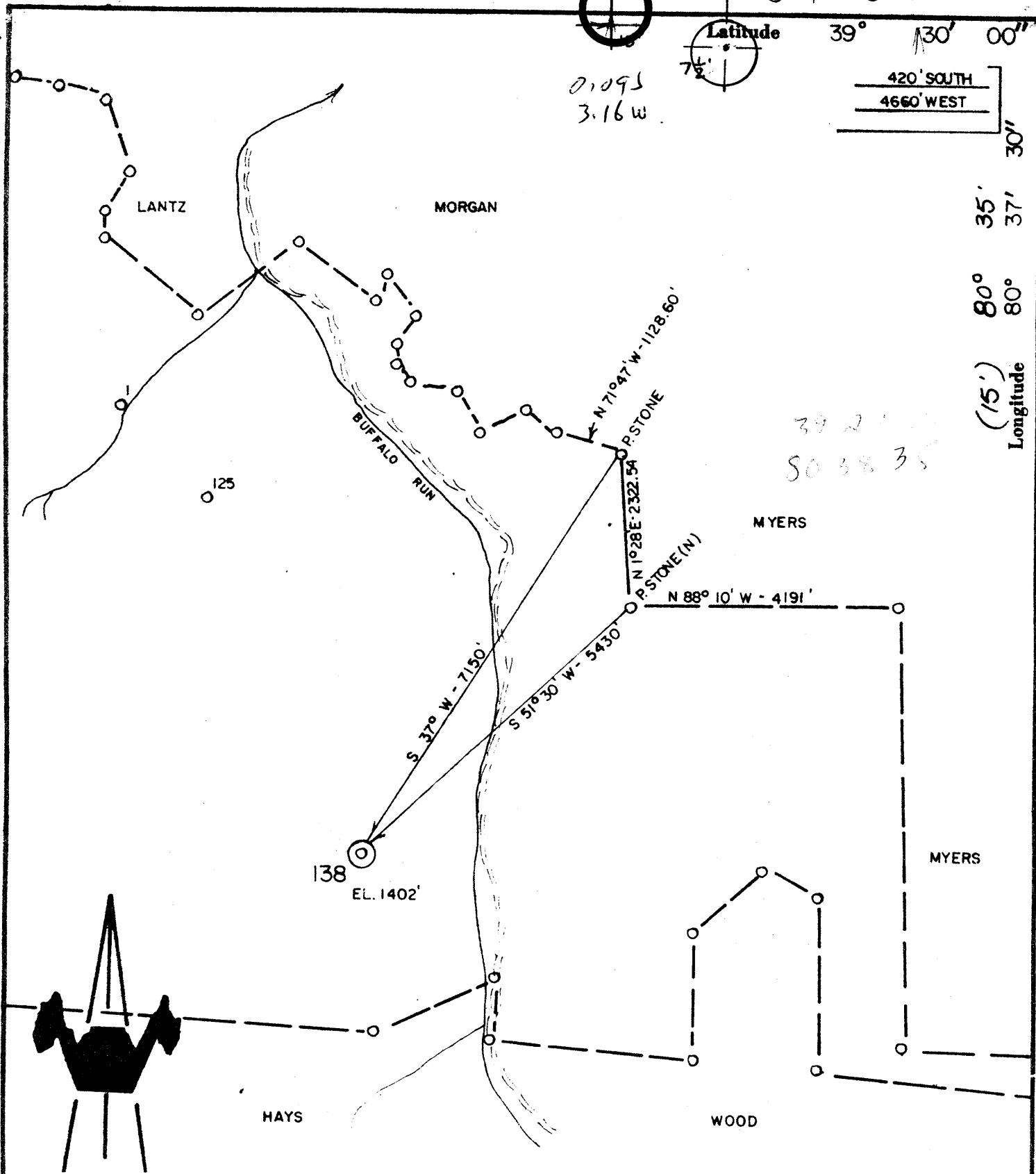


WV 10-3-80

21093  
3.16 W

Latitude 39° 30' 00"  
420' SOUTH  
4660' WEST

Longitude 80° 35' 30"  
80° 37' 30"  
(15')



39 21  
50 38 35

ACCURACY: 1" / 200'

- New Location
- Drill Deeper
- Abandonment
- Fracture
- Redrill
- Other

Formation GORDON Oil   
 Est. Depth 2500' Gas   
 Other

Source of Elevation B.M. ON BUFFALO (823')  
 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 title and regulations of the oil and gas section of the mining laws of West Virginia.

*Chet Waterman*

Company QUAKER STATE OIL REF. CORP.  
 Address PARKERSBURG, WV  
 Surface Owner LEWIS WETZEL HUNTING GROUND  
 Mineral Owner MILLS WETZEL LANDS, INC.  
 Farm JOHN MILLS, JR.  
 Well No. 138 Acres 5228.5  
 Elevation 1402' NC  
 Quadrangle CENTER POINT Series 7.5' & 15'  
 County WETZEL District GRANT  
 Date 9/24/80 Scale 1" = 2000'

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

**WELL LOCATION MAP**  
 47 - 103 - 1200 FRAC  
 STATE COUNTY PERMIT  
 Wad 103 70197  
 + Denotes location of well on United States Topographic Maps.  
 Engineer CHET WATERMAN  
 Engineer's Registration No. 3788 File No. 80-559

6-6 JACKSONBURG-STRINGSTON 3347 GORDON-BIG INJUN  
 95 OCT 28 1980

JOHN MILLS NO. 138 WELL.

No. 54 on Map.

Grant District, Wetsel County, W. Va.

Kanawha Oil Co.

Completed, Dec. 1923.

Oil and gas well.

Orig. prod. 25 bbls.; present, 2 bbls.

Elevation, 1469'±

pp. 103

70197 → 1200  
not located  
of Gas  
1200

cell. 1463  
comp. 12/01/1923  
✓ (del.)

	Top.	Bottom.
Pittsburgh Coal	1240	1244
Little Dunkard Sand	1610	1614?
Big Dunkard Sand	1730	
Gas Sand	1820	1975
Salt Sand	2033	2065
2 Salt Sand (hole full water, 2003')	2123	2183
Little Lime	2450	2458
Big Lime	2465	2515
Big Injun Sand	2515	2715
Berea (Squaw) Sand	2845	2965
50-ft. (Berea) Sand	3075	3125
G. Stray Sand	3270	3285
Gordon Sand (gas, 3295'; oil and gas, 3310')	3288	3337
Total depth		3347

Deepest well in Kan. Oil Co. lease (Mills).

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

Date Dec. 23, 19 81

FORM IV-35  
(Obverse)

Operator's  
Well No. JOHN MILLS, JR. #138

[08-79,

WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

API Well No. 17 - 103 - 1200  
State County Permit

WELL TYPE: Oil XX / Gas \_\_\_ / Liquid Injection \_\_\_ / Waste Disposal \_\_\_  
(If "Gas", Production \_\_\_ / Underground storage \_\_\_ / Deep \_\_\_ / Shallow \_\_\_)

LOCATION: Elevation: 1402 Watershed: Buffalo Run  
District: Grant County: Wetzel Quadrangle: Center Pint 7.5'

WELL OPERATOR QUAKER STATE OIL REFG. CORP. DESIGNATED AGENT Carl J. Carlson  
Address P.O. Box 1327 Address P.O. Box 1327  
Parkersburg, WV 26101-1327 Parkersburg, WV 26101-1327

PERMITTED WORK: Drill \_\_\_ / Convert \_\_\_ / Drill deeper \_\_\_ / Redrill \_\_\_ / Fracture or stimulate XX  
Plug off old formation \_\_\_ / Perforate new formation \_\_\_  
Other physical change in well (specify) Pull 5 3/16" and run 3 1/2" and cemented

PERMIT ISSUED ON Oct. 14, 19 81

OIL & GAS INSPECTOR FOR THIS WORK:

(IF APPLICABLE: PLUGGING OF DRY HOLE ON  
CONTINUOUS PROGRESSION FROM DRILLING OR  
REWORKING. VERBAL PERMISSION OBTAINED

Name Phillip L. Tracy

Address Rt. #3

Alma, WV

GEOLOGICAL TARGET FORMATION: Gordon Depth 3284 - 3337 feet

Depth of completed well, 3352 feet Rotary \_\_\_ / Cable Tools XX

Water strata depth: Fresh, na feet; salt, 2023 feet.

Coal seam depths: 740, 976, 1240 Is coal being mined in the area? no

Work was commenced 4/23/81, 19 81, and completed 12/1/81, 19 81

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								Kinds
Fresh water	10					300	300	old casing Sizes
Coal	8 1/4					1700	1700	
Intermediate	6 5/8					2183	2183	
Production	3 1/2					3350	3350	125 sx Depth set
Tubing								
Liners								Perforations: Top Bottom

**RECEIVED**

DEC 29 1981

OIL AND GAS DIVISION  
WV DEPARTMENT OF MINES

OPEN FLOW DATA

Producing formation Gordon Pay zone depth 3284 - 3337 feet

Gas: Initial open flow, 1 Mcf/d Oil: Initial open flow, 1/2 Bbl/d

Final open flow, 10 Mcf/d Final open flow, 5 Bbl/d

Time of open flow between initial and final tests, -- hours

Static rock pressure, 150 psig (surface measurement) after -- 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

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

Cemented on 5/26/81 with 125 sx.  
Perforated on 11/30/81 from 3290 to 3322 with 33 shots.  
Broke down formation at 3000 psi and shut well in.  
Reperforated on 12/1/81 from 3290 to 3310 with 21 shots.  
Fractured with 550 bbl. water and 17,000# of 20/40 sand.  
Average treating pressure 3450 psi at 14 BPM  
I.S.I. 2000 psi.

WELL LOG

FORMATION	Color	Hard or Soft	Feet		Remarks Including indication of all fresh and salt water, coal, oil and gas
			Top	Bottom	
Sandstone & Shale			0	739	
Native Coal			739	740	
Sandstone & Shale			740	975	
Coal			975	976	
Sandstone			976	1030	
Shale			1030	1050	
Sandstone			1050	1110	
Sandstone & Shale			1110	1239	
Pittsburgh Coal			1239	1240	
Sandstone & Shale			1240	1726	
Big Dunkard SS			1726	1743	
Shale			1743	1812	
Sandstone			1812	1855	
Siltstone & Shale			1855	1990	
Sandstone			1990	2077	
Shale			2077	2120	
Sandstone			2120	2178	
Shale			2178	2430	
Little Lime			2430	2444	
Pencil Cave			2444	2458	
Big Lime			2458	2516	
Big Injun			2516	2713	
Shale & Siltstone			2713	3258	
Gordon Stray			3258	3263	
Shale			3263	3284	
Gordon			3284	3337	
Shale			3337	3352	

(Attach separate sheets to complete as necessary)

QUAKER STATE OIL REFINING CORPORATION  
 Well Operator  
 By Michael C. Brannock  
 Its Michael C. Brannock - Sr. Geologist

**NOTE:** Regulation 2.03(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 drilling of a well."



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

OCT - 2 1980

**Oil and Gas Division**  
**OIL AND GAS WELL PERMIT APPLICATION**

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

DATE October 1, 1980

Surface Owner LEWIS WETZEL HUNTING GROUND  
Address DNR, Charleston, WV  
Mineral Owner Mills Wetzel Lands, Inc.  
Address 10 S. LaSalle St., Chicago, IL 60600  
Coal Owner Mills Wetzel Lands, Inc.  
Address same as above  
Coal Operator None  
Address \_\_\_\_\_

Company QUAKER STATE OIL REFG. CORP.  
Address P.O. Box 1327, Parkersburg, WV 26101  
Farm John Mills, Jr. Acres 5228.5  
Location (waters) Buffalo Run  
Well No. 138 Elevation 1402  
District Grant County Wetzel  
Quadrangle Center Point 7.5'

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 6-14-81.

INSPECTOR  
TO BE NOTIFIED Phillip L. Tracy  
ADDRESS Rt. #3, Alma, WV 26320  
PHONE 758-4573

John B. Burchette  
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 November 30, 1948 by Mills Wetzel Lands, Inc. made to QUAKER STATE OIL REFG. CORP. and recorded on the 22 day of September 1980 in Wetzel County, Book 60A Page 381  
XXX NEW WELL XXX DRILL DEEPER XXX REDRILL XXX FRACTURE OR STIMULATE  
XXX 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 October 1, 1980 day 1980 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, QUAKER STATE OIL REFG. CORP.  
(Sign Name) Carl J. Carlson  
Well Operator  
Carl J. Carlson  
P.O. Box 1327  
Street  
Parkersburg,  
City or Town  
West Virginia 26101  
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.

47-103-1200-FRAC. 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 Carl J. Carlson

**BLANKET BOND**

*Summary*

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

PROPOSED WORK ORDER TO \_\_\_\_\_ DRILL \_\_\_\_\_ DEEPEN XXX FRACTURE-STIMULATE  
 DRILLING CONTRACTOR: (If Known) \_\_\_\_\_ RESPONSIBLE AGENT:  
 NAME QUAKER STATE OIL REFG. CORP. NAME Carl J. Carlson  
 ADDRESS P.O. Box 1327, Parkersburg, WV 26101 ADDRESS P.O. Box 1327, Parkersburg, WV 26101  
 TELEPHONE 614-423-9543 TELEPHONE 614-423-9543  
 ESTIMATED DEPTH OF COMPLETED WELL: 3347 ROTARY \_\_\_\_\_ CABLE TOOLS XXX  
 PROPOSED GEOLOGICAL FORMATION: Gordon, Big Injun  
 TYPE OF WELL: OIL XX GAS \_\_\_\_\_ COMB. \_\_\_\_\_ STORAGE \_\_\_\_\_ DISPOSAL \_\_\_\_\_  
 RECYCLING \_\_\_\_\_ WATER FLOOD \_\_\_\_\_ OTHER \_\_\_\_\_

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE In Hole	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
- 10	300	300	
9 - 5/8			
8 1/4"	1700	1700	
6 5/8"	2183	2183	
5 3/16"	3075	3075	
4 1/2			
3	Pull 5 3/16" and run 4 1/2" to 3347' with slotted liner		Perf. Top
2	on bottom and multiple stage cementing collar set above Gordon.		Perf. Bottom
Liners	Cement to 300' above Big Injun.		Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS NA FEET \_\_\_\_\_ SALT WATER 2023 FEET \_\_\_\_\_

APPROXIMATE COAL DEPTHS 740', 976', 1240'

IS COAL BEING MINED IN THE AREA? No 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