

- Fracture.....
- New Location.....
- 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.

Signed: C. J. Tolley Jr.
 Squares: N S E W

Map No. _____

Company DEVON CORP.

Address P.O. BOX 1433 CHARLESTON WV

Farm ARDEN H. CASTO

Tract _____ Acres 124 Lease No. 4561

Well (Farm) No. _____ Serial No. 954

Elevation (Spirit Level) 915.10'

Quadrangle ELMWOOD 7.5' WINFIELD 15'

County MASON District UNION

Surveyor C. J. TOLLEY JR

Surveyor's Registration No. 92

File No. BK 50 P 96 Drawing No. _____

Date 4-19-80 Scale 1"=500'

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

WELL LOCATION MAP
 FILE NO. 053-0225

+ 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.

- Denotes one inch spaces on border line of original tracing.

5000' ORISKANY

Deep Well 6-6 Rock Castle (346)

JUN 16 1980



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED
NOV - 8 1980

Oil and Gas Division

WELL RECORD

OIL & GAS DIVISION
DEPT. OF MINES
Rotary _____
Cable _____ Gas X
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind)

Quadrangle Elmwood 7 1/2'

Permit No. Mason 225

Company DEVON CORPORATION
Address PO Box 1433, Charleston, W. Va.
Farm Arden Casto Acres 124
Location (waters) Mudlick Fork of 13 Mi. Creek
Well No. 954 Elev. 915.10
District Union County Mason
The surface of tract is owned in fee by _____
Arden Casto
Address Rt. 3, Box 149, Leon W. Va.
Mineral rights are owned by Same as above
Address _____
Drilling Commenced 6/8/80
Drilling Completed 6/16/80
Initial open flow 200,000 cu. ft. ~~XXXX~~
Final production 274,000 cu. ft. per day ~~XXXX~~
Well open 4 hrs. before test 1760 RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			
Cond. 13-10"			
9 5/8	720	720	300 sax - surf.
8 5/8			
7	2644	2644	75 sax-630 ft.
5 1/2			
4 1/2		4969	225 sax-2400 ft.
3			
2		4857	
Liners Used			

Well treatment details:

Attach copy of cementing record.

Perforated 4869 to 4871 with 16 holes. Completed with a water frac consisting of 15,000# 80/100 sand, 44,000# 20/40 sand with 790 bbls sand laden fluid. A total of 980 bbls fluid was used.

274 MCF

Coal was encountered at 660-671 Feet _____ Inches
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Oriskany Depth 4869-4871

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Soil			0	10		
Shale			10	20		
Sand			20	52		
Shale			52	625		
Sand			625	660		
Coal			660	671		
Shale			671	734		
Sand			734	746		
Shale			746	1030		
Sand			1030	1050		
Shale			1050	1123		
Sand			1123	1156		
Shale			1156	1176		
Sand			1176	1194		
Shale			1194	1212		
Sand			1212	1248		
Shale			1248	1322		
Sand			1322	1465		
Shale			1465	1770		
Sand			1770	1786		
Shale			1786	1813		
Sand			1813	1836		
Shale			1836	1888		
Sand			1888	1895		

Tops probably from KB about 925'

(over)

* Indicates Electric Log tops in the remarks section.

NOV 25 1980

Formation	Color	Hard or Soft	Top Feet ⁴⁹	Bottom Feet	Oil, Gas or Water	* Remarks
Big Lime			1895	2057		
Shale			2057	2100		
Injun Sand			2100	2246		
Shale			2246	2544		
Coffee Shale			2544	2568		
Berea Sand			2568	2582		
Shale			2582	3760		
Brown Shale			3760	4213		
Shale			4213	4598		
Marcellus Shale			4598	4772		
Onondaga Limestone			4772	4842		
Oriskany Sand			4842	4871		
Helderberg Limestone ✓			4871	4977		
T.D.			4977			

Date August 1, 19 80

APPROVED DEVON CORPORATION Owner
 By Paul W. Semann Geologist (Title)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

MAY - 2 1980

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

DATE April 16, 1980

Surface Owner Arden Casto & Bessie E. Casto,

Company DEVON CORPORATION

Address Rt. 3, Rm 149, Leon, WV his wife

Address PO Box 1433, Charleston, W. Va. 25325

Mineral Owner Same as above 25123

Farm Arden Casto Acres 124

Address _____

Location (waters) Mudlick Fork of 13 Mi. Creek

Coal Owner Union Carbide Corporation

Well No. 954 Elevation 915.10

Address Sanderson, W. Va.

District Union County Mason

Coal Operator Union Carbide Corporation

Quadrangle Elmwood 7.5'

Address Sanderson, W. Va.

~~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 1-9-81.

INSPECTOR TO BE NOTIFIED Kenneth Butcher

Deputy Director - Oil & Gas Division

ADDRESS Barboursville, W. Va.

PHONE 736-4885

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 June 26 19 78 by Arden Casto made to Devon, Eason & P. & O and recorded on the _____ day of _____ 19____, in Mason County, Book 43 Page 641
XXX 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,
(Sign Name) A. C. Youse
Well Operator
A. C. Youse, District Geologist
P. O. Box 1433
Street
Charleston,
City or Town
West Virginia
State 25325

*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

053
MASON-225 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 XXX DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME FWA Drilling Company NAME Bill Endicott
 ADDRESS Box 448, Elkview, W. Va. ADDRESS PO Box 1433, Charleston, W. Va.
 TELEPHONE 965-3379 TELEPHONE 342-3171
 ESTIMATED DEPTH OF COMPLETED WELL: 5000 ROTARY XXX CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Oriskany
 TYPE OF WELL: OIL _____ GAS XXX 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 - 10			
9 - 5/8	700	700	300 sax=to surface
8 - 5/8			
7	2650	2650	75 sax=630 feet
5 1/2			
4 1/2		5000	225 sax=2400 feet
3			Perf. Top
2		4900	Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS _____ FEET _____ SALT WATER _____ FEET _____
 APPROXIMATE COAL DEPTHS Coal @ 660-668
 IS COAL BEING MINED IN THE AREA? Yes BY WHOM? Union Carbide Corp.

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.

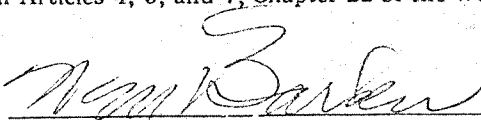
OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

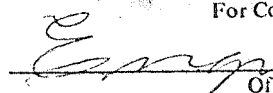
Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

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 Union Carbide Corp. ~~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 Union Carbide Corp. ~~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