

Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, Virginia 24210  
540/676-5423

COMPLETION REPORT

WELL TYPE: Oil  Gas  Coalbed Methane  or Injection  well

Date Well Completed: 8/18/97 Total Depth of Well: LTD - 2853 DTD - 2887

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: 70Q FOAM W/  
16984# 12/20 SAND - 788,400 SCF N2 - 638 BF  
 Perforated: 1561.5 to: 2750 No. of Perforations: 14 Size: 0.34"  
 Formation Broke Down at: 1561 PSIG Average Injection Rate: 48.5 (DH) BPM  
 ISIP: 1342 PSIG 5 Min SIP: 1254 PSIG Average Injection Pressure 3395  
 Date Stimulated: 8/18/97

\*U SEABOARD "A", GREASY CREEK, L SEABOARD, C-SEAM, L HORSEPEN, POCO #7, POCO #6, POCO #2

Zone 2: \_\_\_\_\_ Formation Stimulated With: \_\_\_\_\_  
 Perforated: \_\_\_\_\_ to: \_\_\_\_\_ No. of Perforations: \_\_\_\_\_ Size: \_\_\_\_\_  
 Formation Broke Down at: \_\_\_\_\_ PSIG Average Injection Rate: \_\_\_\_\_  
 ISIP: \_\_\_\_\_ PSIG 5 Min SIP: \_\_\_\_\_ PSIG Average Injection Pressure \_\_\_\_\_  
 Date Stimulated: \_\_\_\_\_

Zone 3: \_\_\_\_\_ Formation Stimulated With: \_\_\_\_\_  
 Perforated: \_\_\_\_\_ to: \_\_\_\_\_ No. of Perforations: \_\_\_\_\_ Size: \_\_\_\_\_  
 Formation Broke Down at: \_\_\_\_\_ PSIG Average Injection Rate: \_\_\_\_\_  
 ISIP: \_\_\_\_\_ PSIG 5 Min SIP: \_\_\_\_\_ PSIG Average Injection Pressure \_\_\_\_\_  
 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 14 MCFD 6 Hours Tested 270 PSIG 48 Hours Tested

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

Permittee: EQUITABLE RESOURCES ENERGY COMPANY (Company)  
 By: *Joseph A. Cherry* (Signature)

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

Operations Name: M A BUCHANAN Well #: VC3678  
Permit #: 3399 VA File #: DI-0851

Department of Mines, Minerals and Energy  
Division of Gas and Oil  
P.O. Box 1416  
Abingdon, Virginia 24210  
540/676-5423

DRILLING REPORT

Pursuant to VR-480-05-22.1, § 1.36, the undersigned Permittee submits this report on Well VC3678 in the  
KENADY District of the DICKENSON County, Virginia on 13<sup>TH</sup> day,  
OCTOBER month, 1997.

LOCATION

County: DICKENSON District: KENADY  
Surface Elevation: 2666.67 Elev of Kelly Bushing: 2676.67 Quadrangle: COEBURN  
230 Ft. S of Latitude 37 00 00 and 10850 Ft. W of Longitude 82 22 30

DRILLING DATA

Date Drilling Commenced: 7/31/97 Drilling Contractor: UNION DRILLING  
Date Drilling Completed: 8/4/97 Rig Type: X Rotary        Cable Tool  
Total Depth of Well: LTD - 2853 DTD - 2887

GEOLOGICAL DATA

Fresh Water at:	2740	feet	1/8" STREAM	GPM	feet	GPM
		feet		GPM	feet	GPM
		feet		GPM	feet	GPM
Salt Water at:		feet		GPM	feet	GPM
		feet		GPM	feet	GPM
		feet		GPM	feet	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>
JAWBONE	1340	1342	2			
GREASY CREEK	1716	1718	2			
POCO #6	2645	2647	2			

GAS AND OIL SHOWS:

<u>FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>THICKNESS</u>	<u>IPF (MCFD/BOPD)</u>	<u>PRESSURE</u>	<u>HOURS TESTED</u>
		2740/2853		<u>ODOR</u>		

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

ELECTRIC LOGS AND SURVEYS

List logs run on wellbore: GR/ DEN/ TMP

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

SURVEY RESULTS

<u>DEPTH OF SURVEY</u>	<u>DIRECTION/DISTANCE/DEGREES FROM TRUE VERTICAL</u>	<u>DEPTH OF SURVEY</u>	<u>DIRECTION/DISTANCE/DEGREES FROM TRUE VERTICAL</u>
200	1/2°	2000	1°
400	1/2°	2076	1°
470	1/2°	2228	1°
600	1/2°	2426	1°
800	3/4°	2626	1°
1000	3/4°	2740	1°
1200	3/4°		
1400	3/4°		
1600	1°		
1800	3/4°		

CASING AND TUBING

	<u>SIZE</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>LENGTH</u>	<u>CEMENT USED IN CU/FT</u>	<u>DATE CEMENTED</u>	<u>PACKERS OR BRIDGE PLUGS</u>		
							<u>KIND</u>	<u>SIZE</u>	<u>SET AT</u>
<u>Conductor</u>	11 3/4		39	29	GROUTED				
<u>Surface</u>									
<u>Water Protection</u>	8 5/8		541	531	145(171)	8/1/97			
<u>Coal Protection</u>									
<u>Other Casing and Tubing Left in Well</u>	4 1/2		2818	2808	625(806)	8/5/97			
	2 3/8		2777.85						
<u>Liners</u>									

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

DRILLER'S LOG

Compiled by: ENGINEERING

AGE	FORMATION	GENERAL LITHOLOGY	COLOR	DEPTH		THICKNESS	REMARKS
				TOP	BOTTOM		
PENN	SAND, SHALE & THIN COALS	JAWBONE		0	1340	1340	
				1340	1342	2	
	SAND, SHALE & THIN COALS			1342	1716	374	
		GREASY CREEK		1716	1718	2	
	SAND, SHALE & THIN COALS			1718	2645	927	
		POCO #6		2645	2647	2	
	SAND, SHALE & THIN COALS			2647	2853	206	

LOGGER'S TOTAL DEPTH 2853

Permittee: EQUITABLE RESOURCES ENERGY COMPANY (Company)

By:  (Signature)

10,850'

Latitude 37° 00' 00"

2.30'

Lease No. PO-148 / T-13  
 Samuel Bise  
 1206.73 Acres  
 Clinchfield Coal Company /  
 Pyxis Resources Company - coal  
 Pine Mountain Oil & Gas, Inc. - oil & gas  
 Gas 25.68 Ac. 43.70%

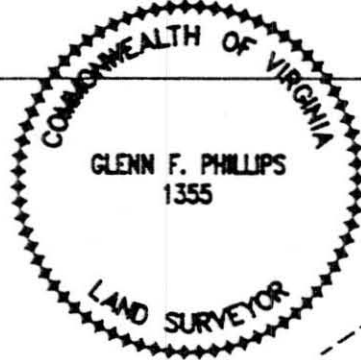
Longitude 82° 22' 30"

Lease No. PO-148 / T-656  
 Samuel Hensley  
 11.32 Acres  
 Clinchfield Coal Company /  
 Pyxis Resources Company - coal  
 Pine Mountain Oil & Gas, Inc. - oil & gas  
 Gas 2.80 Ac. 4.76%

Lease No. PO-148 / T-14  
 M. A. Buchanan  
 105.89 Acres  
 Clinchfield Coal Company /  
 Pyxis Resources Company - surface & coal  
 Pine Mountain Oil & Gas, Inc. - oil & gas  
 Gas 30.22 Ac. 51.42%

Lease No. PO-148 / T-657  
 Isaac Hale  
 181 Acres  
 Clinchfield Coal Company /  
 Pyxis Resources Company - surface & coal  
 Pine Mountain Oil & Gas, Inc. - oil & gas  
 Gas 0.07 Ac. 0.12%

Well elevation determined by GPS Survey  
 from VCC Survey Sta. CR-64.1



**FINAL PLAT**

Area of Unit = 58.77 Ac.

Well Coordinates: (VA St. Plane S. Zone,  
 Calculated from CCC coordinates)  
 N 266,144 E 857,873

Well Coordinates: (Clinchfield Coal Co.)  
 S 36,635.72 W 8,353.91

WELL LOCATION PLAT

5-F-86

COMPANY Equitable Resources Energy Company WELL NAME AND NUMBER VC-3678  
 TRACT NO. T-14 ELEVATION 2667.73 QUADRANGLE Coeburn  
 COUNTY Dickenson DISTRICT Kenady SCALE 1" = 400' DATE 8-15-1997

This Plat is a new plat   ; an updated plat   ; or a final location plat x

+ 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.

Glenn F. Phillips  
 Licensed Professional Engineer or Licensed Land Surveyor