API WELL NO. 45 State County	- 051 Permit	- 20837	
Date: April 1, 1986		31121314	100
Operator's Well		01011	10/6
Name Interstate Coal & Iron	P-205	100	
01-249		(A) Wall 1288	1920
OIL AND GAS INSPECTOR		4	27
5 W. MAIN STREET		(c)	N
INGDON, VA 24210		VID	who we
703-628-8115		CE 6207 170	136
		OCRCTO3	

PHILADEIPHIA OIL COMPANY
INTERSTATE COAL AND IRON VIRGINIA OIL AND GAS INSPECTOR
205 205 W. MAIN STREET
ABINGDON, VA 24210
703-628-8115
NORA-7/2

REPORT OF COMPLETION OF WELL WORK

Oil and Gas Act type(s) of well District, Dick	to Regulation 4.06 of the Regulations under the Virginia t, the undersigned well operator reports completion of the work specified below on the referenced well in Ervinton enson 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.l. from general oil
WELL WORK:	and gas conservation law: yes/ no/
	work was done as shown in the Appendix(es) applicable to well work involved.
CONFIDENTIALITY	STATUS UNDER CODE OF VIRGINIA SECTION 45.1-332.
X Nir	ety days from the filing of this report
ref	years from, 19, the date on which the erenced well was COMPLETED, the well being an exploraty well as defined in Code of Virginia Section 45.1-288.21.
Cor	y well as defined in code of virginia section 45.1-200.21.
	APPLICANT: Philadelphia Oil Company
	BY Brint Camp
	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

OI'HER 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 $\frac{X}{}$ was not $\frac{X}{}$ run for other purposes. This survey did $\frac{X}{}$ did not $\frac{X}{}$ 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 $\frac{\chi}{\chi}$ / 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 dia / 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 2 (Obverse)

API NO. 45- 051 - 20837

CASING AND TUBING PROGRAM

PRELIMINARY INFORMATION

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

	SIZE	TOP	BOTTOM	LENGTH PE	FROM TO	
CONDUCTOR:	16" 11 3/4"	0	16' 214'	16' 214'		
CASING CIRCULATED AND CEMENTED IN TO SURFACE:	8 5/8'	0	2218	2218'		
COAL PROTECTION CASING SET UNDER SPECIAL RULE OF CODE OF VIRGINIA 45.1-334.B:			•			
OTHER CASING AND TUBING LEFT IN WELL;	4 1/2'		6095 ' 5940 '	6095 ' 5940 '	5020-5086 5854-6035	

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

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

REMARKS: SHUT DOWN DEPTHS, DATES; FISHING JOB DEPTHS, DATES; CAVING;

SAMPLES AND CUTTINGS

WILL X	MITI'	NOI,	BE AVAILABLE FOR EXAMINATION BY A MEMBER OF THE
			VIRGINIA DIVISION OF MINERAL RESOURCES
WILL_X_	WILL	NOI,	BE FURNISHED THE VIRGINIA DIVISION OF MINERAL
			RESOURCES UPON REQUEST
AllL	WILL	NOT X	REQUIRE SACKS TO BE FURNISHED BY THE VIRGINIA
			DIVISION OF MINERAL RESOURCES.

FORM 16
APPENDIX A,
SHEET 1, (OBVERSE)

API W	ELL NO.		45 -	C)51 -	20837
		Sta	te	Cou	inty	Permit
Date:	April	1,	1986			
Opera	tor's W	ell				
Name	Inters	tate	Coal	&	Iron	

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

	IF DRILLING	s, REDRILLING,	OR DEEPENING	15 INVOLVED	
DRILLING OF ADDRESS	Р	nion Drilling, O. Drawer 40 04-472-4610	Inc. , Buchannon, W	V 26201	
DEPTH OF CO DATE DRILL DATE DRILL DRILLING R		6153 0 11/7/85 0 11/21/8 X / CABI	5 E TOOL	7	
GEOLOGICAL Fresh Water	Тор	pth Thick Bottom	iness		
riesii wate.	1038				
Salt water					
Coal Seams	289-294 442-445 535-542	657-660 661-665 680-683	Name 788-790 1086-1088 1121-1123 Formation	MINING IN AREA 1160-1162 1490-1495 1545-1550 1615-1620	
011	1		rainación		
Cas			Formation		
Gas			FORMACION		
below:	X Applican Informat	nt's own drill	ing experienc	n the source(s) chec e in the area perator in the area of the Inspector	ked

FORM 16 Appendix A, Sheet 2 (Reverse)

DRILLER'S LOG

Compiled by Brint Camp Geologocal General Depth (feet) Bottom Thickness Remarks Age Formation Lithology Color 2670 ennsylvanian Sand & Shale 0 2670 2670 2792 122 Ravencliff ississippian н 2792 2856 64 Little Stone Shale 2856 2929 73 Maxon Sands 481 2929 3410 302 3712 Shale 3410 3785 73 Little Lime 3712. 129 3785 3914 11 Lime & Shale 3914 4378 464 11 Big Lime 4378 4404 26 Keener 4404 4948 544 Weir Coffee Shale 4948 5016 68 5016 5102 86 Berea Brown Shale 5102 6036 934 6153 117 White Slate 6036 Logger's Total Depth 6153

API	No.	45 -	- 051	- 20837
		- Commence of the Commence of	And the second s	-

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

DISCO	VERI	OF OIL	UR .	TADTO	ALIU	CV	THERE	Or			·	
		potent d grad			befor	re	stinu	latio	n _			BOD
DISCO	VERY	OF GAS	OR :	INDIC	CATIO	NS	THERE	OF:				
Indica Rock	ated press	potent ure:	ial :	flow ps	befor	re	stimu	latio _ hou	n r te	st		MCFD
RECOR	D OF	STIMUL	A'l'IO	N								Év
Zone : was st fluid Perro Break	l: Br imula and 4 rated down	iption own Sha ted wi 2,500# 5854-0 2950 0_BPM	th a 20/4 6035 psic	75 Q 0 and	foam d 7500 # Pe	us)# erf	Forming 1. 10/20 s. 3 ection	sand. 5 P 4000	erf.	Si:	ze _	.50
fluid Perfor Break Avg.I	and 5 rated down_		20/4 -5086 _psic _Init	0 and	d 7500 # Pe 79. In .I.P20	erf nje	10/20. s2 ection _psiq	9 P 3900 15 M	erf. _ps in.	Si:	ze <u>·</u>	BBL 50 /A psig
zone .	J:						F	ormat	1011			
Avg.I	.R	BPM uction	_psiq Init	g. At	.P	n je	psig .	15 Mi	ps	1g.	P	psig
Zone :	1:	BOD	_	MC1			ours stea 6hrs.	Pre	ock ssur 30	e :	Hour I'este 48h	
2one	2:		_	34	0		6hrs.	6	80	_	48h	rs.
Zane :	3:		_			_		-			-	and the same of th
Final	prou	uction	it c	gas 2	zones	ar	e com	ingle	d:			_MCFD
	h	oure t	orto	1.			puia			tre	SUFE	tortod

DIRECTIONAL SURVEY

P-205

DEPTH	DEGREES
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

EL,-1885.66

45 API WELL NO. County Permit

State

Date: <u>April 1, 1986</u>

Operator's Well

Name Interstate Coal & Iron

PHILADELPHIA OIL COMPANY INTERSTATE COAL AND IRON CO. P-205 NORA-7/2

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



REPORT OF COMPLETION OF WELL WORK

Oil and Gas type(s) of	Act, th well wor	egulation 4.06 of the Regulations under the Virginia ne undersigned well operator reports completion of the referenced well in Ervinton County, Virginia on 26 day, 3 month,	
WELL WO	Di St Ex an RK: Dr Pl Pl	Gas X / Enhanced recovery / Waste isposal / If "Gas", Production X / Underground torage / Kempt by Code Section 45.1-300.B.l. from general oil ind gas conservation law: yes / no / rill X / Deepen / Redrill / Stimulate / lug off old formation / Perforate new formation / lug / Replug / Other physical change in well specify	
the type(s)	of well	was done as shown in the Appendix(es) applicable to work involved. ATUS UNDER CODE OF VIRGINIA SECTION 45.1-332.	
CCITI IDEATI IT	DITT DIA	1100 CHOLK COOD OF VINGINIA SECTION 43.1 132.	
X	Ninety o	days from the filing of this report	
	Two year	rs from, 19, the date on which the loced well was COMPLETED, the well being an exploratill 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 Road, Kingsport, TN 376 TELEPHONE 615-246-4332	64

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 $\frac{X}{}$ was not $\frac{X}{}$ run for other purposes. This survey did $\frac{X}{}$ did not $\frac{X}{}$ 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 dia / 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 2 (Obverse)

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 /

				P	ERFORATIONS	-
	SIZE	TOP	BOTTOM	LENGTH	FROM TO	C
CONDUCTOR:	16 " 11 3/4"	0	16' 214'	16' 214'		
CASING CIRCULATED AND CEMENTED IN TO SURFACE:	8 5/8"	0	2218'	2218		
COAL PROTECTION CASING SET UNDER SPECIAL RULE OF CODE OF VIRGINIA 45.1-334.B:						
OTHER CASING AND TUBING LEFT IN WELL;	4 1/2" 2 3/8"		6095 ' 5940 '	6095 ' 5940 '	5020-5086 5854 -6 035	

CODE OF VIRGINIA SECTION
45.1-336 OR OTHERWISE:

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

REMARKS: SHUT DOWN DEPTHS, DATES; FISHING JOB DEPTHS, DATES; CAVING;

SAMPLES AND CUTTINGS

WILL X	WILL	NO1,	BE AVAILABLE FOR EXAMINATION BY A MEMBER OF THE
			VIRGINIA DIVISION OF MINERAL RESOURCES
WILL X	WILL	NOI,	BE FURNISHED THE VIRGINIA DIVISION OF MINERAL
			RESOURCES UPON REQUEST
AllL	WILL	X 100	REQUIRE SACKS TO BE FURNISHED BY THE VIRGINIA
			DIVISION OF MINERAL RESOURCES.

FORM 16 APPENDIX A, SHEET 1, (OBVERSE)

API WELL NO). 45 -	051 -	20837
	State	County	
Date: Apri	1 1, 1986		
Operator's	Well		
Name Inter	state Coa	l & Iron	

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

	II Divided to find the first	and on bear an and	
DRILLING C	ONTRACTOR Union Drilling	ng. Inc.	
ADDRESS		40. Buchannon, W	V 26201
TELEPHONE	304-472-4610		
		0 0 1	
		Brown Shale	Ti
	COMPLETED WELL 6153 LING COMMENCED 11/7	/85	1
	LING COMPLETED 11/2		Trich costudent rain
DRILLING F		ABLE TOOL	/
		*	
CDOL COLON	Dama Double Me	; =l=====	
GEOLOGICAL	L DATA Depth Th Top Bottom	ickness	
	100 2000		
Fresh Wate			
	1038'		
Salt water	•		
			MINING IN AREA
Coal Seams		Name	MOREX NO MANAMENTA NOVINA
COAT SEATIS	289-294 657-660	788-790	1160-1162
	442-445 661-665	1086-1088 1121-1123	1490-1495 1545-1550
	535-542 680-683		1615-1620
Oil	* .	Formation	, , , , , , , , , , , , , , , , , , , ,
Gas		Formation	
	The data on depth of st	trata is based on	the source(s) checked
below:	V Amiliantic am dr	illing overrions	in the eres
	X_Applicant's own dr: Information supplie		
	Information already		
	Other (as follows)		

FORM 16 Appendix A, Sheet 2 (Reverse)

DRILLER'S LOG

Compiled by Brint Camp Geologocal Depth (feet) General Thickness Remarks Formation Lithology Color Bottom Age 0 2670 2670 ennsylvanian Sand & Shale 2670 2792 122 Ravencliff ississippian 11 Little Stone 2792 2856 64 Shale 2856 2929 73 Maxon Sands 2929 3410 481 302 Shale 3410 3712 3712. 3785 73 Little Lime 3785 3914 129 Lime & Shale 3914 4378 464 Big Lime 4378 Keener 4404 26 Weir 4404 4948 544 Coffee Shale 4948 5016 68 5016 5102 Berea 86 Brown Shale 5102 6036 934 White Slate 6036 6153 117 Logger's Total Depth 6153

API	No.	45 -	- 051	20837
		-	- The second of	artiference entertainment de modern

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

DISCOVERY	OF OIL OR	INDICATIO	NS THERE	OF	8	18.	
	potential nd grade:		re stimu	lation			BOD
DISCOVERY	OF GAS OR	INDICATION	NS THERE	OF			
Rock press	potential sure:	psig _	re stimu	lation _ hour	test		MCFU
Zone 1: B was stimul fluid and Perforated Breakdown	ription of rown Shale ated with a 42,500# 20/4 15854-6035 2950 pside	75 Q foam 0 and 7500 # Peg. Avg. Ir	Formusing 1. # 10/20 erfs. 3	sand. 5 Per 4000	f. Size	e50)
fluid and Perforated Breakdown Avg.I.R.	erea ated with a 52,500# 20/4 i 5020-5086 3400 psid 21 BPM Init	0 and 7500 # Peg. Avg. In c. S.I.P20	# $10/20$. erfs. 2 erfs. 2	9 Per 3900 15 Min	f. Size	e .50	
	psic BPM Init	•					_ _ psig
Cone 1:	BOD	MCFD 179	Hours Testea 6hrs.	Roci Pressu 930		dours ested 48hrs.	
cone 2:		340	6hrs.	680		48hrs.	
Zaie 3:							
inal prod	uction it o	gas zones	are comi	ngled:		М	CFU
	ours tested		psia.	•	hou	ırs te	stad

DIRECTIONAL SURVEY

P-205

DEPTH	DEGREES
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

(FOR OFFICE (USE ONLY:

API Well No. 45 - -

State County Permit

Date: September 5/

, 19 85

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 703 628-8115

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 /

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	
County Dicken	son District Ervinton
Registered Eng	ineer Registration No
Certified Land	Surveyor Cert. No
File No.	Drawing No.
Date 9-5-198	5 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.

Fully de Registered Engineer or Certified Land Surveyor

In Charge

payand manan

