

Company **CABOT OIL & GAS**  
 Address **CHARLESTON 28, W.VA.**  
 Farm **BULL CREEK COAL LAND CO.**  
 Tract \_\_\_\_\_ Acres **4000** Lease No. **16**  
 Well (Farm) No. **23** Serial No. **679**  
 Elevation (Spirit Level) **835.0** Ground  
 Quadrangle **PEYTONA**  
 County **BOONE** District **PEYTONA**  
 Engineer **T. S. Flournoy**  
 Engineer's Registration No. **269**  
 File No. \_\_\_\_\_ Drawing No. \_\_\_\_\_  
 Date **MAR. 20, 1944** Scale **1" = 1000 FT.**

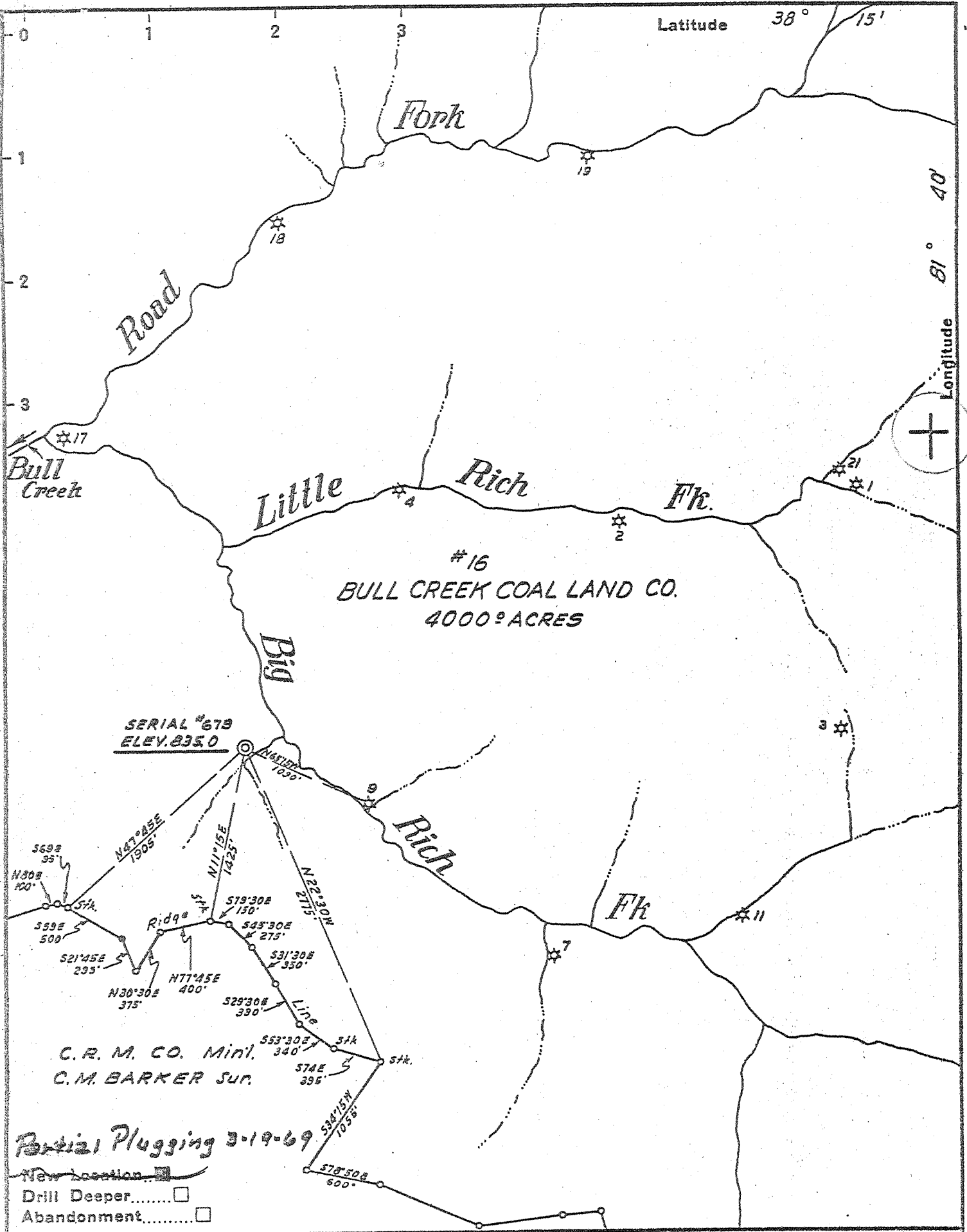
STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION  
 CHARLESTON

**WELL LOCATION MAP**  
 FILE NO. **300-640-PP-R**  
*Second Partial Plugging - 5-21-69 DEEP*

+ 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.

1983

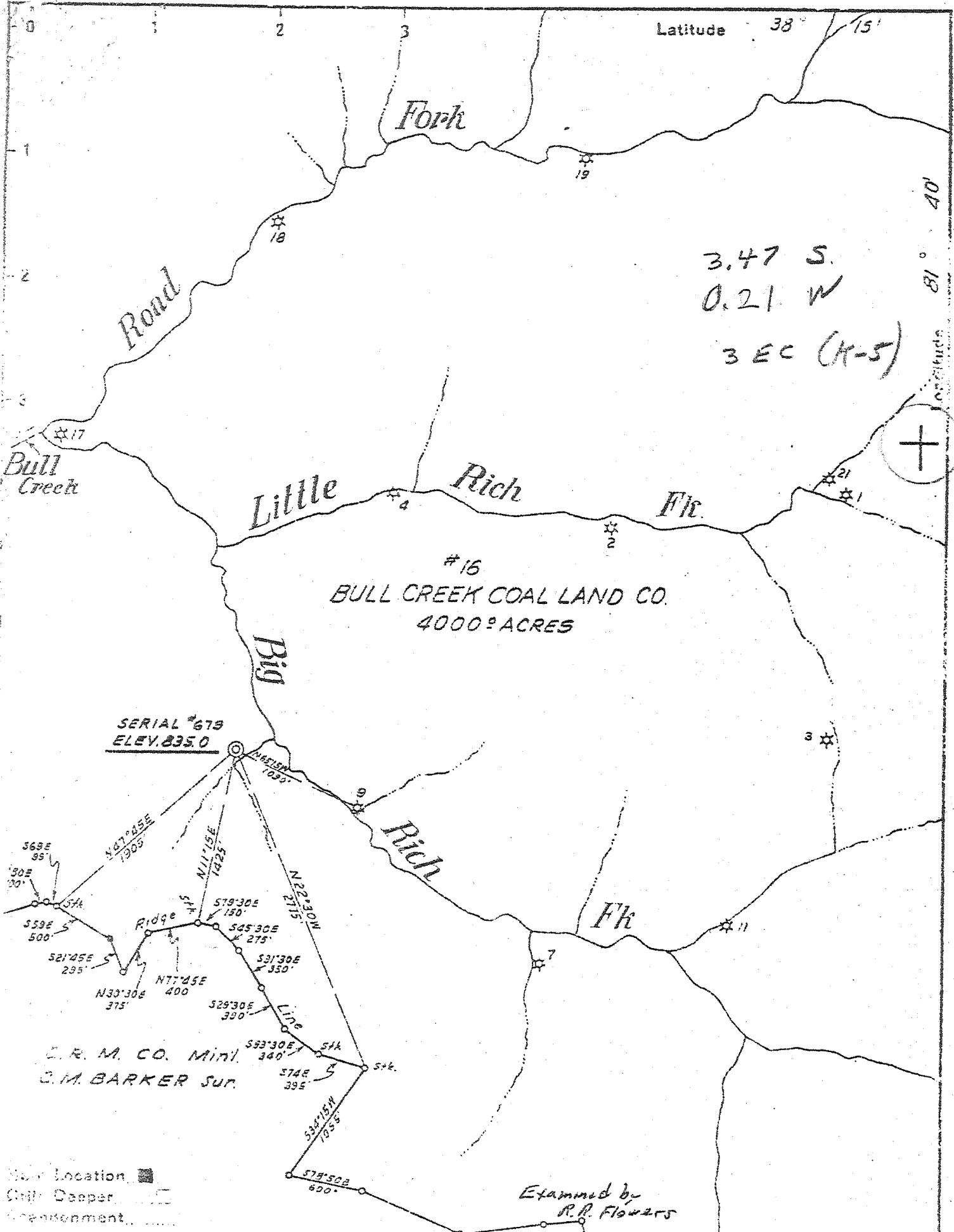


Company THE OWENS LIBBEY-OWENS GAS DEPT.  
 Address 4168 BOX 2HT CHARLESTON 28, W.VA.  
 Farm BULL CREEK COAL LAND CO.  
 Tract \_\_\_\_\_ Acres 4000 Lease No. 16  
 Well (Farm) No. 23 Serial No. 679  
 Elevation (Spirit Level) 835.0 Ground  
 Quadrangle PEYTONA NW  
 County BOONE District PEYTONA  
 Engineer T.S. Flournoy  
 Engineer's Registration No. 269  
 File No. \_\_\_\_\_ Drawing No. \_\_\_\_\_  
 Date MAR 20, 1944 Scale 1" = 1000 FT.

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

**WELL LOCATION MAP**  
 FILE NO. 300-640-PP

Second Partial Plugging - 5-21-69  
 \* 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.  
6-6 238  
Deep Well (Hdby) MAY 27 1969



Company THE OWENS LIBBEY-OWENS GAS DEPT.  
 Address BOX 211 CHARLESTON 28, W.VA.  
 From BULL CREEK COAL LAND CO.  
 Acreage 4000 Lease No. 16  
 Well (Farm) No. 23 Serial No. 679  
 Elevation (Spirit Level) 835.0 Ground  
 Quadrangle PEYTONA - NW  
 County BOONE District PEYTONA  
 Engineer T.S. Flournoy  
 Engineer's Registration No. 263  
 File No. \_\_\_\_\_ Drawing No. \_\_\_\_\_  
 Date MAR. 20 1944 Scale 1" = 1000 FT.

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

**WELL LOCATION MAP**  
 FILE NO. 1300-640

★ Denotes location of well on United States Topographic Maps, scale 1 to 82,500, latitude and longitude lines being represented by border lines as shown.  
 — Denotes one inch spaces on border line of original tracing.

Samples 15-F (1056-1444 / 1711-4420) Deep Well

WEST VIRGINIA DEPARTMENT OF MINES  
OIL & GAS DIVISION  
W E L L R E C O R D

OIL & GAS WELL  
Casing & Tubing

Permit No. Boo 640	The Owens, Libbey-Owens Gas Dept.	O W Anchor
Peytona Quad.	P.O. Box 2111, Charleston 28, W.Va.	Size 3 x 2 x 16
Company	Bull Creek Coal Land Co. #23 A 4000	Depth 4312-4315
Address		
Farm		
Location		
Well No.	679 Elev. 835.0 G	Perf. top 4410
District	Peytona Boone County	" bot 4420
Surface	Bull Creek Coal Land Co.	
	306 Ellicott Square, Buffalo, N.Y.	
Mineral	Same	6 5/8 1368 1368
Commenced	8-11-44 D.D. 2-15-45	3 108 108
Completed	10-18-44 D.D. 4-11-45	2 3/8 4412 4412
Open flow	82/10ths W in 2"	
Volume	284 MCF. D.D. 35 MCF- R.P. 800 Lbs. 34 Hrs.	
Fresh Water	90' 1 blr. hr.; 113' 4 blr. hr.;	
	135' stood at 75'; 320' 2 blr. hr. Coal at 181' 36"	
	375' Hole filling. 585' Fresh; 834' Salty	
	925' Salty; 1119 Salty;	
Salt Water	4 1/2 bbls. 1st 24 hrs.	
Oil-D.D.		
Date shot	4-11-45 Depth 4365 to 4420 with 500# Detonite	

Clay	Y	S	0	15	Drilled to 1363. Filled back to 1291.			
Sand	Y	S	15	25	Cleaned out from 1291-1363			
Slate, Sand	Lt	S	25	120				
Slate	Dk	S	120	133	Shell Gr	H	1363	1468
Sand	Lt	S	133	145	Slate & Shell Lt	S-H	1468	1689
Slate	Dk	S	145	156	Shell-Slate Lt	H-S	1689	1747
Sand	Lt	S	156	181	Shale Br	S	1747	1758
Coal	Bk	S	181	184	Berea Gr	H	1758	1775
Sand	Lt	S	184	238	Slate & Shells Gr	M	1775	2930
Slate	Dk	S	238	271	Shell Dk	H	2980	3013
Sand	Lt	S	271	492	Slate Lt	M	3013	3019
Slate	Dk	S	492	499	Shell Dk	H	3019	3039
Sand	Lt	M	499	536	Slate-Shell Lt	S-H	3039	3143
Slate	Dk	S	536	539	Slate-Shell Dk	M-H	3143	3400
Sand	Lt	S	539	552	Shale Br	S	3400	3441
Slate	Dk	S	552	569	Shale & Shells Br	M	3441	3475
Sand	Dk	S	569	617	Shale Br	S	3475	3500
Slate	Dk	S	617	665	Slate & Shells Lt	M-S	3500	4047
Sand	Lt	S	665	674	Shale & Shells Br	S	4047	4082
Slate	Dk	S	674	689	Brown Shale Br	S	4082	4230
Sand	Lt	S	689	696	Slate Lt	S	4230	4250
Slate	Dk	S	696	701	Brown Shale Br	S	4250	4304
Sand	Dk	S	701	777	Corniferous Lm. Dk	S-H	4304	4350
Red Rock		S	777	781	Corniferous Lm. Lt	H	4350	4402
Slate & Shells Lt	Lt	S	781	845	Oriskany Sand Lt	H	4402	4412
Sand	Lt	M	845	919	Lime Lt	H	4412	4420
Red Rock		S	919	923	TOTAL DEPTH			4420
Slate & Shells Dk	Dk	S	923	945				
Sand	Dk	H	945	958	Gas 4380 show			
Slate & Shells Dk	Dk	S	958	1047	Gas 4403 16 M			
Lime - L.L.	Dk	H	1047	1118	Oil 4403 1/2 bail 3 hrs.			
Big Lime	Wh	H	1118	1297				
Injun Sand		H	1297	1342				
Slate	Dk	S	1342	1345				
Slate & Shells Lt	Lt	H	1345	1363				
TOTAL DEPTH				1363				
Gas 1212-1217	66 M							
Gas 1243	59 M							
Gas 1312-1316	70 M							
Test after Acid	71 M							
Filled back to 1294	from 1363							

485

BULL CREEK COAL LAND CO. NO. 23 (679) WELL.

Peytona District, Boone County, W. Va.  
 By The Owens, Libbey-Owens Gas Department, Charleston, W. Va.  
 Located 3.5 mi. S. of 38° 15' and 0.21 mi. W. of 81° 40' - NW - Peytona  
 (Quadrangle.

Elevation, 835' L. (ground).

Permit Bee-640.

Drilling commenced Aug. 11, 1944; completed to 1363' Sept. 10, 1944;  
 completed deepening to 4420' April 11, 1945.

Oil and gas well.

After shooting in Oriskany, 35,000 cu. ft. gas; 4½ bbls. oil 1st 24 hrs.  
 Coal at 181-184'.

6½" casing, 1368'; 2-3/8" tubing, 4412'.

Section based on samples from 1056 to 1444' and 1711 to 4420', examined  
 by J. H. G. Martens, omitting most of Devonian Shales.

Top. Bottom. Thickness.

Top.	Bottom.	Thickness.	Description
<b>MAUCH CHUNK GROUP, 58+ FEET</b>			
1056	1114	58	Limestone, gray to brownish, and gray fissile shale (not described in detail)
<b>GREENBRIER LIMESTONE, 186 FEET</b>			
1114	1125	11	Limestone, very light brown to nearly white; some gray shale cavings
1125	1148	23	Limestone, very light brown
1148	1159	11	Limestone, brown
1159	1179	20	Limestone, light-brown, partly oolitic
1179	1204	25	Limestone, light-brown
1204	1210	6	Limestone, light-brown, partly sandy and oolitic
1210	1236	26	Limestone, very light brown, oolitic, with a few rounded sand grains; some fragments have visible pores, 1210-1217' (gas, 1212-1217', 66 M.)
1236	1243	7	Limestone, light-brown, with green spots, oolitic and sandy
1243	1266	23	Limestone, light-brown, with green spots, sandy and oolitic, 70%; white to light-green, very fine textured dolomitic limestone, 30% (gas, 1243', 69 M.)
1266	1284	18	Limestone, light-brown, oolitic and slightly sandy
1284	1300	16	Limestone, very light brown, partly dolomitic
<b>MCCRADY FORMATION, 26 FEET</b>			
1300	1308	8	Sandstone, red, very fine, with about 20% of very coarse quartz veins
1308	1326	18	Sandstone, red, very fine, silty (gas, 1312-1316', 70 M.)
<b>POCONO FORMATION, 439 FEET</b>			
1326	1375	49	Shale, dark-gray, silty
1375	1394	19	No sample
1394	1444	50	Shale and siltstone, gray
1444	1711	267	No samples
1711	1741	30	Shale and siltstone, gray
1741	1763	22	Shale, very dark gray to black (Sunbury Shale)
1763	1765	2	Sandstone, white, very fine, with a few coarser grains (Berea Sandstone)
<b>DEVONIAN SHALES, 2541 FEET</b>			
1765	1783	18	Shale and fine siltstone, gray
1783	4286	2503	Samples not examined
4286	4306	20	Shale, black

(OVER)

BULL CREEK COAL LAND CO. NO. 23 (679) WELL (Continued).

Top.	Bottom.	Thickness.	Description
4306	4399	93	HUNTERVILLE CHERT, 93 FEET Chert and cherty limestone, brown to gray (not described in detail)
4399	4407	8	ORISKANY SANDSTONE, 16 FEET Sandstone, white, medium-grained, calcareous (gas, 4403', 16 M.; oil, 4403', 1/2 bailer in 3 hrs.)
4407	4415	8	Sandstone, light-gray, fine- to medium-grained
4415	4418	3	HELDERBERG GROUP, 3+ FEET Limestone, light-gray, very cherty
4420			Total depth - 110 FEET

Top.	Bottom.	Thickness.	Description
4418	4420	2	Limestone, light-gray, very cherty
4420	4422	2	Limestone, light-gray, very cherty
4422	4424	2	Limestone, light-gray, very cherty
4424	4426	2	Limestone, light-gray, very cherty
4426	4428	2	Limestone, light-gray, very cherty
4428	4430	2	Limestone, light-gray, very cherty
4430	4432	2	Limestone, light-gray, very cherty
4432	4434	2	Limestone, light-gray, very cherty
4434	4436	2	Limestone, light-gray, very cherty
4436	4438	2	Limestone, light-gray, very cherty
4438	4440	2	Limestone, light-gray, very cherty
4440	4442	2	Limestone, light-gray, very cherty
4442	4444	2	Limestone, light-gray, very cherty
4444	4446	2	Limestone, light-gray, very cherty
4446	4448	2	Limestone, light-gray, very cherty
4448	4450	2	Limestone, light-gray, very cherty
4450	4452	2	Limestone, light-gray, very cherty
4452	4454	2	Limestone, light-gray, very cherty
4454	4456	2	Limestone, light-gray, very cherty
4456	4458	2	Limestone, light-gray, very cherty
4458	4460	2	Limestone, light-gray, very cherty
4460	4462	2	Limestone, light-gray, very cherty
4462	4464	2	Limestone, light-gray, very cherty
4464	4466	2	Limestone, light-gray, very cherty
4466	4468	2	Limestone, light-gray, very cherty
4468	4470	2	Limestone, light-gray, very cherty
4470	4472	2	Limestone, light-gray, very cherty
4472	4474	2	Limestone, light-gray, very cherty
4474	4476	2	Limestone, light-gray, very cherty
4476	4478	2	Limestone, light-gray, very cherty
4478	4480	2	Limestone, light-gray, very cherty
4480	4482	2	Limestone, light-gray, very cherty
4482	4484	2	Limestone, light-gray, very cherty
4484	4486	2	Limestone, light-gray, very cherty
4486	4488	2	Limestone, light-gray, very cherty
4488	4490	2	Limestone, light-gray, very cherty
4490	4492	2	Limestone, light-gray, very cherty
4492	4494	2	Limestone, light-gray, very cherty
4494	4496	2	Limestone, light-gray, very cherty
4496	4498	2	Limestone, light-gray, very cherty
4498	4500	2	Limestone, light-gray, very cherty



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION 2

Quadrangle Peytona

Permit No. Boo-640-PP

WELL RECORD

Oil or Gas Well Gas  
(KIND)

Company OWENS, LIBBEY-OWENS GAS DEPARTMENT  
Address P. O. Box 4168, Charleston, W. Va. 25304  
Farm Bull Creek Coal Land Co. Acres 4,000  
Location (waters) Big Rich Fork, Bull Creek  
Well No. 23 (Serial No. 679) Elev. 835.0  
District Peytona County Boone  
The surface of tract is owned in fee by \_\_\_\_\_  
Address \_\_\_\_\_  
Mineral rights are owned by \_\_\_\_\_  
Address \_\_\_\_\_

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer _____ Anchor
16			Size of _____ 3-1/2 x 8 x 16
13			Depth set <u>1224'</u>
10			
8 1/2			
7"	1364'1"	Pulled	
5 3/16			
3-1/2"	1269'8"	1269'8"	Perf. top _____
2-3/8"	4418'9"	Pulled	Perf. bottom _____
Liners Used			Perf. top _____
2-3/8"	1247'8"	Pulled	Perf. bottom _____
1" siphon	1270'	1270'	

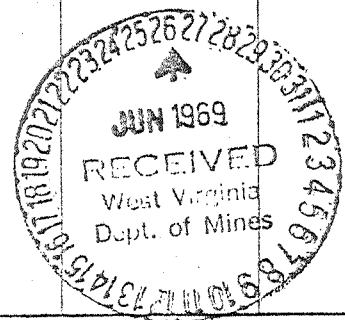
Repairs \_\_\_\_\_  
Drilling commenced 4-10-69  
Drilling completed 6-3-69  
Date Shot \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_  
Open Flow 1/10ths Water in \_\_\_\_\_ Inch  
1/10ths Merc. in \_\_\_\_\_ Inch  
Volume 115 MCF Big Lime Cu. Ft.  
Rock Pressure 125 lbs. 48 hrs.  
Oil \_\_\_\_\_ bbls., 1st 24 hrs.  
WELL ACIDIZED \_\_\_\_\_  
WELL FRACTURED \_\_\_\_\_

CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_  
COAL WAS ENCOUNTERED AT \_\_\_\_\_ FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES

115,000

RESULT AFTER TREATMENT \_\_\_\_\_  
ROCK PRESSURE AFTER TREATMENT \_\_\_\_\_  
Fresh Water \_\_\_\_\_ Feet Salt Water \_\_\_\_\_ Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
					4-10-69 Pulled 4418'9" of 2-3/8" tubing Test 66 MCF Oriskany Sand		
					4-16-69 Hole plugged back to 4277' Oriskany gas plugged off. Test: No gas.		
					4-23-69 Pulled 1364'1" of 7" casing. Test 162 MCF Big Lime & Big Injun Hole plugged back to 1356'		
					4-25-69 McCullough ran gamma-ray, density, temperature and caliper logs. Test 120 MCF		
					5-2-69 Ran 2-3/8" tubing on test packer set 1242'5" Test: Big Lime 113 MCF Big Injun 3.3 MCF		
					5-20-69 Decided not to frac Big Injun due to low rock pressure recorded on pressure tests. Pulled 2-3/8" tubing. Plugged hole back to 1269' Test: Big Lime 99 MCF		
					5-26-69 Ran 3-1/2" tubing with an anchor		



OWWD, no new footage (over) old  
PB 40 1269 & made comp in Big Line JUL 05 1969  
1224-1269

Formation	Color	Hard or Soft	Top z	Bottom	Oil, Gas or Water	Depth Found	Remarks
					packer set at 1224 ft. Tubing set to 1270'.  <u>6-3-69</u> Ran 1" siphon to 1270'  F.O.F. . Big Line 48 hr. Rock Pressure		115 MCF 125 lbs.

Date June 25, 1969

APPROVED OWENS, LIBREY-OWENS GAS DEPARTMENT, Owner

By T. E. Mollencop  
 T. E. Mollencop (Title)



RECEIVED

FORM IV-38 DEC 21 1983

[08-78] OIL & GAS DIVISION

DEPT. OF MINES

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

Date: December 8, 1983

Operator's Well No. Bull Creek #23

API Well No. 47 - 005 - 0640  
State County Permit

AFFIDAVIT OF PLUGGING AND FILLING WELL

WELL TYPE: Oil \_\_\_ / Gas XX / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ /  
(If "Gas", Production XX / Underground storage \_\_\_ / Deep \_\_\_ / Shallow XX /  
LOCATION: Elevation: 835 Watershed: Big Rich Creek, Bull Creek  
District: Peytona County: Boone Quadrangle: Peytona

WELL OPERATOR Cabot Oil & Gas Corp. of WV  
Address P.O. Box 628  
Charleston, West Virginia 25322

DESIGNATED AGENT Robert E. Horrell  
Address P.O. Box 628  
Charleston, West Virginia 25322

STATE OF WEST VIRGINIA, )  
COUNTY OF KANAWHA ) SS:

Mark A. McCormick and Anthony B. Gale

being first duly sworn according to law, depose and say that they are experienced in the work of plugging and filling oil and gas wells; that they were employed by Cabot Oil & Gas Corp. of WV the well operator, and participated in the work of plugging and filling the above well; that the work was commenced on October 31, 1981, and completed on November 1, 1983, in the following manner:

PERMITTED WORK: Plug and abandon XX / Clean out and replug \_\_\_ /

PLUGGING MATERIALS

Type of Cement	Other Materials	Depth	Thickness
Class A	3% CaCl <sub>2</sub>	1220'	185'
8.7# Gel		1035'	385'
Calseal		650'	10'
8.7# Gel		640'	375'
Class A	3% CaCl <sub>2</sub>	225'	85' behind * 10-3/4"
Class A	3% CaCl <sub>2</sub>	265'	265'

Bridge Plugs Used--Type and Depth

Baker Model S in 3-1/2" at 1220'

Baker Model N plug in 8-5/8" at 650'

\* Perf. 10-3/4" @ 225'. Cut 8-5/8" @ 268' and pulled.

VENT PIPE

MISCELLANEOUS MATERIALS

CASING LOST 8-5/8"-867'; 10-3/4"-248'

TYPE OF RIG:

Owner: Well Op'r \_\_\_ / Contractor X /

Rig time: 2 days plus \_\_\_ hours

COAL SEAMS (NAMES AND DEPTHS)

Coal @ 181' - 184'

DESCRIPTION OF WELL MONUMENT

Plate welded to 10-3/4"

collar with API Well No.

Anthony B. Gale (SEAL)  
Mark A. McCormick (SEAL)

Subscribed and sworn to before me this

19th day of December, 1983.

My commission expires March 5, 1989.

Loene Miller  
Notary Public

1/3/84