



not on OGIS map

Fracture 7-29-15

Company	<i>Cities Service Oil Co.</i>
Address	<i>Box 873 Charleston W.Va. 25323</i>
Farm	<i>Kanawha City Co</i>
Tract	Acres <i>2500</i> Lease No. <i>C-298</i>
Well (Farm) No.	<i>13</i> Serial No. _____
Quadrangle	<i>Charleston SC</i>
County	<i>Kanawha</i>
District	<i>Loudon</i>
Engineer	<i>C.A. Branham</i>
Engineer's Registration No.	<i>683</i>
File No.	Drawing No. _____
Date	<i>6/4/36</i> Scale <i>1"=1320'</i>

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

WELL LOCATION MAP
 FILE NO. *Kan-253-Frac. W*

⊕ 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 47-039

Loudon District, Kanawha County, W. Va.

By Columbian Carbon Co., Charleston, W. Va.

Drilled under permit Kan-253, issued June 22, 1936.

On 2500 acres, on Right Fork of Cane Fork of Davis Creek.

Surface and minerals owned by Kanawha City Co., $\frac{1}{2}$ I. Noyes Smith,
Kanawha Banking & Trust Co., Charleston, W. Va.

Elevation, 907' L.

14" O. D. casing, 36'; 10 $\frac{3}{4}$ " O. D., 290'; 8 $\frac{5}{8}$ " O. D., 1358';
6 $\frac{3}{4}$ " O. D., 4619'; 2" tubing, 4731'.

Coal was encountered at 380-383'.

Completion reported to Dept. of Mines Oct. 21, 1936.

Well was shot at 4706-4722'.

Freshwater at 60'; salt water at 770'.

Gas well. Record to RCT from Mrs. Griffith 11-28-37.

Production before shot, 427 M. cu. ft.; after shot, 554 M. cu. ft.

3, 32 S 38° 20'
1.68 W, 81° 35'

	Top.	Bottom.	Thickness.
Gravel	0	36	36
Slate, blue	36	41	5
Sand (hole full water at 60')	41	60	19
Slate and shells	60	112	52
Sand	112	135	23
Slate	135	170	35
Sand	170	185	15
Slate and shells	185	280	95
Sand	280	300	20
Slate	300	380	80
Coal	380	383	3
Slate	383	410	27
Sand	410	475	65
Slate	475	545	70
Sand	545	590	45
Slate	590	623	33
Sand	623	730	107
Slate	730	735	5
Salt Sand (water, 770'; hole full; (gas show, 750')	735	850	115
Slate	850	857	7
Lime	857	920	63
Sand (gas, 977', 1,118 M.; drowmed out)	920	1005	85
Slate	1005	1035	30
Sand (water sand, 1129')	1035	1130	95
Red rock	1130	1135	5
Slate	1135	1157	22
Maxton Sand (unconformity)	1157	1263	106
Little Lime	1263	1298	35
Slate (cave)	1298	1300	2
Lime, black	1300	1333	33
Big Lime, white (gas show, 1500')	1333	1512	179
Big Injun Sand, red	1512	1550	38
Slate and shells	1550	1944	394
Shale, brown	1944	1954	10
Berea Sand	1954	1960	6
Slate and shells	1960	3140	1180
Shale, brown	3140	4577	1437
Shale, black	4577	4613	36
Corniferous Lime	4613	4706	93
Oriskany Sand	4706	4722	16
Lime	4722	4731 $\frac{1}{2}$	9 $\frac{1}{2}$
Total depth		4731 $\frac{1}{2}$	

4722
907

3815

4613 4706
907 907

3906 3999

Gas, 4150-75', 2/10 W. in 2". 15
 Gas, 4708-8 $\frac{1}{2}$ ', 21/10 W. in 2". 48
 Gas, 4708 $\frac{1}{2}$ -9', 40/10 W. in 2". 26⁷
 Gas, 4709-10 $\frac{1}{2}$ ', 80/10 W. in 2". 377
 Gas, 4712 $\frac{1}{2}$ -13 $\frac{1}{2}$ ', 18/10 W. in 3". 403
 Gas, 4713 $\frac{1}{2}$ -15 $\frac{1}{2}$ ', 16/10 W. in 3". 379
 Gas, 4715 $\frac{1}{2}$ -18 $\frac{1}{2}$ ', 18/10 W. in 3". 403
 Gas, 4718 $\frac{1}{2}$ -20 $\frac{1}{2}$ ', 18/10 W. in 3".
 Gas, 4720 $\frac{1}{2}$ -22 $\frac{1}{2}$ ', 18/10 W. in 3".
 Gas, 4722 $\frac{1}{2}$ -23 $\frac{1}{2}$ ', 18/10 W. in 3".
 Gas, 4723 $\frac{1}{2}$ -25 $\frac{1}{2}$ ', 18/10 W. in 3". 403
 Gas, 4725 $\frac{1}{2}$ -27 $\frac{1}{2}$ ', 16/10 W. in 3". 379
 Gas, 4727 $\frac{1}{2}$ -28 $\frac{1}{2}$ ', 16/10 W. in 3". 379
 Gas, 4728 $\frac{1}{2}$ -29 $\frac{1}{2}$ ', 16/10 W. in 3". 379
 Gas, 4729 $\frac{1}{2}$ -31 $\frac{1}{2}$ ', 16/10 W. in 3". 379

Production, before shot, 427 M. cu. ft.
 Production, after shot, 554 M. cu. ft.



RECEIVED
MAY 25 1976

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

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

Quadrangle Charleston

Permit No. KAN-253-FRAC W

Company Cities Service Oil Company
 Address Box 873, Charleston, WV 25323
 Farm Kanawha City Land Co. Acres 2500
 Location (waters) Davis Creek
 Well No. 13, GW-362 Elev. 907'
 District Loudon County Kanawha
 The surface of tract is owned in fee by Kanawha
City Company, % Kanawha Banking & Trust
 Address Charleston, WV
 Mineral rights are owned by _____
 Address _____
 Drilling Commenced 12-30-75
 Drilling Completed 5-17-76
 Initial open flow 45 M cu. ft/day bbls.
 Final production 135 M cu. ft per day bbls.
 Well open 288 hrs. before test 420# RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
<u>20-16</u>			
Cond. <u>14"</u>	<u>36'</u>	<u>36'</u>	
<u>XPS 10 3/4"</u>	<u>33.75#</u>	<u>290'</u>	<u>290'</u>
<u>9 5/8</u>			
<u>8 5/8 24#</u>	<u>1358'</u>	<u>1358'</u>	<u>91 sx</u>
<u>X 6-5/8" OD 24#</u>	<u>4619'</u>	<u>4619'</u>	<u>20 sx</u>
<u>5 1/2</u>			
<u>4 1/2 11.6#</u>	<u>4668</u>	<u>Pulled</u>	
<u>3</u>			
<u>2-3/8" OD 4.7</u>	<u>4715'</u>	<u>4715'</u>	
Liners Used			

Well treatment details: Attach copy of cementing record.
 Frac with 30,000# 20-40 sand & 30,000 gal. gel water. Max pressure 3450#. ISIP 3100#
15 min. SIP 2600# 30 min. SIP 2400# AIR 14.5 B/M. After 35 min. S.I. Backflowed 225
bbls. Sand laden water

Coal was encountered at _____ Feet _____ Inches
 Fresh water _____ Feet _____ Salt Water _____ Feet _____
 Producing Sand Oriskany 4706-22 Depth _____

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks

(over)

* Indicates Electric Log tops in the remarks section.



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

JUL 28 1975

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 July 28, 1975

Surface Owner Kenawha City Company

Company Cities Service Oil Company

Address Kenawha Banking & Trust Co.
Charleston, W. Va.

Address Box 873, Charleston, W. Va. 25323

Mineral Owner _____

Farm Kenawha City Land Co. Acres 2500

Address _____

Location (waters) Davis Creek

Coal Owner _____

Well No. 13, 04-362 Elevation 907'

Address _____

District Louden County Kenawha

Coal Operator _____

Quadrangle Charleston

Address _____

THIS PERMIT MUST BE POSTED AT THE WELL SITE

provisions being in accordance with Chapter 22,
the W. Va. Code, the location is hereby approved
for fracturing. This permit shall expire if
operations have not commenced by 11-29-75.

Robert K. Hood
Deputy Director - Oil & Gas Division

INSPECTOR TO BE NOTIFIED Martin Nichols
PH: 548-6993 ADDRESS Clendenin, W. Va.

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 1914 by L. C. McKin and by subsequent assigns, made to Cities Service Oil Co. (Columbian Carbon Co.) and recorded on the 29 day of Dec. 1914, in Kenawha County, Book 26 Page 149

_____NEW WELL _____DRILL DEEPER _____REDRILL X _____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.

Very truly yours, CITIES SERVICE OIL COMPANY
(Sign Name) Sam J. Matthews
Well Operator Sam J. Matthews
Region Prod. Manager

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:

West Virginia Geological and Economic Survey
P. O. Box 879
Morgantown, W. Va. 26505
AC 304-296-4461

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.

BLANKET BOND

KAN-253-FRAC PERMIT NUMBER

47-039

Deep Well

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

PROPOSED WORK ORDER TO _____ DRILL _____ DEEPEN FRACTURE-STIMULATE
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME Steve Duckworth NAME Sam J. Matthews
 ADDRESS Gassaway, W. Va. ADDRESS Box 873, Charleston, W. Va. 25323
 TELEPHONE 364-2302 TELEPHONE 344-8383
 ESTIMATED DEPTH OF COMPLETED WELL: 4731' ROTARY _____ CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Oriskany
 TYPE OF WELL: OIL _____ GAS 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 14" 42#	36'	36'	
13 - 10 32.75#	293'	293'	
9 - 5/8			
8 - 5/8 24#	1374'	1374'	
KN 6-5/8" 24#	4619'	4619'	20 sx
5 1/2			
4 1/2			
3			Perf. Top
2	4731'	4731'	Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 60' FEET 770' SALT WATER _____ FEET
 APPROXIMATE COAL DEPTHS 380' (36")
 IS COAL BEING MINED IN THE AREA? _____ BY WHOM? _____

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