

WS-416

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

Operations Name: PVRC (Kemmerer) VCP3098  
Permit #: 2558

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: 12-20-93 Total Depth of Well: LTD=2640 DTD=2640

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 Seam\* Formation Stimulated With: 70 Q Foam  
w/3900# 20/40 sand - 8400# 12/20 - 705130 SCF N<sub>2</sub> - 318 BF

Perforated: 2443 TO 2449 No. of Perforations: 13 Perforation Size: 3 1/8 HSC  
Formation Broke Down at: 1343 PSIG Average Injection Rate: 20 BPM (DH)  
ISIP 2998 PSIG 5 MIN SIP 2829 PSIG Average Injection Pressure 3518 PSIG  
Date Stimulated 12-20-93

\*War creek

Zone 2: Coal Seams\*\* Formation Stimulated With: 70 Q Foam  
w/12257 12/20 sand - 728300 SCF N<sub>2</sub> - 374 BF - 600 gal 7.5% HCL acid

Perforated: 927 TO 1813.5 No. of Perforations: 10 Perforation Size: .34"  
Formation Broke Down at: N/A PSIG Average Injection Rate: 30 BPM  
ISIP 2154 PSIG 5 MIN SIP 1610 PSIG Average Injection Pressure 3631 PSIG  
Date Stimulated 12-20-93

\*\*Norton, Kennedy, Raven

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   After Stimulation

	BOD	MCFD	HOURS TESTED	ROCK PRESSURE	HOURS TESTED
Zone (1)	_____	_____	_____	_____	_____
Zone (2)	_____	_____	_____	_____	_____
Zone (3)	_____	_____	_____	_____	_____
Final Production if Gas Zones are Commingled	<u>12</u>	<u>6</u>	<u>Hours Tested</u>	<u>390</u> PSIG	<u>48</u> Hours Tested

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

Permittee: EQUITABLE RESOURCES EXPLORATION (Company)

By: Joseph R. 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 VCP3098 in the GLADEVILLE District of the WISE County, Virginia on 24TH day, JANUARY month, 1994.

LOCATION

County: WISE District: GLADEVILLE  
Surface Elevation: 2333.42' Elevation of Kelly Bushing: 2343.4 Quadrangle: APPALACHIA  
3255 FT. S. of Latitude 37° 00' 00" and 1335 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: 12-07-93 Drilling Contractor: UNION DRILLING  
Date Drilling Completed: 12-13-93 Rig Type:  Rotary  Cable Tool  
Total Depth of Well: LTD=2644 DTD=2640

GEOLOGICAL DATA

Fresh Water at:	<u>58</u> Feet	<u>1/4" STREAM</u> GPM	_____ Feet	_____ GPM
	<u>705</u> Feet	<u>DAMP</u> GPM	_____ Feet	_____ GPM
Salt Water at:	_____ Feet	_____ GPM	_____ Feet	_____ GPM
	_____ Feet	_____ GPM	_____ Feet	_____ GPM

COAL SEAMS:

NAME	TOP	BOTTOM	THICKNESS	MINING IN AREA		
				YES	NO	MINED OUT
UPPER CLINTWOOD	716	718	2			
KENNEDY	1556	1559	3			
WARCREEK	2443	2449	6			

GAS AND OIL SHOWS: NONE REPORTED

FORMATION	TOP	BOTTOM	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED

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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/TEMP/GR

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
221	1/2°	1642	3/4°
413	3/4°	1800	1/2°
605	1/2°	2045	1/4°
802	1/2°	2248	3/4°
848	1/4°	2261	3/4°
1021	BULL'S EYE	2446	1/4°
1209	3/4°	2568	1/4°
1424	1/2°	2640	3/4°

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>	11 3/4"		48'	38'			
<u>Surface</u>	8 5/8"		366'	356'	100(118)	12-08-93	
<u>Water Protection</u>							
<u>Coal Protection</u>							
<u>Other Casing and Tubing Left in Well</u>	4 1/2" 2 3/8"		2611' 2515'	2601'	470(607)	12-13-93	

Linera

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

WS-414

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\*Warcreek

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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  After Stimulation  
BOD MCFD HOURS TESTED ROCK PRESSURE HOURS TESTED

Zone (1) \_\_\_\_\_

Zone (2) \_\_\_\_\_

Zone (3) \_\_\_\_\_

Final Production if Gas Zones are Commingled 12 MCFD 6 Hours Tested 390 PSIG 48 Hours Tested

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

Permittee: EQUITABLE RESOURCES EXPLORATION (Company)

By: Joseph R. Amy (Signature)

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705 Feet DAMP GPM                      Feet                      GPM  
Salt Water at:                      Feet                      GPM                      Feet                      GPM  
                     Feet                      GPM                      Feet                      GPM

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GAS AND OIL SHOWS: NONE REPORTED

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Liners

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

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DRILLER'S LOG

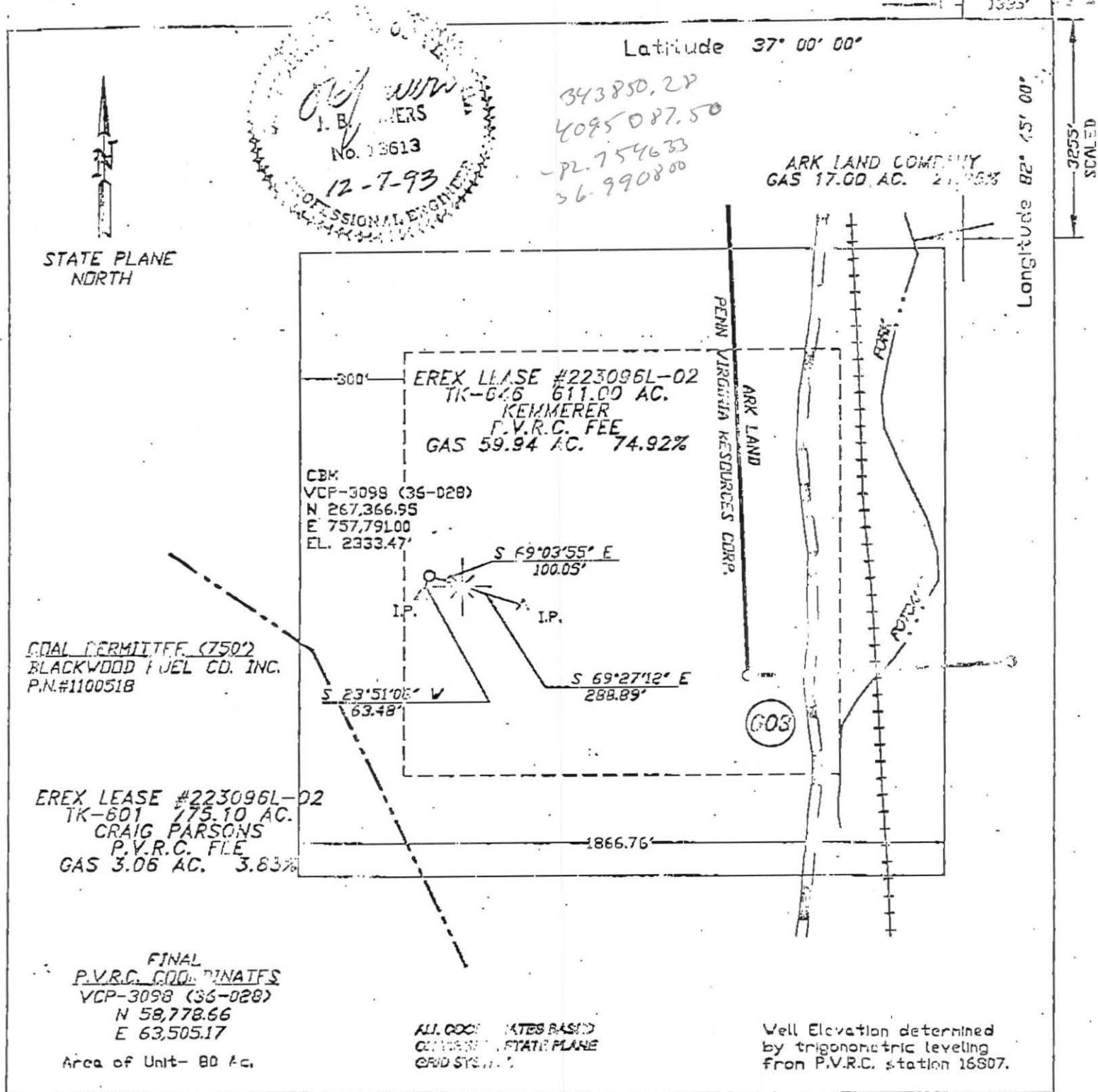
Compiled by ENGINEERING

GEOLOGIC AGE	FORMATION	GENERAL LITHOLOGY	COLOR	DEPTH		THICKNESS	REMARKS
				TOP	BOTTOM		
PENNSYLVANIAN	SAND, SHALE & THIN COALS			0	716	716	
	UPPER CLINTWOOD COAL			716	718	2	
	SAND, SHALE & THIN COALS			718	1556	838	
	KENNEDY COAL			1556	1559	3	
	SAND, SHALE & THIN COALS			1559	2443	884	
	WARCREEK COAL			2443	2449	6	
	SAND, SHALE & THIN COALS			2449	2644	195	
LOGGER'S TOTAL DEPTH					2644		

Permittee: EQUITABLE RESOURCES EXPLORATION (Company)

By: Joseph A. Alley (Signature)

SCALED  
1:385'



WELL LOCATION PLAT

1-F-81

Company EQUITABLE RESOURCES EXPLORATION Well Name and Number VCP-3098 (36-028)  
 Tract No. 626 Elevation 2333.47' Quadrangle APPALACHIA  
 County WISE District GLADEVILLE Scale: 1" = 400' Date 12/07/93

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