

3725  
1.31W

**CERTIFICATE**

"I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia."  
Minimum degree of accuracy is one part in 200

Signed *T.S. Johnson R.P.E. #369*

- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

COMPANY APPALACHIAN EXPLORATION & DEVELOPMENT  
 ADDRESS P.O. Box 628, Charleston, W.Va. 25322  
 FARM JOSEPH W. TATE ET AL UNIT  
 MAP \_\_\_\_\_ ACRES 118 1/2 of 303.44 Unit LEASE NO. \_\_\_\_\_  
 WELL (FARM) NO. 1 SERIAL NO. \_\_\_\_\_  
 ELEVATION (SPIRIT LEVEL) 852.6'  
 QUADRANGLE CHARLESTON N.W.  
 COUNTY KANAWHA DISTRICT UNION  
 POINT OF PROVEN ELEVATION U.S. G.S. DATUM - FORKS OF ROAD - COON FORK AND FISHER BRANCH - 2400' N.W. OF LOCATION - POCATALICO QUAD. 1/2400  
 FILE NO. \_\_\_\_\_ DRAWING NO. \_\_\_\_\_  
 DATE DEC. 29, 1967. SCALE 1" = 660'

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION  
 CHARLESTON  
**WELL LOCATION MAP**  
 FILE NO. KAN-2227

+ DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS SCALE 1 TO 62,500. LATITUDE AND LONGITUDE LINES BEING REPRESENTED BY BORDER LINES AS SHOWN.  
 - DENOTES ONE INCH SPACES ON BORDER LINE OF ORIGINAL TRACING.

*Deep Well (Newburg)*



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION 3

Rotary   
Spudder   
Cable Tools   
Storage

Location Charleston

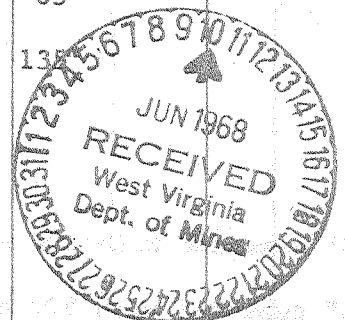
Well No. Kanawha-2227

WELL RECORD

Oil or Gas Well  Gas (KIND)

Company Appalachian Exploration & Development, Inc. Casing and Tubing  
 Address P.O. Box 628, Charleston, W.Va. 25322 Used in Drilling  
 Name Joseph W. Tate Acres 304.44 Size  
 Location (waters) Fisher Branch 16  
 Well No. 1 Elev. 852.6 13-3/8  
 District Union County Kanawha 10  
 The surface of tract is owned in fee by Joseph Tate 8-5/8  
 Rt. 4, Box 52 Address Charleston, W.Va. 1946 1946  
 Mineral rights are owned by Same as above 6 1/2  
 Address 5 xxx-1/2 5667 5667  
 Address 4 1/2  
 Drilling commenced April 12, 1968 3  
 Drilling completed April 27, 1968 2  
 Date Shot None From To Liners Used  
 With  
 Open Flow /10ths Water in In Oh Attach copy of cementing record. (On back of sheet.)  
 /10ths Merc. in In Oh CASING CEMENTED SIZE No. Ft. Date  
 Volume 22 Million Cu. Ft. Amount of cement used (bags)  
 Rock Pressure 1650 lbs. 48 hrs. Name of Service Co.  
 ml. None bbls., 1st 24 hrs. COAL WAS ENCOUNTERED AT 612 FEET 24 INCHES  
 WELL ACIDIZED (DETAILS) 1466 FEET 36 INCHES FEET INCHES  
 FEET INCHES FEET INCHES  
 WELL FRACTURED (DETAILS) 513 barrels of water and 20,000 lbs. of sand. Maximum pressure - 4800  
 RESULT AFTER TREATMENT (Initial open Flow or bbls.) 35 Million 35,000 MCF  
 ROCK PRESSURE AFTER TREATMENT 1650 HOURS 48  
 Fresh Water Feet Salt Water Feet  
 Producing Sand Newburg Depth 5679

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Oil shale	Red & gray	Soft	0	20			
Shale		Soft	20	70	Damp @	63'	
Limestone (Sandy)		Soft	70	280	Damp @	135'	
Shale		Soft	280	350			
Sand		Soft	350	500			
Broken Sand		Soft	500	610			
Slate		Soft	610	612			
Coal		Soft	612	614			
Sand		Soft	614	790			
Shale		Soft	790	820			
Sand		Soft	820	965			
Shale		Soft	965	1061			
Sand (Broken)	Soft	1061	1205	Water incr.	1200'		
Sand - salt	Soft	1205	1466			Salt sand	
Coal	Soft	1466	1469				
Shale	Soft	1469	1520				
Sand & Shale	Soft	1520	1644				
Stringers							
Big Line	Hard	1644	1845	Water incr.	1645'		
Jun sand	Soft	1845	1912	Water incr.	1850'		
Shale	Soft	1912	2325				
Area sand	Soft	2325	2345				
Shale	Soft	2345	4825				
Line - Onondaga	Hard	4840	4940			Onondaga	
Sand - Oriskany	Hard	4940	4988	No shows		Oriskany	
Line & Dolomite	Hard	4988	5678				
Shaly							



Formation	Color	Hard or Soft	Top 3	Bottom	Oil, Gas or Water	Depth Found	Remarks
Newburg		Soft	5678	5688	Gas	5678	Newburg 22 MMcf per day gauge
Line & dolomite, Some shale (McKenzie)		Hard	5688	5700			T.D.
<p>13-3/8" cemented with 100 sacks by Halliburton</p> <p>8-5/8" cemented with 800 sacks by Dowell</p> <p>5-1/2" cemented with 200 sacks by Halliburton</p>							

Date May 31, 19 68  
 Appalachian Exploration & Development, Inc. Owner  
 APPROVED [Signature]  
 By District Production Superintendent  
 (Title)