

Fracture - 4-6-73
 Partial Plugging
 New Location
 Drill Deeper
 Abandonment

1 CERTIFY MAP CONFORMS TO PAR. OF MINING LAWS OF WEST VIRGINIA - WITH SOURCES OF KNOWLEDGE AVAILABLE & WITH MINIMUM ERROR OF 1 IN 200.
 Glen W. Roberts

Alvin G. Rowes
 Company BELO PETROLEUM CORP.
 Suite 405, 424 Madison Ave., 10017
 Address 630-3RD AVE. NEW YORK, N.Y.
 Farm GLEN W. ROBERTS APPALACHIAN ROYALTIES INC.
 Tract 321 Acres _____ Lease No. _____
 Well (Farm) No. ONE Serial No. _____
 Elevation (Spirit Level) 1035 FT.
 Quadrangle SPENCER NE
 County WIRT District SPRING CREEK
 Engineer Glen W. Roberts
 Engineer's Registration No. 860
 File No. _____ Drawing No. _____
 Date 10-30-66 Scale 1 IN. = 40 FEET

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

WELL LOCATION MAP
 FILE NO. Wirt-531-PP-1a

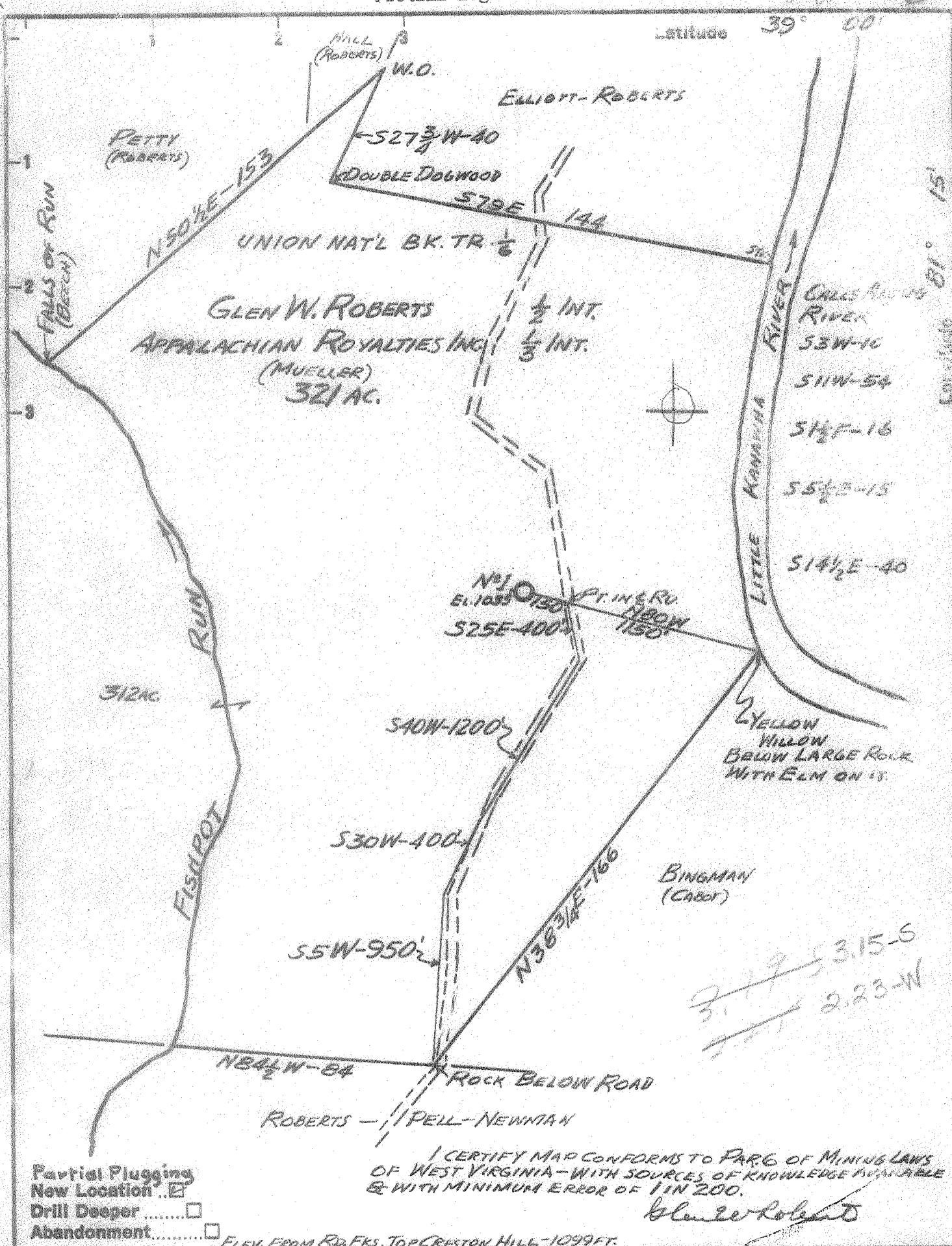
+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.
 - Denotes one inch spaces on border line of original tracing.

Deep Well

APR 18 1973

Latitude 39° 00'

Longitude 81° 15'



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I CERTIFY MAP CONFORMS TO PART OF MINING LAWS OF WEST VIRGINIA - WITH SOURCES OF KNOWLEDGE AVAILABLE & WITH MINIMUM ERROR OF 1 IN 200.

Glen W. Roberts

ELEV. FROM RD. FKS. TOP CRESTON HILL - 1099 FT.

Company	BELCO PETROLEUM CORP.		
Address	630-3RD AVE. NEW YORK, N.Y. 10017		
Farm	GLEN W. ROBERTS APPALACHIAN ROYALTIES INC.		
Tract	321 Acres	Lease No.	
Well (Farm) No.	ONE	Serial No.	
Elevation (Spirit Level)	10355		
Quadrangle	SPENCER	NE	
County	WIRT	District	SPRING CREEK
Engineer	Glen W. Roberts		
Engineer's Registration No.	660		
File No.	Drawing No.		
Date	10-20-66	Scale	1 IN. = 40 POLES

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

WELL LOCATION MAP
 FILE NO. Wirt-531-PP

+ 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.

321 Deep Well Newburg



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 14

Rotary
Spudder
Cable Tools
Storage
Oil or Gas Well Operations Suspended (KIND)

Quadrangle Burning Springs
Permit No. Wirt 531

WELL RECORD

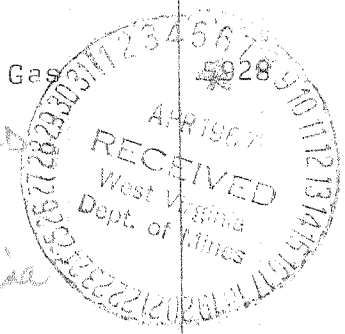
Company Belco Petroleum Corporation
Address 630 Third Ave. NYC, N.Y.
Farm Roberts Acres _____
Location (waters) Umpstead Ridge, Fish Pot Run
Well No. #1 Elev. 1035 GD
District Spring Ck. County Wirt
The surface of tract is owned in fee by Mueller
Address Elizabeth, W.Va.
Mineral rights are owned by Roberts, Appalach Royalties
Address Elizabeth, W. Va.
Drilling commenced 11/15/66
Drilling completed 12/13/66
Date Shot _____ From _____ To _____
With See Back
Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume _____ Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED (DETAILS) See Back
WELL FRACTURED (DETAILS) _____

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer Model "B"
16			
13 3/8	33	33	
10 9 5/8	2013	2013	Size of 7"
8 1/4			
7"	7086	7086	Depth set 6950 5879
5 3/16			
1 1/2			
3			Perf. top 7074-76
7/8	7078-		Perf. bottom 5928-36
Liners Used			Perf. top 5942-54 Perf. bottom 5959-64

Attach copy of cementing record. See Back Page
CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
Amount of cement used (bags) _____
Name of Service Co. _____
COAL WAS ENCOUNTERED AT None FEET _____ INCHES _____
FEET _____ INCHES FEET _____ INCHES
FEET _____ INCHES FEET _____ INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) DRY OPERATIONS SUSPENDED
ROCK PRESSURE AFTER TREATMENT _____ HOURS _____
Fresh Water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand _____ Depth _____

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
ss, sts, sh	Red	Soft	Surf	1150			
Sands	Buff	Medium	1150	1160			
Ss, sts, sh	Red	Soft	1160	1560			
Sands	White	Hard	1560	1800	Tr. Gas-oil	shows	Salt sds
Shales	Grey	Soft	1800	1825			
Limy Sands	Buff	Medium	1825	1860			
Lime bed	Grey	Hard	1860	1875			
Sand	Buff	Hard	1875	2010	Gas Shows		Injun
sts, sh	grey/grn	Soft	2010	5580			Berea 2385
Shale	Brown	Soft	5580	5690			Marcellus
Lime & shale	Tan	Medium	5690	5740			
Lime, chert	buff	Hard	5740	5930			Cornif.
Sand	buff/white	Hard	5930	6020	Gas		ORSKANY
sts, lime	grey	Hard	6020	6050			
Lime, sts							
atty	Brown	Hard	6050	6220			
dolo, atty							
sts	Brown	Hard	6220	6250			
Dolo q	Brown	Hard	6250	6630			
Salt, Dolo	White	Soft	6630	6660			
Dolo, sts							
atty	Brown	Hard	6660	7075			
Ss, dolo	tan, buff	Hard	7075	7080	Gas, salt water	7075	Newburg
dolo, Mdst	Tan/grey	Medium	7080	7140			



545

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Set 33' 1 3/8 w 19sx							
Set 2013 95/8 w 127sx							
Set 7078' 7" 270 cu. ft. Two Stages							
First Stage: 5999-7127 w 175 cu.ft.							
Second Stage: 5999 w 95 cu.ft.							
Ran 2 7/8 to 7078							
Perf. 7074-7076 w 8 shots through 36 Bbls 28% Acid & 20% isopropyl alcohol							
Raised 2 7/8 to 6953							
Pressured up - broke down @ 3,800, inj @ 3.5 BPM @ 4,600 psi							
- inj N2							
Rec Acid & well flowing 140 MCF through 6700' of SW							
Set Abn Plug @ 6,038' & Perf 5928-36, 5942-54, 5959-64 w/2/ft							
Circ 36 1/2 Bbls 28% acid							
Set Packer @ 5879							
Broke down Orisk @ 1800 psi-inj 16 BPM @ 3,100 psi							
inj N2 @ 200 SCF/Bbl & sd 11b/gal							
Total 500g-acid							
600 Bbls-Treated water							
25,000 lb sd							
128 MSCF N2							
Flow back Frac water & N2							
7 Hrs-30 Bbls H2O, Dist & 1,075 MCFPD Gas ✓							
28 Hrs - 10 Bbls H2O, Dist & 1,200 MCF Gas. ✓							
SI - MOR							
(1) Opened Well through test separators and unloaded gas, condensate and saltwater.							
(2) Moved in rig and killed well. Pulled tubing. Re-ran and set Model "K" cement retainer @ 5974'. Spotted cement on top of retainer.							
(3) Squeezed perfs 5928 - 5964 w/100 Sx. Drilled out cement to 5939' and perf. 5927'-35' w/32 holes.							
(4) Acidized w/1000 gal 15% Hcl. Swabbed and flowed gas (TSTM) and water. SI well 1-31-67.							

Date March 22, 1967, 19

APPROVED BELCO PETROLEUM CORPORATION, Owner

By Paul R. Stewart Gas Engineer
(Title)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED
APR 6 1973
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 6, 1973

Surface Owner Glen W. Roberts
Address Elizabeth, West Virginia
Mineral Owner Glen W. Roberts
Address Elizabeth, West Virginia
Coal Owner _____
Address _____
Coal Operator _____
Address _____

Company Alvin G. Rowes
Address 424 Madison Avenue, New York, N.Y.
Farm Mueller & Roberts Acres 321
Location (waters) Little Kanawha
Well No. One Elevation _____
District Spring Creek County Wirt
Quadrangle Spencer Northeast

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 fracturing. This permit shall expire if
operations have not commenced by 8-6-73.

Fred Burdette
Deputy Director - Oil & Gas Division

INSPECTOR TO BE NOTIFIED Fred Burdette
Box 190-Cicerone Rt.
Sissonville, WV. PH: 984-9263

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 _____ 19____ by _____ made to _____ and recorded on the _____ day of _____ 19____, in _____ County, Book _____ Page _____

_____ 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.

Very truly yours, [Signature]
(Sign Name) _____
Well Operator

Address
of
Well Operator

Route No. 5, Box 171A
Street
Parkersburg
City or Town
West Virginia
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.

**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 Clyde Crane Drilling Company NAME Milton Shuck
 ADDRESS _____ ADDRESS Parkersburg, West Virginia
 TELEPHONE _____ TELEPHONE 428-8551
 ESTIMATED DEPTH OF COMPLETED WELL: _____ ROTARY _____ CABLE TOOLS
 PROPOSED GEOLOGICAL FORMATION: Newburg well
 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			
13 - 10			
9 - 5/8			
8 - 5/8			
7			
5 1/2			
4 1/2			
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS _____ FEET _____ SALT WATER _____ FEET _____
 APPROXIMATE COAL DEPTHS _____, _____
 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