

CERTIFICATE

- NEW LOCATION (REVISED)
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

"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 700

Signed Donald J. Bay LLS #247

COMPANY CITIES SERVICE COMPANY
 ADDRESS BOX 873 CHARLESTON, W.VA.
 FARM KANAWHA CITY COMPANY
 MAP _____ ACRES 2437.5 LEASE NO. NV 66
 WELL (FARM) NO. A-14 SERIAL NO. GW-1793
 ELEVATION (SPIRIT LEVEL) 1168.16'
 QUADRANGLE CHARLESTON EAST
 COUNTY KANAWHA DISTRICT LOUDON
 POINT OF PROVEN ELEVATION "1160" intersection of NY Sec. Rt 38 & Side road
 FILE NO. _____ DRAWING NO. N-7-78 B
 DATE JULY 3, 1979 SCALE 1" = 100'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
 WELL LOCATION MAP
 FILE NO. **47-039-3399-REV**
 + DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS. SCALE 1 TO 24,000 LATITUDE AND LONGITUDE LINES BEING REPRESENTED BY BORDER LINES AS SHOWN. JUL 24 1979
 - DENOTES ONE INCH SPACES ON BORDER LINE OF ORIGINAL TRACING.

6-62 - CAMPBELL CT NANTWEN 7 111 138

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

Date September 20, 1979

FORM IV-35
(Obverse)

Operator's
Well No. "A" #14, GW-1793

[08-78,

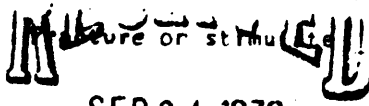
WELL OPERATOR'S REPORT
OF

API Well No. 039 - 0099

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas / Liquid Injection / Waste Disposal
(If "Gas", Production / Underground storage / Deep / Shallow
LOCATION: Elevation: 1168.60 Watershed: Cane Fork of Davis Creek
District: Loudon County: Kanawha Quadrangle: Charleston East

WELL OPERATOR Cities Service Company DESIGNATED AGENT Sam J. Matthews
Address Box 873 Address Box 873
Charleston, WV 25323 Charleston, WV 25323

PERMITTED WORK: Drill / Convert / Drill deeper / Re-drill / Plug off old formation / Perforate new formation / Other physical change in well (specify) _____
Signature or stamp: 
SEP 24 1979

PERMIT ISSUED ON April 11, 19 79 OIL & GAS DIVISION
(IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name Martin Nichols DEPT. OF MINES
Address Box 554
Clendenin, WV 25045

GEOLOGICAL TARGET FORMATION: Big Injun - Big Lime Depth BI 1804 feet
Depth of completed well, 2075 feet Rotary / Cable Tools BL 1530
Water strata depth: Fresh, _____ feet; salt, 1200 feet.
Coal seam depths: _____ Is coal being mined in the area? _____
Work was commenced July 31, 19 79, and completed August 24, 19 79

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft	New	Used	For drilling		
Conductor	13-3/8"	A	48#	X			15'	Minds
Fresh water								
Coal								
Intermediate	8-5/8"	H-40 A	24#	X			570'	165 sx
Production	4-1/2"	K-55 A	9.5#	X			2059'	375 sx
Tubing	2-3/8"	J-55 A	4.6#	X				
Liners								
								Bottom
								1806 1836

OPEN FLOW DATA

Producing formation Big Injun Pay zone depth 1804 feet
Gas: Initial open flow, TSTM Mcf/d Oil: Initial open flow, _____ Bbl/d
Final open flow, 253 Mcf/d Final open flow, _____ Bbl/d
Time of open flow between initial and final tests, _____ hours
Static rock pressure, 400 psig (surface measurement) after 48 hours shut in

[If applicable due to multiple completion--]

Second producing formation _____ Pay zone depth _____ feet
Gas: Initial open flow, _____ Mcf/d Oil: Initial open flow, _____ Bbl/d
Final open flow, _____ Mcf/d Final open flow, _____ Bbl/d
Time of open flow between initial and final tests, _____ hours
Static rock pressure, _____ psig (surface measurement) after _____ hours shut in

OCT 9 1979

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Perforated Big Injun 1806-36 (30') w/1 shot per 2' (16 holes)
Swabbed dry, very small show of gas, too small to measure.

Fraced Big Injun w/60,000# Sand. Broke down formation w/500 gal. 15% HCL
at 3000# 6 BPM Foam fraced w/30,000# 80-100 sand and 30,000# 20-40 sand.
570,000 cu. ft. nitrogen. Foam quality 65-75%
Max. Treating pressure 2600 Avg. Pressure 2400
Max. Sand Concen. 8#/gal. Avg. Sand Concen. 7#/gal.
AIR 30 BPM

WELL LOG

FORMATION	Color	Hard or Soft	IC Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Rock			0	40	
Rock			40	54	
Coal			54	58	
Rock			58	220	
Rock			220	236	
Coal			236	240	
Rock			240	320	
Sand & Shale			320	593	
Shale			593	640	
Sand & Shale			640	998	
Sand			998	1226	
Shale			1226	1270	
Sand & Shale			1270	1290	
Sand & Shale			1290	1345	
Sand & Shale			1345	1410	
Sand			1410	1470	
Shale			1470	1654	
Little Lime			1654	1679	
Little Lime			1679	1779	
Little Lime			1779	1820	
Inj Sand			1820	1860	
Weir Sand			1860	1966	
Shale			1966	2075	T.D. 2075'

(Attach separate sheets to complete as necessary.)

Cities Service Company

Well Operator

By

Sam J. Matthews

Its

Region Production Manager

NOTE: Regulation 2.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic, detailed geological record of all formations, including coal, encountered in the well."



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

APR 11 1979
OIL & GAS DIVISION
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

DATE April 10, 1979

Surface Owner Kanawha City Land Company
Attn: I.N. Smith, Jr. % Kanawha Banking & Trust Co., 107 Capitol St., Charleston, W. Va. 25301
Mineral Owner W. Va. 25301
Address _____
Coal Owner N/A
Address _____
Coal Operator N/A
Address _____

Company Cities Service Company
Address Box 873, Charleston, WV 25323
Farm Kanawha City Company Acres 2437.50
Location (waters) Cane Fork of Davis Creek
Well No. "A" #14, GW-1793 Elevation 1168.60
District Loudon County Kanawha
Quadrangle Charleston East

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. This permit shall expire if operations have not commenced by 12-12-79.

Deputy Director - Oil & Gas Division

INSPECTOR
TO BE NOTIFIED Martin Nichols
ADDRESS P. O. Box 554, Clendenin, WV 25045
PHONE 548-6993

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 May 1 19 14 by Kanawha Banking & Trust Co. made to L. C. McKim and recorded on the _____ day of _____ 19____, in Kanawha County, Book 26 Page 149

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 _____ 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

Address
of
Well Operator

Very truly yours, Cities Service Company
(Sign Name) D. G. Oliver
Well Operator D. G. Oliver
Region Engr. Manager
Box 873 Street
Charleston, WV 25323 City or Town
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.

BLANKET BOND

47-039-3399 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 _____

**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 unknown NAME Sam J. Matthews
 ADDRESS _____ ADDRESS Box 873, Charleston, W. Va. 25323
 TELEPHONE _____ TELEPHONE 304-344-8383
 ESTIMATED DEPTH OF COMPLETED WELL: 2100' ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Big Lime/ Big Injun
 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			
13 - 14 3/8" 48#/ft.	60	60	Cement to surface
9 - 5/8			
8 - 5/8 " 24#/ft.	550	550	158 sx w/2% Ca Cl
7			
5 1/2			
4 1/2 " 9.5#/ft.	2100	2100	Cement to surface
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 90 FEET _____ SALT WATER _____ FEET _____
 APPROXIMATE COAL DEPTHS 380 _____
 IS COAL BEING MINED IN THE AREA? No BY WHOM? NA

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.

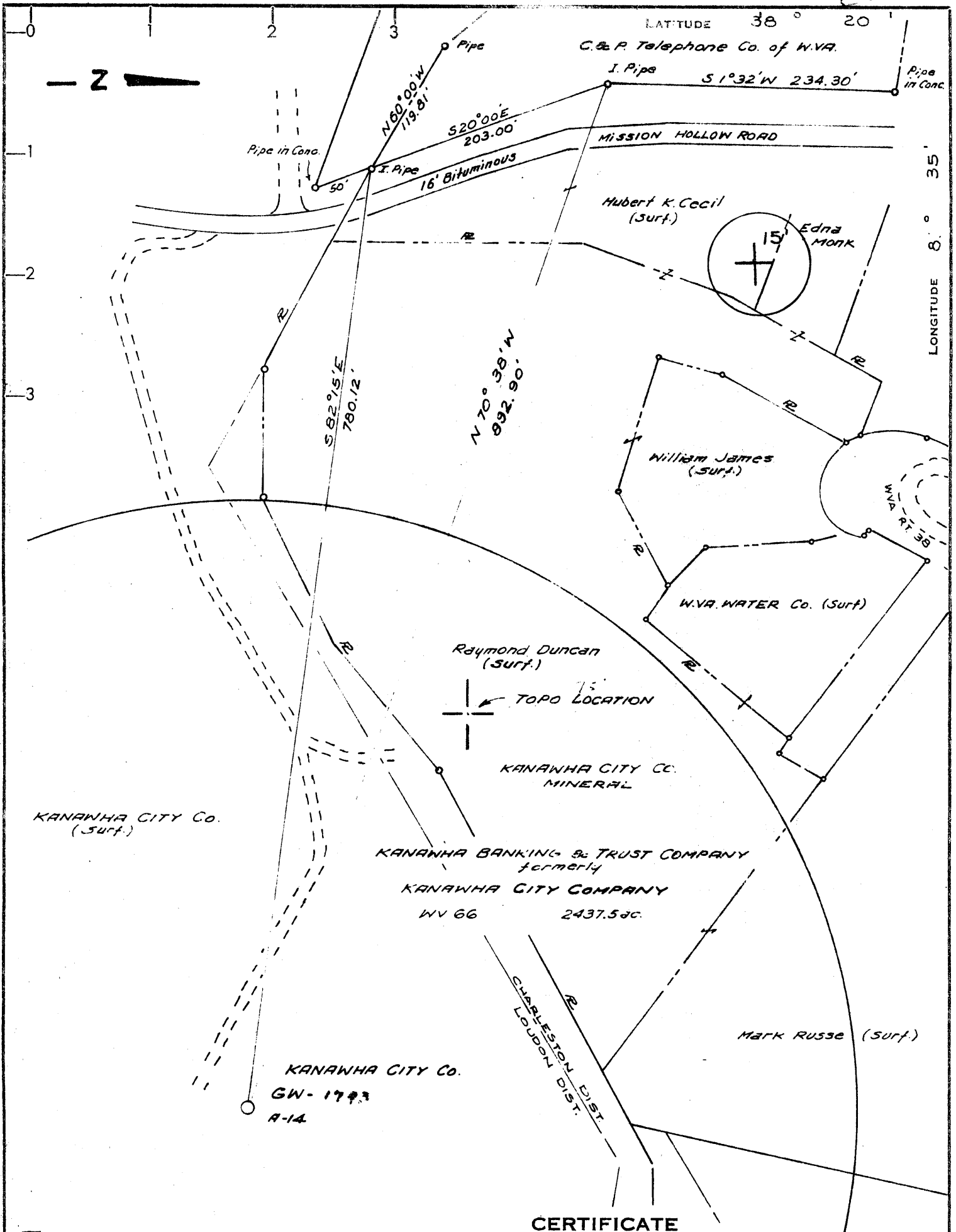
The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

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



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 Donald J. Gray No. 247

- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

COMPANY CITIES SERVICE COMPANY
 ADDRESS BOX 873 CHARLESTON, W.VA.
 FARM KANAWHA CITY COMPANY
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 QUADRANGLE CHARLESTON EAST 7.5, 15'
 COUNTY KANAWHA DISTRICT LOUDON
 POINT OF PROVEN ELEVATION. "1160" Intersection of WV Sec. Rt. 38 & side road.
 FILE NO. _____ DRAWING NO. WV-7-78
 DATE JUNE 1, 1978 SCALE 1" = 100'

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 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
WELL LOCATION MAP
47-039-3399
 FILE NO. _____

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MAY 3 1979