Groundwater Science Corp.

328 Daleview Place,
Waterloo, ON N2L 5M5
Phone: (519) 746-6916
groundwaterscience.ca

January 17, 2017

Aden Corcoran
Director of Public Works
Township of Zorra
274620 27th Line
P.O. Box 306
Ingersoll, ON
N5C 3K5

Dear Mr. Corcoran:

RE: Township of Zorra Robinson Pit
2016 Annual Monitoring Report

As requested, this letter provides a summary of the water level monitoring data collected to date at the above referenced site in accordance with Site Plan conditions. Several figures and tables are attached to this letter for reference. We are also including some analysis and discussion to provide context for the monitoring results.

1.0 Background

Site operations began in 2010 and the first three years of operation occurred in 2010, 2011 and 2012. As part of the Site Plan conditions (Technical Recommendations) a specific hydrogeologic monitoring program and reporting schedule is specified for the first years of operation. These conditions were satisfied through monitoring completed, and reporting provided, to date. Subsequent on-going (i.e. 2013 and onward) monitoring conditions are as follows:

- water levels at the monitoring wells and drive-point locations be measured once each monthly during the operational season, to include measurements prior to and after excavation activities, and,
- surface water temperatures be measured at the drive-point locations once each monthly during the operational season, to include measurements prior to and after excavation activities, and,
- records of these measurements be kept on-site.

In addition, a general condition of the Site Plan (no. 15, page 2 of 4) states:

> *The water table elevation within these properties is estimated to be at ±340.0 – 343.5m above sea level (A.S.L.), refer to hydrogeological report (see above). At any time should the water table be encountered at levels higher than 343.5 to 340mASL the pit floor elevations will be adjusted to remain at minimum of 1.5 metres above the highest water table elevation. Any required backfilling will be performed with native on-site material only.*

The condition refers to a groundwater elevation of 340 mAMSL as measured at BH5 and an elevation of 343.5 mAMSL as measured at BH4. These elevations represent "action thresholds" for BH5 and BH4, currently corresponding to water level measurements of 13.61 mBTOW and 19.54 mBTOW (metres below top of well) respectively.

This report summarizes the monitoring results to date and includes a comparison to the above referenced thresholds. A copy of this report should be kept "on-site".

2.0 Monitoring Results

Monitoring locations are shown on the attached Figure 1. Table 1 summarizes the water level elevations measured to date at the monitoring locations. Table 2 summarized the water temperature measurements obtained to date. The water level monitoring results are illustrated on two hydrographs; Figure 2 showing monitoring well water level elevations; and, Figure 3 showing drive-point piezometer water level elevations.

3.0 Discussion

As illustrated by the hydrographs, in 2016 groundwater levels on-site remained within the annual and seasonal ranges historically observed, very similar to 2015 levels, likely due to decreased recharge from the dry climate conditions in 2015 and 2016. In addition water table elevations within the extraction area remained below the defined "thresholds" at BH5 and BH4. Surface water and groundwater levels and temperatures within the wetland area (at drive-point monitoring locations) also remained within historical ranges.

The 9 year monitoring period available at this time indicates that the maximum observed water table elevations occurred in May 2009. The established water table at the site for extraction planning (Site Plan) purposes is based on the May 2009 measurements. Groundwater elevations within the extraction area (i.e. at monitoring well locations) in 2016 remained below the established water table elevation for the site. Therefore, compared to the monitoring record available, the current proposed pit floor elevation (as shown on the approved Site Plan) is appropriate and remains 1.5 m or more above the maximum water table observed at the site.

Based on the results of the monitoring program we conclude that there has been no significant or measurable impact on groundwater conditions due to extraction operations at the pit. To date water level fluctuation at the site is primarily a result of seasonal and annual climate conditions.

It is our understanding that site operations will resume in 2017, and the monitoring program as specified on the Site Plan will also be implemented.

If you have any questions, or require further information, please do not hesitate to call.

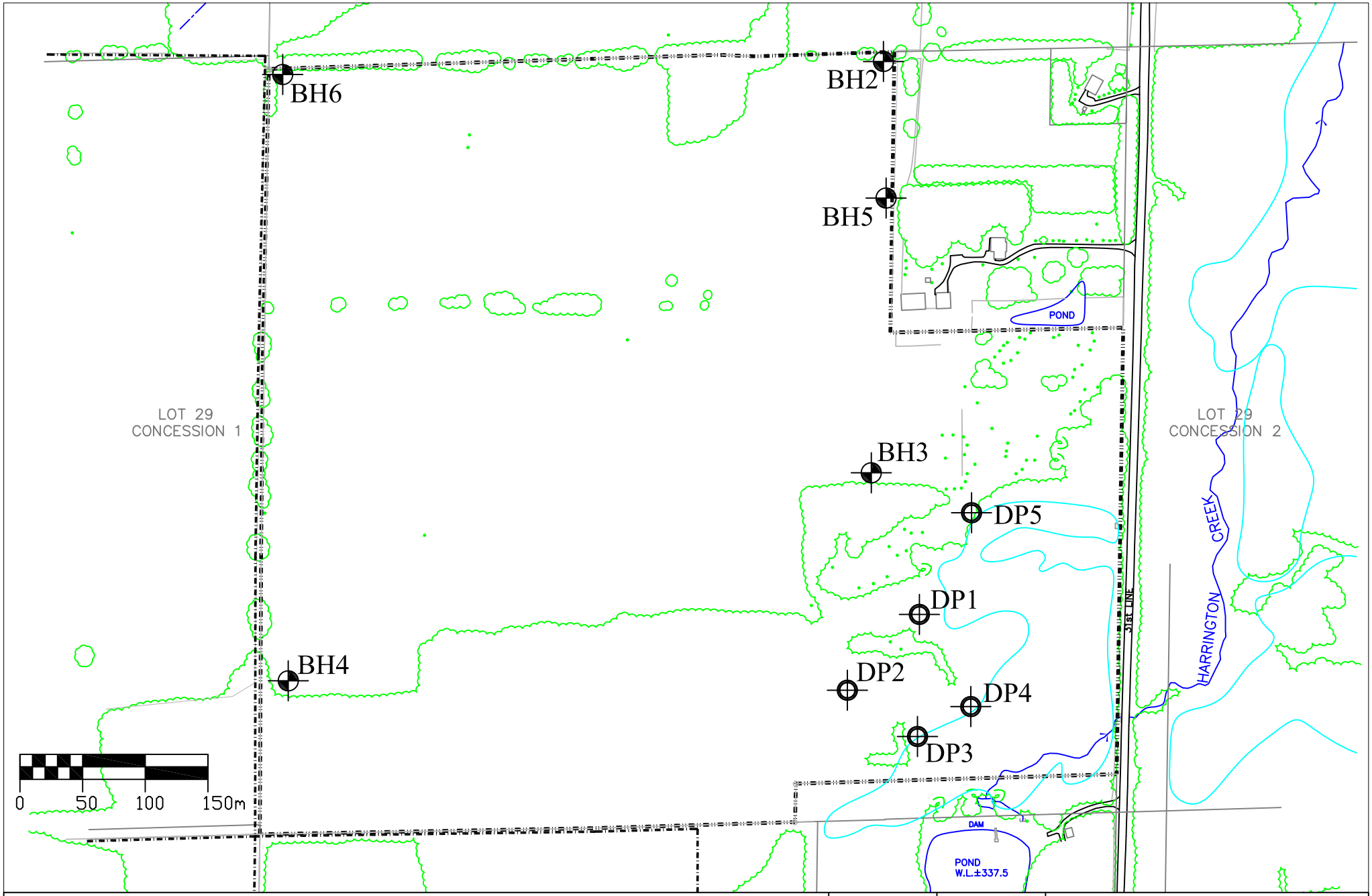
Sincerely,

Dave Nahrgang, P.Geo.
Project Hydrogeologist.

Andrew Pentney, P.Geo
Senior Hydrogeologist

Attached:

Table1 Water Level Monitoring Summary
Table 2 Water Temperature Monitoring Summary
Figure 1 Monitor Locations
Figure 2 Monitoring Well Hydrograph
Figure 3 Drive-Point Piezometer Hydrograph



Legend

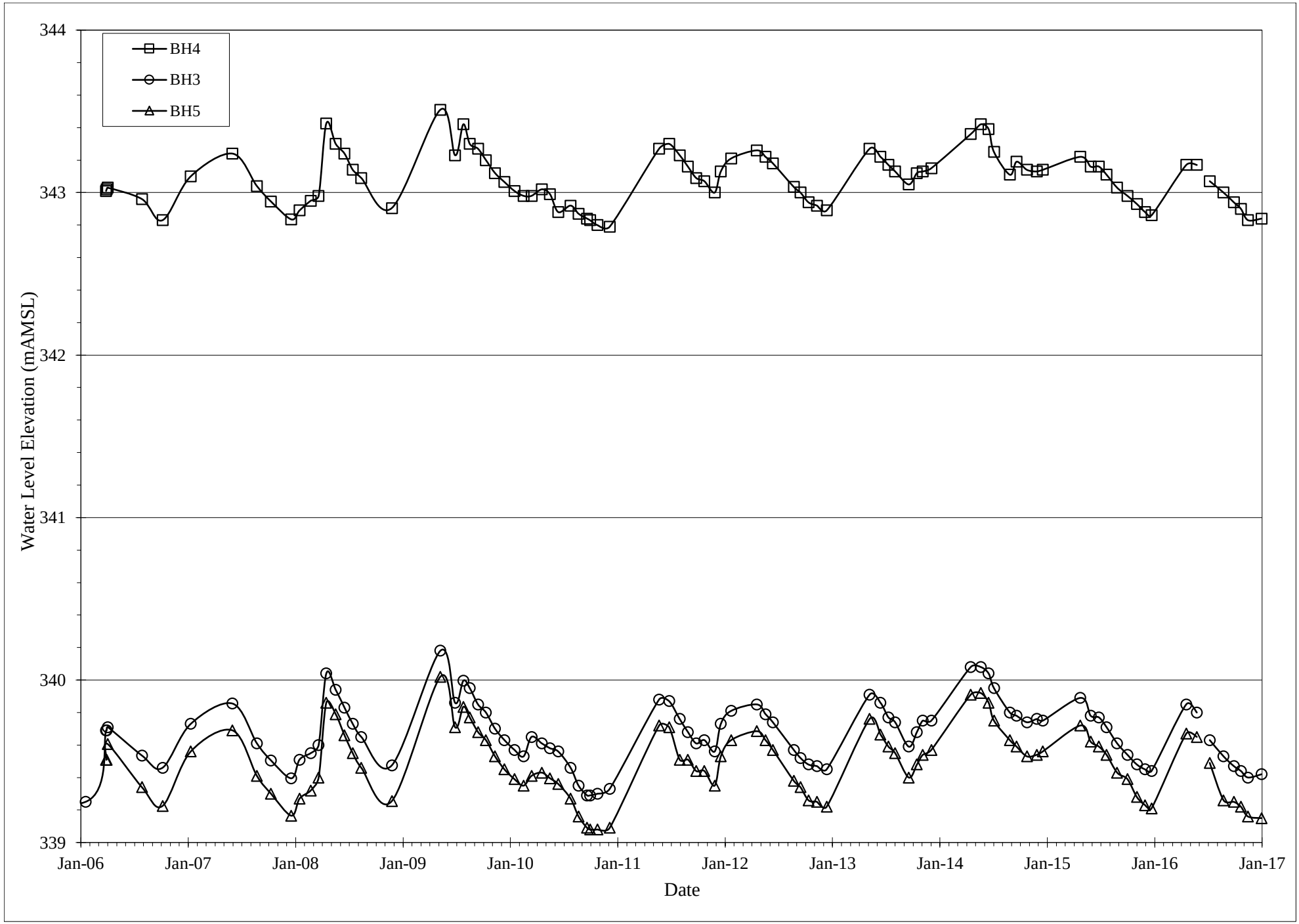
- Property boundary
- Monitoring Well location
- Drive-point Piezometer location

1 m contour interval

Scale: as shown	Date: October 2010
Part Lot 29, Concession 1 Township of Zorra County of Oxford	
Modified From: Existing Features Plan	

Figure 1: Monitor Locations

Township of Zorra
Robinson Pit
Monitoring Program


BH4
BH3
BH5
344
343
342
341
340
339
Water Level Elevation (mAMSL)
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Date

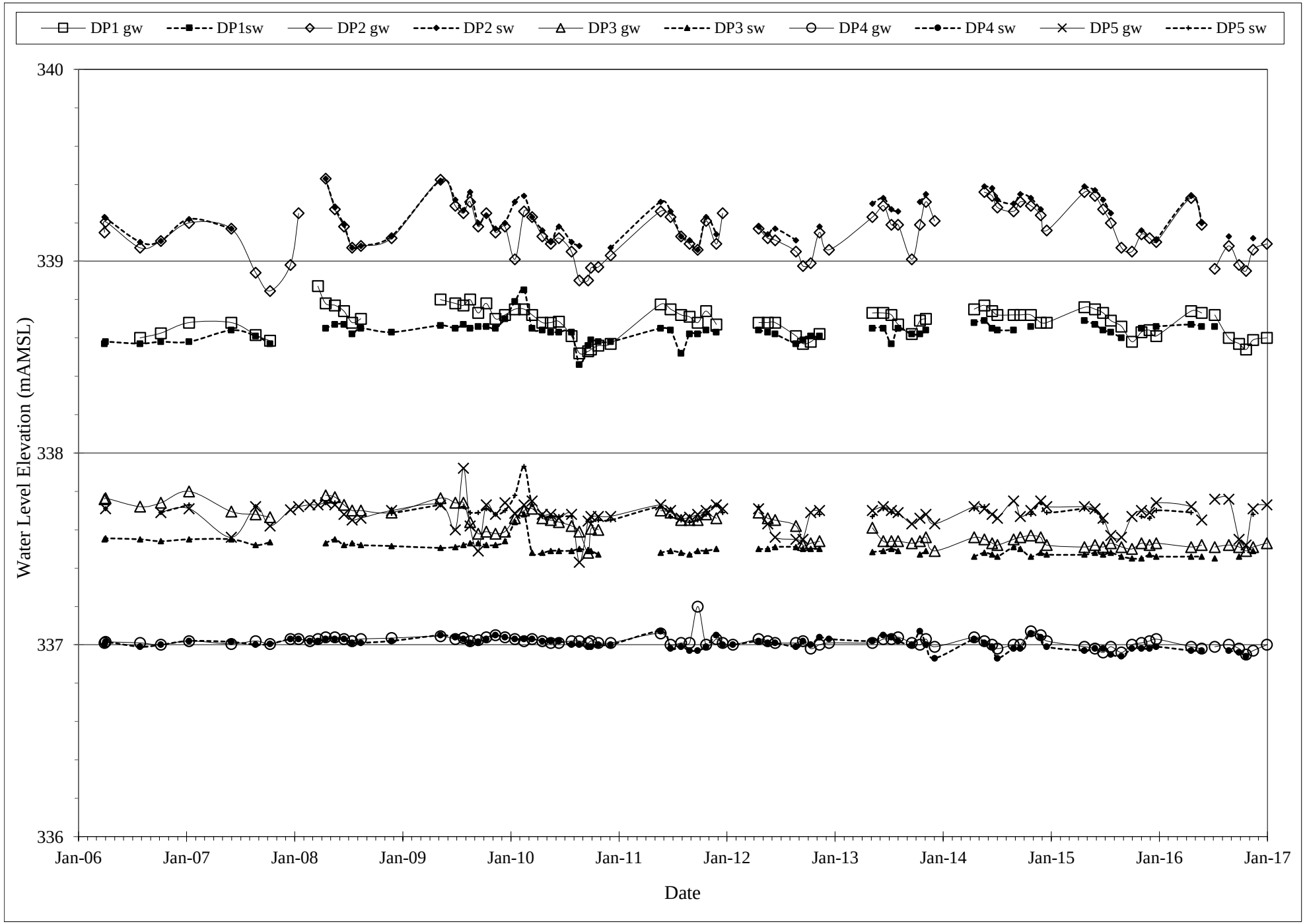


Figure 3: Drive-Point Piezometer Hydrograph

Date	Water Level Elevations (mAMSL)														
	BH2	BH3	BH4	BH5	BH6	DP1 gw	DP1 sw	DP2 gw	DP2 sw	DP3 gw	DP3 sw	DP4 gw	DP4 sw	DP5 gw	DP5 sw
Ref. Elev.:	359.97	343.37	363.04	353.61	374.40	339.15	339.15	339.80	339.80	338.14	338.14	337.84	337.84	338.30	338.30
03-Jun-04	dry	339.65	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
08-Nov-04	dry	339.33	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
17-Jan-06	dry	339.25	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28-Mar-06	dry	339.69	343.01	339.51	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30-Mar-06	dry	339.69	343.02	339.51	dry	337.81	338.57	339.15	339.23	337.76	337.55	337.01	337.00	#N/A	#N/A
03-Apr-06	dry	339.71	343.03	339.61	dry	338.13	338.58	339.21	339.23	337.77	337.56	337.02	337.02	337.71	337.71
28-Jul-06	dry	339.54	342.96	339.34	dry	338.60	338.57	339.07	339.10	337.72	337.55	337.01	336.99	#N/A	#N/A
06-Oct-06	dry	339.46	342.83	339.23	dry	338.63	338.58	339.11	339.11	337.74	337.54	337.00	337.00	337.69	337.69
10-Jan-07	dry	339.73	343.10	339.56	dry	338.68	338.58	339.20	339.22	337.80	337.55	337.02	337.02	337.71	337.73
01-Jun-07	dry	339.86	343.24	339.69	dry	338.68	338.64	339.17	339.17	337.70	337.55	337.01	337.02	337.56	dry
23-Aug-07	dry	339.61	343.04	339.41	dry	338.62	338.61	338.94	dry	337.68	337.52	337.02	337.00	337.72	337.72
10-Oct-07	dry	339.51	342.95	339.30	dry	338.59	338.57	338.85	dry	337.67	337.54	337.01	337.01	337.62	dry
18-Dec-07	dry	339.40	342.84	339.17	dry	fr	fr	338.98	fr	fr	fr	337.03	337.03	337.71	fr
15-Jan-08	dry	339.51	342.89	339.27	dry	fr	fr	339.25	fr	fr	fr	337.03	337.03	337.72	fr
22-Feb-08	dry	339.55	342.95	339.32	dry	fr	fr	fr	fr	fr	fr	337.02	337.02	337.73	fr
20-Mar-08	dry	339.60	342.98	339.40	dry	338.87	fr	fr	fr	fr	fr	337.03	337.02	337.73	fr
15-Apr-08	dry	340.04	343.43	339.86	dry	338.78	338.65	339.43	339.43	337.78	337.53	337.04	337.03	337.74	337.74
17-May-08	dry	339.94	343.30	339.79	dry	338.77	338.67	339.27	339.28	337.77	337.55	337.04	337.03	337.73	337.74
16-Jun-08	dry	339.83	343.24	339.66	dry	338.74	338.67	339.18	339.19	337.73	337.52	337.03	337.03	337.68	dry
14-Jul-08	dry	339.73	343.14	339.55	dry	338.68	338.62	339.07	339.07	337.70	337.53	337.02	337.01	337.65	dry
12-Aug-08	dry	339.65	343.09	339.46	dry	338.70	338.65	339.08	339.08	337.70	337.52	337.03	337.01	337.66	dry
24-Nov-08	dry	339.48	342.91	339.26	dry	fr	338.63	339.12	339.13	337.69	337.52	337.04	337.02	337.70	337.69
08-May-09	dry	340.18	343.51	340.02	dry	338.80	338.67	339.43	339.42	337.77	337.51	337.05	337.05	337.73	337.73
27-Jun-09	dry	339.86	343.23	339.71	dry	338.78	338.65	339.29	339.32	337.74	337.51	337.03	337.04	337.60	dry
25-Jul-09	dry	340.00	343.42	339.84	dry	338.77	338.67	339.25	339.27	337.74	337.52	337.04	337.03	337.92	337.72
16-Aug-09	dry	339.95	343.30	339.77	dry	338.80	338.65	339.31	339.36	337.64	337.53	337.02	337.01	337.62	337.69
13-Sep-09	dry	339.85	343.27	339.68	dry	338.73	338.66	339.18	339.20	337.58	337.53	337.03	337.02	337.49	337.69
10-Oct-09	dry	339.80	343.20	339.63	dry	338.78	338.66	339.25	339.24	337.59	337.52	337.04	337.03	337.73	337.71
10-Nov-09	dry	339.70	343.12	339.53	dry	338.70	338.65	339.15	339.17	337.58	337.52	337.05	337.05	337.68	337.68
12-Dec-09	dry	339.63	343.07	339.45	dry	338.72	338.70	339.18	339.20	337.59	337.54	337.04	337.04	337.74	337.70
15-Jan-10	dry	339.57	343.01	339.39	dry	338.75	338.79	339.01	339.31	337.66	337.64	337.03	337.03	337.69	337.78
15-Feb-10	dry	339.53	342.98	339.35	dry	338.75	338.85	339.26	339.34	337.70	337.68	337.02	337.03	337.73	337.93
14-Mar-10	dry	339.65	342.98	339.41	dry	338.72	338.65	339.23	339.23	337.71	337.48	337.03	337.03	337.75	337.73
18-Apr-10	dry	339.61	343.02	339.43	dry	338.68	338.64	339.13	339.16	337.66	337.48	337.02	337.02	337.68	337.67
16-May-10	dry	339.58	342.99	339.40	dry	338.68	338.63	339.09	339.10	337.65	337.49	337.01	337.02	337.68	337.67
13-Jun-10	dry	339.56	342.88	339.36	dry	338.69	338.63	339.12	339.18	337.64	337.49	337.01	337.02	337.66	337.67
25-Jul-10	dry	339.46	342.92	339.27	dry	338.61	338.63	339.05	339.10	337.62	337.49	337.02	337.00	337.68	337.67
21-Aug-10	dry	339.35	342.87	339.16	dry	338.52	338.46	338.90	339.08	337.59	337.50	337.02	337.00	337.43	dry
19-Sep-10	dry	339.29	342.84	339.09	dry	338.53	338.56	338.90	dry	337.48	337.49	337.01	336.99	337.65	dry
29-Sep-10	dry	339.29	342.83	339.08	dry	338.54	338.59	338.97	dry	337.61	337.49	337.02	336.99	337.67	337.64
24-Oct-10	dry	339.30	342.80	339.08	dry	338.56	338.58	338.97	dry	337.60	337.47	337.01	337.00	337.67	337.65
05-Dec-10	dry	339.33	342.79	339.09	dry	338.57	338.58	339.03	339.07	fr	fr	337.01	337.00	337.67	337.65
22-May-11	dry	339.88	343.27	339.72	dry	338.78	338.65	339.26	339.31	337.70	337.48	337.06	337.07	337.73	337.72
25-Jun-11	dry	339.87	343.30	339.71	dry	338.75	338.64	339.23	339.26	337.69	337.49	337.00	336.98	337.70	337.67
31-Jul-11	dry	339.76	343.23	339.51	dry	338.72	338.52	339.13	339.13	337.65	337.48	337.01	336.99	337.66	337.65
28-Aug-11	dry	339.68	343.16	339.51	dry	338.71	338.62	339.09	339.11	337.65	337.47	337.01	336.97	337.67	337.64
25-Sep-11	dry	339.61	343.09	339.44	dry	338.68	338.62	339.06	339.06	337.65	337.49	337.20	336.97	337.68	337.65
23-Oct-11	dry	339.63	343.07	339.44	dry	338.74	338.64	339.21	339.23	337.68	337.49	337.00	336.99	337.70	337.68

Date	Water Level Elevations (mAMSL)														
	BH2	BH3	BH4	BH5	BH6	DP1 gw	DP1 sw	DP2 gw	DP2 sw	DP3 gw	DP3 sw	DP4 gw	DP4 sw	DP5 gw	DP5 sw
Ref. Elev.:	359.97	343.37	363.04	353.61	374.40	339.15	339.15	339.80	339.80	338.14	338.14	337.84	337.84	338.30	338.30
27-Nov-11	dry	339.56	343.00	339.35	dry	338.67	338.63	339.09	339.14	337.66	337.50	337.03	337.05	337.73	337.73
18-Dec-11	dry	339.73	343.13	339.53	dry	fr	fr	339.25	fr	fr	fr	337.01	337.00	337.71	337.69
22-Jan-12	dry	339.81	343.21	339.63	dry	fr	fr	fr	fr	fr	fr	337.00	337.00	fr	fr
18-Apr-12	dry	339.85	343.26	339.69	dry	338.68	338.64	339.17	339.18	337.69	337.50	337.03	337.02	337.71	337.72
18-May-12	dry	339.79	343.22	339.63	dry	338.68	338.63	339.12	339.14	337.66	337.50	337.02	337.01	337.63	dry
12-Jun-12	dry	339.74	343.18	339.57	dry	338.68	338.62	339.11	339.17	337.65	337.51	337.01	337.01	337.56	dry
22-Aug-12	dry	339.57	343.04	339.38	dry	338.61	338.57	339.05	339.11	337.62	337.51	337.01	336.99	337.55	dry
14-Sep-12	dry	339.52	343.00	339.34	dry	338.57	338.59	338.98	dry	337.52	337.50	337.02	337.02	337.55	dry
11-Oct-12	dry	339.48	342.94	339.26	dry	338.58	338.61	338.99	dry	337.53	337.50	336.98	337.00	337.69	dry
09-Nov-12	dry	339.47	342.92	339.25	dry	338.62	338.61	339.15	339.18	337.54	337.50	337.00	337.04	337.70	337.68
12-Dec-12	dry	339.45	342.89	339.22	dry	fr	fr	339.06	fr	fr	fr	337.01	337.03	fr	dry
07-May-13	dry	339.91	343.27	339.76	dry	338.73	338.65	339.23	339.30	337.61	337.48	337.01	337.02	337.70	337.67
13-Jun-13	dry	339.86	343.22	339.67	dry	338.73	338.65	339.29	339.33	337.54	337.49	337.03	337.05	337.72	337.71
10-Jul-13	dry	339.77	343.17	339.59	dry	338.72	338.57	339.19	339.27	337.54	337.50	337.03	337.04	337.70	337.69
02-Aug-13	dry	339.74	343.13	339.55	dry	338.67	338.65	339.19	339.26	337.54	337.49	337.04	337.02	337.69	337.68
17-Sep-13	dry	339.59	343.05	339.40	dry	338.62	338.62	339.01	dry	337.53	dry	337.01	337.00	337.63	dry
15-Oct-13	dry	339.68	343.12	339.48	dry	338.69	338.62	339.19	339.31	337.54	337.47	337.00	337.07	337.66	dry
04-Nov-13	dry	339.75	343.13	339.54	dry	338.70	338.64	339.31	339.35	337.56	337.49	337.03	337.00	337.68	dry
03-Dec-13	dry	339.75	343.15	339.57	dry	fr	fr	339.21	fr	337.49	fr	336.99	336.93	337.63	dry
16-Apr-14	dry	340.08	343.36	339.91	dry	338.75	338.68	#N/A	#N/A	337.56	337.46	337.04	337.03	337.72	337.71
20-May-14	dry	340.08	343.42	339.92	351.16	338.77	338.69	339.36	339.39	337.55	337.48	337.02	337.01	337.71	337.72
16-Jun-14	dry	340.04	343.39	339.86	dry	338.74	338.65	339.34	339.38	337.53	337.47	337.00	336.99	337.68	dry
04-Jul-14	dry	339.95	343.25	339.75	dry	338.72	338.64	339.28	339.32	337.52	337.46	336.98	336.93	337.66	dry
27-Aug-14	dry	339.80	343.11	339.63	dry	338.72	338.64	339.26	339.30	337.55	337.51	337.00	336.98	337.75	dry
19-Sep-14	dry	339.78	343.19	339.59	dry	338.72	dry	339.31	339.35	337.56	337.50	337.00	336.98	337.67	dry
24-Oct-14	dry	339.74	343.14	339.53	dry	338.72	338.66	339.29	339.33	337.57	337.46	337.07	337.06	337.70	337.68
27-Nov-14	dry	339.76	343.13	339.54	dry	338.68	dry	339.24	339.27	337.56	337.48	337.05	337.04	337.75	337.74
17-Dec-14	dry	339.75	343.14	339.56	dry	338.68	fr	339.16	fr	337.52	337.47	337.02	336.99	337.72	337.69
24-Apr-15	dry	339.89	343.22	339.72	dry	338.76	338.69	339.36	339.39	337.51	337.47	336.99	336.97	337.72	337.71
29-May-15	dry	339.78	343.16	339.62	dry	338.75	338.67	339.34	339.37	337.52	337.48	336.98	336.98	337.71	337.70
26-Jun-15	dry	339.77	343.16	339.59	dry	338.73	338.64	339.27	339.32	337.51	337.47	336.96	336.98	337.66	337.64
22-Jul-15	dry	339.71	343.11	339.54	dry	338.69	338.63	339.20	339.25	337.53	337.48	336.99	336.95	337.57	dry
27-Aug-15	dry	339.61	343.03	339.43	dry	338.66	338.60	339.07	dry	337.51	337.46	336.96	336.94	337.56	dry
01-Oct-15	dry	339.54	342.98	339.39	dry	338.58	dry	339.05	dry	337.50	337.45	337.00	336.98	337.67	dry
02-Nov-15	dry	339.48	342.93	339.28	dry	338.63	338.65	339.14	339.16	337.53	337.45	337.01	336.98	337.70	337.67
30-Nov-15	dry	339.45	342.88	339.23	dry	338.64	fr	339.12	fr	337.52	337.47	337.02	336.98	337.69	337.66
22-Dec-15	dry	339.44	342.86	339.21	dry	338.61	338.66	339.10	339.11	337.53	337.46	337.03	336.99	337.74	337.70
18-Apr-16	dry	339.85	343.17	339.67	dry	338.74	338.67	339.33	339.34	337.51	337.46	336.99	336.97	337.72	337.69
24-May-16	dry	339.80	343.17	339.65	dry	338.73	338.66	339.19	339.20	337.52	337.46	336.98	336.97	337.65	dry
07-Jul-16	dry	339.63	343.07	339.49	dry	338.72	338.66	338.96	dry	337.51	337.45	336.99	dry	337.76	dry
23-Aug-16	dry	339.53	343.00	339.26	dry	338.60	dry	339.08	339.13	337.52	dry	337.00	336.97	337.76	dry
27-Sep-16	dry	339.47	342.94	339.25	dry	338.57	dry	338.98	dry	337.51	337.46	336.98	336.96	337.55	dry
21-Oct-16	dry	339.44	342.90	339.22	dry	338.54	dry	338.95	dry	337.49	dry	336.95	336.94	337.52	dry
14-Nov-16	dry	339.40	342.83	339.16	dry	338.59	dry	339.06	339.12	337.51	337.49	336.97	dry	337.71	337.68
30-Dec-16	dry	339.42	342.84	339.15	dry	338.60	fr	339.09	fr	337.53	fr	337.00	fr	337.73	fr

notes: at drive-point piezometers (DP series) gw = groundwater, sw = surface water
#N/A = no measurement available (monitor not yet installed or no measurement obtained)
fr = frozen, no measurement possible

Date	Temperature (Celcius)										
	Air	DP1 gw	DP1 sw	DP2 gw	DP2 sw	DP3 gw	DP3 sw	DP4 gw	DP4 sw	DP5 gw	DP5 sw
03-Apr-06	12.0	12.3	14.0	9.0	9.0	6.1	8.0	6.1	6.1	#N/A	13.6
28-Jul-06	25.0	#N/A	24.2	#N/A	23.7	#N/A	20.3	#N/A	19.5	#N/A	#N/A
06-Oct-06	8.3	12.1	7.4	10.1	7.5	10.8	9.1	9.9	9.4	10.2	9.9
10-Jan-07	-2.5	#N/A	0.1	4.5	1.9	#N/A	1.0	5.5	8.2	3.8	0.3
01-Jun-07	#N/A	12.2	23.9	13.2	19.2	10.2	0.516.0	12.0	13.5	13.7	dry
23-Aug-07	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
10-Oct-07	#N/A	14.0	13.5	15.3	12.6	13.6	13.0	12.6	13.4	12.8	dry
18-Dec-07	-2.0	#N/A	#N/A	1.3	#N/A	#N/A	#N/A	1.6	2.1	2.6	#N/A
15-Jan-08	-1.0	#N/A	#N/A	1.2	#N/A	#N/A	#N/A	1.0	2.1	1.8	#N/A
22-Feb-08	-4.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.6	1.4	1.4	#N/A
20-Mar-08	-2.0	0.6	#N/A	#N/A	#N/A	#N/A	#N/A	3.8	1.0	2.4	#N/A
15-Apr-08	6.0	1.7	0.8	4.6	5.1	1.9	1.9	5.9	3.4	6.3	2.7
17-May-08	14.0	9.3	13.0	9.6	14.3	8.1	9.6	9.3	9.7	9.5	13.0
16-Jun-08	18.0	15.6	19.1	15.3	16.3	12.8	15.6	14.3	14.4	15.0	#N/A
14-Jul-08	20.0	14.8	19.8	15.2	16.6	12.3	16.8	12.1	13.1	13.9	#N/A
12-Aug-08	22.0	16.0	23.5	15.1	17.7	13.1	15.1	12.3	12.9	14.3	#N/A
24-Nov-08	0.6	#N/A	0.3	4.4	1.5	2.3	0.6	5.8	3.4	6.2	0.5
09-May-09	19.0	11.0	17.8	11.6	14.5	10.2	13.2	11.7	12.4	11.6	15.4
27-Jun-09	24.3	#N/A	21.1	#N/A	18.4	#N/A	15.3	#N/A	15.6	#N/A	#N/A
25-Jul-09	24.0	15.6	18.7	14.1	16.1	12.1	14.2	12.9	14.9	13.9	14.9
16-Aug-09	26.0	16.8	16.9	16.3	17.8	13.1	15.9	15.1	15.7	15.3	#N/A
13-Sep-09	23.0	15.2	15.2	14.3	13.8	13.0	13.5	12.9	13.7	14.1	#N/A
10-Oct-09	12.0	10.8	8.8	9.9	9.2	9.8	9.2	9.3	9.3	10.8	9.4
15-Nov-09	8.0	7.2	6.1	7.4	7.1	7.6	7.8	7.9	7.5	6.8	#N/A
12-Dec-09	-5.0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	3.5	2.5	#N/A	#N/A
15-Jan-10	0.0	#N/A	#NA	2.1	#NA	#N/A	#NA	2.9	3.4	#N/A	#NA
15-Feb-10	-2.0	#N/A	#NA	#N/A	#NA	#N/A	#NA	2.9	2.6	#N/A	#NA
14-Mar-10	2.0	2.6	2.1	0.6	0.6	0.4	0.7	0.8	0.8	0.6	0.6
18-Apr-10	6.0	8.2	9.2	8.2	7.8	6.9	6.8	7.3	7.2	7.7	7.9
16-May-10	16.0	10.6	18.6	9.7	15.8	8.4	12.9	9.4	8.6	9.6	14.4
13-Jun-10	20.0	14.3	18.5	14.4	17.0	12.8	14.8	13.1	12.7	13.5	15.4
25-Jul-10	26.0	17.5	20.9	18.5	20.1	16.1	18.9	16.1	16.9	16.9	19.3
21-Aug-10	24.0	16.8	#NA	17.8	#NA	16.1	18.8	15.5	16.9	16.8	#NA
19-Sep-10	19.0	14.1	#NA	13.6	#NA	12.5	13.8	12.0	12.1	14.1	#NA
24-Oct-10	12.0	10.5	12.7	10.3	N/A	9.7	11.8	10.2	11.1	10.4	11.0
05-Dec-10	-6.0	3.8	0.0	3.0	0.0	#N/A	#NA	3.1	0.0	5.6	0.0
22-May-11	22.0	12.6	17.5	12.7	15.1	10.6	12.8	12.3	10.8	12.7	15.7
25-Jun-11	18.0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31-Jul-11	27.0	17.4	22.2	18.2	20.3	14.8	17.3	14.0	14.7	17.2	18.9
28-Aug-11	19.2	16.3	17.5	16.6	17.0	14.5	16.5	13.8	15.0	15.5	16.2
25-Sep-11	12.4	13.7	11.5	13.2	11.9	12.4	11.4	11.4	11.1	12.9	11.5
23-Oct-11	13.7	10.5	7.2	9.9	6.4	9.7	7.3	8.8	8.8	10.5	7.2
27-Nov-11	11.0	7.0	7.6	6.9	7.8	7.1	8.2	7.7	8.3	6.9	7.8
18-Dec-11	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
22-Jan-12	2.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	3.5	2.5	#N/A	#N/A
18-Apr-12	13.6	7.6	10.8	8.3	17.1	6.9	5.6	8.1	7.3	6.4	8.1
18-May-12	21.5	11.3	23.3	10.9	13.2	9.3	10.3	9.9	10.0	10.3	#N/A
12-Jun-12	#N/A	13.2	23.5	13.2	17.4	11.4	15.1	11.5	13.8	12.6	#N/A
22-Aug-12	20.0	15.7	#N/A	14.8	#N/A	15.1	#N/A	14.6	#N/A	14.4	#N/A
12-Sep-12	14.9	15.3	#N/A	15.0	#N/A	14.5	#N/A	13.7	#N/A	14.2	#N/A
11-Oct-12	6.9	9.1	#N/A	8.8	#N/A	0.6	#N/A	8.8	#N/A	8.8	#N/A
09-Nov-12	6.6	3.8	1.3	6.8	3.2	5.2	3.3	6.2	4.4	6.3	3.9
12-Dec-12	1.2	#N/A	#N/A	4.3	#N/A	#N/A	#N/A	5.3	3.3	#N/A	#N/A
07-May-13	22.2	11.8	18.6	11.8	15.3	12.4	13.0	10.2	11.0	10.1	17.5
13-Jun-13	22.3	12.8	25.8	13.1	15.3	12.5	13.9	11.5	14.4	12.5	16.2
10-Jul-13	27.4	19.1	25.3	17.2	20.8	18.9	19.8	14.6	17.3	12.6	17.5
02-Aug-13	25.9	16.5	24.3	16.1	16.4	13.4	15.8	12.8	15.6	12.7	19.1

Date	Temperature (Celcius)										
	Air	DP1 gw	DP1 sw	DP2 gw	DP2 sw	DP3 gw	DP3 sw	DP4 gw	DP4 sw	DP5 gw	DP5 sw
17-Sep-13	13.8	13.5	13.6	13.3	#N/A	11.4	#N/A	11.1	10.8	11.5	#N/A
15-Oct-13	14.8	11.9	11.4	11.9	9.5	11.3	11.0	10.6	10.5	10.9	#N/A
04-Nov-13	10.4	7.8	2.8	8.1	4.2	7.8	4.6	7.6	5.7	6.7	#N/A
03-Dec-13	4.4	#N/A	#N/A	2.3	#N/A	4.7	#N/A	5.7	1.2	2.3	#N/A
16-Apr-14	2.1	3.4	7.4	#N/A	5.1	4.6	2.7	4.9	3.6	4.5	7.4
20-May-14	12.2	7.5	13.2	7.8	13.1	7.4	10.3	7.2	11.2	7.5	12.9
16-Jun-14	25.6	9.0	15.4	9.2	16.2	8.9	11.3	9.1	15.9	9.0	#N/A
04-Jul-14	18.1	12.8	17.4	11.8	17.9	12.0	13.1	12.6	16.9	12.3	#N/A
27-Aug-14	22.4	12.3	#N/A	15.1	17.3	13.1	16.4	12.4	15.1	17.0	20.7
19-Sep-14	15.6	12.8	#N/A	12.1	10.4	11.1	10.6	10.4	10.5	13.4	#N/A
24-Oct-14	15.4	10.7	9.3	10.4	7.3	9.4	8.6	9.2	8.8	10.4	8.8
27-Nov-14	4.1	6.3	5.1	6.0	4.1	6.3	4.8	6.1	4.9	6.5	#N/A
17-Dec-14	-0.3	4.6	#N/A	3.9	#N/A	4.6	2.9	4.8	3.6	4.1	1.8
24-Apr-15	4.2	5.8	15.3	5.3	6.7	5.4	4.4	6.8	4.8	5.6	10.9
29-May-15	21.1	9.1	16.8	9.0	12.0	9.2	9.1	9.2	10.1	9.0	11.9
26-Jun-15	17.8	14.0	17.1	13.0	15.5	11.3	12.7	11.9	13.9	12.7	13.8
22-Jul-15	18.3	15.6	17.3	13.8	15.8	12.0	13.8	13.1	14.6	13.8	#N/A
27-Aug-15	15.2	16.1	18.8	14.9	#N/A	12.9	15.2	14.0	18.1	14.8	#N/A
01-Oct-15	10.0	13.0	#N/A	12.8	#N/A	11.8	11.2	13.1	11.3	12.9	#N/A
02-Nov-15	13.9	10.1	7.9	10.3	9.8	9.5	8.1	8.6	7.9	9.7	8.0
30-Nov-15	2.8	6.6	#N/A	6.0	#N/A	6.5	2.5	6.3	4.4	6.5	2.7
22-Dec-15	10.1	6.9	5.6	5.9	5.4	6.8	6.1	6.8	5.6	7.1	6.0
18-Apr-16	16.7	9.3	24.3	8.6	16.1	7.3	10.3	8.9	10.6	9.0	16.3
24-May-16	23.1	12.2	28.7	12.9	14.7	10.0	12.8	10.1	10.8	12.5	#N/A
07-Jul-16	24.3	12.9	25.2	15.5	#N/A	11.8	14.2	12.8	#N/A	15.4	#N/A
23-Aug-16	26.0	13.6	#N/A	17.4	17.4	14.5	#N/A	13.7	15.9	16.8	#N/A
27-Sep-16	16.1	14.6	#N/A	15.3	#N/A	14.0	15.1	14.1	15.3	13.8	#N/A
21-Oct-16	9.1	11.2	#N/A	11.5	#N/A	10.9	#N/A	11.1	8.3	11.0	#N/A
14-Nov-16	11.8	9.4	#N/A	8.4	6.3	8.7	7.3	8.3	#N/A	9.2	7.3
30-Dec-16	-2.2	5.1	#N/A	4.8	#N/A	4.9	#N/A	4.7	#N/A	5.1	#N/A

air temperature obtained at time of first piezometer measurement that day
at drive-point piezometers (DP series) gw = groundwater, sw = surface water
#N/A = no measurement available (frozen, dry or equipment issues)