



Supporting Hydro Data

08-09-1965: letter: results from drilling august 9, 1965

September 22, 1965

SOUTHEAST REGION

SEP 23 1966

Regional Director
~~Asst. Reg. Dir., (A)~~
Asst. Reg. Dir., (A)
~~Asst. Reg. Dir., (C)~~
Asst. to Reg. Dir., (PA)
~~Asst. to Reg. Dir., (M)~~
Resource Allocation Adv.
~~Asst. to Reg. Dir., (M)~~
22-965

Abundant water occurs at this site immediately above bedrock, 10 to 12 feet below land surface. Air return produced 50 to 60 gpm. This quantity of water at shallow depth might conveniently be developed by construction of an infiltration gallery across the draw. It is the same water supplying the nearby springs which merely represent overflow of the top of this underground reservoir at its interception by land surface. A tile gallery in gravel at bedrock depth would have access to a much greater volume of water. The same precautions against contamination would apply for the infiltration gallery as for the springs.

Mr. Sam P. Weems

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September 22, 1965

Well No. 3 Located about 230 feet north-northeast of the pump house.

Total depth: 100 feet in gneiss, cased 25 feet August 16.

Static water level: 7.3 feet below top of casing.

Pump set at 83 feet and the well tested at pump capacity, 51 gpm, for 6 hours. Water level at the end of the test was only 16.4 feet below top of the casing, a difference of 9.1 feet. This represents 5.6 gallons per foot of drawdown, and is quantitatively an excellent well relative to its terrane. (See chart of drawdown with time.) The water was clear and 51° F. A sample was taken for analysis. The test was completed August 17, it did not affect the static water level in Well #1.

In addition to the charts, a map is attached showing approximate locations of the three wells.

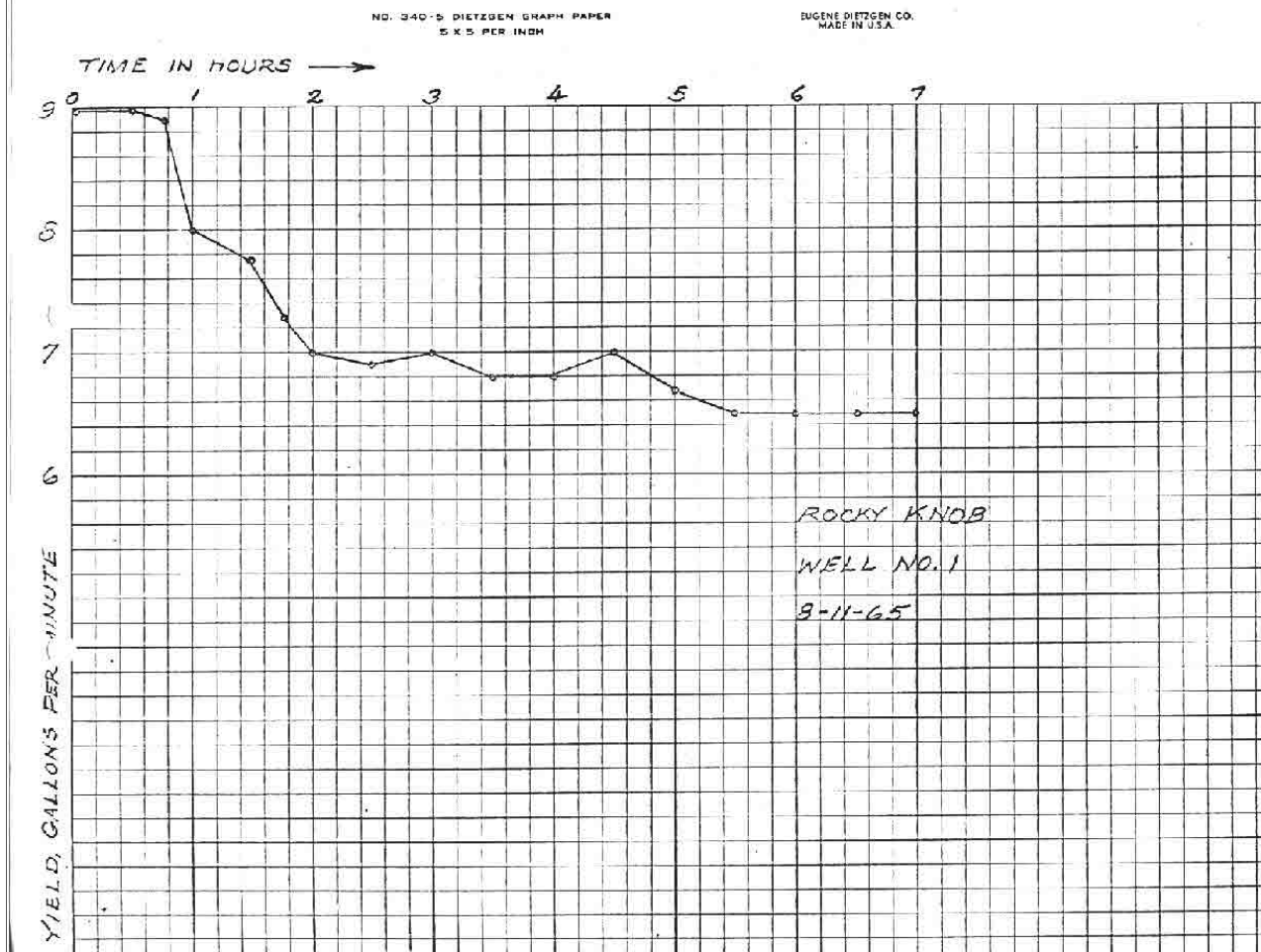
Sincerely yours,

For Edward B. Rice
District Chief

Carlton T. Sumsion
Geologist

Attachments

✓cc: Mr. Alfred Vick, III
Richmonf, Virginia

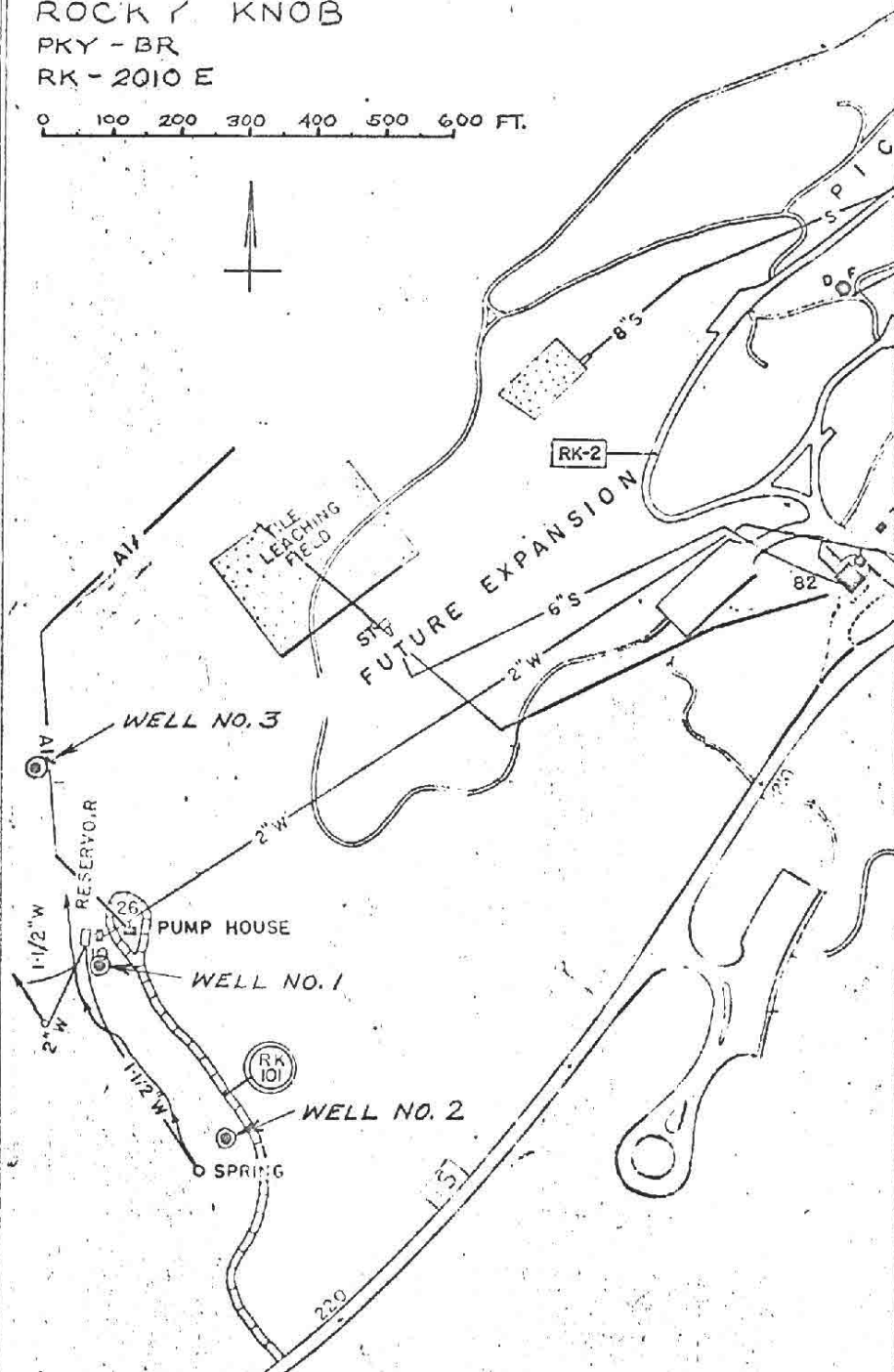


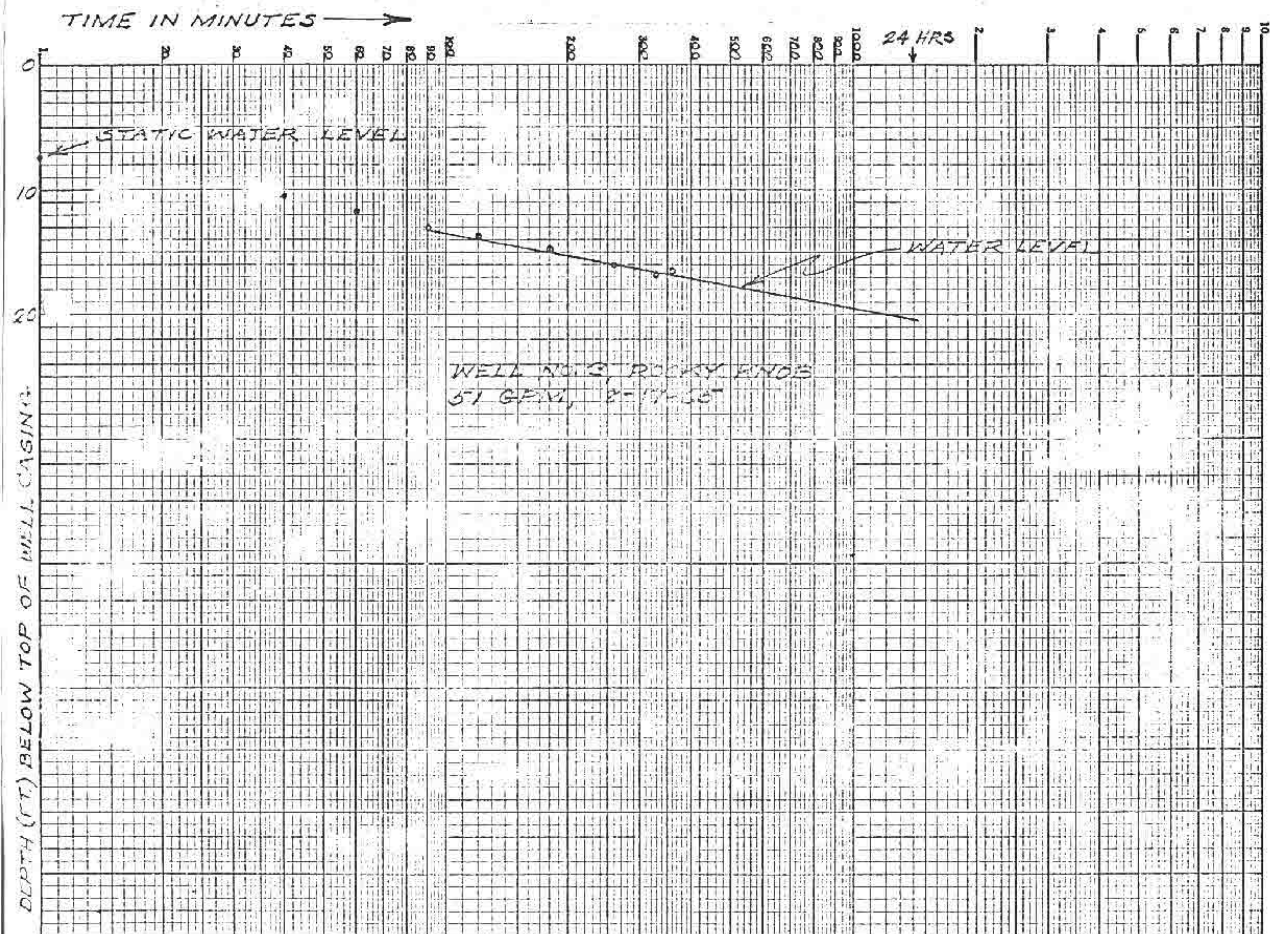
ROCKY KNOB

PKY - BR

RK - 2010 E

0 100 200 300 400 500 600 FT.





RAL-2

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
WATER ANALYSIS

W.R. Lab. No. NC 44384

Location <u>Rocky Knob, Va. - Floyd Co.</u>			
Well # <u>1</u> - open hole.			
Source <u>Blue Ridge Parkway. Adjacent to pump house. Depth: 100'. Drilled: 8-10-65.</u>			
Collected at well head. Producing intervals from 42 to 43. Owner: Blue Ridge Parkway, Roanoke, Va. Sampled after pumping 7 hrs. Use: PS. WBT: Quartz, biotite gneiss, metamorphic complex. WL: 4.6' below top of casing. Yield: 6-1/2 gm pump meas.			
Date of collection <u>Aug. 11, 1965</u>			
Gage height(ft.) _____		Discharge(sec.ft.) _____ Temp.(°F) <u>54</u>	
(Parts per million)			
Silica (SiO ₂).....	<u>11</u>	Carbonate (CO ₃).....	<u>0</u>
Aluminum (Al).....	<u>.1</u>	Bicarbonate (HCO ₃).....	<u>35</u>
Iron (Fe).....	<u>.23</u>	Sulfate (SO ₄).....	<u>3.0</u>
Manganese (Mn).....	<u>.02</u>	Chloride (Cl).....	<u>1.6</u>
Calcium (Ca).....	<u>7.4</u>	Fluoride (F).....	<u>.2</u>
Magnesium (Mg).....	<u>.1</u>	Nitrate (NO ₃).....	<u>.3</u>
Sodium (Na).....	<u>5.5</u>	Phosphate (PO ₄).....	<u>.0</u>
Potassium (K).....	<u>1.5</u>		
Lithium (Li).....			
(Parts per million)			
Dissolved solids:			
Sum.....	<u>48</u>	ABS.....	
Residue upon evaporation @ 180°C.....	<u>48</u>	Color.....	<u>6</u>
Hardness as CaCO ₃	<u>20 1/</u>		
Noncarbonate.....	<u>0</u>		
pH.....	<u>7.5</u>	Specific conductance (micromhos at 25°C).....	<u>60</u>

1/ Includes hardness of all polyvalent cations reported.

Unpublished records subject to revision

RAL-2

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
WATER ANALYSIS

W.R. Lab. No. NC 44365

Location <u>Rocky Knob, Va. - Floyd County</u>			
Source <u>Blue Ridge Parkway. Well # 3. About 230 ft. N. of pump house. Open hole cased 25'. Depth: 100 ft. Drilled: 8-16-65. Collected at well head. Producing intervals from 27-63. Owner: Blue Ridge Parkway, Roanoke, Va. Sampled after pumping 6 hrs. Use: PS. WBF: Quartz, biotite gneiss, and biotite schist. WL: 7.3' below top of casing. Yield: 51+ gm pump measured.</u>			
Date of collection <u>Aug. 17, 1965</u>			
Gage height(ft.) _____		Discharge(sec.ft.) _____ Temp.(°F) <u>51</u>	
(Parts per million)			
Silica (SiO ₂).....	7.9	Carbonate (CO ₃).....	0
Aluminum (Al).....	.0	Bicarbonate (HCO ₃).....	9
Iron (Fe).....	.29	Sulfate (SO ₄).....	1.0
Manganese (Mn).....	.02	Chloride (Cl).....	1.4
Calcium (Ca).....	1.1	Fluoride (F).....	.0
Magnesium (Mg).....	.3	Nitrate (NO ₃).....	.2
Sodium (Na).....	1.1	Phosphate (PO ₄).....	.0
Potassium (K).....	.6		
Lithium (Li).....			
(Parts per million)			
Dissolved solids:			
Sum.....	18	ABS.....	
Residue upon evaporation @ 180°C.....	19	Color.....	4
Hardness as CaCO ₃	4 1/2		
Noncarbonate.....	0		
pH.....	6.7	Specific conductance (micromhos at 25°C).....	15

1/ Includes hardness of all polyvalent cations reported.

Unpublished records subject to revision

Other Supporting Information

BLUE RIDGE PARKWAY

WATER SYSTEM DATA

- AREA Blue Ridge Parkway DATE COLLECTED _____ COLLECTED BY _____)
1. Name of System: Rocky Knob
2. Location: State Virginia County Floyd General Area WP 167-169
- Reference to permanent landmark: _____
3. Source of Supply: Well and Springs Capacity Well - 51 gpm
Springs - 28 gpm
(Well, spring, stream, impoundment, etc.)
4. Type of System: Pumped to storage; gravity distribution
(Pumped, gravity, etc.)
5. Treatment: None
(Filtration, Chlorination, Airation, etc.)
6. Distribution Mains: Size 4" Length 10,329'; Size 2" Length 9,217'
Size 1-1/2" Length 1,136'; Size 1" Length 3,652'
Size 2-1/2" Length 305'; Size _____ Length _____
7. Pump Unit: Make Jacuzzi; Type Submersible; Model No. 584DS
Serial No. _____; Outlet 2" in.; Inlet 2-1/2" in.
(Size) (Size)
8. Power Source: Electric Motor: Make Jacuzzi; HP 5
(Elec., gas, generator)
Serial No. _____; Voltage 230; Amps 27
RPM 3450; Type _____; Phase Single
Cycles 60; Others _____; Stages _____
9. Control: Automatic Time; Manual _____
(Float, Electrode, Pressure, Time)
Other _____
(Explain)

10. Pump Design: Capacity (Actual) gpm (Design) gpm
Head 350 ft. (Actual) ft. (Design) ft.

11. Pump Housing: Type Const. ; ; Size
(Walls) (Roof)

12. Storage: Underground; Type Const. Concrete
(Pneumatic, elevated, underground, etc.) (concrete, wood, steel)
Size ; Capacity *(see below); Inlet ft. in.
(Elev.) (Size)
Outlet ft. in.; Pressure Setting
(Elev.) (Size) (if pneumatic)

13. Distribution: Water Closets 35; Lavatory 35; Urinal 15;
Drinking Fountain 15; Hose Bibs 6; Residences 2;
Other Maint. Area; Gas Station ; House Trailer

14. Metered or nonmetered: Metered; No. 2; Size 2"
No. 3; Size 1"
No. 1; Size 3"

15. Fire Protection: Fire Hydrants 0; Yard Hydrants 2

16. Water Analysis: Temp 51° F; SiO₂ 7.9; Al .0; Fe .29; Mn .02; Ca 1.1;
Mg .3; Na 1.1; K .6; CO₂ 0; HCO₃ 9; SO₄ 1.0; Cl 1.4; F .0; NO₃ .2; PO₄ .0
Dissolved Solids: Sum 18; Residue 19; Hardness 4; Noncarbonate 0; color 4;
pH 6.7; Specific Conductance 15

17. Condition of System: Fair to Good
(Repairs needed itemize)

* 10,000 gallon	Inlet	3,083'	1-1/2"	10,000 gallon	Inlet	3,247'	2"
	Outlet	3,081'	2"		Outlet	3,240'	4"
2,000 gallon	Inlet	3267.5'	4"	10,000 gallon	Inlet	3,115'	2"
	Outlet	3267.5'	4"		Outlet	3,108'	4"
30,000 gallon	Inlet	3,403'	4"				
	Outlet	3,300'	2"				

Docket Information

Number of Documents in Docket	9		
Documents Dated from	8/9/1965	to	8/17/1965
Docket Compiled:	2/8/2011		