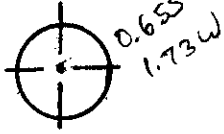
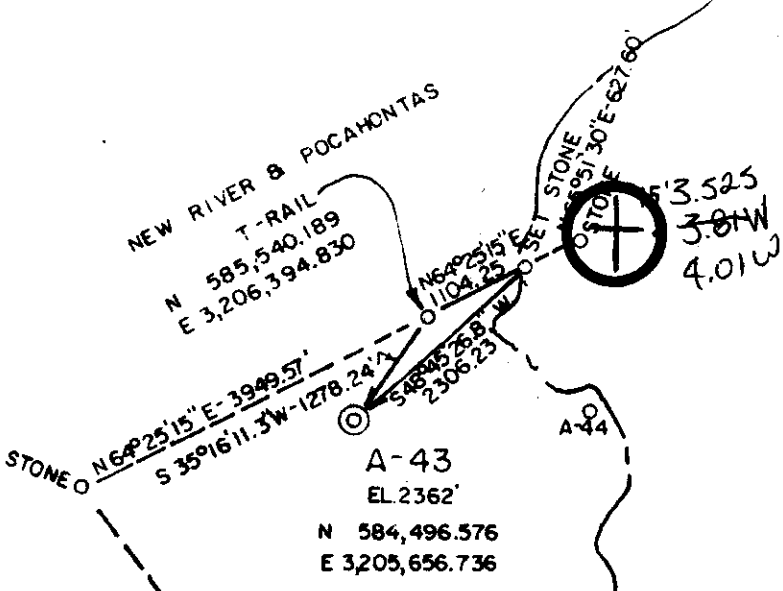


3450' SOUTH  
9050' WEST



288  
65  
353  
1.73  
228  
401



37 51 55  
81 34 10

Longitude 81° 32' 30"  
81° 30' (15')

8044 ACRES



7.5 0415 topo 1oz 15' 1oz  
0.72 S 3.60 S  
1.65 W 3.92 W

ACCURACY: 1" / 2500'

New Location   
 Drill Deeper   
 Abandonment   
 Fracture   
 Redrill   
 Other

Formation \_\_\_\_\_ Oil   
 Est. Depth \_\_\_\_\_ Gas   
 Other \_\_\_\_\_

Source of Elevation KNOB (2579')  
 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.

*Chet Waterman*

Company CITIES SERVICE COMPANY  
 Address CHARLESTON, WV  
 Surface Owner ROWLAND LAND COMPANY  
 Mineral Owner " " "  
 Well No. A-43 Acres 8044  
 Elevation 2362' Bald Knob 15'  
 Quadrangle PILOT KNOB Series 7.5' EC  
 County BOONE District CROOK  
 Date 5/21/80 Scale 1" = 2000'

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

**WELL LOCATION MAP**  
 47 - 005 - 1329  
 STATE COUNTY PERMIT

+ Denotes location of well on United States Topographic Maps.  
 Engineer CHET WATERMAN  
 Engineer's Registration No. 3788 File No. 80-337

6-6 Unnamed

4170' Weir

AUG 11 1980





STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
**Oil and Gas Division**  
**WELL RECORD**

Rotary X Oil \_\_\_\_\_  
Cable \_\_\_\_\_ Gas \_\_\_\_\_  
Recycling \_\_\_\_\_ Comb. \_\_\_\_\_  
Water Flood \_\_\_\_\_ Storage \_\_\_\_\_  
Disposal \_\_\_\_\_ (Kind)

Quadrangle Pilot Knob  
Permit No. 47-005-1329

Company Cities Service Company  
Address Box 873, Charleston, WV 25323  
Farm Rowland Land Co. Acres 8044  
Location (waters) Matts Creek  
Well No. "A" #43, GW-1851 Elev. 2362  
District Crook County Boone  
The surface of tract is owned in fee by Rowland Land Co., 1033 Quarrier St., Charleston, WV 25301  
Address \_\_\_\_\_  
Mineral rights are owned by same  
Address \_\_\_\_\_  
Drilling Commenced 10-14-80  
Drilling Completed 12-19-80  
Initial open flow 535 M cu. ft. = \_\_\_\_\_ bbls.  
Final production 3690 M cu. ft. per day = \_\_\_\_\_ bbls.  
Well open 3 hrs. before test 825 RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16	26	26	(7 sx) to surface
Cond. 13-10"	1166.75	1166.75	80' from surface (385 sacks)
9 5/8			
8 5/8	1787.55	1787.55	(335 sacks)
7			
5 1/2			
4 1/2	4096	4096	106 sx.
3			
2-3/8"	4001	4001	
Liners Used			

Well treatment details: Attach copy of cementing record.  
Acidized Weir perfs with 1250 gal. 10% HCL. Formation broke at 1900# and dropped to 400#.  
Displaced acid with 61 bbl. gelled water ISIP 2700#. Fraced Weir in 2 stages with Dowell crosslinked gel. 1st stage contained 125 bbl. pad, 15000# 80/100 sand and 45000# 20/40 sand in 300 bbl. of sand laden fluid at 25 BPM. 2nd stage contained 45000# 20/40 sand in 225 bbl. sand laden fluid at 20 BPM. Flushed with 64 bbl. water. Final pressure 1600# ISIP 700# 15 min. SIP 450# average treating pressure 1883# AIR 23 BPM  
Coal was encountered at 22-24', 140-147', 251-253', 404-407', 816-819'  
Fresh water 953' Feet Salt Water 942-945' Inches 3,690 MCF  
Producing Sand Weir Sand Depth 3865-3873 4001-4004

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Soil			0	14		
Shale			14	22		
Coal			22	24		
Sand			24	130		
Shale			130	140		
Coal			140	147		
Sand			147	251		
Coal			251	253		
Shale			253	305		
Sand			305	355		
Sand & Shale			355	400		
Shale			400	404		
Coal			404	407		
Shale			407	440		
Sand			440	600		
Shale			600	615		
Sand			615	765		
Shale			765	816		
Coal			816	819		
Shale			819	840		
Sand			840	873		
Shale			873	900		
Sand			900	942		
Coal			942	945		
Sand			945	1095		

**RECEIVED**  
FEB - 9 1981

OIL & GAS DIVISION  
DEPT. OF MINES

Hole wet at 980' - foam

MAR 23 1981

Formation	Color	Hard or Soft	Top Feet /	Bottom Feet	Oil, Gas or Water	Remarks
Sand			1095	1110		
Shale			1110	1115		
Poss. Open Mine			1115	1119	Lost circulation	
Sht Sand Broken			1119	1150		
Shale			1150	1270		
Sand			1270	1305		
Shale			1305	1330		
Sand			1330	1400		
Shale			1400	1540		
Sand			1540	1600		
Shale			1600	1655		
Sand			1655	1690		
Shale			1690	1755		
Sand			1755	1890		
Shale			1890	2052		
Sand			2052	2185		
Shale			2185	2225		
Sand			2225	2315		
Shale			2315	2350		
Sand			2350	2440		
Shale			2440	2500		
Sand			2500	2535		
Sand & Shale			2535	2635		
Shale			2635	2680		
Sand			2680	2740		
Shale			2740	2825		
Sand			2825	2895		
Shale			2895	2920		
Sand			2920	3270	Ck. Gas 3185' 1/10 W - 1"	
Shale			3270	3325		
L. Lime			3325	3385		
Shale			3385	3425		
Big Lime			3425	3770		
Big Injun			3770	3810		
S&S			3810	3815		
Shale & Sand			3815	3850	Ck. Gas 3875' 40/10 W - 1"	
#1 Weir			3850	3930	Poss. inc. H2O 3900'	
Shale & Sand			3930	3990		
#2 Weir			3990	4025		
Shale			4025	4141	T.D. Ck Gas 70/10 W -	

Date February 5, 19 81

APPROVED Cities Service Company Owner

BY: Paul D. Phillips  
Paul D. Phillips, Operations Manager



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

**RECEIVED**

JUL 16 1980

**Oil and Gas Division**

**OIL AND GAS WELL PERMIT APPLICATION**

OIL & GAS DIVISION

DEPARTMENT OF MINES

TO THE DEPARTMENT OF MINES,

Charleston, W. Va.

DATE July 15, 1980

Surface Owner Rowland Land Company  
1033 Quarrier St., Charleston, WV 25301  
Address

Company Cities Service Company  
Address Box 873, Charleston, WV 25323

Mineral Owner Same  
Address

Farm Rowland Land Company Acres 8044  
Location (waters) Matts Creek

Coal Owner Armo, Inc./Attn: Clayton Condry  
Blvd. Towers, Box 1233, Charleston, WV 25324  
Coal Operator Same

Well No. "A" #43, GW-1854 Elevation 2362  
District Crook County Boone

Address

Quadrangle Pilot Knob

**THIS PERMIT MUST BE POSTED AT THE WELL SITE**

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling

INSPECTOR

TO BE NOTIFIED Leroy Hopkins

This permit shall expire if operations have not commenced by 3-24-81

ADDRESS Gen. Delivery, Ansted, WV

PHONE 658-4280

*John Burdett*  
Deputy Director - Oil & Gas Division

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated Feb. 5 19 42 by Rowland Land Company made to Columbian Carbon (Cities Service) and recorded on the 11 day of March 1942, in Raleigh County, Book 13 Page 14 13 Feb.

X NEW WELL DRILL DEEPER REDRILL FRACTURE OR STIMULATE  
OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days. \*

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address same day before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND ECONOMIC SURVEY  
P. O. BOX 879  
MORGANTOWN, WEST VIRGINIA 26505  
AC-304 - 292-6331

Very truly yours, Cities Service Company

(Sign Name) *Sam J. Matthews*  
Sam J. Matthews Well Operator Reg. Production Mgr.

Address of Well Operator

Box 873  
Street  
Charleston  
City or Town  
W. Va. 25323  
State

\*SECTION 3 . . . . If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

47-005-1329

PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-b and will carry out the specified requirements."

Signed by *Sam J. Matthews*

**BLANKET BOND**

**THIS IS AN ESTIMATE ONLY**  
**ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION**

PROPOSED WORK ORDER TO  X  DRILL \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE-STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) \_\_\_\_\_ RESPONSIBLE AGENT: \_\_\_\_\_  
 NAME \_\_\_\_\_ NAME Sam J. Matthews \_\_\_\_\_  
 ADDRESS \_\_\_\_\_ ADDRESS Box 873, Charleston, WV 25323 \_\_\_\_\_  
 TELEPHONE \_\_\_\_\_ TELEPHONE 304-344-8383 \_\_\_\_\_  
 ESTIMATED DEPTH OF COMPLETED WELL: 4170' ROTARY  X  CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Weir \_\_\_\_\_  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS  X  COMB. \_\_\_\_\_ STORAGE \_\_\_\_\_ DISPOSAL \_\_\_\_\_  
 RECYCLING \_\_\_\_\_ WATER FLOOD \_\_\_\_\_ OTHER \_\_\_\_\_

**TENTATIVE CASING PROGRAM:**

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16" 65#	60'	60'	to surface
13 - 10 11-3/4" 42#	1180'	1180'	to surface
9 - 5/8			
8 - 5/8 23#	1760'	1760'	to surface
7			
5 1/2			
4 1/2" 10.5#	4170'	4170'	106 sacks
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 1725 FEET \_\_\_\_\_ SALT WATER \_\_\_\_\_ FEET \_\_\_\_\_  
 APPROXIMATE COAL DEPTHS 940, 1140, 1331 \_\_\_\_\_  
 IS COAL BEING MINED IN THE AREA? yes BY WHOM? Armco, Inc.

**TO DRILL:**

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

**TO DRILL DEEPER OR REDRILL:**

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

**TO FRACTURE - STIMULATE:**

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for \_\_\_\_\_ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the \_\_\_\_\_ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

\_\_\_\_\_  
 For Coal Company  
 \_\_\_\_\_  
 Official Title