

# Bedrock Water Quality Map

## ROYALSTON

### Arsenic Probability

This map is intended to complement the USGS Scientific Investigations Report 2011-5013, **Arsenic and Uranium in Water from Private Wells Completed in Bedrock of East-Central Massachusetts: Concentrations, Correlations with Bedrock Units, and Estimated Probability Maps**. That report presents the results of a statistical study of bedrock water quality based primarily on 478 samples from private wells. This is a relatively small number of samples for such a large and diverse study area. The confidence intervals around probabilities used here are broad. Users are urged to carefully read the original report.

The geologic map underlying this work is at a scale of 1:250,000 or about 4 miles per inch. Although presented on a two dimensional map, bedrock geology is a three dimensional phenomenon. Contact zones almost never go straight down. Because this town map is at a much larger scale than the original, the necessity of presenting 3D geology in only two dimensions, and the wide confidence intervals in the statistical analysis, users should interpret this map as a general indicator of expected water quality. The only way to be sure of the quality of water in any given well is to have that water tested.

% Probability of Exceeding the Public Drinking Water Standard of 10 Micrograms per liter (10 PPB)	City/Town Statistics Acres	Percent
< 1.0%	8179.4	30
1.0% to 4.0%	0	0
5.0% to 10.0%	0	0
10.0% to 25.0%	0	0
No Data	19052	70
<b>Total</b>	<b>27231.4</b>	

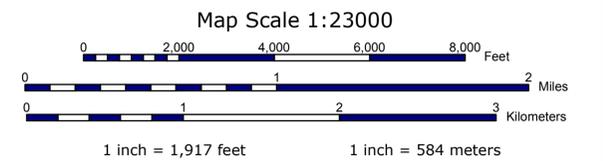
#### MAP LEGEND

- |                                    |                              |                    |
|------------------------------------|------------------------------|--------------------|
| Pond, Lake or Ocean                | Town Halls                   | Cemetery           |
| Reservoir                          | Fire Stations                | Convention Center  |
| Fresh Water Wetlands               | Local Police Station         | Court House        |
| Cranberry Bog                      | State Police Station         | Field - Playground |
| Salt Water Wetlands                | County Sheriff Station       | Fish Hatchery      |
| Perennial Stream; Shoreline        | Public School                | Golf Course        |
| Intermittent Stream                | Private School               | Industrial Park    |
| Intermittent Shoreline             | Charter School               | Lighthouse         |
| Ditch/Canal                        | Collaborative Program School | Marina             |
| Aqueduct                           | Special Education School     | Monument           |
| Dam                                | Private College              | Museum             |
| Pipeline                           | Public College               | Park               |
| Powerline                          | Libraries                    | Parking Lot        |
| Active Rail Lines                  | Hospital with ER             | Pier - Wharf       |
| Limited Access Highway             | Hospital                     | Places of Worship  |
| Multi-lane Hwy, Not Limited Access | Nursing Home                 | Post Office        |
| Other Numbered Highway             | Rest Home                    | Public Pool        |
| Major Road, Collector              | MBTA Station                 | Shopping Center    |
| Minor Road, Ramp                   | Airports                     | Ski Area           |
| MA Town Boundary                   | Prison                       | Sports Facility    |
| MA Interstate Boundary             | Camp                         | Theater            |
| County Boundaries                  | Campground                   | Tower              |
| DEP Region Boundary                |                              |                    |

Contour Interval 3 Meters  
Mass StatePlane NAD83 Coordinates shown in RED

Map Created March, 2011

Deval Patrick  
Governor  
Richard K. Sullivan Jr.  
Secretary of Energy and Environmental Affairs



**DATA SOURCES**  
 TOPOGRAPHIC CONTOURS: MassGIS, 1:5,000, 3 Meter contour elevations, generated from digital ortho DTMs.  
 WETLANDS: US Mass Resource Mapping Project (MRMP)/USGS/MA Civil Resources, Source Scale 1:1,000 to 1:50,000. Wetland information shown on this map consists of several wetlands datasets, including DEP Orthophoto Wetlands (1:25,000) and USGS Hydrology Wetlands (1:25,000).  
 GEOGRAPHIC FEATURES: USGS/MassDEP USGS Geographic Names Information System (GNIS) features merged to parcel data or orthophoto, hydrography names taken from USGS WEP features and placed using Maplex.  
 HYDROGRAPHY: USGS/MassGIS, 1:25,000 or less. Hydrography from the USGS National Hydrography Database except within public water supply watersheds where the resolution is approximately 1:1000.  
 POLITICAL BOUNDARIES: MassGIS. This political boundary dataset has been created from latitude and longitude coordinates found in the 84 volume bar and Land Commission Town Boundary Atlas.  
 ROADS: Mass Department of Transportation 1:5000. Road centerlines, signed with 1:5000 Orthophotos. Attributes from DOT roads database.  
 TRAINS AND TRANSILINES: Mass Department of Transportation Trans @ 1:5000, Pipelines and Powerlines @ 1:25000.

This map is for illustrative purposes only. It represents the best statewide data available at the date of printing. There are other important natural resources that are not shown on this map because the digital spatial data do not exist.