

WS-413

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

Operations Name: PVRC (Hagan & Olinger) VCP3099  
Permit #: 2555

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



COMPLETION REPORT

WELL TYPE: Oil  Gas  Coalbed Methane  or Injection  well

Date Well Completed: 3-15-94 Total Depth of Well: LTD=2741 STD=2730

Attach the Drilling Report, if not previously submitted. In addition, submit any changes in casing or tubing that were approved after the Drilling Report was submitted.

STIMULATION RECORD

Zone 1: Coal Seams\* Formation Stimulated With: 70 Q Foam  
w/9500# 12/20 sand - 913840 SCF N<sub>2</sub> - 1406 BF - 700 gal 7.5% HCL acid  
Perforated: 2480.5 TO 2619.5 No. of Perforations: 16 Perforation Size: .34"  
Formation Broke Down at: 2193 PSIG Average Injection Rate: 5.6 BPM (19 DH)  
ISIP 3111 PSIG 5 MIN SIP 2412 PSIG Average Injection Pressure 3809 PSIG  
Date Stimulated 12-3-93

Warcreek, Beckley, Unnamed "D", L. Horsepen

Zone 2: Coal Seams\*\* Formation Stimulated With: 70 Q Foam  
w/5000# 20/40 & 9500# 12/20 sand - 432090 SCF N<sub>2</sub> - 1085 BF - 500 gal 7.5% HCL acid  
Perforated: 757.5 TO 949.5 No. of Perforations: 12 Perforation Size: .34"  
Formation Broke Down at: 2626 PSIG Average Injection Rate: 12.69 BPM  
ISIP 2051 PSIG 5 MIN SIP 1632 PSIG Average Injection Pressure 3554 PSIG  
Date Stimulated 3-15-94

\*\*L. Clintwood, Lyons, Dorchester, Norton

Zone 3: \_\_\_\_\_ Formation Stimulated With: \_\_\_\_\_  
Perforated: \_\_\_\_\_ TO \_\_\_\_\_ No. of Perforations: \_\_\_\_\_ Perforation Size: \_\_\_\_\_  
Formation Broke Down at: \_\_\_\_\_ PSIG Average Injection Rate: \_\_\_\_\_  
ISIP \_\_\_\_\_ PSIG \_\_\_\_\_ MIN SIP \_\_\_\_\_ PSIG Average Injection Pressure \_\_\_\_\_ PSIG  
Date Stimulated \_\_\_\_\_

FINAL PRODUCTION:	Natural		X After Stimulation		ROCK PRESSURE	HOURS TESTED
	BOD	MCFD	HOURS TESTED	MCFD		
Zone (1) <u>Coal Seams*</u>		<u>6</u>	<u>6</u>		<u>650</u>	<u>48</u>
Zone (2) <u>Coal Seams**</u>		<u>37</u>	<u>6</u>		<u>90</u>	<u>48</u>
Zone (3)						

Final Production if Gas Zones are Commingled \_\_\_\_\_ MCFD \_\_\_\_\_ Hours Tested \_\_\_\_\_ PSIG \_\_\_\_\_ Hours Tested

\* Use additional sheets with this format, if more than three (3) zones were stimulated.

Permittee: EQUITABLE RESOURCES EXPLORATION (Company)

By: Joseph A. Amy (Signature)

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DRILLING REPORT

Pursuant to VR-480-05-22.1, § 1.36, the undersigned Permittee submits this report on Well VCP3099 in the RICHMOND District of the WISE County, Virginia on 21<sup>ST</sup> day, JANUARY month, 19 94.

LOCATION

County: WISE District: RICHMOND  
Surface Elevation: 2388.64' Elevation of Kelly Bushing: 2399' Quadrangle: APPALACHIA  
11675 FT. S. of Latitude 37° 00' 00" and 4900 FT. W. of Longitude 82° 45' 00"

Attach a final location plat as required by VR 480-05-22.1, § 1.36.

DRILLING DATA

Date Drilling Commenced: 11-16-93 Drilling Contractor: UNION DRILLING  
Date Drilling Completed: 11-22-93 Rig Type:  Rotary  Cable Tool  
Total Depth of Well: LTD=2741 DTD=2730

GEOLOGICAL DATA

Fresh Water at:	<u>424</u>	Feet	<u>DAMP</u>	<u>GPM</u>	<u>      </u>	Feet	<u>      </u>	GPM
	<u>762</u>	Feet	<u>DAMP</u>	<u>GPM</u>	<u>      </u>	Feet	<u>      </u>	GPM
Salt Water at:	<u>      </u>	Feet	<u>      </u>	<u>GPM</u>	<u>      </u>	Feet	<u>      </u>	GPM
	<u>      </u>	Feet	<u>      </u>	<u>GPM</u>	<u>      </u>	Feet	<u>      </u>	GPM

COAL SEAMS:

<u>NAME</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>THICKNESS</u>	<u>MINING IN AREA</u>		
				<u>YES</u>	<u>NO</u>	<u>MINED OUT</u>
<u>BLAIR</u>	<u>770</u>	<u>772</u>	<u>2</u>			
<u>WARCREEK</u>	<u>2480</u>	<u>2484</u>	<u>4</u>			

GAS AND OIL SHOWS:

<u>FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>THICKNESS</u>	<u>IPF (MCFD/BOVD)</u>	<u>PRESSURE</u>	<u>HOURS TESTED</u>
<u>1226/1455/1595/1792/2069/2497/2528/2585/2592/2730-60MCFD</u>						
	<u>1288/1860</u>			<u>84MCFD</u>		
	<u>2275</u>			<u>133MCFD</u>		

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

ELECTRIC LOGS AND SURVEYS

List logs run on wellbore: LDT/GR/TEMP

Did log disclose vertical location of a coal seam? Yes X No   

SURVEY RESULTS

DEPTH OF SURVEY	DIRECTION/DISTANCE/DEGREES FROM TRUE VERTICAL	DEPTH OF SURVEY	DIRECTION/DISTANCE/DEGREES FROM TRUE VERTICAL
200	1/2°	1455	1/4°
448	1/2°	1595	1/2°
464	1/2°	1792	1/4°
650	1/2°	1860	1/4°
763	1/2°	2069	1/4°
867	1/2°	2275	3/4°
877	3/4°	2476	1°
1084	BULL'S EYE	2528	1 1/4°
1226	1/4°	2585	1°
1288	1/4°	2730	1°

CASING AND TUBING

	SIZE	TOP	BOTTOM	LENGTH	CEMENT USED ( IN CU/FT )	DATE CEMENTED	PACKERS OR BRIDGE PLUGS KIND SIZE SET AT
<u>Conductor</u>	16"		31'	21'			
<u>Surface</u>	11 3/4"		64'	54'			
<u>Water Protection</u>	8 5/8"		498'	488'	140(165)	11-17-93	
<u>Coal Protection</u>							
<u>Other Casing and Tubing Left in Well</u>	4 1/2"		2695'	2685'	540(697)	11-22-93	
	2 3/8"		2645'				

Liners

REMARKS: Shut down, fishing jobs, depths and dates, caving, lost circulation, etc.

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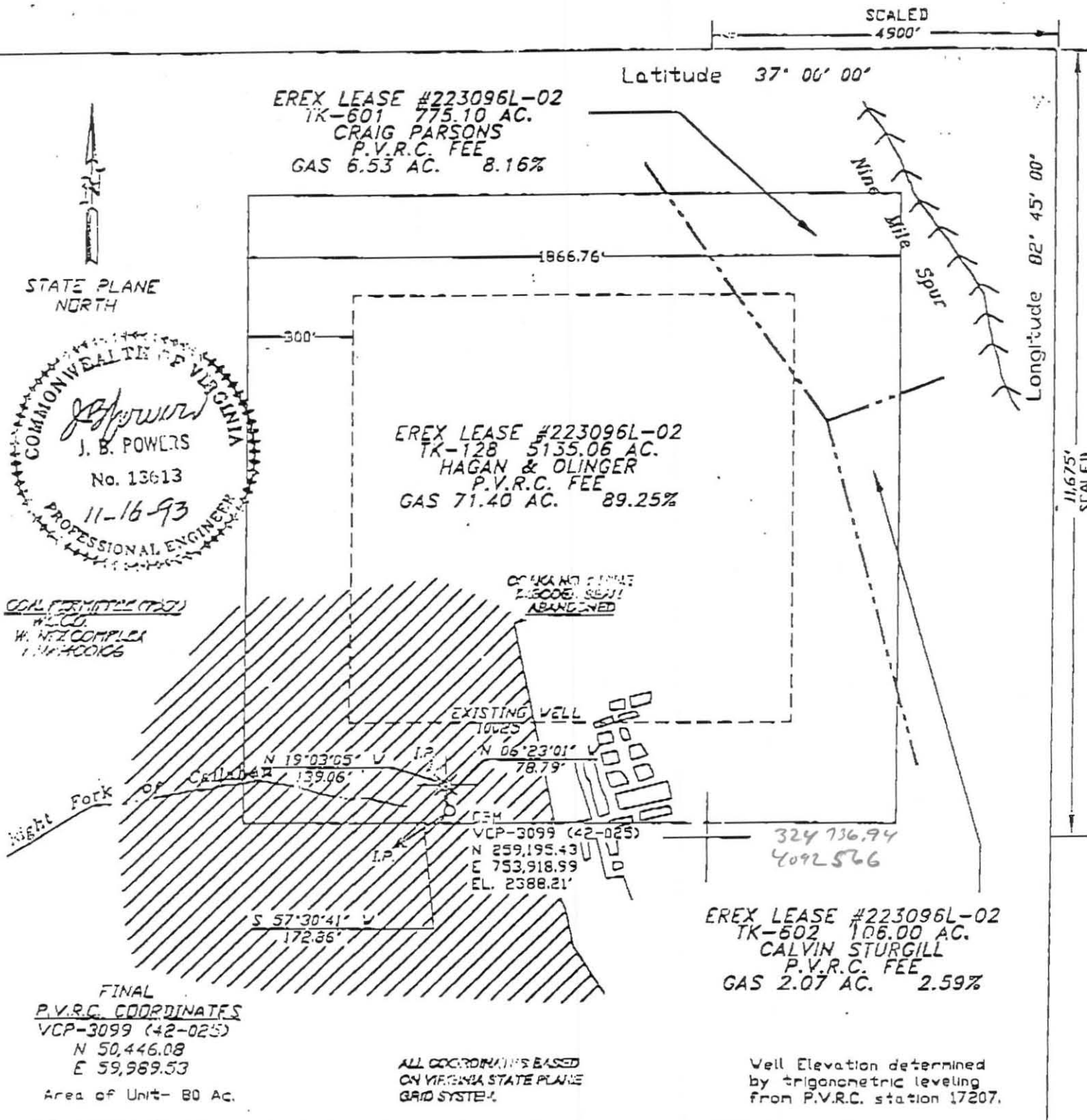
DRILLER'S LOG

Compiled by ENGINEERING

GEOLOGIC AGE	FORMATION	GENERAL LITHOLOGY	COLOR	DEPTH		THICKNESS	REMARKS
				TOP	BOTTOM		
PENNSYLVANIAN	SAND, SHALE & THIN COALS			0	770	770	
	BLAIR COAL			770	772	2	
	SAND, SHALE & THIN COALS			772	2480	1708	
	WARCREEK COAL			2480	2484	4	
	SAND, SHALE & THIN COALS			2484	2741	257	
	LOGGER'S TOTAL DEPTH				2741		

Permittee: EQUITABLE RESOURCES EXPLORATION (Company)

By: Joseph A. Olney (Signature)



WELL LOCATION PLAT

9-F-81

Company EQUITABLE RESOURCES EXPLORATION Well Name and Number VCP-3099 (42-025)  
 Tract No. 128 Elevation 2388.21' Quadrangle APPALACHIA  
 County WISE District RICHMOND Scale: 1" = 400' Date 11/16/93  
 This plat is a new plat  an updated plat  or a final location plat   
 Denotes the location of a well on United States topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

J.B. POWERS