

WS-179

API WELL NO. 45 - 195 - 20838

State County Permit

PHILA. OIL CO.  
JAMES H. DUNN

Date: May 20, 1986

Operator's Well

Name: James H. Dunn Well No. P-204

P-204  
SUR. EL-2539.24'

CANEY RIDGE-7 1/2'

VIRGINIA OIL AND GAS INSPECTOR

205 W. MAIN STREET

ABINGDON, VA 24210

703-628-3115

CR-94

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 Kenady District, Wise County, Virginia on 5 day, 5 month, 1986.

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 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 X / was not \_\_\_ / run for other purposes. This survey did \_\_\_ / did not X / 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 X / 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 X / 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 X / 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 1, (OBVERSE)

API WELL NO. 45 - 195 - 20838  
State County Permit  
Date: May 20, 1986  
Operator's Well  
Name James H. Dunn Well No. P-204

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

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

GEOLOGICAL TARGET FORMATION Corniferous  
DEPTH OF COMPLETED WELL 6819 FEET  
DATE DRILLING COMMENCED 1/31/86  
DATE DRILLING COMPLETED 2/11/86  
DRILLING RIG: ROTARY X / CABLE TOOL        /

GEOLOGICAL DATA      Depth      Thickness  
                            Top      Bottom

Fresh Water      55', 280'

Salt water

Coal Seams      401-03      2560-63      Name      MINING IN AREA  
                            866-69                           ~~Yes~~ ~~No~~ ~~Mixed~~ ~~Other~~  
                            1072-76

Oil                                      Formation

Gas                                      Formation

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 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	18'	18'		
	11 3/4"	0	268'	268'		

<u>CASING CIRCULATED AND CEMENTED IN TO SURFACE:</u>	8 5/8"	0	2643'	2643'		
--	--------	---	-------	-------	--	--

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	6775'	6775'	6557-6747
	2 3/8"	0	5322'	5322'	5878-6412 5294-5309

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	2 3/8" X 4 1/2"	5322'
	Solid Bridge Plug-	4 1/2"	6440'

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.

DRILLER'S LOG

Compiled by Brint Camp

Geological Age	Formation	General Lithology	Color	Depth (feet)		Thickness	Remarks
				Top	Bottom		
Pennsylvanian	Sand & Shale			0	3170	3170	
Mississippian	Ravencliff			3170	3224	54	
"	Little Stone			3224	3300	76	
"	Shale			3300	3376	76	
"	Maxon Sands			3376	4006	630	
"	Shale			4006	4128	122	
"	Little Lime			4128	4185	57	
"	Lime & Shale			4185	4296	111	
"	Big Lime			4296	4728	432	
"	Keener			4728	4770	42	
"	Weir			4770	5199	429	
"	Coffee Shale			5199	5270	71	
"	Berea			5270	5312	42	
Devonian	Brown Shale			5312	6110	798	
"	White Slate			6110	6289	179	
"	Brown Shale			6289	6416	127	
Permian	Corniferous			6416	6819	403	
	Logger's Total Depth				6819		

Complete on supplemental sheet as necessary

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     60     MCFD  
Rock pressure:     --     psig     --     hour test

RECORD OF STIMULATION

Full description of stimulation:

Zone 1: Corniferous Formation  
was stimulated iwth SGA W/N2 acid using 1000 gal. acid.

Perforated 6557-6747 # Perfs. 13 Perf. Size .50  
Breakdown -- psig. Avg. Injection 5000 psig.  
Avg. I.R. 2 BPM Init. S.I.P. 2700psig 15 Min. S.I.P. -- psig  
Remarks: Would not break down

Zone 2: Brown Shale Formation  
was stimulated with 75 Q Foam using 55,000# sand, 321 BBLs  
fluid and 903,000 Scf N2.

Perforated 5878-6412 # Perfs. 23 Perf. Size .50  
Breakdown 3450 psig. Avg. Injection 3571 psig.  
Avg. I.R. 40 BPM Init. S.I.P. 2650psig 15 Min. S.I.P. -- psig

Zone 3: Berea Formation  
was stimulated with 75 Q Foam using 55,000# sand, 321 BBLs  
fluid and 732,000 Scf N2.

Perforated 5294-5309 # Perfs. 22 Perf. Size .38  
Breakdown 3000 psig. Avg. Injection 3027 psig.  
Avg. I.R. 44 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>    --    </u>	<u>    --    </u>	<u>    --    </u>	<u>    --    </u>
Zone 2:	<u>    --    </u>	<u>119 MCF</u>	<u>6 hrs.</u>	<u>715</u>	<u>48 hrs.</u>
Zone 3:	<u>    --    </u>	<u>84 MCF</u>	<u>6 hrs.</u>	<u>500</u>	<u>48 hrs.</u>

Final production if gas zones are comingled:                      MCFD  
                     hours tested:                      psig.                      hours tested

DIRECTIONAL SURVEY

P-204

<u>Depth</u>	<u>Degrees</u>
196	1
501	3/4
750	3/4
1062	3/4
1371	3/4
1620	1
1933	2
2214	1 1/2
2400	1 3/4
2679	1 3/4

4290

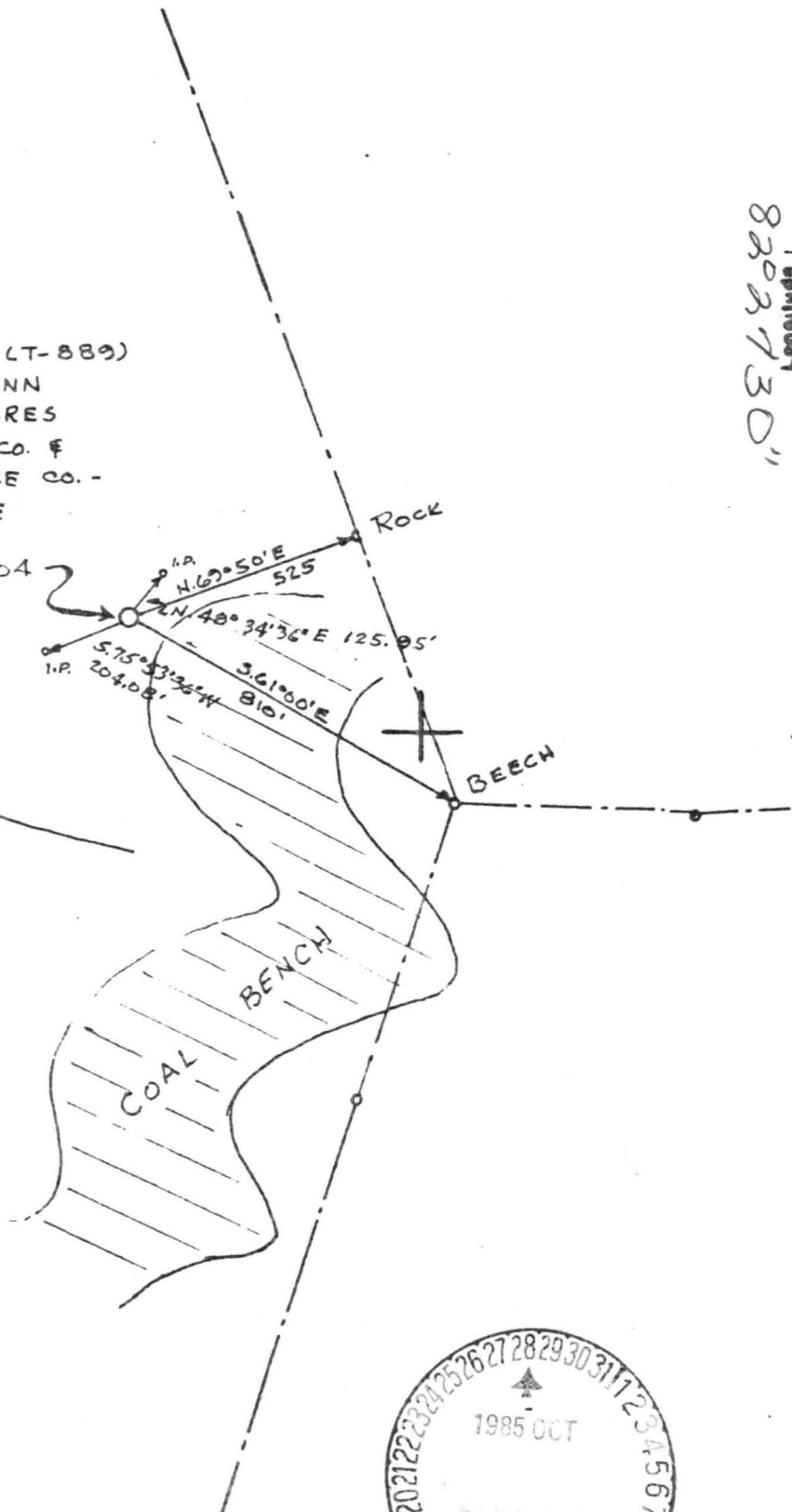
Latitude 37° 02' 30"

83° 27' 30"  
Longitude

LEASE NO. P0148 (T-889)  
JAMES H. DUNN  
2115.37 ACRES  
CLINCHFIELD COAL CO. &  
PEGASUS RESOURCE CO. -  
COAL & SURFACE

LOCATION No. P-204  
S. 30240.1234  
W. 26119.4754

BRANCH OF TRACE FORK OF  
CRANES NEST RIVER

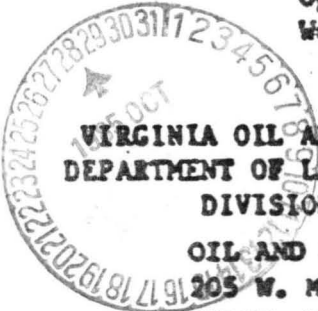


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Date: October 21, 1985

Operator's Well No. P-204



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

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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 James H. Dunn  
Tract T-889 Acres 2115.37 Lease No. PO-148  
Elevation 2539.24'  
Quadrangle Caney Ridge, VA.  
County Wise District Lipps  
Registered Engineer            Registration No.             
Certified Land Surveyor            Cert. No.             
File No.            Drawing No.             
Date 10-21-1985 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 Robinson, P.E. #871  
Registered Engineer or Certified Land Surveyor  
in Charge