



Prepared in cooperation with the U.S. Air Force, Cannon Air Force Base

**Ground-Water Hydrology and Water Quality of the
Southern High Plains Aquifer, Melrose Air Force Range,
Cannon Air Force Base, Curry and Roosevelt Counties,
New Mexico, 2002-03**

Scientific Investigations Report 2004-5158

**U.S. Department of the Interior
U.S. Geological Survey**

Ground-Water Hydrology and Water Quality of the Southern High Plains Aquifer, Melrose Air Force Range, Cannon Air Force Base, Curry and Roosevelt Counties, New Mexico, 2002-03

By Jeff B. Langman, Fredrick E. Gebhardt, and Sarah E. Falk

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**U.S. Department of the Interior
U.S. Geological Survey**

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Abbreviations

AOC	area of concern
Cannon AFB	Cannon Air Force Base
CFC's	chlorofluorocarbons
D	deuterium
δ (delta)	isotope ratio (heavy/light isotope) compared to the Vienna Standard Mean Ocean Water minus one unit ($\delta = (R_{\text{sample}}/R_{\text{standard}}) - 1$) is presented in thousands and is normalized
EOD	explosive ordnance detonation
MDL	method detection limit
MWL	Melrose Air Force Range water-level well
MWQ	Melrose Air Force Range water-quality well
µg/L	micrograms per liter
mg/L	milligrams per liter
µS/cm	microsiemens per centimeter at 25 degrees Celsius
¹⁸ O	oxygen-18 isotope
‰ (per mil)	thousandths
Range	Melrose Air Force Range
RCRA	Resource Conservation and Recovery Act
SWMU	solid waste management unit
USGS	U.S. Geological Survey
VSMOW	Vienna Standard Mean Ocean Water

Conversion Factors and Datum

Multiply	By	To obtain
Length		
foot (ft)	0.3048	meter (m)
in (in.)	2.54	centimeter (cm)
mile (mi)	1.609	kilometer (km)
Area		
acre	4,047	square meter (m ²)
Volume		
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m ³)
Flow rate		
gallon per minute (gal/min)	0.06309	liter per second (L/s)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).