

**TABLE OF COURSES & DISTANCES**

① N 50° 00' W 2644.00'	⑨ S 06° 00' W 230.00'
② S 40° 00' W 1336.50'	⑩ S 66° 00' E 4405.50'
③ S 45° 00' E 561.00'	⑪ N 11° 45' E 2194.50'
④ S 65° 00' E 297.00'	⑫ N 74° 00' W 363.00'
⑤ S 20° 00' W 363.00'	⑬ N 52° 00' W 412.50'
⑥ S 15° 00' W 495.00'	⑭ WEST 412.50'
⑦ S 27° 00' E 1188.00'	⑮ N 52° 00' W 2656.50'
⑧ S 69° 00' E 511.50'	

7.5' loc  
 0.25 S 39° 22' 20"  
 0.99 W 78° 35' Kls 218' 10"

3.24 S.  
 0.92 W

5' loc calc  
 3.13 S  
 0.99 W  
 BM-USGS 815  
 LATITUDE 39° 23' 30"  
 LONGITUDE 78° 36' 00"  
 HANGING ROCK QUADRANGLE  
 5 EC (F-17)

- New Location .
- Drill Deeper . . . .
- Redrill . . . . .
- 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."

Company HAMPSHIRE GAS COMPANY  
 Address 1100 H. ST. WASHINGTON, D.C.  
 Farm LEE SHANHOLTZ \*  
 Tract \_\_\_\_\_ Acres 400<sup>±</sup> Lease No. 80  
 Well (Farm) No. 19 Serial No. 19  
 Elevation (Spirit Level) 1077.4' *+ 7.5' ground*  
 Quadrangle HANGING ROCK - C  
 County HAMPSHIRE District GORE  
 Engineer John J. Coleman  
 Engineer's Registration No. 4231  
 File No. \_\_\_\_\_ Drawing No. 6516  
 Date 10-13-65 Scale 1" = 2000'

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

**WELL LOCATION MAP**  
 FILE NO. HAM-21

*(converted to storage well)*  
 + 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.  
 \* DEED NAME: LEE SHANHOLTZER

Samples ?? 0-5610' (25-D) 6-6 326 Deep Well



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION / 4

Rotary   
Spudder   
Cable Tools   
Storage

Quadrangle Hanging Rock

WELL RECORD

Oil or Gas Well Gas  
(KIND)

Permit No. HAM-21

Company Hampshire Gas Company  
Address 1100 H Street, N. W., Washington, D.C.  
Farm L. H. Shanholtz Acres 400  
Location (waters) Little Capon  
Well No. 19 Elev. 1077.4  
District Gore County Hampshire  
The surface of tract is owned in fee by L. H. Shanholtz  
Address Shanks, West Va.  
Mineral rights are owned by L. H. Shanholtz  
Address Shanks, West Va.  
Drilling commenced November 2, 1965  
Drilling completed December 21, 1965  
Date Shot From To  
With

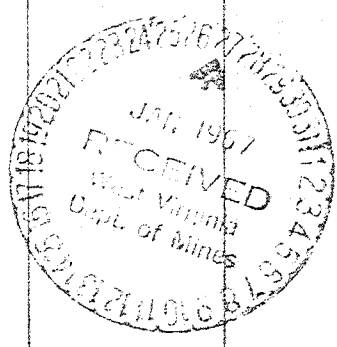
Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			
13 3/8		40	
9-5/8		1293	Size of
8 1/4			
7		5466	Depth set
5 3/16			
4 1/2			
3			Perf. top
2 7/8 Tubing		5571	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Open Flow /10ths Water in Inch  
/10ths Merc. in Inch  
Volume 3,200,000 Cu. Ft.  
Rock Pressure 1965 lbs. 12 hrs.  
Oil bbls., 1st 24 hrs.  
WELL ACIDIZED (DETAILS) 15000 gals. 28%  
Inhibited HCL, 8000 Gals. 3% Inhibited HCL as overflush  
WELL FRACTURED (DETAILS)

Attach copy of cementing record.  
CASING CEMENTED 7 SIZE 5466 No. Ft. 12/12/65 Date  
Amount of cement used (bags) See Reverse Side  
Name of Service Co. Dowell  
COAL WAS ENCOUNTERED AT FEET INCHES  
FEET INCHES FEET INCHES  
FEET INCHES FEET INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 22,150,000 CFD  
ROCK PRESSURE AFTER TREATMENT 1904 PSIG HOURS 3-1/4 hours  
Fresh Water Feet 112, 125, 485 Salt Water Feet 3441  
Producing Sand Oriskany Depth 5464-5611

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Shale and Siltstone	Yellow Red		0	40	Water @ 112, 125, & 485		
Siltstone, Shale and Sandstone	Gray		675	2710			
Shale with occ. siltstone	Gray		2710	3200			
Siltstone and Shale	Gray		3200	3553	Salt water @ 3441		
Shale	Black		3553	3690			
Sandstone & Siltstone	Gray		3690	3770			
Shale and Siltstone	Gray		3770	4025			
Limestone	Gray		4025	4055			Fossiliferous
Shale with interbed. Siltstone	Gray		4055	5040			
Shale	Black		5040	5310			Calcareous Marcellus



LOG  
TOPS

Formation	Color	Hard or Soft	Top 14	Bottom	Oil, Gas or Water	Depth Found	Remarks
Metabentonite	Brown		5310	5313	5298		Brown Earth
Shale and Limestone	Black		5313	5345	5302		
Shale	Gray & Black		5345	5464			Calcareous
Sandstone	Light gray		5464	5611	5461		Calcareous (Oriskany)

475

CEMENTING RECORD

3-3/8" Csg. Cemented to surface with 42 sks. Class "A" cement, 3% Calcium Chloride.

9-5/8" Csg. Cemented to surface with 530 sks. Class "A" cement, 2% calcium chloride, and 25 sks. construction cement.

7" Csg. Cemented to surface in two stages:  
 1st Stage - 219 sks. Dowell Expanding Cement  
 2nd Stage - 1100 Ft.<sup>3</sup> of Litepoz II (1:1) with 30 sks. Dowell Expanding Cement on Bottom.

5310  
 1077  
 -----  
 4233

Date January 24, 1967

APPROVED HAMPSHIRE GAS COMPANY, Owner

By [Signature]  
 Superintendent (Title)  
 Natural Gas Production and Storage