



ACCURACY: 1" / 200'

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

Source of Elevation WELL #1 (992')

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.

*Chet Waterman*

Company	FRANCES FRIESTAD
Address	ROCKFORD, ILLINOIS
Farm	DAVID D. BALL
Tract	Acres 120 Lease No.
Well (Farm) No.	4 Serial No.
Elevation (Spirit Level)	894.5'
Quadrangle	HOLBROOK NC
County	DODDRIDGE District SOUTHWEST
Engineer	CHET WATERMAN
Engineer's Registration No.	3788
File No.	66003-155 Drawing No.
Date	8/16/66 Scale 1" = 500'

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

**WELL LOCATION MAP**

FILE NO. DOD - 1420

+ 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.

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STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

- Rotary
- Spudder
- Cable Tools
- Storage

Quadrangle Holbrook SW

Permit No. DOD-1420

WELL RECORD

Oil or Gas Well GAS *oil Show*

Company Francis M. Friestad  
 Address 1016 Lexington Way-Rockford, Illinois  
 Farm David Ball Acres 120  
 Location (waters) Sugar Run  
 Well No. 4 Elev. 895'  
 District Southwest County Doddridge  
 The surface of tract is owned in fee by David Ball  
 Address Oxford, W. Va.  
 Mineral rights are owned by David Ball  
 Address Oxford, W. Va.  
 Drilling commenced Nov. 10, 1966  
 Drilling completed Dec. 7, 1966  
 Date Shot none From     To      
 With      
 Open Flow     /10ths Water in     Inch  
    /10ths Merc. in     Inch  
 Volume 60 Cu. Ft.  
 Rock Pressure     lbs. hrs.  
 Oil none bbls. 1st 24 hrs.  
 WELL ACIDIZED (DETAILS)      
 WELL FRACTURED (DETAILS) 31,500 gals. water, 18000# 20-40, 10000# 10-20, 55000 Scf N<sub>2</sub>, 23.3 BPM at 2200 psi.  
 RESULT AFTER TREATMENT (Initial open Flow or bbls.) 1,200 MCF  
 ROCK PRESSURE AFTER TREATMENT 738 psig HOURS 28  
 Fresh Water     Feet Salt Water 320', 840', 1675 Feet  
 Producing Sand Big Injun Depth 1870-74

Casing and Tubing	Used in Drilling	Left in Well	Packer
Size			
16	22	22	Kind of Packer
13			
10	346		Size of
8 1/2	1092		
6 5/8	1828		Depth set
5 3/16			
4 1/2	1923	1923	
3			Perf. top 1870
2			Perf. bottom 1874
Liners Used			Perf. top
			Perf. bottom

Attach copy of cementing record.  
 CASING CEMENTED 4 1/2 SIZE 1923 No. Ft. 12/8/66 Date  
 Amount of cement used (bags) 35 type I. w/2% CaCl<sub>2</sub>  
 Name of Service Co. Dowell  
 COAL WAS ENCOUNTERED AT     FEET     INCHES  
    FEET     INCHES     FEET     INCHES  
    FEET     INCHES     FEET     INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
red rock			0	20			
sand	yellow		20	25			
red rock			25	55			
sand			55	95			
slate			95	125			
sand			125	145			
slate			145	155			
sand			155	180			
slate			180	190			
red rock			190	220			
sand			220	255			
red rock & lime			255	305			
sand			305	340	water	320	
slate			340	350			
red rock			350	370			
sand			370	386			
red rock			386	390			
slate & shells			390	503	crevice at 400'		
sand			503	523	O-V-E-R		

Formation	Color	Hard or Soft	Top 2	Bottom	Oil, Gas or Water	Depth Found	Remarks
slate			523	580			
red rock			580	645			
sand			645	680			
lime			680	700			
red rock			700	720			
slate			720	743			
sand			743	756			
slate			756	770			
red rock			770	810			
sand			810	850			
slate			850	867			
sand			867	975	smell oil	876'	
slate&shells			975	985			
lime		gritty	985	1025			
slate			1025	1030			
sand			1030	1080			
slate&shells			1080	1110			
sand			1110	1162			
slate&shells			1162	1200			
sand			1200	1260	show-oil	1235'	
lime			1260	1305			
slate	black		1305	1370			
sand			1370	1395	show-oil	1385'	
slate&shells			1395	1455			
sand			1455	1575			
slate	black		1575	1650			
sand			1650	1710	Water	1675	Salt Sand
slate	black		1710	1740	gas-bubbles	1790	
lime <i>Big Lime</i>	black		1740	1860	1857-70 gas	20/10w-1"	(B.Lime-180
sand <i>Foguish</i>			1860	1922			Big Injun
slate			1922	1933			
Total Depth				1933'			

Date December 21, 1966

APPROVED FRANCIS M. FRIESTAD, Owner

By *John A. Davis*  
Consultant (title)