

OIL AND GAS WELL
SUMMARY REPORT

API No. _____ VDMR Well
Rep. No. DI-258
DMQ File No. _____

Operator PHILADELPHIA OIL COMPANY

Farm A.A. SKEEN

Co. Well No. P-212

County DICKENSON Quadrangle _____

Location (UTM) _____ UTM Zone 17

(Lat. and Long.) _____

Field _____ Province _____

Elev. (specify) 2048.3 KB
2038.3 GR TD 6966 Form. at TD _____
Age _____

Date compl. or abandoned _____

Result _____

Gas Shows _____

Gas Pays _____

Main Production _____ Prod. Form. _____
Age _____

Treatment: _____

Initial Production _____

Oil shows _____

Water FW _____ at _____ at _____ at _____
SW _____ at _____ at _____ at _____

Coal _____

Plat _____ Plotted _____ Completion Report _____

Drillers Log _____ Geologic Log _____

Samples _____ Interval Sheet _____

Sample Interval _____

Remarks _____

Geophysical Logs S.P. _____ Res _____ Gamma _____ Neutron _____

Density _____ Sonic _____ Other _____

<u>Formation.</u>	<u>Top</u>	<u>Datum (Subsea)</u>	<u>Thickness</u>
<u>LITTLE LIME</u>	<u>3732</u>	<u>-1684</u>	<u>169</u>
<u>TOP GREENBRIER</u>	<u>3901</u>	<u>-1853</u>	
<u>BASE GREENBRIER</u>	<u>4356</u>	<u>-2308</u>	
<u>SUNBURY</u>	<u>4629</u>	<u>-2581</u>	
<u>BEREA</u>	<u>4993</u>	<u>-2945</u>	<u>81</u>
<u>DEVONIAN SHALE</u>	<u>5074</u>	<u>-3026</u>	

Remarks _____

References _____

Released to Open File: Completion _____
 Samples _____

(Note: UTM measurements in meters, all others in feet)

API WELL NO. 45 - 051 - 20848

State County Permit

Date: January 5, 1987

Operator's Well

Name A. A. Skeen No. P-212

PHILA. OIL CO,
A. A. SKEEN

P-212

HAYS1-7 1/2'

EL. - 2038.27

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

D-258



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 Sand Lick District, Dickenson County, Virginia on 31 day, 10 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.

- ___ Ninety days from the filing of this report OR
- X Two years from 10/31, 19 86, 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 1989 E. Stone Dr., Kingsport, TN 37660
TELEPHONE 615-378-5101

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.

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"	0	41	41		
<u>CASING CIRCULATED AND CEMENTED IN TO SURFACE:</u>	8 5/8"	0	2307	2307		
<u>COAL PROTECTION CASING SET UNDER SPECIAL RULE OF CODE OF VIRGINIA 45.1-334.B:</u>						
					6332-99	5000-72
<u>OTHER CASING AND TUBING LEFT IN WELL;</u>	4 1/2"	0	6896	6896	5947-6040	4122-38
	2 3/8"	0	5922	5922	5755-5896	4485-4516

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>
	Pengo Tension	2 3/8" X 4 1/2"	4188

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.

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 84 MCFD
Rock pressure: N/A psig N/A hour test

RECORD OF STIMULATION

Full description of stimulation:

Zone 1: Lower Brown Shale Formation
Formation would not break down (made two attempts). } Rhinesthat
} Marcellus

Perforated 6332-6399 # Perfs. 26 Perf. Size .39
Breakdown _____ psig. Avg. Injection _____ psig.
Avg. I.R. ___ BPM Init. S.I.P. ___ psig 15 Min. S.I.P. ___ psig

Zone 2: Middle Brown Shale Formation *LHuron*
stimulated with 75 Q foam using 30,000# sand, 500 gals.
28% acid, 580,000 SCF/N₂ and 344 bbls. fluid.
Perforated 5947 # Perfs. 6040 Perf. Size .39
Breakdown 3800 psig. Avg. Injection 3300 psig.
Avg. I.R. 10 BPM Init. S.I.P. 2500 psig 15 Min. S.I.P. 1900 psig

Zone 3: Upper Brown Shale Formation *LHuron*
stimulated with 75 Q foam using 5,000# 20/50 sand, 350 gals. *LHuron*
20% acid, 400,000 SCF/N₂ and 143 bbls. fluid (screened out) *LHuron*
Perforated 5755-5896 # Perfs. 26 Perf. Size .39
Breakdown 3550 psig. Avg. Injection 2700 psig.
Avg. I.R. 8.3 BPM Init. S.I.P. -- psig 15 Min. S.I.P. -- psig

Final production () natural () after stimulation

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

Final production if gas zones are comingled: 39 MCFD

6 hours tested: 600 psig. 48 hours tested

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 84 MCFD
 Rock pressure: N/A psig N/A hour test

RECORD OF STIMULATION

Full description of stimulation:

Zone 4: Berea Formation
stimulated with water/N₂ assist using 40,000# sand,
500 gals. acid, 334,000 SCF/N₂ and 950 bbls. fluid.
 Perforated 5000-5072 # Perfs. 26 Perf. Size .39
 Breakdown 1300 psig. Avg. Injection 1150 psig.
 Avg. I.R. 26 BPM Init. S.I.P. -- psig 15 Min. S.I.P. -- psig

Zone 5: Big Lime Formation
stimulated with acid/N₂ assist using 3000 gals. 28% acid,
500 gals. 20% acid, 140,000 SCF/N₂ and 245 bbls. fluid
 Perforated 4132-4138 # Perfs. 7 Perf. Size .39
 Breakdown 3400 psig. Avg. Injection 3180 psig.
 Avg. I.R. 10.5 BPM Init. S.I.P. 2200 psig 15 Min. S.I.P. 2290 psig

Zone 6: Weir Formation
stimulated with 75 Q foam using 30,000# sand, 350 gals.
20% acid, 495,000 SCF/N₂ and 238 bbls. fluid.
 Perforated 4485-4516 # Perfs. 16 Perf. Size .39
 Breakdown 1600 psig. Avg. Injection 2190 psig.
 Avg. I.R. 8 BPM Init. S.I.P. 1900 psig 15 Min. S.I.P. 1240 psig

Final production () natural (X) after stimulation

	BOD	MCFD	Hours Tested	Rock Pressure	Hours Tested
Zone 4:	_____	<u>581</u>	<u>6</u>	<u>600</u>	_____
Zone 5:	_____	<u>0</u>	<u>6</u>	<u>--</u>	<u>--</u>
Zone 6:	_____	<u>364</u>	<u>6</u>	<u>600</u>	<u>48</u>

Final production if gas zones are comingled: _____ MCFD

_____ hours tested: _____ psig. _____ hours tested

DRILLER'S LOG

Compiled by Brint Camp

Geolo- gical Age	Formation	General Lithology	Color	Depth (feet)		Thickness	Remarks
				Top	Bottom		
Pennsylvanian	Sand & Shale			0	2733	2733	
Mississippian	Ravencliff			2733	2882	149	
"	Little Stone Gap			2882	2912	30	
"	Shale			2912	2940	28	
"	Maxon Sands			2940	3534	594	
"	Shale			3534	3732	198	
"	Little Lime			3732	3780	48	
"	Lime & Shale			3780	3904	124	
"	Big Lime			3904	4356	4 52	
"	Keener			4356	4372	16	
"	Weir			4372	4902	530	
"	Coffee Shale			4902	4994	92	
"	Berea			4994	5082	88	
Devonian	Brown Shale			5082	6050	968	
"	White Slate			6050	6234	184	
"	Brown Shale			6234	6399	165	
Carboniferous/Silurian	Corniferous			6399	6817	418	
Devonian	Keefer Sand			6817	6842	25	
"	Clinton Shales			6842	6965	123	
	Logger's Total Depth			6965			

Complete on supplemental sheet as necessary

DIRECTIONAL SURVEY

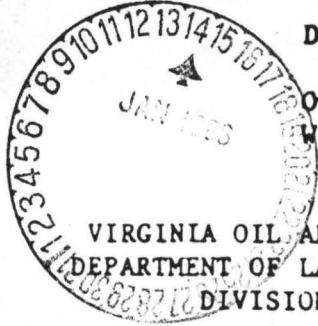
P-212

<u>Depth</u>	<u>Degree</u>
170	3/4
408	3/4
622	3/4
811	1
998	1 1/4
1216	1 1/2
1403	1
1622	1 1/2
1810	0
1999	1/2

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

Date: NOVEMBER 11, 1985

Operator's Well No. P-212



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

Address 1101 N. EASTMAN ROAD, KINGSPORT, TENN.

Farm A.A. SKEEN 37664

Tract T-438 Acres 79.96 Lease No. PO-148

Elevation 2038.27'

Quadrangle HAYSI

County DICKENSON District SAND LICK

Registered Engineer Registration No.

Certified Land Surveyor ✓ Cert. No. 26.871

File No. Drawing No.

Date 11-11-85 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 C. King, Jr., Va. #871
Registered Engineer or Certified Land Surveyor
in Charge

3100'

Latitude 37°10'00"

Longitude 82°15'00"

6,500'

LONNIE YATES - SURFACE

GARLAND L. WOOD - SURFACE

PEGASUS RESOURCE CO./ CLINCHFIELD COAL CO. - COAL

LOC. NO. 212
N15,842.3244
E 35,797.9067

N60°33'W
478'

N62°36'E, 162.33'
225.0' TO CORNER

N73°28'E,
182.63'

S33°24'E, 260.0'

LS. PO.-148 T-438

A.A. SKEEN
75.96 AC.

PEGASUS RESOURCE CO. & CLINCHFIELD COAL CO. - COAL

KEVIN OWENS - SURFACE

LS. P.O. 148 T-291
THOMAS FULLER
240.08 AC.

PEGASUS RESOURCE CO. & CLINCHFIELD COAL CO. - COAL

FINIS O QUINN - SURFACE

