.

Form 16  
Appendix A, Sheet 1 (Reverse)  
Continued from Obverse side

#### OTHER GENERAL INFORMATION

An electric log survey was ☐ / was not ☐ / conducted pursuant to Code of Virginia Section 45.1-333.B.2, at the coal owner's or operator's request.

An electric log survey was ☒ / was not ☐ / run for other purposes. This survey did ☐ / did not ☒ / disclose the vertical location of a coal seam.

Note: If a coal seam was located, the part of the survey from the surface through the coal is attached in accordance with Code of Virginia Section 45.1-333.B.3.

Deviation surveys were ☒ / were not ☐ / required under Code of Virginia Section 45.1-333.C "to the bottom of the lowest published coal seam depth."

Note: If deviation surveys were required, the survey results are attached.

A continuous survey was ☐ / was not ☒ / required under Code of Virginia Section 45.1-333.C.

Note: If a continuous directional survey was required, the survey results are attached.

#### CHANGES IN THE PERMITTED WELL WORK

The well operator did ☐ / did not ☒ / make any change(s) in the permitted well work, verbally approved by the Inspector or Assistant Inspector under Regulation 4.03 of the Regulations under the Virginia Oil and Gas Act, for the purpose of insuring successful completion of the well work.

Note: The nature and purpose of each such change, if any, is set out below or on additional sheets if such are required.

Form 16  
Appendix D

API No. 45 - 051 - 20866

APPENDIX TO REPORT OF COMPLETION OF WELL WORK  
ON A WELL DRILLED IN SEARCH OF OIL OR GAS

DISCOVERY OF OIL OR INDICATIONS THEREOF

Indicated potential flow before stimulation \_\_\_\_\_ BOD  
Gravity and grade: \_\_\_\_\_

DISCOVERY OF GAS OR INDICATIONS THEREOF

Indicated potential flow before stimulation 0 MCFD  
Rock pressure: \_\_\_\_\_ psig \_\_\_\_\_ hour test

RECORD OF STIMULATION

Full description of stimulation:

Zone 1: Berea Formation  
stimulated with 75 Q Foam using 90,000# sand, 1,000,000  
SCF/N<sub>2</sub> and 336 gals. 20% acid and 480 Bbls. fluid.  
Perforated 5082-5147 # Perfs. 29 Perf. Size .50  
Breakdown 1600 psig. Avg. Injection 2600 psig.  
Avg. I.R. 19 BPM Init. S.I.P. 2000 psig 15 Min. S.I.P. -- psig

Zone 2: Weir Formation  
stimulated with 75 Q Foam using 30,000# sand, 500,000 SCF/N<sub>2</sub>  
and 336 gals. 28% acid and 210 Bbls. fluid.  
Perforated 4572-4597 # Perfs. 15 Perf. Size .50  
Breakdown 1900 psig. Avg. Injection 1870 psig.  
Avg. I.R. 10 BPM Init. S.I.P. 500 psig 15 Min. S.I.P. -- psig

Zone 3: Big Lime Formation  
stimulated with 2000 gals. 28% acid and 77,000 SCF/N<sub>2</sub>  
and 224 Bbls. fluid.  
Perforated 4376-4380 # Perfs. 9 Perf. Size .50  
Breakdown 2500 psig. Avg. Injection 1975 psig.  
Avg. I.R. 14 BPM Init. S.I.P. 1400 psig 15 Min. S.I.P. -- psig

Final production ( ) natural (X) after stimulation

	BOD	MCFD	Hours Tested	Rock Pressure	Hours Tested
Zone 1:	_____	_____	_____	_____	_____
Zone 2:	_____	_____	_____	_____	_____
Zone 3:	<u>--</u>	<u>11</u>	<u>6</u>	<u>700</u>	<u>48</u>

Final production if gas zones are comingled: 730 MCFD

6 hours tested: 600 psig. 48 hours tested

State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_  
Date: September 11, 1986  
Operator's Well  
Name: W. F. Grizzle No. P-201

VIRGINIA OIL AND GAS INSPECTOR  
205 W. MAIN STREET  
ABINGDON, VA 24210  
703-628-8115

REPORT OF COMPLETION OF WELL WORK

Pursuant to Regulation 4.06 of the Regulations under the Virginia Oil and Gas Act, the undersigned well operator reports completion of the type(s) of well work specified below on the referenced well in Ervinton District, Dickenson County, Virginia on 7 day, 8 month, 19 86.

WELL TYPE: Oil      / Gas X / Enhanced recovery      / Waste Disposal      / If "Gas", Production X / Underground Storage      /  
Exempt by Code Section 45.1-300.B.1. from general oil and gas conservation law: yes      / no      /  
WELL WORK: Drill X / Deepen      / Redrill      / Stimulate      /  
Plug off old formation      / Perforate new formation      /  
Plug      / Replug      / Other physical change in well (specify      )

The well work was done as shown in the Appendix(es) applicable to the type(s) of well work involved.

CONFIDENTIALITY STATUS UNDER CODE OF VIRGINIA SECTION 45.1-332.

X Ninety days from the filing of this report  
OR  
     Two years from     , 19    , the date on which the referenced well was COMPLETED, the well being an exploratory well as defined in Code of Virginia Section 45.1-288.21.

APPLICANT: Philadelphia Oil Company  
BY Brint Camp  
ITS District Geologist  
ADDRESS 1101 N. Eastman Rd., Kingsport, TN 37664  
TELEPHONE 615-246-4332

FORM 2  
SHEET 1 (OBVERSE)

(FOR OFFICE USE ONLY: API Well No. 45 - - - -  
State County Permit

Date: 1-23, 19 86

Operator's  
Well No. P-201

VIRGINIA OIL AND GAS INSPECTOR  
DEPARTMENT OF LABOR AND INDUSTRY  
OIL AND GAS Section  
205 W. Main Street  
Abingdon, Virginia 24210  
Phone 703 628-8115



NOTICE AND APPLICATION FOR A WELL WORK PERMIT

TO: ALL PERSONS LISTED  
ON THE REVERSE HEREOF

Take notice that, pursuant to Code of Virginia § 45.1-313, the under-  
signed well operator proposes to file or has filed this Notice and Application for  
a Well Work Permit with the Virginia Oil and Gas Inspector under Code of Virginia  
§ 45.1-311, with respect to a well on the W.F. Grizzle  
tract of 149.36 acres, more or less, in Ervinton  
District, Dickenson County, Virginia.

Attached is a copy of the well plat required to be filed with this Notice  
and Application. The Notice and Application show the well work that is to be done,  
and the well plat shows the location (or proposed location) of the well.

If the proposed well work is to drill a well, an operations plan is also  
attached. It shows the intended method of spoil placement, and contains a stabili-  
zation and drainage plan, including a map of the project area indicating the area  
to be disturbed. The drainage and stabilization plan meets the requirements of the  
current Virginia Erosion and Sediment Control Handbook adopted by the Virginia Soil  
and Water Conservation Commission pursuant to Code of Virginia § 21-89.4.

Under Code of Virginia § 45.1-313, you have the right to file objections  
to the proposed well work within 15 days after the day you receive this notice.  
Objections must be filed with--

Virginia Oil and Gas Inspector  
Department of Labor and Industry  
Oil and Gas Section  
205 W. Main Street  
Abingdon, Virginia 24210

WELL OPERATOR	<u>Philadelphia Oil Company</u>	DESIGNATED AGENT	<u>Charles Martin</u>
	<u>1101 N. Eastman Road</u>		<u>Box 313</u>
Address	<u>Kingsport, TN 37664</u>	Address	<u>Nora, VA 24272</u>
Telephone	<u>615-246-4332</u>	Telephone	<u>703-835-9134</u>

FORM 2  
APPENDIX A (OBVERSE)

(FOR OFFICE USE ONLY: API Well No. 45 -      -       
State County Permit

Date: 1-23, 1986

Operator's  
Well No. P-201

APPENDIX TO NOTICE AND APPLICATION  
IF THE WELL WORK INVOLVES DRILLING, REDRILLING OR DEEPENING

Note: The data in this Appendix are estimates only. Actual data must be submitted on Form 18 ("Report of Completion of Well Work").

DRILLING CONTRACTOR  
(IF KNOWN)

Address \_\_\_\_\_  
Telephone \_\_\_\_\_

GEOLOGICAL TARGET FORMATION Berea Sand

DEPTH OF COMPLETED WELL 5119 feet (actual      / estimated X /)

DRILLING RIG Rotary X / Cable tool      /

GEOLOGICAL DATA

	Depth		Thickness
	Top	Bottom	

Fresh water: 57'

Salt water:

			MINING IN AREA?		
			Yes	No	Mined Out
Coal seams:	<u>1058'</u>	<u>1062'</u>		<u>X</u>	<u>No</u>

		Name
Oil and gas:	<u>4392'</u>	<u>Keener</u>
	<u>5141'</u>	<u>Devonian Shale</u>

The data on depth of strata is based on the source(s) checked below:

X Applicant's own drilling experience in the area  
     Information supplied by the coal operator in the area  
     Information already in the possession of the Inspector  
     As follows: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



CASING AND TUBING PROGRAM

PRELIMINARY INFORMATION

Is the subject well underlaid by the red shales? Yes X / No \_\_\_ /

If "Yes", will a coal protection string be set to the red shales? Yes X / No \_\_\_ /

PROGRAM DETAILS

Conductor

11 3/4"                      30'  
Casing circulated and cemented in to the surface:

8 5/8"                      2111'                      Cement to surface

Coal protection casing set under the special rule of Code of Virginia § 45.1-334.B:

N/A

Other casing and tubing left in the well:

4 1/2" production casing    5119'    cemented through productive formation  
2"    production string    4959'

Other casing used in drilling but not left in the well:

N/A

Date: 1-23-, 19 86

Operator's  
Well No. P-201

GENERAL DESCRIPTION

WELL TYPE: Oil    / Gas x / Enhanced recovery    / Waste disposal    /  
If "Gas", Production x / Underground storage    /

Exempt by Code of Virginia § 45.1-300.B.1 from  
general oil and gas conservation law: Yes x / No    /  
If "No" submit map showing unit boundaries and distances between wells  
and boundary  
Exploratory well: Yes    / No x /

LOCATION: Quadrangle: Nora, VA Watershed: Breeden Branch of Fryingpan Creek  
District: Ervinton County: Dickenson  
9260 Ft. South of Latitude: 37°07'30" 2320 Ft West of Longitude: 82°15'00"

The underground well operator is entitled to operate a well for oil and  
gas or other purposes at the above location under a deed    / lease x / other con-  
tract    / dated July 25, 1972, to the undersigned well operator from which  
document, if recorded, is recorded in the office of the Clerk of the County  
Commission of Dickenson County, Virginia, in Deed Book 159  
at page 431.

A permit is requested as follows:

Drill x / Deepen    / Redrill    / Stimulate x /  
Plug off old formation    / Perforate new formation x /  
Plug x / Replug    /  
Other physical change in well (specify) \_\_\_\_\_

The well work is planned as shown in this Notice and Application and  
Appendix and other attachments.

OTHER INFORMATION AND SUBMISSIONS

PERMIT FEE

Under Code of Virginia § 45.1-311.B, enclosed is a check or money  
order in the amount of \$100.00, payable to the Treasurer of Virginia.

WELL PLAT

Under Code of Virginia § 45.1-312.C, the statement checked below applies  
to the well plat (Form 6) accompanying the application:

x The plat is new, under Code of Virginia § 45.1-312.C.1.

   The plat is a copy of an earlier plat, the original of which was  
submitted on or after July 1, 1982. This copy has been updated as  
necessary, under Code of Virginia § 45.1-312.C.2.

OTHER INFORMATION AND SUBMISSIONS (continued)

WELL OPERATOR'S BOND

Under Code of Virginia § 45.1-311.D, the statement checked below applies to the well operator's bond:

       A bond (Form 3 or Form 4) for this single well is submitted herewith.

       A bond for this single well has heretofore been accepted in connection with a well work application filed                     , 19      .

       Under Code of Virginia § 45.1-311.D.2, a blanket bond (Form 3 or Form 4) is submitted herewith, for all of applicant's wells. The amount was cleared by the Inspector, subject to final approval hereby requested.

  x   Under Code of Virginia § 45.1-311.D.2, a blanket bond for all of applicant's wells has heretofore been accepted by the Inspector on or about February 4, 1983.

OPERATIONS PLAN

Under Code of Virginia § 45.1-311.E, if this application is for a well work permit to drill, an operations plan accompanies the application.

REQUEST FOR PERMIT IN LESS THAN 15 DAYS

Applicant does        / does not   x   / request a permit before the end of the 15-day notice provision under Code of Virginia § 45.1-313.E.2.

Applicant: Philadelphia Oil Company  
By H. E. Gardner  
Its Vice President & General Manager

VERIFICATION

STATE OF Tennessee,  
COUNTY OF Sullivan:

On this 20th day of January, 1986, personally before me, a Notary Public in and for the County and State aforesaid, appeared H. E. Gardner, who, being first duly sworn, did depose and say that he is Vice President & General Manager of Philadelphia Oil Company, the applicant in the foregoing Notice and Application for a Well Work Permit and related Appendix (if any) and other accompanying documents; that he executed the same on behalf of the applicant, and was authorized to do so; and that the information set forth therein is true and correct to the best of his knowledge and belief.

My commission expires 1-9-, 1987.

Samuel W. [Signature]  
Notary Public

Philadelphia Oil Company  
1101 N. Eastman Rd.  
Kingsport, TN 37664

Operations Plan - Well No. P-201

(1) PHILADELPHIA OIL COMPANY proposes to drill Well No. P-201 situated on Breeden Branch of Fryingpan Creek in Dickenson County, Virginia. A rotary rig will be used to drill this well requiring approximately fourteen (14) days to drill to a total depth. Approximately thirty (30) days after the well has been drilled cable tool spudder will be moved onto the location to fracture and complete the well. The casing program is as follows:

<u>Casing Size</u>	<u>Depth</u>	<u>Remarks</u>
11-3/4"	30'	Case off fresh water.
8-5/8"	2111'	Set in top of Red Rock and cemented to surface to contain all possible formation water and protect all coal seams.
4-1/2"	5119'	Production casing to be set at total depth and cemented through gas bearing formations.
2"	4959'	Production string.

(2) Site preparation is expected to begin May 1, 1986, and final well completion is expected August 5, 1986. Reclamation is expected to be completed by October 10, 1986.

(3) Soils are of the loam to silt type, medium depth, with no erosion problems anticipated. Timber is of the Hickory-Poplar forest type with all ages class stand predominate in a small portion of the project area. The well site will be constructed on a bench with an approximate 5° slope and the pit area will be constructed on a bench with an approximate 5° slope. An existing road will be improved to gain access to the drill site. Pipe culverts will be installed along the access road to provide proper drainage. Cut and fill areas along the constructed road will be sown with Ky. 31 Fescue and Ryegrass to stabilize the affected areas and prevent erosion. The entire project area comprising of 1.49 acres.

(4) Any vegetation in the well site and pit areas will be cleared after grading operations are complete the fill areas will be sown immediately to prevent erosion. (Pit 100 x 75) (Auxillary Pit 100 x 75) (Well Site 100 x 200).

(5) Upon completion of well and pipeline operations pit areas will be filled and covered with adequate top soil and entire project area will be graded and seeded with approximately 200 pounds of Ryegrass, Clover and Ky. 31 Fescue, and six bales of straw to be used as mulch in critical areas to stabilize the areas and prevent erosion.

SUPPLEMENTAL SHEET FOR PERSONS RECEIVING OFFICIAL NOTICE OF WELL WORK APPLICATION

IF THE WELL WORK IS DRILLING, REDRILLING, DEEPENING, PLUGGING OR REPLUGGING:

Surface owner(s) at the well location site:

Tilden R. Rasnick

Rt. 2, Box 169B

Clintwood, VA 24228

Mozelle Steffey

Clintwood, VA 24228

Marjorie Anderson

Rt. 3, Box 165

Clintwood, VA 24228

Essie Stallard

Rt. 2, Box 1867

Palakta, FL 32077

Surface owner (s) of neighboring tract(s) within 500 feet of the well:

Henry Rasnick

Box 372

Haysi, VA 25425

Oil and gas royalty owner(s) of the lease or drilling unit:

Pine Mountain Oil and Gas Company

c/o Mr. Allen B. Kiser, Manager

P.O. Box 7

Dante, VA 24237

Coal and other mineral owner(s), lease(s) and operator(s) at the well location site, and on neighboring tracts within 500 feet of the well:

Pegasus Resource Company

c/o Mr. Larry Cline, Property Manager

Rocky Top Development, Inc.

P.O. Box 1357

Abingdon, VA 24210

Clinchfield Coal Company

c/o Mr. Paul Guill, Chief Engineer

P.O. Box 7

Dante, VA 24237

2200  
HENRY RASNICK - SURFACE

943  
Loc. P-201

PITS

Breedon Branch

N. B. RASNICK HEIRS

CLINCHFIELD COAL COMPANY &  
PEGASUS RESOURCE COMPANY - COAL  
N. B. RASNICK, HRS. - SURFACE

W. F. GRIZZLE

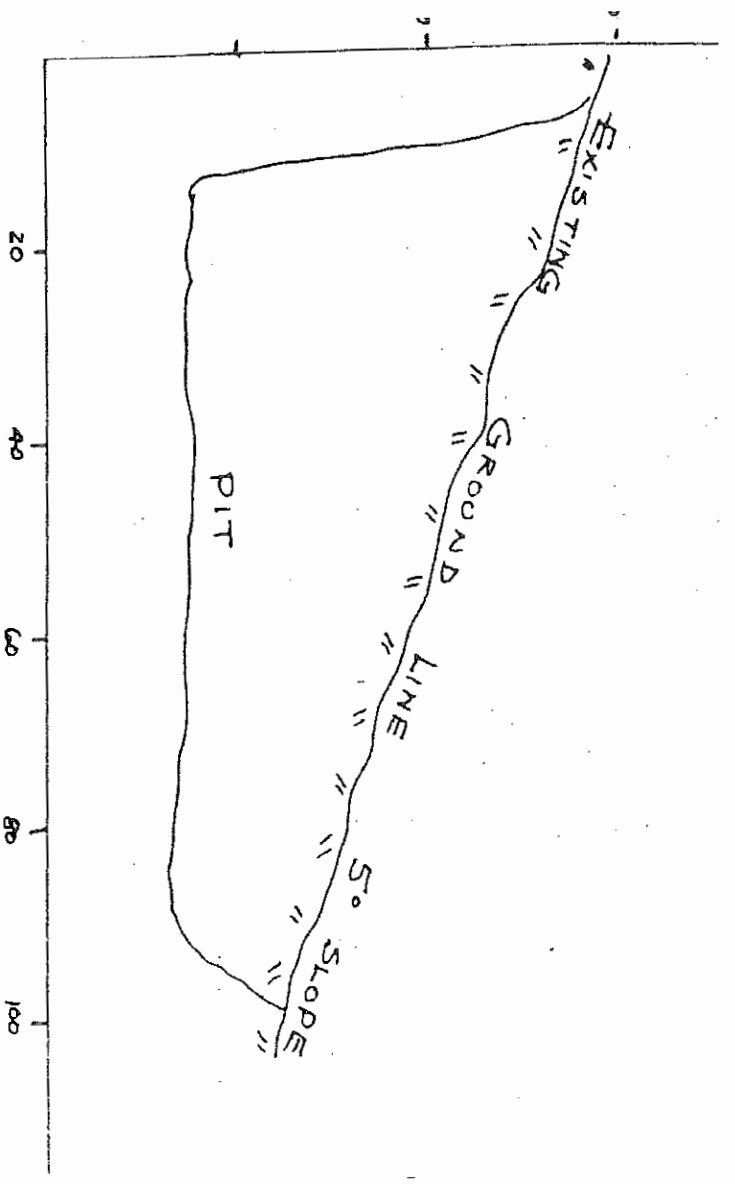
149.36 AC

DENOTES PROJECT AREA

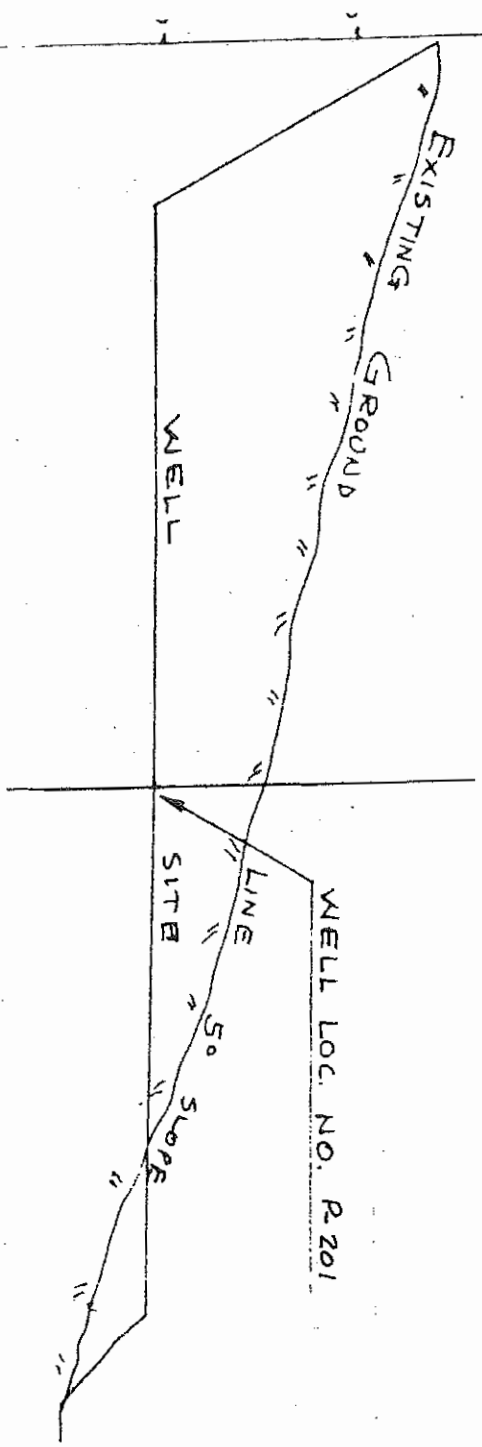
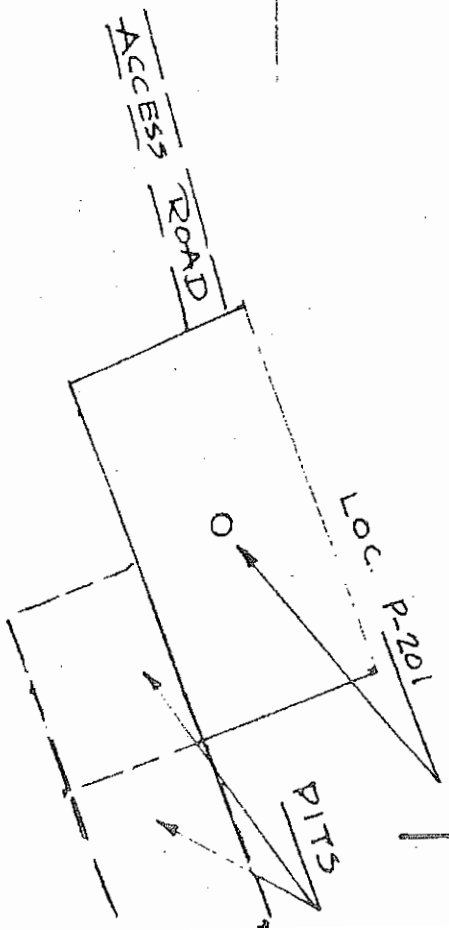


NORA, VA. TOPO

SCALE: 1"=400'



DETAIL SCALE:  
1" = 100'



P 311 323 077

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO <i>Allen R. Rasnick</i>	
STREET AND NO. <i>Rt. 2 Box 169B</i>	
P.O. STATE AND ZIP CODE <i>Chattanooga, TN 37428</i>	
POSTAGE \$	
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES \$	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 311 323 075

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO <i>Allen Riser</i>	
STREET AND NO. <i>Pine Mountain Oil &amp; Gas Co.</i>	
P.O. STATE AND ZIP CODE <i>Box 7 Dante, VA 24237</i>	
POSTAGE \$	
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES \$	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 311 323 068

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO <i>Garry Clive</i>	
STREET AND NO. <i>Pegasus Resource Co., Rocky Top, Tenn.</i>	
P.O. STATE AND ZIP CODE <i>Box 1357 Abingdon, VA 24210</i>	
POSTAGE \$	
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES \$	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 311 323 070

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO <i>Paul Buell</i>	
STREET AND NO. <i>Churchfield Coal Company</i>	
P.O. STATE AND ZIP CODE <i>Box 7 Dante, VA 24237</i>	
POSTAGE \$	
CERTIFIED FEE	
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
TOTAL POSTAGE AND FEES \$	
POSTMARK OR DATE	

PS Form 3800, Apr. 1976



P 311 323 073

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Margerie Anderson*  
STREET AND NO.  
*Rt. 3 Box 165*  
P.O., STATE AND ZIP CODE  
*Clintwood, VA 24228*

POSTAGE \$

CERTIFIED FEE		
SPECIAL DELIVERY		
RESTRICTED DELIVERY		
OPTIONAL SERVICES	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY

TOTAL POSTAGE AND FEES \$

POSTMARK OR DATE

9801 JAN 27 1976 PRESTONSBURG, KY

P 311 323 072

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Essie Stallard*  
STREET AND NO.  
*Rt. 2 Box 1867*  
P.O., STATE AND ZIP CODE  
*Palakta, FL 32077*

POSTAGE \$

CERTIFIED FEE		
SPECIAL DELIVERY		
RESTRICTED DELIVERY		
OPTIONAL SERVICES	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY

TOTAL POSTAGE AND FEES \$

POSTMARK OR DATE

9801 JAN 27 1976 PRESTONSBURG, KY

P 311 323 066

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Mozelle Steffen*  
STREET AND NO.  
*Clintwood VA 24228*  
P.O., STATE AND ZIP CODE

POSTAGE \$

CERTIFIED FEE		
SPECIAL DELIVERY		
RESTRICTED DELIVERY		
OPTIONAL SERVICES	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY

TOTAL POSTAGE AND FEES \$

POSTMARK OR DATE

9801 JAN 27 1976 PRESTONSBURG, KY

P 311 323 076

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Henry Rasmick*  
STREET AND NO.  
*Box 372*  
P.O., STATE AND ZIP CODE  
*Hays, VA 25425*

POSTAGE \$

CERTIFIED FEE		
SPECIAL DELIVERY		
RESTRICTED DELIVERY		
OPTIONAL SERVICES	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY

TOTAL POSTAGE AND FEES \$

POSTMARK OR DATE

9801 JAN 27 1976 PRESTONSBURG, KY

PROOF OF NOTICE OF WELL WORK APPLICATION

The undersigned well operator, applicant in a Notice and Application for a Well Work Permit heretofore filed with the Inspector on \_\_\_\_\_, 19\_\_\_\_, respecting the well numbered above, submits the following proof of the statutory notice required by Code of Virginia § 45.1-313.E for the persons named in the Notice and Application as entitled to notice.

X Certified mail return receipt(s) for the following person(s):

Pegasus Resource Company  
c/o Mr. Larry Cline, Property Manager  
Rocky Top Development, Inc.  
Abingdon, VA 24210.

Pine Mountain Oil and Gas Company  
c/o Mr. Allen B. Kiser, Manager  
P.O. Box 7  
Dante, VA 24237

Tilden R. Rasnick  
Rt. 2, Box 169B  
Clintwood, VA 24228  
Mozelle Steffey  
Clintwood, VA 24228

Clinchfield Coal Company  
c/o Mr. Paul Guill, Chief Engineer  
P.O. Box 7  
Dante, VA 24237  
Marjorie Anderson  
Rt. 3, Box 165  
Clintwood, VA 24228

Essie Stallard  
Rt. 2, Box 1867  
Palakta, FL 32077  
Henry Rasnick  
Box 372  
Haysi, VA 25425

\_\_\_\_ Newspaper page or facsimile (or affidavit of publication) showing  
Notice by Publication (Form 6) for the following person(s):

WELL OPERATOR: Philadelphia Oil Company

1101 N. Eastman Rd.  
Address: Kingsport, TN 37664

Telephone: (615) 246-4332

(SUBMIT SUPPLEMENTAL SHEETS IF THE SPACE ABOVE IS NOT SUFFICIENT)

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Exploratic  
A Division of  
Equitable Resources Energy Corp  
Operations Name: Equitable Resources Energy Corp  
Permit #: 866 (P-201)



Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P. O. Box 1416  
Abingdon, Virginia 24210  
703/676-3423



APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

Pursuant to VR 480-05-22.1, § 1.42, the undersigned permittee requests:

- A. X Approval to transport and dispose of pit or produced fluids through an approved disposal site, which accepts pit or produced fluids from gas and oil operations.
- B. \_\_\_\_\_ Approval for a one time application of pit fluids on the permitted site.

For applications under A, the permittee is required to submit the following with this application.

1. Submit the appropriate federal, state, and/or local permit number of the facility the permittee is proposing to dispose of the fluids under.
2. Attach a copy of the appropriate sections of the permit, which allows acceptance of fluid waste from the gas and oil operations.
3. Submit the total estimated volume of fluid to be transported.

**SEE ATTACHED**

For applications under B, the permittee must complete the following information with the appropriate documentation with the application.

A. Pit Fluid Characterization:

Date Pit was First Used \_\_\_\_\_ Estimated Volume of Pit Fluid \_\_\_\_\_ (Gals.)  
Description of the Constituents of the fluid placed in Pit \_\_\_\_\_

B. Analysis of the Pit Fluid:

<u>Analysis</u>	<u>Standard Limits</u>
pH _____	6-9 Standard Units
Oil and Grease _____	< 15 mg/l
Iron _____	< 7 mg/l
Manganese _____	< 4 mg/l
Acidity _____	< alkalinity
Alkalinity _____	> acidity
Chlorides _____	5,000 mg/l *
Sodium Balance _____	SAR of 8-12 **

\* For chlorides above 5,000 mg/l, the application will be reviewed to determine whether a permit would be required from the Virginia Water Control Board.

\*\* The Sodium Absorption Rate shall be determined on the soils to which the liquid is to be applied.

C. Verification of Analysis:

Attach the Lab analysis and its results. Denote on the attachment the date, time, and method of collection and the of the analysis.

D. Description of Application Area:

Soil Type \_\_\_\_\_ Soil Permeability \_\_\_\_\_ Depth to Bedrock \_\_\_\_\_ Depth to Water Table \_\_\_\_\_  
Nearest Water Supply \_\_\_\_\_ Type: Well \_\_\_\_\_ Spring \_\_\_\_\_ Nearest Surface Water Courses \_\_\_\_\_  
Nearest Occupied Dwelling \_\_\_\_\_  
Total Acreage of Proposed Application Area \_\_\_\_\_ Average slope of the proposed area of land application \_\_\_\_\_

E. Location and Design Map:

A map on the scale of 1" = 400' showing the acreage within the permitted site to used for land application identify all surface waters, wells, springs, natural rock outcrops and property lines in relation to the proposed area of application. The map shall also delineate any buffer zones.

F. Method of Land Application:

Provide a narrative, describing the method in which you plan to land apply the pit fluids. The description include supporting calculations and other data to justify the flow rates, erosion controls and monitoring to used the application of the pit fluids. The narrative shall include supporting site measurements and other data concerning the noninterference to the groundwater within and adjacent to the land application and supporting site measurements other data concerning the protection of the existing vegetation.

CERTIFICATION:

I the undersigned applicant or permittee, certify that this document and all attachments were prepared under my direction. The information submitted is, to the best of my knowledge, true, accurate, and complete.

(Signature) Douglas P. Lamy  
(Title) Operations Manager - Va  
(Date) October 15, 1993

(FOR OFFICE USE ONLY: )  
(Approved \_\_\_\_\_ Denied \_\_\_\_\_ )  
( \_\_\_\_\_ Date \_\_\_\_\_ )  
(State Gas and Oil Inspector )

ATTACHMENT TO  
APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

PART A Submittal:

1. The coalbed methane and/or convention wells and/or pipeline fluids will be disposed of utilizing UIC permitted wells P-148-WD, KYI-0507, KYI-0508 and KYI-0222.
2. The appropriate sections of UIC disposal permits for P-148-WD Well, KYI-0507 Well, KYI-0508, Well and the Magnum KYI-0222 Well are all separately filed with the Division of Gas and Oil in Abingdon, VA.
3. Equitable Resources Exploration will report produced fluid volumes in the monthly VA DGO production report. The volumes of fluid hauled will be tracked by Equitable Resources Exploration as required by DGO, and the tracking records will be available to DGO upon request.

CBM - Nora Field  
DPT/ 9-27-93

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Exploration  
A Division of  
Equitable Resources Energy Corp.  
Operations Name: Equitable Resources Energy Corp.  
Permit #: 875 (P-216)



Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P. O. Box 1416  
Abingdon, Virginia 24210  
703/676-5423



**APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS**

Pursuant to VR 480-05-22.1, § 1.42, the undersigned permittee requests:

- A. ☒ Approval to transport and dispose of pit or produced fluids through an approved disposal site, which accepts pit or produced fluids from gas and oil operations.
- B. ☐ Approval for a one time application of pit fluids on the permitted site.

For applications under A, the permittee is required to submit the following with this application.

1. Submit the appropriate federal, state, and/or local permit number of the facility the permittee is proposing to dispose of the fluids under.
2. Attach a copy of the appropriate sections of the permit, which allows acceptance of fluid waste from the gas and oil operations.
3. Submit the total estimated volume of fluid to be transported.

**SEE ATTACHED**

For applications under B, the permittee must complete the following information with the appropriate documentation with this application.

**A. Pit Fluid Characterization:**

Date Pit was First Used \_\_\_\_\_ Estimated Volume of Pit Fluid \_\_\_\_\_ (Gals.)  
Description of the Constituents of the fluid placed in Pit \_\_\_\_\_

**B. Analysis of the Pit Fluid:**

<u>Analysis</u>	<u>Standard Limits</u>
pH _____	8-9 Standard Units
Oil and Grease _____	< 15 mg/l
Iron _____	< 7 mg/l
Manganese _____	< 4 mg/l
Acidity _____	< alkalinity
Alkalinity _____	> acidity
Chlorides _____	5,000 mg/l *
Sodium Balance _____	SAR of 8-12 **

\* For chlorides above 5,000 mg/l, the application will be reviewed to determine whether a permit would be required from the Virginia Water Control Board.

\*\* The Sodium Absorption Rate shall be determined on the soils to which the liquid is to be applied.

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Explorat  
A Division of  
Equitable Resources Energy C  
Operations Name: Equitable Resources Energy C  
Permit #: 875 (P-216)

C. Verification of Analysis:

Attach the lab analysis and its results. Denote on the attachment the date, time, and method of collection and the of the analysis.

D. Description of Application Area:

Soil Type \_\_\_\_\_ Soil Permeability \_\_\_\_\_ Depth to Bedrock \_\_\_\_\_ Depth to Water Table \_\_\_\_\_  
Nearest Water Supply \_\_\_\_\_ Type: Well \_\_\_\_\_ Spring \_\_\_\_\_ Nearest Surface Water Courses \_\_\_\_\_  
Nearest Occupied Dwelling \_\_\_\_\_  
Total Acreage of Proposed Application Area \_\_\_\_\_ Average slope of the proposed area of land application \_\_\_\_\_

E. Location and Design Map:

A map on the scale of 1" = 400' showing the acreage within the permitted site to used for land application identify all surface waters, wells, springs, natural rock outcrops and property lines in relation to the proposed area of application. The map shall also delineate any buffer zones.

F. Method of Land Application:

Provide a narrative, describing the method in which you plan to land apply the pit fluids. The description include supporting calculations and other data to justify the flow rates, erosion controls and monitoring to used the application of the pit fluids. The narrative shall include supporting site measurements and other data concerning the noninterference to the groundwater within and adjacent to the land application and supporting site measurements other data concerning the protection of the existing vegetation.

CERTIFICATION:

I, the undersigned applicant or permittee, certify that this document and all attachments were prepared under my direct supervision. The information submitted is, to the best of my knowledge, true, accurate, and complete.

(Signature) Douglas P. Long  
(Title) Operations Manager - Va.  
(Date) October 15, 1993

(FOR OFFICE USE ONLY: )  
(Approved ☒ Denied \_\_\_\_\_ )  
( B. J. B. B. B. Date 11/1/93 )  
(State Gas and Oil Inspector )

ATTACHMENT TO

APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

PART A Submittal:

1. The coalbed methane and/or convention wells and/or pipeline fluids will be disposed of utilizing UIC permitted wells P-148-WD, KYI-0507, KYI-0508 and KYI-0222.

2. The appropriate sections of UIC disposal permits for P-148-WD Well, KYI-0507 Well, KYI-0508, Well and the Magnum KYI-0222 Well are all separately filed with the Division of Gas and Oil in Abingdon, VA.

3. Equitable Resources Exploration will report produced fluid volumes in the monthly VA DGO production report. The volumes of fluid hauled will be tracked by Equitable Resources Exploration as required by DGO, and the tracking records will be available to DGO upon request.

CBM - Nora Field

DPT/ 9-27-93





O. GENE DISHNER  
DIRECTOR

# COMMONWEALTH of VIRGINIA

*Department of Mines, Minerals, and Energy*

*Division of Mines*

*219 Wood Avenue*

*Big Stone, Virginia 24219-2799*

*(703) 523-0335*

*Harry D. Childress, Chief*

Reply To: Oil and Gas Section  
P. O. Box 1416  
Abingdon, Virginia 24210  
Telephone: (703) 628-8115

February 3, 1986

Mr. Mike Dovel  
Regional Geologist  
Virginia Water Control Board  
P. O. Box 888  
Abingdon, VA 24210

Dear Mr. Dovel:

Enclosed please find copies of well work permit applications submitted to this office on this date from Philadelphia Oil Company for wells P-201, P-202 and P-206 and proposed for Dickenson County, Virginia.

Should you have any comments concerning these applications, please submit them to this office no later than February 13, 1986.

If you have any questions, do not hesitate to call.

Sincerely,

James A. Henderson, Jr.  
Virginia Oil & Gas Inspector

DJD

Encs.



O. GENE DISHNER  
DIRECTOR

# COMMONWEALTH of VIRGINIA

*Department of Mines, Minerals, and Energy*

*Division of Mines*

*219 Wood Avenue*

*Big Stone, Virginia 24219-2799*

*(703) 523-0335*

*Harry D. Childress, Chief*

Reply To: Oil and Gas Section  
P. O. Box 1416  
Abingdon, Virginia 24210  
Telephone: (703) 628-8116

February 18, 1986

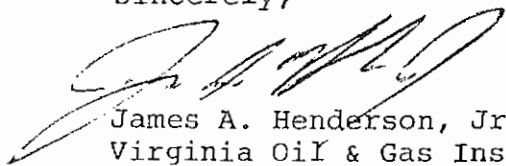
Mr. Randell Stallard  
Building Inspector  
Drawer 1  
Clintwood, VA 24228

Dear Mr. Stallard:

Enclosed you will please find information sheets on wells which have been issued drilling permits on this date.

Should you have any questions concerning the contents of these sheets, do not hesitate to call.

Sincerely,

  
James A. Henderson, Jr.  
Virginia Oil & Gas Inspector

DJD

Encs.

cc: Mr. David Hancock, Petroleum Information  
Mr. Charles Baker, Lonesome Pine SWCD



# COMMONWEALTH of VIRGINIA

*Department of Mines, Minerals, and Energy*

*Division of Mines*

*219 Wood Avenue*

*Big Stone, Virginia 24219-2799*

*(703) 523-0335*

*Harry D. Childress, Chief*

Reply To: Oil and Gas Section  
P. O. Box 1416  
Abingdon, Virginia 24210  
Telephone: (703) 628-8115

February 18, 1986

Mr. Don Hall  
Philadelphia Oil Company  
P. O. Box 313  
Nora, VA 24272

Dear Don:

Enclosed please find permits numbered 866, 867 and 868 for wells P-201, P-202 and P-206, respectively.

These permits are being issued with the following conditions:

1. Only potable water shall be used in the drilling operations until the water protection string is properly cemented
2. All pits shall be lined with a material of sufficient size and strength to contain all expected fluids

If you should have any questions, do not hesitate to call.

Sincerely,

James A. Henderson, Jr.  
Virginia Oil & Gas Inspector

DJD

Encs.

cc: PECO, Kingsport, Tennessee

# PINE MOUNTAIN Oil and Gas Company

P.O. Box 7  
Dante, Virginia 24237



---

A Division Of The Pittston Company

703-495-8700

---

January 21, 1986

Mr. B. C. Spradlin  
Manager of Plans and Surveys  
Kentucky-West Virginia Gas Company  
Box 431  
Prestonsburg, Kentucky 41653

Re.: Proposed Location of Gas Well No. P-201

Dear Mr. Spradlin:

The above well location has been reviewed regarding coal mining and production as provided in the lease.

Please be advised that the location has been approved as proposed in your letter of January 15, 1986, provided the well is drilled within twenty-four (24) months from today's date. Consider this approval withdrawn if the well is not drilled within this time.

Sincerely,

*Allen B. Kiser* AB

Allen B. Kiser  
Manager of Operations  
Pine Mountain Oil and Gas Company

ABK:sj

c: Paul Guill  
Larry Cline  
Don Hall

22 December 1986

Mr. Milfred Stern  
Assistant Oil and Gas Inspector  
P. O. Box 144  
Abingdon, Virginia 24210

Re: Tilden B. Rasnick, et al - Dickenson County, Virginia  
Philadelphia Well No. 201

Dear Milfred:

Thanks very much for your time today in explaining the situation concerning the access in to the well. My clients would be very willing to provide the old Clinchfield access in and to the well, and sign and execute whatever documents are necessary; however, they have objected to the arbitrary treatment, as well as taking a completely different area in and to the well.

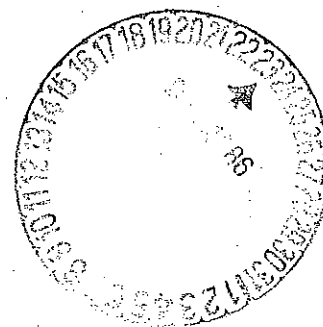
I understand you will advise me next week; if I do not hear from you by Tuesday or so, then I will call you.

Again, thanks very much for your help.

All best personal regards,

*W. R. McCall*  
W. R. McCall

WRMcC:bh



PHILADELPHIA OIL COMPANY  
1101 N. Eastman Rd.  
Kingsport, TN 37664



Oil and Gas Inspector  
Division of Mines & Quarries  
Oil and Gas Section  
P.O. Box 1416  
Abingdon, VA 24210

Re: Permit to Drill Well No. P-201  
Philadelphia Oil Company Lease No. PO-148 (T-296)

Gentlemen:

We submit herewith Philadelphia Oil Company's application for permit to drill a well for oil and/or gas upon the tract of land described therein.

Agent's Check No. 362 in the amount of One Hundred Dollars (\$100.00), payable to Treasurer of Virginia is attached, said sum being payment of well permit fee.

Yours very truly,

H. E. Gardner, Vice President  
and General Manager

HEG/gjw  
Enclosures

cc: Mr. Don C. Hall  
Mr. Brint Camp

EQUITABLE RESOURCES EXPLORATION

A Division of EQUITABLE RESOURCES ENERGY COMPANY

P. O. Box 313  
Nora, VA 24272



October 15, 1993

B. T. Fulmer  
Oil and Gas Inspector  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, VA 24210

RE: DGO Permit No. 866 (P-201)

Dear Mr. Fulmer:

Enclosed please find an application for produced fluid disposal for the above Equitable Resources Exploration operated conventional well located in the Nora Field.

Should you have any questions, please feel free to contact me at Phone # 1-703-835-9134.

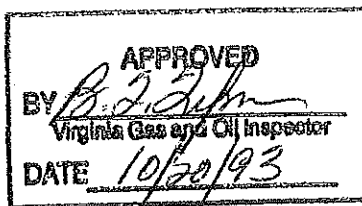
Sincerely,

*Douglas P. Terry*  
Douglas P. Terry  
Operations Manager-VA

Certified RRR  
Enclosures

CC: Well Files  
Lee Talbott  
Don Hall

PC: CBM-haul.1





EQUITABLE RESOURCES EXPLORATION  
A Division of EQUITABLE RESOURCES ENERGY COMPANY

01-200

P. O. Box 313  
Nora, VA 24272

October 18, 1993

B. T. Fulmer  
Oil and Gas Inspector  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, VA 24210



RE: DGO Permit No. 875 (P-216)

Dear Mr. Fulmer:

Enclosed please find an application for produced fluid disposal for the above Equitable Resources Exploration operated conventional well located in the Nora Field.

Should you have any questions, please feel free to contact me at Phone # 1-703-835-9134.

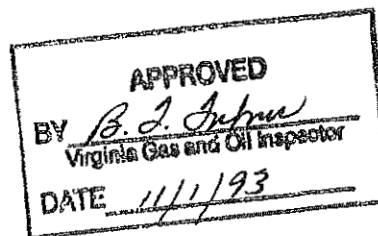
Sincerely,

*Douglas P. Terry*  
Douglas P. Terry  
Operations Manager-VA

Certified RRR  
Enclosures

CC: Well Files  
Lee Talbott  
Don Hall

PC: CBM-haul.1





## INSPECTION REPORT

 COMPANY EROX  
 WELL P-201  
 COUNTY 01

 FILE 01-266  
 TIME 3:15 DATE 9-4-90  
 INSPECTOR mjs

## SITE INSPECTION

## PRE-PERMIT:

 PLAN ACCEPTABLE      LOCATION CORRECT      DRAINAGE CONTROLLED      SEDIMENTATION CONTROLLED       
 COMMENTS     

## SITE CONDITION:

 DRAINAGE OK TEMPORARY SEEDING ✓ SEEDING ✓  
 DRAINAGE CONTROL ✓ BACKFILLED ✓ TRASH NO  
 SEDIMENT CONTROL ✓ SUBSIDENCE NO SIGN ✓  
 COMMENTS Permit OK

## PIT CONDITION:

 APPROXIMATE SIZE      PLASTIC LINED      BACKFILLED ✓ STABILITY OK  
 COMMENTS     

## ROAD CONDITION:

 GRADE: STEEP ✓ MODERATE      FLAT      GRAVEL Regrading  
 COMMENTS needed

## PIPELINE CONDITION:

 SIZE      SURFACE      BURIED      LENGTH (INSPECTED)       
 COMMENTS     

## TYPE OF INSPECTION

PRE-APPLICATION	0
PRE-PERMIT	1
DRILLING	2
COMPLETION	3
PRODUCING	4
PLUGGED	5
AERIAL	6
COMPLAINT	7
SHUT-IN	8
CONSTRUCTION	9
OTHER	10
RE-INSPECTION	11
RECORD	12
RECLAIMING	13
PIPELINE	
PRE-PERMIT	14
CONSTRUCTION	15
OPERATION	16
RE-INSPECTION	17
COMPLAINT	18

## ACTION OF INSPECTOR

NONE	0
SITE OK	1
OPERATOR INFORMED OF	
POTENTIAL PROBLEM	2
VIOLATION ISSUED	3
OPERATIONS HAULTED	4
SITE POSTED	5
PLAN APPROVED	6
VIOLATION CANCELLED	7
CONSULTATION	8
PLAN NOT APPROVED	9

## RIG AND WELL INSPECTION

 TYPE: ROTARY      CABLE TOOL      WORKOVER      COMPANY NO RIG  
 SAFETY EQUIPMENT: HARD HATS      BLOWOUT EQUIPMENT      WORK AREA       
                     HARD TOES      FIRE EXTINGUISHERS      WORKMEN ON RIG       
 DEPTH      DEVIATION      DEGREES AT      FEET CASING IN HOLE       
 COMMENTS     

## EQUIPMENT

PLUGGED	<u>NO</u>	PRODUCING	<u>✓</u>	TANKS	<u>NO</u>
MONUMENT	<u>NO</u>	CASING IN HOLE	<u>4 1/2</u>	DYKES	<u>NO</u>
SIGN	<u>✓</u>	EQUIPMENT	<u>meter tape</u>	LEAKS	<u>NO</u>
COMMENTS	<u>    </u>				

## FOLLOW-UP

NONE	0
CONTACT COMPANY	1
CONTACT COMPLAINANT	2
RE-INSPECTION NECESSARY	3
REDUCE INSPECTION	
FREQUENCY	4

## ACTIONS OF INSPECTOR

 SECTION OR REGULATION CITED       
 COMPANY NOTIFIED       
 COMMENTS     

 COMMENTS ON BACK  
 (LIMIT COMMENTS TO  
 50 CHARACTERS)
ON COMPUTER ✓INSPECTOR Milford Stern

## INSPECTION REPORT

COMPANY EREX  
 WELL NAME/NUMBER P-201  
 COUNTY DICKENSON

FILE NUMBER D1-266  
 TIME 12:00 PM DATE 3-30-89  
 INSPECTOR MJS

## SITE INSPECTION

## PRE-PERMIT:

PLAN ACCEPTABLE \_\_\_\_\_ LOCATION CORRECT \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## SITE CONDITION:

DRAINAGE OK BACKFILLED ✓  
 DRAINAGE CONTROL ✓ SUBSIDENCE no  
 SEDIMENT CONTROL ✓ SEEDING ✓  
 TEMPORARY SEEDING \_\_\_\_\_ TRASH \_\_\_\_\_  
 COMMENTS Reclaim site

## PIT CONDITION:

APPROXIMATE SIZE \_\_\_\_\_ BACKFILLED ✓  
 PLASTIC LINED \_\_\_\_\_ STABILITY \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## ROAD CONDITION:

GRADE: STEEP ✓ MODERATE \_\_\_\_\_ FLAT \_\_\_\_\_  
 GRAVEL \_\_\_\_\_  
 COMMENTS need to recut water bars

## RIG INSPECTION

TYPE: ROTARY \_\_\_\_\_ CABLE TOOL \_\_\_\_\_ WORKOVER \_\_\_\_\_ COMPANY \_\_\_\_\_  
 SAFETY EQUIPMENT: HARD HATS \_\_\_\_\_ BLOWOUT EQUIPMENT \_\_\_\_\_  
 HARD TOES \_\_\_\_\_ FIRE EXTINGUISHERS \_\_\_\_\_  
 WORK AREA \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

DEPTH \_\_\_\_\_ WELL PROGRESS \_\_\_\_\_  
 DEVIATION \_\_\_\_\_ DEGREES AT \_\_\_\_\_ FEET \_\_\_\_\_  
 NUMBER OF WORKMEN ON RIG \_\_\_\_\_ TOOL PUSHER \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

PLUGGED \_\_\_\_\_ EQUIPMENT \_\_\_\_\_  
 MONUMENT/SIGN \_\_\_\_\_ EQUIPMENT \_\_\_\_\_  
 PRODUCING \_\_\_\_\_ TANKS \_\_\_\_\_  
 CASING IN HOLE \_\_\_\_\_ DYKES \_\_\_\_\_  
 COMMENTS \_\_\_\_\_ LEAKS \_\_\_\_\_

## ACTIONS OF INSPECTOR

SECTION OR REGULATION CITED \_\_\_\_\_  
 COMPANY NOTIFIED \_\_\_\_\_  
 VIOLATION ISSUED \_\_\_\_\_ POSTED \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

*Mulford Stiers*  
 INSPECTOR

## TYPE OF INSPECTION

PRE-APPLICATION 0  
 PRE-PERMIT 1  
 DRILLING 2  
 COMPLETION 3  
 PRODUCING 4  
 PLUGGED 5  
 AERIAL 6  
 COMPLAINT 7  
 SHUT-IN 8  
 CONSTRUCTION 9  
 OTHER 10  
 RE-INSPECTION 11  
 RECORD 12  
 PIPELINE  
 PRE-PERMIT 13  
 CONSTRUCTION 14  
 OPERATION 15  
 RE-INSPECTION 16  
 COMPLAINT 17

## ACTION OF INSPECTOR

NONE 0  
 SITE OK 1  
 OPERATOR INFORMED OF  
 POTENTIAL PROBLEM 2  
 VIOLATION ISSUED 3  
 OPERATIONS HALTED 4  
 SITE POSTED 5  
 PLAN APPROVED 6  
 VIOLATION CANCELLED 7  
 CONSULTATION 8  
 PLAN NOT APPROVED 9

## FOLLOW-UP

NONE 0  
 CONTACT COMPANY 1  
 CONTACT COMPLAINANT 2  
 RE-INSPECTION NECESSARY 3  
 REDUCE INSPECTION  
 FREQUENCY 4

COMMENTS ON BACK  
 (LIMIT COMMENTS TO  
 50 CHARACTERS)

ON COMPUTER 2

FILE NUMBER DI-266

INSPECTION REPORT

DATE 12-23-86 COMPANY POC  
TIME 1200 PM WELL NAME/NUMBER P-201  
INSPECTOR MJS COUNTY PICKENSON  
DRILLING \_\_\_\_\_ STIMULATING \_\_\_\_\_ PLUGGING \_\_\_\_\_ PRODUCING X PLUGGED \_\_\_\_\_ OTHER \_\_\_\_\_

SITE INSPECTION

PIT CONDITION:

Earthen \_\_\_\_\_ Approximate Size \_\_\_\_\_ Backfilled ✓  
Plastic Lined \_\_\_\_\_ Stability \_\_\_\_\_  
Comments \_\_\_\_\_

SITE CONDITION:

Drainage GOOD Backfilled ✓  
Drainage Control NO Subsidence NO  
Sediment Control NO Seeded ✓  
Temporary Seeding NO Trash NO  
Comments \_\_\_\_\_

ROAD CONDITION:

GRADE: Flat \_\_\_\_\_ Moderate \_\_\_\_\_ Steep ✓  
Gravel \_\_\_\_\_  
Comments \_\_\_\_\_

RIG INSPECTION

TYPE: Rotary \_\_\_\_\_ Cable Tool \_\_\_\_\_ Workover \_\_\_\_\_  
Safety Equipment: Hard Hats \_\_\_\_\_ Blowout Equipment \_\_\_\_\_  
Hard Toes \_\_\_\_\_ Fire Extinguishers \_\_\_\_\_  
Work Area \_\_\_\_\_  
Comments \_\_\_\_\_

NO RIG

WELL PROGRESS

Depth 2 Casing In Hole 4 1/2"  
Deviation \_\_\_\_\_ ° at \_\_\_\_\_ feet  
Number of Workmen on rig \_\_\_\_\_ Tool Pusher \_\_\_\_\_  
Comments \_\_\_\_\_

EQUIPMENT

Plugged \_\_\_\_\_ Equipment ORIF + meter  
Monument/sign ✓ Tanks N/A  
Producing ✓ Dykes N/A  
Casing In Hole 4 1/2 Leaks NO  
Comments \_\_\_\_\_

ACTIONS OF INSPECTOR

Section or Regulation Cited \_\_\_\_\_  
Company Notified \_\_\_\_\_  
Violation Issued \_\_\_\_\_ Posted \_\_\_\_\_  
Comments \_\_\_\_\_

Mulford  
Inspector

Date: 0-1, 1900

Operator's

Well No.

P-201

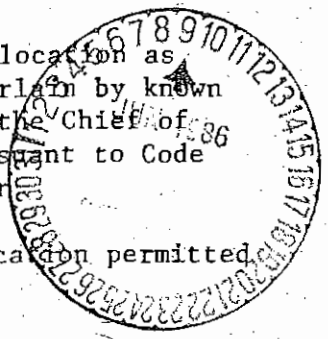
VIRGINIA OIL AND GAS INSPECTOR  
Department of Labor & Industry  
Oil and Gas Section  
205 W. Main Street  
Abingdon, Virginia 24210  
Phone 703 628-8115

CERTIFICATION OF LOCATION OF A NEW WELL

I, the undersigned, hereby certify that I am familiar with the well plat showing the permitted location of the new well authorized by Permit No. 866 and that the well has been drilled in compliance with the standard of Regulation 4.02 of the Regulations promulgated pursuant to the Virginia Oil and Gas Act, as follows:

✓ within three feet of the location as permitted in an area underlain by known coal seams identified by the Chief of the Division of Mines pursuant to Code of Virginia § 45.1-333, or

within ten feet of the location permitted in other areas.

  
Charles Martin  
Authorized Agent

APPROVED \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

Company POC

Date 2/6/86

Well Number P-201

Time 300 PM

County DICKENSON

Inspector MJS

Is hole staked? ✓

Is location correct? ✓

Were offsets/backsights/alignment points found as indicated on the plat? ✓

Condition of the site: Undisturbed ✓

Cleared                     

Graded                     

Pit(s) dug                     

Comments/Recommendation:

PERMIT INFORMATION

Company Name Philadelphia Oil Company  
Well Name P-201  
File Number DI-266  
API Number 45-051-20866  
Permit Number 866  
Farm Name W. F. Grizzle  
Date of Permit 2-18-86  
District Ervinton  
Quadrangle Nora  
Latitude 9,260 ' South of 37 ° 07 ' 30 "  
Longitude 2,320 ' West of 82 ° 15 ' 00 "  
Surface Elevation 1,908.84 '  
Projected Depth 5,119 '  
Target Formation Berea  
County Dickenson  
Jurisdictional \_\_\_\_\_

January 13, 1986

Mr. Paul Guill, Chief Engineer  
Clinchfield Coal Company  
P.O. Box 7  
Dante, VA 24237

Pegasus Resource Company  
c/o Mr. Larry Cline, Property Mgr.  
Rocky Top Development, Inc.  
P.O. Box 1357  
Abingdon, VA 24210

Mr. Allen B. Kiser, Mgr.  
Pine Mountain Oil and Gas Company  
P.O. Box 7  
Dante, VA 24237

RE: PHILADELPHIA OIL COMPANY - WELL NO. P-201

Gentlemen:

Attached is a plat showing proposed Well Location No. P-201 upon Philadelphia Oil Company Lease No. PO-148 (T-296), W. F. Grizzle 149.36 acres situated on Breeden Branch of Fryingpan Creek, Dickenson County, Virginia.

The elevation of the proposed well location is 1908.84 feet above sea level and the coordinates are: S. 252.087; E. 36626.407.

We propose to install approximately 2111 feet of 8-5/8 inch casing in the well to be cemented to the surface to protect unoperated coal and surface water.

This location was tentatively approved by the above-mentioned companies recently, designated as No. 85-35.

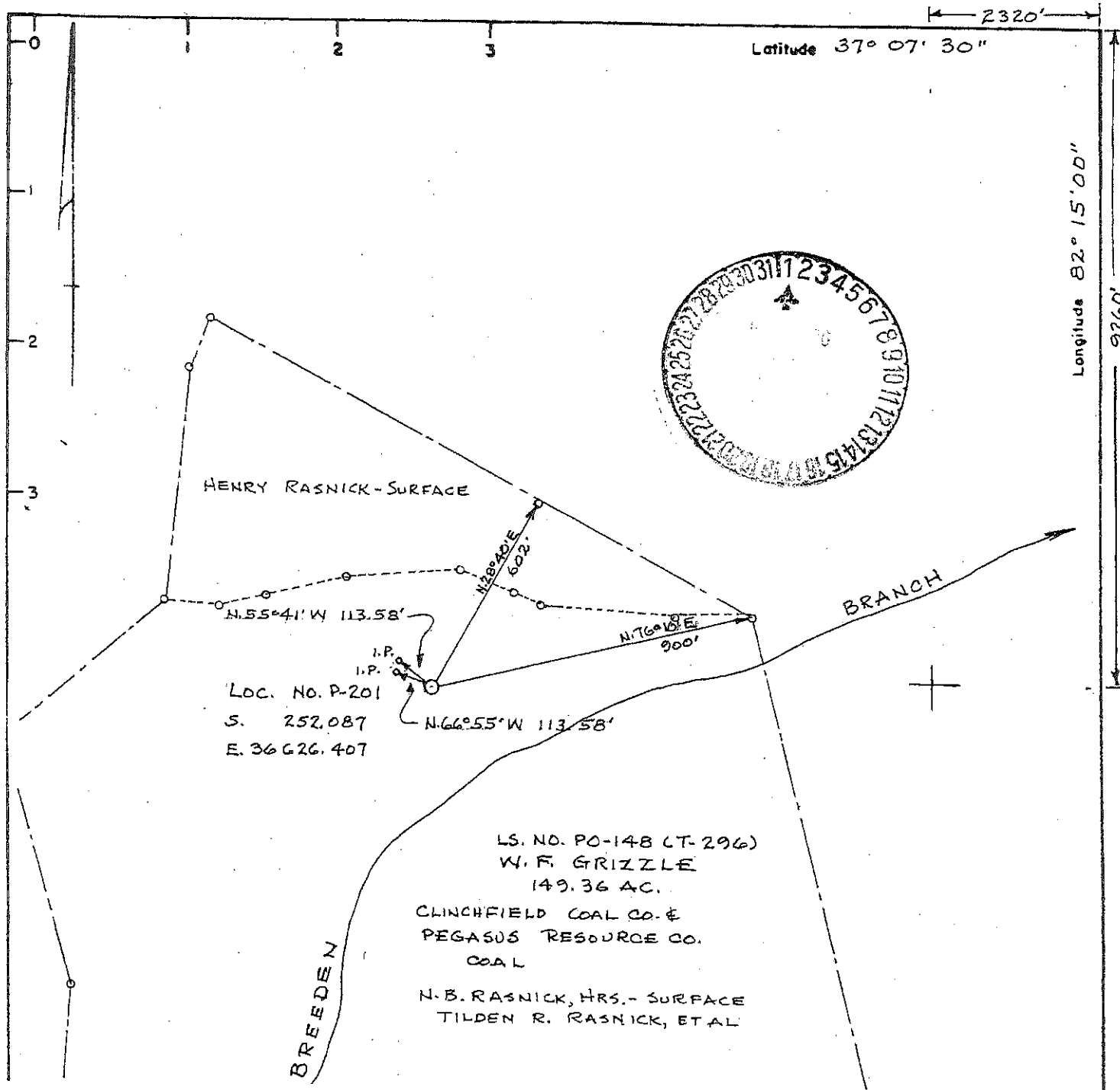
Please notify me by mail at your earliest convenience as to whether there will be any objections to this location as proposed.

Sincerely,

*B. C. Spradlin*  
B. C. Spradlin, Manager of Plans & Surveys  
Kentucky West Virginia Gas Company  
P.O. Box 431  
Prestonsburg, KY 41653

cc: Don C. Hall, Philadelphia Oil Company

(FOR OFFICE  
(USE ONLY:



VIRGINIA  
DEPARTMENT  
DI  
OIL  
205  
ABINGI  
PHC

+ Denotes location  
graphic Maps, scale  
longitude lines are  
shown.

This plat is new X

This plat is X / 1  
coordinate syste  
of the well loca

Well operator Pl

Address Ki

Farm W. F.

Tract T-296 Acr

Elevation

Quadrangle Nora

County Dickenson

Registered Engineer

Certified Land Surv

File No.

Date 12-16-1985

Certifi



# DRILLER'S LOG

Compiled by Brint Camp

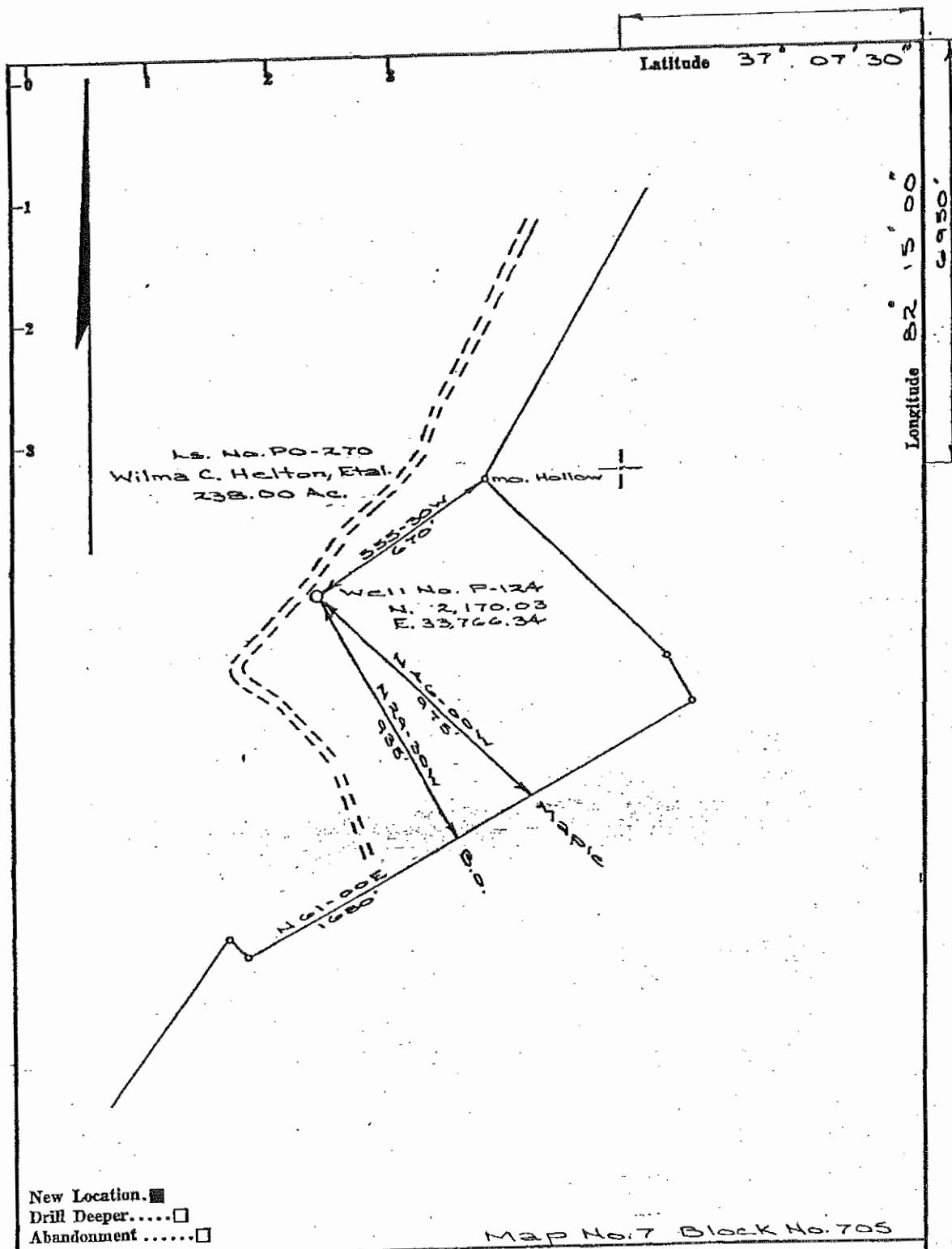
Geological Age	Formation	General Lithology	Color	Depth (feet)		Thickness	Remarks
				Top	Bottom		
Pennsylvanian	Sand & Shale			0	2667	2667	
Mississippian	Ravencliff			2667	2824	157	
"	Little Stone Gap			2824	2884	60	
"	Shale			2884	2968	84	
"	Maxon Sands			2968	3622	654	
"	Shale			3622	3756	134	
"	Little Lime			3756	3832	76	
"	Lime & Shale			3832	3950	118	
"	Big Lime			3950	4390	440	
"	Keener			4390	4400	10	
"	Weir			4400	5004	604	
"	Coffee Shale			5004	5076	72	
"	Berea			5076	5150	74	
Devonian	Brown Shale			5150	5260	110	

Complete on supplemental sheet as necessary

DIRECTIONAL SURVEY

P-201

<u>Depth</u>	<u>Degree</u>
261	3/4
400	1/4
601	1/4
820	1/4
1008	1 3/4
1229	1
1415	1/2
1600	2
1786	1 1/2
2005	2
1995	1 1/4
2224	1 1/4



Map No. 7 Block No. 705

Company Philadelphia Oil Co.  
 Address Nora, Va.  
 Farm Wilma C. Helton, Etal.  
 Tract Acres 238.00 Lease No. PO-270  
 Well (Farm) No. P-124 Serial No. P-124  
 Elevation (Spirit Level) 1911.87'  
 Quadrangle Nora, Va.  
 County Dickenson District Ervington  
 Surveyor B.C. Spradling  
 Surveyor Registration No. 782  
 File No. 12-11-B1 Drawing No. 400  
 Date 12-11-81 Scale 1" = 400'

COMMONWEALTH OF VIRGINIA  
 DEPARTMENT OF LABOR & INDUSTRY  
 DIVISION OF MINES  
 BIG STONE GAP

WELL LOCATION MAP  
 FILE NO. DI 194

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

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

(To be filled in by  
Division of Mines)

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY

(To be filled in by  
Division of Mines)

DICKENSON  
County  
ERVINGTON  
District  
NOVA  
Quadrangle  
DI-194

**DIVISION OF MINES**  
BIG STONE GAP, VIRGINIA

**DEEPENED  
OIL AND GAS WELL COMPLETION REPORT  
ABANDONMENT**

Well No. P-124  
Permit No. 462  
County Code 051  
Well  
Classification DEVELOPMENT

(This report and a copy of electrical log, if made, must be submitted to the Division of Mines within 30 days after abandonment or completion of well, as required by Section 45-113, Code of Virginia, 1950.)

Company	Philadelphia Oil Company	Address	P.O. Box 431 Prestonsburg, KY 41653
Farm	Wilma C. Helton, Exec.	Acre	238.00
County	Hickman	District	Ervinson
Well No. (Company)	P-124	Elevation (ground surface)	1911.87 ft.

Location: (Give direction and distance in feet from two (2) map coordinates (Latitude and Longitude) shown on location plat or map previously filed with the Division of Mines or shown on quadrangle topographic map of area.)

6950	feet	south	of	37° 07' 30"	and
5100	feet	West	of	82° 15' 30"	

Surface of tract is owned in fee simple by Anthony C. Maingarten, Etal.  
Address Star Route Box 353, Nante, Virginia 24237  
Mineral rights are owned by Clinchfield Coal Company  
Address Nante, Virginia 24237  
Location made by Mr. B. C. Spradlin  
Drilling commenced 4-4-82 Drilling contractor Union Drilling Incorporated  
Drilling completed 4-15-82 Address P.O. Drawer 40 Buchanan, W VA 26201

Well completed as <sup>633</sup>OK well on 5-19-82

Well abandoned at \_\_\_\_\_ feet on \_\_\_\_\_; Reason \_\_\_\_\_

Well plugged on \_\_\_\_\_, 19. Affidavit filed \_\_\_\_\_, 19.

Total depth 5144 \_\_\_\_\_ feet. Steel line measurement \_\_\_\_\_ feet.

Commenced producing on Not connected to pipeline system 19 \_\_\_\_\_.

Oil Well \_\_\_\_\_  
Initial production, \_\_\_\_\_ Barrels per day.  
Stimulation Record \_\_\_\_\_

Breakdown Pressure	_____ psi;	Average Injection Pressure	_____ psi;
Average Injection Rate	_____ BPM;	Instant Shut-in Pressure	_____ psi;
Min. Shut-in Pressure	_____ psi;		
Final Production	_____	Barrels per day.	
Gravity and grade of oil	_____		
Oil pays at (1)	_____ feet to	Oil shows at (1)	_____ feet to
(2)	_____ feet to	(2)	_____ feet to
(3)	_____ feet to	(3)	_____ feet to
(4)	_____ feet to	(4)	_____ feet to
Main production at	_____ feet to	(5)	_____ feet to

Gas Well \_\_\_\_\_ Gaged \_\_\_\_\_ 50 \_\_\_\_\_ /10ths. Water in \_\_\_\_\_ 1 \_\_\_\_\_ inch.  
Initial open flow, gas: \_\_\_\_\_ /10ths. Mercury in \_\_\_\_\_ inch.  
Volume \_\_\_\_\_ 75 \_\_\_\_\_ Mcf.; Rock Pressure \_\_\_\_\_ lbs. \_\_\_\_\_ hrs.  
Stimulation Record \_\_\_\_\_ The Breda was Foam fractured using 30,000 lbs. 80/100 sand, 60,000 20/30 sand 500 gallons Mud Acid 557,000 standard cubic feet (Scf) of Nitrogen and 478 Barrels of water. The Big Limb was water fractured using 30,000 lbs of 20/30 sand, 3000 gallons 28X HCl and 555 barrels of water.

Breakdown Pressure Berea -1800 psi / B.L. 2100 psi; Average Injection Pressure Berea -1800 / B.L. -2500 psi;  
Average Injection Rate Berea -10/ B.L. -12 BPM; Instant Shut-in Pressure Berea 1300 psi;  
15Min. Shut-in Pressure Berea 1200 psi / B.L. 2200 psi.

Final Openflow Berea 327, B.L. 423		Msf.; Rock Pressure Berea 600, B.L. 850		Ins.		72 hrs.	
Gas pays at (1)	feet to	feet.	Gas shows at (1)	feet to	feet.		
(2)	feet to	feet.	(2)	feet to	feet.		
(3)	feet to	feet.	(3)	feet to	feet.		
(4)	feet to	feet.	(4)	feet to	feet.		
Main production Berea 4980	feet to 5029	feet.	(5)	feet to	feet.		
B.L. 4086		4100					

Fresh water at (1) 60 feet, 1/2 stream GPM; (2)      feet,      GPM; (3)      feet,      GPM.  
Salt water at (1)      feet; (2)      feet; (3)      feet; (4)      feet.  
Coal: from Sae drillers log      inches to      feet      inches; from      feet      inches to      feet      inches.  
from      feet      inches; from      feet      inches, to      feet      inches.

[illegible]

Casing Cemented:	<u>8 5/8</u> inch. from	<u>2114</u>	feet to	<u>surf</u>	Date	<u>4-10-82</u>
	<u>4 1/2</u> inch. from	<u>5122</u>	feet to	<u>3700</u>	Date	<u>4-16-82</u>
	inch from		feet to		Date	

Remarks: (Shut down, depths, dates; fishing jobs, depths, dates; caving; other notes)

Samples or cuttings will be available for examination by a member of the Virginia Geological Survey \_\_\_\_\_ (Yes)  
 Will be furnished the Virginia Geological Survey upon request \_\_\_\_\_ (Yes) \_\_\_\_\_ (No), if sacks for same are furnished by the  
 Survey \_\_\_\_\_ (Yes) \_\_\_\_\_ (No)

Electrical log made X or not made        (check which.)  
Copy furnished herewith        or will be submitted on or by previously submitted, 19        
Depths Temperature 5122-2144  
Gamma Density 5122-surface


To operator requests that information given herein and log or logs be kept confidential for a period of ninety days after completion of the well covered by this report \_\_\_\_\_ (Yes)  
 \_\_\_\_\_ (No)

## LOG

Furnished by E. R. Minns Date 7-12-82Compiled by R. McCleave Date 7-5-82

Geologic AGE	FORMATION	GENERAL LITHOLOGY	COLOR	TOP (feet)	BOTTOM (feet)	THICKNESS (feet)	REMARKS OIL, GAS WATER DEPTHS SHOT DOWN FISHING, ETC.
	Fill			0	15	15	
	Sd & Sh			15	52	37	
	Coal			52	54	2	
	Sd & Sh			54	250	196	Water @ 60'
	Coal			250	255	5	
	Sd & Sh.			255	575	320	
	Shale			575	928	353	
	Sand			928	1039	111	
	Sd & Sh.			1039	1061	22	
	Coal			1061	1065	4	
	Sd & Sh			1065	2120	1055	
	Red Rock			2120	2130	10	
	Sd & Sh			2130	2607	477	
	Ravencliff			2607	2810	203	
	Sd & Sh			2810	3100	290	
	Maxon			3100	3722	622	
	Sd & Sh			3722	3786	64	
	L Lime			3786	3800	14	
	Shale			3800	3865	65	
	B. Lima			3865	4326	461	
	Keener			4326	4520	194	Water @ 4395 88or
	Heie			4520	4900	380	
	Coffee Sh.			4900	4974	74	
	Berna			4974	5056	82	
	Brown Sh.			5056	5144	88	Gas @ 5144 75H
	T.D.			5144			

THIS FORM MUST BE SIGNED BY AUTHORIZED PERSON:


  
E. R. Minns, Chief Geologist

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES AND QUARRIES  
BIG TONE GAP, VIRGINIA 24219  
PHONE 703-523-0335

APPLICATION FOR PERMIT TO (DRILL) (REDRILL) (DEEPEN) OIL OR GAS WELL

(Required by Section 45.1-115.1, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement. To be accompanied by Permit fee of one hundred dollars and bond and surety therefor, as specified by Section cited. To be submitted in triplicate, one copy to be returned to applicant after action by Division of Mines and Quarries.)

TO: Division of Mines and Quarries  
219 Wood Avenue  
Big Stone Gap, Virginia 24219

Box 431  
Prestonsburg, KY 41653

Place  
December 28, 1981  
Date

Gentlemen:

The undersigned hereby makes application for a Permit to drill, ~~redrill or deepen~~ (strike out two) a well for oil or gas on the Wilma Helton et al Farm, comprising 238.00 acres, in the Ervinton District of Dickenson County, Virginia, having the fee title there-to or as the case may be, under grant or lease dated July 26, 1974 made by Wilma C. Helton et al to Philadelphia Oil Company

and recorded on the 25 day of August, 1975 in the office of the County Clerk for the said County in Book 172 page 576.

The proposed location of the well is shown on a location plat or map submitted to the Division of Mines and Quarries, by the undersigned, together with Notice of Intention to Drill, ~~redrill or deepen~~ a Well for Oil or Gas on the 1 day of May, 1982.

The proposed well will be known as Well No. P-124 of Philadelphia Oil Company (company, etc.) It is proposed to drill this well to a depth of about 5089 feet.

The proposed location is about 670 feet distant from the nearest property or lease line; about 7500 feet distant from the nearest mining opening, ~~XXXXXX~~ (strike out words not applicable) and/or about 11400 feet distant from the nearest drilling, ~~XXXXXX~~ (strike out words not applicable) and/or about 11400 feet distant from the nearest drilling, ~~XXXXXX~~ (strike out words not applicable) well.

There is enclosed herewith a certified check or U. S. Postal Money Order, in the amount of one hundred dollars (\$100), payable to the Treasurer of Virginia, covering fee for a Permit to Drill a Well for Oil or Gas, as required by Section 45.1-115.1, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement. Bond and Surety therefor to insure compliance with the provisions of Chapter 8, Title 45, Code of Virginia, 1950 and the 1966 Supplement, for this well, in the amount of \$ 25,000.00 is submitted herewith of (give status of) Blanket Bond covering Wells Nos. P-116 through P-140

Correspondence regarding this well should be addressed to Mr. B. D. Hager, Box 431, Prestonsburg, Kentucky 41653

Very truly yours,

Signature of officer or certifying party:

B. D. Hager  
Name  
B. D. Hager, Operating Manager

Philadelphia Oil Company  
Drilling Company or Operator  
Box 431

Street  
Prestonsburg

City or Town  
Kentucky 41653

State

Space below this line is for the use of the Board only.

ACTION OF DIVISION OF MINES AND QUARRIES

Received on January 11, 1982.

Approved and Permit (no. 462) granted on January 11, 1982

Reasons for denial

Division of Mines and Quarries

By B. D. Hager Assistant  
Title

File No. DL-195 Well No. P-124 Permit No. 462



Address Correspondence to:  
P. O. Box 313  
Zip Code 24272

#### OPERATIONS PLAN

- (1) Philadelphia Oil Company proposes to drill Well No. P-124 situated on Left Fork of Lick Creek in Dickenson County, Virginia. A rotary rig will be used to drill this well requiring approximately fourteen (14) days to drill this well to total depth. Approximately thirty (30) days after the well has been drilled a cable tool spudder will be moved onto the location to fracture and complete the well. The casing program is as follows:

<u>Casing Size</u>	<u>Depth</u>	<u>Remarks</u>
16 inch	30'	Case off fresh water.
8-5/8 inch	2,155'	Set in top of Red Rock and cemented to surface to contain possible formation water and protect all coal seams.
4-1/2 inch	5,089'	Production casing to be set at total depth and cemented through gas bearing formations.
2 inch	5,064'	Production string.

- (2) Site preparation is expected to begin January 20, 1982 and final well completion is expected July 17, 1982. Reclamation is expected to be completed by October 17, 1982.
- (3) Soils are of the loam to silt type, medium depth, with no erosion problems anticipated. No timber will be encountered in the project area. The well site and pit areas will be constructed on a flat with a 2° slope. Approximately 100 feet of access road will be constructed from a public road to gain access to the drill site. Pipe culverts will be maintained along the existing road to provide proper drainage. Cut and fill areas along the

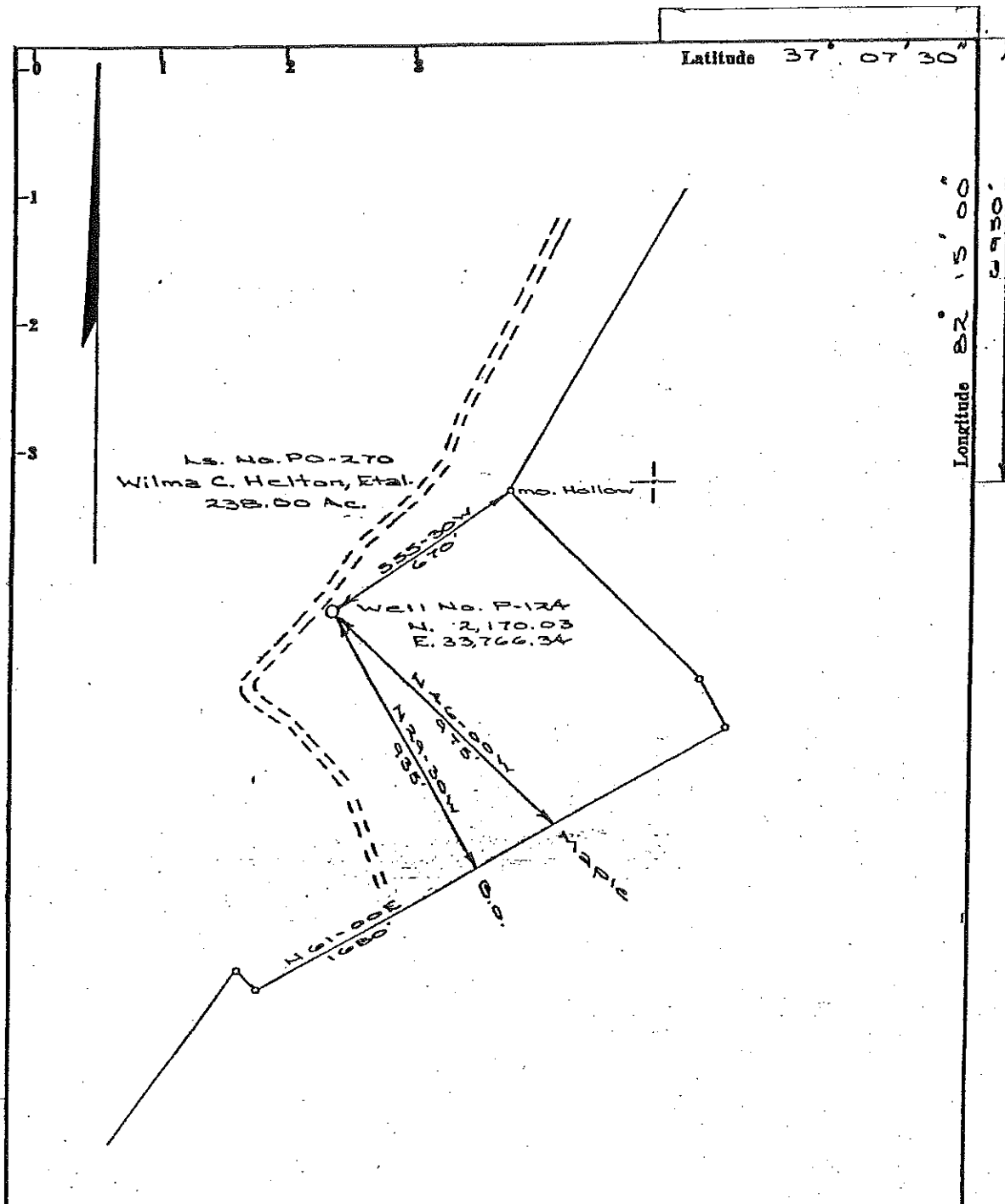
constructed road will be sown with Ryegrass and KY 31 Fescue to stabilize the affected areas and prevent erosion. The entire project area comprises of 1.22 acres.

- (4) After grading is completed on the well site and pit areas all unstable areas will be sown immediately to prevent erosion (Pit 100' x 75') (Auxillary Pit 100' x 75') Well site (100' x 200')
- (5) Upon completion of the well and pipeline operations, pit areas will be filled and covered with adequate top soil and entire well site will be graded and seeded with approximately 250 pounds of Ryegrass and KY 31 Fescue and ten bales of straw is to be used as mulch in critical areas to prevent erosion and to stabilize the area.

12-16-81

rf





New Location. ☒  
 Drill Deeper. .... ☐  
 Abandonment ..... ☐

Map No. 7 Block No. 705

Company Philadelphia Oil Co.  
 Address Norfolk, Va.  
 Farm Wilma C. Helton, Etal.  
 Tract Acres 238.00 Lease No. PO-270  
 Well (Farm) No.                      Serial No. P-124  
 Elevation (Spirit Level) 1911.87'  
 Quadrangle Norfolk, Va.  
 County Dickenson District Ervinton  
 Surveyor B.C. Spradlin  
 Surveyor Registration No. 782  
 File No.                      Drawing No.                       
 Date 12-11-81 Scale 1"=400'

COMMONWEALTH OF VIRGINIA  
 DEPARTMENT OF LABOR & INDUSTRY  
 DIVISION OF MINES  
 BIG STONE GAP

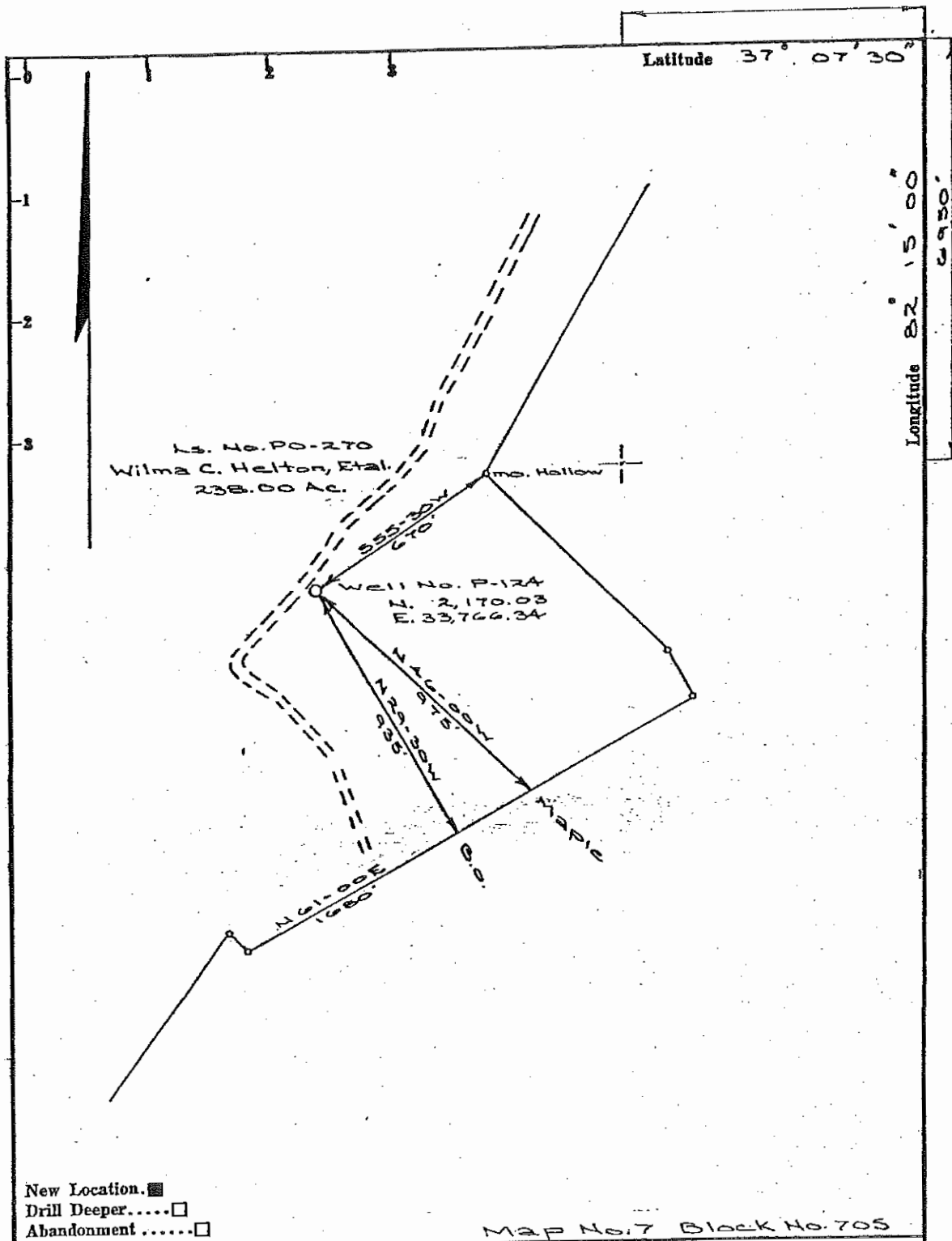
### WELL LOCATION MAP

FILE NO.                     

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

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





Company Philadelphia Oil Co.  
Address Nora, Va.  
Farm Wilma C. Helton, Etal.  
Tract Acres 238.00 Lease No. PO-270  
Well (Farm) No. P-124 Serial No. P-124  
Elevation (Spirit Level) 1911.87'  
Quadrangle Nora, Va.  
County Dickenson District Ervington  
Surveyor B.C. Spradlin  
Surveyor Registration No. 782  
File No. 12-11-81 Drawing No. 1  
Date 12-11-81 Scale 1" = 400'

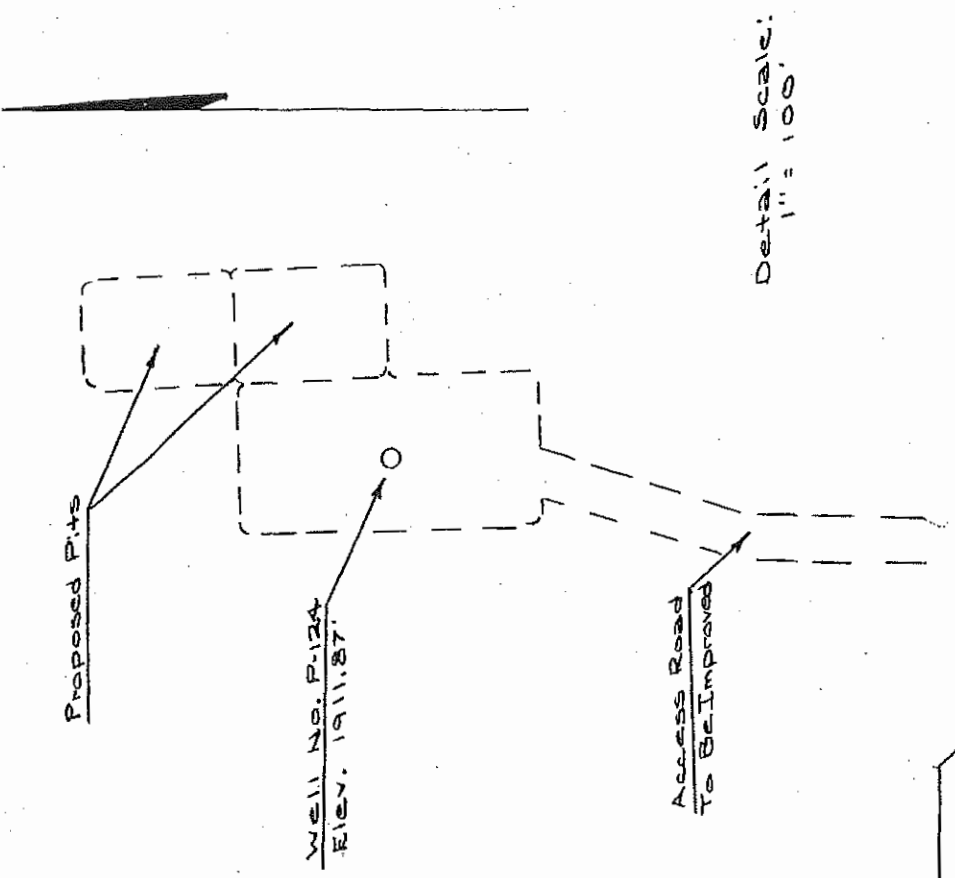
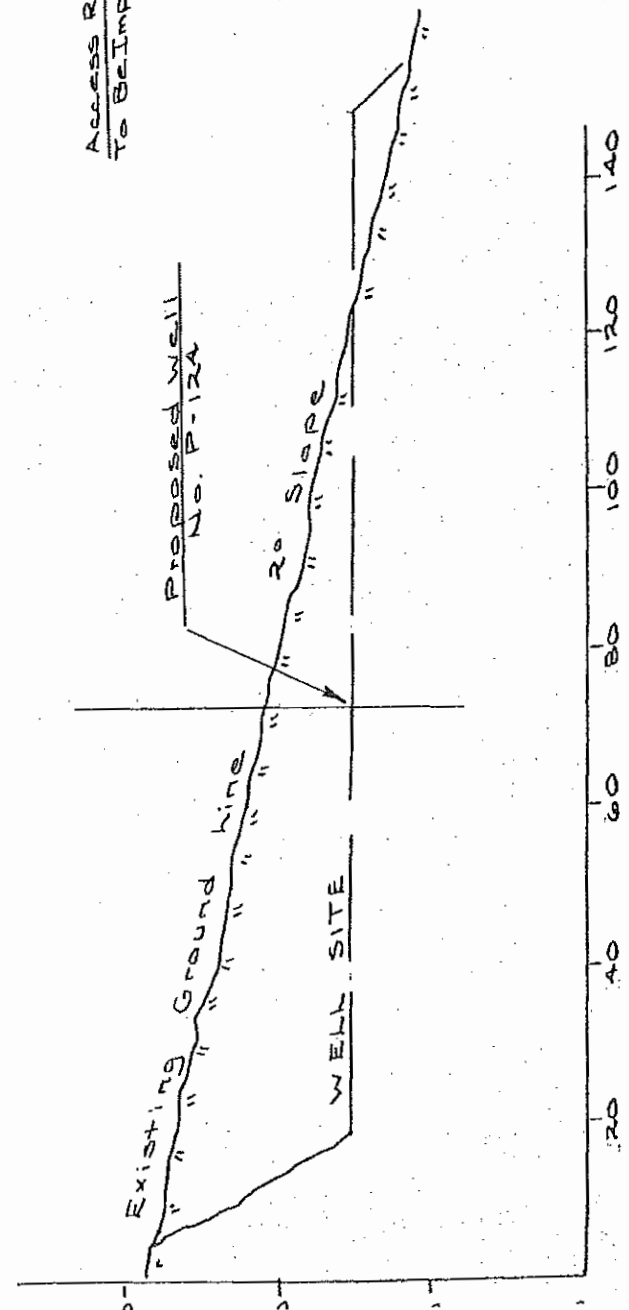
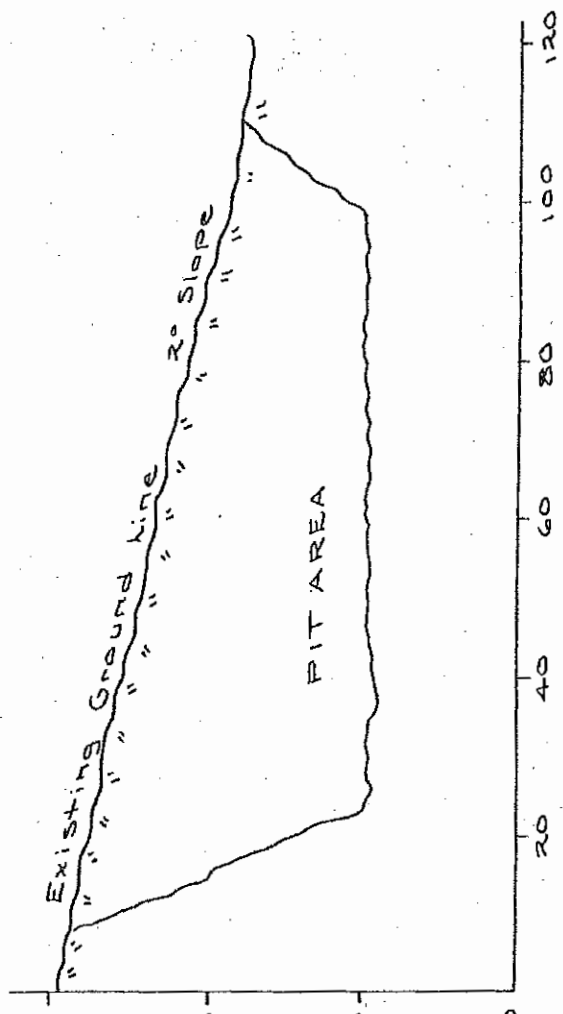
COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR & INDUSTRY  
DIVISION OF MINES  
BIG STONE GAP

# WELL LOCATION MAP

FILE NO. 705

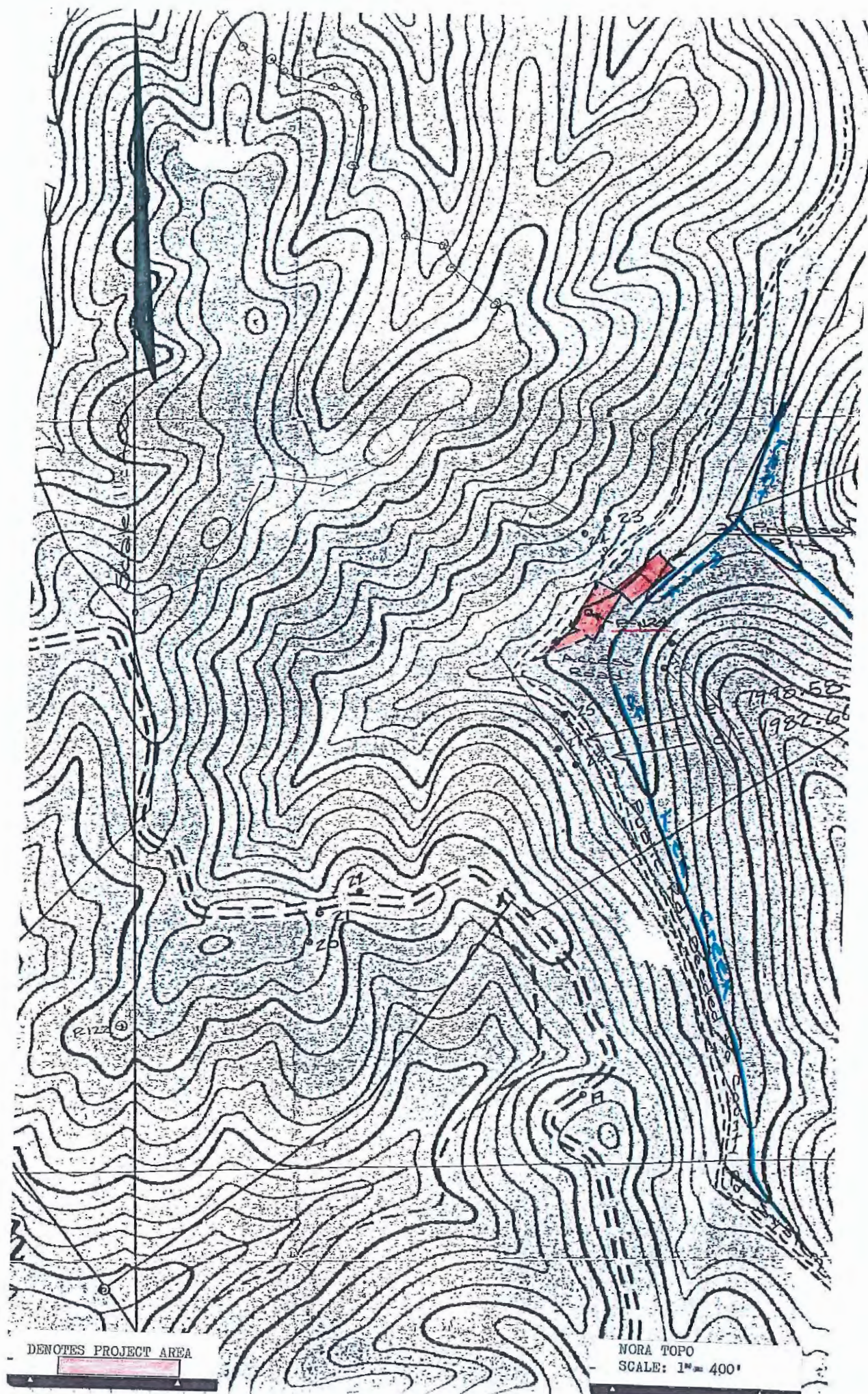
+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

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



Detail Scale:  
1" = 100'





DENOTES PROJECT AREA

NORA TOPO  
SCALE: 1" = 400'



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF LABOR AND INDUSTRY  
DIVISION OF MINES AND QUARRIES  
BIG STONE GAP, VIRGINIA 24219

NOTICE OF INTENTION TO (DRILL) (REDRILL) (DEEPEN) OIL OR GAS WELL

(One copy of this report and three identical copies of a plat or map, on a scale not smaller than 400 feet to the inch, and showing information required by Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement, must be submitted to the Division of Mines and Quarries, and copies sent by registered mail to all persons defined in above law, prior to obtaining a permit to drill.)

TO: Division of Mines and Quarries  
Drawer V  
Big Stone Gap, Virginia 24219

Box 431  
Prestonsburg, KY 41653  
Place  
December 28, 1981  
Date

Gentlemen:

The undersigned proposes to begin as soon as a permit therefor is obtained from the Division of Mines and Quarries, to drill, ~~redrill or deepen~~ (strike out two) a well for oil or gas on the Wilma C. Helton, et al farm, comprising 238.00 acres, in the Ervinton District of Dickenson County, Virginia, having the fee title thereto, or as the case may be, under grant or lease dated July 26, 1974, made by Wilma C. Helton et al to Philadelphia Oil Company and recorded on the 25 day of August, 1975 in the office of the County Clerk for said County in Book 172 Page 576. The proposed location of the well, as shown on the attached plat or map, is about 5100 (feet/meters) West of 82°15'00" and about 6950 (feet/meters) South of 37°07'30" 6500' East of Counts Cemetary - 4700' Northwest of Rasnick Cemetary. It is proposed to drill this well to a depth of about 5089 feet. Samples or cutting therefrom will or will not be available for examination by a member of the staff of the Virginia Geological Survey. Cuttings will or will not be furnished the Survey.

A plat or map, in triplicate, on a scale not smaller than 400 feet to the inch, showing the proposed location of the well and other information, required in Section 45.1-114, Code of Virginia, 1950, 1954 and the 1966 Cumulative Supplement is attached hereto. Copies of the plat and notice of intention to drill, redrill or deepen the aforementioned well have been sent to all interested persons as required by Section 45.1-114, above cited, as follows (list names and mail address of each. Use back of sheet if additional space is required):

1. Clinchfield Coal Company, Dante, Virginia 24237 (Coal owner)
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

Very truly yours,

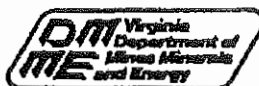
Signature of officer or certifying party:

B. D. Hager  
Name  
B. D. Hager, Operating Manager  
None

Philadelphia Oil Company  
Drilling Company or Operator  
Box 431  
Street Address  
Prestonsburg, KY 41653  
City or Town and State

File D1-195 Date Received January 11, 1982 Well No. P-124

Department of Mines, Minerals and Energy  
Division of Gas and Oil



Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P. O. Box 1416  
Abingdon, Virginia 24210  
703/676-3423

Equitable Resources Exploration  
A Division of  
Equitable Resources Energy Corp

Operations Name: Equitable Resources Energy Corp  
Permit #: 462 (P-124)



**APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS**

Pursuant to VR 480-05-22.1, § 1.42, the undersigned permittee requests:

- A. ☒ Approval to transport and dispose of pit or produced fluids through an approved disposal site, which accepts pit or produced fluids from gas and oil operations.
- B. ☐ Approval for a one time application of pit fluids on the permitted site.

For applications under A, the permittee is required to submit the following with this application.

1. Submit the appropriate federal, state, and/or local permit number of the facility the permittee is proposing to dispose of the fluids under.
2. Attach a copy of the appropriate sections of the permit, which allows acceptance of fluid waste from the gas and oil operations.
3. Submit the total estimated volume of fluid to be transported.

**SEE ATTACHED**

For applications under B, the permittee must complete the following information with the appropriate documentation with this application.

**A. Pit Fluid Characterization:**

Date Pit was First Used \_\_\_\_\_ Estimated Volume of Pit Fluid \_\_\_\_\_ (Gals.)

Description of the Constituents of the fluid placed in Pit \_\_\_\_\_

**B. Analysis of the Pit Fluid:**

<u>Analysis</u>	<u>Standard Limits</u>
pH _____	6-9 Standard Units
Oil and Grease _____	< 15 mg/l
Iron _____	< 7 mg/l
Manganese _____	< 4 mg/l
Acidity _____	< alkalinity
Alkalinity _____	> acidity
Chlorides _____	5,000 mg/l *
Sodium Balance _____	SAR of 8-12 **

\* For chlorides above 5,000 mg/l, the application will be reviewed to determine whether a permit would be required from the Virginia Water Control Board.

\*\* The Sodium Absorption Rate shall be determined on the soils to which the liquid is to be applied.

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Exploration  
A Division of  
Equitable Resources Energy Company  
Operations Name:  
Permit #: 462 (P-124)

C. Verification of Analysis:

Attach the lab analysis and its results. Denote on the attachment the date, time, and method of collection and the date of the analysis.

D. Description of Application Area:

Soil Type \_\_\_\_\_ Soil Permeability \_\_\_\_\_ Depth to Bedrock \_\_\_\_\_ Depth to Water Table \_\_\_\_\_  
Nearest Water Supply \_\_\_\_\_ Type: Well \_\_\_\_\_ Spring \_\_\_\_\_ Nearest Surface Water Courses \_\_\_\_\_  
Nearest Occupied Dwelling \_\_\_\_\_  
Total Acreage of Proposed Application Area \_\_\_\_\_ Average slope of the proposed area of land application \_\_\_\_\_

E. Location and Design Map:

A map on the scale of 1" = 400' showing the acreage within the permitted site to be used for land application identifying all surface waters, wells, springs, natural rock outcrops and property lines in relation to the proposed area of land application. The map shall also delineate any buffer zones.

F. Method of Land Application:

Provide a narrative, describing the method in which you plan to land apply the pit fluids. The description shall include supporting calculations and other data to justify the flow rates, erosion controls and monitoring to be used during the application of the pit fluids. The narrative shall include supporting site measurements and other data concerning the noninterference to the groundwater within and adjacent to the land application and supporting site measurements and other data concerning the protection of the existing vegetation.

CERTIFICATION:

I the undersigned applicant or permittee, certify that this document and all attachments were prepared under my direction. The information submitted is, to the best of my knowledge, true, accurate, and complete.

(Signature) Douglas D. Jurek

(Title) Operations Manager - Va.

(Date) October 15, 1993

(FOR OFFICE USE ONLY: )

(Approved ☒ Denied \_\_\_\_\_ )

B. D. Palmer  
(State Gas and Oil Inspector )

Date 11/1/93 )



ATTACHMENT TO

APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

PART A Submittal:

1. The coalbed methane and/or convention wells and/or pipeline fluids will be disposed of utilizing UIC permitted wells P-148-WD, KYI-0507, KYI-0508 and KYI-0222.
2. The appropriate sections of UIC disposal permits for P-148-WD Well, KYI-0507 Well, KYI-0508, Well and the Magnum KYI-0222 Well are all separately filed with the Division of Gas and Oil in Abingdon, VA.
3. Equitable Resources Exploration will report produced fluid volumes in the monthly VA DGO production report. The volumes of fluid hauled will be tracked by Equitable Resources Exploration as required by DGO, and the tracking records will be available to DGO upon request.

CBM - Nora Field

DPT/ 9-27-93

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF MINES, MINERALS AND ENERGY  
DIVISION OF GAS AND OIL  
P. O. BOX 1416  
ABINGDON, VIRGINIA 24210



INSPECTION REPORT

COMPANY EREX  
WELL P-124  
COUNTY DICKENSON

FILE DI-194  
TIME 3:35 DATE 9/1/90  
INSPECTOR MJS

SITE INSPECTION

PRE-PERMIT:

PLAN ACCEPTABLE ☐ LOCATION CORRECT ☐ DRAINAGE CONTROLLED ☐ SEDIMENTATION CONTROLLED ☐  
COMMENTS \_\_\_\_\_

SITE CONDITION:

DRAINAGE OK TEMPORARY SEEDING ☒ SEEDING ☒  
DRAINAGE CONTROL ☒ BACKFILLED ☒ TRASH no  
SEDIMENT CONTROL ☒ SUBSIDENCE no SIGN ☒  
COMMENTS Reclaim OK

PIT CONDITION:

APPROXIMATE SIZE \_\_\_\_\_ PLASTIC LINED ☐ BACKFILLED ☒ STABILITY OK  
COMMENTS \_\_\_\_\_

ROAD CONDITION:

GRADE: STEEP ☐ MODERATE ☒ FLAT ☐ GRAVEL OK  
COMMENTS \_\_\_\_\_

PIPELINE CONDITION:

SIZE \_\_\_\_\_ SURFACE ☐ BURIED ☐ LENGTH (INSPECTED) \_\_\_\_\_  
COMMENTS \_\_\_\_\_

RIG AND WELL INSPECTION

TYPE: ROTARY ☐ CABLE TOOL ☐ WORKOVER ☐ COMPANY NO. 216  
SAFETY EQUIPMENT: HARD HATS ☐ BLOWOUT EQUIPMENT ☐ WORK AREA ☐  
HARD TOES ☐ FIRE EXTINGUISHERS ☐ WORKMEN ON RIG ☐  
DEPTH \_\_\_\_\_ DEVIATION \_\_\_\_\_ DEGREES AT \_\_\_\_\_ FEET CASING IN HOLE \_\_\_\_\_  
COMMENTS \_\_\_\_\_

EQUIPMENT

PLUGGED NO PRODUCING ☒ TANKS NO  
MONUMENT NO CASING IN HOLE 4 1/2 DYES NO  
SIGN ☒ EQUIPMENT note LEAKS NO  
COMMENTS \_\_\_\_\_

ACTIONS OF INSPECTOR

SECTION OR REGULATION CITED \_\_\_\_\_  
COMPANY NOTIFIED \_\_\_\_\_  
COMMENTS \_\_\_\_\_

TYPE OF INSPECTION

PRE-APPLICATION	0
PRE-PERMIT	1
DRILLING	2
COMPLETION	3
PRODUCING	4
PLUGGED	5
AERIAL	6
COMPLAINT	7
SHUT-IN	8
CONSTRUCTION	9
OTHER	10
RE-INSPECTION	11
RECORD	12
RECLAIMING	13
PIPELINE	
PRE-PERMIT	14
CONSTRUCTION	15
OPERATION	16
RE-INSPECTION	17
COMPLAINT	18

ACTION OF INSPECTOR

NONE	0
SITE OK	1
OPERATOR INFORMED OF	
POTENTIAL PROBLEM	2
VIOLATION ISSUED	3
OPERATIONS HAULTED	4
SITE POSTED	5
PLAN APPROVED	6
VIOLATION CANCELLED	7
CONSULTATION	8
PLAN NOT APPROVED	9

FOLLOW-UP

NONE	0
CONTACT COMPANY	1
CONTACT COMPLAINANT	2
RE-INSPECTION NECESSARY	3
REDUCE INSPECTION	
FREQUENCY	4

COMMENTS ON BACK  
(LIMIT COMMENTS TO  
50 CHARACTERS)

ON COMPUTER

INSPECTOR

**POOR  
QUALITY**

**ORIGINAL(S) FOLLOW**

**THIS IS THE BEST COPY  
AVAILABLE**

**VCE DOCUMENT CONVERSION CENTER**

## INSPECTION REPORT

COMPANY EREX  
 WELL NAME/NUMBER P-124  
 COUNTY DICKENSON

FILE NUMBER D1-194  
 TIME 12:30 PM DATE 3-30-89  
 INSPECTOR MJS

## SITE INSPECTION

## PRE-PERMIT:

PLAN ACCEPTABLE \_\_\_\_\_ LOCATION CORRECT \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## SITE CONDITION:

DRAINAGE OK BACKFILLED ✓  
 DRAINAGE CONTROL ✓ SUBSIDENCE NO  
 SEDIMENT CONTROL \_\_\_\_\_ SEEDING ✓  
 TEMPORARY SEEDING \_\_\_\_\_ TRASH NO  
 COMMENTS \_\_\_\_\_

## PIT CONDITION:

APPROXIMATE SIZE \_\_\_\_\_ BACKFILLED ✓  
 PLASTIC LINED \_\_\_\_\_ STABILITY OK  
 COMMENTS \_\_\_\_\_

## ROAD CONDITION:

GRADE: STEEP \_\_\_\_\_ MODERATE ✓ FLAT \_\_\_\_\_  
 GRAVEL \_\_\_\_\_  
 COMMENTS OK

## RIG INSPECTION

TYPE: ROTARY \_\_\_\_\_ CABLE TOOL \_\_\_\_\_ WORKOVER \_\_\_\_\_ COMPANY NO RIG  
 SAFETY EQUIPMENT: HARD HATS \_\_\_\_\_ BLOWOUT EQUIPMENT \_\_\_\_\_  
 HARD TOES \_\_\_\_\_ FIRE EXTINGUISHERS \_\_\_\_\_  
 WORK AREA \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## WELL PROGRESS

DEPTH \_\_\_\_\_ CASING IN HOLE \_\_\_\_\_  
 DEVIATION \_\_\_\_\_ DEGREES AT \_\_\_\_\_ FEET \_\_\_\_\_  
 NUMBER OF WORKMEN ON RIG \_\_\_\_\_ TOOL PUSHER \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## EQUIPMENT

PLUGGED \_\_\_\_\_ EQUIPMENT 2 METERS  
 MONUMENT/SIGN ✓ TANKS N/A  
 PRODUCING ✓ DYKES N/A  
 CASING IN HOLE \_\_\_\_\_ LEAKS NO  
 COMMENTS \_\_\_\_\_

## TYPE OF INSPECTION

PRE-APPLICATION 0  
 PRE-PERMIT 1  
 DRILLING 2  
 COMPLETION 3  
 PRODUCING 4  
 PLUGGED 5  
 SERIAL 6  
 COMPLAINT 7  
 SHUT-IN 8  
 CONSTRUCTION 9  
 OTHER 10  
 RE-INSPECTION 11  
 RECORD 12  
 PIPELINE  
 PRE-PERMIT 13  
 CONSTRUCTION 14  
 OPERATION 15  
 RE-INSPECTION 16  
 COMPLAINT 17

## ACTION OF INSPECTOR

NONE 0  
 SITE OK 1  
 OPERATOR INFORMED OF  
 POTENTIAL PROBLEM 2  
 VIOLATION ISSUED 3  
 OPERATIONS HALTED 4  
 SITE POSTED 5  
 PLAN APPROVED 6  
 VIOLATION CANCELLED 7  
 CONSULTATION 8  
 PLAN NOT APPROVED 9

## FOLLOW-UP

NONE 1  
 CONTACT COMPANY 1  
 CONTACT COMPLAINANT 2  
 RE-INSPECTION NECESSARY 3  
 REDUCE INSPECTION  
 FREQUENCY 4

## ACTIONS OF INSPECTOR

SECTION OR REGULATION CITED \_\_\_\_\_  
 COMPANY NOTIFIED \_\_\_\_\_  
 VIOLATION ISSUED \_\_\_\_\_ POSTED \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

COMMENTS ON BACK  
 (LIMIT COMMENTS TO  
 50 CHARACTERS)

ON COMPUTER ✓

Mulford Stur  
 INSPECTOR



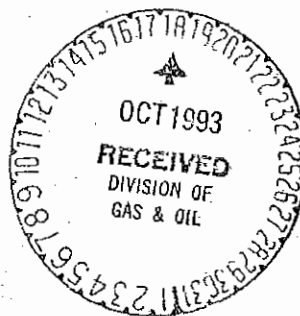
# EQUITABLE RESOURCES EXPLORATION

A Division of EQUITABLE RESOURCES ENERGY COMPANY

P. O. Box 313  
Nora, VA 24272

October 15, 1993

B. T. Fulmer  
Oil and Gas Inspector  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, VA 24210



RE: DGO Permit No. 462 (P-124)

Dear Mr. Fulmer:

Enclosed please find an application for produced fluid disposal for the above Equitable Resources Exploration operated conventional well located in the Nora Field.

Should you have any questions, please feel free to contact me at Phone # 1-703-835-9134.

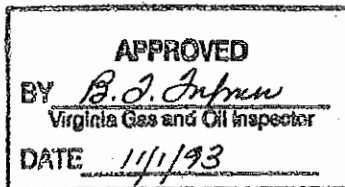
Sincerely,

*Douglas P. Terry*  
Douglas P. Terry  
Operations Manager-VA

Certified RRR  
Enclosures

CC: Well Files  
Lee Talbott  
Don Hall

PC: CBM-haul.1





Philadelphia  
Oil Company

Nora, Virginia

Address Correspondence to:  
P. O. Box 313  
Zip Code 24272

December 28, 1981

Commonwealth of Virginia  
Division of Mines and Quarries  
Department of Labor and Industry  
Big Stone Gap, Virginia 24219

Re: Permit to Drill Well No. P-124, Philadelphia  
Oil Company, Lease No. 270

Gentlemen:

We submit herewith Philadelphia Oil Company's application for permit to drill a well for oil and/or gas upon the tract of land described therein.

This well will be drilled by Union Drilling Company, P.O. Drawer No. 40, Buckhannon, West Virginia 26201.

Agent's Check No. 245 in the amount of One Hundred Dollars (\$100.00), payable to Treasurer of Virginia is attached, said sum being payment of well permit fee.

Yours very truly,

B. D. Hager  
Operating Manager

BDH/gjw

Enclosures

CC: Mr. J. E. Nypaver, Vice President  
of Operations  
The Pittston Company  
Lebanon, Virginia 24266

Mr. Ray S. Dixon, Property Manager  
Clinchfield Coal Company  
Dante, Virginia 24237

Mr. E. B. Jenkins  
Mr. James G. Tilton  
Mr. Don C. Hall



Address Correspondence to:  
P. O. Box 313  
Zip Code 24272

July 25, 1984

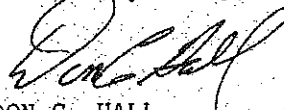
Mr. Milford Stern  
Oil and Gas Section  
205 West Main Street  
Abingdon, Virginia 24210

Dear Milford:

Beginning today Philadelphia Oil Company plans to begin producing the Berea formation of the following wells:

P-20	P-88	P-134	P-151
P-21	P-106	P-135	P-166
P-22	P-122	P-136	
P-23	P-123	P-140	
P-63	P-124	P-143	
P-64	P-132	P-145	
P-87	P-133		

Yours very truly,

  
DON C. HALL  
Field Agent

CC: Bob Hager  
E. B. Jenkins  
Ed Minns  
Chuck Stewart  
John Billips  
Brint Camp  
Charles Martin



**PITTSTON Clinchfield**

Pittston Coal Group  
Clinchfield Coal Company  
P.O. Box 4000  
Lebanon, Virginia 24266

An Affiliate of The Pittston Company

January 20, 1982

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. B. T. Fulmer  
State Oil and Gas Inspector  
Division of Mines and Quarries  
Big Stone Gap, Virginia 24219

Re: Permit to Drill Well No. P-124,  
Philadelphia Oil Company,  
Lease No. 270

---

Dear Mr. Fulmer:

Our company is in receipt of a copy of a letter addressed to your division from Mr. B. D. Hager, Operating Manager of Philadelphia Oil Company, enclosing the permit application on the above well. I am advised that the proposed well is located on surface property on which Clinchfield Coal Company has an outstanding mining permit from the Division of Mined Land Reclamation and that such well is proposed within the bonded area. Therefore, we must object to the well application until satisfactory arrangements are made to insure that our company will not incur any additional environmental liabilities resulting from the placement of a well within the bonded area.

Sincerely yours,

CLINCHFIELD COAL COMPANY



Donald R. Johnson  
Senior Assistant General Counsel

DRJ:wf

cc: Mr. B. D. Hager



THIS PERMIT IS NOT TRANSFERABLE



Commonwealth of Virginia  
Department of Labor and Industry  
DIVISION OF MINES

Permit No. 112  
File No. 01-194  
Well No. P-124

Big Stone Gap, Virginia  
PERMIT TO DRILL FOR OIL OR GAS

This is to certify that on this date a permit to drill for oil or gas

was issued to Philadelphia Oil Company  
whose main office is at Box 431, Prestonsburg, Ky., 41653  
for the operation of Gas Well (Wilma Helton et al.)  
located at Nona Quadrangle County of Dickenson

THIS PERMIT IS ISSUED IN COMPLIANCE WITH  
TITLE 45, CHAPTER 8, CODE OF VIRGINIA 1950 AS AMENDED

Any person drilling for oil or gas within the State without first obtaining a permit as provided herein shall be guilty of a misdemeanor or other penalties as prescribed in Title 45, Chapter 8, Article 7 of the Code of Virginia. Each day any person drills any oil or gas well without first obtaining such permit shall constitute a separate offense.

DIVISION OF MINES

Issued this 13th day McLynn Sharpe, Chief  
of January 19 82 By B. T. Fulmer  
Fee Paid \$100.00 State Oil & Gas Inspector

API WELL NO. 45 - 051 - 20866  
State County Permit  
 Date: September 11, 1986  
 Operator's Well  
 Name W. F. Grizzle No. P-201

DRILLING CONTRACTOR	Union Drilling, Inc.
ADDRESS	P. O. Drawer 40, Buckhannon, WV 26201
TELEPHONE	304-472-4610

GEOLOGICAL DATA	Depth		Thickness
	Top	Bottom	

Salt water

Oil Formation

The data on depth of strata is based on the source(s) checked below:

- ☒ Applicant's own drilling experience in the area  
☐ Information supplied by the coal operator in the area  
☐ Information already in possession of the Inspector  
☐ Other (as follows)

CASING AND TUBING PROGRAM

PRELIMINARY INFORMATION

Is the subject well underlaid by the red shales? Yes X / No    /  
If Yes, was a coal protection string set to the red shales? Yes X / No    /

	SIZE	TOP	BOTTOM	LENGTH	PERFORATIONS FROM TO
<u>CONDUCTOR:</u>	16"	0	19'	19'	
	11 3/4"	0	196'	196'	

<u>CASING CIRCULATED AND CEMENTED IN TO SURFACE:</u>	8 5/8"	0	2203'	2203'	
--	--------	---	-------	-------	--

COAL PROTECTION CASING  
SET UNDER SPECIAL RULE OF  
CODE OF VIRGINIA 45.1-334.B:

<u>OTHER CASING AND TUBING LEFT IN WELL;</u>	4 1/2"	0	5204'	5204'	5082'-5147'
	2 3/8"	0	5065'	5065'	4572'-4597'
					4376'-4380'

LINERS LEFT IN WELL UNDER  
CODE OF VIRGINIA SECTION  
45.1-336 OR OTHERWISE:

<u>PACKERS OR BRIDGE PLUGS:</u>	<u>KIND</u>	<u>SIZE</u>	<u>SET AT</u>
---------------------------------	-------------	-------------	---------------

Butler-Larkin 4 1/2" X 2 3/8" 4518'

REMARKS: SHUT DOWN DEPTHS, DATES; FISHING JOB DEPTHS, DATES; CAVING;  
ETC.)

SAMPLES AND CUTTINGS

WILL X WILL NOT    BE AVAILABLE FOR EXAMINATION BY A MEMBER OF THE  
VIRGINIA DIVISION OF MINERAL RESOURCES  
WILL X WILL NOT    BE FURNISHED THE VIRGINIA DIVISION OF MINERAL  
RESOURCES UPON REQUEST  
WILL    WILL NOT X REQUIRE SACKS TO BE FURNISHED BY THE VIRGINIA  
DIVISION OF MINERAL RESOURCES.

Form 16  
Appendix A, Sheet 1 (Reverse)  
Continued from Obverse side

OTHER GENERAL INFORMATION

An electric log survey was ☐ / was not ☐ / conducted pursuant to Code of Virginia Section 45.1-333.B.2, at the coal owner's or operator's request.

An electric log survey was ☒ / was not ☐ / run for other purposes. This survey did ☐ / did not ☒ / disclose the vertical location of a coal seam.

Note: If a coal seam was located, the part of the survey from the surface through the coal is attached in accordance with Code of Virginia Section 45.1-333.B.3.

Deviation surveys were ☒ / were not ☐ / required under Code of Virginia Section 45.1-333.C "to the bottom of the lowest published coal seam depth."

Note: If deviation surveys were required, the survey results are attached.

A continuous survey was ☐ / was not ☒ / required under Code of Virginia Section 45.1-333.C.

Note: If a continuous directional survey was required, the survey results are attached.

CHANGES IN THE PERMITTED WELL WORK

The well operator did ☐ / did not ☒ / make any change(s) in the permitted well work, verbally approved by the Inspector or Assistant Inspector under Regulation 4.03 of the Regulations under the Virginia Oil and Gas Act, for the purpose of insuring successful completion of the well work.

Note: The nature and purpose of each such change, if any, is set out below or on additional sheets if such are required.

Form 16  
Appendix D

API No. 45 - 051 - 20866

APPENDIX TO REPORT OF COMPLETION OF WELL WORK  
ON A WELL DRILLED IN SEARCH OF OIL OR GAS

DISCOVERY OF OIL OR INDICATIONS THEREOF

Indicated potential flow before stimulation \_\_\_\_\_ BOD  
Gravity and grade: \_\_\_\_\_

DISCOVERY OF GAS OR INDICATIONS THEREOF

Indicated potential flow before stimulation 0 MCFD  
Rock pressure: \_\_\_\_\_ psig \_\_\_\_\_ hour test

RECORD OF STIMULATION

Full description of stimulation:

Zone 1: Berea Formation  
stimulated with 75 Q Foam using 90,000# sand, 1,000,000  
SCF/N<sub>2</sub> and 336 gals. 20% acid and 480 Bbls. fluid.  
Perforated 5082-5147 # Perfs. 29 Perf. Size .50  
Breakdown 1600 psig. Avg. Injection 2600 psig.  
Avg. I.R. 19 BPM Init. S.I.P. 2000 psig 15 Min. S.I.P. -- psig

Zone 2: Weir Formation  
stimulated with 75 Q Foam using 30,000# sand, 500,000 SCF/N<sub>2</sub>  
and 336 gals. 28% acid and 210 Bbls. fluid.  
Perforated 4572-4597 # Perfs. 15 Perf. Size .50  
Breakdown 1900 psig. Avg. Injection 1870 psig.  
Avg. I.R. 10 BPM Init. S.I.P. 1500 psig 15 Min. S.I.P. -- psig

Zone 3: Big Lime Formation  
stimulated with 2000 gals. 28% acid and 77,000 SCF/N<sub>2</sub>  
and 224 Bbls. fluid.  
Perforated 4376-4380 # Perfs. 9 Perf. Size .50  
Breakdown 2500 psig. Avg. Injection 1975 psig.  
Avg. I.R. 14 BPM Init. S.I.P. 1400 psig 15 Min. S.I.P. -- psig

Final production ( ) natural (X) after stimulation

	BOD	MCFD	Hours Tested	Rock Pressure	Hours Tested
Zone 1:	_____	_____	_____	_____	_____
Zone 2:	_____	_____	_____	_____	_____
Zone 3:	<u>--</u>	<u>11</u>	<u>6</u>	<u>700</u>	<u>48</u>

Final production if gas zones are comingled: 730 MCFD

6 hours tested: 600 psig. 48 hours tested

State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_  
Date: September 11, 1986  
Operator's Well  
Name W. F. Grizzle No. P-201

VIRGINIA OIL AND GAS INSPECTOR  
205 W. MAIN STREET  
ABINGDON, VA 24210  
703-628-8115

REPORT OF COMPLETION OF WELL WORK

Pursuant to Regulation 4.06 of the Regulations under the Virginia Oil and Gas Act, the undersigned well operator reports completion of the type(s) of well work specified below on the referenced well in Ervinton District, Dickenson County, Virginia on 7 day, 8 month, 19 86.

WELL TYPE: Oil \_\_\_\_\_/ Gas X/ Enhanced recovery \_\_\_\_\_/ Waste Disposal \_\_\_\_\_/ If "Gas", Production X/ Underground Storage \_\_\_\_\_/ Exempt by Code Section 45.1-300.B.1. from general oil and gas conservation law: yes \_\_\_\_\_/ no \_\_\_\_\_/ WELL WORK: Drill X/ Deepen \_\_\_\_\_/ Redrill \_\_\_\_\_/ Stimulate \_\_\_\_\_/ Plug off old formation \_\_\_\_\_/ Perforate new formation \_\_\_\_\_/ Plug \_\_\_\_\_/ Replug \_\_\_\_\_/ Other physical change in well (specify \_\_\_\_\_)

The well work was done as shown in the Appendix(es) applicable to the type(s) of well work involved.

CONFIDENTIALITY STATUS UNDER CODE OF VIRGINIA SECTION 45.1-332.

X Ninety days from the filing of this report  
OR  
Two years from \_\_\_\_\_, 19\_\_\_\_, the date on which the referenced well was COMPLETED, the well being an exploratory well as defined in Code of Virginia Section 45.1-288.21.

APPLICANT: Philadelphia Oil Company  
BY Brint Camp  
ITS District Geologist  
ADDRESS 1101 N. Eastman Rd., Kingsport, TN 37664  
TELEPHONE 615-246-4332

FORM 2  
SHEET 1 (OBVERSE)

(FOR OFFICE USE ONLY: API Well No. 45 - -  
State County Permit

Date: 1-23, 19 86

Operator's  
Well No. P-201

VIRGINIA OIL AND GAS INSPECTOR  
DEPARTMENT OF LABOR AND INDUSTRY  
OIL AND GAS Section  
205 W. Main Street  
Abingdon, Virginia 24210  
Phone 703 628-8115



NOTICE AND APPLICATION FOR A WELL WORK PERMIT

TO: ALL PERSONS LISTED  
ON THE REVERSE HEREOF

Take notice that, pursuant to Code of Virginia § 45.1-313, the under-  
signed well operator proposes to file or has filed this Notice and Application for  
a Well Work Permit with the Virginia Oil and Gas Inspector under Code of Virginia  
§ 45.1-311, with respect to a well on the W.F. Grizzle  
tract of 149.36 acres, more or less, in Ervinton  
District, Dickenson County, Virginia.

Attached is a copy of the well plat required to be filed with this Notice  
and Application. The Notice and Application show the well work that is to be done,  
and the well plat shows the location (or proposed location) of the well.

If the proposed well work is to drill a well, an operations plan is also  
attached. It shows the intended method of spoil placement, and contains a stabili-  
zation and drainage plan, including a map of the project area indicating the area  
to be disturbed. The drainage and stabilization plan meets the requirements of the  
current Virginia Erosion and Sediment Control Handbook adopted by the Virginia Soil  
and Water Conservation Commission pursuant to Code of Virginia § 21-89.4.

Under Code of Virginia § 45.1-313, you have the right to file objections  
to the proposed well work within 15 days after the day you receive this notice.  
Objections must be filed with--

Virginia Oil and Gas Inspector  
Department of Labor and Industry  
Oil and Gas Section  
205 W. Main Street  
Abingdon, Virginia 24210

WELL OPERATOR	<u>Philadelphia Oil Company</u>	DESIGNATED AGENT	<u>Charles Martin</u>
	<u>1101 N. Eastman Road</u>		<u>Box 313</u>
Address	<u>Kingsport, TN 37664</u>	Address	<u>Nora, VA 24272</u>
Telephone	<u>615-246-4332</u>	Telephone	<u>703-835-9134</u>

FORM 2  
APPENDIX A (OBSERVE)

(FOR OFFICE USE ONLY: API Well No. 45 - -  
State County Permit

Date: 1-23, 1986

Operator's  
Well No. P-201

APPENDIX TO NOTICE AND APPLICATION  
IF THE WELL WORK INVOLVES DRILLING, REDRILLING OR DEEPENING

Note: The data in this Appendix are estimates only. Actual data must be submitted on Form 18 ("Report of Completion of Well Work").

DRILLING CONTRACTOR  
(IF KNOWN)

Address  
Telephone

GEOLOGICAL TARGET FORMATION Berea Sand

DEPTH OF COMPLETED WELL 5119 feet (actual     / estimated x /)

DRILLING RIG Rotary x / Cable tool     /

GEOLOGICAL DATA

	Depth		Thickness
	Top	Bottom	

Fresh water: 57'

Salt water:

			MINING IN AREA?		
			Mined		
	Name		Yes	No	Out
Coal seams:	1058'	1062'		x	No

	Name
Oil and gas:	4392'
	5141'
	Keener
	Devonian Shale

The data on depth of strata is based on the source(s) checked below:

x Applicant's own drilling experience in the area  
    Information supplied by the coal operator in the area  
    Information already in the possession of the Inspector  
    As follows:



CASING AND TUBING PROGRAM

PRELIMINARY INFORMATION

Is the subject well underlaid by the red shales? Yes X / No \_\_\_ /

If "Yes", will a coal protection string be set to the red shales? Yes X / No \_\_\_ /

PROGRAM DETAILS

Conductor

11 3/4"                      30'  
Casing circulated and cemented in to the surface:

8 5/8"              2111'              Cement to surface

Coal protection casing set under the special rule of Code of Virginia § 45.1-334.B:

N/A

Other casing and tubing left in the well:

4 1/2" production casing 5119' cemented through productive formation  
2" production string 4959'

Other casing used in drilling but not left in the well:

N/A

Date: 1-23-, 19 86

Operator's  
Well No. P-201

GENERAL DESCRIPTION

WELL TYPE: Oil    / Gas x / Enhanced recovery    / Waste disposal    /  
If "Gas", Production x / Underground storage    /

Exempt by Code of Virginia § 45.1-300.B.1 from  
general oil and gas conservation law: Yes x / No    /  
If "No" submit map showing unit boundaries and distances between wells  
and boundary  
Exploratory well: Yes    / No x /

LOCATION: Quadrangle: Nora, VA Watershed: Breeden Branch of Fryingpan Creek  
District: Ervinton County: Dickenson  
9260 Ft. South of Latitude: 37°07'30" 2320 Ft West of Longitude: 82°15'00"

The underground well operator is entitled to operate a well for oil and gas or other purposes at the above location under a deed    / lease x / other contract    / dated July 25, 1972, to the undersigned well operator from which document, if recorded, is recorded in the office of the Clerk of the County Commission of Dickenson County, Virginia, in Deed Book 159 at page 431.

A permit is requested as follows:

Drill x / Deepen    / Redrill    / Stimulate x /  
Plug off old formation    / Perforate new formation x /  
Plug x / Replug    /  
Other physical change in well (specify) \_\_\_\_\_

The well work is planned as shown in this Notice and Application and Appendix and other attachments.

OTHER INFORMATION AND SUBMISSIONS

PERMIT FEE

Under Code of Virginia § 45.1-311.B, enclosed is a check or money order in the amount of \$100.00, payable to the Treasurer of Virginia.

WELL PLAT

Under Code of Virginia § 45.1-312.C, the statement checked below applies to the well plat (Form 6) accompanying the application:

x The plat is new, under Code of Virginia § 45.1-312.C.1.

   The plat is a copy of an earlier plat, the original of which was submitted on or after July 1, 1982. This copy has been updated as necessary, under Code of Virginia § 45.1-312.C.2.

OTHER INFORMATION AND SUBMISSIONS (continued)

WELL OPERATOR'S BOND

Under Code of Virginia § 45.1-311.D, the statement checked below applies to the well operator's bond:

       A bond (Form 3 or Form 4) for this single well is submitted herewith.

       A bond for this single well has heretofore been accepted in connection with a well work application filed                     , 19    .

       Under Code of Virginia § 45.1-311.D.2, a blanket bond (Form 3 or Form 4) is submitted herewith, for all of applicant's wells. The amount was cleared by the Inspector, subject to final approval hereby requested.

  x   Under Code of Virginia § 45.1-311.D.2, a blanket bond for all of applicant's wells has heretofore been accepted by the Inspector on or about February 4, 1983.

OPERATIONS PLAN

Under Code of Virginia § 45.1-311.E, if this application is for a well work permit to drill, an operations plan accompanies the application.

REQUEST FOR PERMIT IN LESS THAN 15 DAYS

Applicant does     / does not   x   / request a permit before the end of the 15-day notice provision under Code of Virginia § 45.1-313.E.2.

Applicant: Philadelphia Oil Company  
By H. E. Gardner  
Its Vice President & General Manager

VERIFICATION

STATE OF Tennessee,  
COUNTY OF Shelby:

On this 20th day of January, 1986, personally before me, a Notary Public in and for the County and State aforesaid, appeared H. E. Gardner, who, being first duly sworn, did depose and say that he is Vice President & General Manager of Philadelphia Oil Company, the applicant in the foregoing Notice and Application for a Well Work Permit and related Appendix (if any) and other accompanying documents; that he executed the same on behalf of the applicant, and was authorized to do so; and that the information set forth therein is true and correct to the best of his knowledge and belief.

My commission expires 1-9-, 1987.

Samuel C. [Signature]  
Notary Public

(NOTARIAL SEAL HERE)

Philadelphia Oil Company  
1101 N. Eastman Rd.  
Kingsport, TN 37664

Operations Plan - Well No. P-201

(1) PHILADELPHIA OIL COMPANY proposes to drill Well No. P-201 situated on Breeden Branch of Fryingpan Creek in Dickenson County, Virginia. A rotary rig will be used to drill this well requiring approximately fourteen (14) days to drill to a total depth. Approximately thirty (30) days after the well has been drilled cable tool spudder will be moved onto the location to fracture and complete the well. The casing program is as follows:

<u>Casing Size</u>	<u>Depth</u>	<u>Remarks</u>
11-3/4"	30'	Case off fresh water.
8-5/8"	2111'	Set in top of Red Rock and cemented to surface to contain all possible formation water and protect all coal seams.
4-1/2"	5119'	Production casing to be set at total depth and cemented through gas bearing formations.
2"	4959'	Production string.

(2) Site preparation is expected to begin May 1, 1986, and final well completion is expected August 5, 1986. Reclamation is expected to be completed by October 10, 1986.

(3) Soils are of the loam to silt type, medium depth, with no erosion problems anticipated. Timber is of the Hickory-Poplar forest type with all ages class stand predominate in a small portion of the project area. The well site will be constructed on a bench with an approximate 5° slope and the pit area will be constructed on a bench with an approximate 5° slope. An existing road will be improved to gain access to the drill site. Pipe culverts will be installed along the access road to provide proper drainage. Cut and fill areas along the constructed road will be sown with Ky. 31 Fescue and Ryegrass to stabilize the affected areas and prevent erosion. The entire project area comprising of 1.49 acres.

(4) Any vegetation in the well site and pit areas will be cleared after grading operations are complete the fill areas will be sown immediately to prevent erosion. (Pit 100 x 75) (Auxillary Pit 100 x 75) (Well Site 100 x 200).

(5) Upon completion of well and pipeline operations pit areas will be filled and covered with adequate top soil and entire project area will be graded and seeded with approximately 200 pounds of Ryegrass, Clover and Ky. 31 Fescue, and six bales of straw to be used as mulch in critical areas to stabilize the areas and prevent erosion.

SUPPLEMENTAL SHEET FOR PERSONS RECEIVING OFFICIAL NOTICE OF WELL WORK APPLICATION

IF THE WELL WORK IS DRILLING, REDRILLING, DEEPENING, PLUGGING OR REPLUGGING:

Surface owner(s) at the well location site:

Tilden R. Rasnick  
Rt. 2, Box 169B  
Clintwood, VA 24228

Mozelle Steffey  
Clintwood, VA 24228

Marjorie Anderson  
Rt. 3, Box 165  
Clintwood, VA 24228

Essie Stallard  
Rt. 2, Box 1867  
Palakta, FL 32077

Surface owner (s) of neighboring tract(s) within 500 feet of the well:

Henry Rasnick  
Box 372  
Haysi, VA 25425

Oil and gas royalty owner(s) of the lease or drilling unit:

Pine Mountain Oil and Gas Company  
c/o Mr. Allen B. Kiser, Manager  
P.O. Box 7  
Dante, VA 24237

Coal and other mineral owner(s), lease(s) and operator(s) at the well location site, and on neighboring tracts within 500 feet of the well:

Pegasus Resource Company  
c/o Mr. Larry Cline, Property Manager  
Rocky Top Development, Inc.  
P.O. Box 1357  
Abingdon, VA 24210

Clinchfield Coal Company  
c/o Mr. Paul Guill, Chief Engineer  
P.O. Box 7  
Dante, VA 24237

2200

HENRY RASNICK - SURFACE

Branch

PITS

Breedon

Loc. P-201

N. B. RASNICK HEIRS

CLINCHFIELD COAL COMPANY &  
PEGASUS RESOURCE COMPANY - COAL  
N. B. RASNICK, HRS. - SURFACE

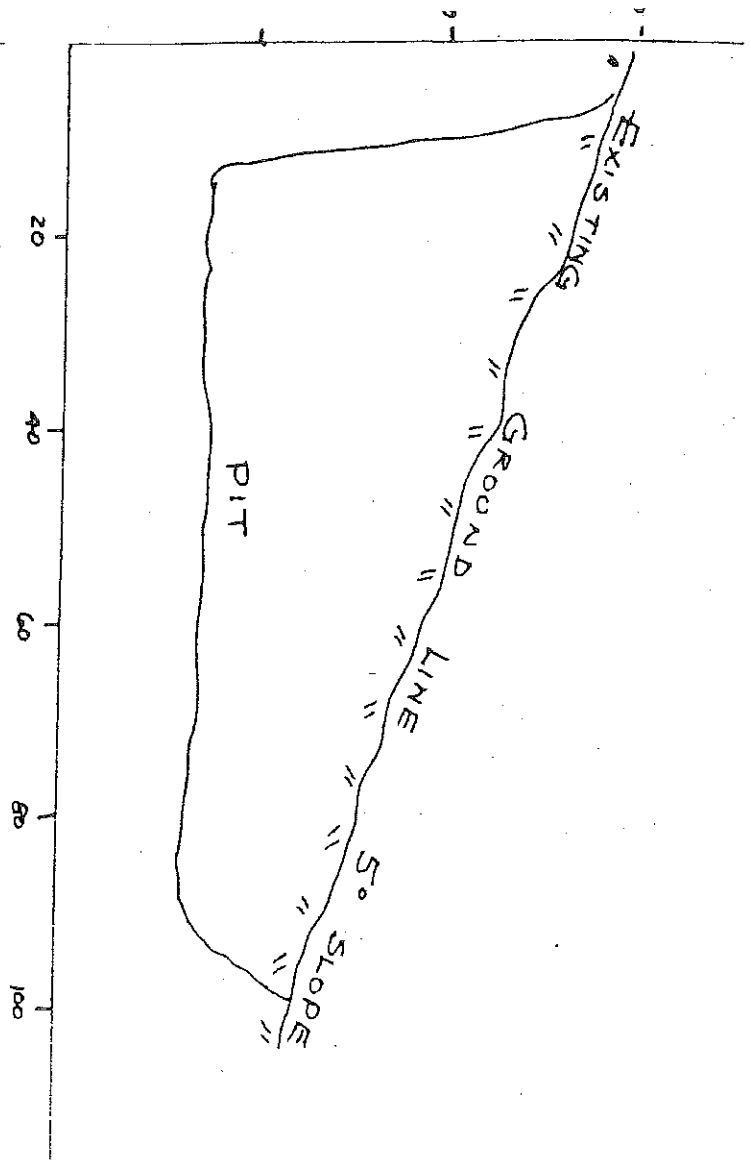
W. F. GRIZZLE  
149.3640

DENOTES PROJECT AREA

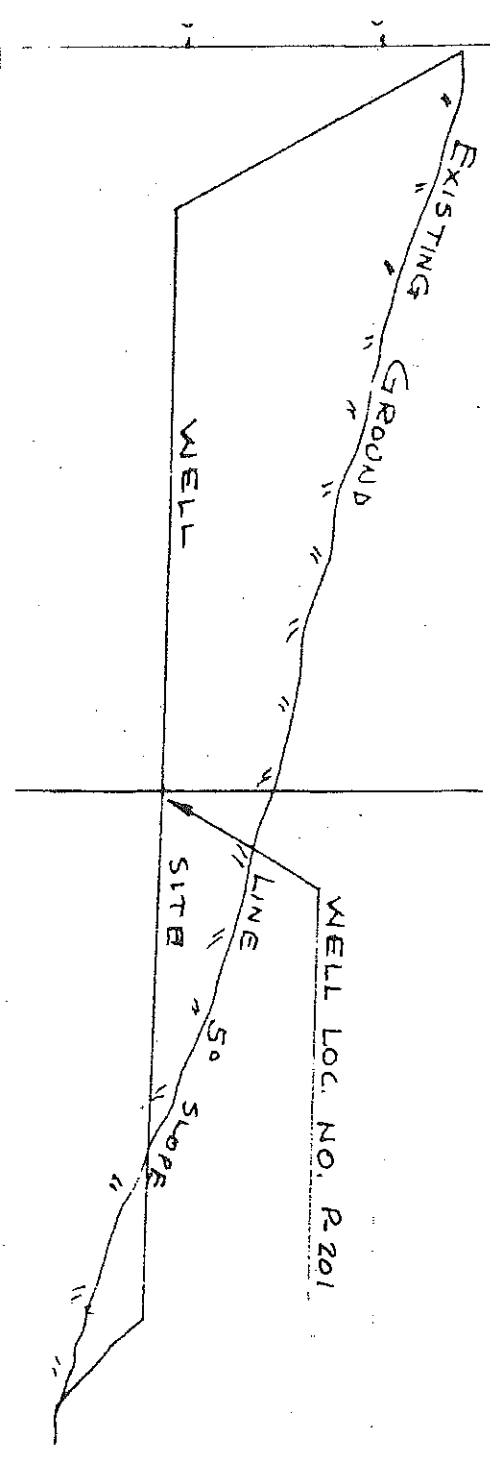
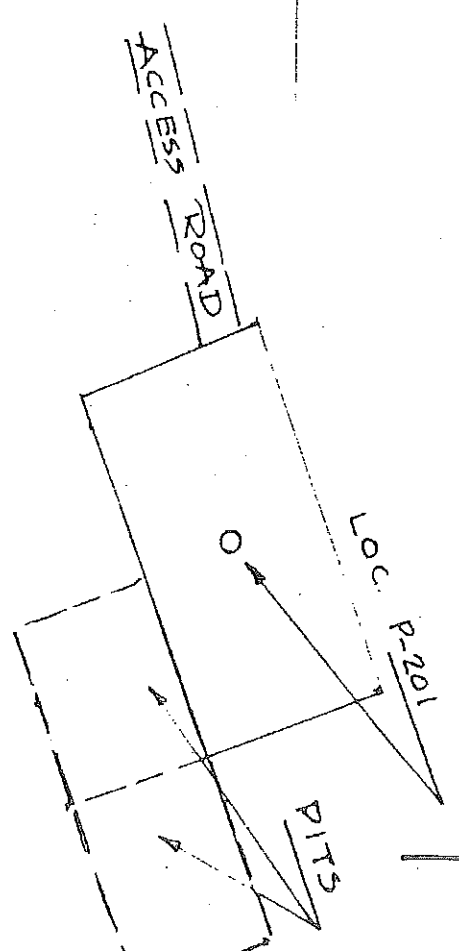


NORA, VA. TOPO

SCALE: 1"=400'



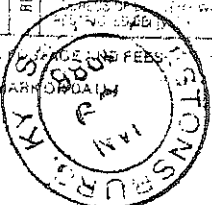
DETAIL SCALE:  
1" = 100'



P 311 323 077

RECEIPT FOR CERTIFIED MAIL

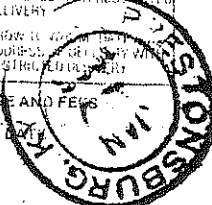
NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO <i>Elden R. Rasnick</i> STREET AND NO. <i>Rt. 2 Box 169B</i> CITY, STATE AND ZIP CODE <i>Chattanooga, TN 37428</i>	
POSTAGE	\$
CERTIFIED FEE	\$
SPECIAL DELIVERY	\$
RESTRICTED DELIVERY	\$
OPTIONAL SERVICES	\$
RETURN RECEIPT SERVICE	\$
SHOW TO WHOM AND DATE DELIVERED	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	\$
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	\$
TOTAL POSTAGE AND FEES	\$
POSTMARK OR DATE	

P 311 323 075

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

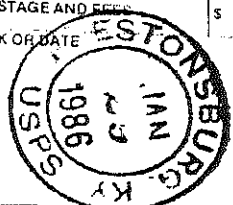
SENT TO <i>Allen Riser</i> STREET AND NO. <i>Pine Mountain Oil &amp; Gas Co.</i> CITY, STATE AND ZIP CODE <i>Box 7 Dante, VA 24237</i>	
POSTAGE	\$
CERTIFIED FEE	\$
SPECIAL DELIVERY	\$
RESTRICTED DELIVERY	\$
OPTIONAL SERVICES	\$
RETURN RECEIPT SERVICE	\$
SHOW TO WHOM AND DATE DELIVERED	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	\$
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	\$
TOTAL POSTAGE AND FEES	\$
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 311 323 068

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

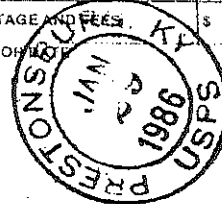
SENT TO <i>Garry Clive</i> STREET AND NO. <i>Pegasus Resource Co., P.O. Box 1357</i> CITY, STATE AND ZIP CODE <i>Abingdon, VA 24210</i>	
POSTAGE	\$
CERTIFIED FEE	\$
SPECIAL DELIVERY	\$
RESTRICTED DELIVERY	\$
OPTIONAL SERVICES	\$
RETURN RECEIPT SERVICE	\$
SHOW TO WHOM AND DATE DELIVERED	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	\$
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	\$
TOTAL POSTAGE AND FEES	\$
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

P 311 323 070

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO <i>Paul Smith</i> STREET AND NO. <i>Churchfield Coal Company</i> CITY, STATE AND ZIP CODE <i>Box 7 Dante, VA 24237</i>	
POSTAGE	\$
CERTIFIED FEE	\$
SPECIAL DELIVERY	\$
RESTRICTED DELIVERY	\$
OPTIONAL SERVICES	\$
RETURN RECEIPT SERVICE	\$
SHOW TO WHOM AND DATE DELIVERED	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	\$
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	\$
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	\$
TOTAL POSTAGE AND FEES	\$
POSTMARK OR DATE	

PS Form 3800, Apr. 1976



P 311 323 073

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Margorie Anderson*  
STREET AND NO.  
*Rt. 3, Box 165*  
P.O. STATE AND ZIP CODE  
*Clintwood, VA 24228*

POSTAGE

CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	
OPTIONAL SERVICES	SPECIAL DELIVERY	
RETURN RECEIPT SERVICE	RESTRICTED DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED	
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	

TOTAL POSTAGE AND FEES

POSTMARK OR DATE

PS Form 3800, Apr. 1976

*Well No. P-201*

PRESTONSBURG, KY  
JAN 22 1986

P 311 323 072

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Essie Stallard*  
STREET AND NO.  
*Rt. 2, Box 1867*  
P.O. STATE AND ZIP CODE  
*Palakka, FL 32017*

POSTAGE

CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	
OPTIONAL SERVICES	SPECIAL DELIVERY	
RETURN RECEIPT SERVICE	RESTRICTED DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED	
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	

TOTAL POSTAGE AND FEES

POSTMARK OR DATE

PS Form 3800, Apr. 1976

*Well No. P-201*

PRESTONSBURG, KY  
JAN 22 1986

P 311 323 066

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Mozelle Steffey*  
STREET AND NO.  
*Clintwood, VA 24228*  
P.O. STATE AND ZIP CODE

POSTAGE

CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	
OPTIONAL SERVICES	SPECIAL DELIVERY	
RETURN RECEIPT SERVICE	RESTRICTED DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED	
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	

TOTAL POSTAGE AND FEES

POSTMARK OR DATE

PS Form 3800, Apr. 1976

*Well No. P-201*

PRESTONSBURG, KY  
JAN 22 1986

P 311 323 076

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO  
*Henry Rasnick*  
STREET AND NO.  
*Box 372*  
P.O. STATE AND ZIP CODE  
*Haysi, VA 25425*

POSTAGE

CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	
OPTIONAL SERVICES	SPECIAL DELIVERY	
RETURN RECEIPT SERVICE	RESTRICTED DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED	
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	

TOTAL POSTAGE AND FEES

POSTMARK OR DATE

PS Form 3800, Apr. 1976

*Well No. P-201*

PRESTONSBURG, KY  
JAN 22 1986

PROOF OF NOTICE OF WELL WORK APPLICATION

The undersigned well operator, applicant in a Notice and Application for a Well Work Permit heretofore filed with the Inspector on \_\_\_\_\_, 19\_\_\_\_, respecting the well numbered above, submits the following proof of the statutory notice required by Code of Virginia § 45.1-313.E for the persons named in the Notice and Application as entitled to notice.

X Certified mail return receipt(s) for the following person(s):

Pegasus Resource Company  
c/o Mr. Larry Cline, Property Manager  
Rocky Top Development, Inc.  
Abingdon, VA 24210  
Pine Mountain Oil and Gas Company  
c/o Mr. Allen B. Kiser, Manager  
P.O. Box 7  
Dante, VA 24237  
Tilden R. Rasnick  
Rt. 2, Box 169B  
Clintwood, VA 24228  
Mozelle Steffey  
Clintwood, VA 24228

Clinchfield Coal Company  
c/o Mr. Paul Guill, Chief Engineer  
P.O. Box 7  
Dante, VA 24237  
Marjorie Anderson  
Rt. 3, Box 165  
Clintwood, VA 24228  
  
Essie Stallard  
Rt. 2, Box 1867  
Palakta, FL 32077  
Henry Rasnick  
Box 372  
Haysi, VA 25425

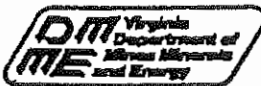
\_\_\_\_ Newspaper page or facsimile (or affidavit of publication) showing  
Notice by Publication (Form 6) for the following person(s):

WELL OPERATOR: Philadelphia Oil Company  
1101 N. Eastman Rd.  
Address: Kingsport, TN 37664  
  
Telephone: (615) 246-4332

(SUBMIT SUPPLEMENTAL SHEETS IF THE SPACE ABOVE IS NOT SUFFICIENT)

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Exploratic  
A Division of  
Equitable Resources Energy Corp.  
Operations Name: Equitable Resources Energy Corp.  
Permit #: 866 (P-201)



Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P. O. Box 1416  
Abingdon, Virginia 24210  
703/676-5423



**APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS**

Pursuant to VR 480-05-22.1, § 1.42, the undersigned permittee requests:

- A. ☒ Approval to transport and dispose of pit or produced fluids through an approved disposal site, which accepts pit or produced fluids from gas and oil operations.
- B. ☐ Approval for a one time application of pit fluids on the permitted site.

For applications under A, the permittee is required to submit the following with this application.

1. Submit the appropriate federal, state, and/or local permit number of the facility the permittee is proposing to dispose of the fluids under.
2. Attach a copy of the appropriate sections of the permit, which allows acceptance of fluid waste from the gas and oil operations.
3. Submit the total estimated volume of fluid to be transported.

**SEE ATTACHED**

For applications under B, the permittee must complete the following information with the appropriate documentation with the application.

**A. Pit Fluid Characterization:**

Date Pit was First Used \_\_\_\_\_ Estimated Volume of Pit Fluid \_\_\_\_\_ (Gals.)  
Description of the Constituents of the fluid placed in Pit \_\_\_\_\_

**B. Analysis of the Pit Fluid:**

<u>Analysis</u>	<u>Standard Limits</u>
pH _____	6-9 Standard Units
Oil and Grease _____	< 15 mg/l
Iron _____	< 7 mg/l
Manganese _____	< 4 mg/l
Acidity _____	< alkalinity
Alkalinity _____	> acidity
Chlorides _____	5,000 mg/l *
Sodium Balance _____	SAR of 8-12 **

\* For chlorides above 5,000 mg/l, the application will be reviewed to determine whether a permit would be required from the Virginia Water Control Board.

\*\* The Sodium Absorption Rate shall be determined on the soils to which the liquid is to be applied.

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Explorat  
A Division of  
Equitable Resources Energy C  
Operations Name: 866 (P-201)  
Permit #: 866 (P-201)

C. Verification of Analysis:

Attach the lab analysis and its results. Denote on the attachment the date, time, and method of collection and the of the analysis.

D. Description of Application Area:

Soil Type \_\_\_\_\_ Soil Permeability \_\_\_\_\_ Depth to Bedrock \_\_\_\_\_ Depth to Water Table \_\_\_\_\_  
Nearest Water Supply \_\_\_\_\_ Type: Well \_\_\_\_\_ Spring \_\_\_\_\_ Nearest Surface Water Courses \_\_\_\_\_  
Nearest Occupied Dwelling \_\_\_\_\_  
Total Acreage of Proposed Application Area \_\_\_\_\_ Average slope of the proposed area of land application \_\_\_\_\_

E. Location and Design Map:

A map on the scale of 1" = 400' showing the acreage within the permitted area to used for land application identify all surface waters, wells, springs, natural rock outcrops and property lines in relation to the proposed area of application. The map shall also delineate any buffer zones.

F. Method of Land Application:

Provide a narrative, describing the method in which you plan to land apply the pit fluids. The description include supporting calculations and other data to justify the flow rates, erosion controls and monitoring to used the application of the pit fluids. The narrative shall include supporting site measurements and other data concerning the noninterference to the groundwater within and adjacent to the land application and supporting site measurements other data concerning the protection of the existing vegetation.

CERTIFICATION:

I the undersigned applicant or permittee, certify that this document and all attachments were prepared under my direct supervision. The information submitted is, to the best of my knowledge, true, accurate, and complete.

(Signature) Douglas P. Lundy  
(Title) Operations Manager - Va.  
(Date) October 15, 1993

(FOR OFFICE USE ONLY: )  
(Approved \_\_\_\_\_ Denied \_\_\_\_\_ )  
( \_\_\_\_\_ Date \_\_\_\_\_ )  
(State Gas and Oil Inspector )

ATTACHMENT TO

APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

PART A Submittal:

1. The coalbed methane and/or convention wells and/or pipeline fluids will be disposed of utilizing UIC permitted wells P-148-WD, KYI-0507, KYI-0508 and KYI-0222.
2. The appropriate sections of UIC disposal permits for P-148-WD Well, KYI-0507 Well, KYI-0508, Well and the Magnum KYI-0222 Well are all separately filed with the Division of Gas and Oil in Abingdon, VA.
3. Equitable Resources Exploration will report produced fluid volumes in the monthly VA DGO production report. The volumes of fluid hauled will be tracked by Equitable Resources Exploration as required by DGO, and the tracking records will be available to DGO upon request.

CBM - Nora Field  
DPT/ 9-27-93

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Exploration  
A Division of  
Equitable Resources Energy Corp.  
Operations Permit # 875 (P-216)



Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P. O. Box 1416  
Abingdon, Virginia 24210  
703/676-5423



**APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS**

Pursuant to VR 480-05-22.1, § 1.42, the undersigned permittee requests:

- A. ☒ Approval to transport and dispose of pit or produced fluids through an approved disposal site, which accepts pit or produced fluids from gas and oil operations.
- B. ☐ Approval for a one time application of pit fluids on the permitted site.

For applications under A, the permittee is required to submit the following with this application.

1. Submit the appropriate federal, state, and/or local permit number of the facility the permittee is proposing to dispose of the fluids under.
2. Attach a copy of the appropriate sections of the permit, which allows acceptance of fluid waste from the gas and oil operations.
3. Submit the total estimated volume of fluid to be transported.

**SEE ATTACHED**

For applications under B, the permittee must complete the following information with the appropriate documentation with this application.

**A. Pit Fluid Characterization:**

Date Pit was First Used \_\_\_\_\_ Estimated Volume of Pit Fluid \_\_\_\_\_ (Gals.)  
Description of the Constituents of the fluid placed in Pit \_\_\_\_\_

**B. Analysis of the Pit Fluid:**

<u>Analysis</u>	<u>Standard Limits</u>
pH _____	6-9 Standard Units
Oil and Grease _____	< 15 mg/l
Iron _____	< 7 mg/l
Manganese _____	< 4 mg/l
Acidity _____	< alkalinity
Alkalinity _____	> acidity
Chlorides _____	5,000 mg/l *
Sodium Balance _____	SAR of 8-12 **

\* For chlorides above 5,000 mg/l, the application will be reviewed to determine whether a permit would be required from the Virginia Water Control Board.

\*\* The Sodium Absorption Rate shall be determined on the soils to which the liquid is to be applied.

Department of Mines, Minerals and Energy  
Division of Gas and Oil

Equitable Resources Explorat  
A Division of  
Equitable Resources Energy C  
Operations Name: Equitable Resources Energy C  
Permit #: 875 (P-216)

C. Verification of Analysis:

Attach the lab analysis and its results. Denote on the attachment the date, time, and method of collection and the of the analysis.

D. Description of Application Area:

Soil Type \_\_\_\_\_ Soil Permeability \_\_\_\_\_ Depth to Bedrock \_\_\_\_\_ Depth to Water Table \_\_\_\_\_  
Nearest Water Supply \_\_\_\_\_ Type: Well \_\_\_\_\_ Spring \_\_\_\_\_ Nearest Surface Water Courses \_\_\_\_\_  
Nearest Occupied Dwelling \_\_\_\_\_  
Total Acreage of Proposed Application Area \_\_\_\_\_ Average slope of the proposed area of land application \_\_\_\_\_

E. Location and Design Maps:

A map on the scale of 1" = 400' showing the acreage within the permitted site to used for land application identify all surface waters, wells, springs, natural rock outcrops and property lines in relation to the proposed area of application. The map shall also delineate any buffer zones.

F. Method of Land Application:

Provide a narrative, describing the method in which you plan to land apply the pit fluids. The description include supporting calculations and other data to justify the flow rates, erosion controls and monitoring to used the application of the pit fluids. The narrative shall include supporting site measurements and other data concerning the noninterference to the groundwater within and adjacent to the land application and supporting site measurements other data concerning the protection of the existing vegetation.

CERTIFICATION:

I, the undersigned applicant or permittee, certify that this document and all attachments were prepared under my direct supervision. The information submitted is, to the best of my knowledge, true, accurate, and complete.

(Signature) Douglas P. Long  
(Title) Operations Manager - Vd.

(Date) October 15, 1993

(FOR OFFICE USE ONLY: )  
(Approved ✓ Denied \_\_\_\_\_ )  
( B. J. Ingham ) Date 11/1/93 )  
(State Gas and Oil Inspector )

ATTACHMENT TO

APPLICATION FOR DISPOSAL OF PIT OR PRODUCED FLUIDS

PART A Submittal:

1. The coalbed methane and/or convention wells and/or pipeline fluids will be disposed of utilizing UIC permitted wells P-148-WD, KYI-0507, KYI-0508 and KYI-0222.
2. The appropriate sections of UIC disposal permits for P-148-WD Well, KYI-0507 Well, KYI-0508, Well and the Magnum KYI-0222 Well are all separately filed with the Division of Gas and Oil in Abingdon, VA.
3. Equitable Resources Exploration will report produced fluid volumes in the monthly VA DGO production report. The volumes of fluid hauled will be tracked by Equitable Resources Exploration as required by DGO, and the tracking records will be available to DGO upon request.

CBM - Nora Field  
DPT/ 9-27-93





O. GENE DISHNER  
DIRECTOR

# COMMONWEALTH of VIRGINIA

*Department of Mines, Minerals, and Energy*

*Division of Mines*

*219 Wood Avenue*

*Big Stone, Virginia 24219-2799*

*(703) 523-0335*

*Harry D. Childress, Chief*

Reply To: Oil and Gas Section  
P. O. Box 1416  
Abingdon, Virginia 24210  
Telephone: (703) 628-8115

February 3, 1986

Mr. Mike Dovel  
Regional Geologist  
Virginia Water Control Board  
P. O. Box 888  
Abingdon, VA 24210

Dear Mr. Dovel:

Enclosed please find copies of well work permit applications submitted to this office on this date from Philadelphia Oil Company for wells P-201, P-202 and P-206 and proposed for Dickenson County, Virginia.

Should you have any comments concerning these applications, please submit them to this office no later than February 13, 1986.

If you have any questions, do not hesitate to call.

Sincerely,

James A. Henderson, Jr.  
Virginia Oil & Gas Inspector

DJD

Encs.

O. GENE DISHNER  
DIRECTOR



# COMMONWEALTH of VIRGINIA

*Department of Mines, Minerals, and Energy*

*Division of Mines*

*219 Wood Avenue*

*Big Stone, Virginia 24219-2799*

*(703) 523-0335*

*Harry D. Childress, Chief*

Reply To: Oil and Gas Section  
P. O. Box 1416  
Abingdon, Virginia 24210  
Telephone: (703) 628-8116

February 18, 1986

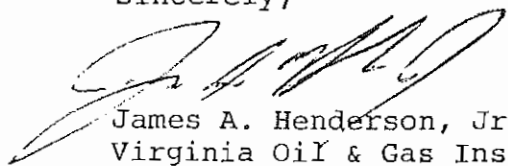
Mr. Randell Stallard  
Building Inspector  
Drawer 1  
Clintwood, VA 24228

Dear Mr. Stallard:

Enclosed you will please find information sheets on wells which have been issued drilling permits on this date.

Should you have any questions concerning the contents of these sheets, do not hesitate to call.

Sincerely,



James A. Henderson, Jr.  
Virginia Oil & Gas Inspector

DJD

Encs.

cc: Mr. David Hancock, Petroleum Information  
Mr. Charles Baker, Lonesome Pine SWCD

O. GENE DISHNER  
DIRECTOR



# COMMONWEALTH of VIRGINIA

*Department of Mines, Minerals, and Energy*

*Division of Mines*

*219 Wood Avenue*

*Big Stone, Virginia 24219-2799*

*(703) 523-0335*

*Harry D. Childress, Chief*

Reply To: Oil and Gas Section  
P. O. Box 1416  
Abingdon, Virginia 24210  
Telephone: (703) 628-8115

February 18, 1986

Mr. Don Hall  
Philadelphia Oil Company  
P. O. Box 313  
Nora, VA 24272

Dear Don:

Enclosed please find permits numbered 866, 867 and 868 for wells P-201, P-202 and P-206, respectively.

These permits are being issued with the following conditions:

1. Only potable water shall be used in the drilling operations until the water protection string is properly cemented
2. All pits shall be lined with a material of sufficient size and strength to contain all expected fluids

If you should have any questions, do not hesitate to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "J. A. Henderson, Jr.", written over the typed name.

James A. Henderson, Jr.  
Virginia Oil & Gas Inspector

DJD

Encs.

cc: PECO, Kingsport, Tennessee

# PINE MOUNTAIN Oil and Gas Company



P.O. Box 7  
Dante, Virginia 24237

A Division Of The Pittston Company

703-495-8700

January 21, 1986

Mr. B. C. Spradlin  
Manager of Plans and Surveys  
Kentucky-West Virginia Gas Company  
Box 431  
Prestonsburg, Kentucky 41653

Re.: Proposed Location of Gas Well No. P-201

Dear Mr. Spradlin:

The above well location has been reviewed regarding coal mining and production as provided in the lease.

Please be advised that the location has been approved as proposed in your letter of January 15, 1986, provided the well is drilled within twenty-four (24) months from today's date. Consider this approval withdrawn if the well is not drilled within this time.

Sincerely,

*Allen B. Kiser* AB

Allen B. Kiser  
Manager of Operations  
Pine Mountain Oil and Gas Company

ABK:sj

c: Paul Guill  
Larry Cline  
Don Hall

22 December 1986

Mr. Milfred Stern  
Assistant Oil and Gas Inspector  
P. O. Box 144  
Abingdon, Virginia 24210

Re: Tilden B. Rasnick, et al - Dickenson County, Virginia  
Philadelphia Well No. 201

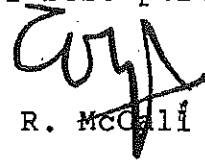
Dear Milfred:

Thanks very much for your time today in explaining the situation concerning the access in to the well. My clients would be very willing to provide the old Clinchfield access in and to the well, and sign and execute whatever documents are necessary; however, they have objected to the arbitrary treatment, as well as taking a completely different area in and to the well.

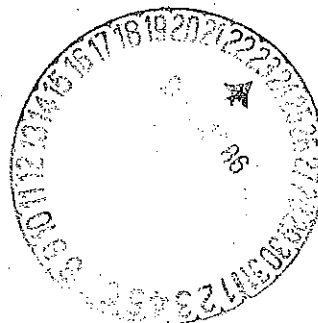
I understand you will advise me next week; if I do not hear from you by Tuesday or so, then I will call you.

Again, thanks very much for your help.

All best personal regards,

  
W. R. McCall

WRMcC:bh



PHILADELPHIA OIL COMPANY  
1101 N. Eastman Rd.  
Kingsport, TN 37664



Oil and Gas Inspector  
Division of Mines & Quarries  
Oil and Gas Section  
P.O. Box 1416  
Abingdon, VA 24210

Re: Permit to Drill Well No. P-201  
Philadelphia Oil Company Lease No. PO-148 (T-296)

Gentlemen:

We submit herewith Philadelphia Oil Company's application for permit to drill a well for oil and/or gas upon the tract of land described therein.

Agent's Check No. 362 in the amount of One Hundred Dollars (\$100.00), payable to Treasurer of Virginia is attached, said sum being payment of well permit fee.

Yours very truly,

H. E. Gardner, Vice President  
and General Manager

HEG/gjw  
Enclosures

cc: Mr. Don C. Hall  
Mr. Brint Camp

EQUITABLE RESOURCES EXPLORATION  
A Division of EQUITABLE RESOURCES ENERGY COMPANY

P. O. Box 313  
Nora, VA 24272



October 15, 1993

B. T. Fulmer  
Oil and Gas Inspector  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, VA 24210

RE: DGO Permit No. 866 (P-201)

Dear Mr. Fulmer:

Enclosed please find an application for produced fluid disposal for the above Equitable Resources Exploration operated conventional well located in the Nora Field.

Should you have any questions, please feel free to contact me at Phone # 1-703-835-9134.

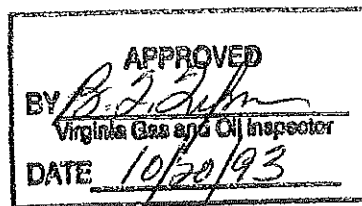
Sincerely,

*Douglas P. Terry*  
Douglas P. Terry  
Operations Manager-VA

Certified RRR  
Enclosures

CC: Well Files  
Lee Talbott  
Don Hall

PC: CBM-haul.1





EQUITABLE RESOURCES EXPLORATION  
A Division of EQUITABLE RESOURCES ENERGY COMPANY

P. O. Box 313  
Nora, VA 24272

October 18, 1993

B. T. Fulmer  
Oil and Gas Inspector  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, VA 24210



RE: DGO Permit No. 875 (P-216)

Dear Mr. Fulmer:

Enclosed please find an application for produced fluid disposal for the above Equitable Resources Exploration operated conventional well located in the Nora Field.

Should you have any questions, please feel free to contact me at Phone # 1-703-835-9134.

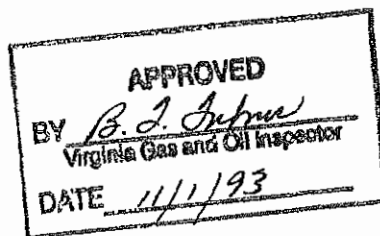
Sincerely,

*Douglas P. Terry*  
Douglas P. Terry  
Operations Manager-VA

Certified RRR  
Enclosures

CC: Well Files  
Lee Talbott  
Don Hall

PC: CBM-haul.1





## INSPECTION REPORT

COMPANY EROXWELL P-201COUNTY 01FILE 01-266TIME 5:15 DATE 9-4-90INSPECTOR mjs

## SITE INSPECTION

## PRE-PERMIT:

PLAN ACCEPTABLE      LOCATION CORRECT      DRAINAGE CONTROLLED      SEDIMENTATION CONTROLLED       
COMMENTS     

## SITE CONDITION:

DRAINAGE OK TEMPORARY SEEDING ✓ SEEDING ✓  
DRAINAGE CONTROL ✓ BACKFILLED ✓ TRASH NO  
SEDIMENT CONTROL ✓ SUBSIDENCE NO SIGN ✓  
COMMENTS Reel m m k

## PIT CONDITION:

APPROXIMATE SIZE      PLASTIC LINED      BACKFILLED ✓ STABILITY OK  
COMMENTS     

## ROAD CONDITION:

GRADE: STEEP ✓ MODERATE      FLAT      GRAVEL Regrading  
COMMENTS needed

## PIPELINE CONDITION:

SIZE      SURFACE      BURIED      LENGTH (INSPECTED)       
COMMENTS     

## TYPE OF INSPECTION

PRE-APPLICATION	0
PRE-PERMIT	1
DRILLING	2
COMPLETION	3
PRODUCING	4
PLUGGED	5
AERIAL	6
COMPLAINT	7
SHUT-IN	8
CONSTRUCTION	9
OTHER	10
RE-INSPECTION	11
RECORD	12
RECLAIMING	13
PIPELINE	
PRE-PERMIT	14
CONSTRUCTION	15
OPERATION	16
RE-INSPECTION	17
COMPLAINT	18

## ACTION OF INSPECTOR

NONE	0
SITE OK	1
OPERATOR INFORMED OF	
POTENTIAL PROBLEM	2
VIOLATION ISSUED	3
OPERATIONS HAULTED	4
SITE POSTED	5
PLAN APPROVED	6
VIOLATION CANCELLED	7
CONSULTATION	8
PLAN NOT APPROVED	9

## RIG AND WELL INSPECTION

TYPE: ROTARY      CABLE TOOL      WORKOVER      COMPANY NO RIG  
SAFETY EQUIPMENT: HARD HATS      BLOWOUT EQUIPMENT      WORK AREA       
HARD TOES      FIRE EXTINGUISHERS      WORKMEN ON RIG       
DEPTH      DEVIATION      DEGREES AT      FEET CASING IN HOLE       
COMMENTS     

PLUGGED	<u>NO</u>	PRODUCING	<u>✓</u>	EQUIPMENT		TANKS	<u>NO</u>
MONUMENT	<u>NO</u>	CASING IN HOLE	<u>4 1/2</u>	DYKES	<u>NO</u>	LEAKS	<u>NO</u>
SIGN	<u>✓</u>	EQUIPMENT	<u>meter tape</u>				
COMMENTS	<u>    </u>						

## FOLLOW-UP

NONE	0
CONTACT COMPANY	1
CONTACT COMPLAINANT	2
RE-INSPECTION NECESSARY	3
REDUCE INSPECTION	
FREQUENCY	4

## ACTIONS OF INSPECTOR

SECTION OR REGULATION CITED       
COMPANY NOTIFIED       
COMMENTS     COMMENTS ON BACK  
(LIMIT COMMENTS TO  
50 CHARACTERS)ON COMPUTER ✓INSPECTOR Wilford Stearn

## INSPECTION REPORT

COMPANY EREX  
 WELL NAME/NUMBER P-201  
 COUNTY DICKENSON

FILE NUMBER D1-266  
 TIME 12:00 PM DATE 3-30-89  
 INSPECTOR MJS

## SITE INSPECTION

## PRE-PERMIT:

PLAN ACCEPTABLE \_\_\_\_\_ LOCATION CORRECT \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## SITE CONDITION:

DRAINAGE OK BACKFILLED ✓  
 DRAINAGE CONTROL ✓ SUBSIDENCE no  
 SEDIMENT CONTROL ✓ SEEDED ✓  
 TEMPORARY SEEDING \_\_\_\_\_ TRASH \_\_\_\_\_  
 COMMENTS Reclaim oil

## PIT CONDITION:

APPROXIMATE SIZE \_\_\_\_\_ BACKFILLED ✓  
 PLASTIC LINED \_\_\_\_\_ STABILITY \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## ROAD CONDITION:

GRADE: STEEP ✓ MODERATE \_\_\_\_\_ FLAT \_\_\_\_\_  
 GRAVEL \_\_\_\_\_  
 COMMENTS need to recut water bars

## RIG INSPECTION

TYPE: ROTARY \_\_\_\_\_ CABLE TOOL \_\_\_\_\_ WORKOVER \_\_\_\_\_ COMPANY \_\_\_\_\_  
 SAFETY EQUIPMENT: HARD HATS \_\_\_\_\_ BLOWOUT EQUIPMENT \_\_\_\_\_  
 HARD TOES \_\_\_\_\_ FIRE EXTINGUISHERS \_\_\_\_\_  
 WORK AREA \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

DEPTH \_\_\_\_\_ WELL PROGRESS \_\_\_\_\_  
 DEVIATION \_\_\_\_\_ DEGREES AT \_\_\_\_\_ FEET \_\_\_\_\_  
 NUMBER OF WORKMEN ON RIG \_\_\_\_\_ TOOL PUSHER \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

PLUGGED \_\_\_\_\_ EQUIPMENT \_\_\_\_\_  
 MONUMENT/SIGN \_\_\_\_\_ EQUIPMENT \_\_\_\_\_  
 PRODUCING \_\_\_\_\_ TANKS \_\_\_\_\_  
 CASING IN HOLE \_\_\_\_\_ DYKES \_\_\_\_\_  
 COMMENTS \_\_\_\_\_ LEAKS \_\_\_\_\_

## ACTION OF INSPECTOR

SECTION OF REGULATION CITED \_\_\_\_\_  
 COMPANY NOTIFIED \_\_\_\_\_  
 VIOLATION ISSUED \_\_\_\_\_ POSTED \_\_\_\_\_  
 COMMENTS \_\_\_\_\_

## TYPE OF INSPECTION

PRE-APPLICATION 0  
 PRE-PERMIT 1  
 DRILLING 2  
 COMPLETION 3  
 PRODUCING 4  
 PLUGGED 5  
 AERIAL 6  
 COMPLAINT 7  
 SHUT-IN 8  
 CONSTRUCTION 9  
 OTHER 10  
 RE-INSPECTION 11  
 RECORD 12  
 PIPELINE  
 PRE-PERMIT 13  
 CONSTRUCTION 14  
 OPERATION 15  
 RE-INSPECTION 16  
 COMPLAINT 17

## ACTION OF INSPECTOR

NONE 0  
 SITE OK 1  
 OPERATOR INFORMED OF  
 POTENTIAL PROBLEM 2  
 VIOLATION ISSUED 3  
 OPERATIONS HALTED 4  
 SITE POSTED 5  
 PLAN APPROVED 6  
 VIOLATION CANCELLED 7  
 CONSULTATION 8  
 PLAN NOT APPROVED 9

## FOLLOW-UP

NONE 0  
 CONTACT COMPANY 1  
 CONTACT COMPLAINANT 2  
 RE-INSPECTION NECESSARY 3  
 REDUCE INSPECTION  
 FREQUENCY 4

COMMENTS ON BACK  
 (LIMIT COMMENTS TO  
 50 CHARACTERS)

ON COMPUTER

*Mulford Stur*  
 INSPECTOR

FILE NUMBER DI-266

INSPECTION REPORT

DATE 12-23-86 COMPANY POC  
TIME 1200 PM WELL NAME/NUMBER P-201  
INSPECTOR MJS COUNTY PICKENSON  
DRILLING      STIMULATING      PLUGGING      PRODUCING X PLUGGED      OTHER     

SITE INSPECTION

PIT CONDITION:

Earthen      Approximate Size      Backfilled ✓  
Plastic Lined      Stability       
Comments     

SITE CONDITION:

Drainage GOOD Backfilled ✓  
Drainage Control NO Subsidence NO  
Sediment Control NO Seeded ✓  
Temporary Seeding NO Trash NO  
Comments     

ROAD CONDITION:

GRADE: Flat      Moderate      Steep ✓  
Gravel       
Comments     

RIG INSPECTION

TYPE: Rotary      Cable Tool      Workover       
Safety Equipment: Hard Hats      Blowout Equipment       
Hard Tools      Fire Extinguishers       
Work Area       
Comments     

NO RIG

WELL PROGRESS

Depth 2 Casing In Hole 4 1/2"  
Deviation      ° at      feet  
Number of Workmen on rig      Tool Pusher       
Comments     

EQUIPMENT

Plugged      Equipment OKR + meter  
Monument/sign ✓ Tanks N/A  
Producing ✓ Dykes N/A  
Casing In Hole 4 1/2 Leaks NO  
Comments     

ACTIONS OF INSPECTOR

Section or Regulation Cited       
Company Notified       
Violation Issued      Posted       
Comments     

M. J. S.  
Inspector

Date: 0-1, 1900

Operator's  
Well No.

P-201

VIRGINIA OIL AND GAS INSPECTOR  
Department of Labor & Industry  
Oil and Gas Section  
205 W. Main Street  
Abingdon, Virginia 24210  
Phone 703 628-8115

CERTIFICATION OF LOCATION OF A NEW WELL

I, the undersigned, hereby certify that I am familiar with the well plat showing the permitted location of the new well authorized by Permit No. 866 and that the well has been drilled in compliance with the standard of Regulation 4.02 of the Regulations promulgated pursuant to the Virginia Oil and Gas Act, as follows:

✓

within three feet of the location as permitted in an area underlain by known coal seams identified by the Chief of the Division of Mines pursuant to Code of Virginia § 45.1-333, or

within ten feet of the location permitted in other areas.

Charles Martin  
Authorized Agent

APPROVED \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

Company POC

Date 2/6/86

Well Number P-201

Time 300 PM

County DICKENSON

Inspector MJS

Is hole staked? ✓

Is location correct? ✓

Were offsets/backsights/alignment points found as indicated on the plat? ✓

Condition of the site: Undisturbed ✓

Cleared                     

Graded                     

Pit(s) dug                     

Comments/Recommendation:

PERMIT INFORMATION

Company Name Philadelphia Oil Company  
Well Name P-201  
File Number DI-266  
API Number 45-051-20866  
Permit Number 866  
Farm Name W. F. Grizzle  
Date of Permit 2-18-86  
District Ervinton  
Quadrangle Nora  
Latitude 9,260 ' South of 37 ° 07 ' 30 "  
Longitude 2,320 ' West of 82 ° 15 ' 00 "  
Surface Elevation 1,908.84 '  
Projected Depth 5,119 '  
Target Formation Berea  
County Dickenson  
Jurisdictional \_\_\_\_\_

January 13, 1986

Mr. Paul Guill, Chief Engineer  
Clinchfield Coal Company  
P.O. Box 7  
Dante, VA 24237

Pegasus Resource Company  
c/o Mr. Larry Cline, Property Mgr.  
Rocky Top Development, Inc.  
P.O. Box 1357  
Abingdon, VA 24210

Mr. Allen B. Kiser, Mgr.  
Pine Mountain Oil and Gas Company  
P.O. Box 7  
Dante, VA 24237

RE: PHILADELPHIA OIL COMPANY - WELL NO. P-201

Gentlemen:

Attached is a plat showing proposed Well Location No. P-201 upon Philadelphia Oil Company Lease No. PO-148 (T-296), W. F. Grizzle 149.36 acres situated on Breeden Branch of Fryingpan Creek, Dickenson County, Virginia.

The elevation of the proposed well location is 1908.84 feet above sea level and the coordinates are: S. 252.087; E. 36626.407.

We propose to install approximately 2111 feet of 8-5/8 inch casing in the well to be cemented to the surface to protect unoperated coal and surface water.

This location was tentatively approved by the above-mentioned companies recently, designated as No. 85-35.

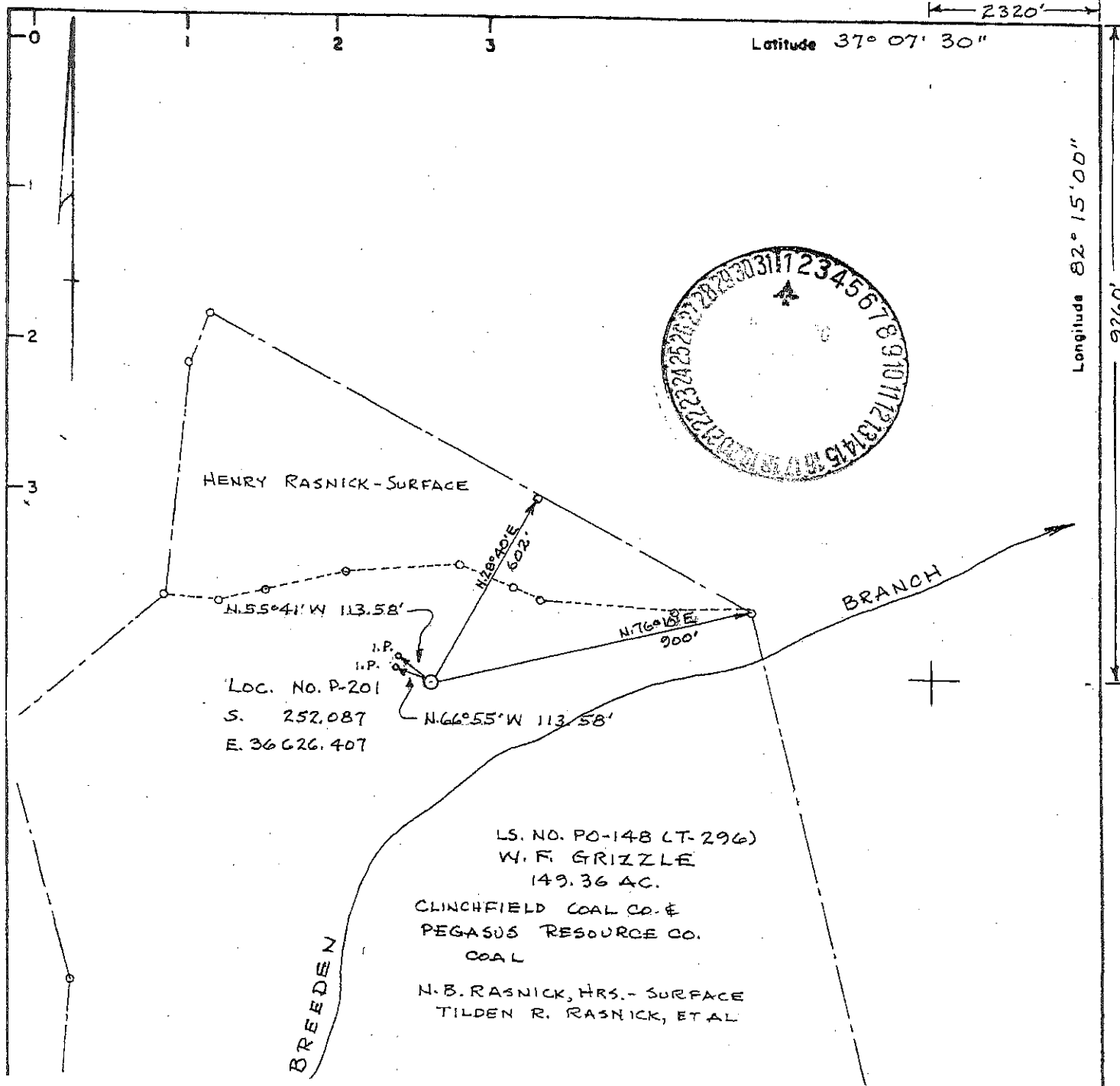
Please notify me by mail at your earliest convenience as to whether there will be any objections to this location as proposed.

Sincerely,

*B. C. Spradlin*  
B. C. Spradlin, Manager of Plans & Surveys  
Kentucky West Virginia Gas Company  
P.O. Box 431  
Prestonsburg, KY 41653

cc: Don C. Hall, Philadelphia Oil Company

(FOR OFFICE  
(USE ONLY:



VIRGINIA  
DEPARTMENT  
DI  
OII  
205  
ABINGE  
PHC

+ Denotes location  
graphic Maps, scale  
longitude lines are  
shown.

This plat is new X

This plat is X / 1  
coordinate syste  
of the well loca

Well operator Pl

Address K

Farm W. F.

Tract T-296 Acr

Elevation

Quadrangle Nora

County Dickenson

Registered Engineer

Certified Land Surv

File No.

Date 12-16-1985

Certifi



# DRILLER'S LOG

Compiled by Brint Camp

Geolo- gical Age	Formation	General Lithology	Color	Depth (feet)		Thickness	Remarks
				Top	Bottom		
Pennsylvanian	Sand & Shale			0	2667	2667	
Mississippian	Ravencliff			2667	2824	157	
"	Little Stone Gap			2824	2884	60	
"	Shale			2884	2968	84	
"	Maxon Sands			2968	3622	654	
"	Shale			3622	3756	134	
"	Little Lime			3756	3832	76	
"	Lime & Shale			3832	3950	118	
"	Big Lime			3950	4390	440	
"	Keener			4390	4400	10	
"	Weir			4400	5004	604	
"	Coffee Shale			5004	5076	72	
"	Berea			5076	5150	74	
Devonian	Brown Shale			5150	5260	110	

Complete on supplemental sheet as necessary

DIRECTIONAL SURVEY

P-201

<u>Depth</u>	<u>Degree</u>
261	3/4
400	1/4
601	1/4
820	1/4
1008	1 3/4
1229	1
1415	1/2
1600	2
1786	1 1/2
2005	2
1995	1 1/4
2224	1 1/4