

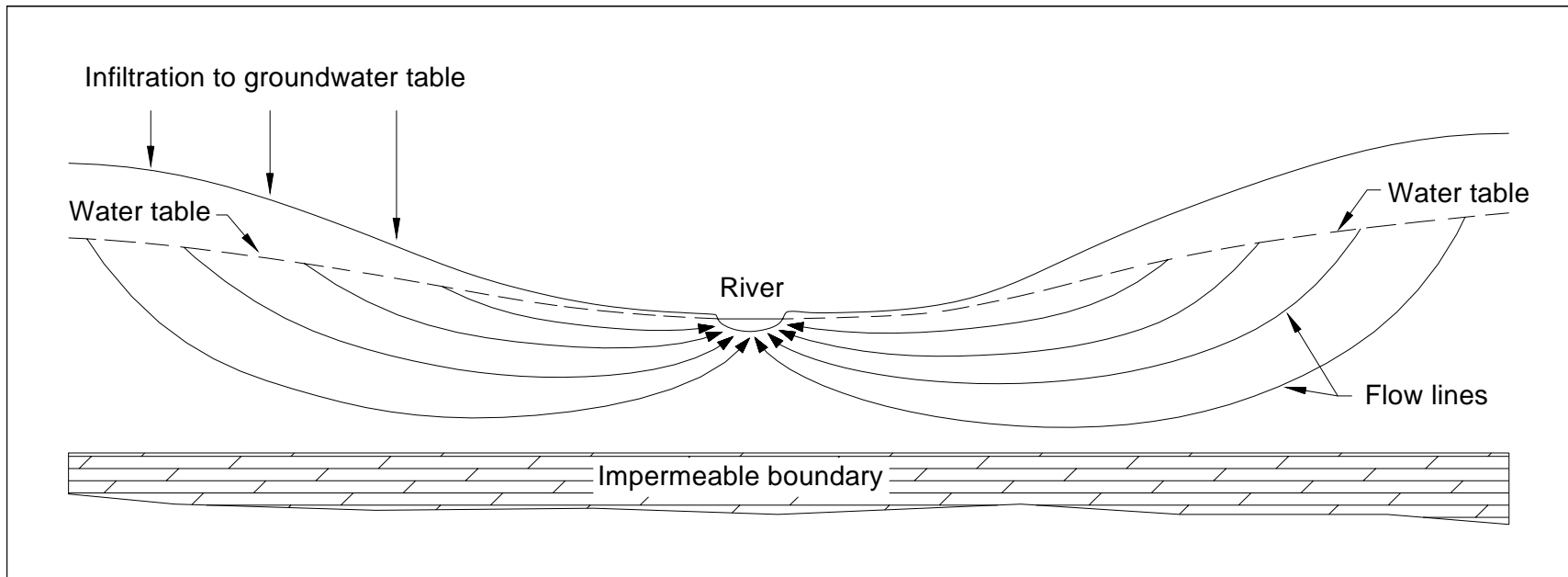
Well Location and Setting

- Location (Figure 1)
 - Top of ridge ~ 2,030 ft mean sea level
 - 2,500 ft east of New River floodplain at RAAP (Rolled Powder Area)
 - 4,200 ft east/southeast of New River
 - 4,600 ft east/southeast of RAAP Horseshoe Area (HSA)
 - Not Downgradient from RAAP
- Well
 - Depth 430 ft – intake at 400 ft
 - 72 ft to bedrock
 - Bedrock Lithology – red shale

General Hydrogeology

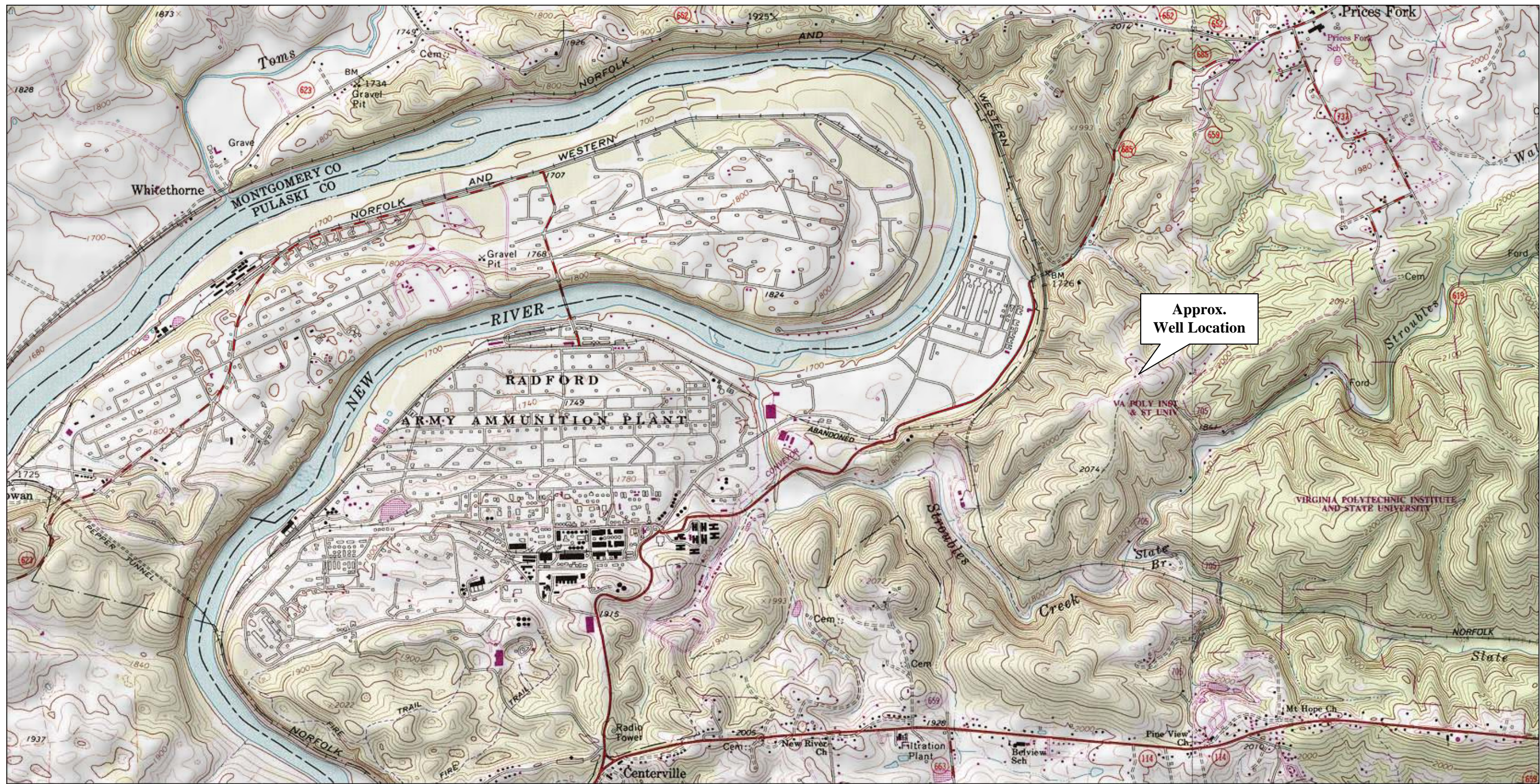
- New River is local and regional discharge area for groundwater and acts as hydraulic barrier
- Groundwater flow generally from ridges to valleys
 - Typically in local isolated flow systems rather than regional
- Groundwater gradient and flow direction at RFAAP toward river both in Main Manufacturing Area (MMA) and Horseshoe Area (HSA)
- Preferential flow paths to valleys can occur, particularly in karst terrane via permeable fractures zones, dissolution zones, etc.

Typical Groundwater Discharge to River



Geology and Hydrogeology of Well Area

- Well located in fault block (Price Mountain Window – Figure 3-6) isolated from RAAP
 - No identified structural features (photolineaments, fractures, etc.) connecting RAAP with well area
 - Bedrock is Price Formation – shale, siltstone, and sandstone – not karst terrane found at RAAP
 - Well not downgradient from RAAP
 - Groundwater flow in well area – from ridge northeast toward New River
 - New River will act as hydraulic barrier for groundwater flow from RAAP



MN 8° TN

0 1000 FEET 0 500 1000 METERS
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FIGURE 1

PARISH WELL LOCATION MAP

Date: June 9, 2006

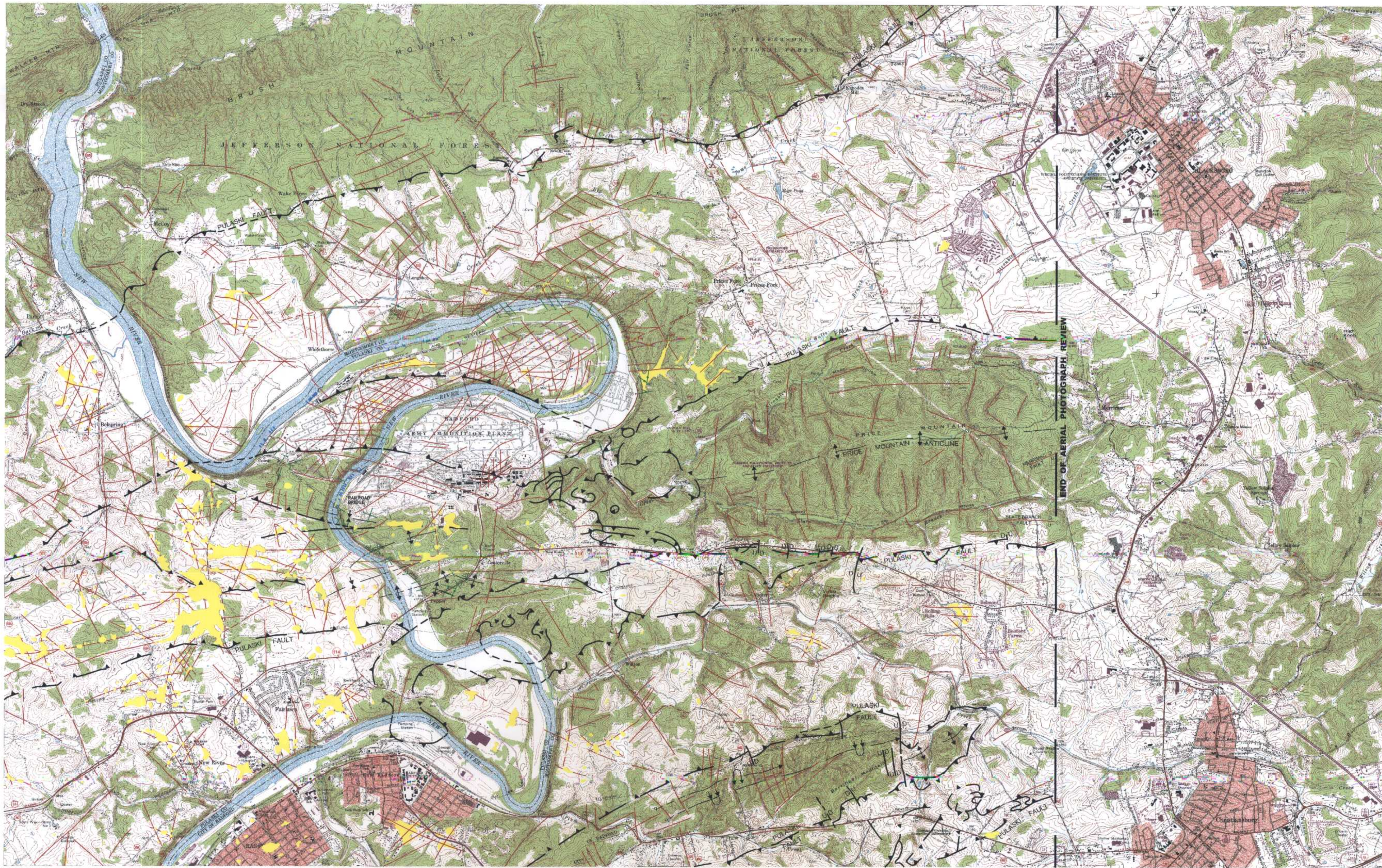
Radford Army Ammunition Plant
 Radford, Virginia

Drawn by: DBC

Reviewed by: JOS

Scale: 1" = 2,000'

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- EXPLANATION**
- FAULT, DASHED WHERE KNOWN OR INFERRED, DOTTED WHERE SUSPECTED OR CONCEALED
 - PHOTOLINEAMENT, DASHED WHERE INFERRED, DOTTED WHERE CONCEALED OR SUSPECTED
 - ▲ THRUST FAULT, TEETH ON UPPER PLATE, DASHED WHERE KNOWN OR INFERRED, DOTTED WHERE CONCEALED OR SUSPECTED
 - ANTICLINE
 - SYNCLINE
 - FRACTURE ORIENTATION
 - STRIKE AND DIP
 - STRIKE
 - SINKHOLE
 - SPRING LOCATION
 - OVERTURNED ANTICLINE
 - OVERTURNED SYNCLINE
 - NOVD, 1929 — VERTICAL DATUM
 - NAD, 1927 — HORIZONTAL DATUM

SOURCES OF INFORMATION

1937 AND 1962 AERIAL PHOTOS

GEOLOGY OF BLACKSBURG QUADRANGLE BY M.J. BARTHOLOMEW AND W.D. LOWRY, 1979.

DRAFT GEOLOGY OF RADFORD NORTH, VIRGINIA QUADRANGLE BY M.J. BARTHOLOMEW AND A. SCHULTZ, 2000.

BLACKSBURG AND RADFORD NORTH, VIRGINIA 7 1/2 MINUTE U.S.G.S. QUADRANGLES, DATED: 1965, PHOTOREVISED: 1983 AND 1984 RESPECTIVELY.



RADFORD AAP		FIGURE 3-6
PREPARED BY: SHAW E&I	TASK NO: 82987004100000	MAP OF FAULTS, PHOTOLINEAMENTS AND OTHER GEOLOGIC INFORMATION
CHECKED: B. Squire	SHAW DWG NO:	
DATE: FEBRUARY 2004	FIGURE 3-6	