

WBNERR Groundwater Observatory

In December 2007, several observation wells were installed at WBNERR headquarters property at the north end of Waquoit Bay. Along with other previously installed observation wells, this well system now constitutes the basic infrastructure of the Waquoit Groundwater Observatory (GWO). Ten wells, of various depths, are located at four sites that form an approximate north-south transect from near the tide line in the north basin of Waquoit Bay to about 900 feet inland (north) along the sandplain plateau (glacial outwash) that is about 30-40 feet in elevation above sea level. (See location Figure). The Reserve currently measure water surface heights in each of the ten wells about 3 times per week year round. Visiting groundwater researchers have access to the wells for monitoring purposes, and they often use high-frequency automated instruments, which are particularly useful for measuring the tidal variations in the more shoreward wells (BH and MIT well groups).



WBNERR headquarters area at the north end of Waquoit Bay. The yellow push-pins mark the locations of the wells (GWO-BH and GWO-MIT include multiple wells).

Well Information Table

	Well ID (well diameter- in.)	Location – Lat / Long (approx. distance from Waquoit Bay tideline MLW)	Ground Elevation (m) NGVD29	Sample* Depth (m) (+ Screen) NGVD29	Mean** Head (m) (SD) NGVD29
1	GWO – GH (2")	41 34.963 N, 70 31.526 W (285 m)	+11.11	-0.88 (.76)	0.845 (.058)
2	GWO – OP (2")	41 34.879 N, 70 31.543 W (135 m)***	+10.64	-1.14 (.76)	0.589 (.046)
3	GWO – BH-1 (1")	41 34.831 N, 70 31.462 W (30 m)	+4.47	-1.32 (.46)	0.449 (.084)
4	GWO – BH-2 (1")	41 34.831 N, 70 31.462 W (30 m)	+4.47	-5.92 (.46)	0.454 (.083)
5	GWO – BH-3 (1")	41 34.831 N, 70 31.462 W (30 m)	+4.47	-12.34 (.46)	0.778 (.085)
6	GWO – BH-4 (1")	41 34.831 N, 70 31.462 W (30 m)	+4.47	-24.21 (.46)	1.017 (.072)
7	GWO – BH-5 (1")	41 34.831 N, 70 31.462 W (30 m)	+4.47	-39.45 (.46)	1.156 (.085)
8	GWO – MIT-1 (2")	41 34.819 N, 70 31.476 W (10 m)	+0.83	-1.65 (.46)	0.385 (.136)
9	GWO – MIT-2 (2")	41 34.819 N, 70 31.476 W (10 m)	+0.83	-4.68 (.46)	0.390 (.136)
10	GWO – MIT-3 (2")	41 34.819 N, 70 31.476 W (10 m)	+0.83	-10.74 (.46)	0.573 (.120)

* Well screens are either 3 ft. or 5 ft. – sample depth is assumed to be mid-point

** Mean water table head heights are the annual average head for period from June 2008 to June 2009.

*** The OP well is also 80 m from another small tidal pond to its west.

Note: All elevations are absolute and referenced to the NGVD29 datum.

WBNERR-GWO-GH Water Table Heights (in m NGVD29)
from June 2008 to June 2009

