# WELL SCHEDULE

SITE NAME 13FF21 OTHER IDENTIFIER Sugarloaf WELL NUMBER 335641084021101

Latitude 33° 56' 40.90" Longitude -84° 2.' 11.03" Ground Elevation 889.4 NGVD 29

OWNER City of Lawrenceville Casing Elevation 891.5 NGVD 29

## WELL CONSTRUCTION DESCRIPTION

Name of Aquifer: metamorphic - crystalline rock

TYPE OF DRILLING

X Rotary
____ Percussion
____ Bored

Total Depth 505

Static Water Level (bls)
4.7 @
10/31/2001 9:55:00 AM

DRILL HOLE DIAMETER

Size 12 in, from 0 ft to 40 ft
Size 8 in, from 40 ft to 277 ft
Size 6 in, from 277 ft to 505 ft

CASING RECORD

Type material steel
Size 8 in, from 0 ft to 40 ft
Size ____ in, from ____ ft to ____ ft
Size ____ in, from ____ ft to ____ ft

WELL SCREEN

Type material open hole
Size ____ in, from ____ ft to ____ ft
Size ____ in, from ____ ft to ____ ft
Size ____ in, from ____ ft to ____ ft

Date drilled 5/16/2001 8/16/2001

Driller Middle Georgia Water Systems

GROUTING [X] YES [ ] NO

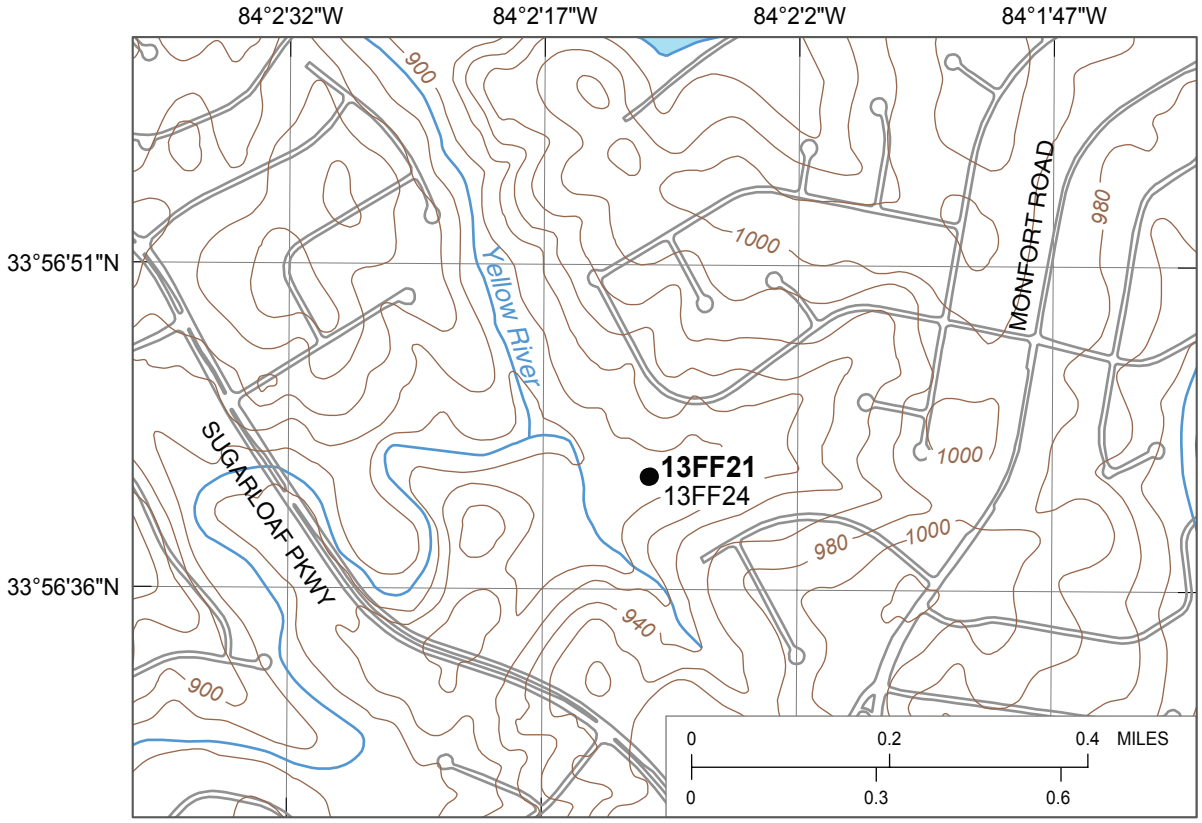
Type portland type I
From 0 ft to 40 ft
From ____ ft to ____ ft
From ____ ft to ____ ft

TEST PUMP DATA

Pumped X Bailed ____
Estimated 125 (air-lift yield)
Date tested 8/21/2001 8/24/2001
Pump rated 135 gal/min 25 HP
Test yield 107.0 gal/min After 72 hrs
Water level before test 6.96 ft btoc
Drawdown 186.7 ft
Specific Capacity 0.6 gal/min/ft

Altitudes are in reference to NGVD 29
Latitude/longitude in NAD 83
Depths are in feet below land surface (bls)
Feet below top of casing (ft btoc)

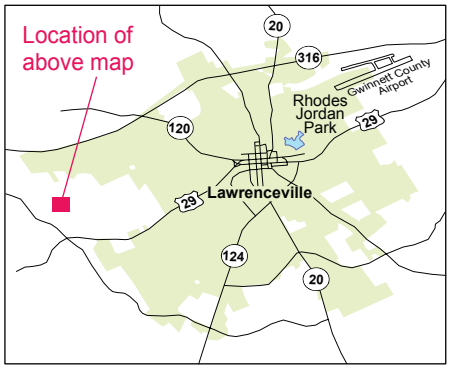
Comments: Major water-bearing fracture at 240-241.5'; test hole drilled 5/16/01 to 5/17/01 and logged by L.J. Willams and D.M. Crilley; air-lift yield 130 gpm; no shallow water-bearing fractures, first fracture at 165'




Base from U.S. Geological Survey 1:24,000-scale, Luxomni Roads from City of Lawrenceville 1999 digital data

**EXPLANATION**

● **13FF21** Observation well and site name

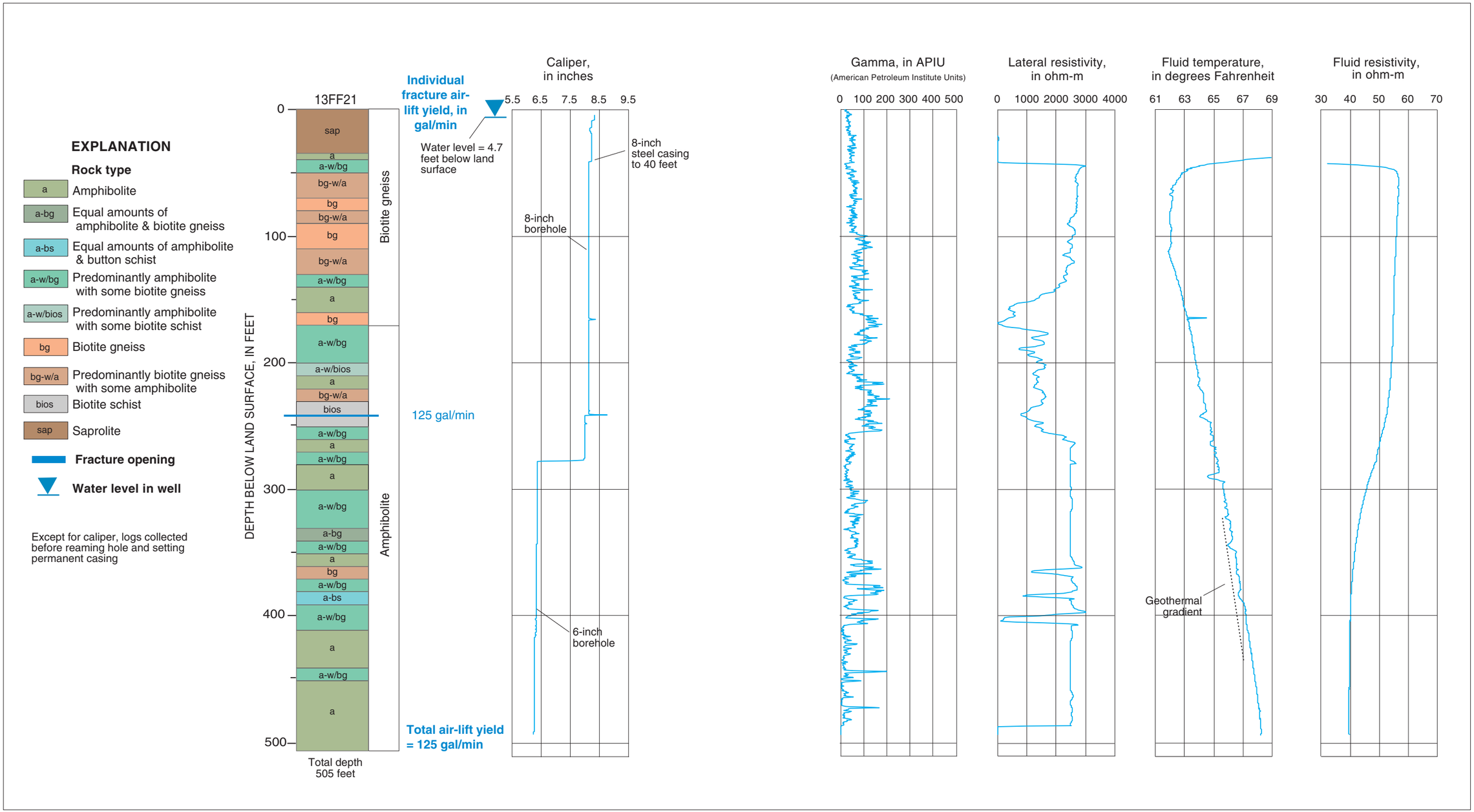



Geophysical log files for well 13FF21 [contained on CD in Supplemental_data\log_archive\logs.zip; ft bls, feet below land surface]

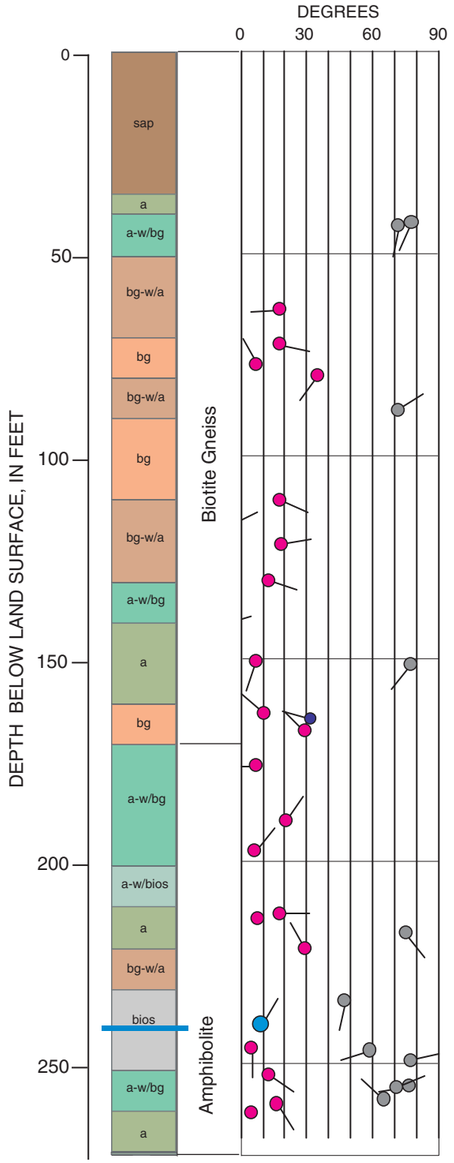
| File name | Type | Date | Start depth (ft bls) | Stop depth (ft bls) |
|---|---|---|---|---|
| 13FF21.20010817.ZE01 | Combination Tool[1/1] | 08/17/01 | -1.2 | 495.4 |
| 13FF21.20010718.ZE01 | Combination Tool[1/1] | 07/18/01 | -2.9 | 505 |
| 13FF21.20011109.AT01 | Acoustic Televiewer[2/2] | 11/09/01 | 34.57 | 276.77 |
| 13FF21.20010817.CT01 | Caliper, Three Arm | 08/17/01 | 2.9 | 495.1 |
| 13FF21.20011205.FE01 | Electromagnetic Flowmeter | 12/05/01 | 31.2 | 258.9 |
| 13FF21.20011205.FE02 | Electromagnetic Flowmeter | 12/05/01 | 34.9 | 257.4 |
| 13FF21.20010817.ZI01 | Gamma and EM Induction | 08/17/01 | -1.6 | 493.5 |
| 13FF21.20010821.FH01 | Heat-pulse Flowmeter | 8/21/01 | 37 | 243 |
| 13FF21.20011204.FEI01 | Interpreted EM Flowmeter | 12/4/05 | 36.2 | 260 |
| 13FF21.20011204.FEI02 | Interpreted EM Flowmeter | 12/4/05 | 38.8 | 257.1 |

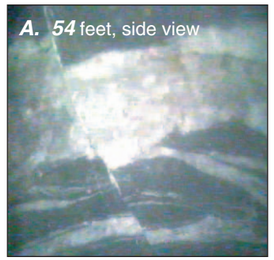
[1/] Includes gamma, long/short normal resistivity, spontaneous potential, single-point resistance,fluid resistivity, and temperature

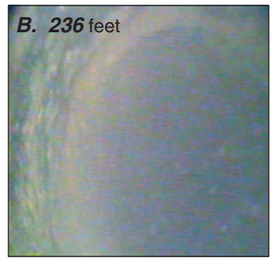
[2/] Does not include trace data, original log is provided in Century binary format under the same file name with extension ".log"

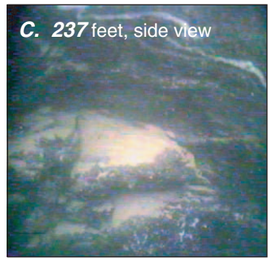


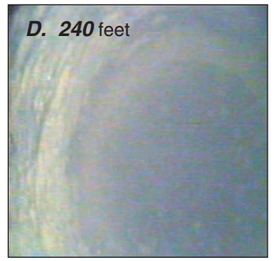

Lithology and borehole geophysical logs for well 13FF21 (Sugarloaf well), Lawrenceville, Georgia.

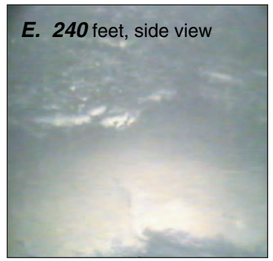


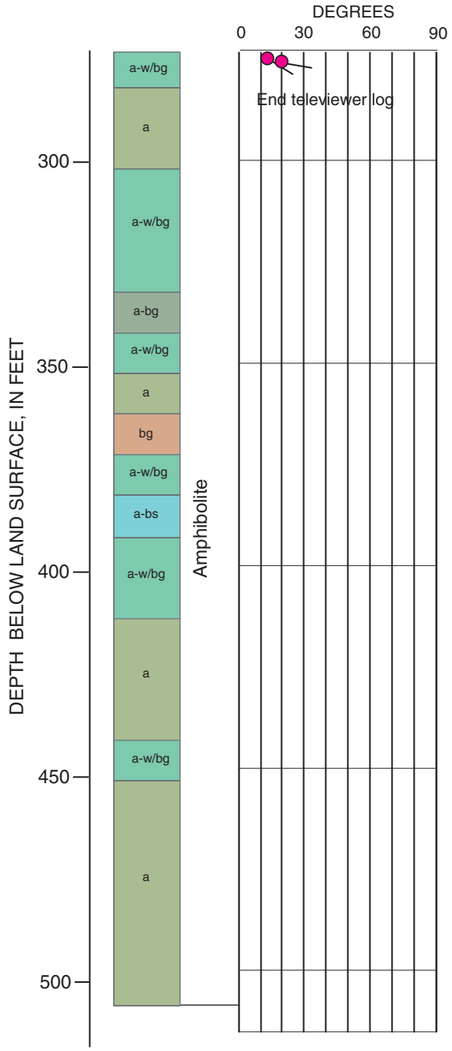







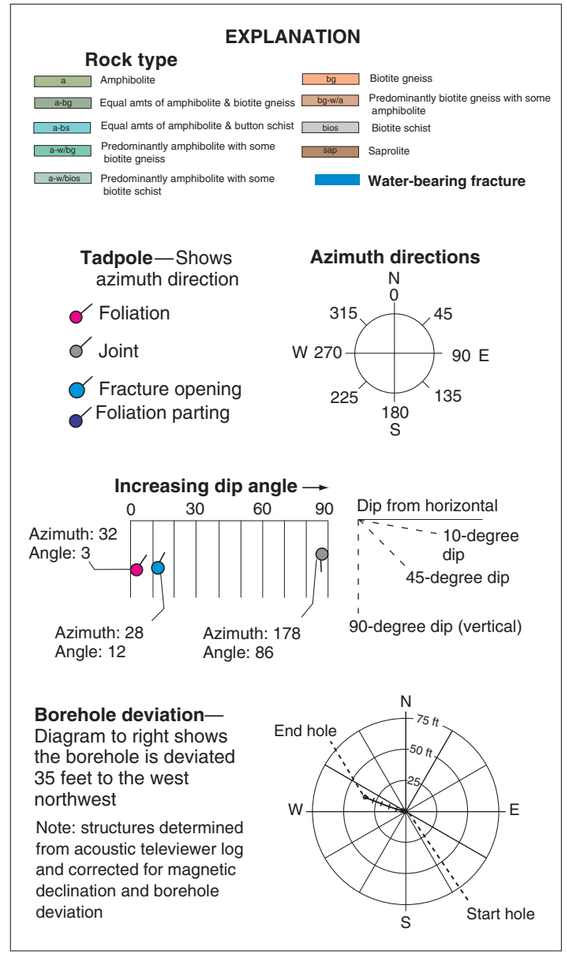
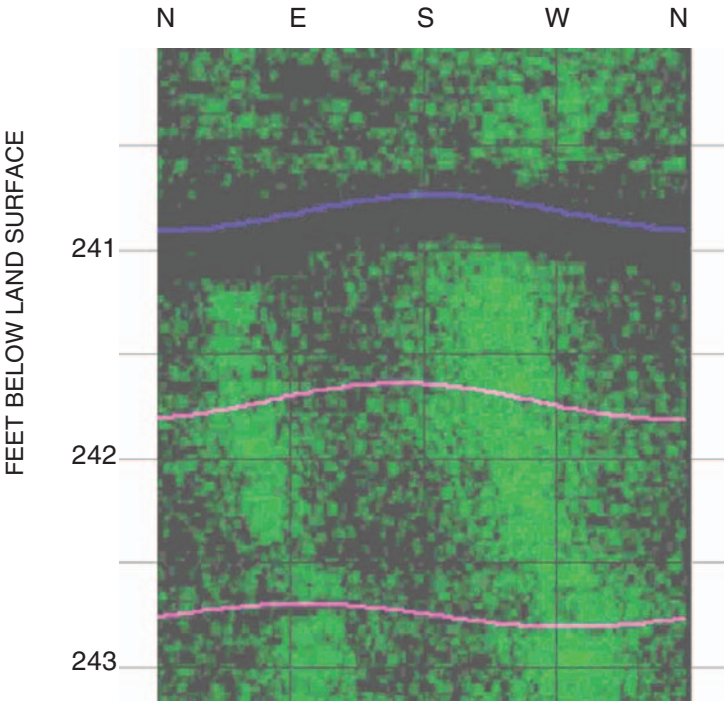
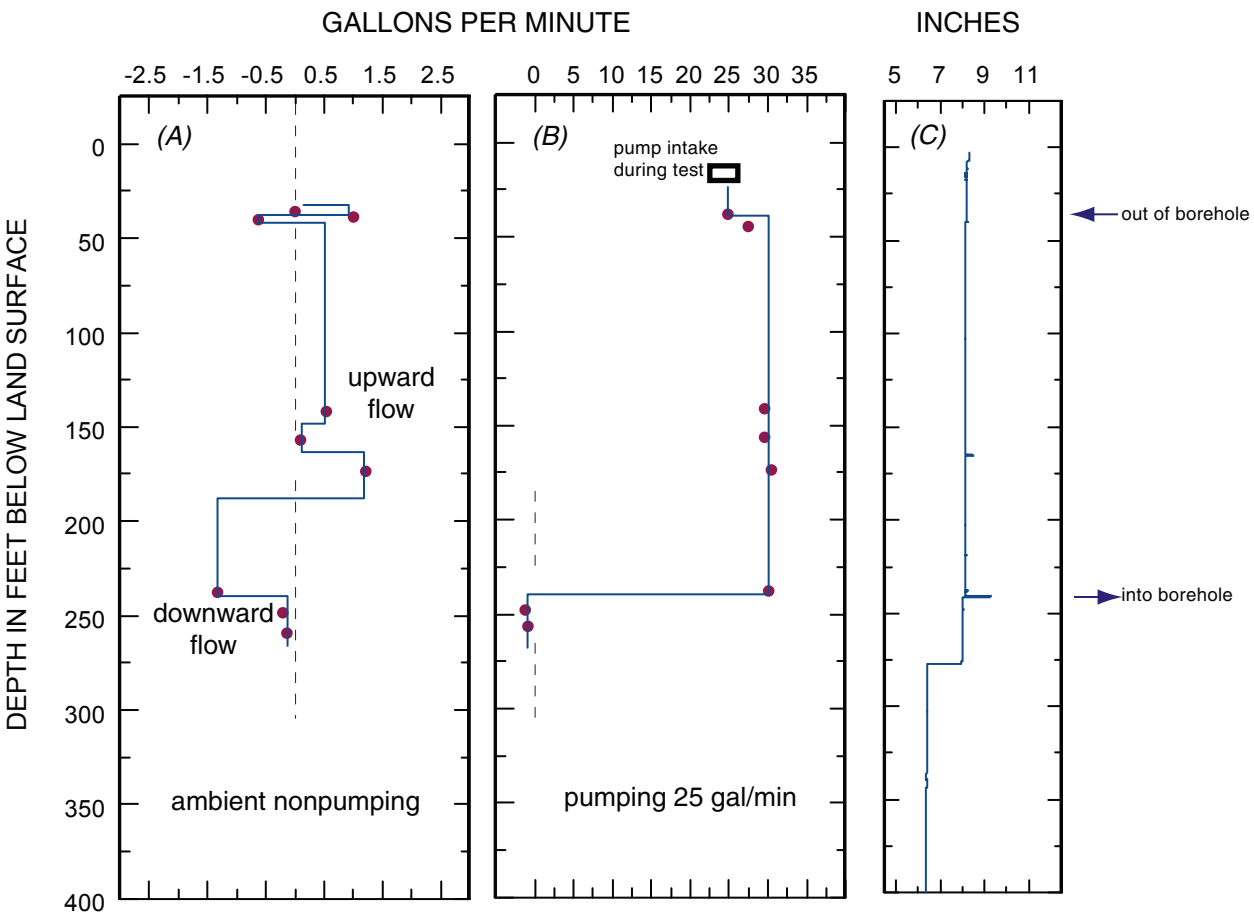




***Image A*** *shows a post-metamorphic oblique-slip fault with approximately 1-inch offset in a sideview of the borehole wall at 54 feet below land surface.* ***Image B*** *is a downhole view of a foliation parting at about 236 feet below land surface.* ***Image C*** *is a down view of the parting shown in Image B.* ***Image D*** *shows major foliation opening at about 240 feet below land surface.* ***Image E*** *shows a side view into the foliation opening of Image D at about 240 feet below land surface.* ***Image F*** *shows the bottom of the reamed 8-inch hole and start of the 6-inch hole at about 277 feet below land surface.*

Structural tadpole plot and downhole camera images for well 13FF21 (Sugarloaf well), Lawrenceville, Georgia.




Projected acoustic televiewer image of borehole wall from well 13FF21. Purple lines trace rock foliation. Blue line traces the center of an opening formed parallel to foliation and compositional layering (dark area is the opening).




Flowmeter logs from well 13FF21 showing *(A)* flow in borehole under ambient non-pumping conditions; left of dashed line indicates downward flow and right of line upward flow, and *(B)* vertical flow in borehole during pumping 25 gal/min. Caliper log *(C)* shows peaks where the borehole diameter is enlarged at discrete fracture openings in the bedrock. Right-facing arrow indicates flow into borehole during pumping. Left-facing arrow indicates flow out of borehole during pumping.