Environmental Functional Area

Environmental Support and Programmatic Outreach Group

LLNL-AR-411431-14-3

LLNL Experimental Test Site, Site 300 Compliance Monitoring Report for Waste Discharge Requirement (WDR) Order No. R5-2008-0148

Second Semester/Annual Report 2013

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- Ground Water Sampling Data Forms
- Historical Data Plots: Sewage Evaporation Pond and Percolation Pond Network (ISWP, ESWP, and Ground Water Wells) – Second Semester – Annual Report Only

Appendix B Cooling Tower Network

- Cooling Tower Blow Down Effluent Monitoring Network with Discharges to Percolation Pits (Bldgs. 801, 812, 817A, 825, 826, 827A, and 851) and Cooling Tower Percolation Pit Inspection Forms

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- Mechanical Equipment Discharge Effluent Monitoring for Buildings 806A and 827A, 827C, 827D, and 827E Mechanical Equipment Room and Cooling Tower Percolation Pit Inspection Forms

Certification

I certify that the work presented in this report was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate, and the work was performed in accordance with professional standards.

Richard G. Blake 2/14/14

Richard G. Blake Date
California Professional Geologist
No. 5550
License expires: July 31, 2014

List of Abbreviations and Acronyms

3CMP	samples collected at Site 300 for Compliance Monitoring Program
3EMG	samples collected at Site 300 for the Environmental Support & Programmatic Outreach (ESPO) Group
3GIV	samples collected at Site 300 for site investigations
3VES	three casing volumes purged using an electric submersible pump
BCLABS-BAK	BC Laboratories, Inc. in Bakersfield, CA
BOD	biochemical oxygen demand
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CMP	Compliance Monitoring Program (conducted under CERCLA)
CMR	Compliance Monitoring Report (prepared under CERCLA)
CoC	chain-of-custody form
CVRWQCB	Central Valley Regional Water Quality Control Board
DO	dissolved oxygen
DSWP	sewage percolation pond influent sampling location
DTW	depth to (ground) water
EC	electrical conductivity, or specific conductance (SC)
EFA	Environmental Functional Area
ESWP	sampling location within sewage evaporation pond
GF	Grundfos pump
FRUITGROWL	FGL Environmental Laboratories in Stockton, CA
ft	feet
gal	gallons
gpm	gallons per minute (measurement of flow)
GWE	ground water elevation (above mean sea level)
HSU	hydrostratigraphic unit
ID	identification number
ISWP	sewage evaporation pond influent sampling location
LLNL	Lawrence Livermore National Laboratory
MCL	maximum contaminant level (for drinking water)
mL	milliliters

List of Abbreviations and Acronyms (Continued)

MPN	most probable number
MRP	monitoring and reporting program
mV	millivolts (measure of oxidation-reduction potential)
NA	not applicable
ND	none detected, or not detected
NO_3	nitrate
NR	analysis not required by Permit at this sampling location
pH	measure of the acidity or alkalinity of a solution
OG	off gassing measured by scale of 1-5, 5 being high amounts of off gassing
OU	Operable Unit under CERCLA
Q	flow rate, or number of well volumes purged (according to context)
Qal	Quaternary Age alluvial deposits
QC	quality control
Qt	Quaternary Age terrace deposits
RHWM	Radioactive and Hazardous Waste Management
SC	specific conductance, or electrical conductivity (same as EC)
SHO	short analytical holding time (such as samples for coliform bacteria analyses)
VOA	samples collected for analysis of volatile organic compounds
WDR	waste discharge requirements (Permit)

Executive Summary

Under authority of the State of California, and required by the Porter-Cologne Water Quality Control Act, the Central Valley Regional Water Quality Control Board (CVRWQCB) issued Order No. R5-2008-0148 for the Experimental Test Site (Site 300), to Lawrence Livermore National Laboratory (LLNL). Monitoring and Reporting Program (MRP) Number R5-2008-0148 was adopted in September 2008, and revised effective December 1, 2009. The revised MRP terms and conditions have been implemented in this report. Under the terms of this MRP, LLNL submits semiannual and annual monitoring reports detailing its Site 300 discharges of domestic and wastewater effluent to the sewage evaporation pond and percolation pond in the General Services Area, and cooling tower blow down to percolation pits and septic systems, and mechanical equipment discharges to percolation pits located throughout the site.

This annual report contains all the elements required by Waste Discharge Requirement (WDR) Order R5-2008-0148 for the first and second semesters of 2013 and updates the status of equipment and facilities since the adoption of R5-2008-0148. Permit terms and conditions were met for all permitted networks. Compliance certification accompanies this report, as required by the permit.

1. Introduction

Site 300, operated by Lawrence Livermore National Security, LLC, is located in the Altamont Hills approximately 10.5 kilometers (6.5 miles) southwest of downtown Tracy, California. Required monitoring for specific Lawrence Livermore National Laboratory (LLNL) Site 300 monitoring networks is defined in the Monitoring and Reporting Program (MRP) Order Number R5-2008-0148, which was adopted in September 2008, and revised effective December 1, 2009. The revised MRP has been implemented in this report. Applicable reporting requirements are found in the Standard Provisions and Reporting Requirements specified in the Waste Discharge Requirements (WDR) Order R5-2008-0148 (CVRWQCB, 2008) permit and in the MRP R5-2008-0148.

This report provides a summary of monitoring in designated networks conducted during the second semester of 2013 under the revised MRP R5-2008-0148 (CVRWQCB, 2008). The report details the monitoring results of the three compliance networks and presents analytical data, field summary sheets, and inspection logs associated with discharges at the networks.

Compliance monitoring networks discussed in the report include:

- Sewage evaporation and percolation ponds wastewater and ground water monitoring (Sections 2.1 through 2.5).
- Cooling tower blow down discharge monitoring and percolation pit inspections (Sections 3.1 through 3.4).
- Mechanical equipment effluent discharge monitoring and percolation pit inspections (Sections 4.1 through 4.4).
- Permit related summaries and updates.

BC Laboratories, Inc., Alpha Labs, and FGL Environmental Laboratory provided off-site analytical support for the monitoring networks.

This first semester report summarizes the 2013 activities associated with these monitoring networks including: tabular summaries or data plots for all data for at least the last five years; ground water elevation contour map with well locations; identification of any data gaps or deficiencies; and a discussion of any changes to the monitoring program.

Figure 1 shows the locations of the wastewater systems permitted under WDR R5-2008-0148, including mechanical equipment percolation pits and the sewage oxidation and percolation ponds (sewage ponds) located in the General Services Area. None of the permitted mechanical equipment percolation pits overflowed during this monitoring period, and only a minor amount of standing water was observed within the Cristy boxes. There were no detected impacts to ground water around the sewage ponds. Discharges from cooling towers and mechanical equipment were consistent with historic information provided in the previous Reports of Waste Discharge.

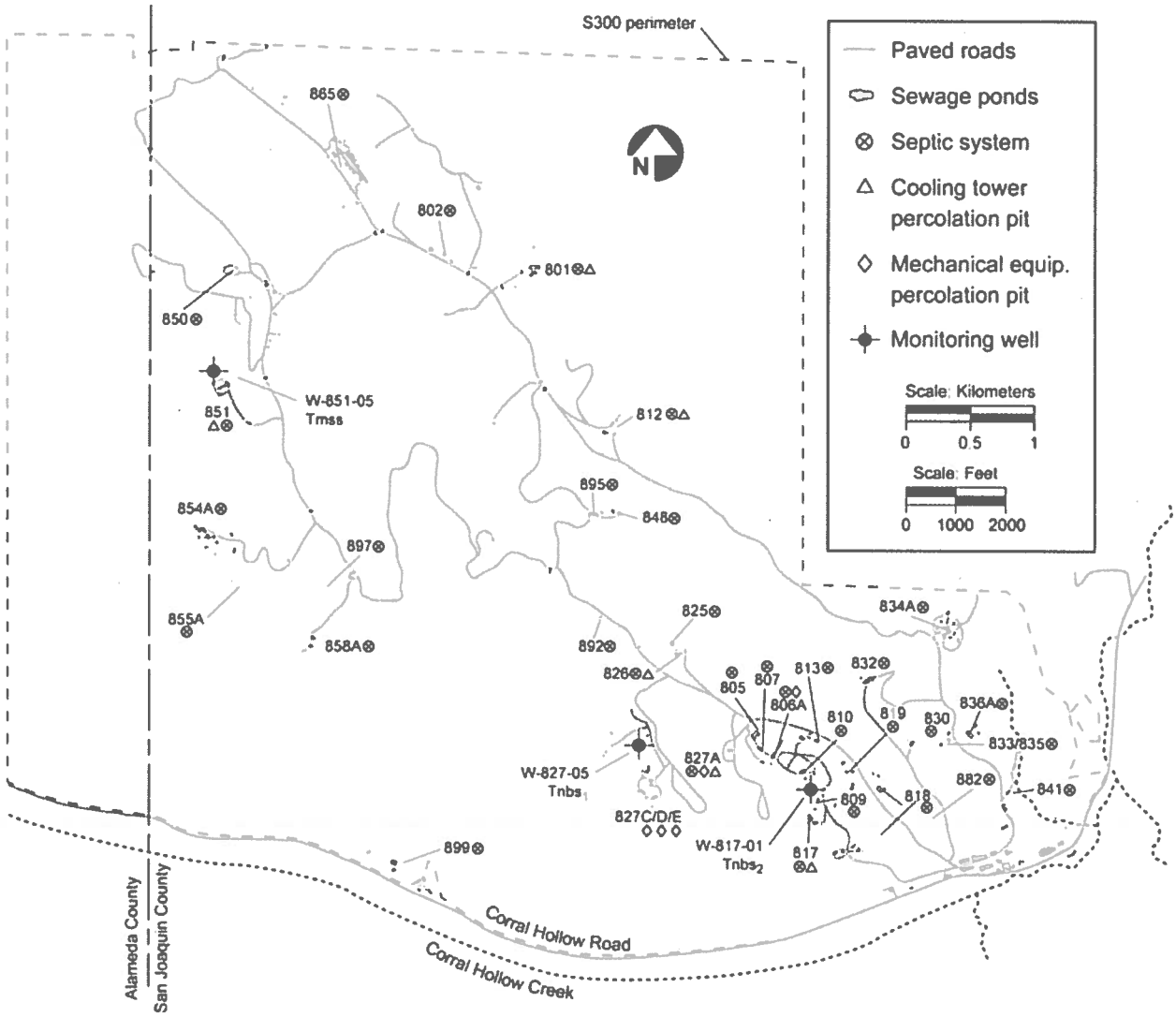

Figure 1. Locations of Site 300 facilities with septic systems and percolation pits.

2. Sewage Evaporation and Percolation Ponds

2.1. Effluent and Pond Compliance Monitoring Program

MRP R5-2008-0148 requires semi-annual and annual samples be collected of wastewater flowing into the sewage evaporation pond (sewage pond) for analysis. Sample collection is by grab sampling from a location west of the sewage pond (see sampling location ISWP in **Appendix A, Figure A-1** showing the Site 300 sewage evaporation and percolation ponds and ground water and wastewater compliance monitoring locations). Location ISWP is a port in a pipe that captures all waste streams before they flow into the sewage pond. The samples are analyzed for specific conductance (SC, or electrical conductivity), pH, and biochemical oxygen demand (BOD).

MRP R5-2008-0148 also requires samples be collected of wastewater within the sewage pond and wastewater discharging into the sewage percolation pond. Semiannual wastewater samples are collected by grab sampling from a dock at the eastern end of the sewage pond (sampling location ESWP) and analyzed for SC, pH, metals, dissolved oxygen (DO), BOD, and total and fecal coliform. Any discharge from the sewage pond to the sewage percolation pond (sampling location DSWP) is grab sampled and analyzed for the same constituents. Permit WDR R5-2008-0148 requires LLNL to operate the sewage pond with adequate freeboard to minimize the frequency of discharges to the sewage percolation pond.

Observations of the sewage pond are made and recorded at least monthly for freeboard, color, odor, and levee condition. **Appendix A** contains several 2013 data sets including; field tracking forms, sewer pond inspection reports, ground water sampling data forms, historical data plots for the sewage evaporation pond and percolation pond network, and ground water well field observation forms for the sewage pond. Inspection reports indicate some animal burrows are observed in the levee from time to time. These burrows continue to be monitored by operations personnel to ensure that the integrity of the levee is not compromised.

Leak detection and monitoring compliance at the sewage evaporation and percolation ponds is accomplished by monitoring the shallow ground water beneath and adjacent to the ponds. Ground water monitoring includes semiannual sampling during the first and second semesters when ground water levels are the highest and lowest and analysis of the collected samples for SC, pH, total and fecal coliform, chloride, nitrate, sulfate, total dissolved solids, sodium, and metals. In addition, ground water elevations are routinely recorded and contoured (**Appendix A, Figure A-2**). A map showing the locations of the monitor wells (**Appendix A, Figure A-1**) with respect to the ponds, and tables of ground water specifications and elevations for the first semester of 2013 for each well are provided (**Appendix A, Tables A-1 and A-2**).

In addition to normal operation of the sewer evaporation pond, discharges to the sewer pond occurred that were associated with the beneficial use of discharged water. These discharges were in preparation for potable water delivery to Site 300 from the San Francisco Public Utility District Hetch-Hetchy water system. The Hetch-Hetchy water is flushed from the line periodically to maintain sanitary conditions in the line. When a discharge to the sewage evaporation pond is scheduled, the chlorinated water in the Hetch-Hetchy line is analyzed for chlorine. When the water reaches a chlorine residual value at or below 1.0 mg/L, which generally

takes one or two weeks, the water is ready to flush. When flushing, a 4-inch hose is used to pump the water from the Hetch-Hetchy line to the sewer evaporation pond. Before the water is flushed, the residual chlorine concentration is adjusted and generally decreases to 1 mg/L or less; pH is also adjusted at this time. During the second semester 2013, one discharge associated with the pipeline flushing was reused as evaporation loss makeup water to the sewage pond. Details of these discharges are shown on **Table 1** below which provides the date that discharge occurred, the volume of water discharged, chlorine residual, and pH of the discharged water. These discharges are consistent with Waste Discharge Requirements Order Number R5-2008-0148 and the revised MRP (November 23, 2009).

Table 1. Summary water system pipeline flushing and pressure testing discharges at Site 300 during 2013.

Discharge Date	Volume Discharged (gallons)	Chlorine Residual (mg/L)	pH (units)	Reuse
2/20/2013	30,000	.02	8.49	Evaporation makeup water in sewage pond
7/31/2013	16,200	.03	8.30	Evaporation makeup water in sewage pond

2.2. Sewage Pond Wastewater Sampling and Analysis

For the sewage pond wastewater sampling and analysis, calibration is performed on DO, SC, and pH meters less than 12 hours before sampling. DO, SC, pH, and temperatures of the samples are measured and written on the field tracking forms (field logs) when the grab samples from ISWP, ESWP, and DSWP are collected. Chain-of-custody (CoC) forms are filled out appropriately and signed by the sampler for each analytical laboratory to which the samples are transferred; CoC numbers are also written on the field logs. Analytical methods used are appropriate EPA-approved Methods (U.S. Environmental Protection Agency, 2005) or Standard Methods (Clesceri et al., 1998).

The samples required under MRP R5-2008-0148 for locations ISWP and ESWP were collected on September 19, 2013. These samples, and all samples collected with results presented in this report, were collected, analyzed, and results entered into the Environmental Functional Area (EFA) database according to a complete set of written protocols documented in the LLNL Environmental Functional Area's Environmental Monitoring Plan (Gallegos, 2012).

2.3. Sewage Pond Wastewater Monitoring Results

Results are summarized here for samples collected during the monitoring period as required under MRP R5-2008-0148. Monitoring data are found in **Appendix A**. Coliform, anion, BOD, DO, and specific conductance data summaries are presented in **Table A-3**. A metal data summary for the locations ESWP and DSWP are found in **Table A-4. Table A-5** provides a duplicate (QA) sampling data summary for the sewage pond's wastewater monitoring network. All results and observations were in compliance with the Permit's discharge specifications. Adequate free board was provided to prevent any over-topping or erosion of the pond embankment. Field tracking forms are provided in **Appendix A**, which also contains the field

logs, including field measurements. The CoCs and laboratory analytical results are stored at LLNL and are available upon request.

2.4. Ground Water Sampling and Analysis

Semiannual sampling of ground water from wells at the sewage evaporation and percolation ponds was performed during the second semester of 2013. Ground water samples were collected and analyzed, and results entered into the EFA database according to written protocol (Goodrich and Lorega, 2012). The monitor wells were purged and sampled during two phases, from July 30 through August 21, and November 18 through December 11, 2013, according to prescribed methods assigned to each monitor well. Information regarding the conditions during sampling, as well as field measurements taken at the time of sampling, is found in the ground water sampling data sheets located in **Appendix A**. The collected samples were transferred to an offsite analytical laboratory for physical parameters and analyses listed in **Section 2.1**. Following the initial sampling event, each well was treated with a pre-calculated dose of chlorine and pumped to circulate the chlorine throughout the water column. On the following day, wells were tested for residual chlorine and samples collected to be analyzed for total and fecal coliform bacteria at an offsite analytical laboratory. Wells that tested positive for chlorine were pumped until chlorine was not detected prior to sampling, according to the aforementioned written protocols.

2.5. Ground Water Monitoring Results

All monitored parameters were in compliance with the Permit limits; ground water data are presented in Tables found in **Appendix A**. Anion data are listed in **Table A-6**. Coliform data are found in **Table A-7**. **Table A-8** provides a summary of physical chemistry data and **Table A-9** lists metals data. QA data summaries for the monitoring network are located in **Table A-10**. During the second semester, fecal coliform was not detected above the <2 MPN/100mL detection limit (**Table A-7**). However, total coliform was detected at the detection limit of 2 MPM/100ml in two wells, and found to be higher at 500 MPM/100ml in well W-7PS. The well was resampled and the retest results showed a much lower total coliform value at 8.1 MPM/100ml with a fecal coliform below the detection limit. Because no fecal coliform was found to be present in any of these wells, we do not consider the low values of total coliform to be the result of a release from the sewer pond. LLNL will continue to monitor the sewer pond monitoring wells for these constituents of concern.

Appendix A, Figure A-2 contains the ground water elevation contour map for the most shallow ground water zones (Hydrostratigraphic Units [HSUs]) in the sewage evaporation and percolation ponds area. This map reflects ground water elevation levels from November and December 2013. The sewer pond ground water network map showing concentrations of nitrates is presented in **Appendix A, Figure A-3**. Nitrate data is also shown in **Table A-6**. All the detailed ground water data CoCs and laboratory analytical results are archived at LLNL and are available upon request.

3. Cooling Tower Network

3.1. Cooling Tower Compliance Monitoring Program

Monitoring required for the cooling tower blow down is specified in MRP R5-2008-0148. LLNL implemented the cooling tower blow down monitoring starting the fourth quarter of 2008. Applicable reporting requirements are found in the Standard Provisions and Reporting Requirements of WDR R5-2008-0148 and the MRP.

Cooling towers located at Site 300 discharge either into percolation pits or into septic systems. Currently, there are eight operating cooling towers. The cooling tower locations are identified in **Appendix B, Figure B-1**. The cooling tower located at Building 825 discharges to a septic system. The remaining cooling towers located at Buildings 801, 817, 826, 827, and 851 all discharge to percolation pits. The two original cooling towers located at Building 851 were replaced in the second semester 2009 with a single new cooling tower. The two cooling towers located at Building 827 have blended cooling water and a combined discharge line and therefore only one sample is routinely collected to characterize the discharge of these cooling towers.

MRP R5-2008-0148 requires semi-annual sampling of the cooling tower blow down. Grab samples are collected from the water circulating in the cooling tower, either at a valve or a drainpipe. The grab samples are collected directly into the containers specified by the laboratory. Samples are analyzed for metals, pH, sodium, SC, sulfate, total alkalinity, total dissolved solids, total hardness, and total phosphorus.

3.2. Cooling Tower Blow Down Effluent Sampling and Analysis

Second semester 2013 routine cooling tower blow down samples were collected on October 10, 2013. For the cooling tower blow down sampling and analysis, calibration is performed on SC and pH meters less than 12 hours before sampling. SC and pH data measured in the field are written down on field tracking forms. CoC forms are filled out appropriately and signed by the sampler for each analytical laboratory to which the samples are transferred; CoC numbers are also written on the field logs. Analytical methods used are appropriate EPA-approved Methods (U.S. Environmental Protection Agency, 2005) or Standard Methods (Clesceri et al., 1998).

3.3. Cooling Tower Blow Down Monitoring Results

All cooling tower sample results are listed in **Appendix B** along with the Quality Assurance results, field tracking forms, and CoCs. **Table B-1** lists anion data, **Table B-2** lists metals results, and **Table B-3** provides data on the required physical characteristics. QC data from duplicate sampling is provided in **Table B-4**. During this period, no metals samples were obtained from cooling towers at B-801 and B-851 due to facility operation problems.

Analytical results for cooling tower blow down samples collected this semester were generally consistent with data found in WDR Order No. R5-2008-0148, Attachments 19 and 20, with the following exceptions:

- Copper concentrations in samples collected ranged from 1.2 µg/L to 18 µg/L, as compared to the concentrations summarized in the WDR attachments (5.6 µg/L to

8.3 µg/L). Cooling tower at Building 817 (18 µg/L) had the most elevated copper value, while all other cooling towers had values lower than last semester (**Table B-2**).

- Molybdenum concentrations in samples collected were all recorded at or below the detection limit of <25 µg/L as summarized in the WDR attachments (<25 µg/L to 31 µg/L).
- Zinc concentrations in samples collected ranged from <20 µg/L to 320 µg/L and were somewhat higher than the concentrations of data summarized in the WDR attachments (<20 µg/L to 44 µg/L). The cooling tower at Building 817 (320 µg/L) showed the most elevated zinc concentration in the second semester 2013 results. This concentration may be attributed to the use of bleach as a biocide at the facility. The bleach has a high pH and may have caused corrosion to the galvanized metal facility. Site 300 is looking into replacing the bleach biocide with a less corrosive biocide agent.

Although the concentrations for copper and zinc are slightly above the range in the appendix (Attachments 19 and 20) of the WDR, the discharge concentrations are well below the values calculated using the Designated Level Methodology to impact ground water. LLNL will continue to evaluate future copper and zinc analytical data.

3.4. Cooling Tower Percolation Pit Monthly Inspections

Since the first semester 2010, LLNL implemented monthly visual inspections of the cooling tower percolation pits located at Buildings 801, 812, 817A, 826, 827A, and 851 (**Appendix B, Figure B-1**), which collect effluent from the cooling towers as specified in MRP R5-2008-0148.

If standing water is present, the MRP requires the inspection frequency to be increased to weekly until standing water is no longer visible. Visual inspections are conducted to verify the percolation pits are working properly and do not have the potential to overflow. Copies of the inspection forms are found in **Appendix B**. During this semester, standing water as well as a slight overflow of the Christy boxes was observed at B-801 on September 10. The most likely cause of overflow was due to equipment malfunction and aging cooling tower infrastructure. The B-801 cooling tower is currently undergoing equipment upgrades which should correct the problem. Also, a very small amount of standing water in percolation pits was observed in Christy boxes at cooling towers 826 (1 in.) and 827A (2 in.) on December 4 and was attributed to normal cooling tower operations. No other standing water was observed at the Site 300 cooling tower percolation pits.

4. Mechanical Equipment Effluent Monitoring

4.1. Mechanical Equipment Discharge Monitoring Program

Monitoring required for mechanical equipment discharge effluent to percolation pits is specified in the MRP R5-2008-0148. During the first semester of 2010, LLNL first implemented the monitoring elements for the identified mechanical equipment systems located at Buildings 806B, 827A, 827C, 827D, and 827E. **Appendix C, Figure C-1** provides the locations of those systems.

4.2. Mechanical Equipment Effluent Sampling and Analysis

The results for the mechanical equipment room effluent monitoring for the first semester of 2013 are reported in **Appendix C**. Monitoring is performed using composite sampling from Cristy boxes that allows an automatic sampler to be placed within the boxes, allowing composite samples to be collected during operations. During this sampling period, samples were taken from the Buildings 806B, 827A, 827C, 827D, and 827E locations.

For the sampling and analysis of mechanical equipment effluent, CoC forms are filled out appropriately and signed by the sampler for each analytical laboratory to which the samples are transferred; CoC numbers are also written on the field logs, provided in **Appendix C**. Analytical methods used are appropriate EPA-approved Methods (U.S. Environmental Protection Agency, 2005) or Standard Methods (Clesceri et al., 1998).

4.3. Mechanical Equipment Effluent Monitoring Results

Sample analytical results for this monitoring network are presented in **Appendix C**. Results are consistent with data found in Attachments 5 and 6 in the MRP R5-2008-0148. **Table C-1** lists anion data, **Table C-2** lists metals results and **Table C-3** provides data on the required physical characteristics. Data from duplicate sampling is provided in the data tables.

4.4. Mechanical Equipment Percolation Pit Monthly Inspections

MRP R5-2008-0148 requires monthly inspections of the five mechanical equipment percolation pits located at Buildings 806B, 827A, 827C, 827D, and 827E (**Appendix C, Figure C-1**). **Appendix C** contains the second semester 2013 mechanical equipment percolation pit inspection checklists. If standing water is visible during the inspection, the inspection frequency for the percolation pit with the standing water is increased to weekly until no standing water is visible. During the second semester of 2013, no standing water was observed in the mechanical equipment percolation pits.

5. Permit Related Summaries and Updates

5.1. Regulatory Correspondence

The following letters, verbal communication, or activities were conducted under the CVRWQCB WDR-R5-2008-0148 permit during the second semester of 2013.

- This semester, only routine operations occurred under the CVRWQCB permit WDR-R5-2008-0148.
- The Site 300 CVRWQCB Fall Inspection was performed on December 17, 2013. Operations at all Site 300 environmental sites demonstrated normal-routine permitted operations.
- Discharge of water from the Hetch-Hetchy water line to the sewer evaporation pond occurred only once on July 31, 2013.

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Acknowledgments

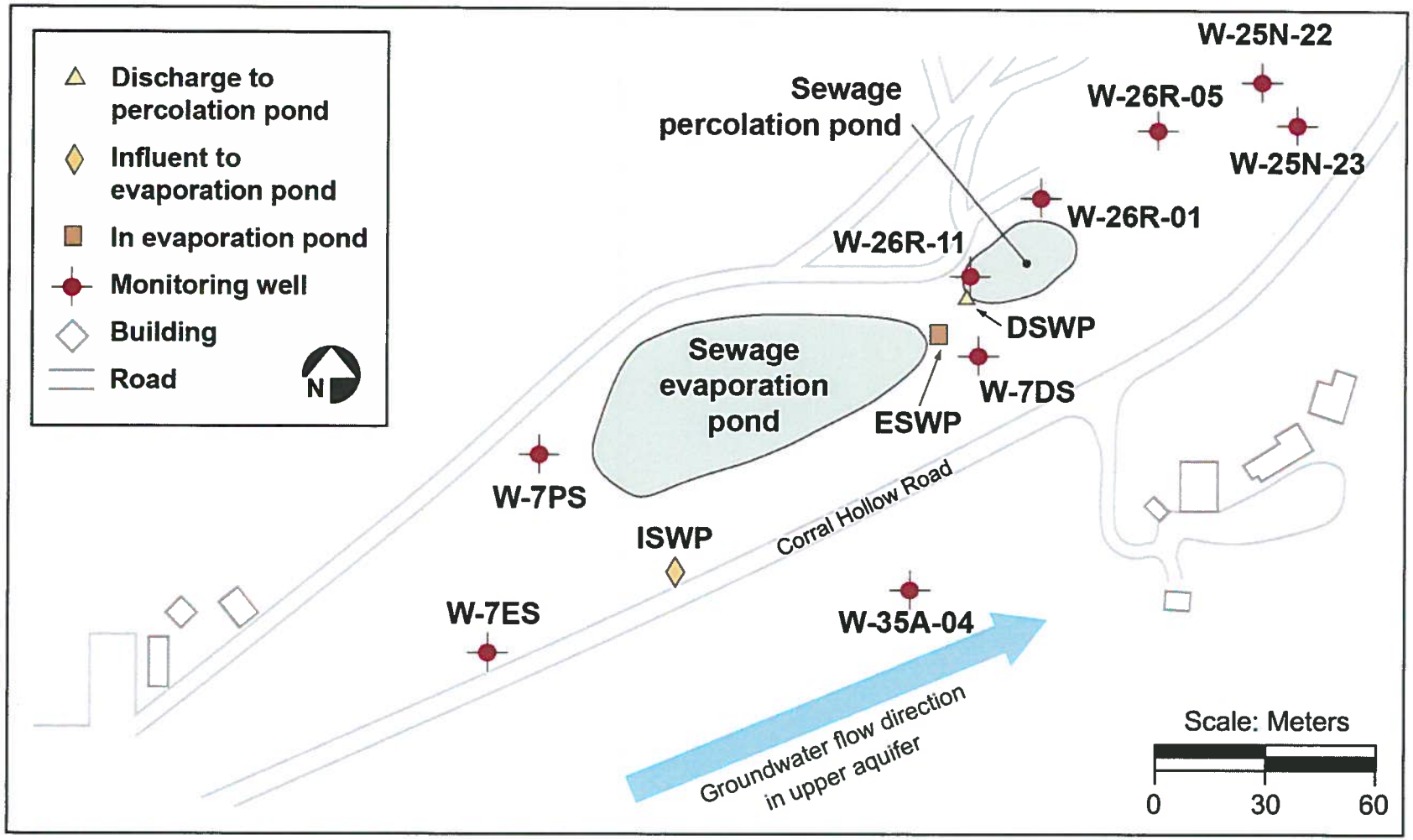
The compliance-monitoring program supporting the permit WDR R5-2008-0148 is large and could not be performed without the dedicated efforts of many people. The completion of this report, and the groundwork laid for future report submissions, would not have been possible without the invaluable and timely technical contributions of Don MacQueen, John Radyk, Suzie Chamberlain, and Dawn Chase.

Appreciation is due to Environmental Restoration Department (ERD) sampling technologists Eric Walter and Mario Silva, and Bob Williams, Karl Brunckhorst, and Crystal Rosene from the Environmental Functional Area (EFA) for their field support. Data management assistance was performed by Kim Swanson (EFA) and Suzie Chamberlain (ERD). Amy Henke from TID provided graphic arts contributions; and Rosanne Depue from EFA provided strong administrative and document preparation assistance. Additional appreciation goes to Duane Landrum, Patrick Gallagher, and Nicole Grimsley for conducting Site 300 inspections and providing inspection data, and to Jeff Warner for his timely collection of field data for this report. EFA appreciates the support of the Site 300 Manager, John Scott, for his support in this effort.

Appendix A

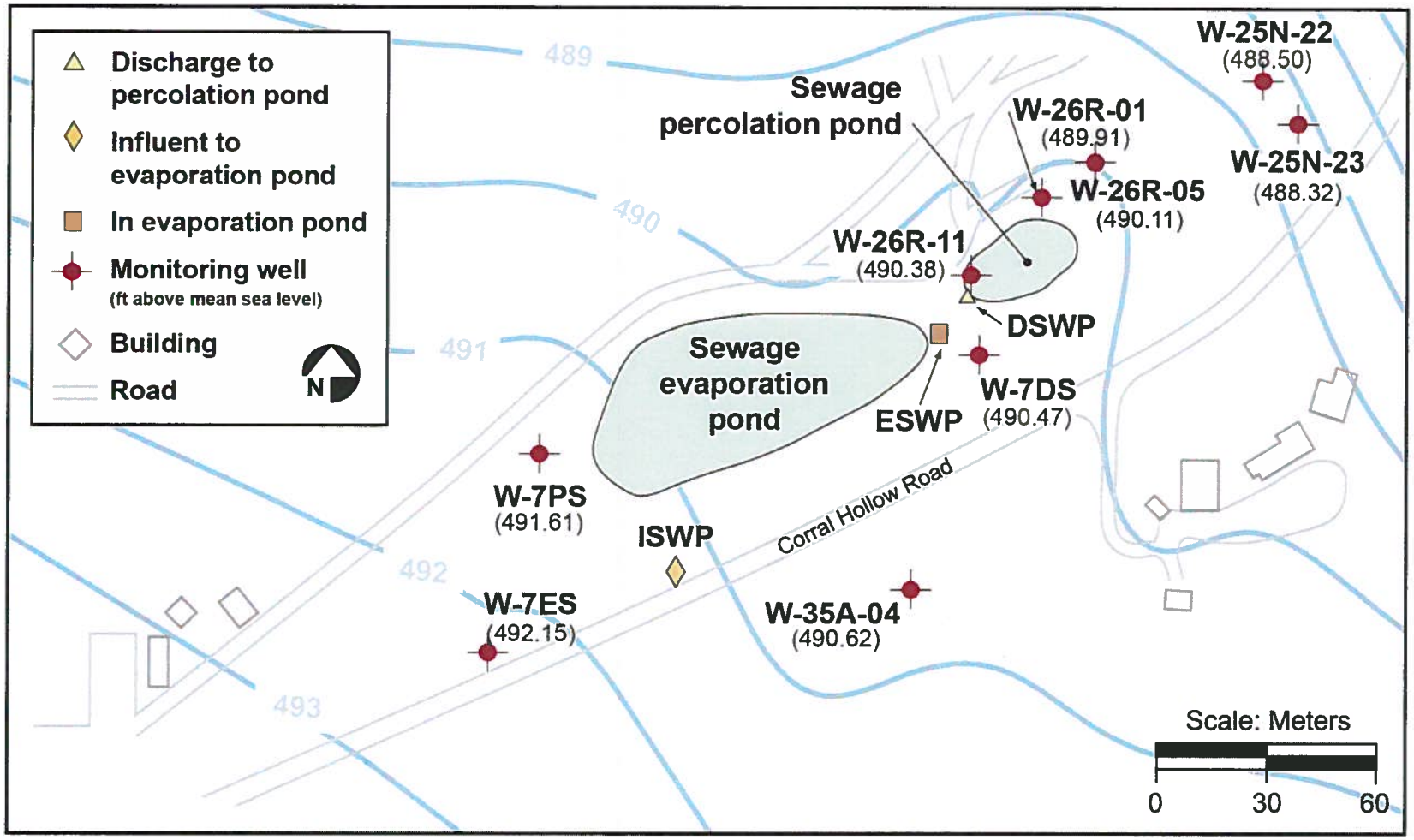
Sewage Evaporation and Percolation Pond Network

- Field Tracking Forms
- Sewer Pond Inspection Reports
- Ground Water Sampling Data Forms
- Historical Data Plots: Sewage Evaporation Pond and Percolation PondNetwork (ISWP, ESWP, and Ground Water Wells) – Second Semester – Annual Report Only



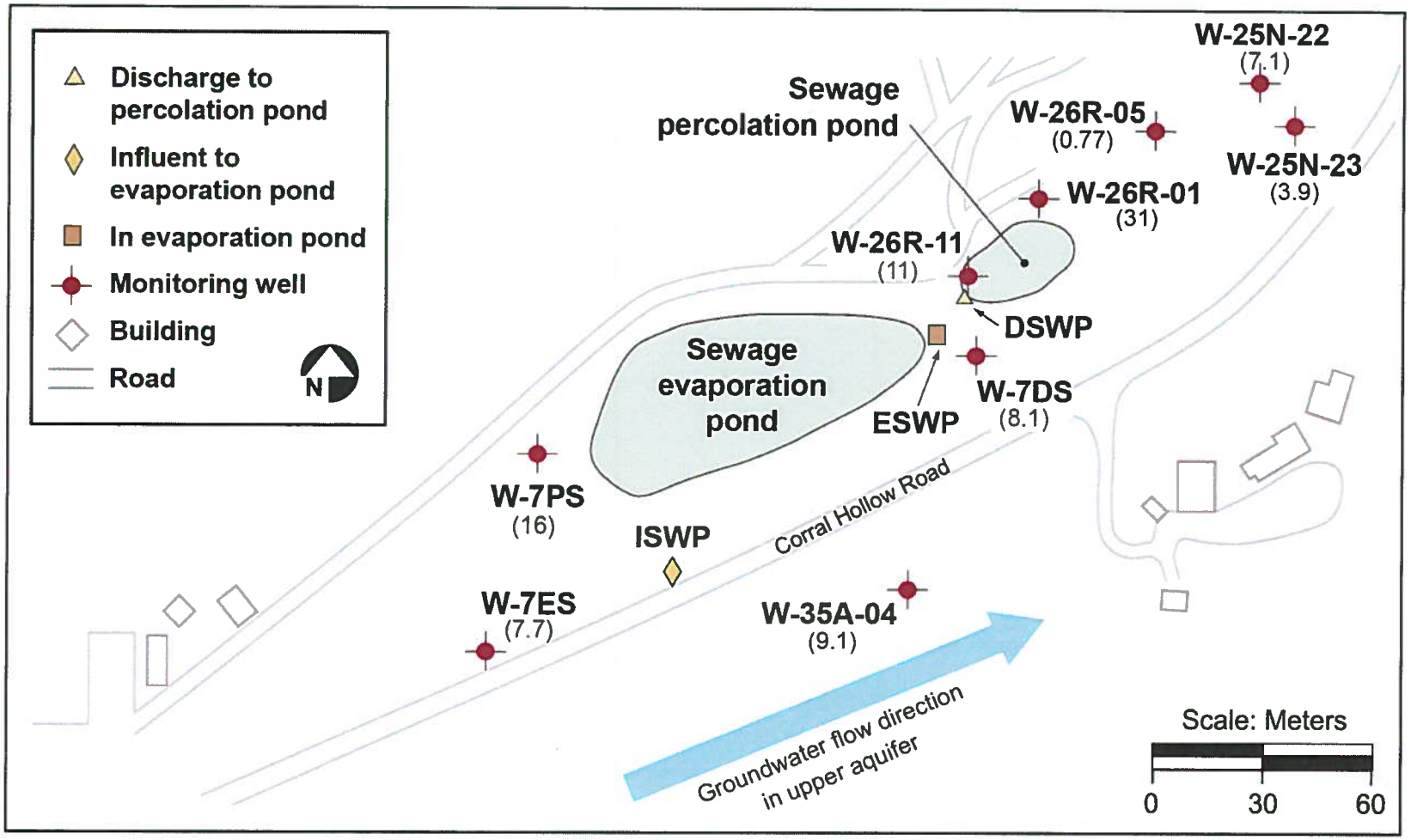
ERD-S3R-14-0005

Figure A-1. Sewer pond wastewater and ground water monitoring network.



ERD-S3R-14-0004

Figure A-2. Site 300 sewer pond wastewater and effluent monitoring network with ground water elevations (ft-above mean sea level).



ERD-S3R-14-0003

Figure A-3. Site 300 sewer pond wastewater and effluent monitoring network with nitrate concentrations (in mg/L as NO_3).

Table A-1. Summary of Site 300 sewer pond well specifications.

Well	HSU	Easting	Northing	Ground surface elevation	Measuring point elevation	Screen top elevation	Screen bottom elevation	Bentonite top elevation	Filter pack top elevation	Well bottom elevation
W-7ES	Qal-$Tnbs_1$	1,711,719	414,586	506.41	509.71	491.41	481.41	496.41	495.41	479.61
W-7PS	Qal-$Tnbs_1$	1,711,773	414,782	506.10	508.78	489.60	486.60	494.10	492.10	486.60
W-35A-04	Qal-$Tnbs_1$	1,712,036	414,642	504.07	503.98	485.07	475.07	494.87	486.27	475.07
W-26R-01	Qal-$Tnbs_1$	1,712,267	415,036	506.74	509.71	486.94	481.94	494.24	490.74	476.94
W-26R-11	Qal-$Tnbs_1$	1,712,198	414,961	504.93	507.21	489.13	479.13	493.13	491.13	477.93
W-26R-05	Qal-$Tnbs_1$	1,712,339	415,070	511.31	513.11	491.11	486.11	500.81	498.81	485.81
W-25N-20	Qal-$Tnbs_1$	1,712,371	414,923	502.11	504.94	490.11	475.11	494.61	492.61	474.11
W-7DS	Qal-$Tnbs_1$	1,712,206	414,880	503.30	506.60	487.80	477.80	491.80	489.80	476.30
W-25N-22	Qal-$Tnbs_1$	1,712,486	415,152	510.25	513.06	492.25	482.25	497.25	495.25	481.75
W-25N-23	Qal-$Tnbs_1$	1,712,521	415,109	507.58	510.39	488.58	473.58	495.08	493.08	472.28

Notes:

All measurements are made in feet; elevations are in feet above mean sea level.

HSU = Hydrostratigraphic unit.

Qal-$Tnbs_1$ = Miocene Neroly Formation Lower Blue Sandstone.

Table A-2. Site 300 sewer pond ground water monitoring network for second semester 2013 ground water elevation summary.

Well	Date sampled	Pre-sampling measurement	Ground water depth (ft.)	Ground water elevation (ft. above MSL)
W-7ES	Feb 12	PS	19.4	490.3
W-7ES	Feb 13	PS	19.3	490.4
W-7ES	Mar 13		19.5	490.2
W-7ES	May 7	PS	19.2	490.5
W-7ES	May 8	PS	19.2	490.5
W-7ES	May 28		18.8	490.9
W-7ES	Aug 5	PS	17.5	492.2
W-7ES	Aug 6	PS	17.5	492.2
W-7ES	Aug 21		17.6	492.2
W-7ES	Dec 2	PS	19.3	490.4
W-7ES	Dec 3	PS	19.4	490.4
W-7ES	Dec 5	–	19.2	490.5
W-7PS	Mar 13	–	DRY	DRY
W-7PS	May 28	–	DRY	DRY
W-7PS	Aug 7	PS	17.1	491.7
W-7PS	Aug 8	PS	17.1	491.7
W-7PS	Aug 21	–	17.2	491.6
W-7PS	Sep 17	PS	17.6	491.2
W-7PS	Dec 5	–	DRY	DRY
W-35A-04	Feb 12	PS	14.5	489.5
W-35A-04	Feb 13	PS	14.6	489.5
W-35A-04	Mar 19	–	15.1	489.0
W-35A-04	May 7	PS	14.5	489.6
W-35A-04	May 8	PS	14.4	489.7
W-35A-04	Jun 3	–	13.9	490.2
W-35A-04	Aug 5	PS	12.8	491.3
W-35A-04	Aug 6	PS	12.8	491.2
W-35A-04	Aug 15	–	13.5	490.6
W-35A-04	Dec 2	PS	14.5	489.6
W-35A-04	Dec 3	PS	14.6	489.5
W-35A-04	Dec 11	–	14.6	489.5
W-25N-23	Feb 6	PS	22.9	487.2
W-25N-23	Feb 7	PS	22.9	487.1
W-25N-23	Mar 13	–	23.2	486.9
W-25N-23	May 28	–	23.1	487.0
W-25N-23	Jul 30	PS	21.9	488.2
W-25N-23	Jul 31	PS	21.8	488.2
W-25N-23	Aug 21	–	21.8	488.3
W-25N-23	Dec 5	–	23.1	486.9
W-25N-22	Feb 6	PS	24.8	487.9
W-25N-22	Feb 7	PS	24.9	487.9
W-25N-22	Mar 13	–	25.2	487.6
W-25N-22	May 28	–	25.2	487.6
W-25N-22	Jul 30	PS	25.5	487.2
W-25N-22	Jul 31	PS	25.4	487.3
W-25N-22	Aug 21	–	24.2	488.5
W-25N-22	Dec 5	–	25.1	487.6
W-26R-01	Feb 5	PS	20.9	488.8
W-26R-01	Feb 6	PS	20.9	488.8
W-26R-01	Mar 13	–	21.3	488.4

Table A-2. Site 300 sewer pond ground water monitoring network for second semester 2013 ground water elevation summary.

Well	Date sampled	Pre-sampling measurement	Ground water depth (ft.)	Ground water elevation (ft. above MSL)
W-26R-01	May 6	PS	21.1	488.7
W-26R-01	May 7	PS	21.1	488.6
W-26R-01	May 28	–	20.9	488.8
W-26R-01	Jul 30	PS	19.6	490.1
W-26R-01	Jul 31	PS	19.6	490.1
W-26R-01	Aug 21	–	19.6	490.1
W-26R-01	Nov 18	PS	20.9	488.8
W-26R-01	Nov 19	PS	21.0	488.7
W-26R-01	Dec 5	–	21.1	488.6
W-26R-05	Feb 4	PS	23.8	489.3
W-26R-05	Feb 7	PS	26.3	486.8
W-26R-05	Mar 13	–	24.3	488.8
W-26R-05	May 6	PS	24.6	488.5
W-26R-05	May 9	PS	25.9	487.2
W-26R-05	May 28	–	24.4	488.7
W-26R-05	Aug 5	PS	23.2	489.9
W-26R-05	Aug 8	PS	25.9	487.2
W-26R-05	Aug 21	–	23.2	489.9
W-26R-05	Nov 18	PS	23.9	489.2
W-26R-05	Dec 5	–	26.0	487.1
W-26R-05	Dec 5	PS	26.0	487.1
W-26R-11	Feb 5	PS	18.1	489.1
W-26R-11	Feb 6	PS	18.2	489.0
W-26R-11	Mar 13	–	18.6	488.6
W-26R-11	May 6	PS	18.3	488.9
W-26R-11	May 7	PS	18.4	488.8
W-26R-11	May 28	–	18.1	489.1
W-26R-11	Jul 30	PS	16.8	490.4
W-26R-11	Jul 31	PS	16.8	490.4
W-26R-11	Aug 21	–	16.8	490.4
W-26R-11	Nov 18	PS	18.3	488.9
W-26R-11	Nov 19	PS	18.2	489.0
W-26R-11	Dec 5	–	18.3	488.9
W-7DS	Feb 5	PS	17.5	489.1
W-7DS	Feb 6	PS	17.6	489.0
W-7DS	Mar 13	–	17.8	488.8
W-7DS	May 6	PS	17.7	488.9
W-7DS	May 7	PS	17.8	488.8
W-7DS	May 28	–	17.4	489.2
W-7DS	Aug 5	PS	16.1	490.6
W-7DS	Aug 6	PS	16.1	490.5
W-7DS	Aug 21	–	16.1	490.5
W-7DS	Dec 4	PS	17.7	488.9
W-7DS	Dec 5	–	17.6	489.0
W-7DS	Dec 5	PS	17.7	488.9

Note:
– = Analysis not required.

Table A-3. Site 300 sewer pond wastewater monitoring network second semester 2013 coliform, anion, and physical characteristic data summary.

Well	Date	pH	Specific Conductance (μmhos/cm)	Biochemical Oxygen Demand (mg/L)	Dissolved Oxygen (mg/L)	Fecal Coliform (MPN/100mL)	Total Coliform (MPN/100mL)	Sodium (mg/L)
3-ESWP-OW	Apr 18	9.9	5,390	52	13	3,000	8,000	1,300
3-ESWP-OW	Sep 19	10.0	5,920	59	16	170	490	1300
3-ISWP-OW	Apr 18	8.4	1,320	110	–	–	–	–
3-ISWP-OW	Sep 19	8.0	1,380	48	–	–	–	–

Note:
– = Analysis not required.

Table A-4. Site 300 sewer pond wastewater monitoring network 2013 second semester/annual report metals data summary.

Analyte	Date	3-ESWP-OW
Aluminum	Apr 18	110
	Sep 19	260
Arsenic	Apr 18	3.7
	Sep 19	4.0
Barium	Apr 18	<25
	Sep 19	58
Boron	Apr 18	5,700
	Sep 19	6,100
Cadmium	Apr 18	<50
	Sep 19	<50
Calcium	Apr 18	10,000
	Sep 19	11,000
Chromium	Apr 18	4.7
	Sep 19	5.5
Hexavalent Chromium	Apr 18	<1
	Sep 19	<1
Copper	Apr 18	9.9
	Sep 19	12
Iron	Apr 18	270
	Sep 19	440
Lead	Apr 18	<5
	Sep 19	<5
Magnesium	Apr 18	2,200
	Sep 19	2,900
Manganese	Apr 18	<60
	Sep 19	<60
Mercury	Apr 18	<0.2
	Sep 19	<0.2
Molybdenum	Apr 18	66
	Sep 19	59
Nickel	Apr 18	4.8
	Sep 19	5.6
Potassium	Apr 18	64,000
	Sep 19	90,000
Selenium	Apr 18	5.3
	Sep 19	3.6
Silver	Apr 18	<1
	Sep 19	<1
Vanadium	Apr 18	<20
	Sep 19	<20
Zinc	Apr 18	33
	Sep 19	29

Table A-5. Site 300 sewer pond wastewater monitoring network second semester 2013 QA data.

Location	Date	Type	pH Units	Specific Conductance (μmhos/cm)	Biochemical Oxygen Demand (mg/L)	Dissolved Oxygen (mg/L)	Fecal Coliform (MPN/100mL)	Total Coliform (MPN/100mL)	Sodium (mg/L)
3-ESWP-OW	Apr 18	Routine	9.9	5,390	52	13	3,000	8,000	1,300
3-ESWP-OW	Apr 18	Duplicate	–	–	–	13	–	–	–
3-ISWP-OW	Sep 19	Routine	8.0	1,380	48	–	–	–	–
3-ISWP-OW	Sep 19	Duplicate	–	–	56	–	–	–	–

Note:
– = Analysis not required.

Table A-6. Site 300 sewer pond ground water monitoring network second semester/annual 2013 anions data summary.

Well	Date	Sodium (mg/L)	Chloride (mg/L)	Nitrate (as NO3) (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)
W-7ES	Feb 12	160	150	9.7	340	0.37
W-7ES	May 7	–	–	8.0	–	–
W-7ES	Aug 5	180	150	7.5	330	0.43
W-7ES	Dec 2	–	–	7.3	–	–
W-7PS	Aug 7	190	160	16	270	0.36
W-35A-04	Feb 12	160	150	8.9	340	0.35
W-35A-04	May 7	–	–	9.8	–	–
W-35A-04	Aug 5	180	150	9.1	330	0.45
W-35A-04	Dec 2	–	–	8.7	–	–
W-25N-23	Feb 6	150	110	<1	450	0.42
W-25N-23	Jul 30	150	120	3.9	360	0.48
W-25N-22	Feb 6	160	130	6.8	470	0.44
W-25N-22	Jul 30	160	130	7.1	450	0.50
W-26R-01	Feb 5	210	160	36	250	0.36
W-26R-01	May 6	–	–	35	–	–
W-26R-01	Jul 30	200	160	31	240	0.43
W-26R-01	Nov 18	–	–	30	–	–
W-26R-05	Feb 4	140	90	<0.5	210	0.39
W-26R-05	May 6	–	–	0.77	–	–
W-26R-05	Aug 5	150	93	0.77	220	0.48
W-26R-05	Nov 18	–	–	0.54	–	–
W-26R-11	Feb 5	170	140	13	240	0.40
W-26R-11	May 6	–	–	13	–	–
W-26R-11	Jul 30	170	140	11	270	0.40
W-26R-11	Nov 18	–	–	8.5	–	–
W-7DS	Feb 5	160	140	9.6	310	0.37
W-7DS	May 6	–	–	7.5	–	–
W-7DS	Aug 5	180	150	8.1	320	0.34
W-7DS	Dec 4	–	–	7.5	–	–

Note:
– = Analysis not required.

Table A-7. Site 300 sewer pond ground water monitoring network second semester/annual 2013 coliform data summary.

Well	Date	Fecal Coliform (MPN/100mL)	Total Coliform (MPN/100mL)
W-7ES	Feb 13	<2	<2
W-7ES	May 8	<2	<2
W-7ES	Aug 6	<2	<2
W-7ES	Dec 3	<2	<2
W-7PS	Aug 8	<2	500
W-7PS	Sep 17	<2	8.1
W-35A-04	Feb 13	<2	<2
W-35A-04	May 8	<2	2.0
W-35A-04	Aug 6	<2	<2
W-35A-04	Dec 3	<2	<2
W-25N-23	Feb 7	<2	2.0
W-25N-23	Jul 31	<2	<2
W-25N-22	Feb 7	<2	<2
W-25N-22	Jul 31	<2	<2
W-26R-01	Feb 6	<2	<2
W-26R-01	May 7	<2	<2
W-26R-01	Jul 31	<2	<2
W-26R-01	Nov 19	<2	<2
W-26R-05	Feb 7	<2	<2
W-26R-05	May 9	<2	<2
W-26R-05	Aug 8	<2	<2
W-26R-05	Dec 5	<2	<2
W-26R-11	Feb 6	<2	<2
W-26R-11	May 7	<2	<2
W-26R-11	Jul 31	<2	<2
W-26R-11	Nov 19	<2	<2
W-7DS	Feb 6	<2	<2
W-7DS	May 7	<2	<2
W-7DS	Aug 6	<2	<2
W-7DS	Dec 5	<2	<2

Table A-8. Site 300 sewer pond ground water monitoring network second semester/annual 2013 physical chemistry data.

Well	Date	pH	Specific Conductance (μmhos/cm)	Total Alkalinity (as CaCO3) (mg/L)	Total dissolved solids (mg/L)	Total Hardness (as CaCO3) (mg/L)	Total Phosphorus (as PO4) (mg/L)
W-7ES	Feb 12	7.8	1,500	290	1000	460	<1
W-7ES	May 7	7.8	1,480	–	–	–	–
W-7ES	Aug 5	7.7	1,430	280	1,000	480	<1
W-7ES	Dec 2	7.8	1,540	–	–	–	–
W-7PS	Aug 7	7.8	1,410	310	1,000	410	<1
W-35A-04	Feb 12	7.8	1,470	280	1,000	440	<1
W-35A-04	May 7	7.9	1,480	–	–	–	–
W-35A-04	Aug 5	7.8	1,420	270	1,000	450	<1
W-35A-04	Dec 2	7.8	1,530	–	–	–	–
W-25N-23	Feb 6	7.9	1,450	210	1,100	450	<0.15
W-25N-23	Jul 30	7.7	1,220	210	1,000	410	<1
W-25N-22	Feb 6	7.9	1,500	180	1,100	450	0.44
W-25N-22	Jul 30	7.8	1,330	170	1,100	460	<1
W-26R-01	Feb 5	7.9	1,420	240	940	270	<1
W-26R-01	May 6	7.8	1,360	–	–	–	–
W-26R-01	Jul 30	7.9	1,260	240	960	270	<1
W-26R-01	Nov 18	8.1	1,390	–	–	–	–
W-26R-05	Feb 4	8.0	1,050	210	700	220	<1
W-26R-05	May 6	8.1	1,010	–	–	–	–
W-26R-05	Aug 5	7.9	1,000	200	700	220	<1
W-26R-05	Nov 18	7.9	1,090	–	–	–	–
W-26R-11	Feb 5	7.8	1,340	270	840	330	<1
W-26R-11	May 6	7.7	1,320	–	–	–	–
W-26R-11	Jul 30	7.9	1,300	280	990	370	<1
W-26R-11	Nov 18	7.7	1,450	–	–	–	–
W-7DS	Feb 5	7.9	1,470	290	960	430	<1
W-7DS	May 6	7.7	1,450	–	–	–	–
W-7DS	Aug 5	7.7	1,420	280	1,000	460	<1
W-7DS	Dec 4	7.8	1,500	–	–	–	–

Note:
– = Analysis not required.

Table A–9. Site 300 sewer pond ground water monitoring network second semester/annual 2013 metals data summary.

Analyte (µg/L)	Month	W-7ES	W-7PS	W-35A-04	W-25N-23	W-25N-22	W-26R-01	W-26R-05	W-26R-11	W-7DS
Aluminum	Feb	<50	–	<50	<50	<50	<50	<50	<50	<50
	Jul	–	–	–	<50	<50	<50	–	<50	–
	Aug	<50	<50	<50	–	–	–	<50	–	<50
Arsenic	Feb	2.2	–	3.2	6.2	7.9	9.2	7.0	3.8	3.3
	Jul	–	–	–	8.6	8.2	9.4	–	<4	–
	Aug	<2	2.8	2.9	–	–	–	7.8	–	2.9
	Dec	–	–	3.8	–	–	–	–	–	–
Barium	Feb	47	–	43	29	25	33	<25	44	49
	Jul	–	–	–	26	29	34	–	<50	–
	Aug	47	62	44	–	–	–	27	–	51
	Dec	–	–	52	–	–	–	–	–	–
Boron	Feb	2,600	–	2,700	1,000	920	1,500	920	2,100	2,500
	Jul	–	–	–	1,200	950	1,600	–	2,400	–
	Aug	2,900	2,600	2,900	–	–	–	930	–	2,800
Cadmium	Feb	<50	–	<50	<50	<50	<50	<50	<50	<50
	Jul	–	–	–	<50	<50	<50	–	<100	–
	Aug	<50	<50	<50	–	–	–	<50	–	<50
	Dec	–	–	<0.5	–	–	–	–	–	–
Calcium	Feb	110,000	–	100,000	110,000	110,000	69,000	55,000	76,000	98,000
	Jul	–	–	–	99,000	110,000	68,000	–	86,000	–
	Aug	110,000	94,000	100,000	–	–	–	56,000	–	110,000
Chromium	Feb	<1	–	<1	<1	1.1	<1	<1	<1	1.3
	Jul	–	–	–	<1	<1	<1	–	1.4	–
	Aug	<1	1.7	1.5	–	–	–	<1	–	1.3
	Dec	–	–	1.3	–	–	–	–	–	–
Hexavalent Chromium	Feb	<1	–	<1	<2	<2	<1	<1	<1	<1
	Jul	–	–	–	<1	<1	<1	–	<1	–
	Aug	<1	<1	<1	–	–	–	<1	–	<1

Table A–9. Site 300 sewer pond ground water monitoring network second semester/annual 2013 metals data summary.

Analyte (µg/L)	Month	W-7ES	W-7PS	W-35A-04	W-25N-23	W-25N-22	W-26R-01	W-26R-05	W-26R-11	W-7DS
Copper	Feb	1.9	–	1.9	2.8	2.8	1.3	<1	<1	<1
	Jul	–	–	–	2.6	2.3	2.9	–	<2	–
	Aug	1.3	1.7	2.0	–	–	–	1.6	–	1.9
	Dec	–	–	<10	–	–	–	–	–	–
Iron	Feb	<100	–	<100	<100	<100	<100	<100	<100	<100
	Jul	–	–	–	<100	<100	<100	–	<100	–
	Aug	<100	<100	<100	–	–	–	<100	–	<100
Lead	Feb	<5	–	<5	<5	<5	<5	<5	<5	<5
	Jul	–	–	–	<5	<5	<5	–	<10	–
	Aug	<5	<5	<5	–	–	–	<5	–	<5
	Dec	–	–	<2	–	–	–	–	–	–
Magnesium	Feb	48,000	–	47,000	43,000	43,000	25,000	20,000	35,000	46,000
	Jul	–	–	–	39,000	44,000	25,000	–	39,000	–
	Aug	50,000	42,000	48,000	–	–	–	21,000	–	48,000
Manganese	Feb	<30	–	<30	<30	<30	<30	<30	<30	<30
	Jul	–	–	–	<30	<30	<30	–	<30	–
	Aug	<30	<30	<30	–	–	–	<30	–	<30
Mercury	Feb	<0.2	–	<0.2	–	–	<0.2	<0.2	<0.2	<0.2
	Jul	–	–	–	<0.2	<0.2	<0.2	–	<0.2	–
	Aug	<0.2	<0.2	<0.2	–	–	–	<0.2	–	<0.2
	Dec	–	–	<0.2	–	–	–	–	–	–
Molybdenum	Feb	<25	–	<25	<25	<25	<25	<25	<25	<25
	Jul	–	–	–	<25	<25	<25	–	<25	–
	Aug	<25	<25	<25	–	–	–	<25	–	<25
	Dec	–	–	<25	–	–	–	–	–	–
Nickel	Feb	<2	–	<2	<2	13	<2	<2	4.2	<2
	Jul	–	–	–	<2	11	<2	–	4.9	–
	Aug	<2	5.1	<2	–	–	–	<2	–	<2
	Dec	–	–	<5	–	–	–	–	–	–

Table A–9. Site 300 sewer pond ground water monitoring network second semester/annual 2013 metals data summary.

Analyte (µg/L)	Month	W-7ES	W-7PS	W-35A-04	W-25N-23	W-25N-22	W-26R-01	W-26R-05	W-26R-11	W-7DS
Potassium	Feb	5,600	–	5,300	11,000	12,000	11,000	9,200	5,500	5,600
	Jul	–	–	–	10,000	12,000	11,000	–	5,700	–
	Aug	5,400	5,900	5,800	–	–	–	9,300	–	5,600
	Dec	–	–	6400	–	–	–	–	–	–
Selenium	Feb	7.0	–	4.1	<2	2.8	11	<2	12	7.7
	Jul	–	–	–	3.9	4.1	8.2	–	9.3	–
	Aug	3.7	17	4.2	–	–	–	<2	–	4.6
	Dec	–	–	4.5	–	–	–	–	–	–
Silver	Feb	<10	–	<10	<1	<1	<10	<10	<10	<10
	Jul	–	–	–	<10	<10	<10	–	<20	–
	Aug	<10	<10	<10	–	–	–	<10	–	<10
	Dec	–	–	<0.5	–	–	–	–	–	–
Vanadium	Feb	<20	–	<20	<20	<20	<20	<20	<20	<20
	Jul	–	–	–	<20	<20	<20	–	<40	–
	Aug	<20	<20	<20	–	–	–	<20	–	<20
	Dec	–	–	<25	–	–	–	–	–	–
Zinc	Feb	<20	–	<20	<20	<20	<20	<20	<20	<20
	Jul	–	–	–	<20	<20	<20	–	<40	–
	Aug	<20	<20	<20	–	–	–	<20	–	<20
	Dec	–	–	<20	–	–	–	–	–	–

Note:
– = Analysis not required.

Table A-10. Site 300 sewer pond ground water monitoring network 2013 second semester/annual QA data.

Constituent	Units	W-26R-01	W-26R-01	W-26R-01	W-26R-01
		18-Nov Routine	Nov 18 Duplicate	Nov 19 Routine	Nov 19 Duplicate
pH	Units	8.1	8.0	–	–
Specific Conductance	μmhos/cm	1,390	1,410	–	–
Fecal Coliform	MPN/100mL	–	–	<2	<2
Total Coliform	MPN/100mL	–	–	<2	<2
Nitrate (as NO3)	mg/L	30	31	–	–

Note:
– = Analysis not required.

FIELD TRACKING FORM

EAST END OF SITE 300 SEWAGE POND

Lab	FGL	BC
CoC #	61319	61318
Ship It #	Hand Carry	177984

DATE: 9-19-13 **TIME:** 0920

Special Instructions: **Semi-Annual Sampling in 2nd and 4th Quarters (April & Oct)**	pH meter calibrated 9/19
Samples must be taken after 1 p.m.	Conductivity meter calibrated 9/19
Print collection time on sample bottles.	DO meter calibrated 9/19
DO/conductivity/pH hold time 24 hr.	

Location	Field Measurements					Comments	Initials	Samples for Lab Analysis
	pH	COND	Depth	DO (PPM)	Temp (°C)			Analytical Codes:
3-ESWP-01-OW (East end of Sewage Pond)	10.04	5.47 mS		10.97	19.2		KS, GC	**FGLAB** **E360.1** *DO (1x500-mL glass, NO head space)* **E120.1A & E150.1A** *Conductivity/pH (2x250-mL poly)* **SM9221** *Total, Fecal Coliform (1x250mL) 6hr hold* **SM5210B-A** *BOD (1x500mL poly)*
3-WSWP-01-OW *duplicate of* 3-ESWP-01-OW								**BC Labs** **S3METALS (1X500mL Poly)**

2Q2013 Duplicate **E360.1**

4Q2013 Duplicate **See ISWP Field Tracking Form**

☑ Copy to Analysts, Allen Grayson & Rick Blake

Revised 7/10/13

Chain of Custody

EFA: EMAD/PRAD/ESPD
Lawrence Livermore National Laboratory
P.O. Box 808 L-629
Livermore, CA 94551

Work Authorized By: EFA
TRR Approver: Della Burruss
Project Info:

Access/COC #: 61318
Document Control #: 61318
Requester/LLNL Analyst: R. Blake
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 38445
PCI Task #: 1.03.02.06.02.06
Fax/Email #1: swanson15@llnl.gov
DMT Additional Copies:

Analytical Lab : BCLABS-BAK
TAT: 20d
Analytical Lab Log #:
Project/Network: WDRPOND
LLNL Acct #: 3297-41
Release #: UNICARD
Fax/Email #2:

Additional Instructions:

Sample ID	Sampled Date/Time	Matrix	Cont. Type	Cont. Count	Study Area	Req. Analysis	Analysis Detail	Lab Instructions
3-ESWP-01-OW	09/19/2013 00:00	SW	P	0	WDR	S3METALS	ALL	
3-ESWP-01-OW	09/19/2013 09:20	SW	P	1	WDR	S3METALS	TOTAL	

	Relinquished Signature	Company	Date	Time		Received Signature	Company	Date	Time
1	[illegible]	LLNL/EFA	9/19/2013	13:45	2				
2					3				
3					4				
4					5				

Revision Printed: 04/23/2013/15/28/13

Signature Order - 1: Sampler, 2: Courier, 3: Lab, 4: Analyst, 5: DMT

FIELD TRACKING FORM

INFLUENT TO SITE 300 SEWAGE POND

Lab	FGL
CoC #	61319
Ship It #	

DATE: 9-19-13 **TIME:** 09:05

Special Instructions: **Semi-Annual Sampling in 2nd and 4th Quarters (April & Oct)**	pH meter calibrated	9/19
Samples should be taken after 1 p.m. during higher flow.	Conductivity meter calibrated	9/19
Print collection time on sample bottles.	DO meter calibrated	9/19
BOD Hold Time 48hr. Conductivity/pH Hold Time 24hr.		

Location	Field Measurements				Comments	Initials	Samples for Lab Analysis
	pH	COND	DO (PPM)	Temp (˚C)			
3-ISWP-01-OW (Influent to Sewage Pond)	8.26	1181 ~~MS~~	9.84	27.3		KB, CR	**Analytical Codes:** **E120.1A & E150.1A** (Conductivity/pH) (2 X 250-mL poly)
3-WSWP-01-OW *duplicate of* 3-ISWP-01-OW							**SM5210B-A** (BOD) (1 X 500-mL poly)

2Q2013 Duplicate **See ESWP Field Tracking Form**
4Q2013 Duplicate **SM5210B-A**

☑ Copy to Analysts, rick Blake and Allen Grayson

Revised 3/18/11

Chain of Custody

EFA: EMAD/PRAD/ESPD
Lawrence Livermore National Laboratory
P.O. Box 808 L-629
Livermore, CA 94551

Work Authorized By: EFA
TRR Approver: Della Burruss
Project Info:

Access/COC #: 61319
Document Control #: 61319
Requester/LLNL Analyst: R. Blake
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 38445
PCI Task #: 1.03.02.06.02.06
Fax/Email #1: swanson15@llnl.gov
DMT Additional Copies:

Analytical Lab : FRUITGROWL
TAT: 20d
Analytical Lab Log #:
Project/Network: WDRPOND
LLNL Acct #: 3297-41
Release #: UNICARD
Fax/Email #2:

Additional Instructions:

Sample ID	Sampled Date/Time	Matrix	Cont. Type	Cont. Count	Study Area	Req. Analysis	Analysis Detail	Lab Instructions
3-ESWP-01-OW	9/19/13	SW	P	1	WDR	E120.1A	ALL	
3-ESWP-01-OW	9/19/13	SW	P	1	WDR	E150.1A	ALL	
3-ESWP-01-OW	9/19/13	SW	G	1	WDR	E360.1	ALL	
3-ESWP-01-OW	9/19/13	SW	PO	1	WDR	SM5210B-A	ALL	
3-ESWP-01-OW	9/19/13	SW	P	1	WDR	SM9221	ALL	Use 20 or more tubes: OK if bubbles are present
3-ISWP-01-OW	9/19/13	SW	P	1	WDR	E120.1A	ALL	
3-ISWP-01-OW	9/19/13	SW	P	1	WDR	E150.1A	ALL	
3-ISWP-01-OW	9/19/13	SW	PO	1	WDR	SM5210B-A	ALL	
3-WSWP-01-OW	9/19/13	SW	PO	1	WDR	SM5210B-A	ALL	

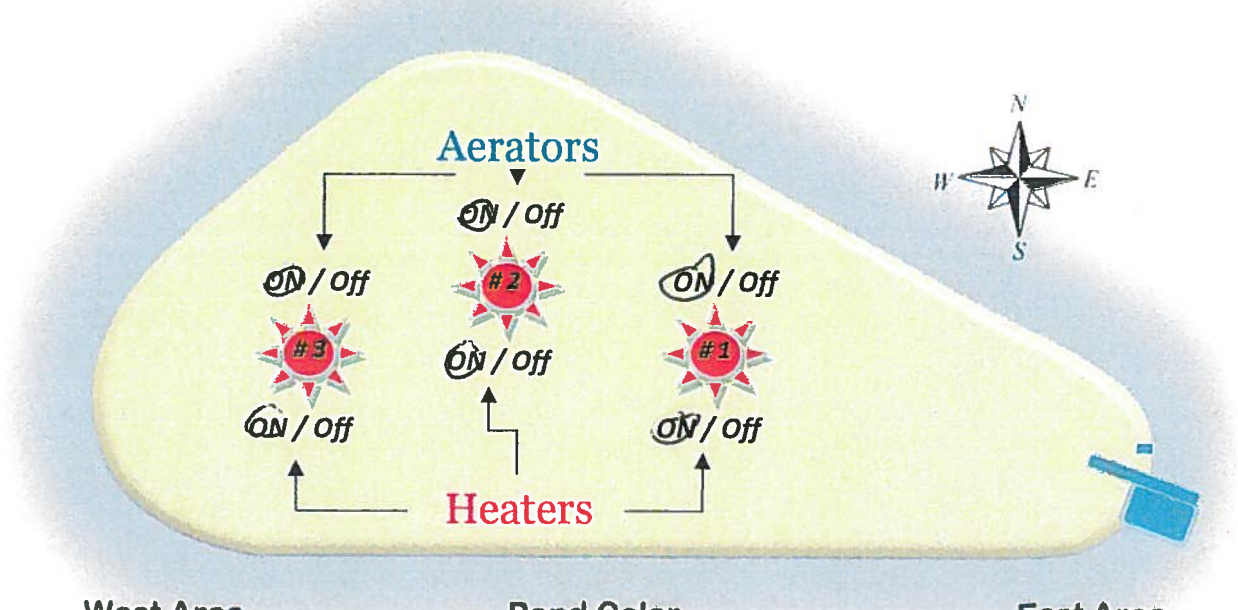
	Relinquished Signature	Company	Date	Time		Received Signature	Company	Date	Time
1	[illegible]	LLNL/EFA	9/19/13	10 25	2	[illegible]	FGL	9/19/13	1025
2					3				
3					4				
4					5				

Revision Printed: 04/23/2013/15/28/13

Signature Order - 1: Sampler, 2: Courier, 3: Lab, 4: Analyst, 5: DMT

SITE 300 SEWER POND

INSPECTION/MONITORING REPORT



West Area	Pond Color	East Area
Water Temp 10.2	Green (✓)	Water Temp 7.3
Oxygen 84.3	Green Brown (__)	Oxygen 111.6
pH 8.38	Brown Green (__)	pH 8.11
Time 0600	Brown (__)	Time 0630

Pond Water Level +4 3/4"	Air Temp 6.1	Animal Burrows SOME
Water (Meter) Stop 8927164	Wind Direction NONE	Weed Control SOME
Water (Meter) Start 8927164	Erosion SOME	Pond Oder SLIGHT
Water Added 0		

Common Bacterium-Per Drop (__) Activated Sludge (__) Glass Tube Test (__) YSI Meter Test (X)

Percolation Pond

Erosion SOME

Water Level NOT FLOWING

Weed Control SOME

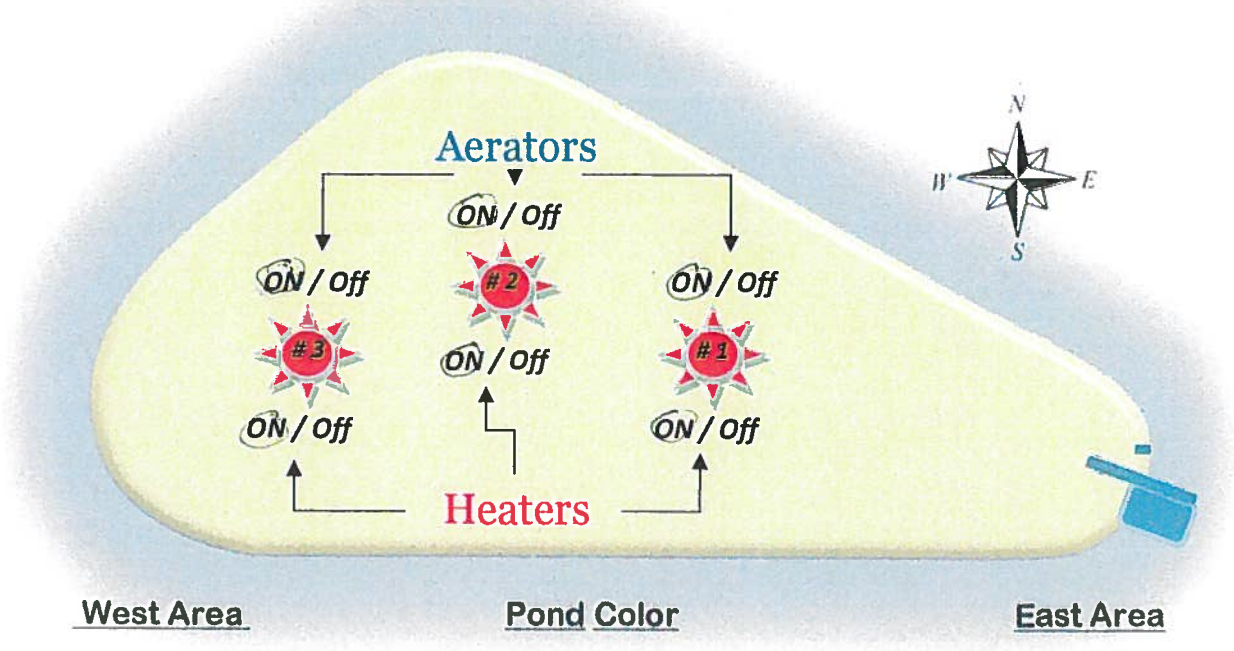
Animal Burrows SOME

Inspected By Duane Fenter **Date** 12-19-13

Supervisor Review Duane Fenter **Date** 12-19-13

Comments

SITE 300 SEWER POND
INSPECTION/MONITORING REPORT



West Area	Pond Color	East Area
Water Temp 5.4	Green (X)	Water Temp 5.4
Oxygen 125.2	Green Brown (__)	Oxygen 128.2
pH 8.45	Brown Green (__)	pH 9.20
Time 0700	Brown (__)	Time 0730

Pond Water Level + 4½"	Air Temp 1.1	Animal Burrows SOME
Water (Meter) Stop 8927164	Wind Direction NONE	Weed Control SOME
Water (Meter) Start 8927164	Erosion SOME	Pond Oder SLIGHT
Water Added 0		

Common Bacterium-Per Drop (__) Activated Sludge (__) Glass Tube Test (__) YSI Meter Test (X)

Percolation Pond

Erosion SOME

Water Level NOT Flowing

Weed Control SOME

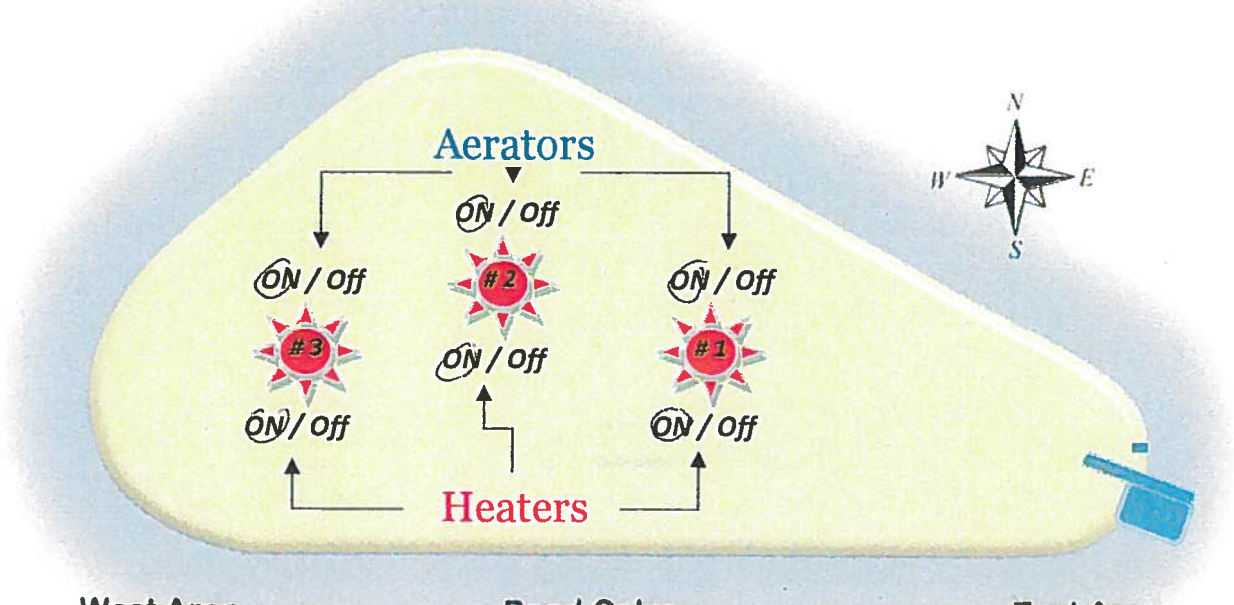
Animal Burrows SOME

Inspected By Duane Sandum **Date** 12-17-13

Supervisor Review Duane Sandum **Date** 12-17-13.

Comments

SITE 300 SEWER POND
INSPECTION/MONITORING REPORT



West Area	Pond Color	East Area
Water Temp 3.1	Green (X)	Water Temp 3.0
Oxygen 141.6	Green Brown (_)	Oxygen 144.8
pH 8.49	Brown Green (_)	pH 8.98
Time 0700	Brown (_)	Time 0730

Pond Water Level + 4½"	Air Temp -2.8	Animal Burrows SOME
Water (Meter) Stop 8927164	Wind Direction NONE	Weed Control SOME
Water (Meter) Start 8927164	Erosion SOME	Pond Oder SLIGHT
Water Added 0		

Common Bacterium-Per Drop (_) Activated Sludge (_) Glass Tube Test (_) YSI Meter Test (X)

Percolation Pond

Erosion SOME

Water Level NOT FLOWING

Weed Control SOME

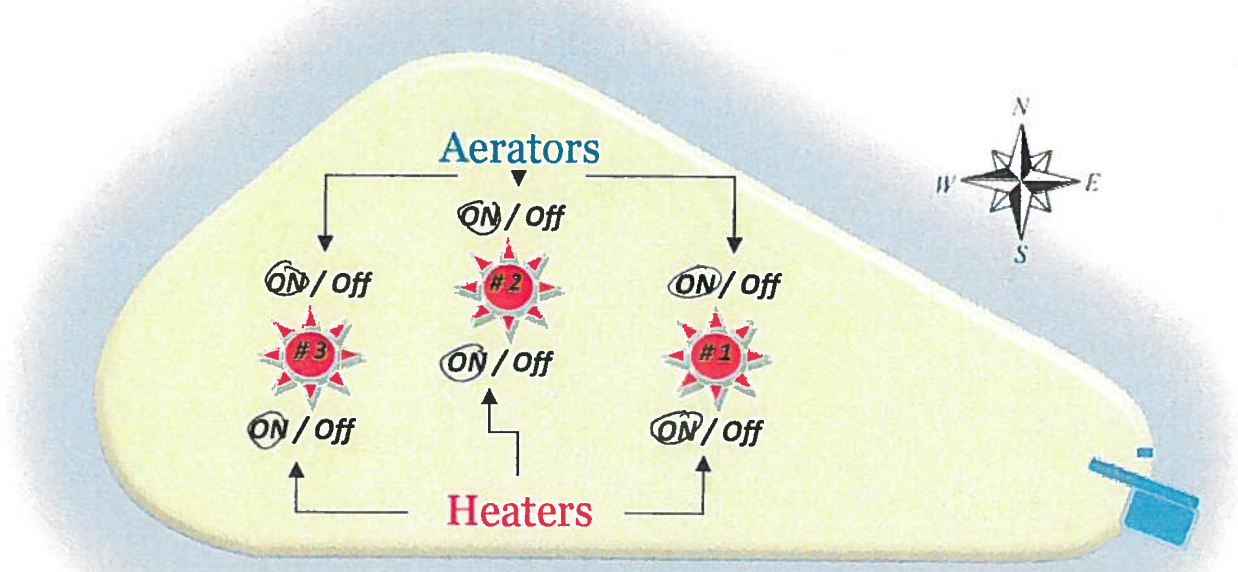
Animal Burrows SOME

Inspected By [signature] **Date** 12-12-13

Supervisor Review [signature] **Date** 12-12-13

Comments

SITE 300 SEWER POND
INSPECTION/MONITORING REPORT



West Area	Pond Color	East Area
Water Temp 2.4	Green (✓)	Water Temp 2.5
Oxygen 160.0	Green Brown (_)	Oxygen 158.2
pH 8.69	Brown Green (_)	pH 8.99
Time 0700	Brown (_)	Time 0730

Pond Water Level ___	Air Temp -3.9	Animal Burrows SOME
Water (Meter) Stop 8927164	Wind Direction NONE	Weed Control SOME
Water (Meter) Start 8927164	Erosion SOME	Pond Oder SLIGHT
Water Added 0		

Common Bacterium-Per Drop (_) Activated Sludge (_) Glass Tube Test (_) YSI Meter Test (X)

Percolation Pond

Erosion SOME

Water Level ~~NOT~~ Flowing

Weed Control SOME

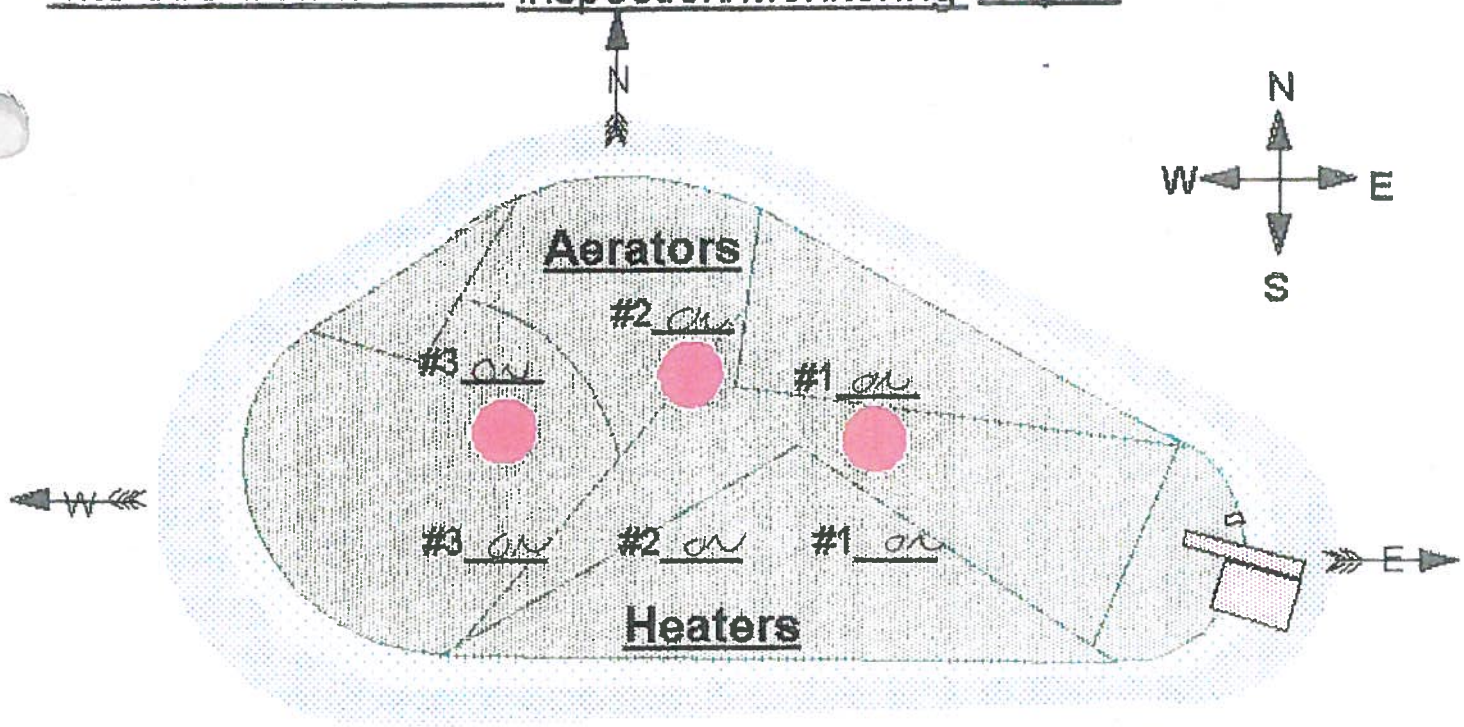
Animal Burrows SOME

Inspected By [signature] **Date** 12-10-13

Supervisor Review [signature] **Date** 12-10-13

Comments ___

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 5.9
Oxygen 112.1
pH 8.81
Time 0600

East-

Water Temp 5.6
Oxygen 123.4
pH 9.27
Time 0630

Water Level +4¼"
Water Meter-Stop 8927164
Water Meter-Start 8927164

Water Added 0
Air Temp. 0
Wind Direction none

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ____

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

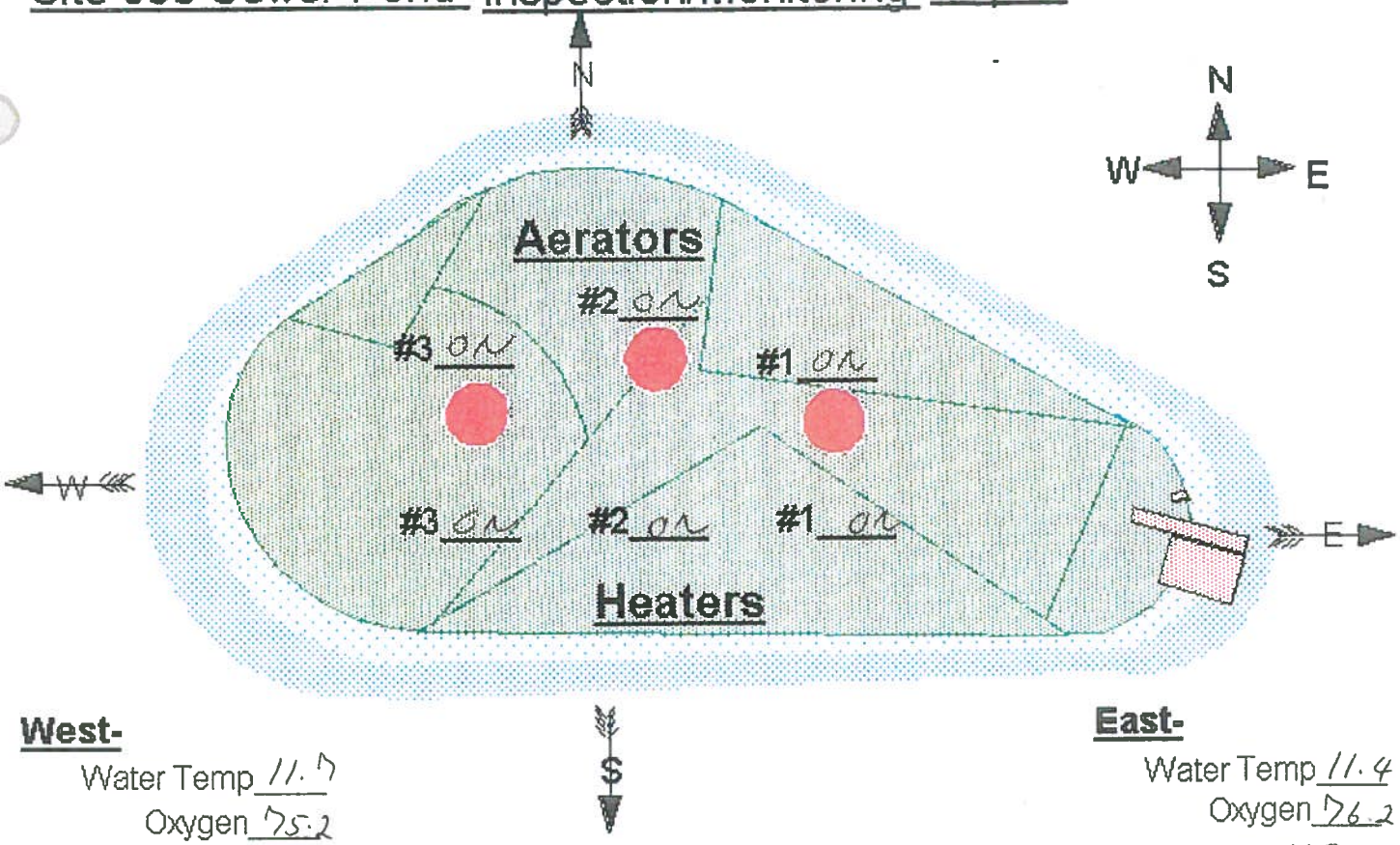
Water Level- NOT FLOWING
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 12-5-13

Supervisor Review [signature] Date 12-5-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 11.7
Oxygen 75.2
pH 9.02
Time 0630

East-

Water Temp 11.4
Oxygen 76.2
pH 9.41
Time 0700

Water Level +4"
Water Meter-Stop 8927164
Water Meter-Start 8927164

Water Added Ø
Air Temp. 8.3
Wind Direction N-S

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

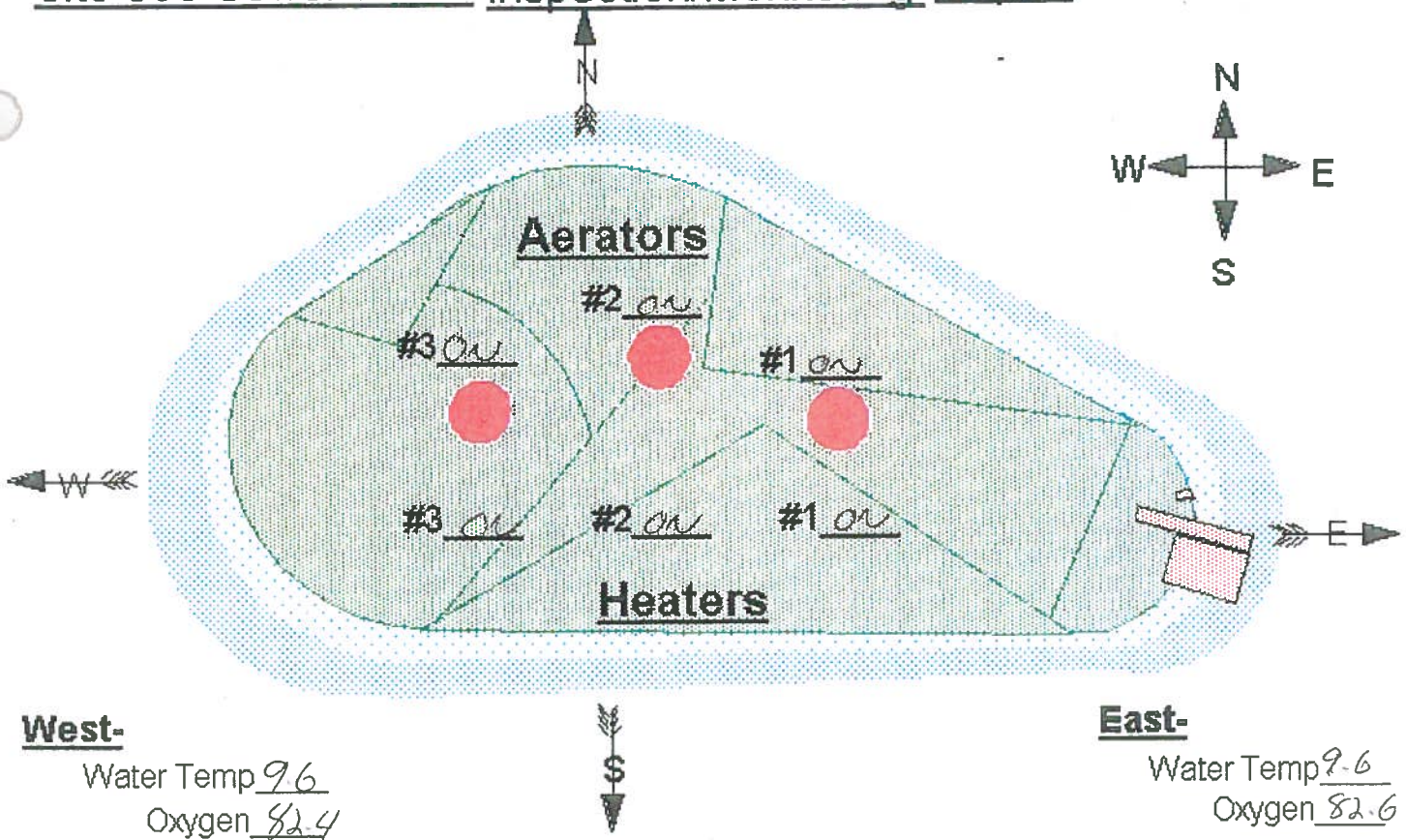
Water Level- NOT FLOWING
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 12-3-13

Supervisor Review [signature] Date 12-3-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 96
Oxygen 82.4
pH 9.30
Time 0630

East-

Water Temp 9.6
Oxygen 82.6
pH 10.01
Time 0630

Water Level +5"
Water Meter-Stop 8927164
Water Meter-Start 8927164

Water Added 0
Air Temp. 5.0
Wind Direction none

COLOR----

Green ✓
Green Brown____
Brown Green____
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion some
Animal Burrows some
Weed Control some

Percolation Pond

Water Level- Dry
Erosion some
Animal Burrows some
Weed Control some

Dwane Sandman
Inspected by

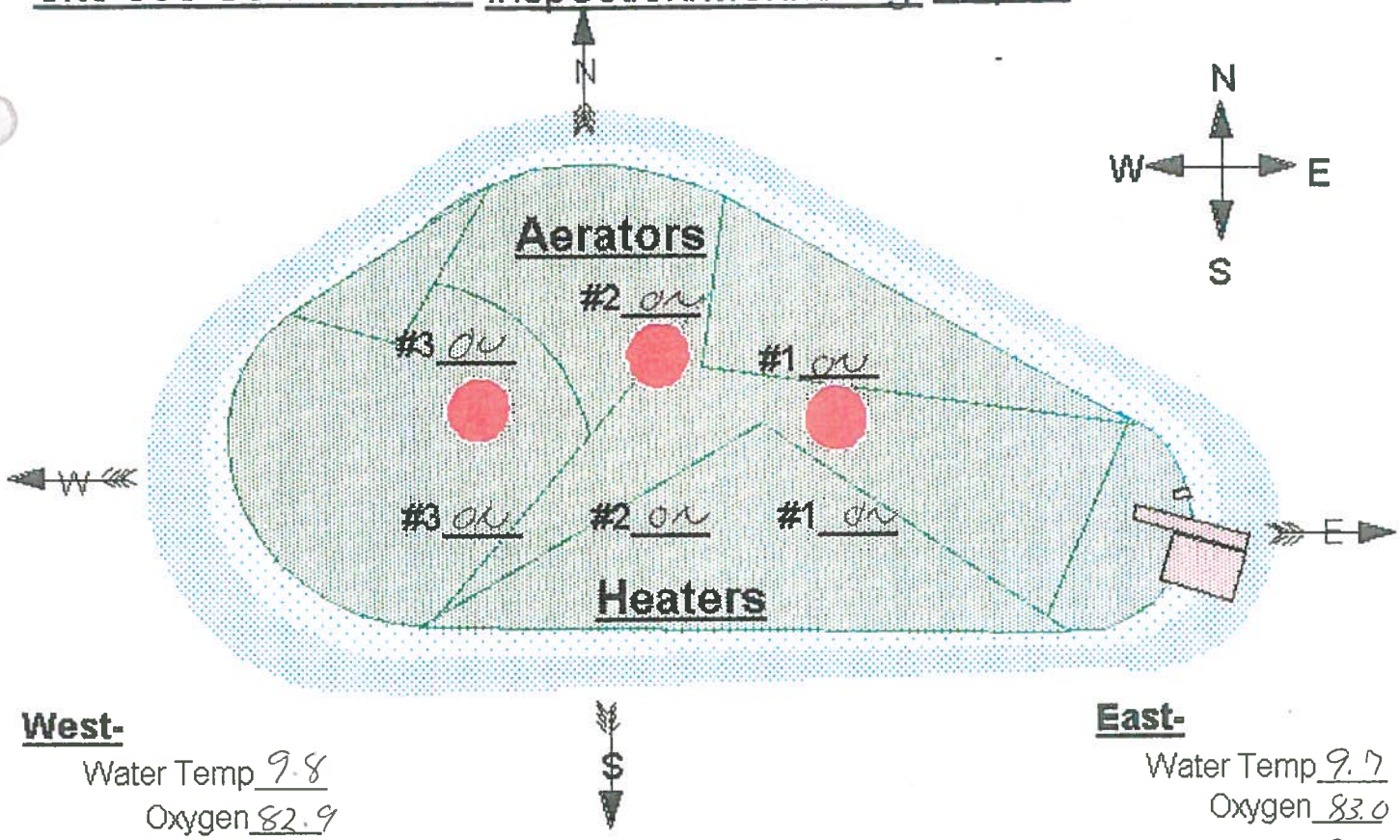
11-29-13
Date

Dwane Sandman
Supervisor Review

11-29-13
Date

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 9.8
Oxygen 82.9
pH 9.28
Time 0600

East-

Water Temp 9.7
Oxygen 83.0
pH 9.59
Time 0630

Water Level +5"
Water Meter-Stop 8927164
Water Meter-Start 8927164

Water Added 0
Air Temp. 2.2
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

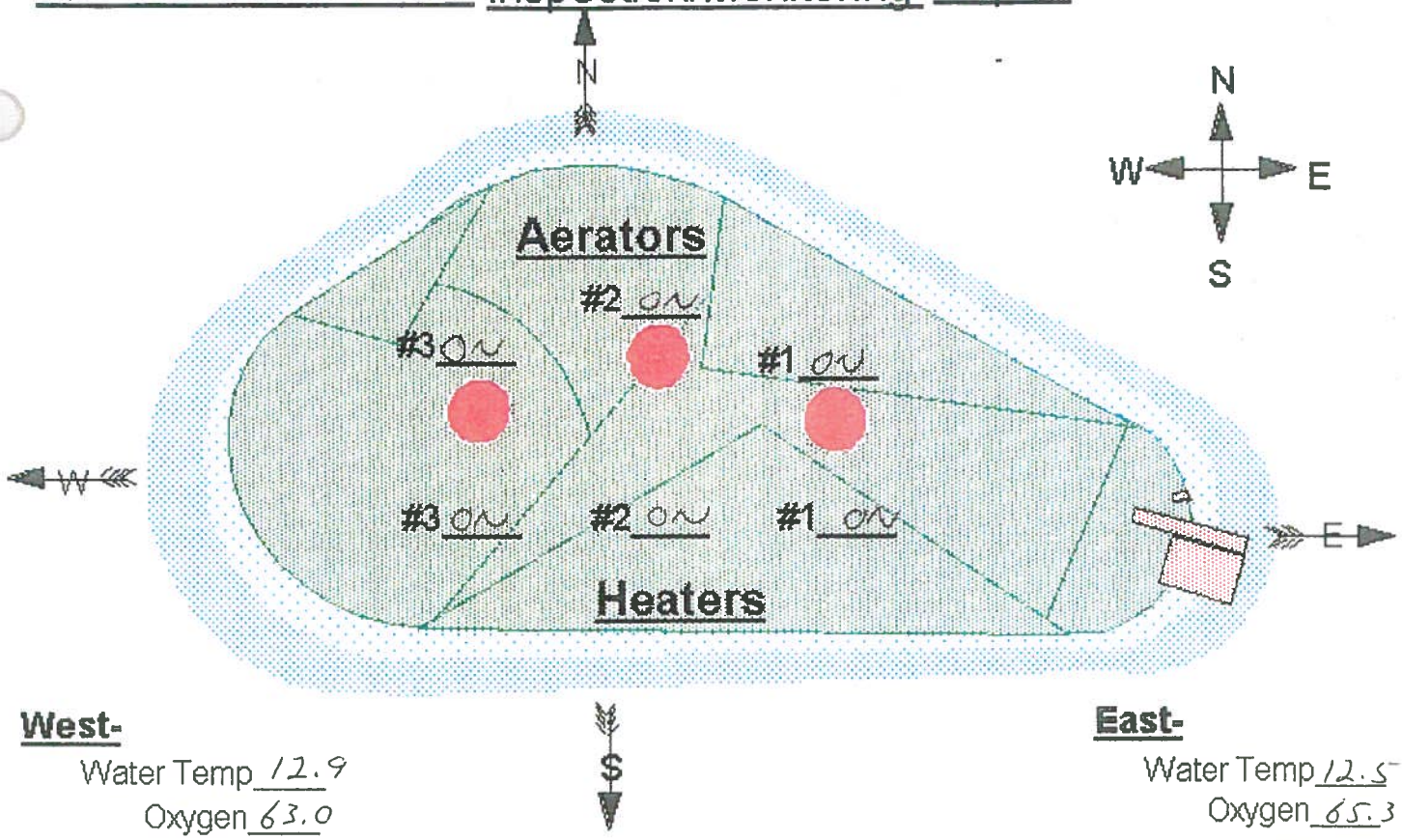
Water Level- NOT FLOWING
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Inspected by [signature] Date 11-25-13

Supervisor Review [signature] Date 11-25-13

Comments WEATHER COOLING, 36°

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 12.9
Oxygen 63.0
pH 9.45
Time 0600

East-

Water Temp 12.5
Oxygen 65.3
pH 9.67
Time 0630

Water Level +5"
Water Meter-Stop 8527164
Water Meter-Start 8527164

Water Added 0
Air Temp. 9.4
Wind Direction NONE

COLOR----

Green ✓
Green Brown____
Brown Green____
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

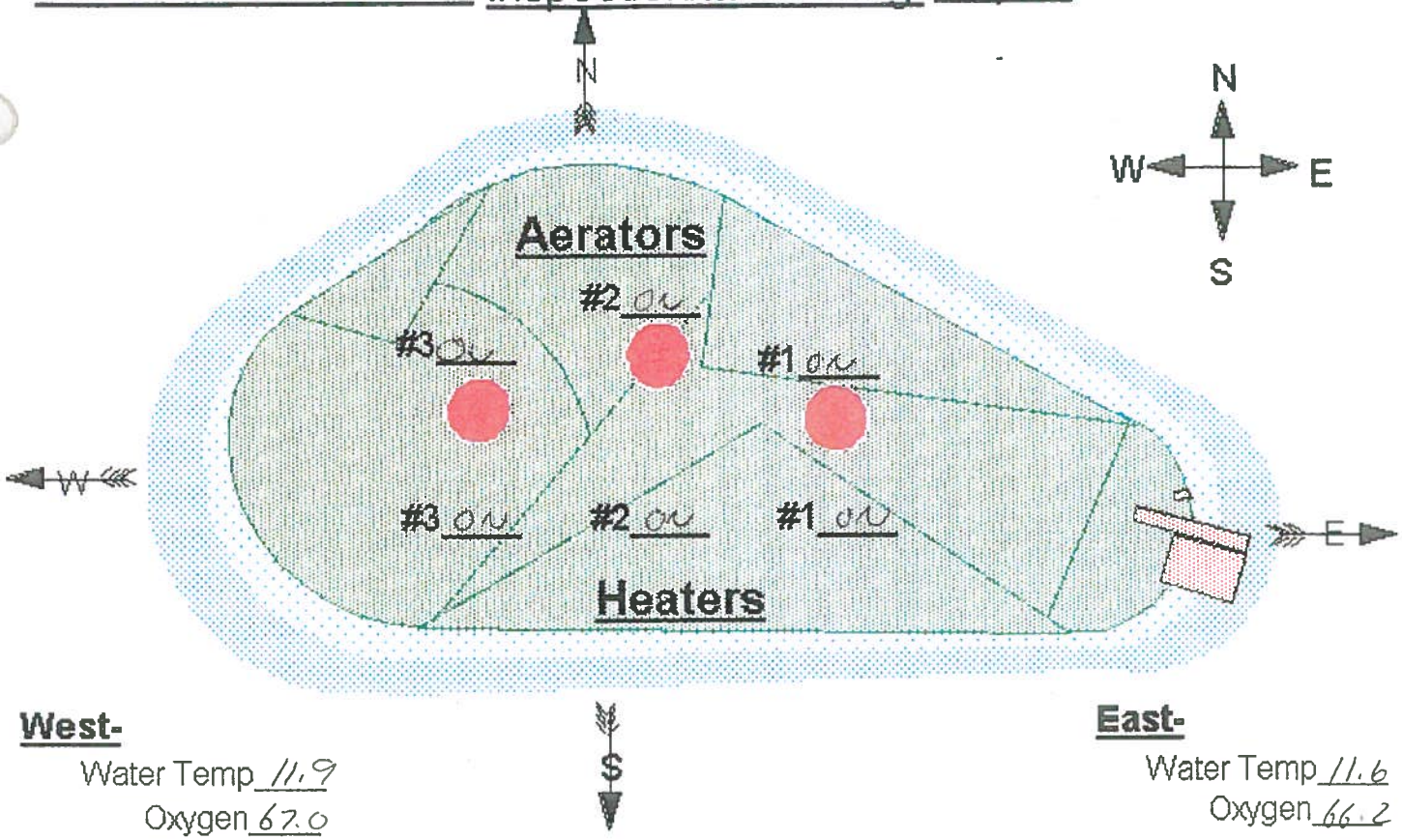
Water Level- NOT FLOWING
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Inspected by [signature] Date 11-21-13

Supervisor Review [signature] Date 11-21-13

Comments SITE 300 WEATHER STATION BLDG. 875 1.90" OF RAIN ON 11-20-13. (RISE IN POND LEVEL.)

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 11.9
Oxygen 67.0
pH 9.60
Time 0600

East-

Water Temp 11.6
Oxygen 66.2
pH 9.77
Time 0630

Water Level +3"
Water Meter-Stop 8927164
Water Meter-Start 8892412

Water Added 34,752
Air Temp. 8.3
Wind Direction none

COLOR----

Green ✓
Green Brown____
Brown Green____
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion some
Animal Burrows some
Weed Control some

Percolation Pond

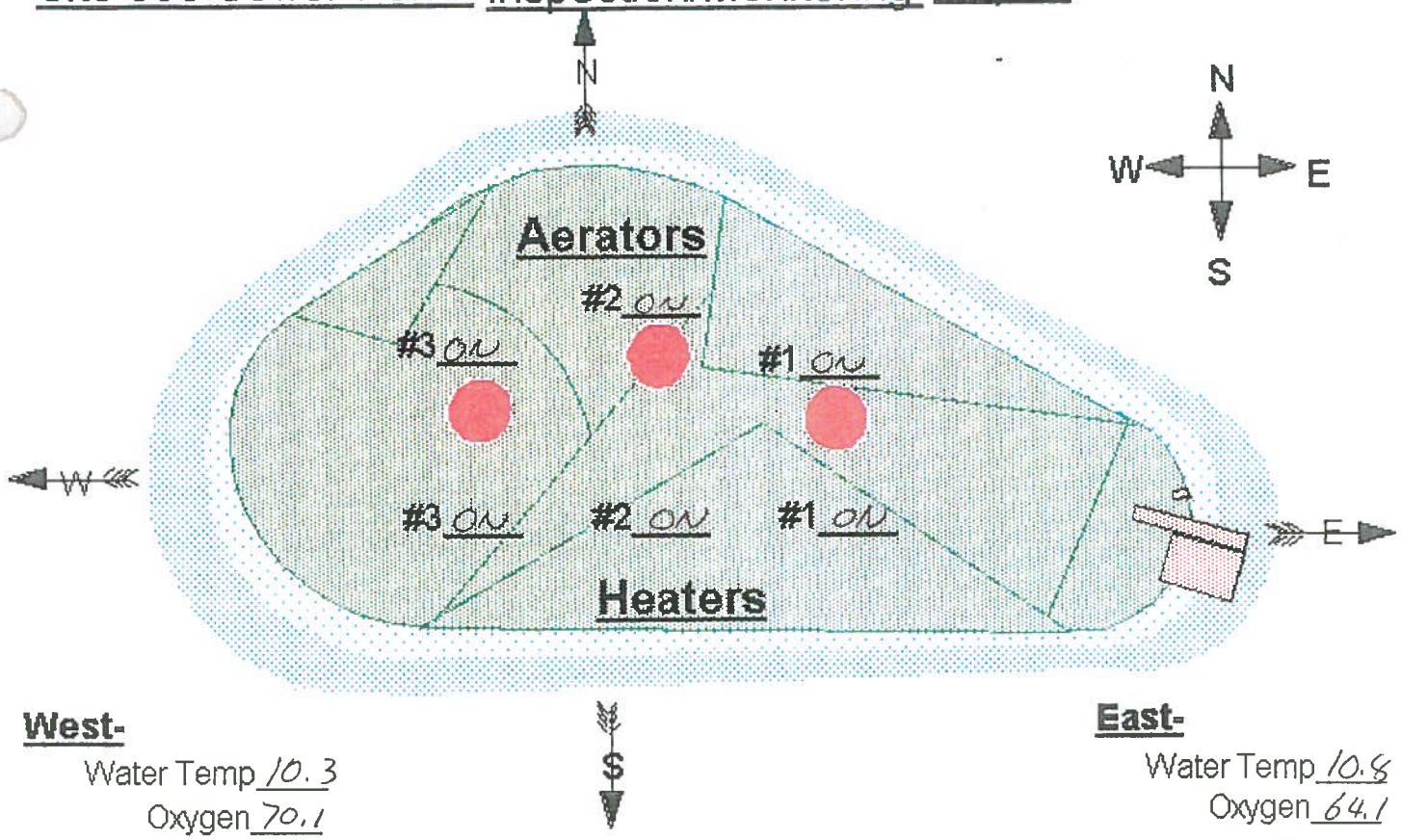
Water Level- DRY
Erosion some
Animal Burrows some
Weed Control some

Inspected by [signature] Date 11-19-13

Supervisor Review [signature] Date 11-15-13

Comments WATER TURNED BACK OFF

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 10.3
Oxygen 70.1
pH 9.90
Time 0600

Water Level +13¼"
Water Meter-Stop 8892412
Water Meter-Start 8887698

Water Added 14,734
Air Temp. 8.3
Wind Direction W-E

COLOR----

Green ✓
Green Brown____
Brown Green____
Brown____

ODOR----/ SLIGHT

East-

Water Temp 10.8
Oxygen 64.1
pH 9.95
Time 0630

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Dwane Sandum
Inspected by

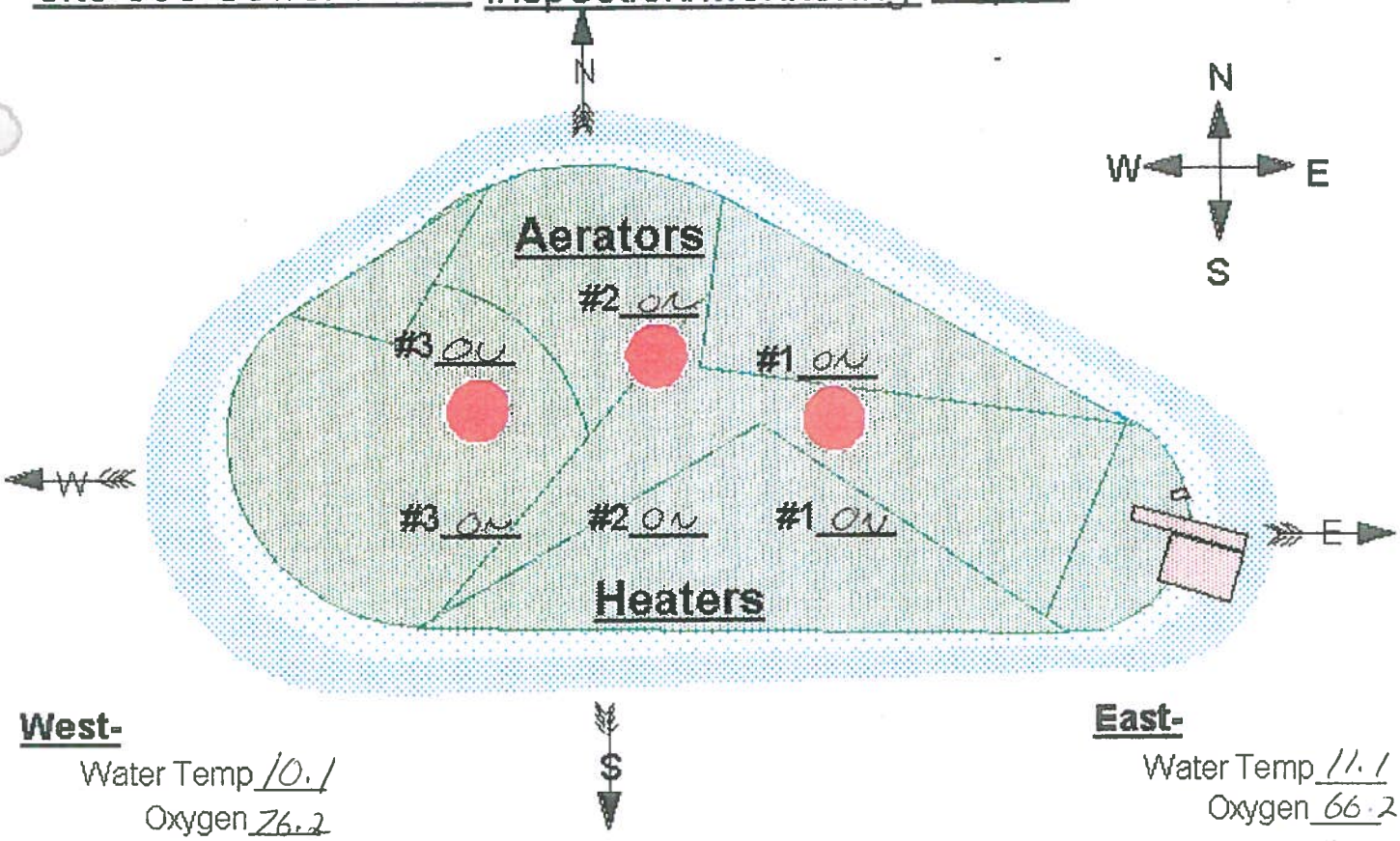
11-15-13
Date

Dwane Sandum
Supervisor Review

11-15-13
Date

Comments REMOVE TUMBLE WEEDS FROM POND.

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 10.1
Oxygen 76.2
pH 9.88
Time 0630

East-

Water Temp 11.1
Oxygen 66.2
pH 10.01
Time 0630

Water Level 1 1/2"
Water Meter-Stop 8829678
Water Meter-Start 8807678

Water Added 0
Air Temp. 6.7
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

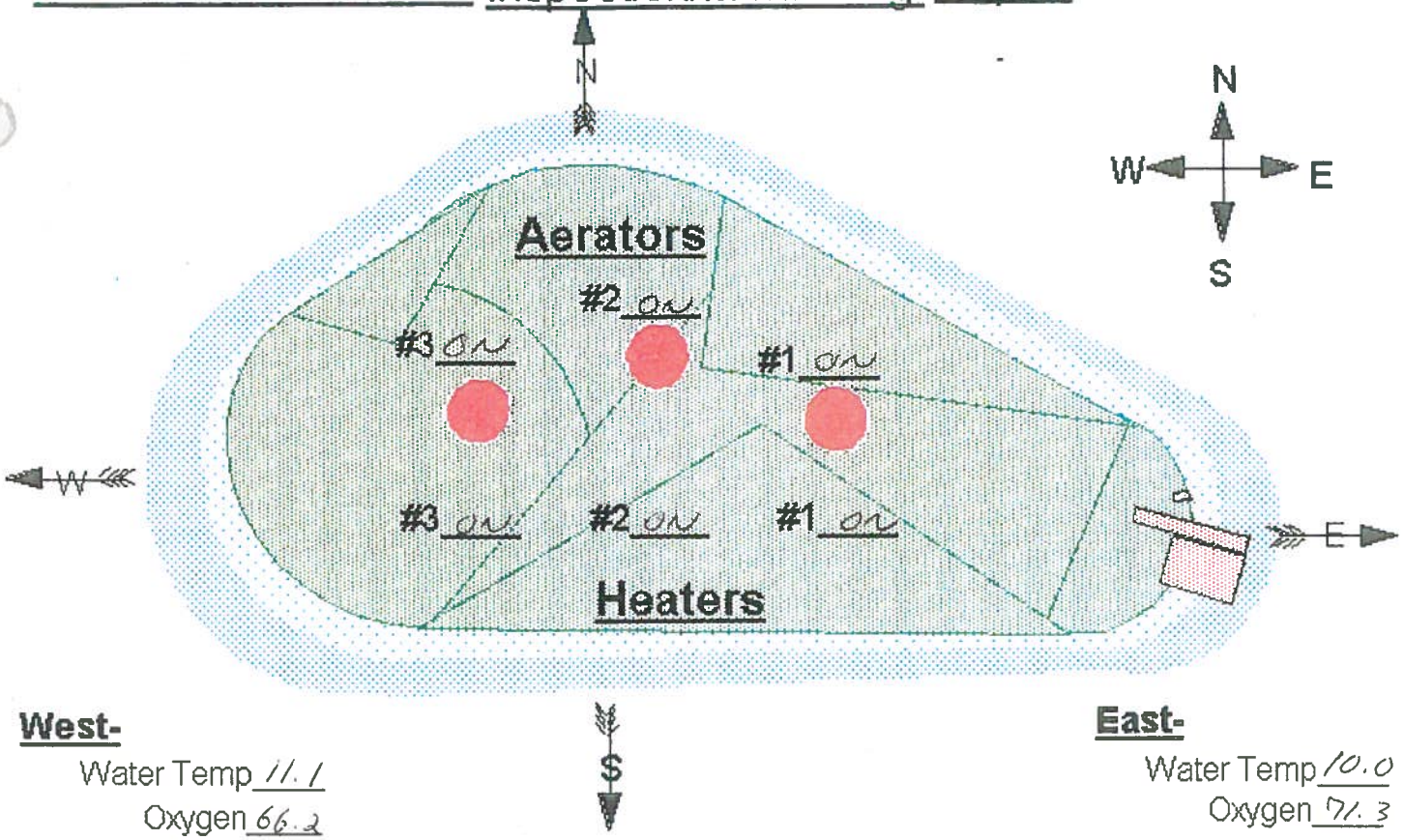
Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Inspected by [signature] Date 11-13-13

Supervisor Review [signature] Date 11-13-13

Comments WATER TURNED BACK ON.

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 11.1
Oxygen 66.2
pH 9.85
Time 0600

East-

Water Temp 10.0
Oxygen 71.3
pH 10.02
Time 0630

Water Level +1½"
Water Meter-Stop 8870678
Water Meter-Start 8870678

Water Added Ø
Air Temp. 7.8
Wind Direction None

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

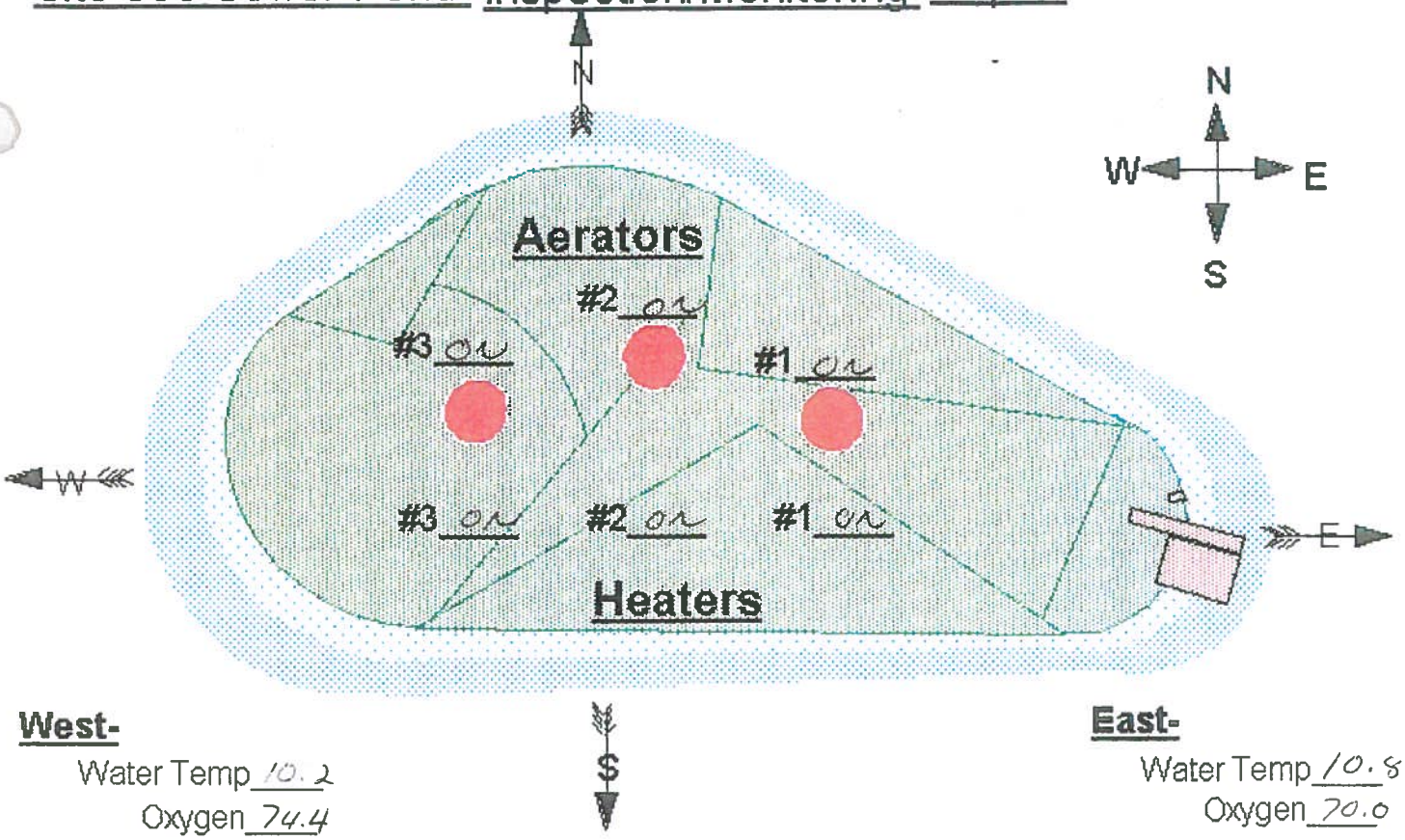
Water Level- DRY
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 11-7-13

Supervisor Review [signature] Date 11-7-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 10.2
Oxygen 74.4
pH 9.91
Time 0600

Water Level +1 3/4"
Water Meter-Stop 88772678
Water Meter-Start 88772678

Water Added 0
Air Temp. 56
Wind Direction None

East-

Water Temp 10.8
Oxygen 70.0
pH 10.03
Time 0630

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

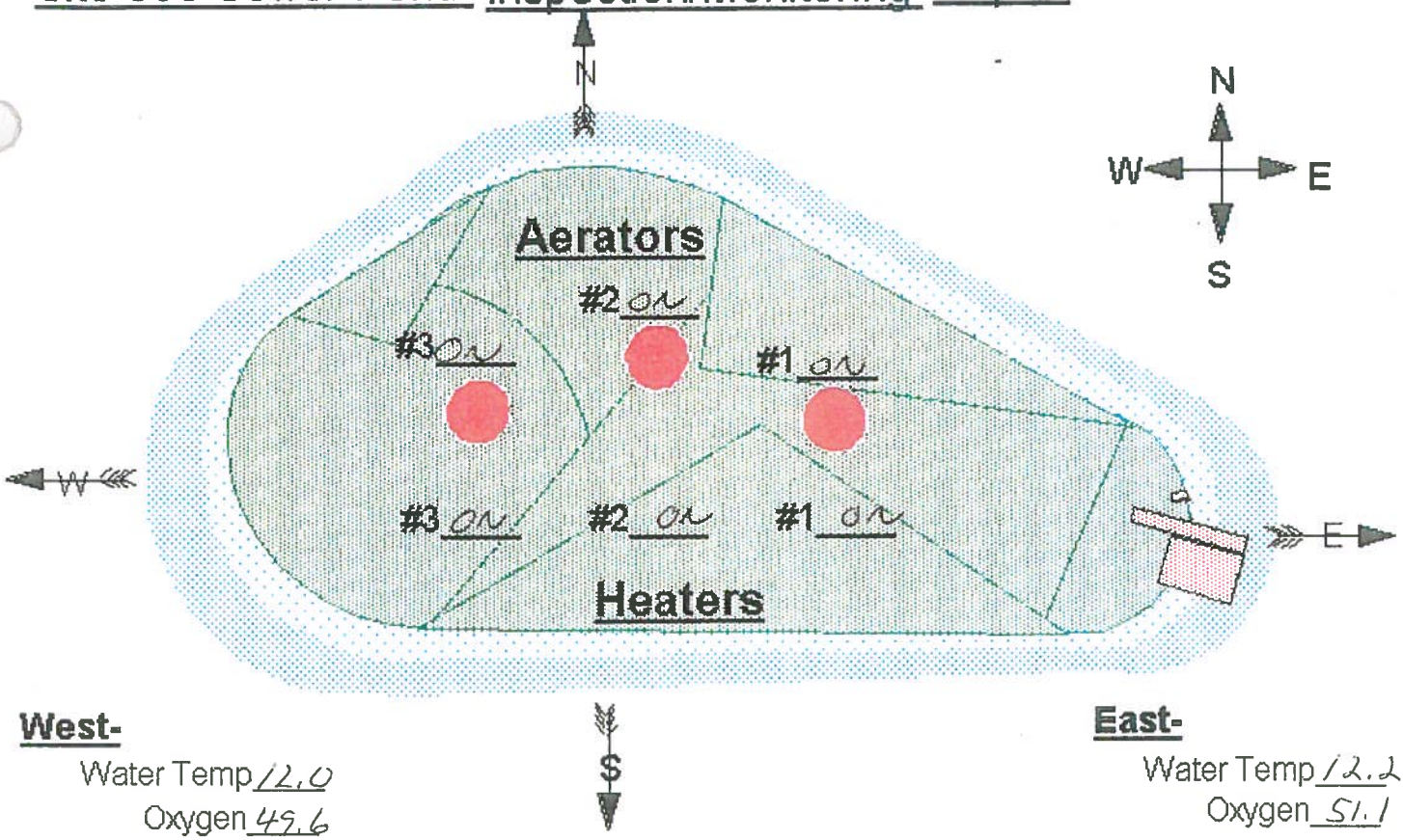
Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 11-5-13

Supervisor Review [signature] Date 11-5-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 12.0
Oxygen 49.6
pH 9.90
Time 0600

East-

Water Temp 12.2
Oxygen 51.1
pH 9.98
Time 0630

Water Level +2"
Water Meter-Stop 8807698
Water Meter-Start 8807698

Water Added 0
Air Temp. 6.7
Wind Direction None

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

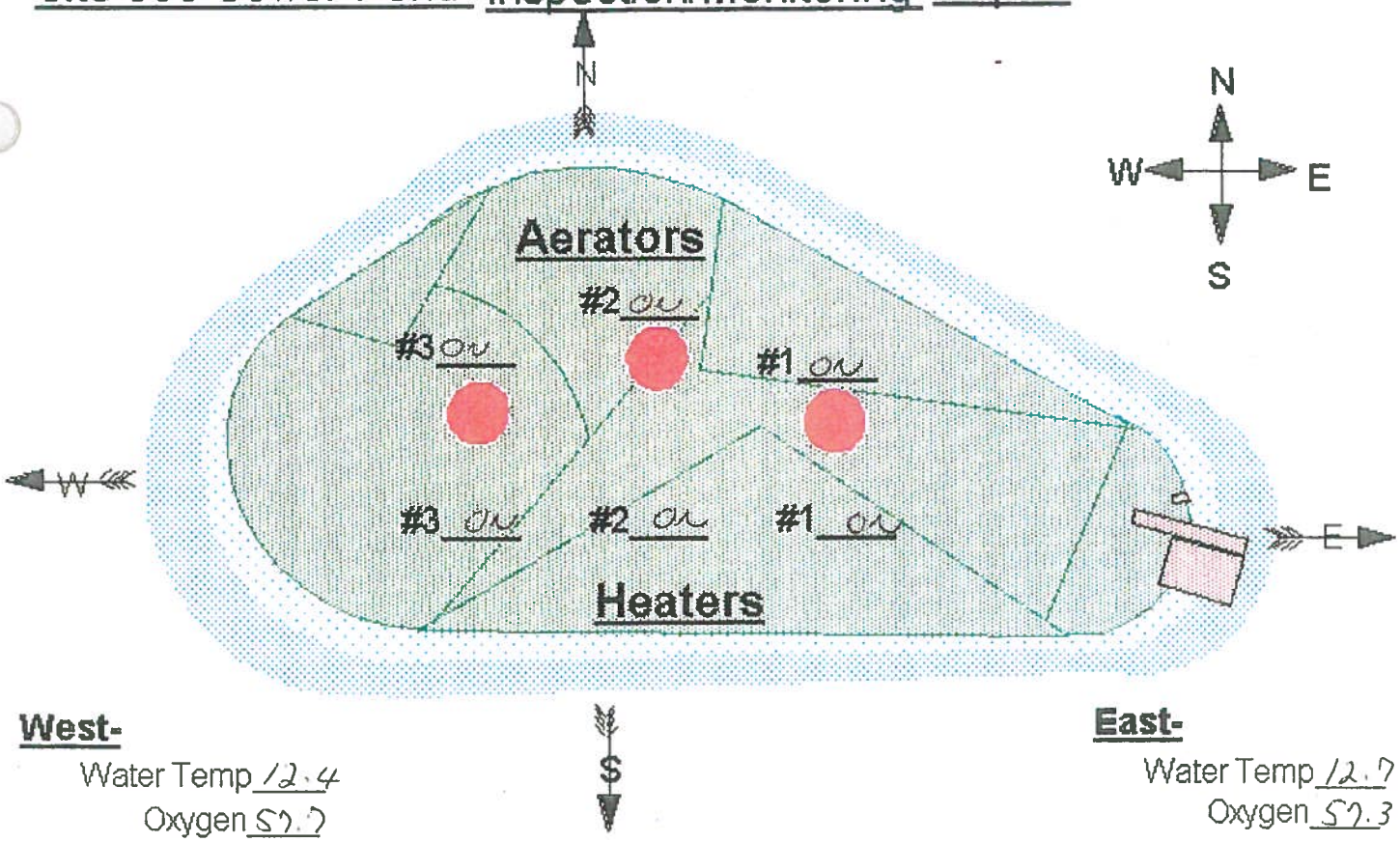
Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 11-1-13

Supervisor Review [signature] Date 11-1-13

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 12.4
Oxygen 57.7
pH 9.91
Time 0600

East-

Water Temp 12.7
Oxygen 57.3
pH 9.99
Time 0630

Water Level +2¼"
Water Meter-Stop 8877678
Water Meter-Start 8877678

Water Added Ø
Air Temp. 8.3
Wind Direction none

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- slight

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion some
Animal Burrows some
Weed Control some

Percolation Pond

Water Level- DRY
Erosion some
Animal Burrows some
Weed Control some

Dwan Sandusen
Inspected by

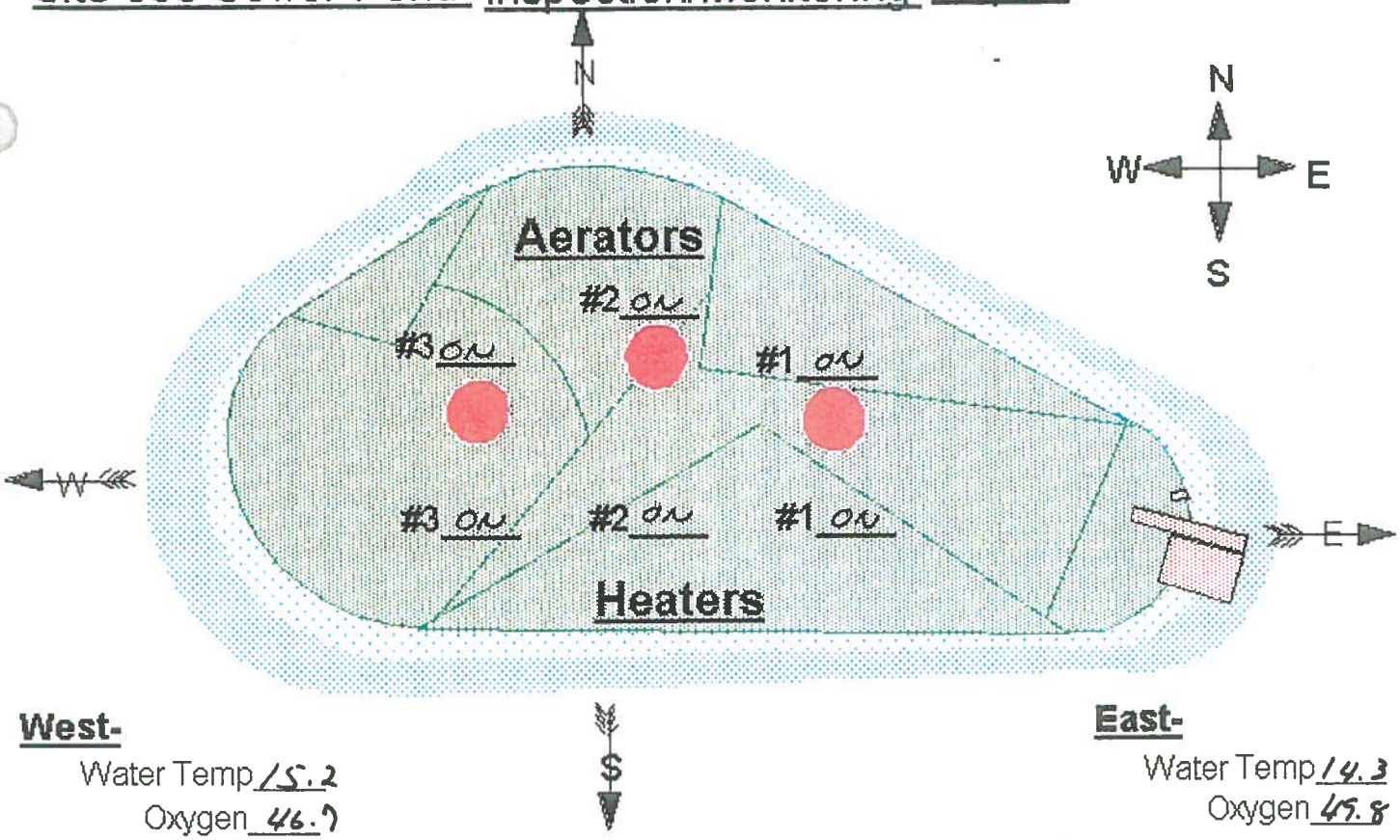
10-29-13
Date

Dwan Sandusen
Supervisor Review

10-29-13
Date

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 15.2
Oxygen 46.7
pH 9.90
Time 0600

East-

Water Temp 14.3
Oxygen 45.8
pH 9.99
Time 0630

Water Level +2 3/4"
Water Meter-Stop 8897678
Water Meter-Start 8897678

Water Added 0
Air Temp. 7.8
Wind Direction E-W

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

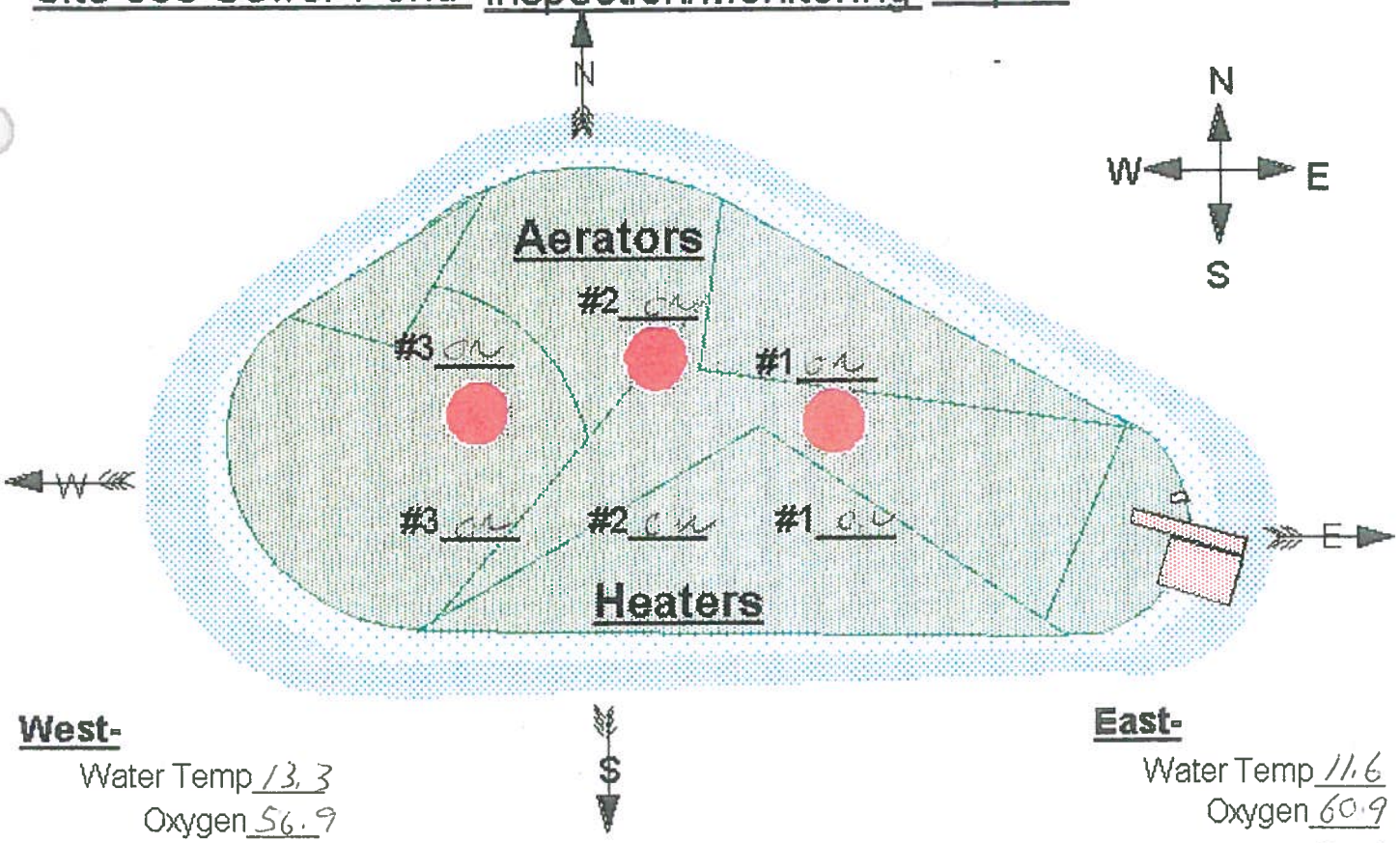
Water Level- DRY
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by — Date 10-24-13

Supervisor Review — Date 10-24-13

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 13.3
Oxygen 56.9
pH 9.93
Time 0600

East-

Water Temp 11.6
Oxygen 60.9
pH 9.99
Time 0630

Water Level +2 3/4"
Water Meter-Stop 8872698
Water Meter-Start 8872698

Water Added 0
Air Temp. 6.7
Wind Direction None

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

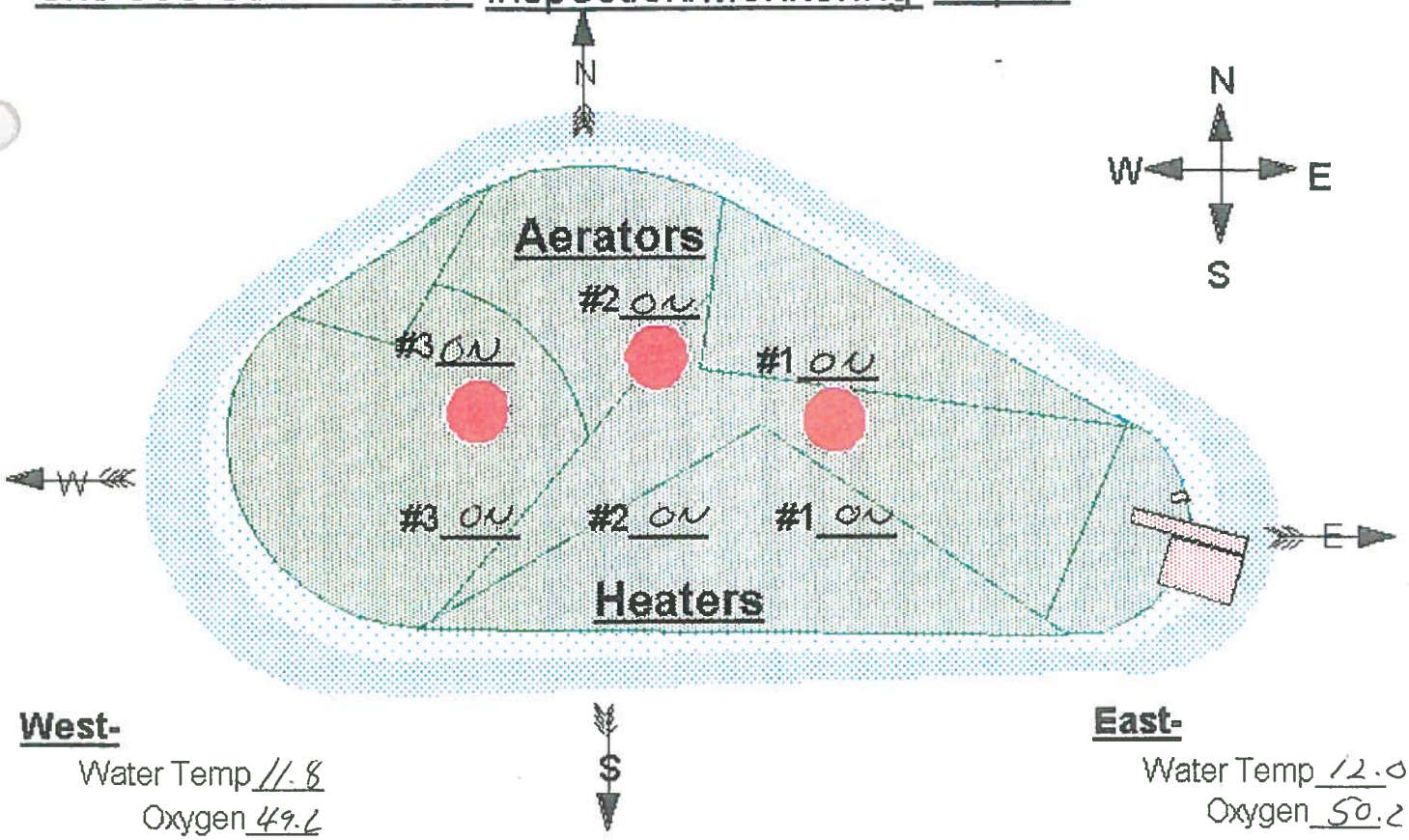
Water Level- DRY
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 10-22-13

Supervisor Review [signature] Date 10-22-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 11.8
Oxygen 49.6
pH 9.47
Time 0600

East-

Water Temp 12.0
Oxygen 50.2
pH 9.90
Time 0630

Water Level +3½"
Water Meter-Stop 8879678
Water Meter-Start 8877678

Water Added Ø
Air Temp. 10.6
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

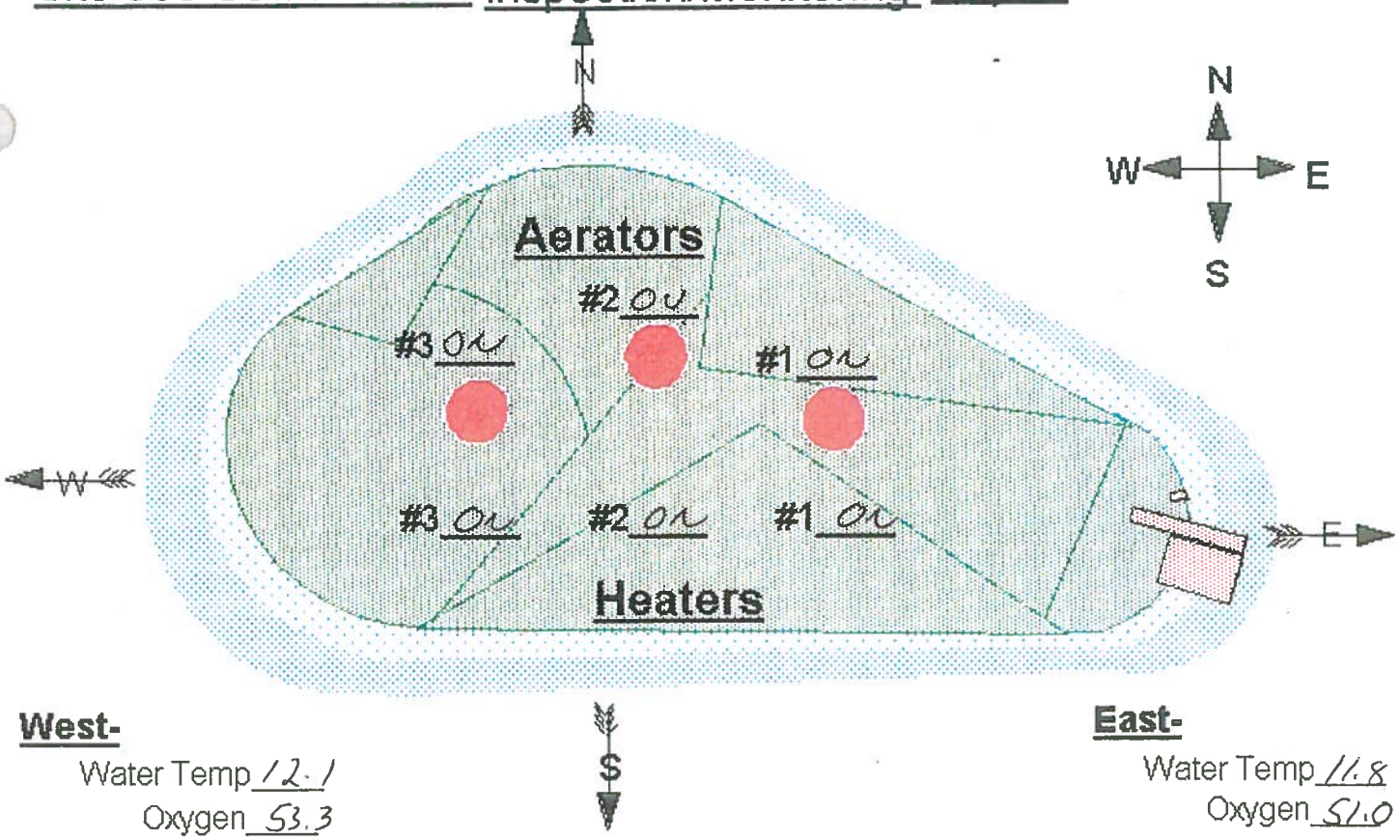
Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Inspected by [signature] Date 10-17-13

Supervisor Review [signature] Date 10-17-13

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 12.1
Oxygen 53.3
pH 9.51
Time 0600

East-

Water Temp 11.8
Oxygen 51.0
pH 9.96
Time 0630

Water Level +3½"
Water Meter-Stop 8877678
Water Meter-Start 8877678

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Water Added 0
Air Temp. 9.4
Wind Direction none

ODOR---- SLIGHT

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

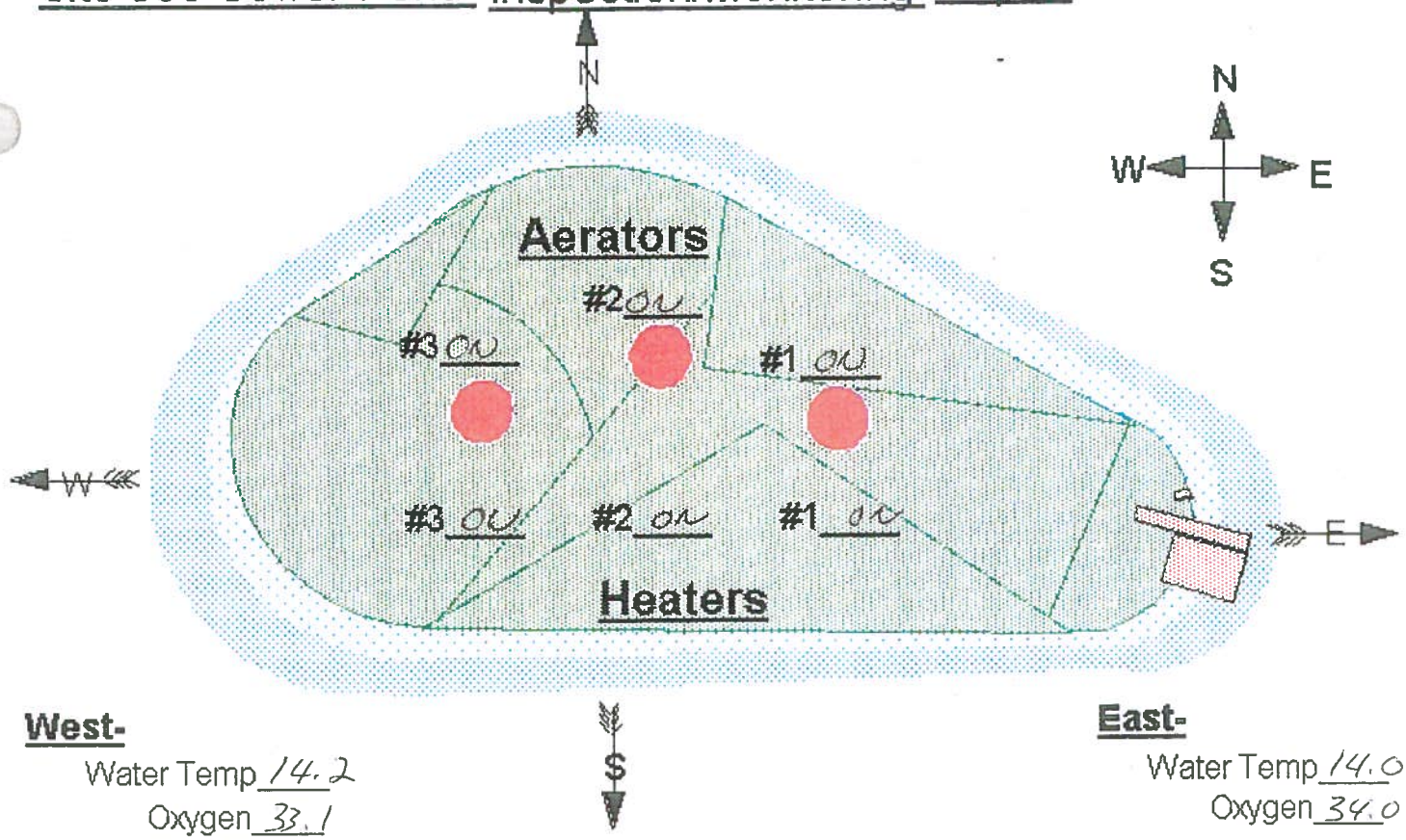
Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 10-15-13

Supervisor Review [signature] Date 10-15-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 14.2
Oxygen 33.1
pH 9.92
Time 0600

East-

Water Temp 14.0
Oxygen 34.0
pH 9.99
Time 0630

Water Level +3 3/4"
Water Meter-Stop 8827678
Water Meter-Start 8819618

Water Added 0
Air Temp. 13.3
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Dwane Fender
Inspected by

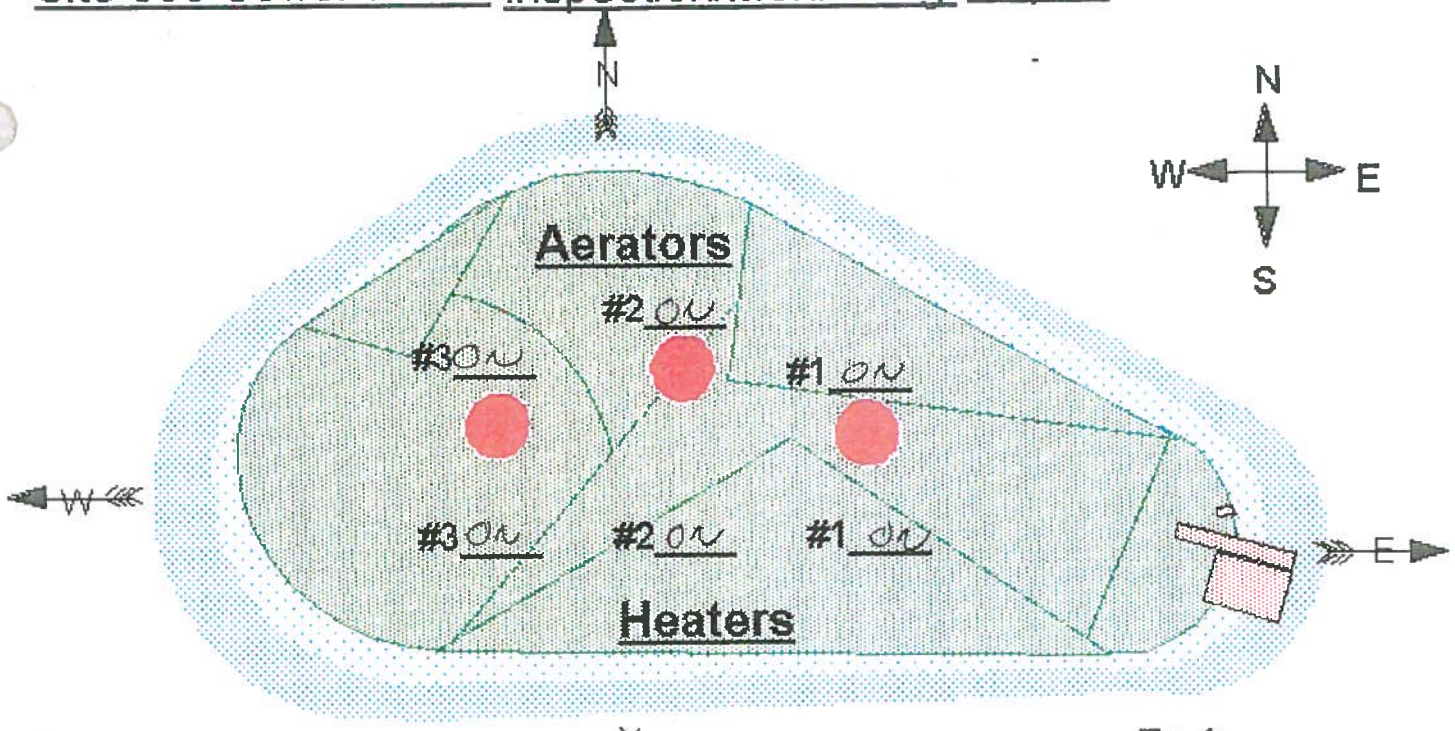
10-10-13
Date

Dwane Fender
Supervisor Review

10-10-13
Date

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 15.7
Oxygen 6
pH 9.95
Time 0600

East-

Water Temp 17.1
Oxygen 4
pH 10.1
Time 0630

Water Level +4"
Water Meter-Stop 8877678
Water Meter-Start 8877678

Water Added Ø
Air Temp. 15.0
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Dwane Sandhum
Inspected by

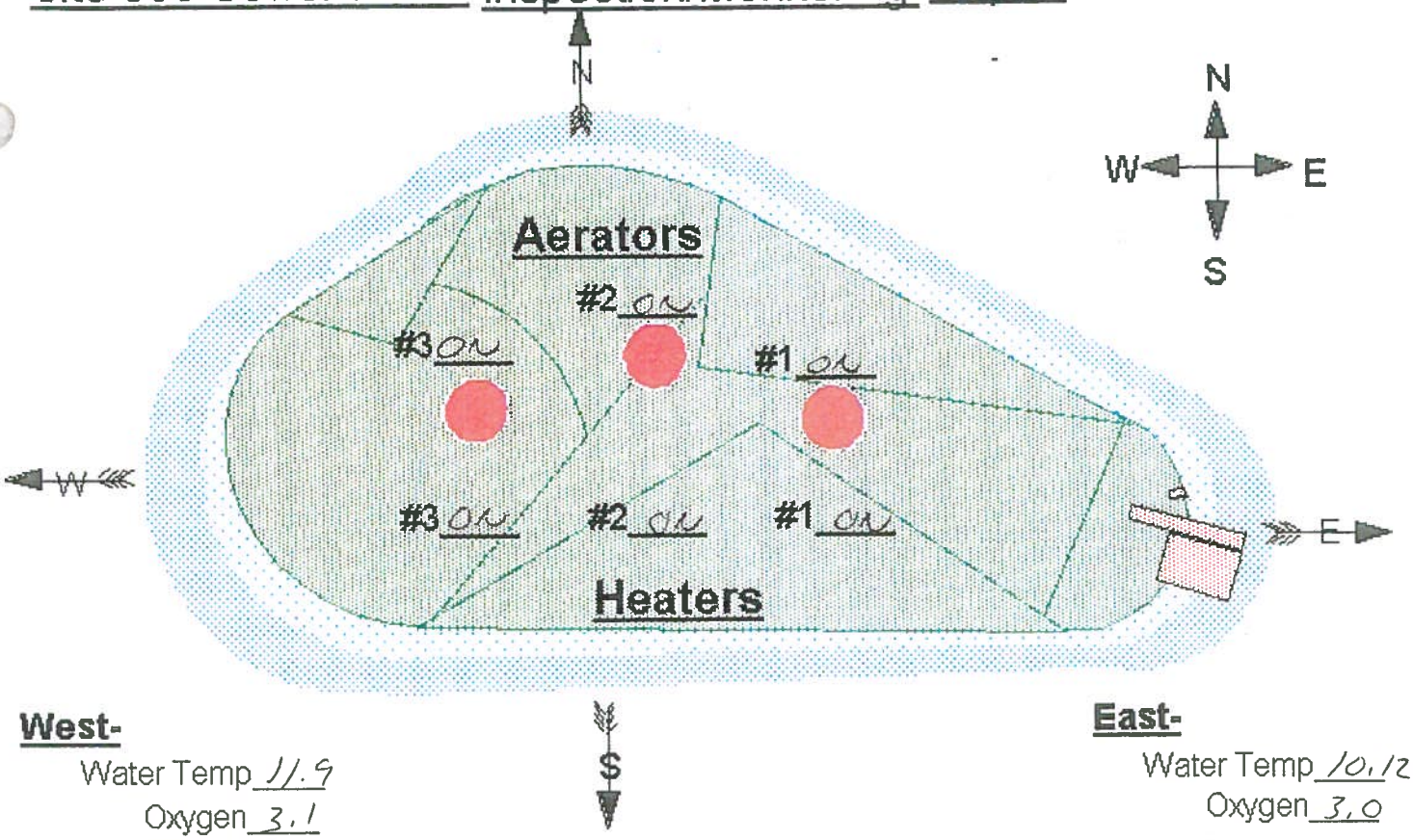
10-8-13
Date

Dwane Sandhum
Supervisor Review

10-8-13
Date

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 11.9
Oxygen 3.1
pH 10.06
Time 0600

East-

Water Temp 10.12
Oxygen 3.0
pH 10.2
Time 0630

Water Level +4"
Water Meter-Stop 8827678
Water Meter-Start 8875353
Water Added 2325 (DC 2325)
Air Temp. 10.0
Wind Direction None

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

Duane Kenkum
Inspected by

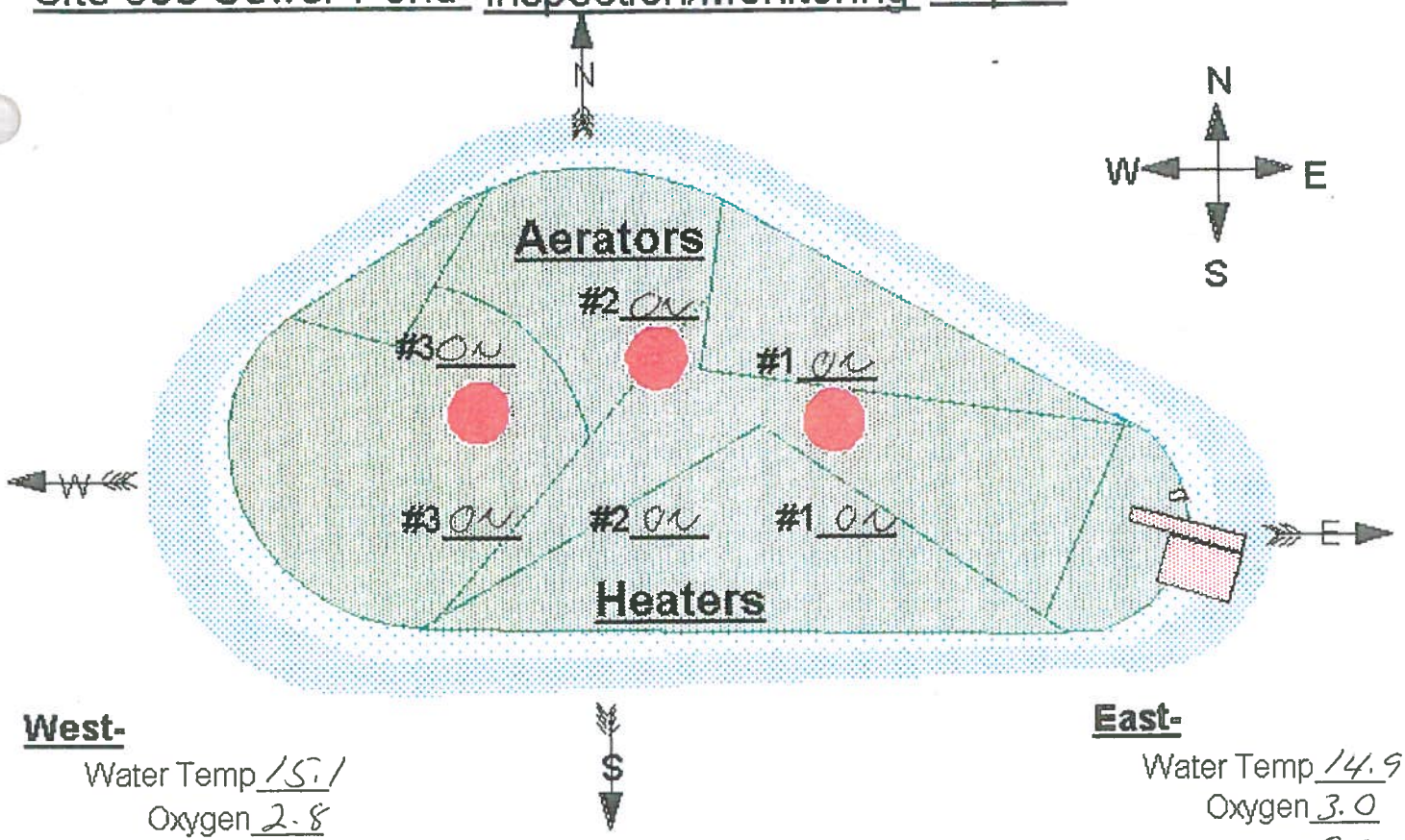
10-6-13
Date

Duane Kenkum
Supervisor Review

10-6-13
Date

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 15.1
Oxygen 2.8
pH 9.94
Time 0600

East-

Water Temp 14.9
Oxygen 3.0
pH 9.88
Time 0630

Water Level +4"
Water Meter-Stop 8875353
Water Meter-Start 8859472

Water Added 15,881
Air Temp. 15.6
Wind Direction ____

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

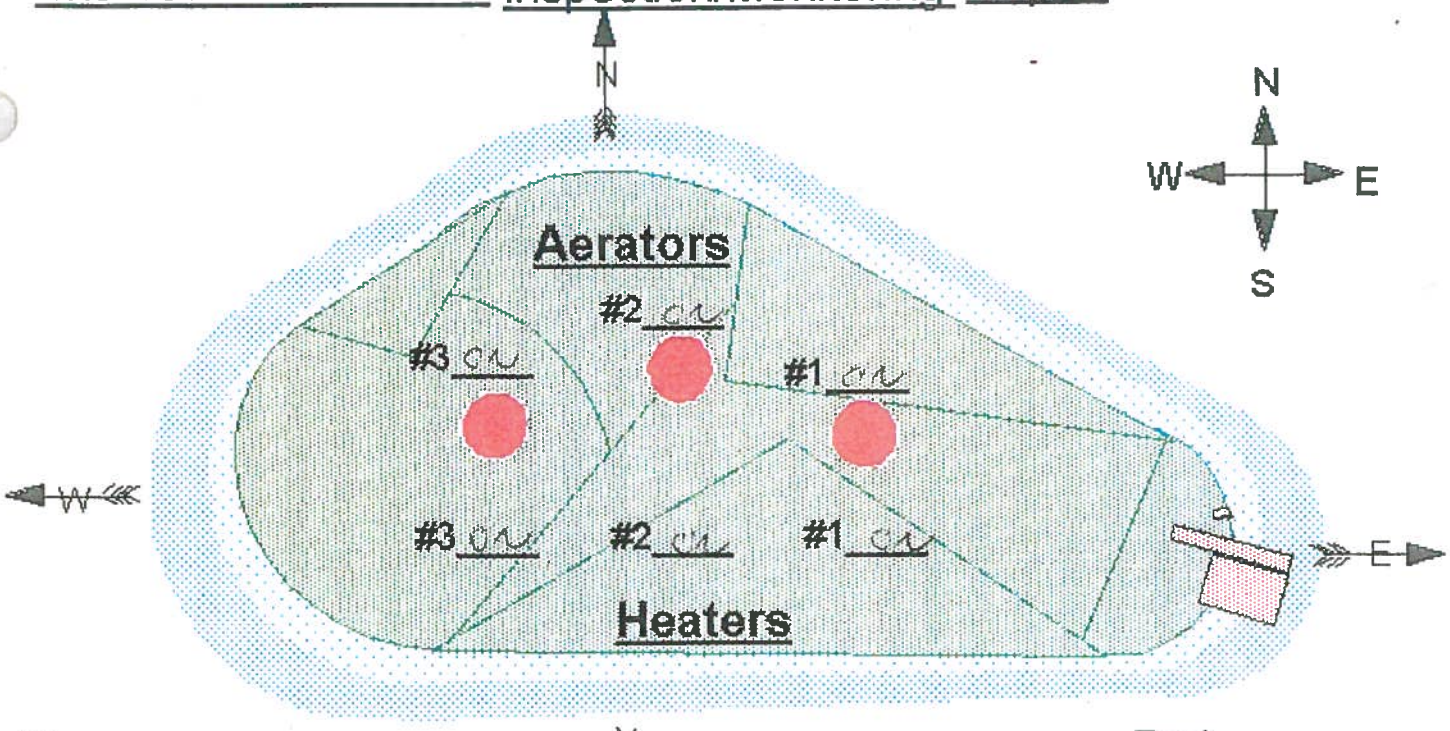
Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 10-3-13

Supervisor Review [signature] Date 10-3-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 16.3
Oxygen 3.5
pH 9.92
Time 0600

East-

Water Temp 15.9
Oxygen 2.7
pH 9.96
Time 0630

Water Level +4.5"
Water Meter-Stop 8859472
Water Meter-Start 8854853

Water Added 4,619
Air Temp. 15.0
Wind Direction W-E

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion some
Animal Burrows some
Weed Control some

Percolation Pond

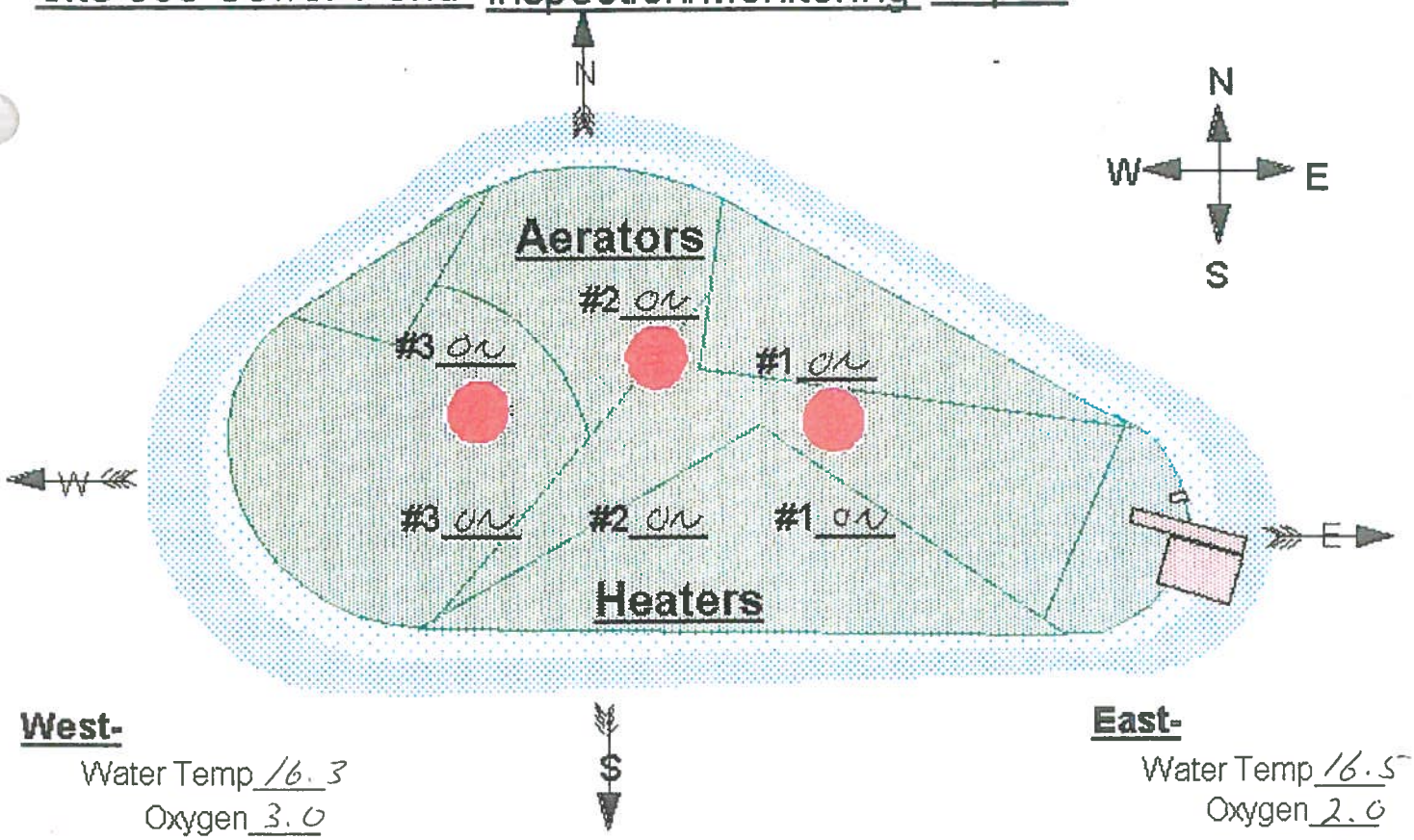
Water Level- DRY
Erosion some
Animal Burrows some
Weed Control some

Inspected by [signature] Date 9-26-13

Supervisor Review [signature] Date 9-26-13

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 16.3
Oxygen 3.0
pH 9.96
Time 0600

East-

Water Temp 16.5
Oxygen 2.0
pH 10.00
Time 0630

Water Level +4¾"
Water Meter-Stop 8854853
Water Meter-Start 8843183

Water Added 11,670
Air Temp. 14.4
Wind Direction None

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

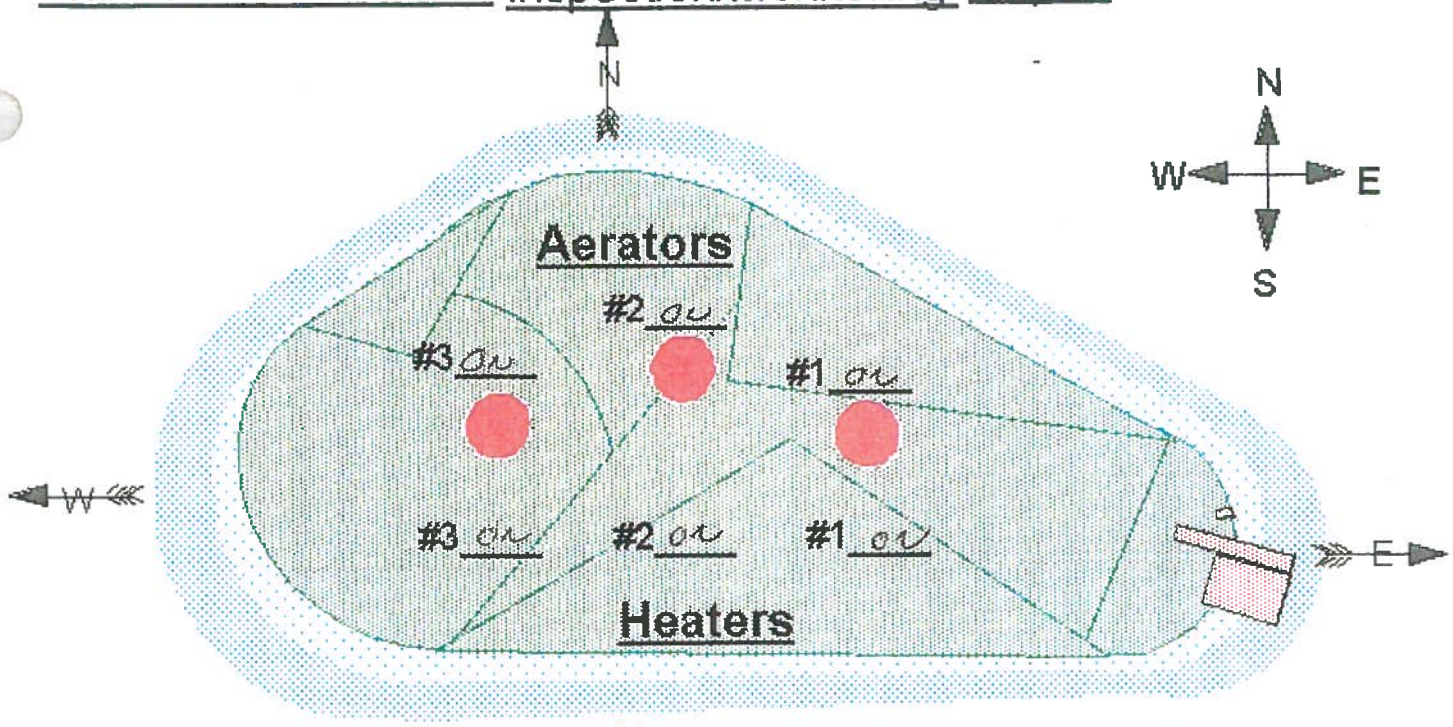
Water Level- DRY
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by _____ Date 9-24-13

Supervisor Review _____ Date 9-24-13

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 18.9
Oxygen 2.8
pH 10.02
Time 0600

East-

Water Temp 18.6
Oxygen 1.0
pH 10.10
Time 0630

Water Level +5''
Water Meter-Stop 8843183
Water Meter-Start 8838488

Water Added 4,695
Air Temp. 14.4
Wind Direction None

COLOR----

Green ✓
Green Brown____
Brown Green____
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

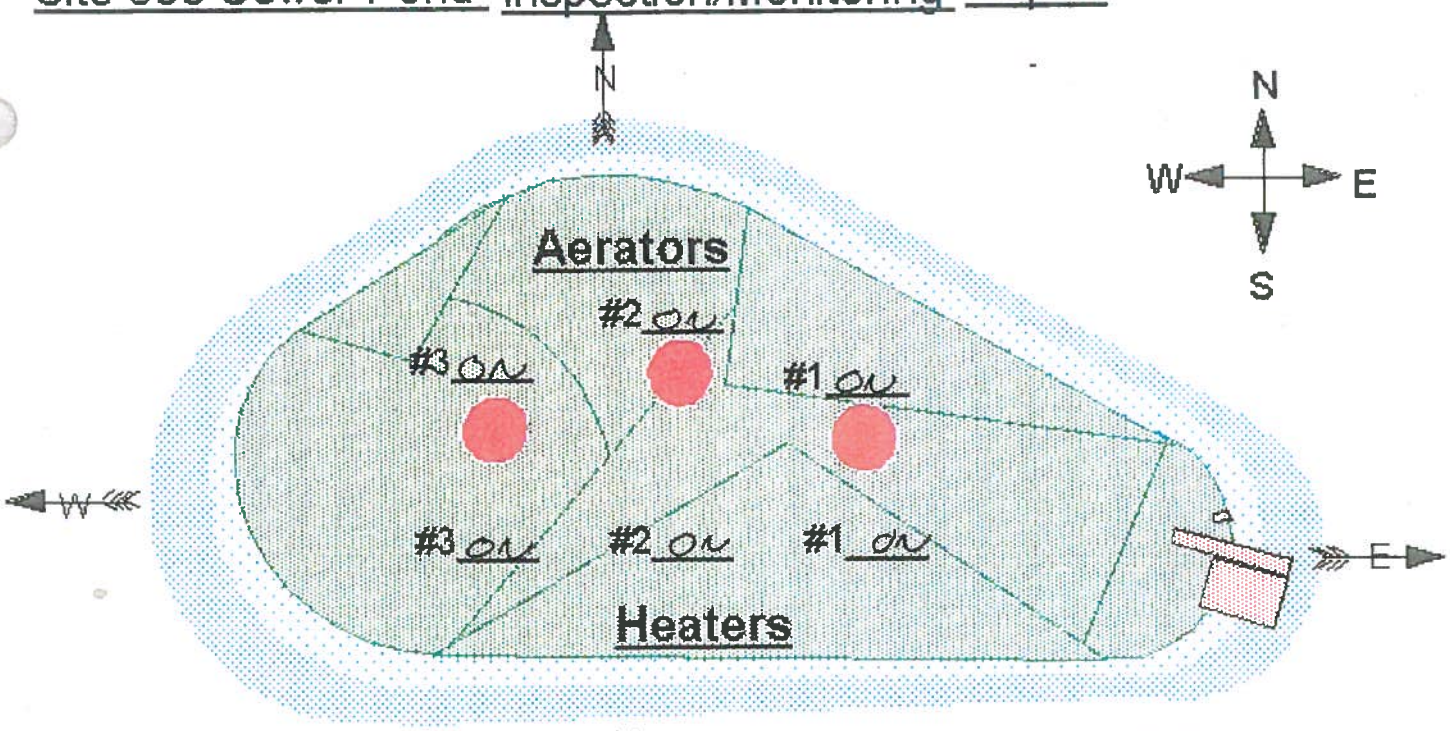
Water Level- DRY
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by _____ Date 9-20-13

Supervisor Review _____ Date 9-20-13

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 15.1
Oxygen 2.5
pH 10.07
Time 0600

East-

Water Temp 15.0
Oxygen 2.2
pH 10.08
Time 0630

Water Level +5½"
Water Meter-Stop 8838488
Water Meter-Start 8826623

Water Added 11,865
Air Temp. 17.2
Wind Direction None

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR----1 SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

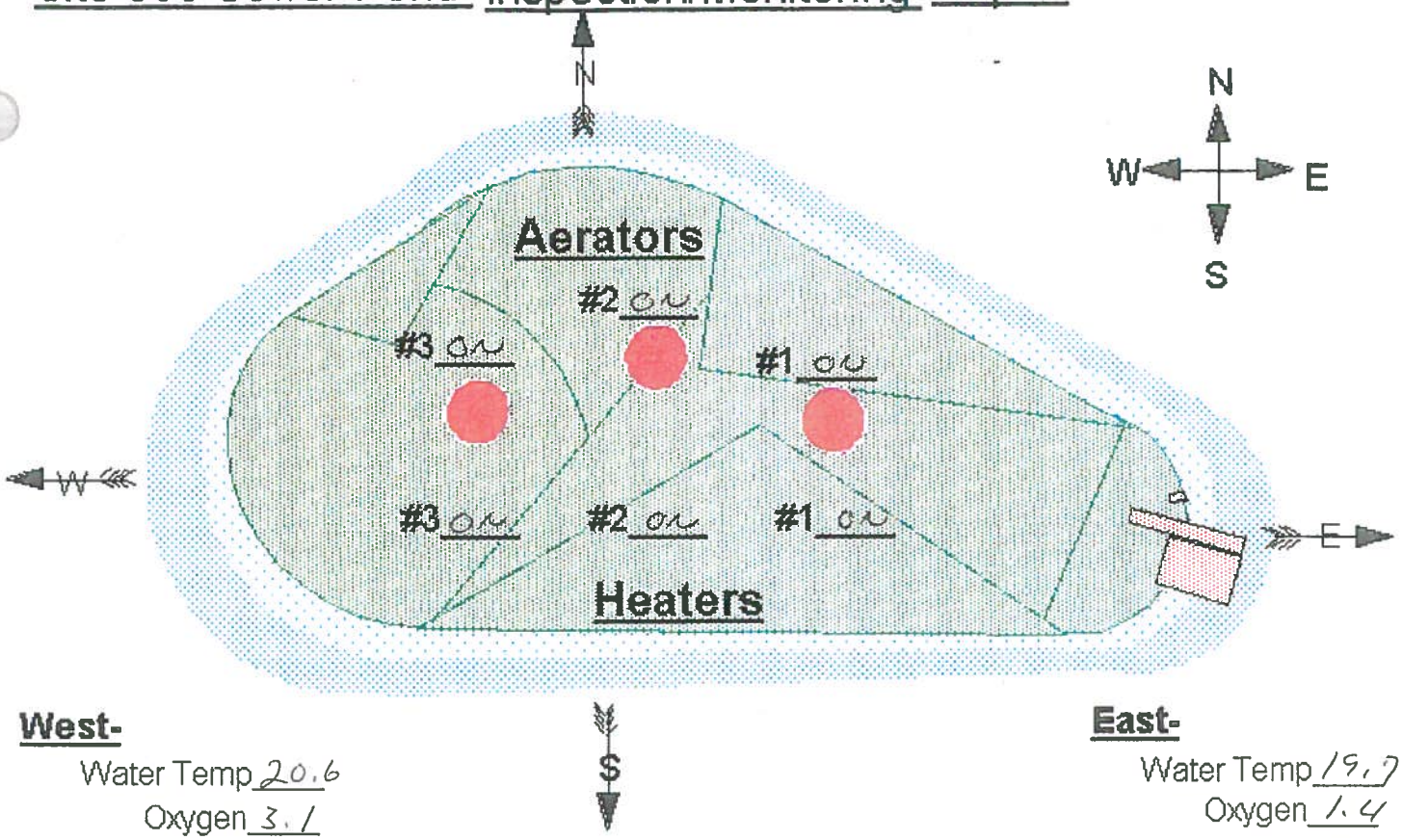
Water Level- DRY
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 9-17-13

Supervisor Review [signature] Date 9-17-13

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 20.6
Oxygen 3.1
pH 9.29
Time 0600

East-

Water Temp 19.7
Oxygen 1.4
pH 9.71
Time 0630

Water Level +5½"
Water Meter-Stop 8826623
Water Meter-Start 8821918

Water Added 4,905
Air Temp. 16.7
Wind Direction None

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR----/ SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

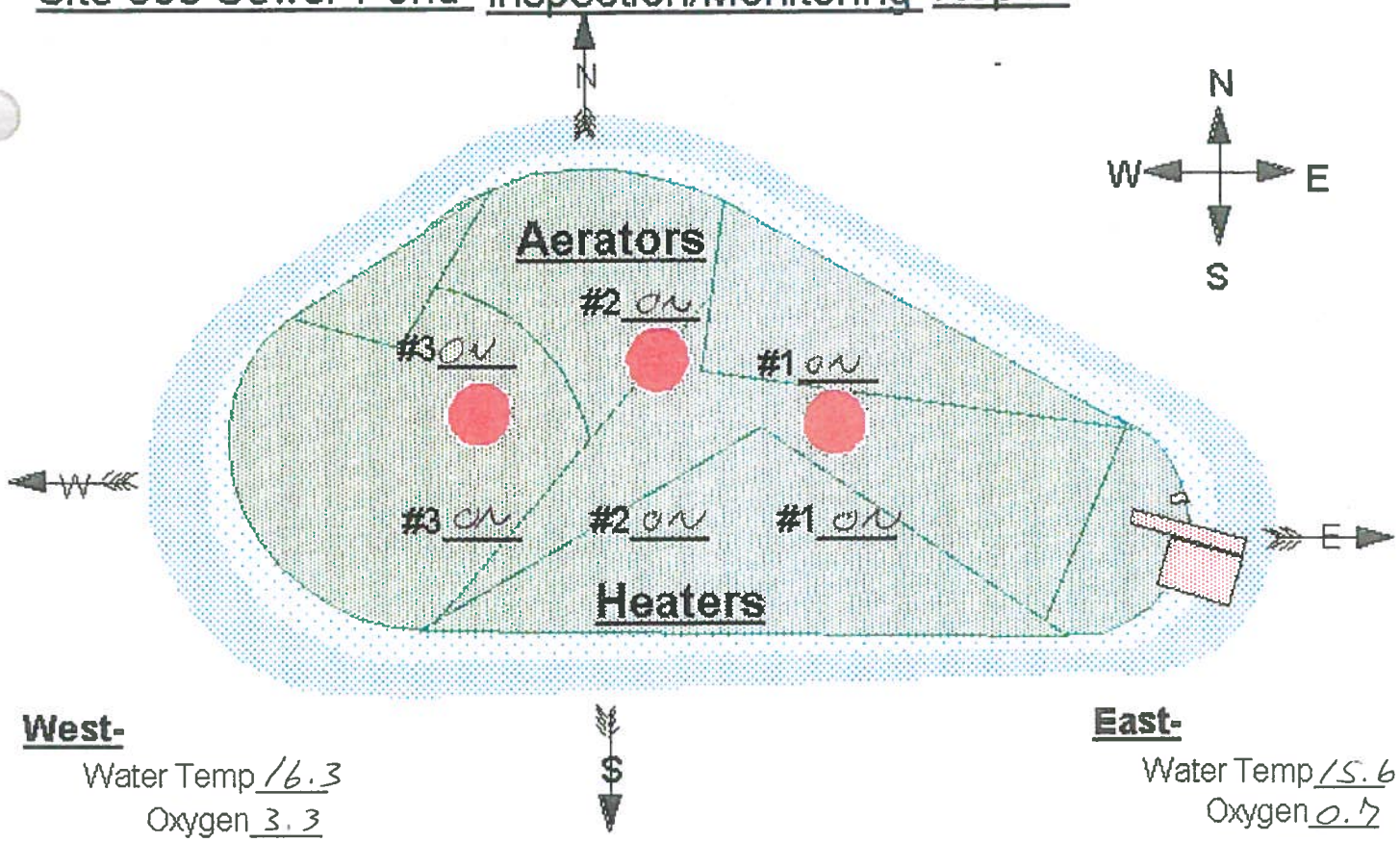
Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 9-12-13

Supervisor Review [signature] Date 9-12-13

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 16.3
Oxygen 3.3
pH 10.09
Time 0630

East-

Water Temp 15.6
Oxygen 0.7
pH 10.07
Time 0700

Water Level +5½"
Water Meter-Stop 8821918
Water Meter-Start 8088588

Water Added 33,130
Air Temp. 25.6
Wind Direction none

COLOR----

Green ✓
Green Brown____
Brown Green____
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion some
Animal Burrows some
Weed Control some

Percolation Pond

Water Level- DRY
Erosion some
Animal Burrows some
Weed Control some

Duane Lund
Inspected by

9-10-13
Date

Duane Lund
Supervisor Review

9-10-13
Date

Comments WATER FEED FLOW TURNED DOWN.

Site 300 Sewer Pond-Inspection/Monitoring Report

N

N
W E
S

Aerators

#2 ON

#3 ON #1 ON

W

#3 ON #2 ON #1 ON

E

Heaters

S

West-

Water Temp 16.2
Oxygen 2.8
pH 10.1
Time 0600

East-

Water Temp 16.4
Oxygen 3.1
pH 9.98
Time 0630

Water Level +5 1/4"
Water Meter-Stop 8788588
Water Meter-Start 8781826

Water Added 6,762
Air Temp. 16.7
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Duane Sandy
Inspected by

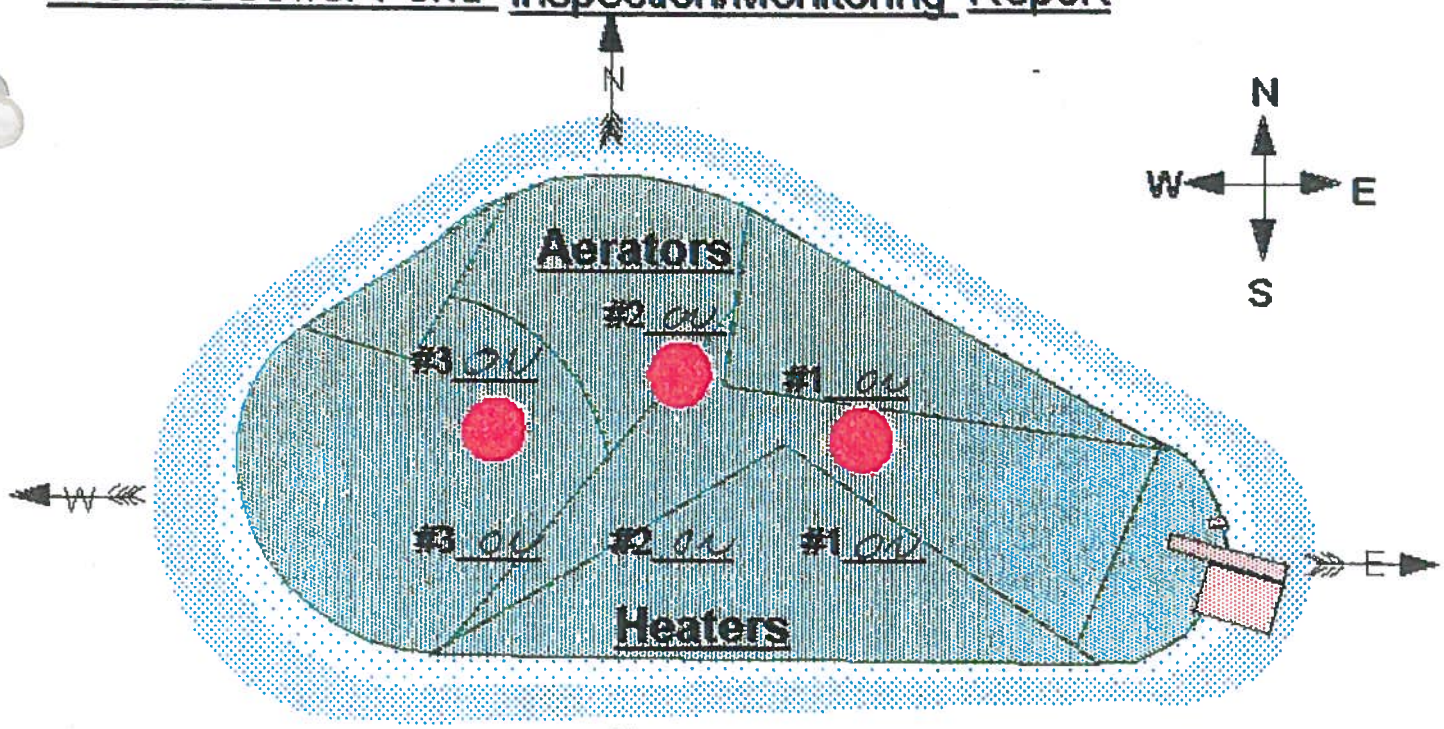
9-5-13
Date

Duane Sandy
Supervisor Review

9-5-13
Date

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 19.0
Oxygen 3.2
pH 9.90
Time 0600

East-

Water Temp 22.1
Oxygen 2.9
pH 9.96
Time 0630

Water Level +4 3/4"
Water Meter-Stop 8694694
Water Meter-Start 8674444

Water Added 20,250
Air Temp. ____
Wind Direction W-E

COLOR---

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR--- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Duane Landrum
Inspected by

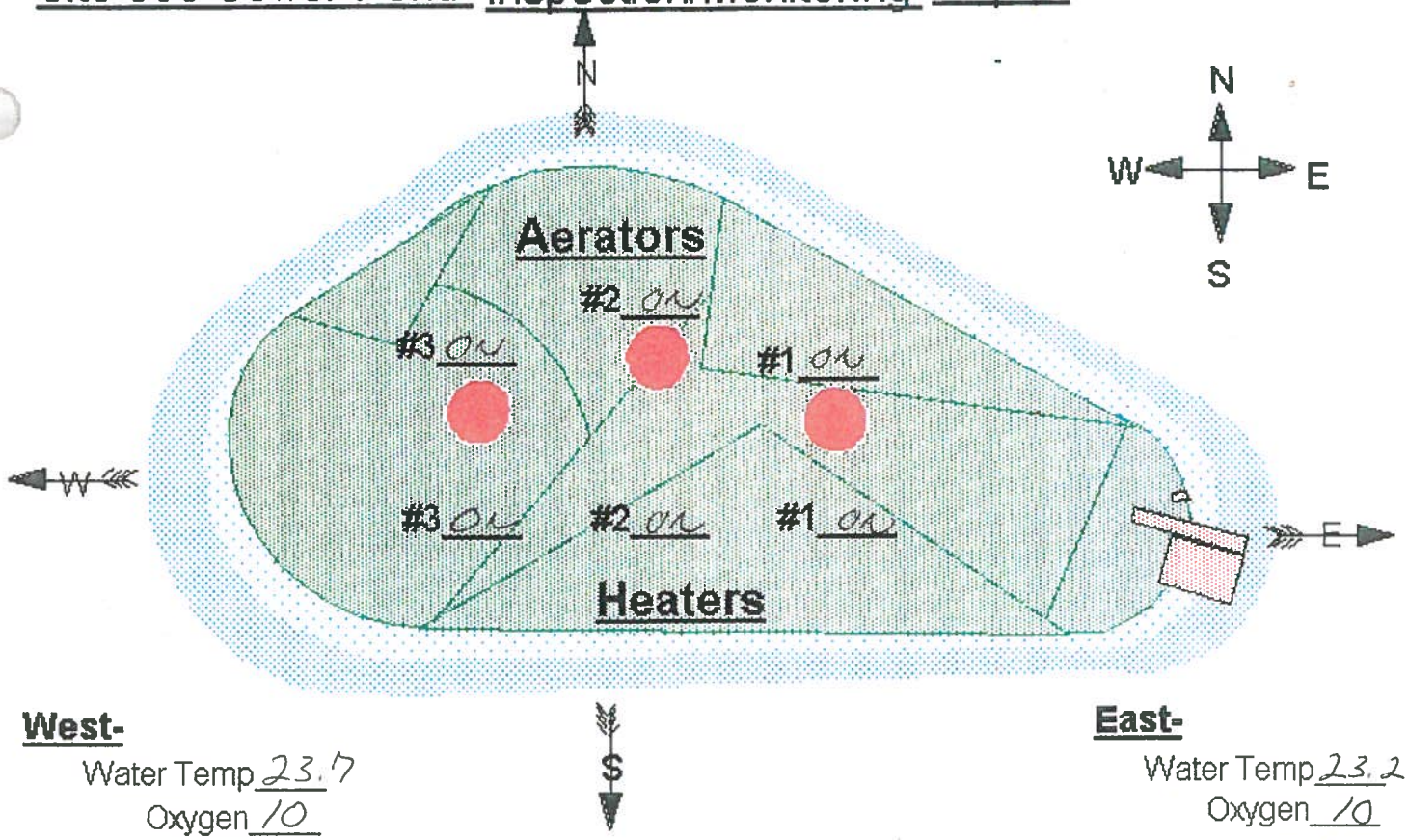
8-22-13
Date

Duane Landrum
Supervisor Review

8-22-13
Date

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 23.7
Oxygen 10
pH 9.8
Time 0600

East-

Water Temp 23.2
Oxygen 10
pH 9.8
Time 0630

Water Level +5"
Water Meter-Stop 8674444
Water Meter-Start 8647572

Water Added 26,872
Air Temp. 23.3
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

Water Level- Dry
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Dwane Sandusky
Inspected by

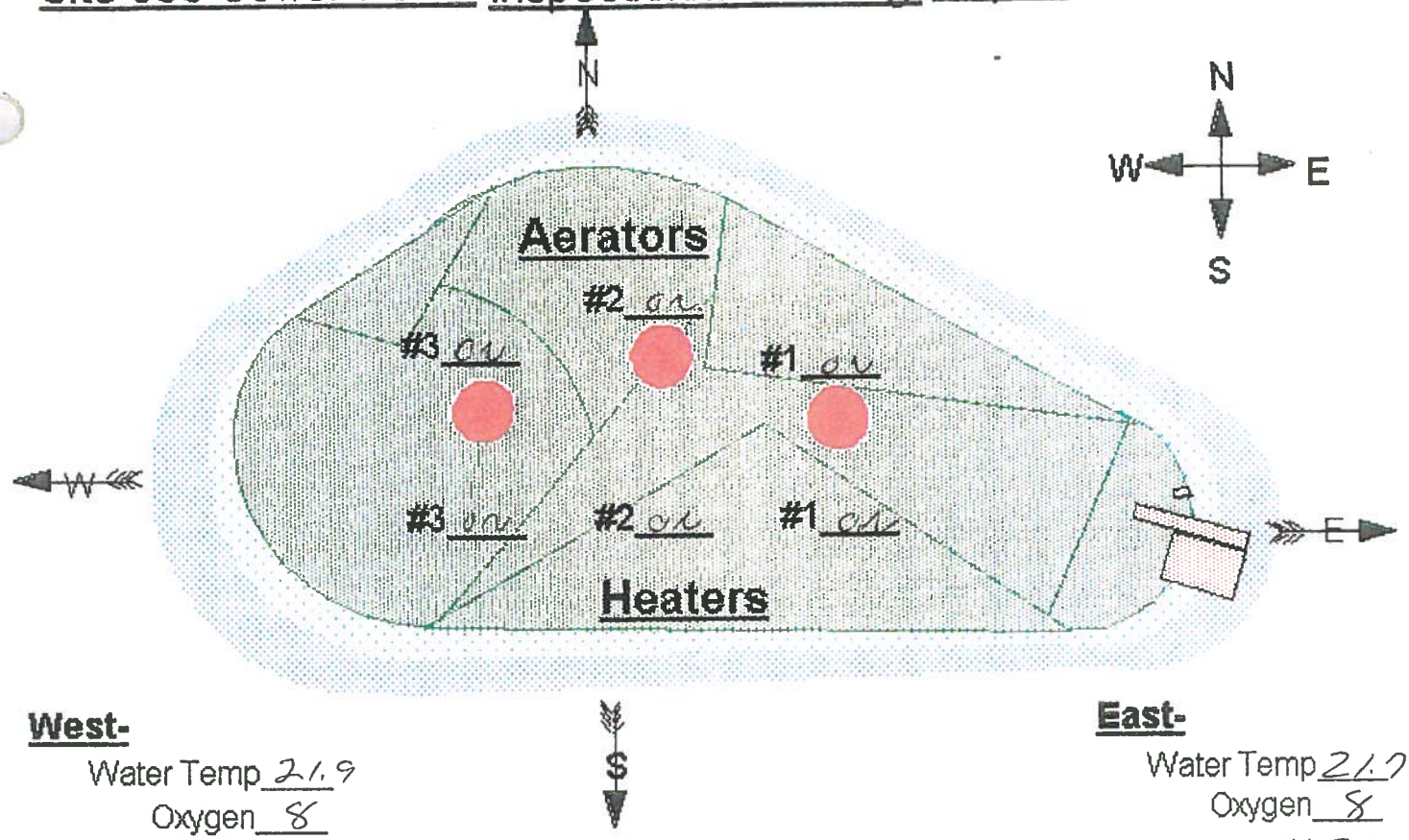
8-19-13
Date

Dwane Sandusky
Supervisor Review

8-19-13
Date

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 21.9
Oxygen 8
pH 9.9
Time 0600

East-

Water Temp 21.7
Oxygen 8
pH 9.9
Time 0630

Water Level +5"
Water Meter-Stop 8647572
Water Meter-Start 8628537

Water Added 19,035
Air Temp. 22.2
Wind Direction NONE

COLOR----

Green ✓
Green Brown ____
Brown Green ____
Brown ____

ODOR---- SLIGHT

Common Bacterium-Per Drop ____
Activated Sludge ____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

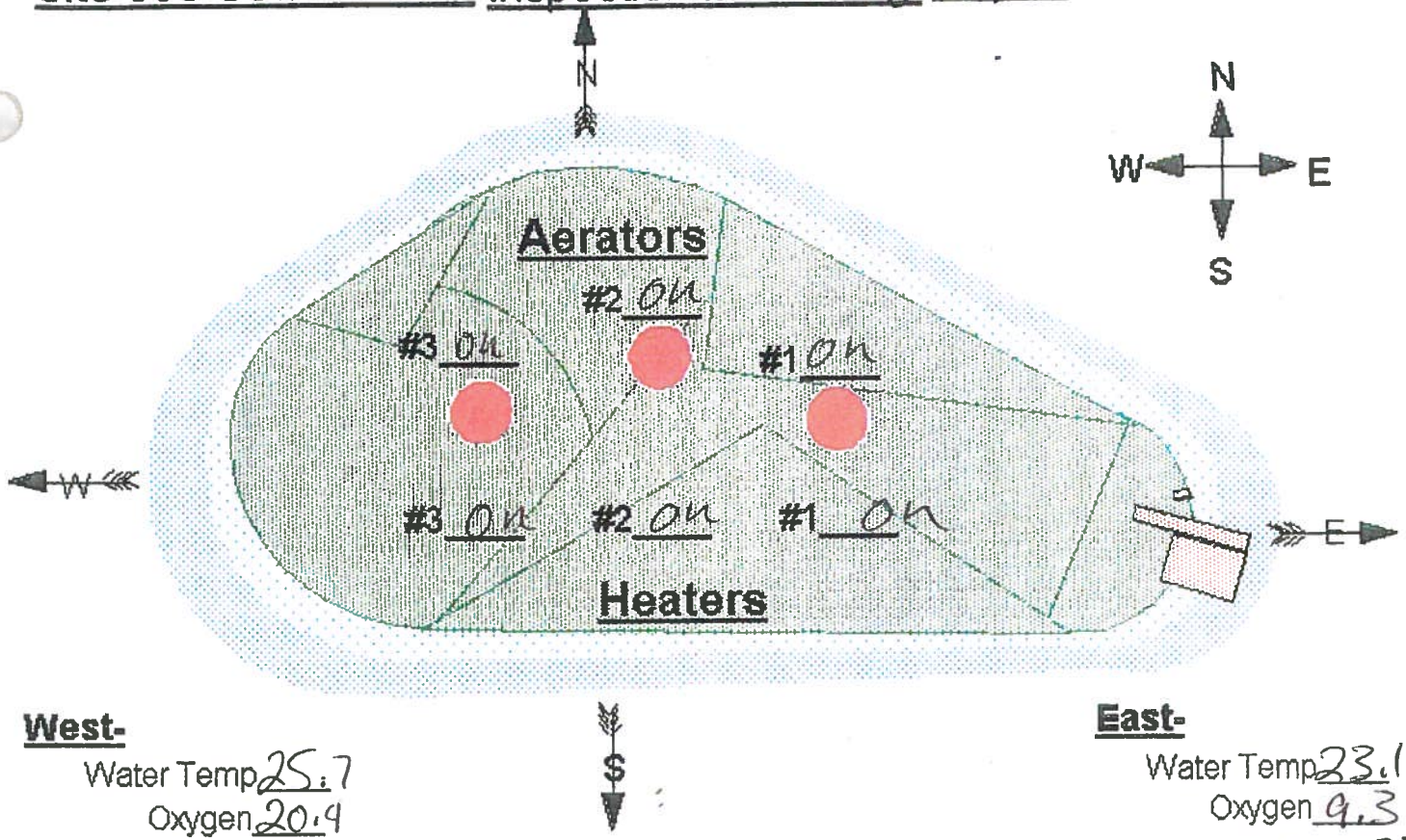
Water Level- NOT FLOWING
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Inspected by _____ Date 8-15-13

Supervisor Review _____ Date 8-15-13

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 25.7
Oxygen 20.4
pH 10.09
Time 11:49

East-

Water Temp 23.1
Oxygen 9.3
pH 10.03
Time 11:52

Water Level 4 3/4
Water Meter-Stop 8628537
Water Meter-Start 8622492

Water Added 6045
Air Temp. 30.4
Wind Direction E to W

COLOR----

Green____
Green Brown ✓
Brown Green____
Brown____

ODOR---- Slight

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test____
Handheld Meter ✓
Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

Water Level- Not Flowing
Erosion Some
Animal Burrows Some
Weed Control Some

D Rockstead
Inspected by

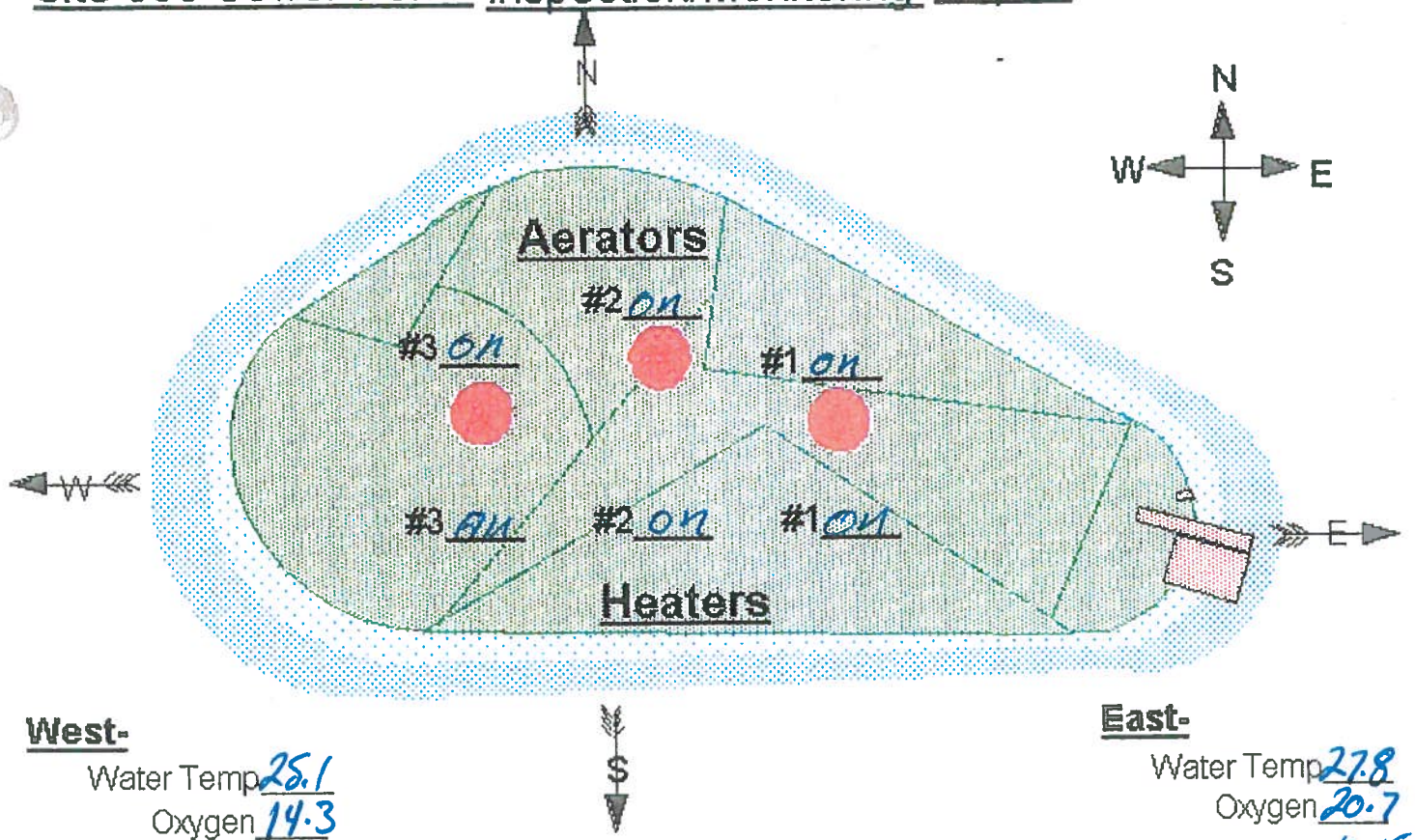
8-12-13
Date

Duane Sandum
Supervisor Review

8-16-13
Date

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 28.1
Oxygen 14.3
pH 10.03
Time 14:51

East-

Water Temp 27.8
Oxygen 20.7
pH 10.15
Time 14:54

Water Level 4 3/4"
Water Meter-Stop 8622492
Water Meter-Start 8581107

Water Added 41,385
Air Temp. 33
Wind Direction None

COLOR----

Green____
Green Brown ✓
Brown Green____
Brown____

ODOR---- Slight

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test____
Handheld meter X
Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

Water Level- Not flowing
Erosion Some
Animal Burrows Some
Weed Control Some

D Rockstead
Inspected by

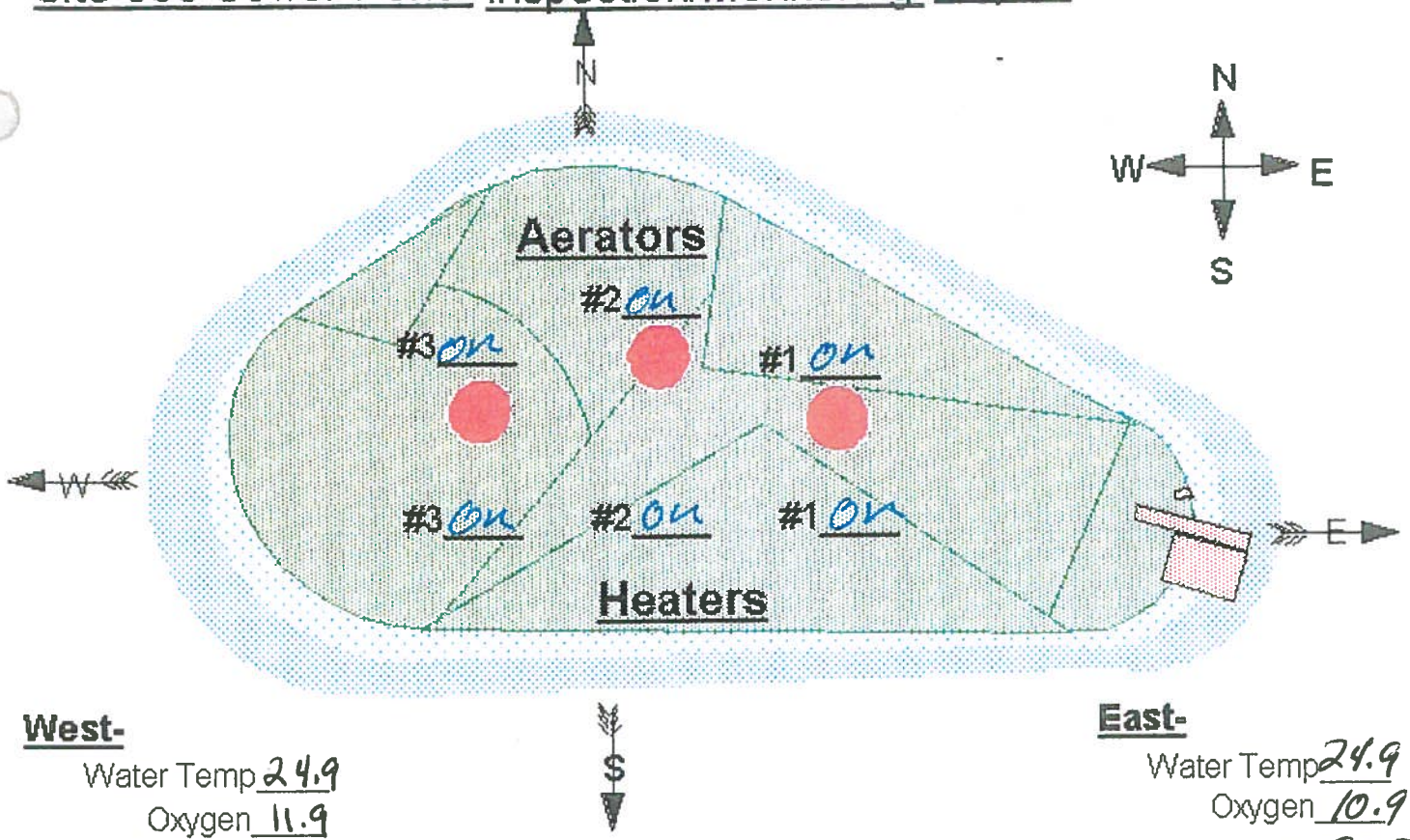
8-11-13
Date

Duane Sandum
Supervisor Review

8-16-13
Date

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 24.9
Oxygen 11.9
pH 9.99
Time 13:23

East-

Water Temp 24.9
Oxygen 10.9
pH 9.73
Time 13:28

Water Level 4 3/4"
Water Meter-Stop 8573593
Water Meter-Start 8532258

Water Added 41 335
Air Temp 31.8
Wind Direction W to E

COLOR----

Green____
Green Brown ✓
Brown Green____
Brown____

ODOR----/ Slight

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test____
Handheld Meter X
Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

Water Level- Not flowing
Erosion Some
Animal Burrows Some
Weed Control Some

Rockstead
Inspected by

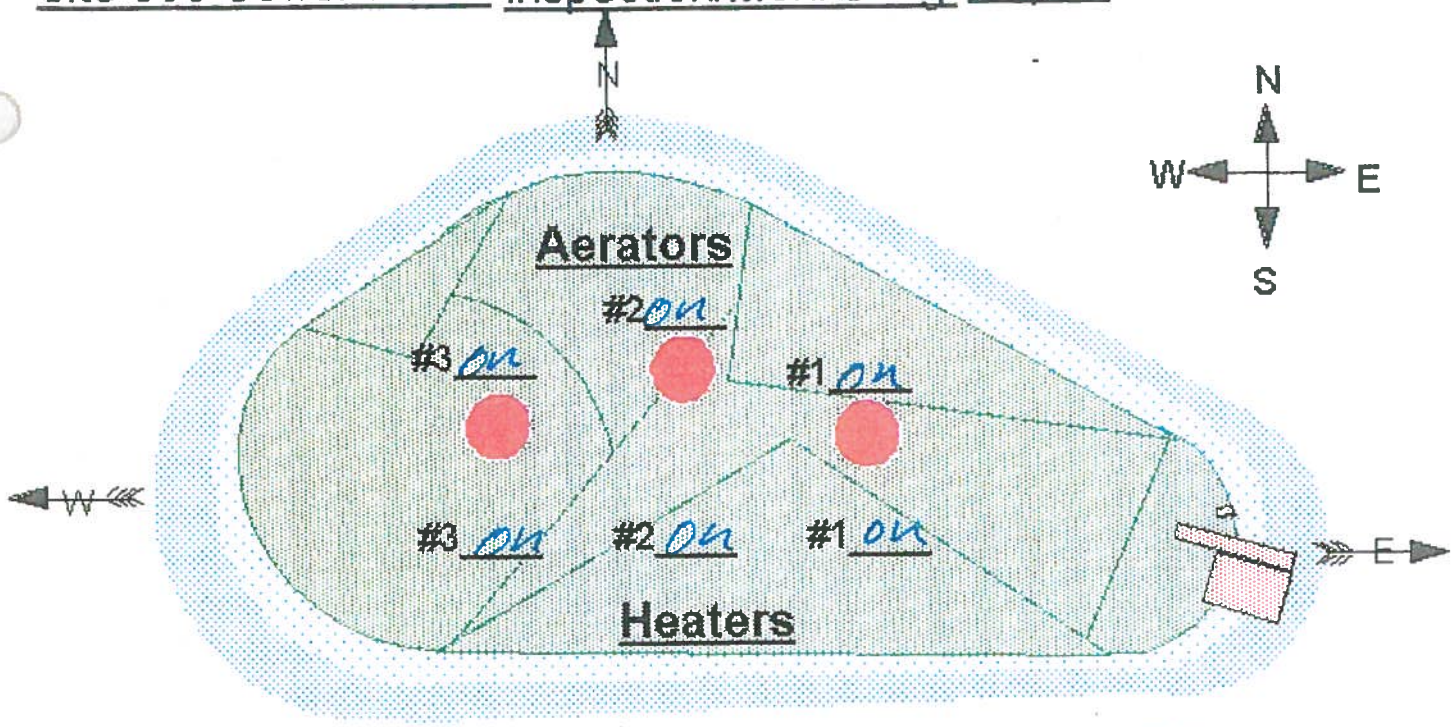
8-4-13
Date

Duane Lewis
Supervisor Review

8-16-13
Date

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 26.0
Oxygen 18.9
pH 10.09
Time 15:23

East-

Water Temp 25.9
Oxygen 11.9
pH 10.11
Time 15:23

Water Level 4 3/4"
Water Meter-Stop 8581107
Water Meter-Start 8573593

Water Added 7514
Air Temp. 20.9
Wind Direction W to E

COLOR----

Green____
Green Brown ✓
Brown Green____
Brown____

ODOR---- Slight

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test____
Handheld meter X
Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

Water Level- not flowing
Erosion Some
Animal Burrows Some
Weed Control Some

Rockstead
Inspected by

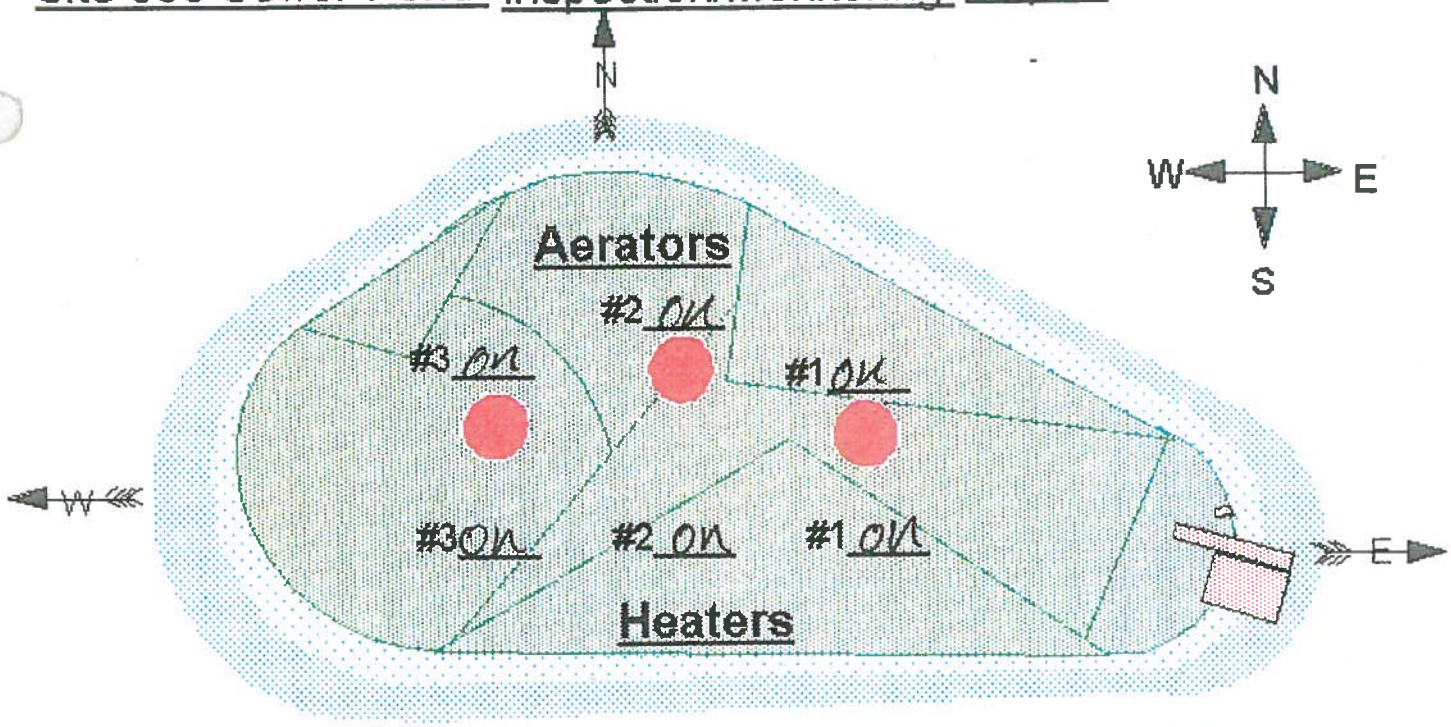
8-5-13
Date

Duane Leonard
Supervisor Review

8-16-13
Date

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 27.8
Oxygen 15.8
pH 9.99
Time 15:13

East-

Water Temp 26.7
Oxygen 13.8
pH 9.96
Time 15:17

Water Level 3 3/4
Water Meter-Stop 8532258
Water Meter-Start 8524887

Water Added 7371
Air Temp. 32.3
Wind Direction E to W

COLOR----

Green____
Green Brown ✓
Brown Green____
Brown____

ODOR---- Slight

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test____
Handheld Meter X
Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

D Rockstead
Inspected by

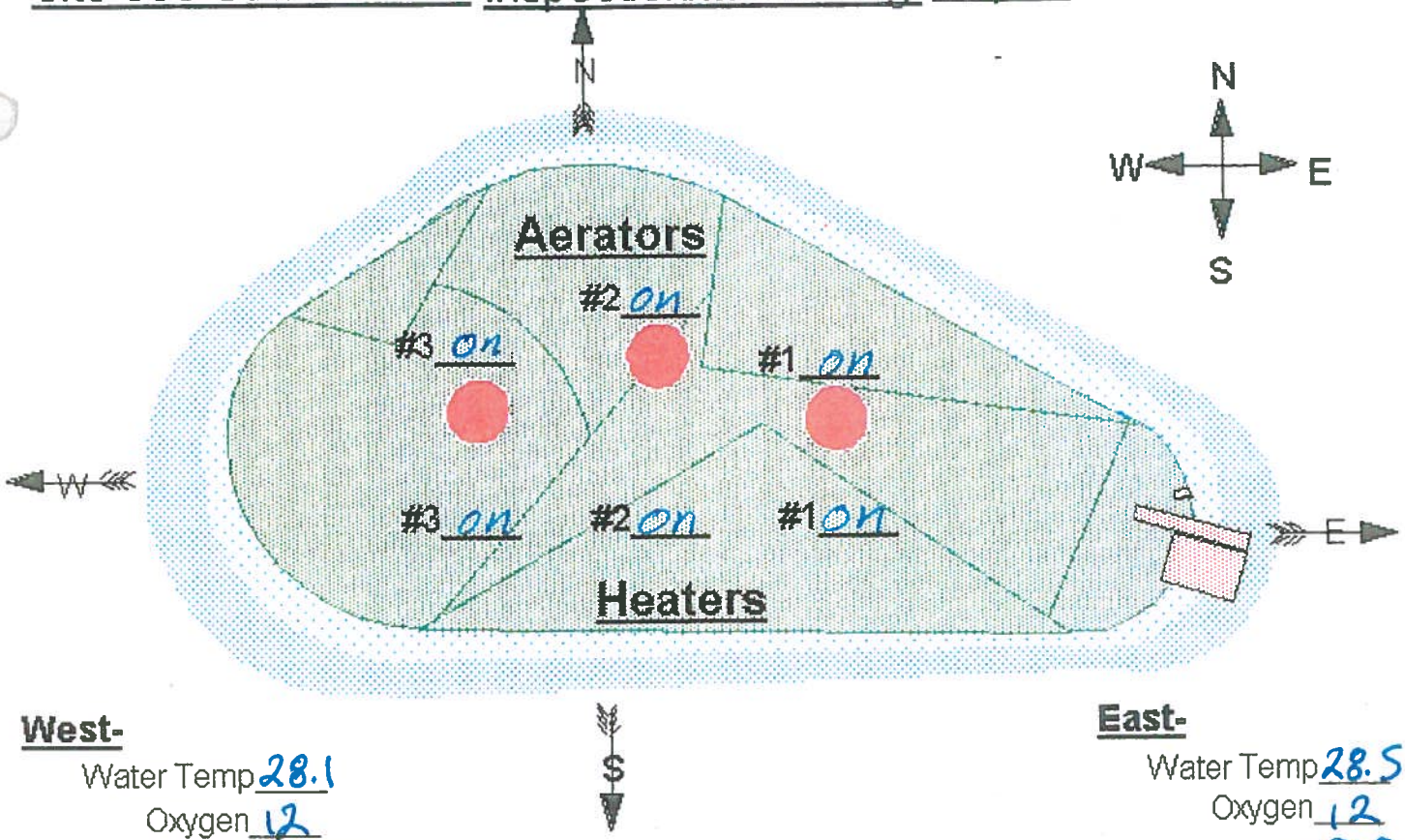
7-29-13
Date

Supervisor Review

Date

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 28.1
Oxygen 12
pH 9.08
Time 14:16

East-

Water Temp 28.5
Oxygen 12
pH 8.81
Time 14:27

Water Level 3 3/4
Water Meter-Stop 8524887
Water Meter-Start 8501208

Water Added 23,679
Air Temp. 35 c
Wind Direction W to E

COLOR----

Green____
Green Brown ✓
Brown Green____
Brown____

ODOR---- None

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

David Rockstead
Inspected by

7-28-13
Date

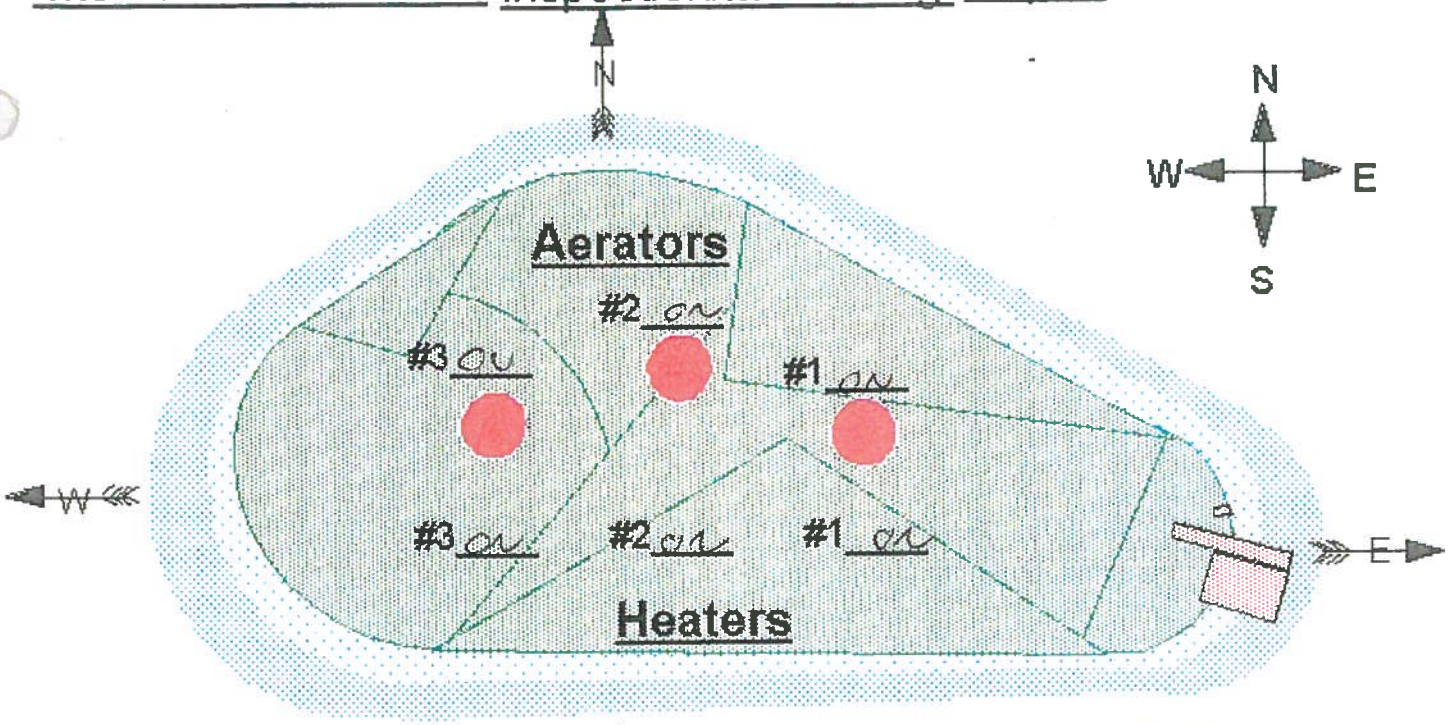
Supervisor Review

Date

Comments

8524887

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 24.1
Oxygen 2
pH 9.9
Time 0600

East-

Water Temp 23.9
Oxygen 2
pH 9.9
Time 0630

Water Level +4"
Water Meter-Stop 8501208
Water Meter-Start 8429869

Water Added 21,339
Air Temp. 25.6
Wind Direction NNE

COLOR----

Green____
Green Brown____
Brown Green ✓
Brown____

ODOR---- slight

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion Some
Animal Burrows Some
Weed Control Some

Percolation Pond

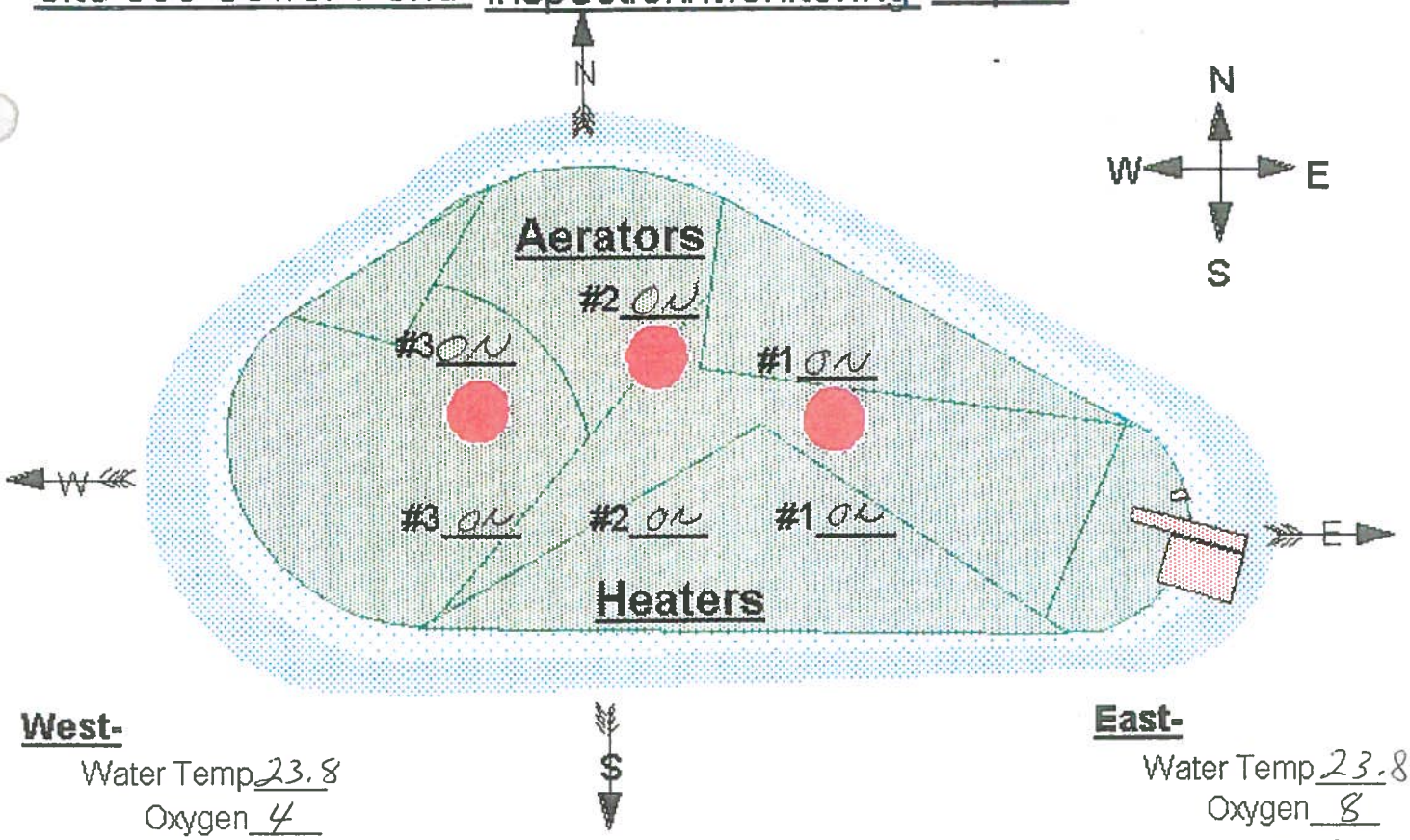
Water Level- Dry
Erosion Some
Animal Burrows Some
Weed Control Some

Inspected by [signature] Date 7-25-13

Supervisor Review ____ Date ____

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 23.8
Oxygen 4
pH 9.9
Time 0600

East-

Water Temp 23.8
Oxygen 8
pH 9.8
Time 0630

Water Level +33 1/4"
Water Meter-Stop 8479869
Water Meter-Start 8451553

Water Added 28,316
Air Temp. 17.2
Wind Direction NONE

COLOR----

Green____
Green Brown____
Brown Green ✓
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

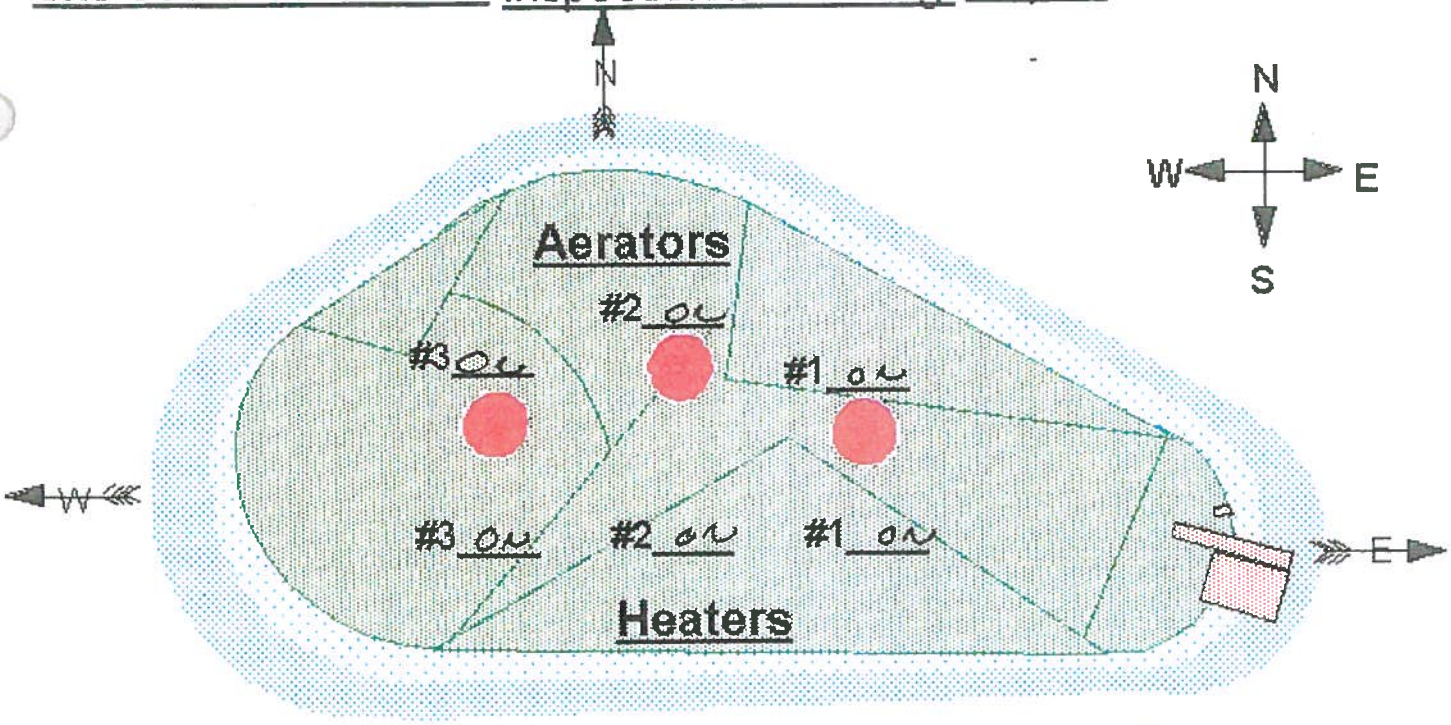
Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Inspected by [signature] Date 7-22-13

Supervisor Review ____ Date ____

Comments ____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 21.1
Oxygen 8
pH 9.5
Time 0600

East-

Water Temp 21.1
Oxygen 8
pH 9.5
Time 0630

Water Level +3 3/4"
Water Meter-Stop 8451553
Water Meter-Start 8401937

Water Added 49,616
Air Temp. 21.1
Wind Direction none

COLOR----

Green____
Green Brown____
Brown Green ✓
Brown____

ODOR---- slight

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion some
Animal Burrows some
Weed Control some

Percolation Pond

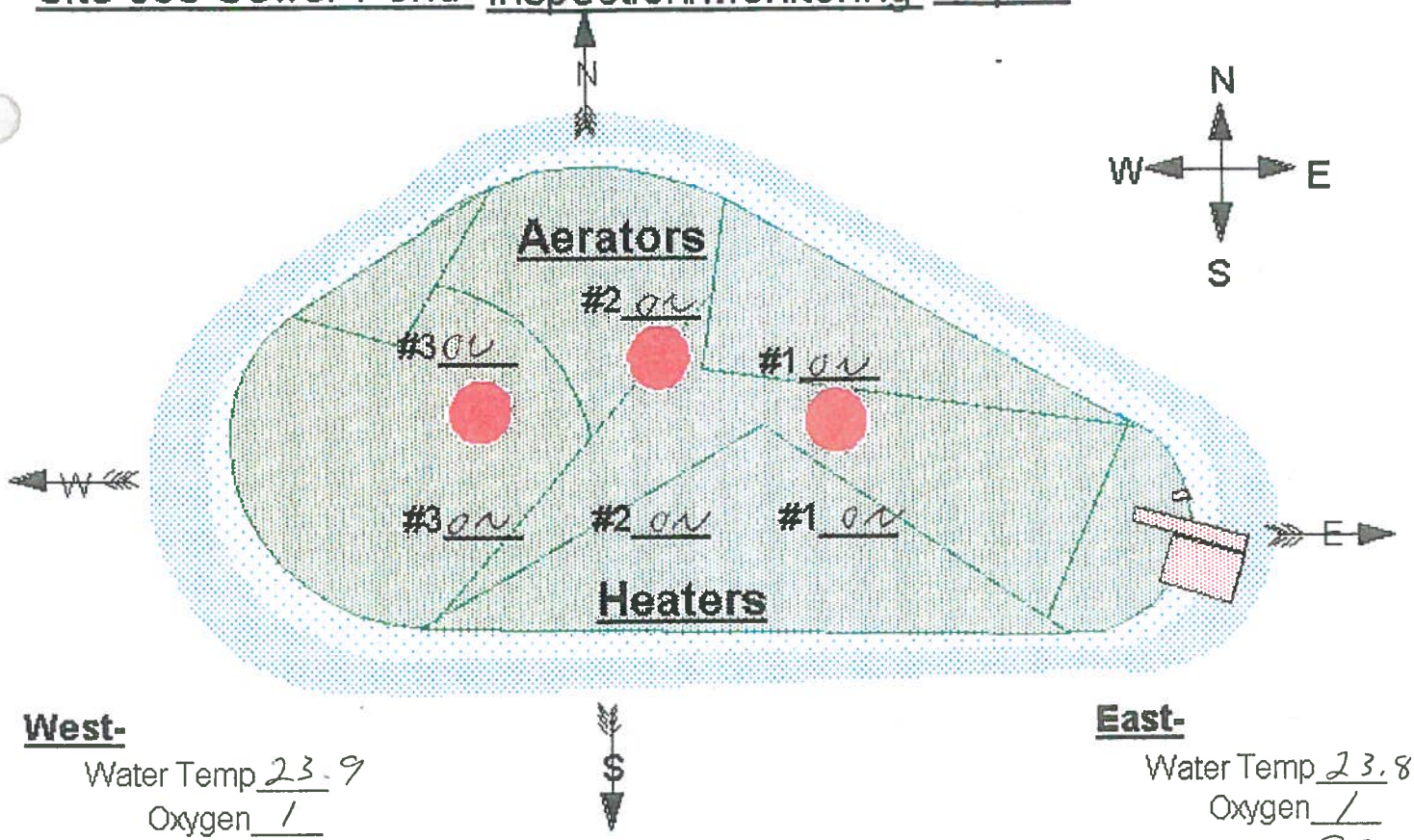
Water Level- DRY
Erosion some
Animal Burrows some
Weed Control some

Inspected by _____ Date 7-18-13

Supervisor Review _____ Date _____

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 23.9
Oxygen 1
pH 9.8
Time 0600

East-

Water Temp 23.8
Oxygen 1
pH 9.8
Time 0630

Water Level +4"
Water Meter-Stop 8401937
Water Meter-Start 8380838

Water Added 21,099
Air Temp. 16.1
Wind Direction NONE

COLOR----

Green____
Green Brown____
Brown Green ✓
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

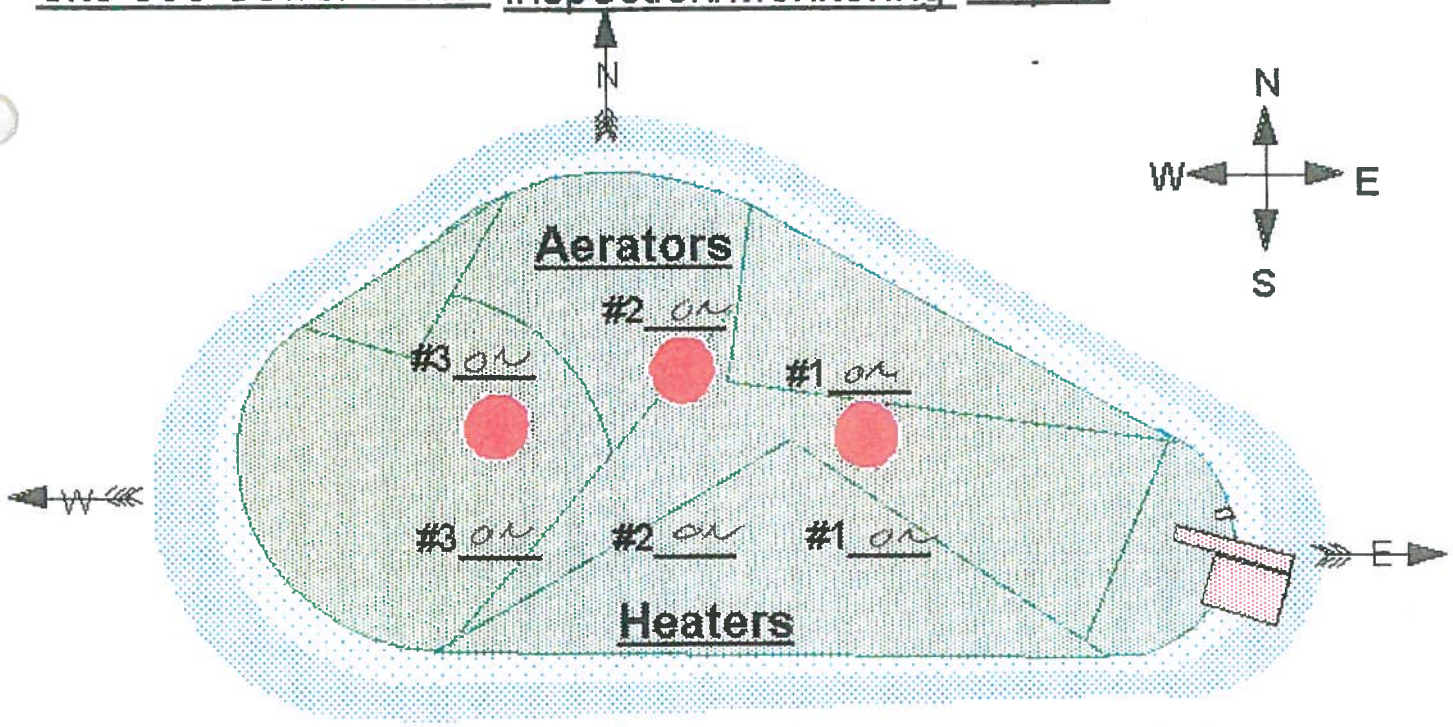
Water Level- Dry
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Inspected by _____ Date 7-11-13

Supervisor Review _____ Date _____

Comments _____

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 24.0
Oxygen 4
pH 9.8
Time 0600

East-

Water Temp 23.8
Oxygen 3
pH 9.8
Time 0630

Water Level +4"
Water Meter-Stop 8380838
Water Meter-Start 8352412

Water Added 28,426
Air Temp. 16.1
Wind Direction NONE

COLOR----

Green____
Green Brown____
Brown Green ✓
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion SOME
Animal Burrows SOME
Weed Control SOME

Percolation Pond

Water Level- DRY
Erosion SOME
Animal Burrows SOME
Weed Control SOME

Dwane Sanders
Inspected by

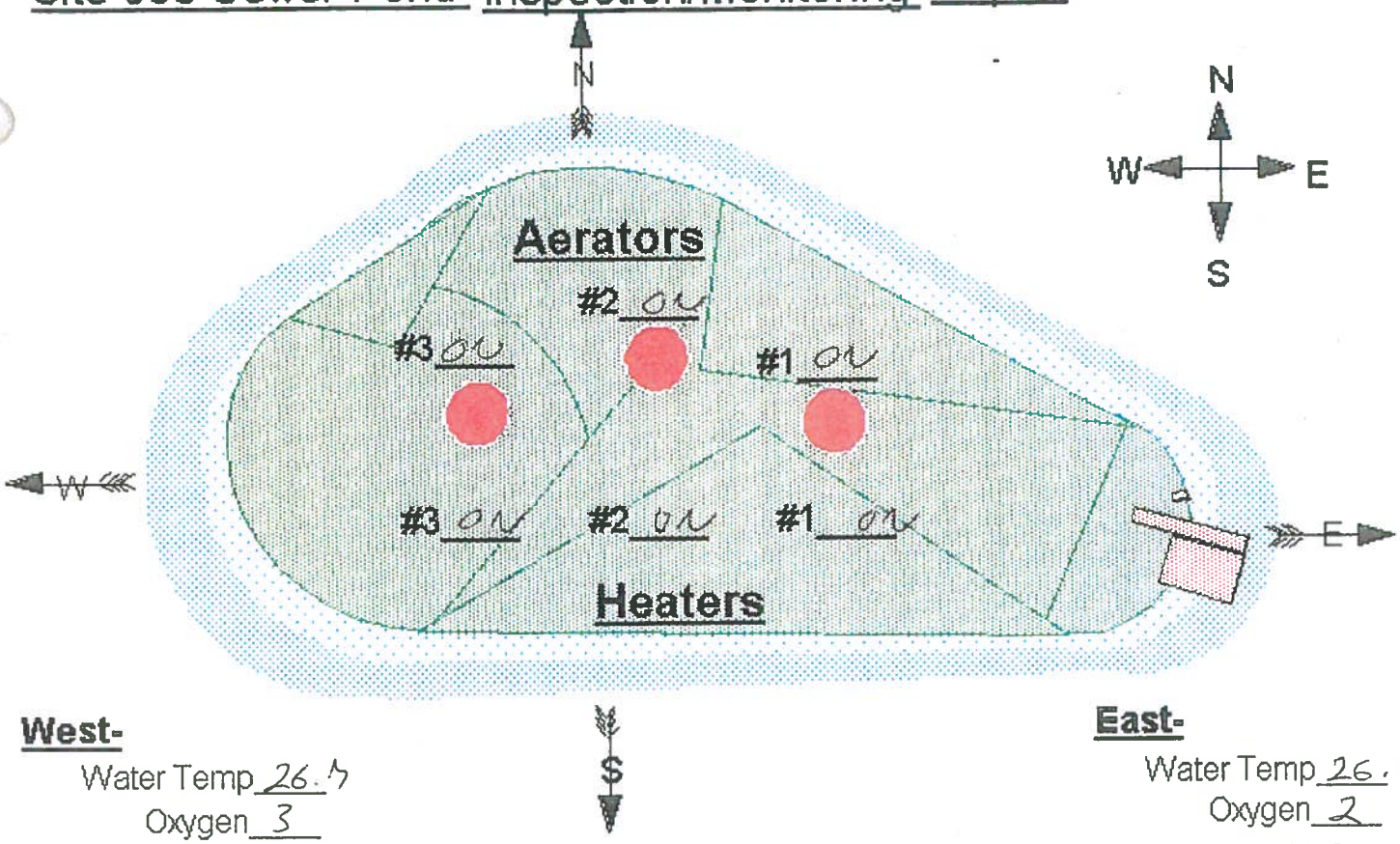
7-8-13
Date

Supervisor Review

Date

Comments

Site 300 Sewer Pond- Inspection/Monitoring Report



West-

Water Temp 26.7
Oxygen 3
pH 9.59
Time 0600

East-

Water Temp 26.3
Oxygen 2
pH 9.65
Time 0630

Water Level +4"
Water Meter-Stop 8352412
Water Meter-Start 8280947

Water Added 71,465
Air Temp. 30.0
Wind Direction none

COLOR----

Green____
Green Brown____
Brown Green ✓
Brown____

ODOR---- SLIGHT

Common Bacterium-Per Drop____
Activated Sludge____
Glass Tube Test ✓

Erosion some
Animal Burrows some
Weed Control some

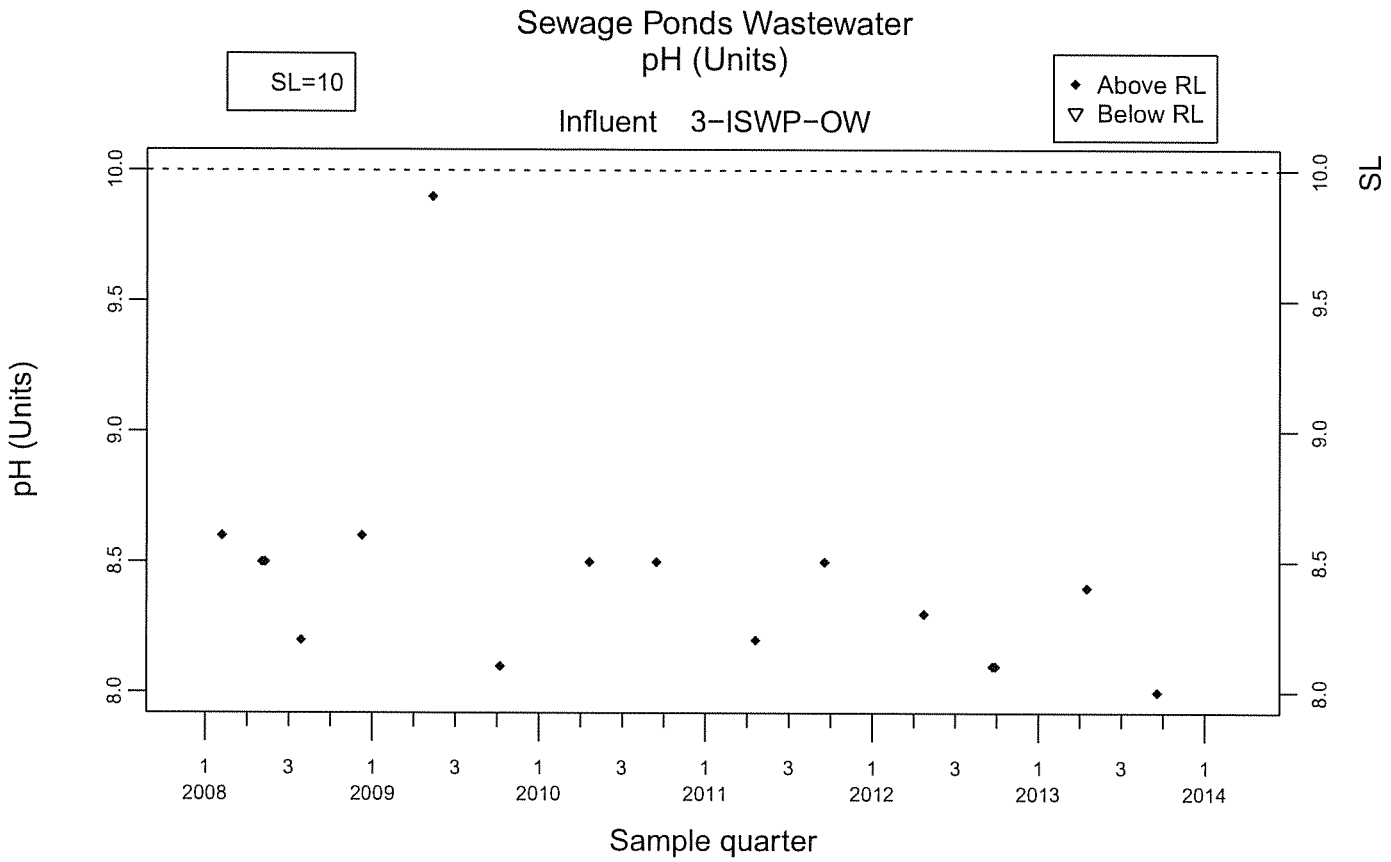
Percolation Pond

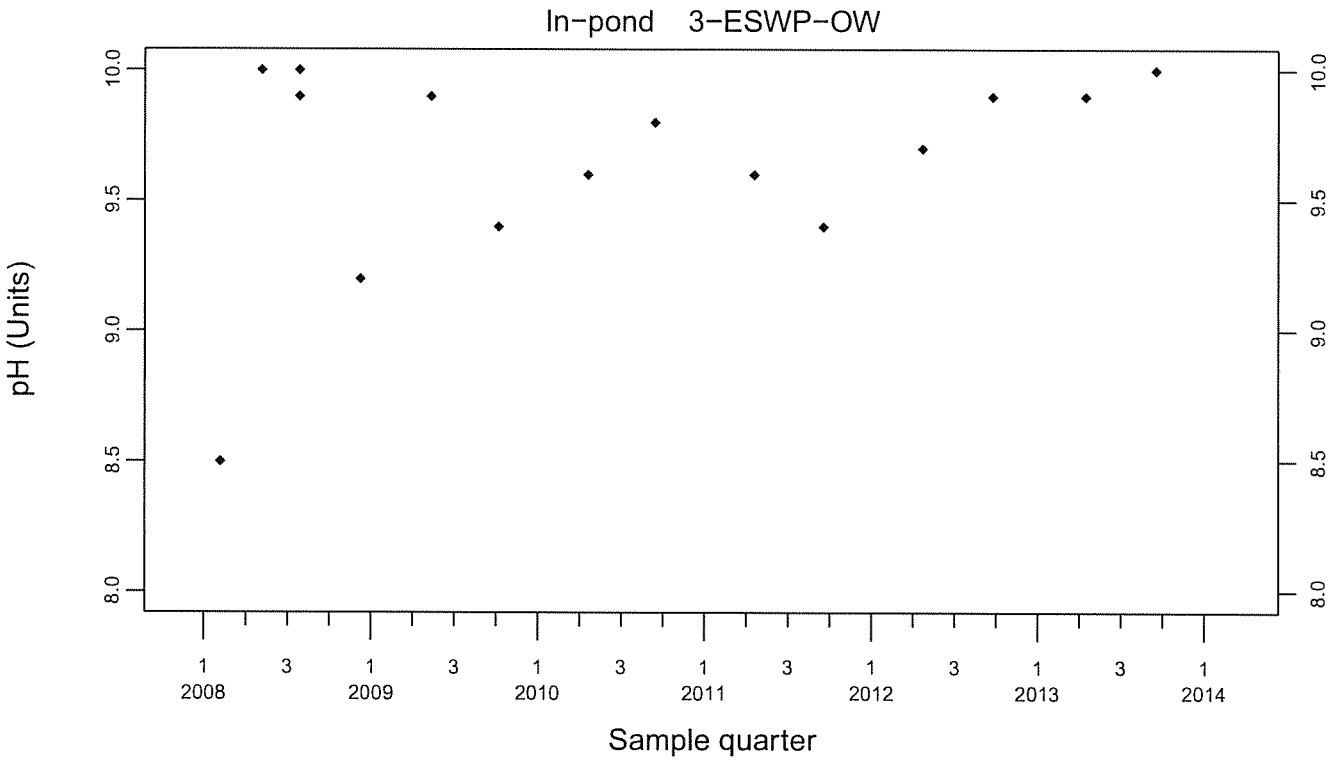
Water Level- Dry
Erosion some
Animal Burrows some
Weed Control some

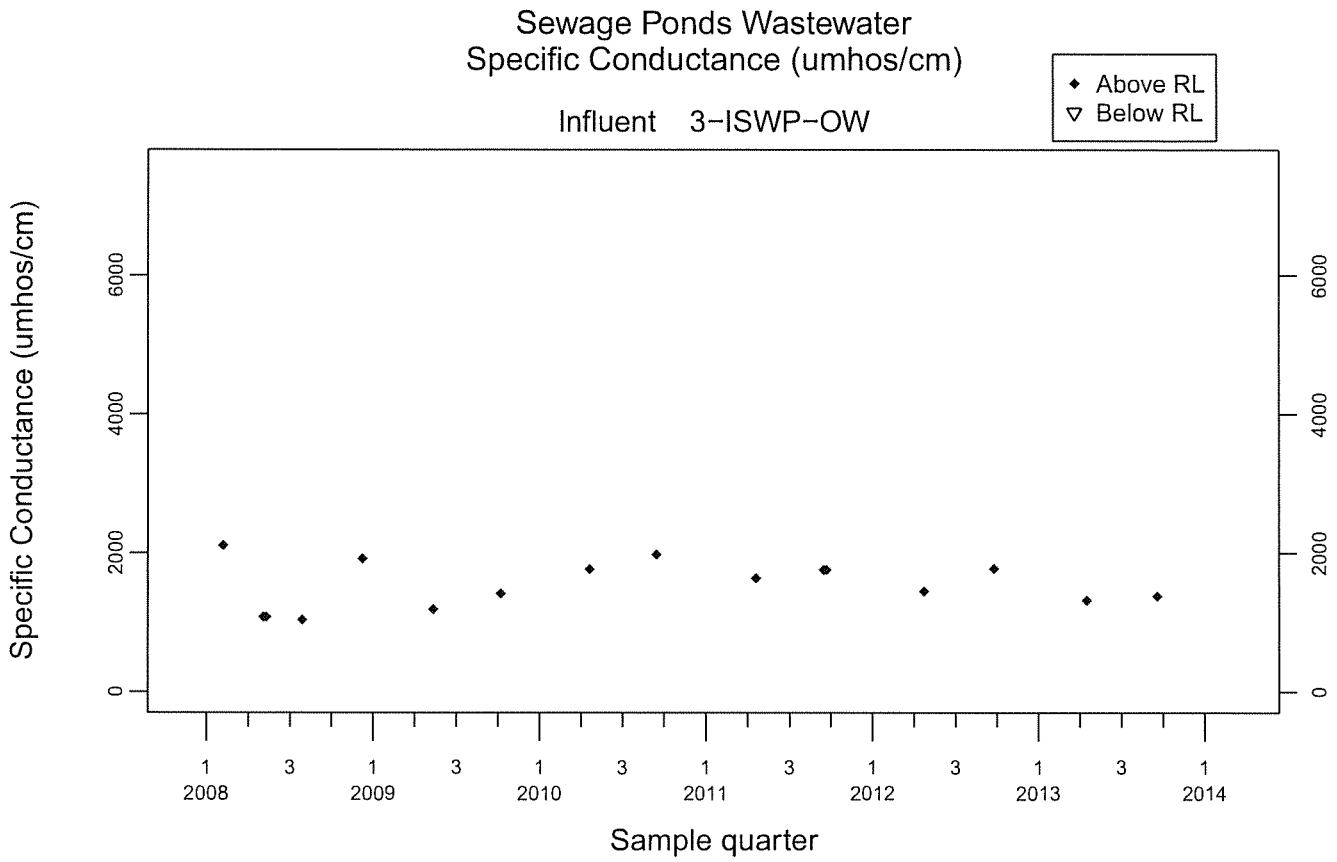
Inspected by [signature] Date 7-4-13

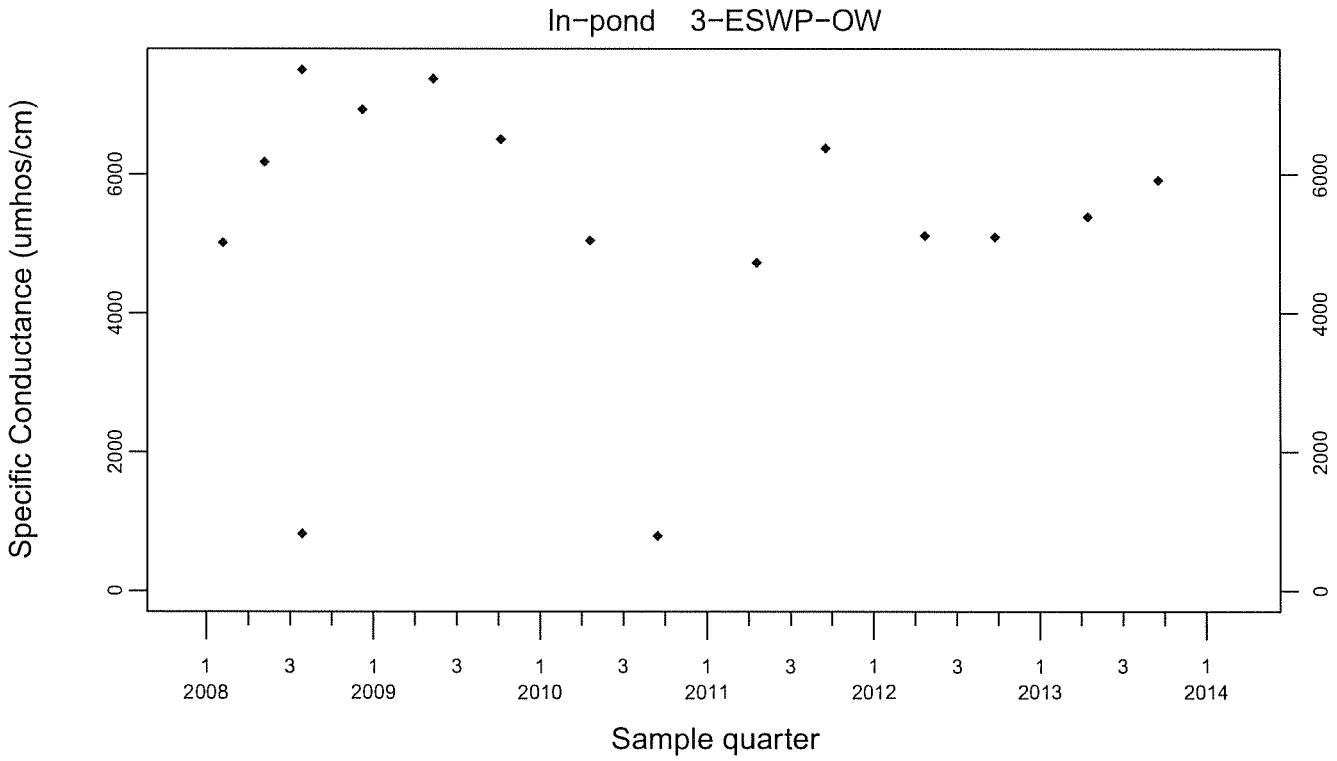
Supervisor Review ____ Date ____

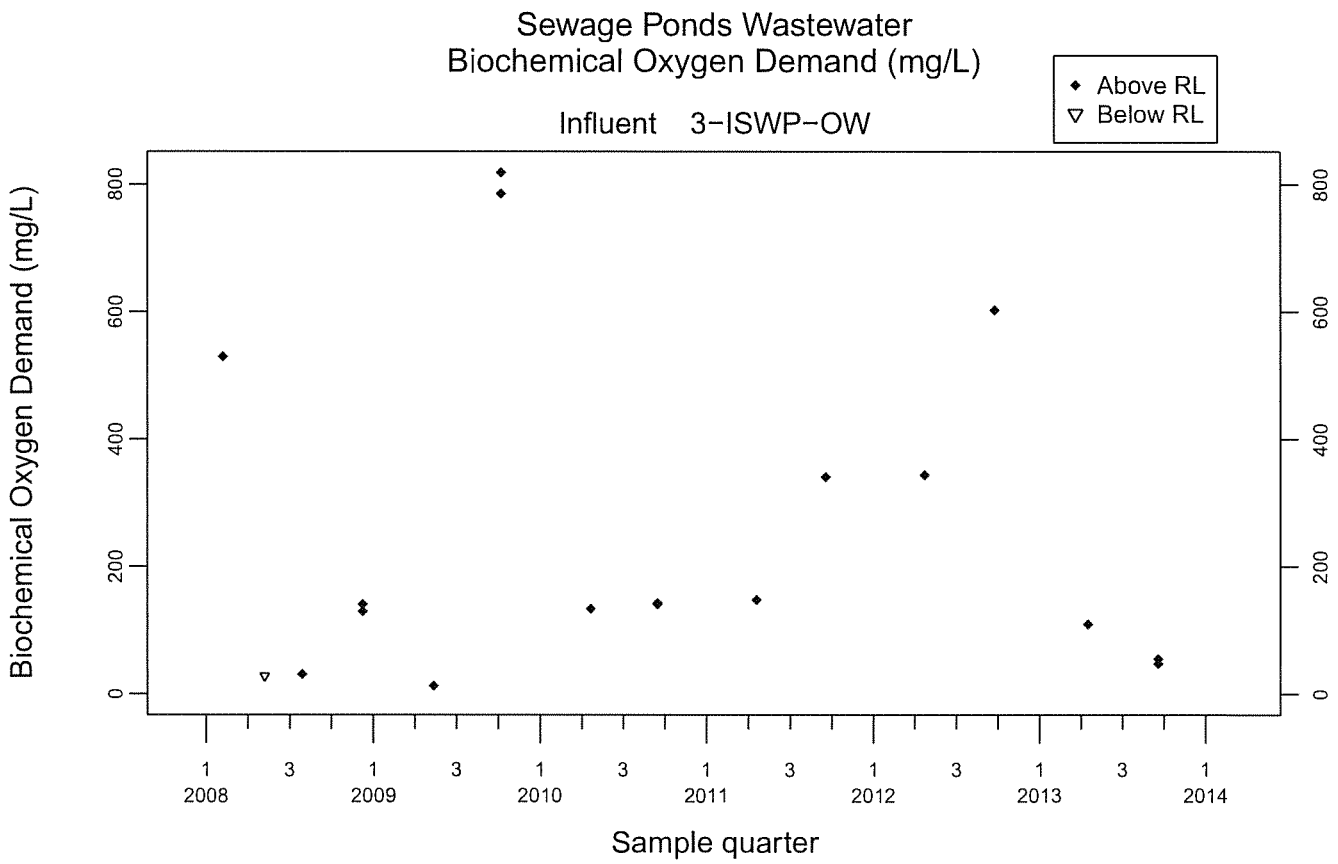
Comments ____

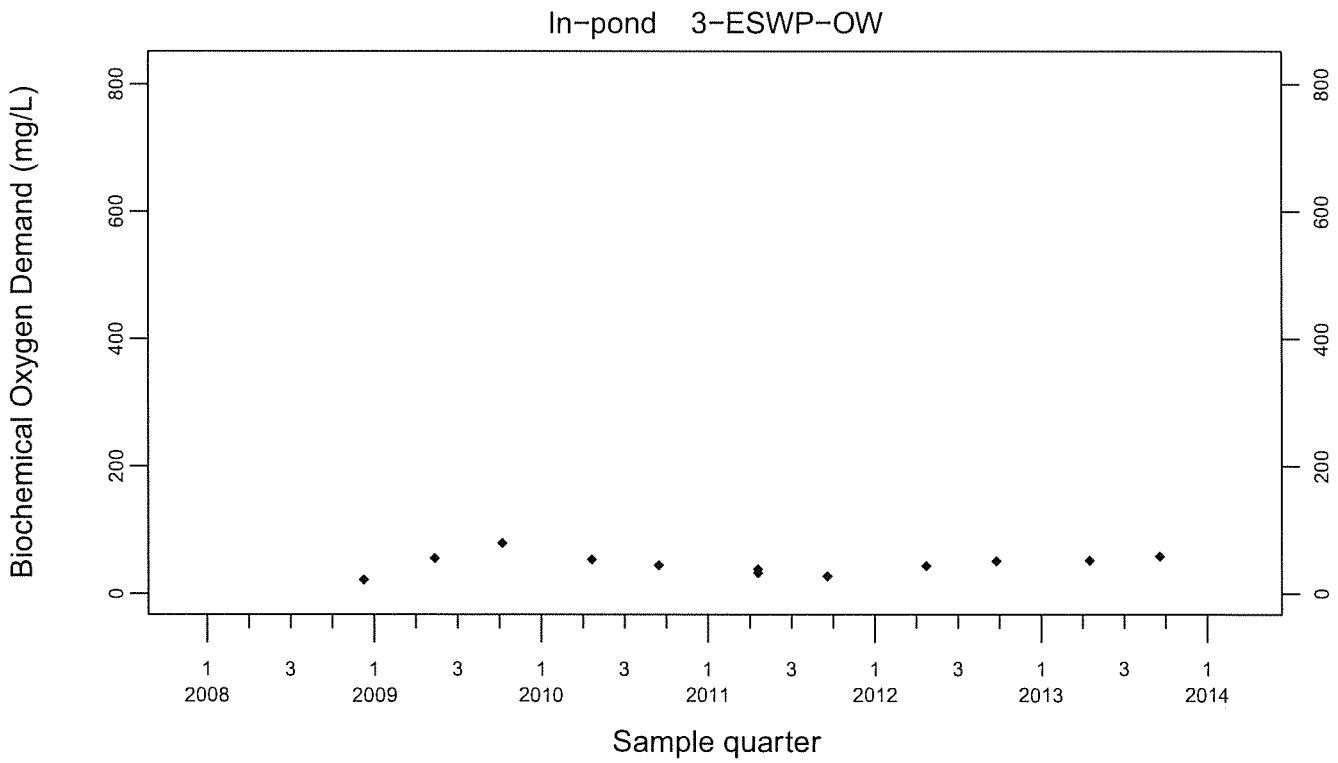

Sewage Ponds Wastewater
pH (Units)
SL=10
Above RL
Below RL
Influent 3-ISWP-OW
pH (Units)
SL
10.0
9.5
9.0
8.5
8.0
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

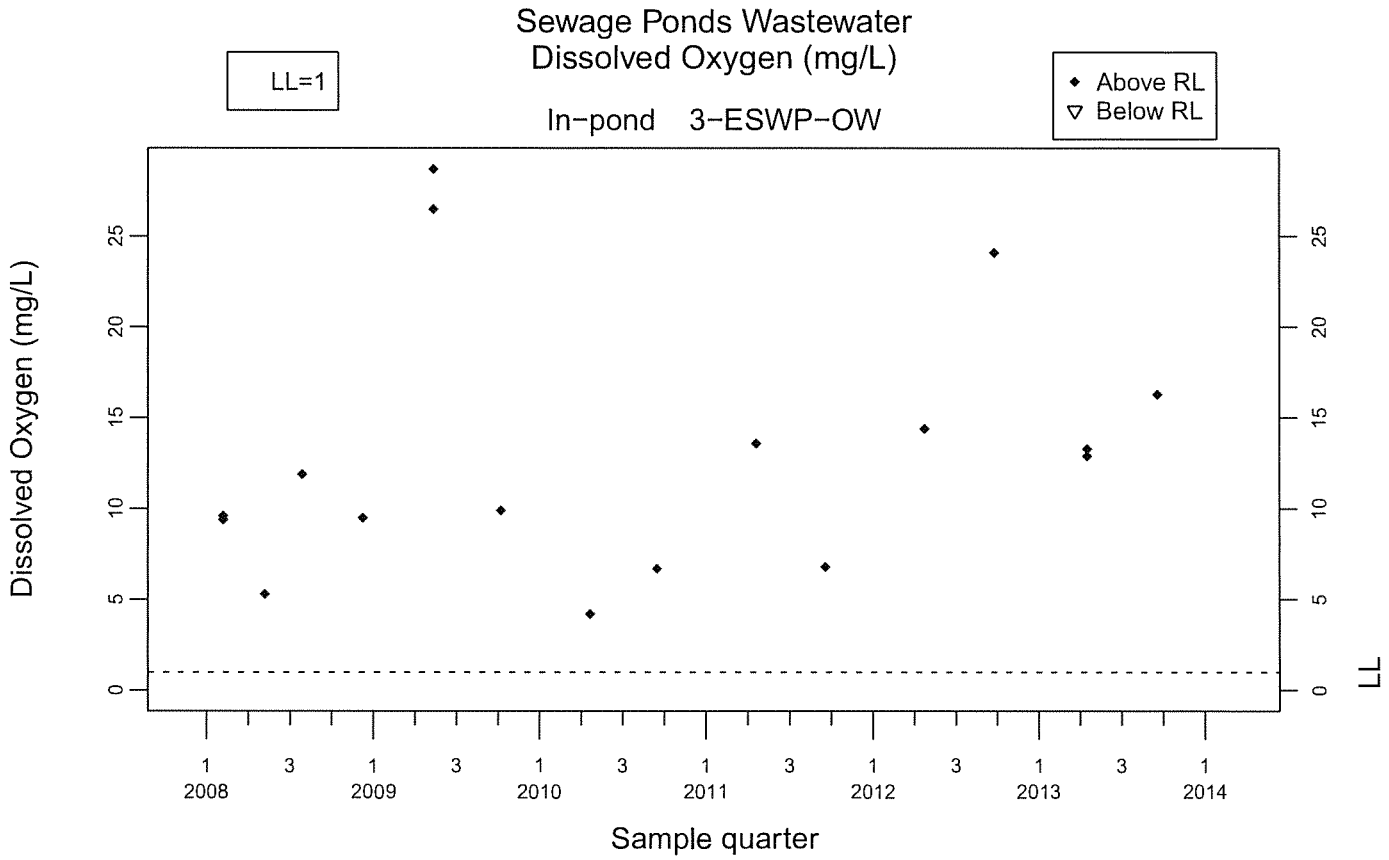

In-pond 3-ESWP-OW
pH (Units)
10.0
9.5
9.0
8.5
8.0
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

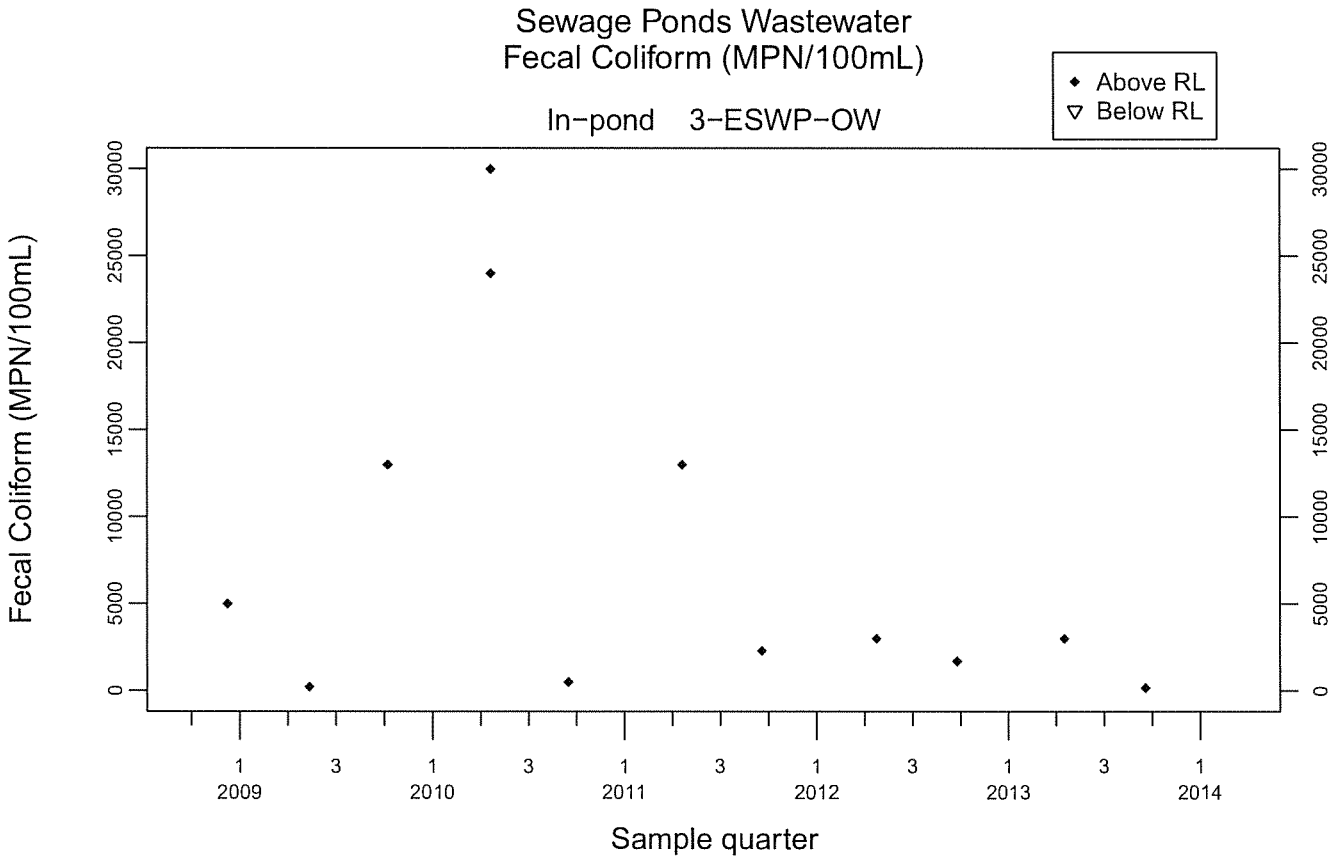

Sewage Ponds Wastewater
Specific Conductance (umhos/cm)
Influent 3-ISWP-OW
Above RL
Below RL
Specific Conductance (umhos/cm)
0
2000
4000
6000
1 3 1 3 1 3 1 3 1 3 1 3 1
2008 2009 2010 2011 2012 2013 2014
Sample quarter

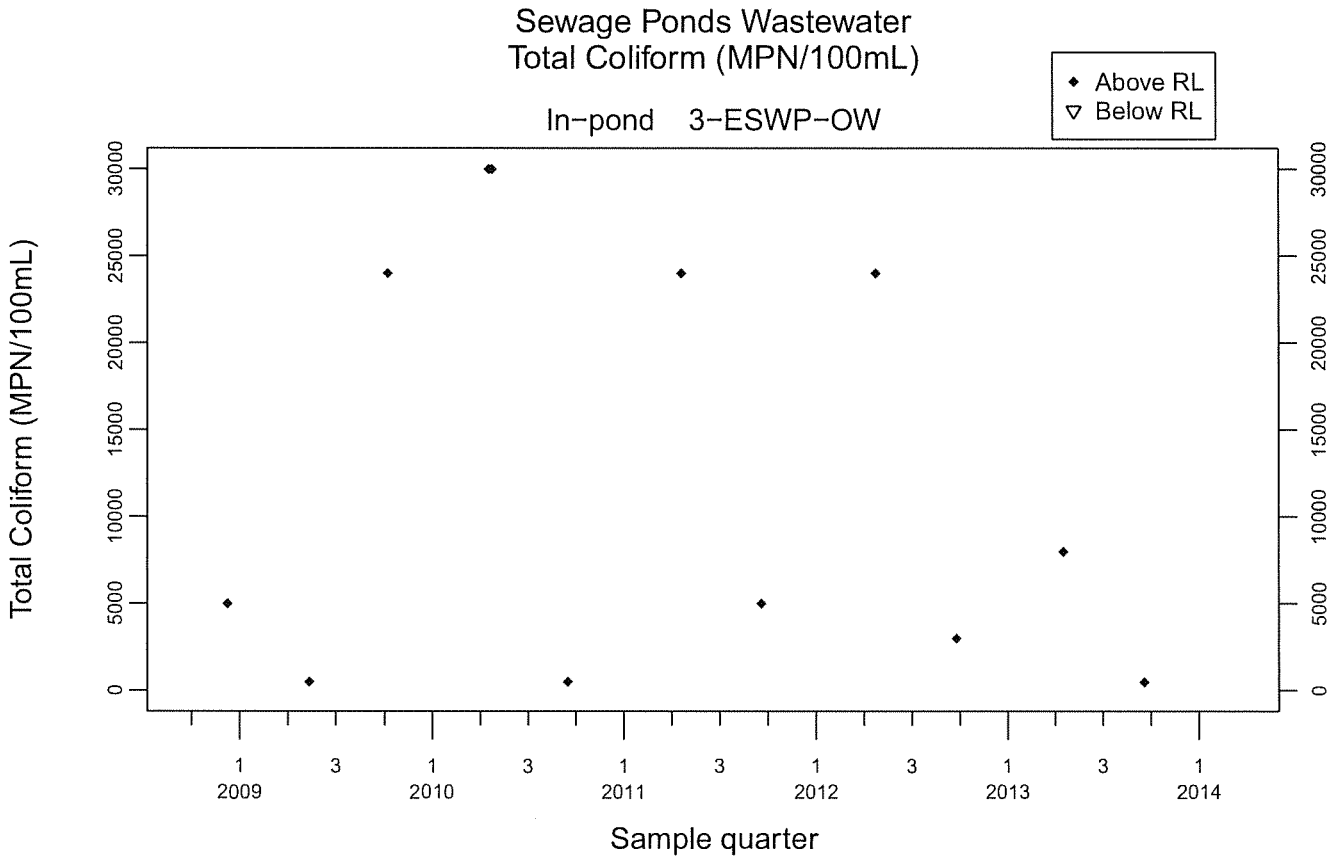

In-pond 3-ESWP-OW
Specific Conductance (umhos/cm)
0
2000
4000
6000
1 3 1 3 1 3 1 3 1 3 1 3 1
2008 2009 2010 2011 2012 2013 2014
Sample quarter

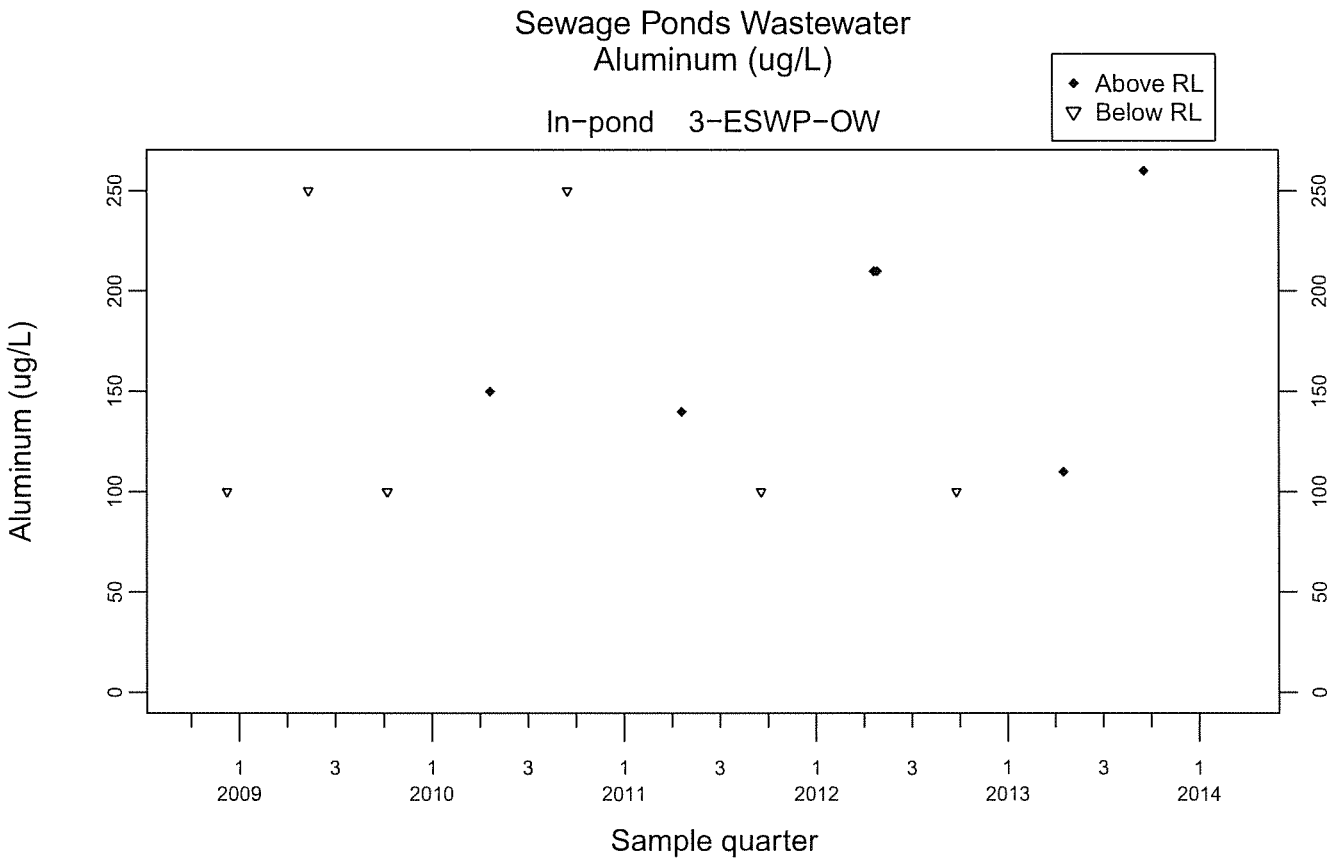

Sewage Ponds Wastewater
Biochemical Oxygen Demand (mg/L)
Influent 3-ISWP-OW
Above RL
Below RL
Biochemical Oxygen Demand (mg/L)
0
200
400
600
800
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

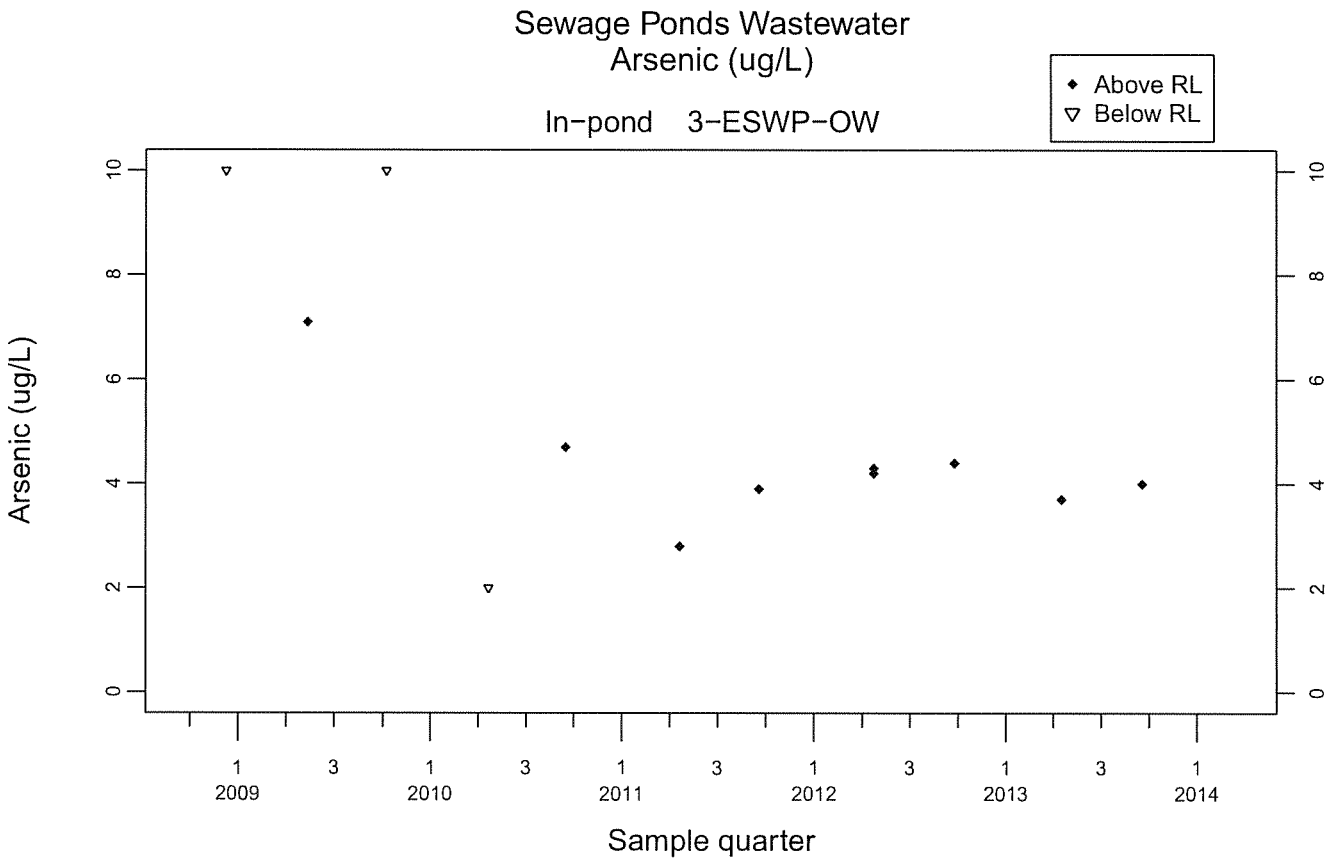

In-pond 3-ESWP-OW
Biochemical Oxygen Demand (mg/L)
0
200
400
600
800
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

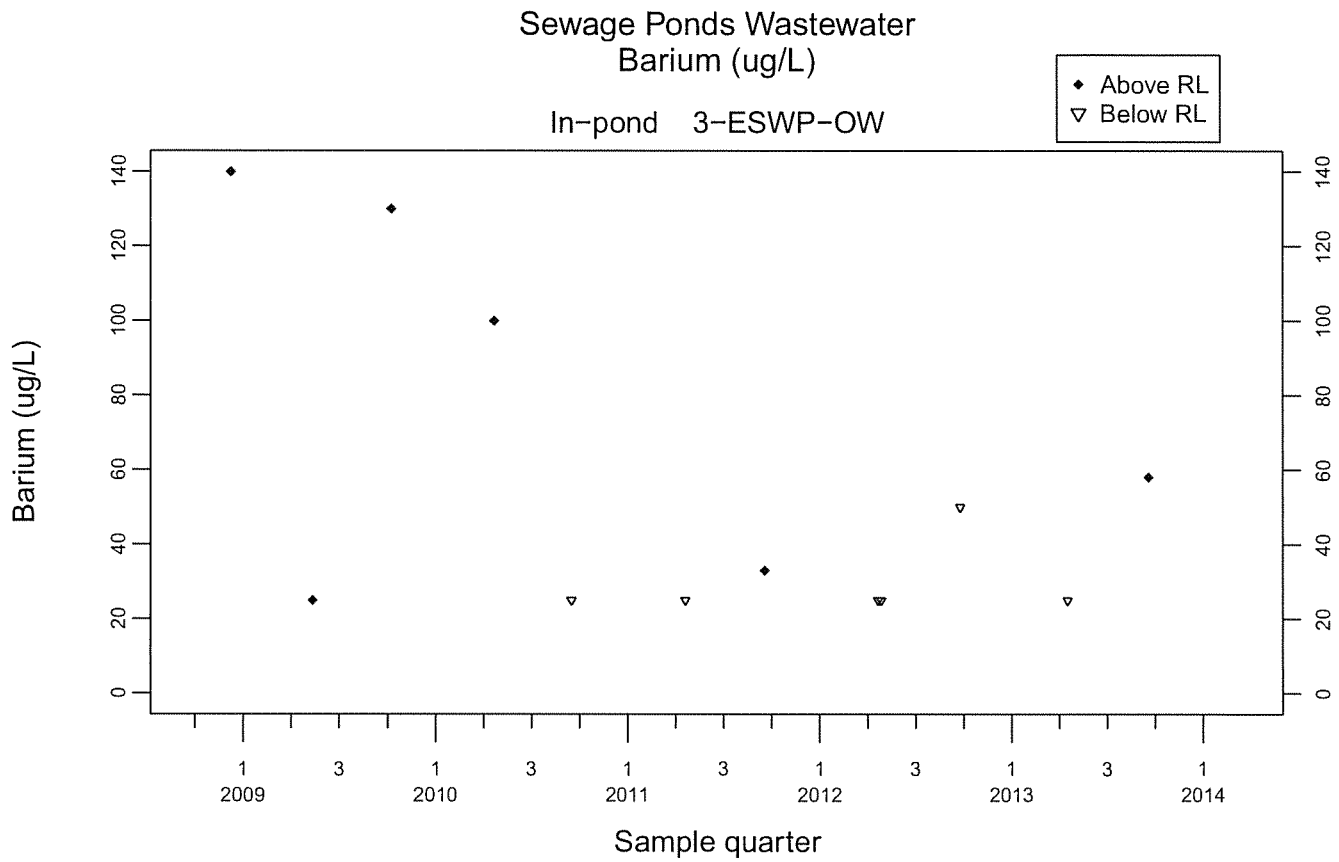

Sewage Ponds Wastewater
Dissolved Oxygen (mg/L)
In-pond 3-ESWP-OW
LL=1
Above RL
Below RL
Dissolved Oxygen (mg/L)
0
5
10
15
20
25
LL
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

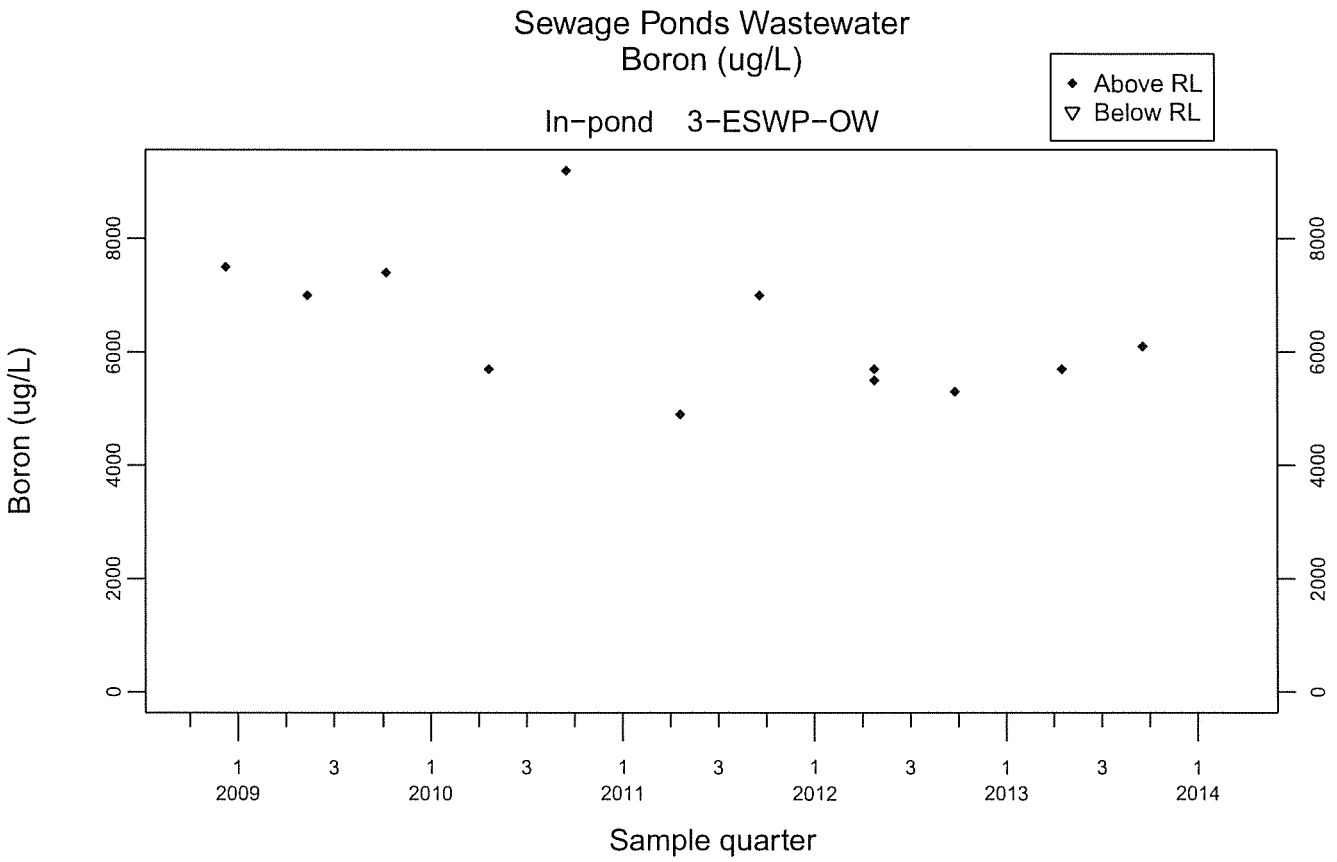

Sewage Ponds Wastewater
Fecal Coliform (MPN/100mL)
In-pond 3-ESWP-OW
Above RL
Below RL
Fecal Coliform (MPN/100mL)
0
5000
10000
15000
20000
25000
30000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

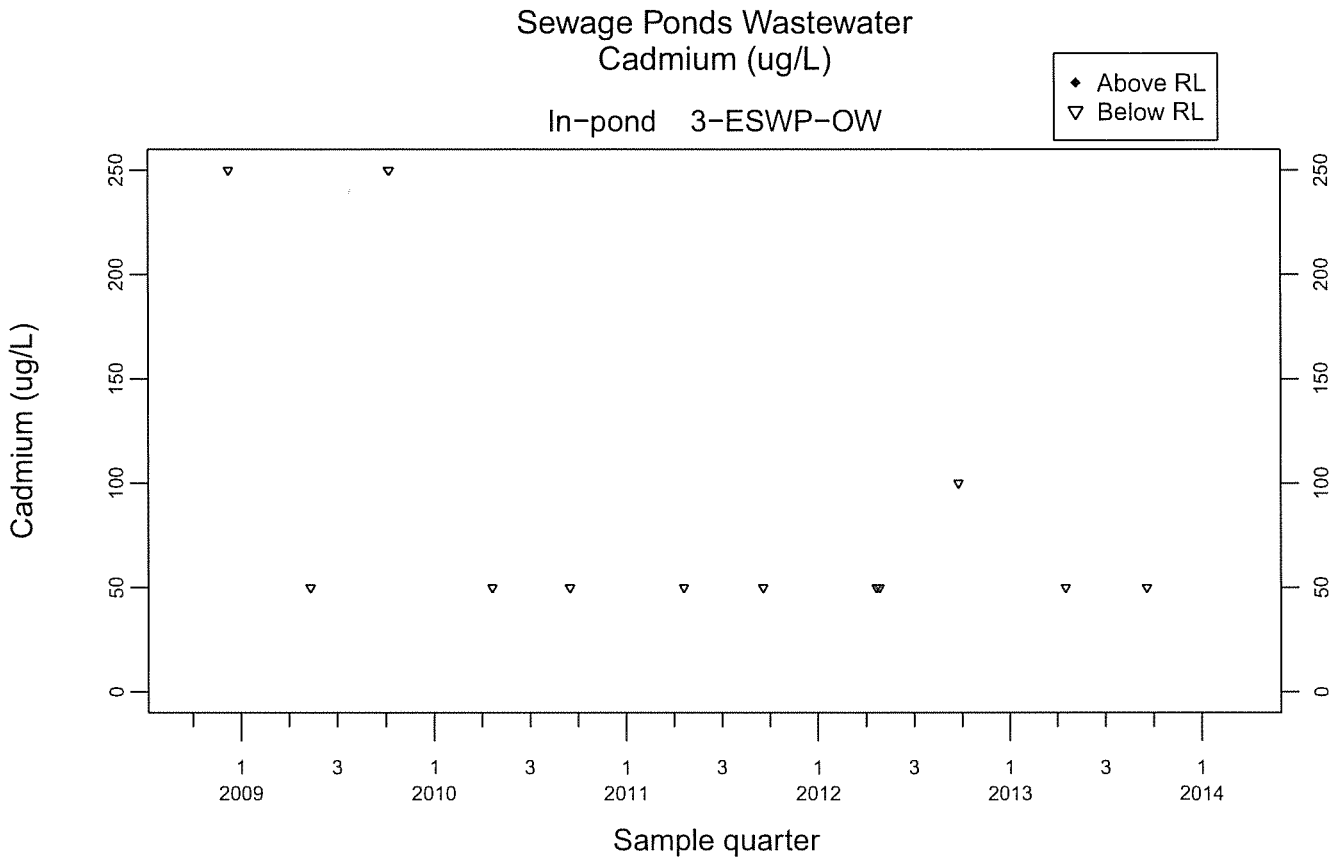

Sewage Ponds Wastewater
Total Coliform (MPN/100mL)
In-pond 3-ESWP-OW
Above RL
Below RL
Total Coliform (MPN/100mL)
0
5000
10000
15000
20000
25000
30000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

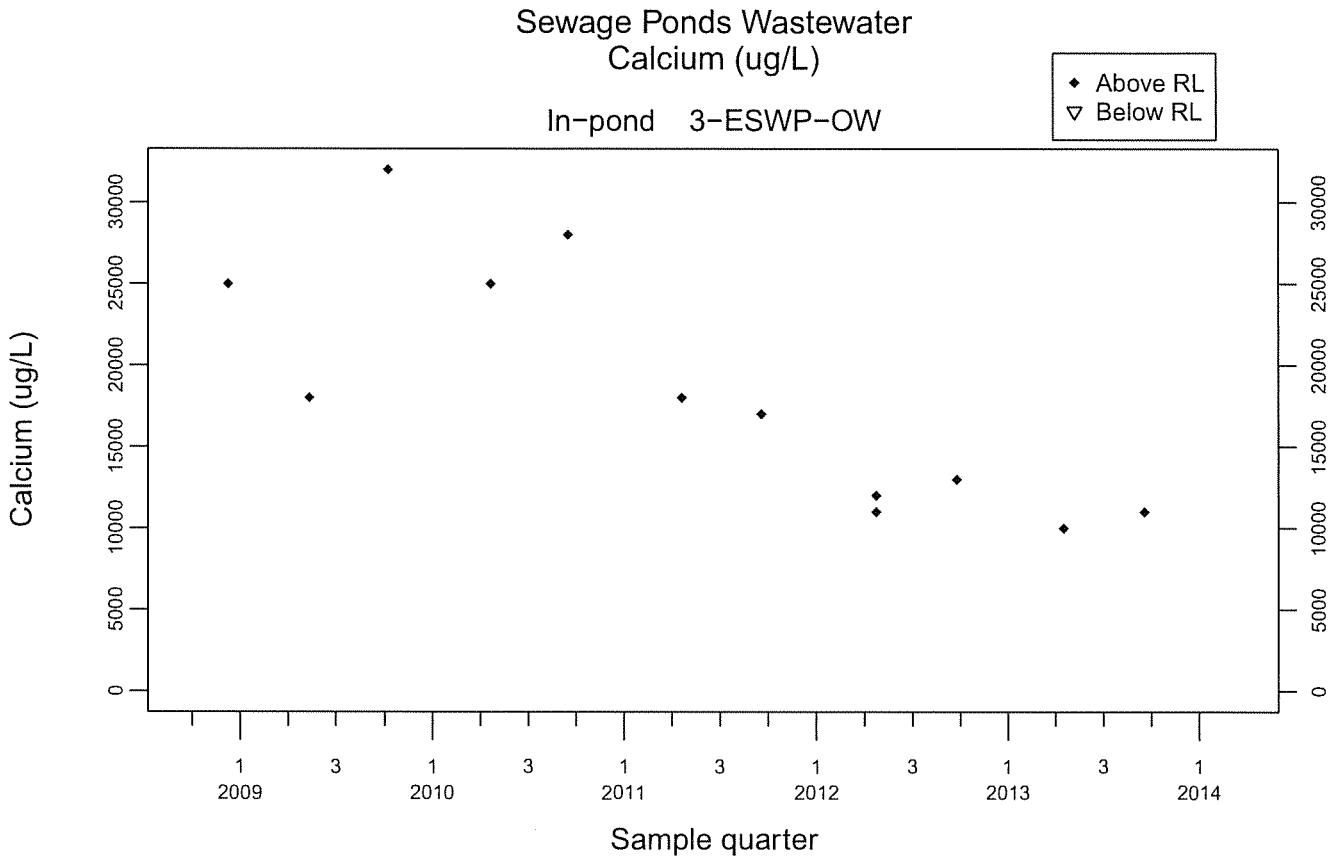

Sewage Ponds Wastewater
Aluminum (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Aluminum (ug/L)
0
50
100
150
200
250
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

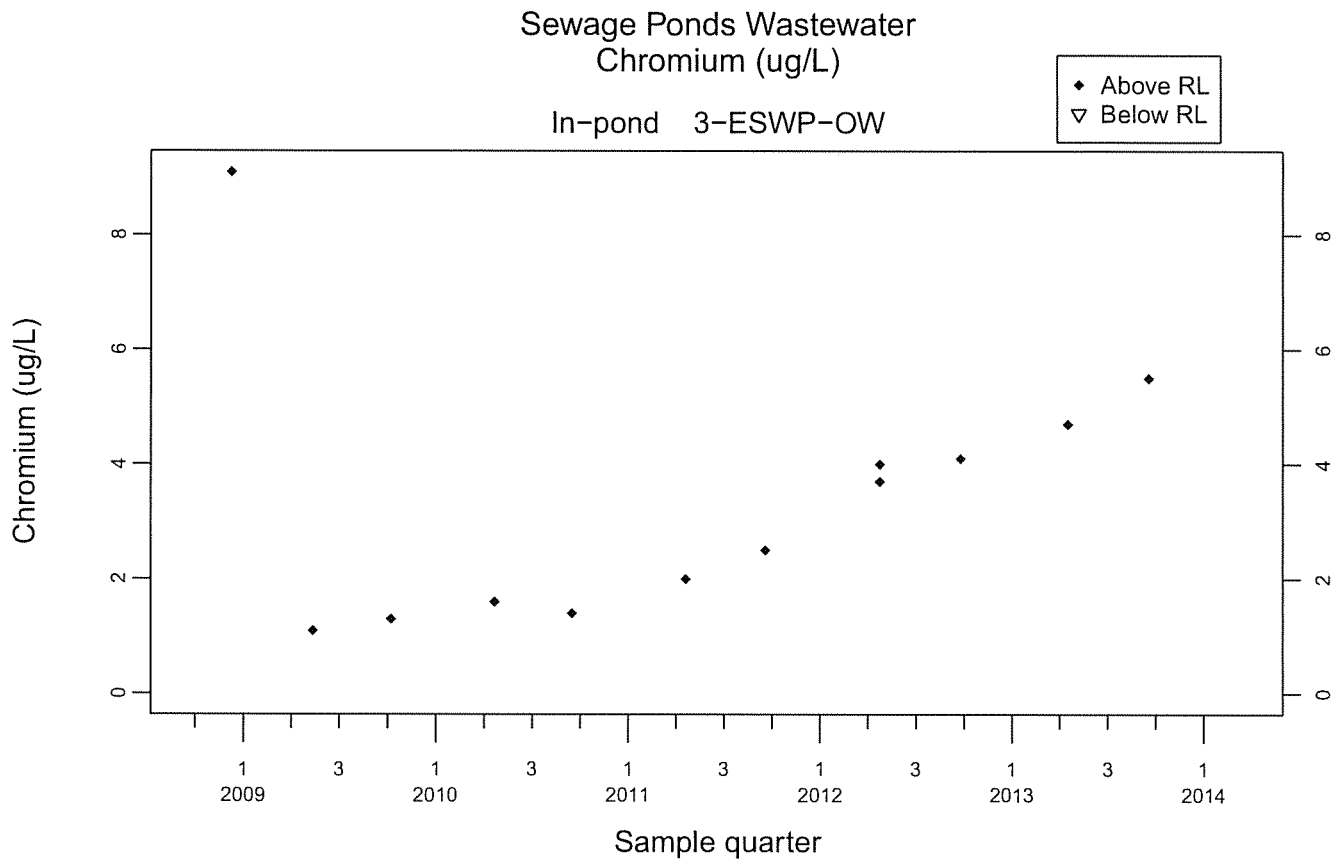

Sewage Ponds Wastewater
Arsenic (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Arsenic (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

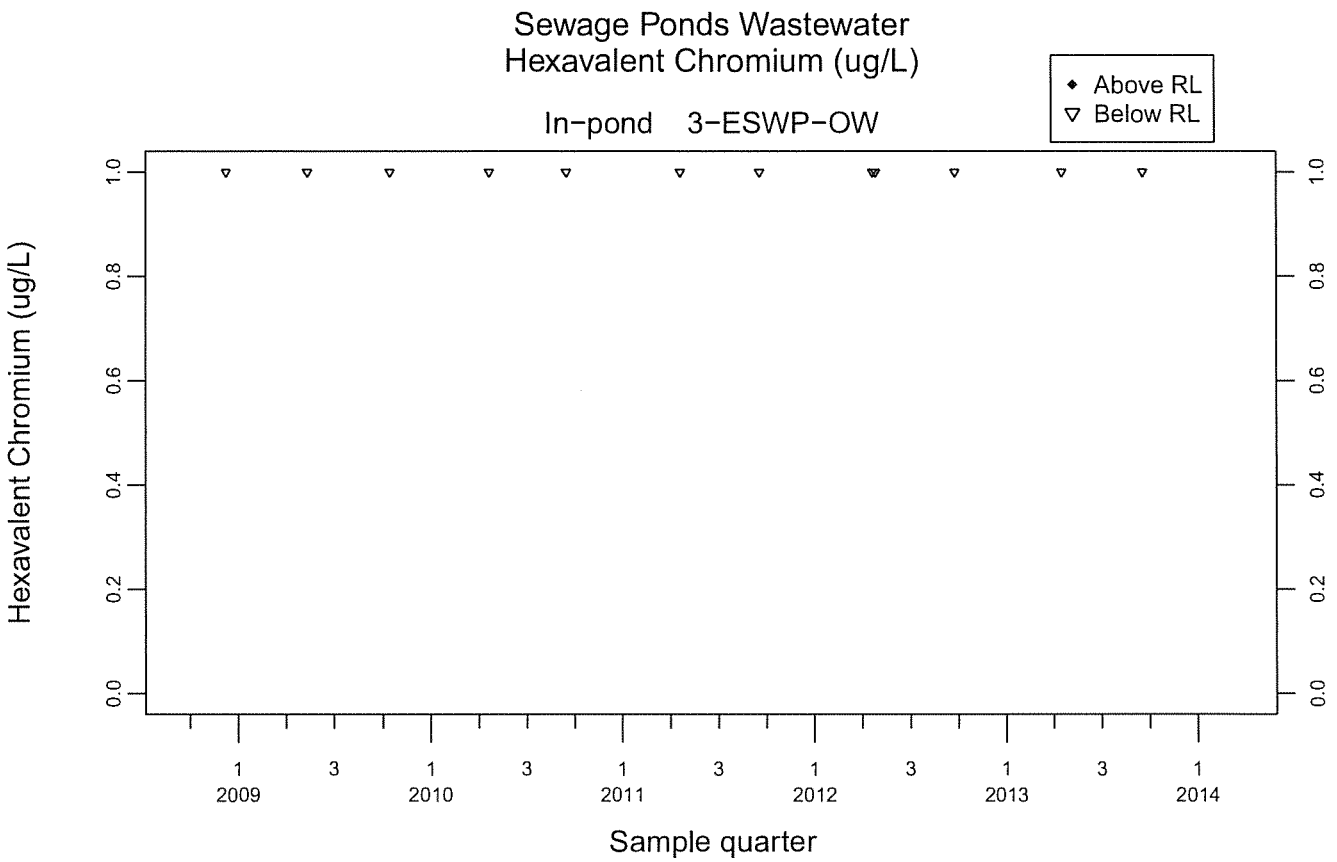

Sewage Ponds Wastewater
Barium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Barium (ug/L)
0
20
40
60
80
100
120
140
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

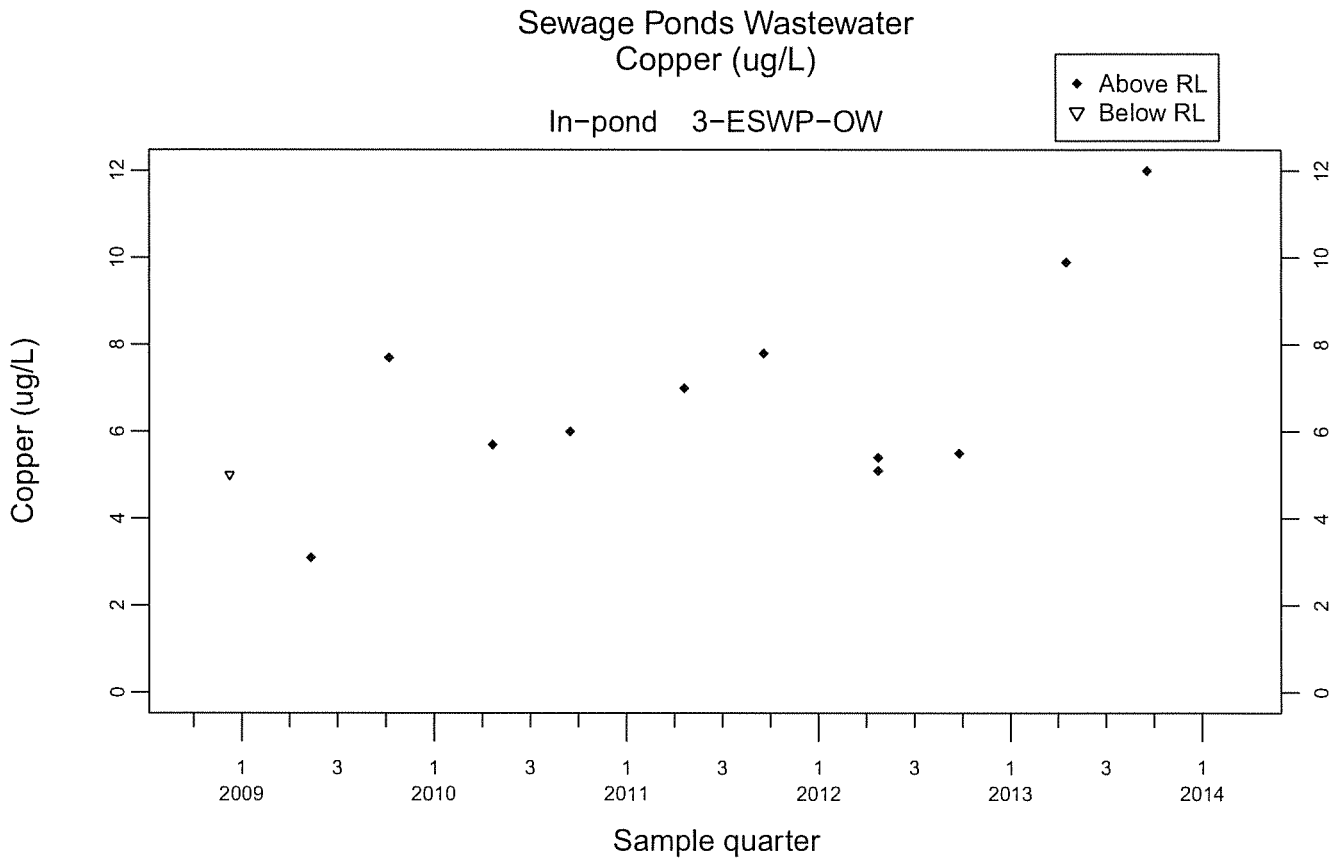

Sewage Ponds Wastewater
Boron (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Boron (ug/L)
0
2000
4000
6000
8000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

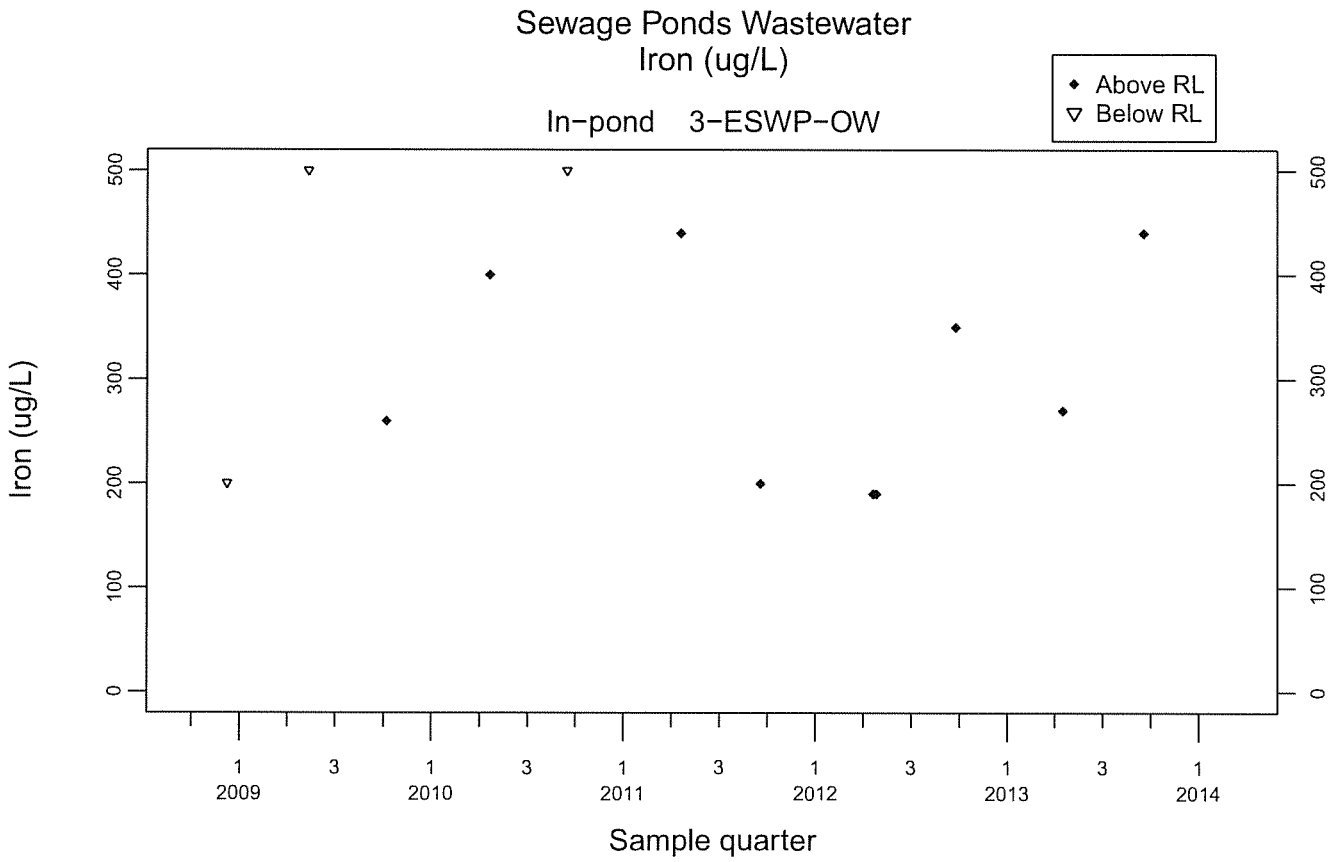

Sewage Ponds Wastewater
Cadmium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Cadmium (ug/L)
0
50
100
150
200
250
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

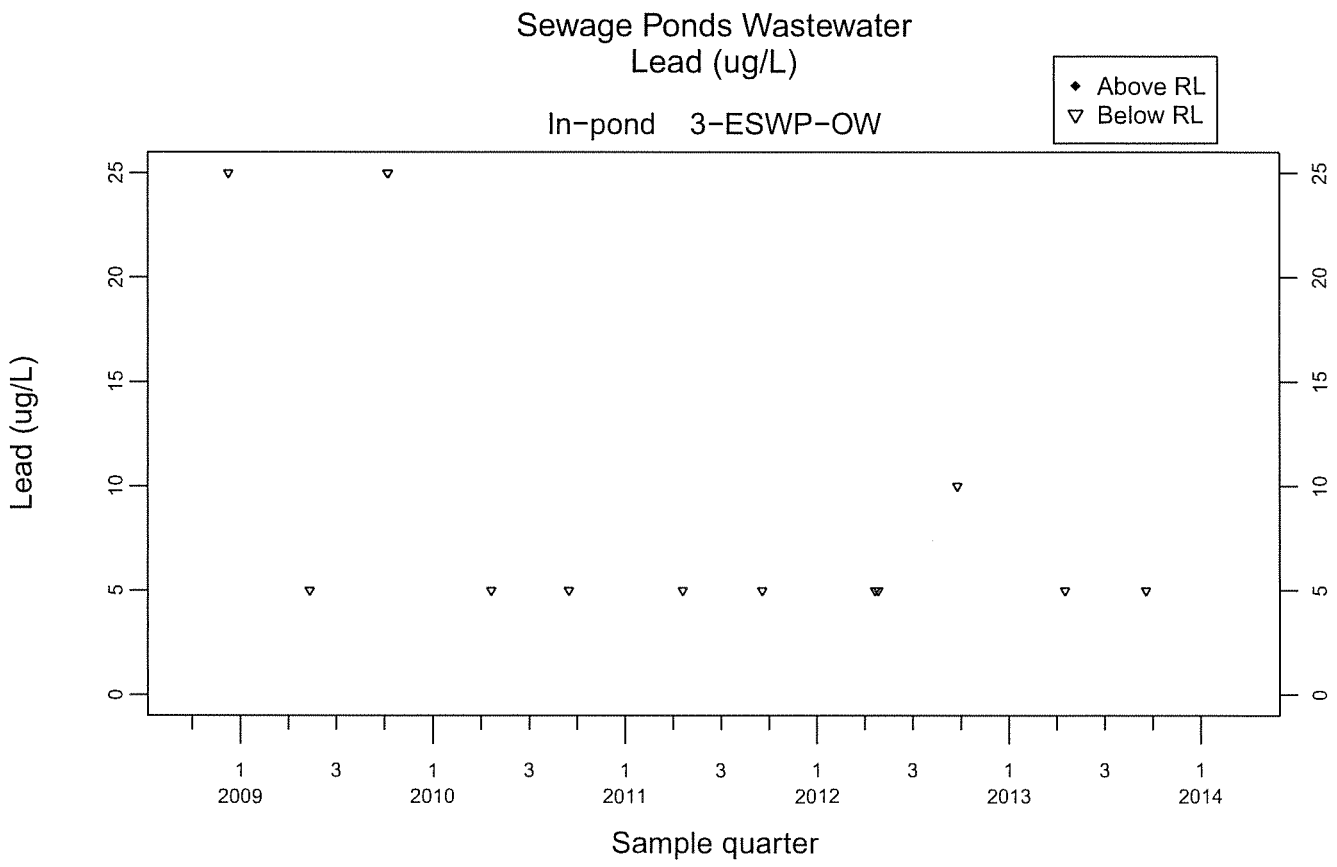

Sewage Ponds Wastewater
Calcium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Calcium (ug/L)
0
5000
10000
15000
20000
25000
30000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

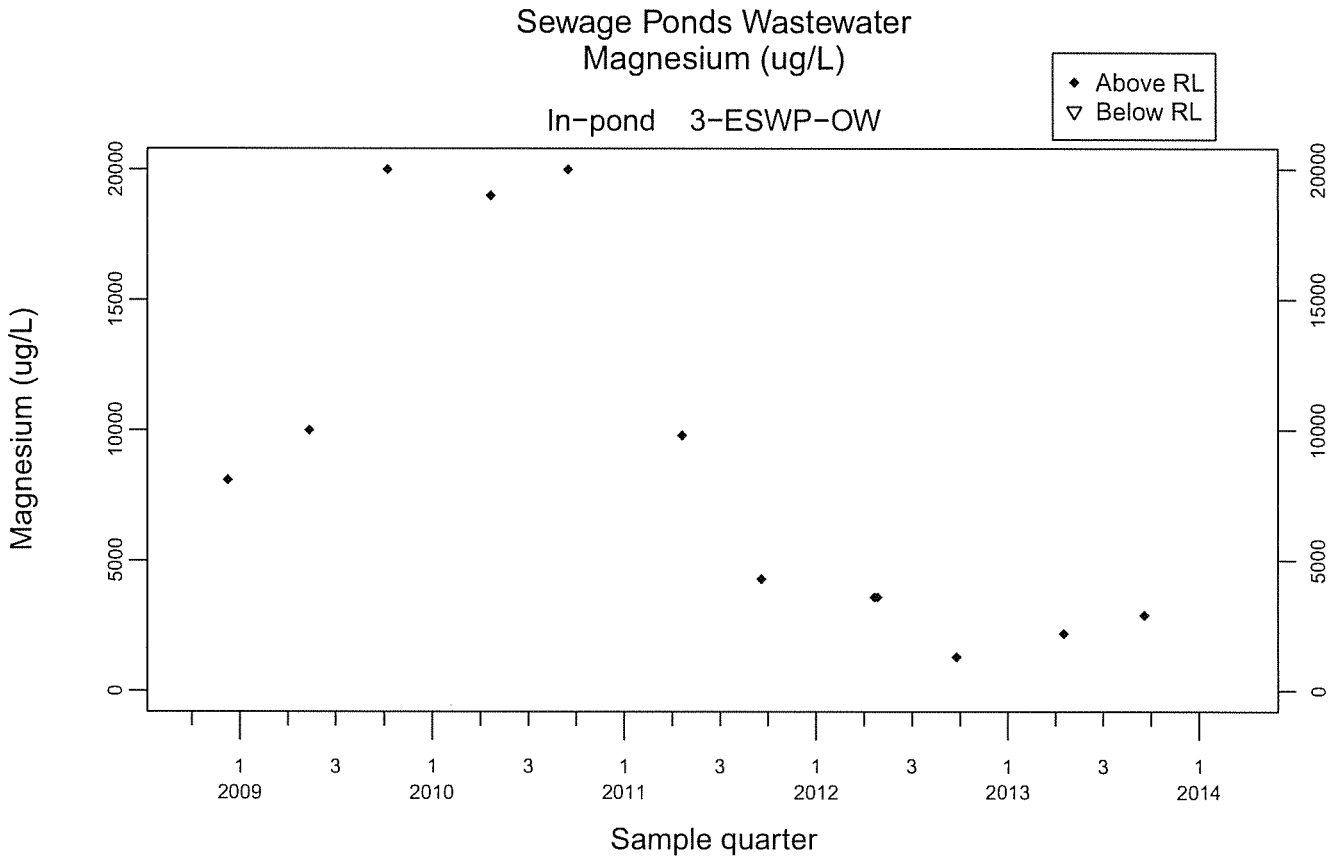

Sewage Ponds Wastewater
Chromium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Chromium (ug/L)
0
2
4
6
8
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

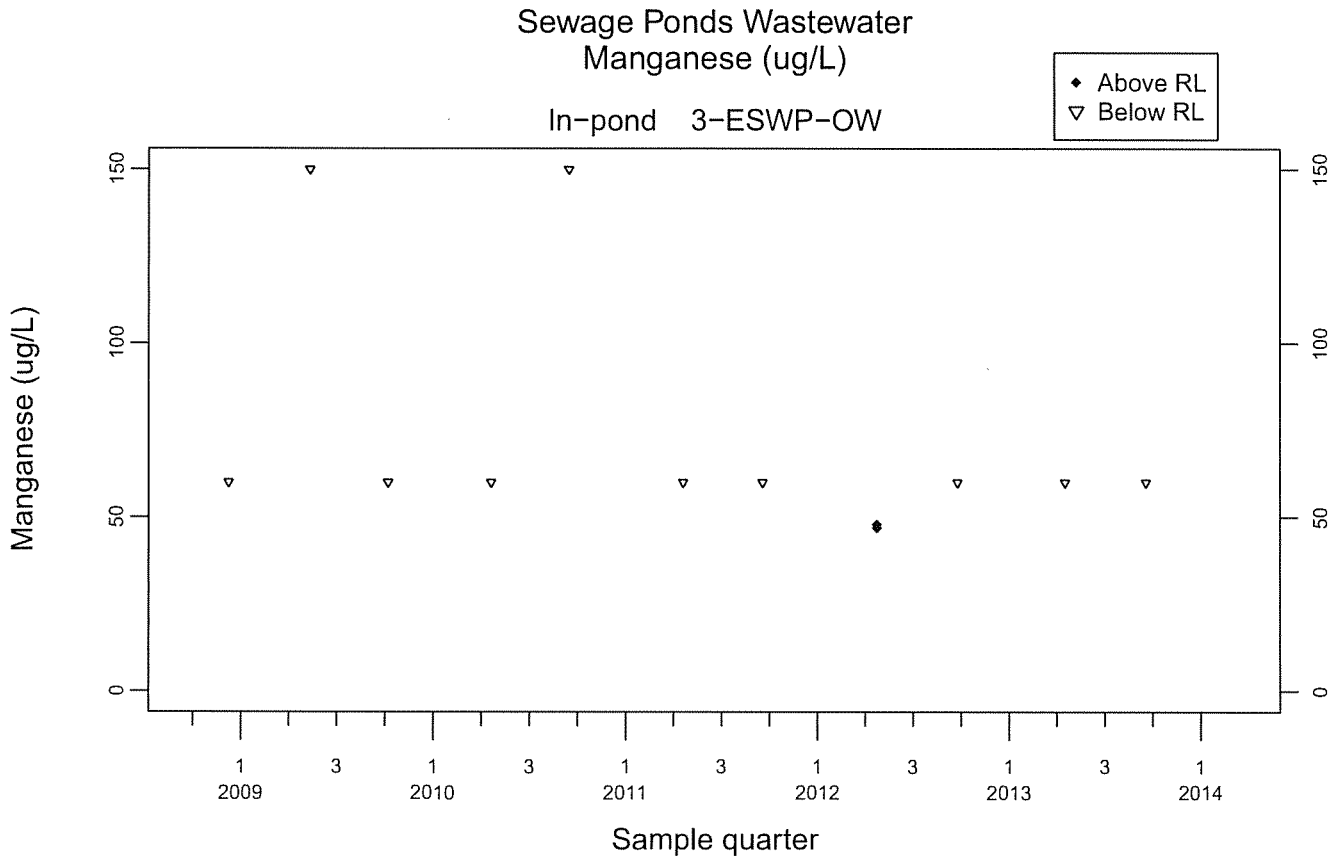

Sewage Ponds Wastewater
Hexavalent Chromium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Hexavalent Chromium (ug/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

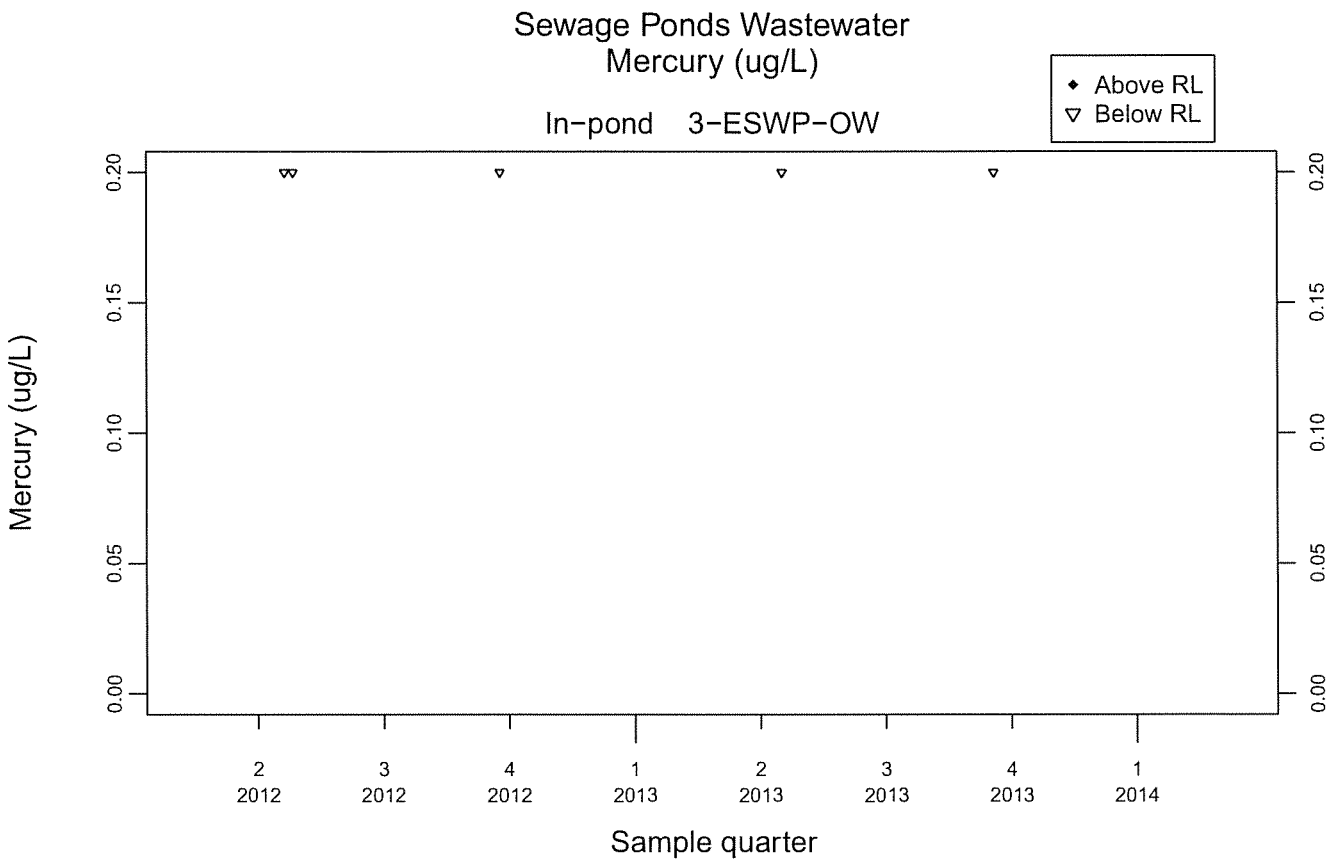

Sewage Ponds Wastewater
Copper (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Copper (ug/L)
0
2
4
6
8
10
12
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

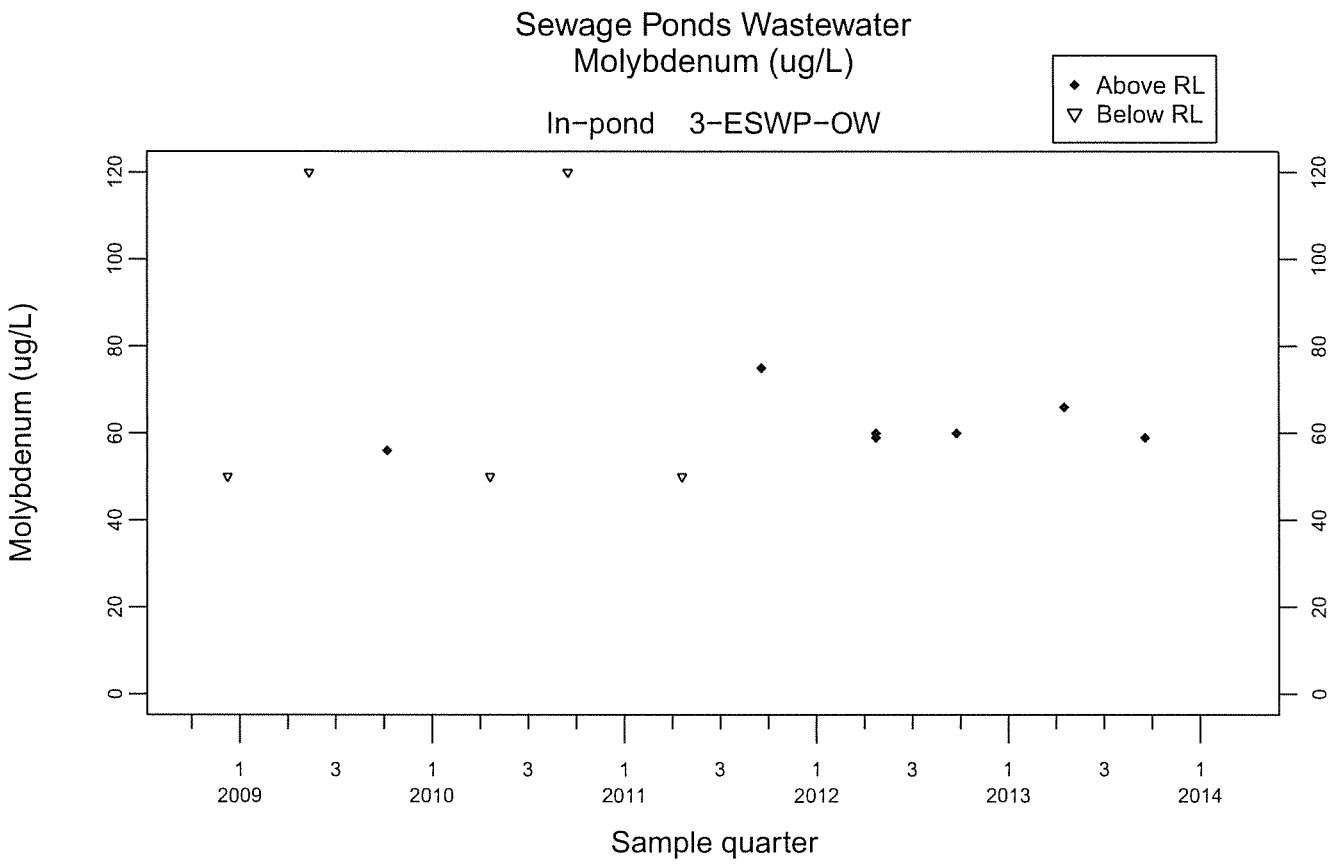

Sewage Ponds Wastewater
Iron (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Iron (ug/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

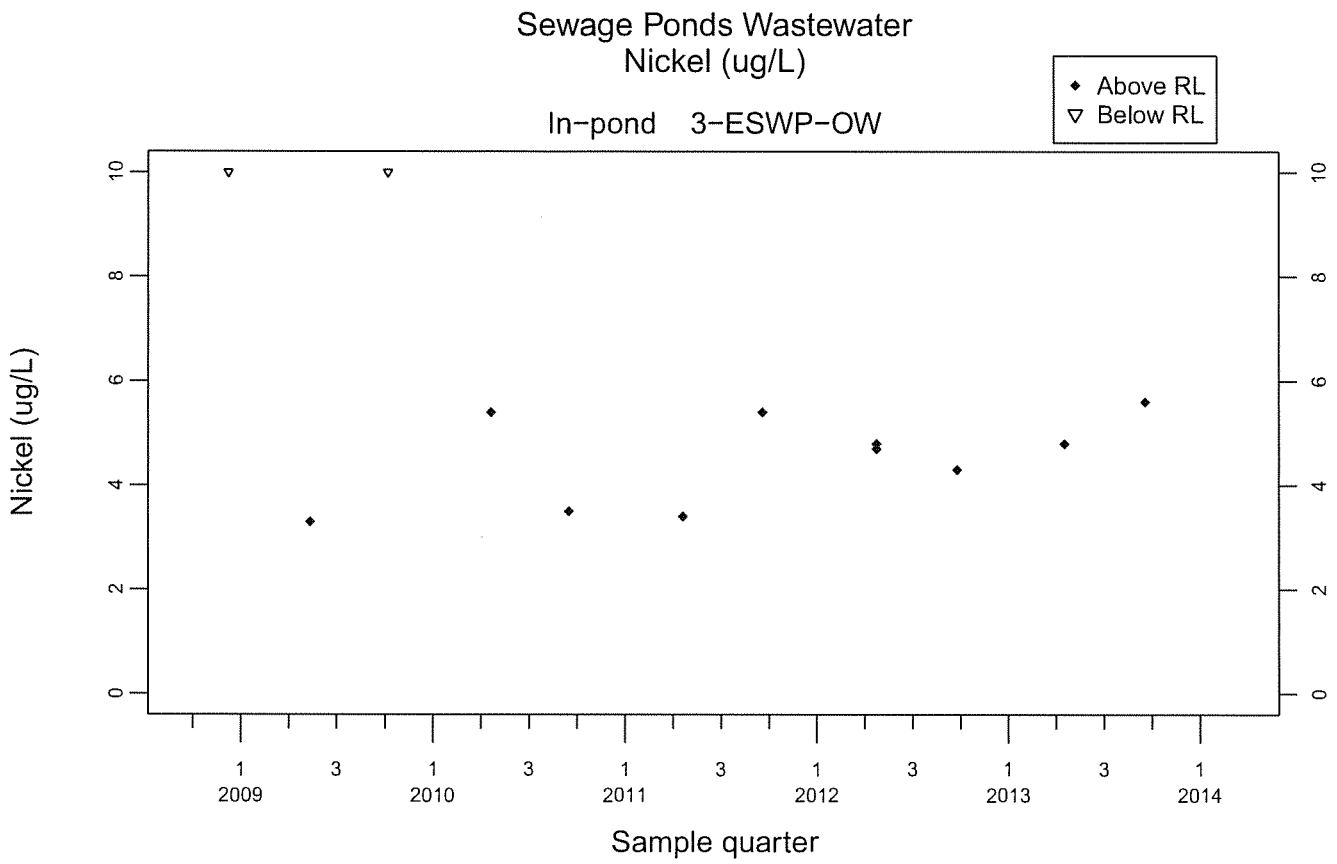

Sewage Ponds Wastewater
Lead (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Lead (ug/L)
0
5
10
15
20
25
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

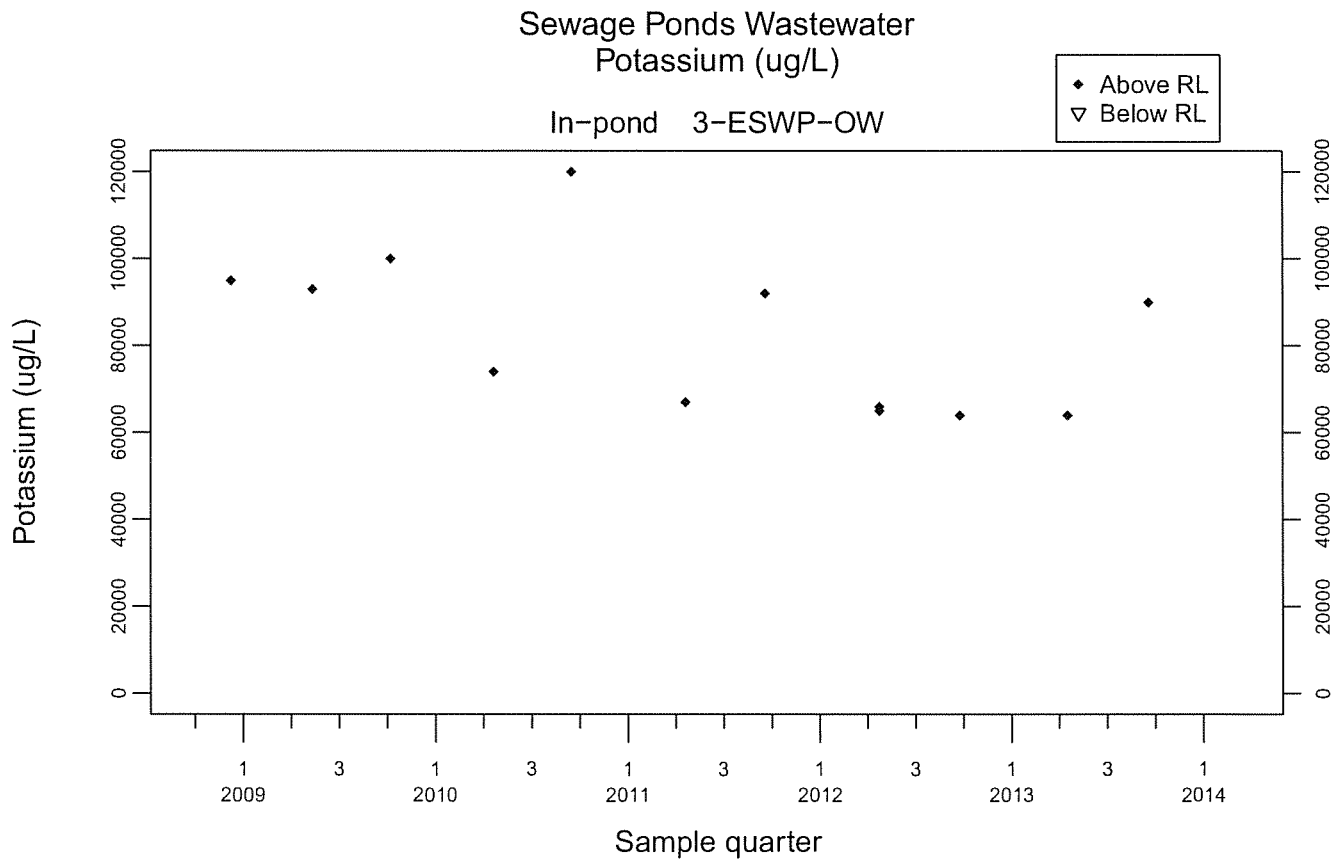

Sewage Ponds Wastewater
Magnesium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Magnesium (ug/L)
0
5000
10000
15000
20000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

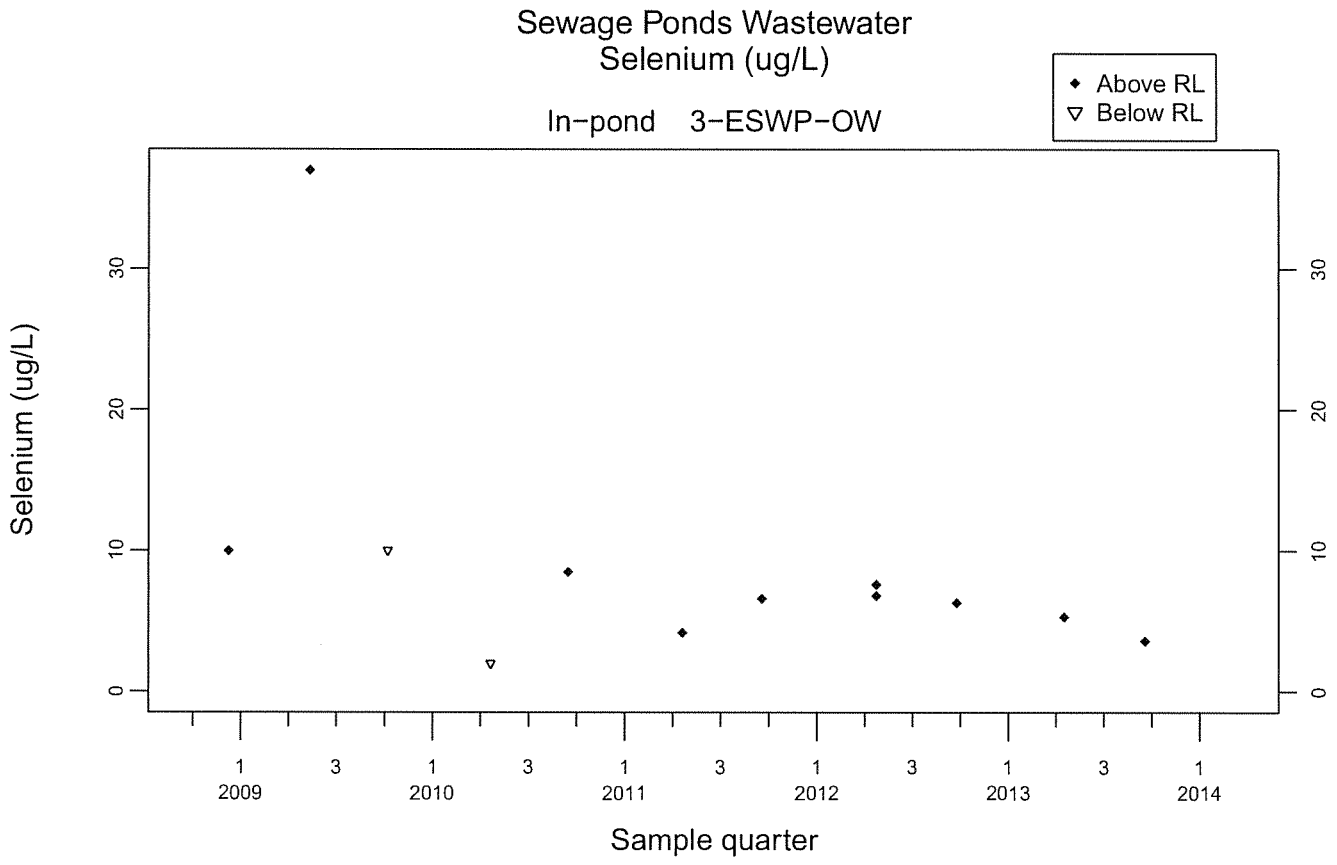

Sewage Ponds Wastewater
Manganese (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Manganese (ug/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

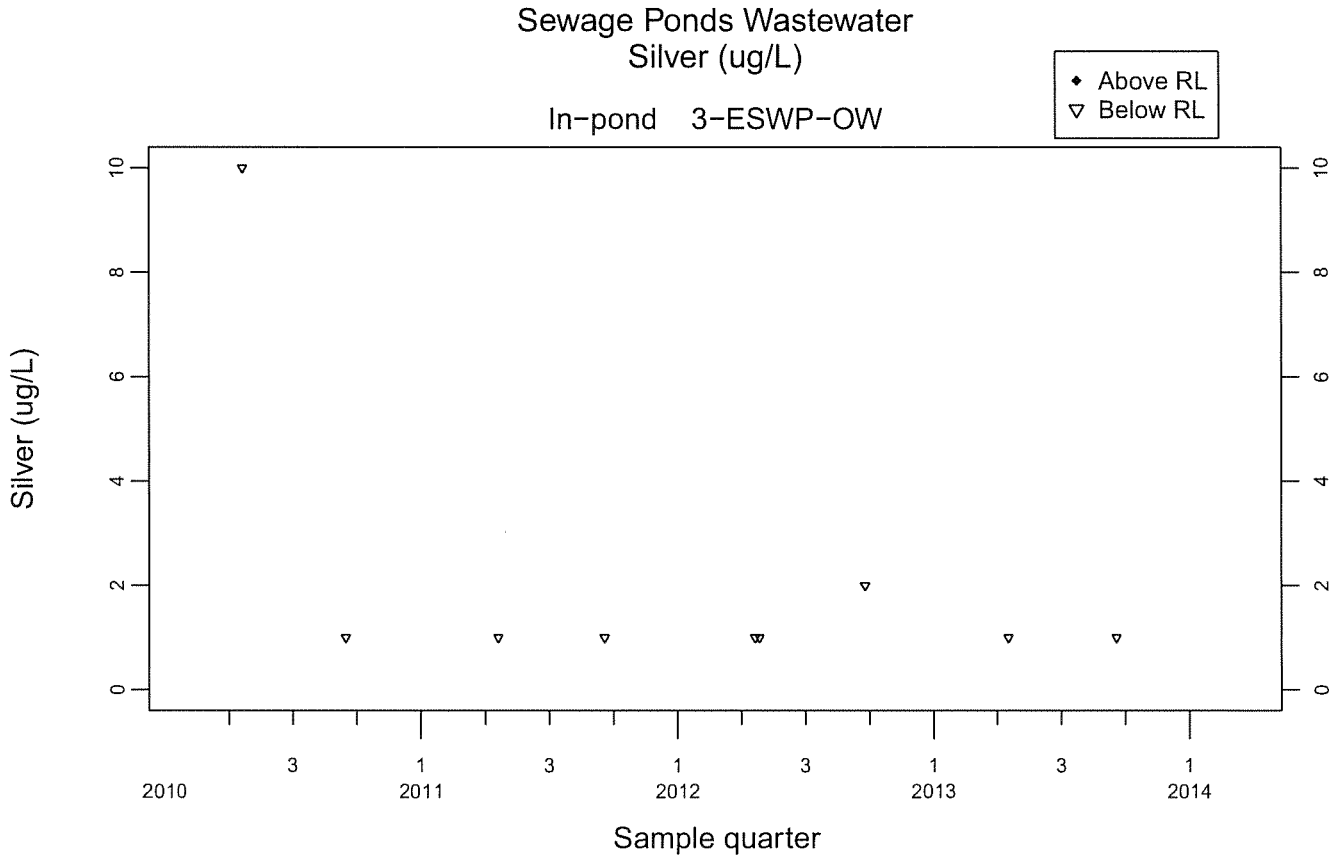

Sewage Ponds Wastewater
Mercury (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
2 2012
3 2012
4 2012
1 2013
2 2013
3 2013
4 2013
1 2014
Sample quarter

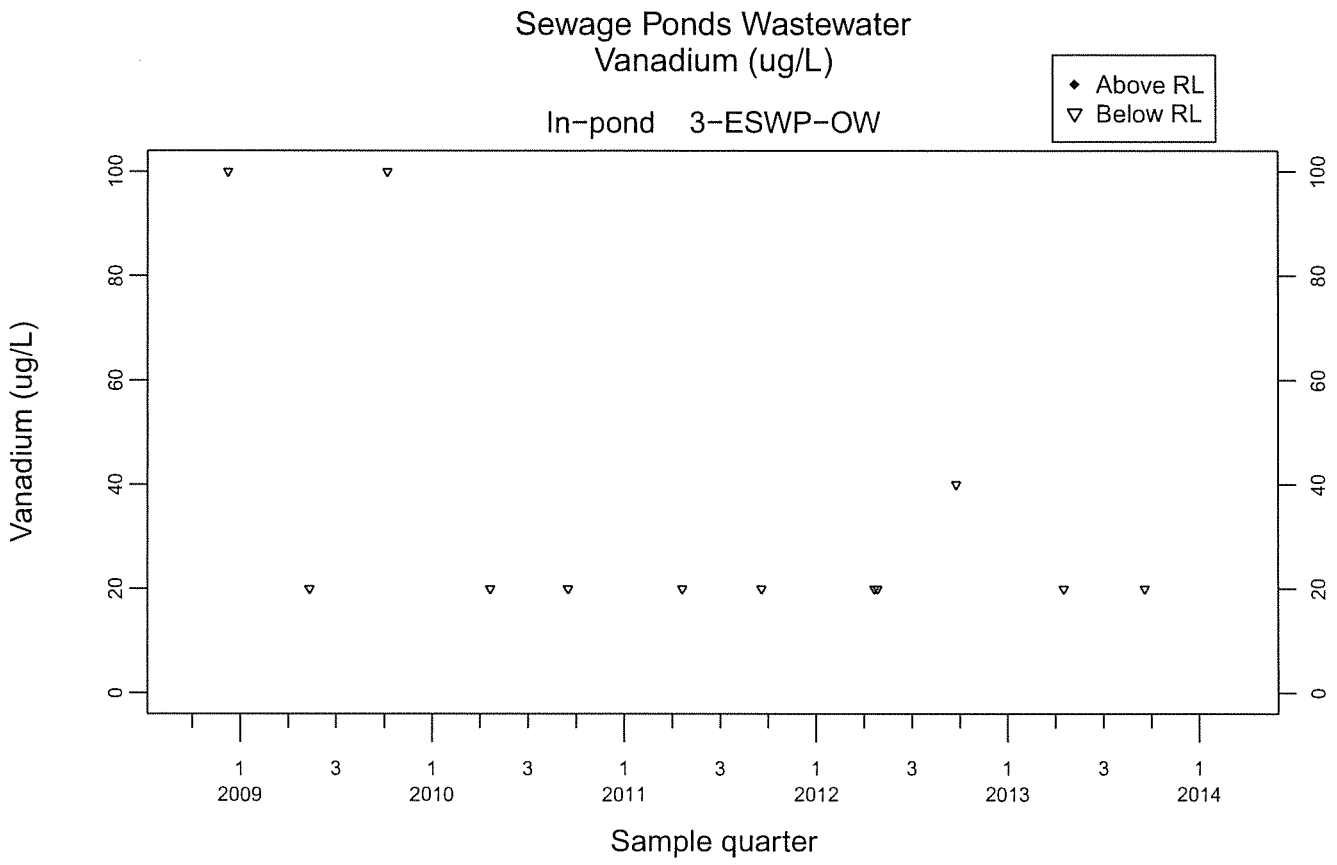

Sewage Ponds Wastewater
Molybdenum (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Molybdenum (ug/L)
0
20
40
60
80
100
120
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

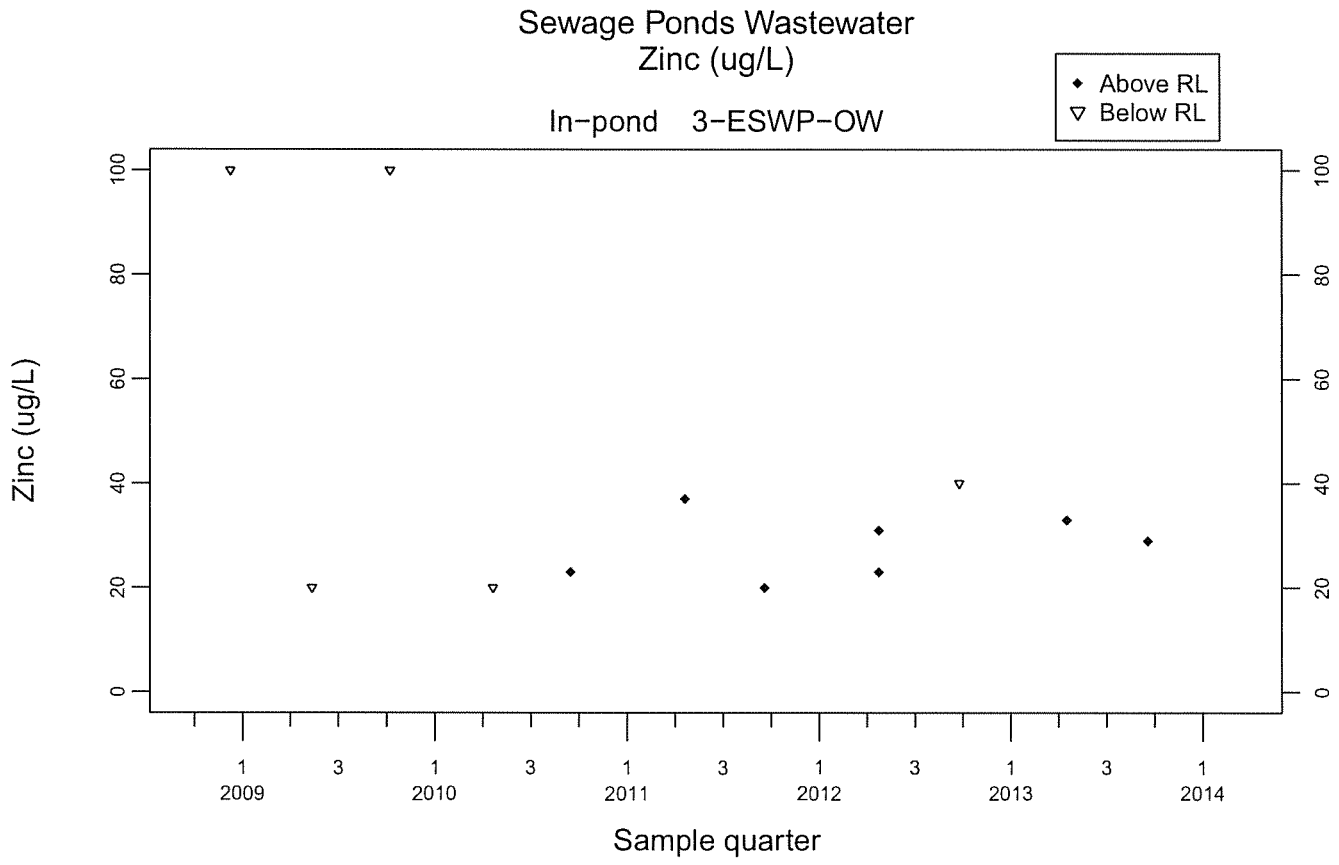

Sewage Ponds Wastewater
Nickel (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Nickel (ug/L)
0
2
4
6
8
10
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

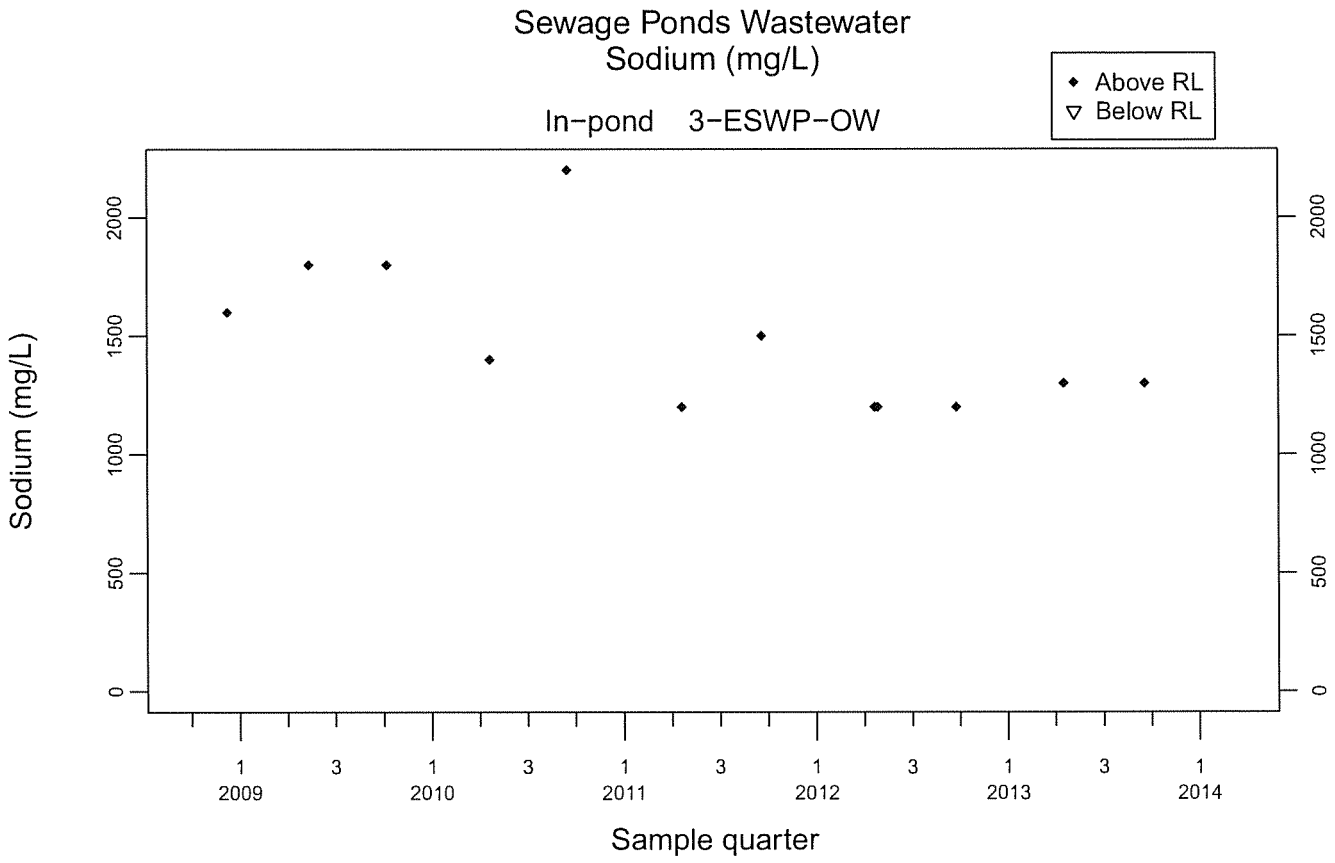

Sewage Ponds Wastewater
Potassium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Potassium (ug/L)
0
20000
40000
60000
80000
100000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter


Sewage Ponds Wastewater
Selenium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Selenium (ug/L)
0
10
20
30
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

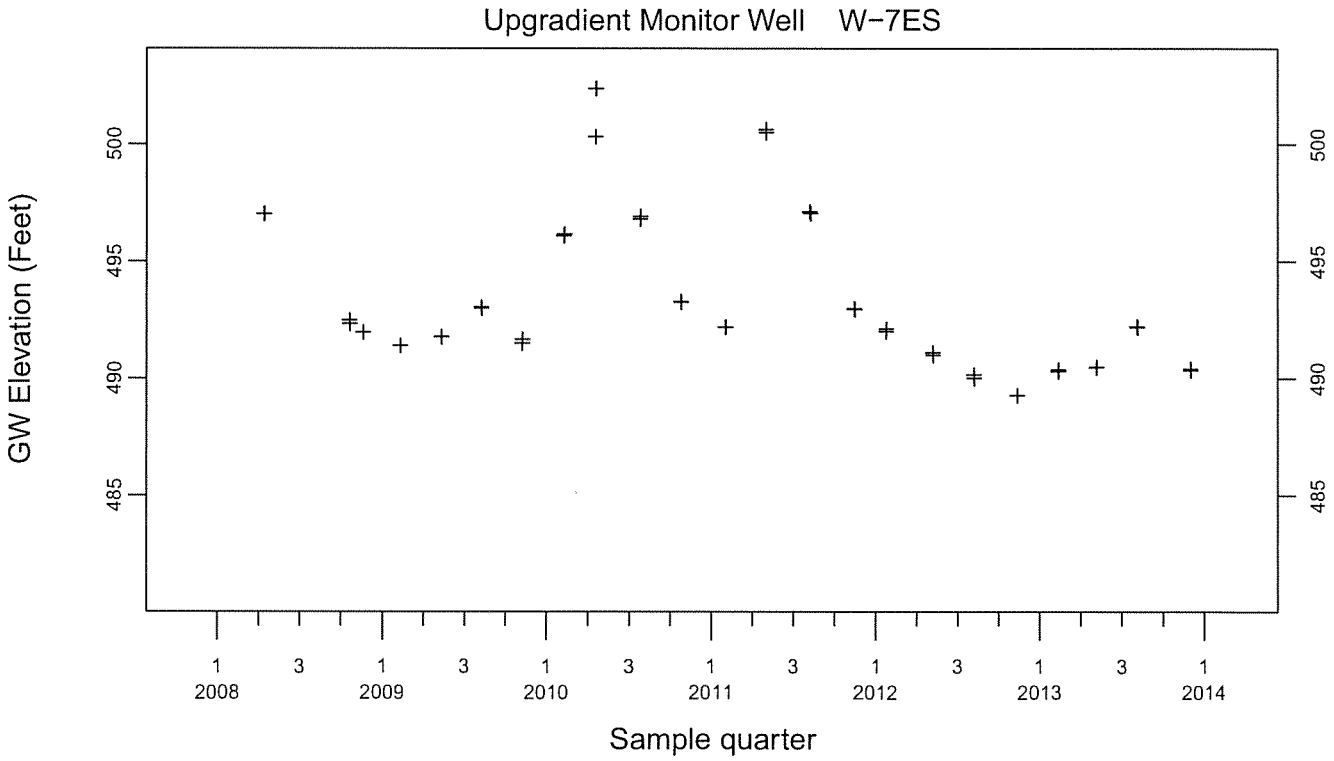

Sewage Ponds Wastewater
Silver (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Silver (ug/L)
0
2
4
6
8
10
3
1
3
1
3
1
3
1
2010
2011
2012
2013
2014
Sample quarter

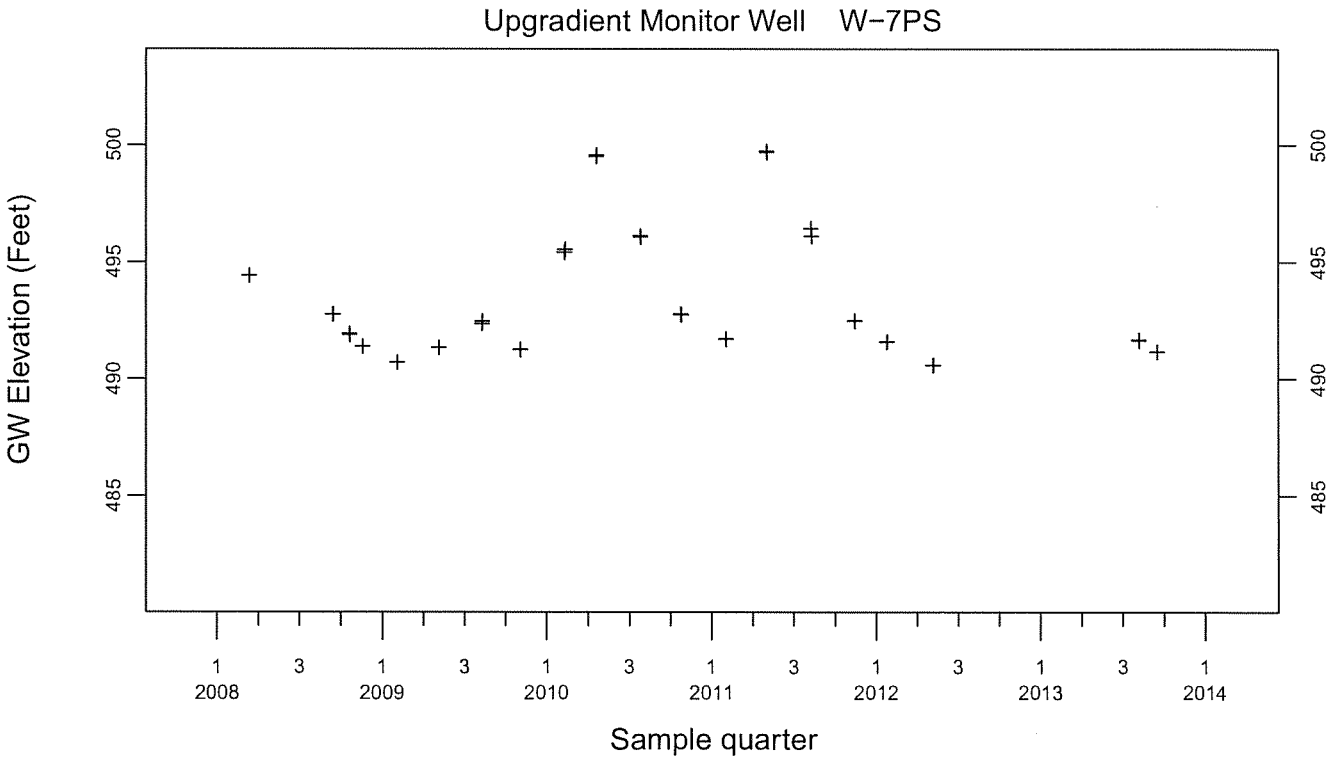

Sewage Ponds Wastewater
Vanadium (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Vanadium (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter


Sewage Ponds Wastewater
Zinc (ug/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Zinc (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

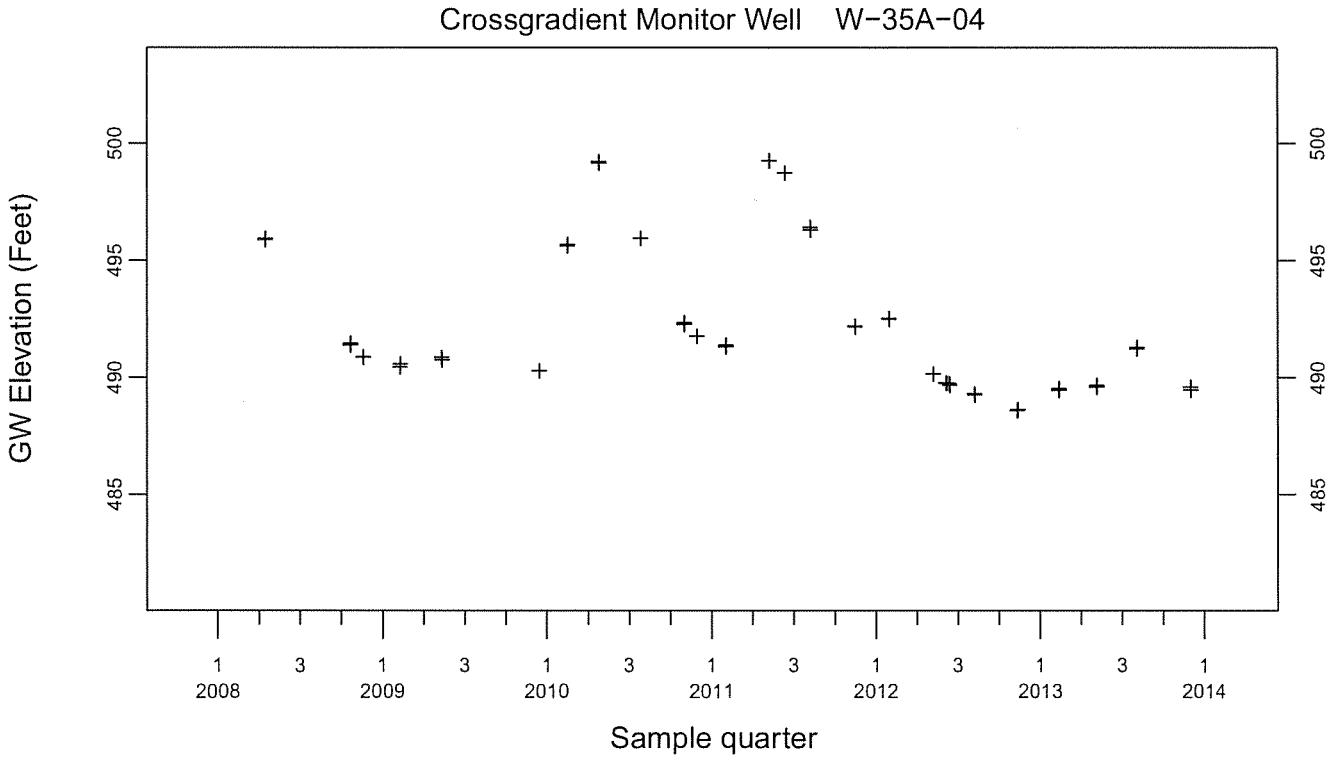

Sewage Ponds Wastewater
Sodium (mg/L)
In-pond 3-ESWP-OW
Above RL
Below RL
Sodium (mg/L)
0
500
1000
1500
2000
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

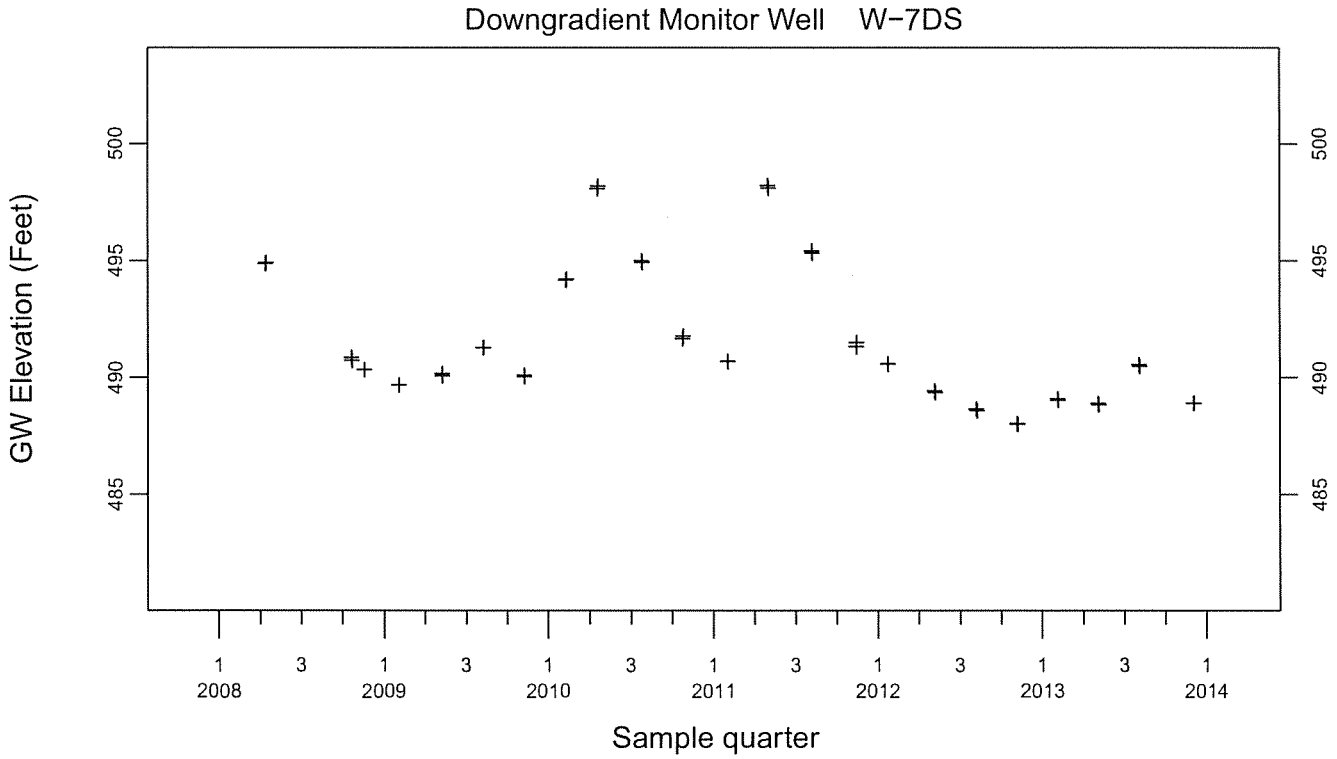
Sewage Ponds Ground Water
GW Elevation (Feet)



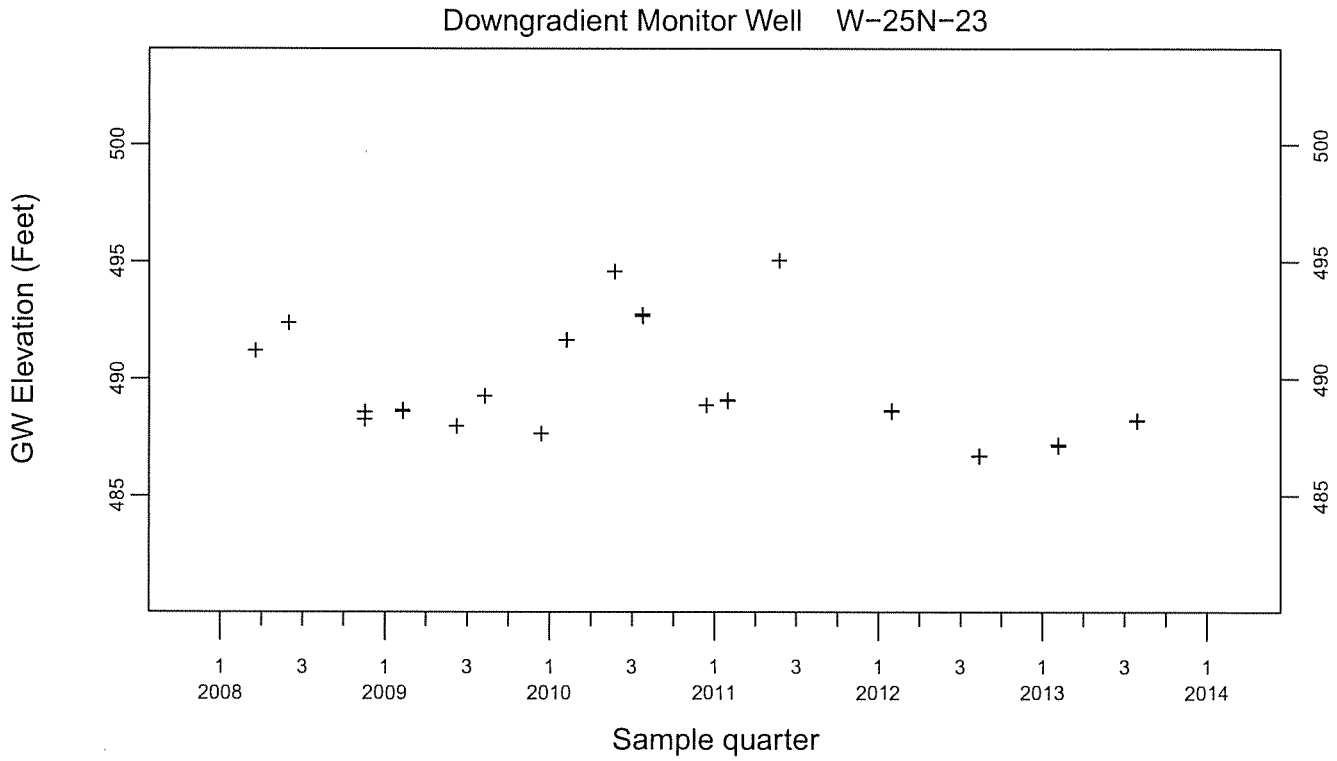


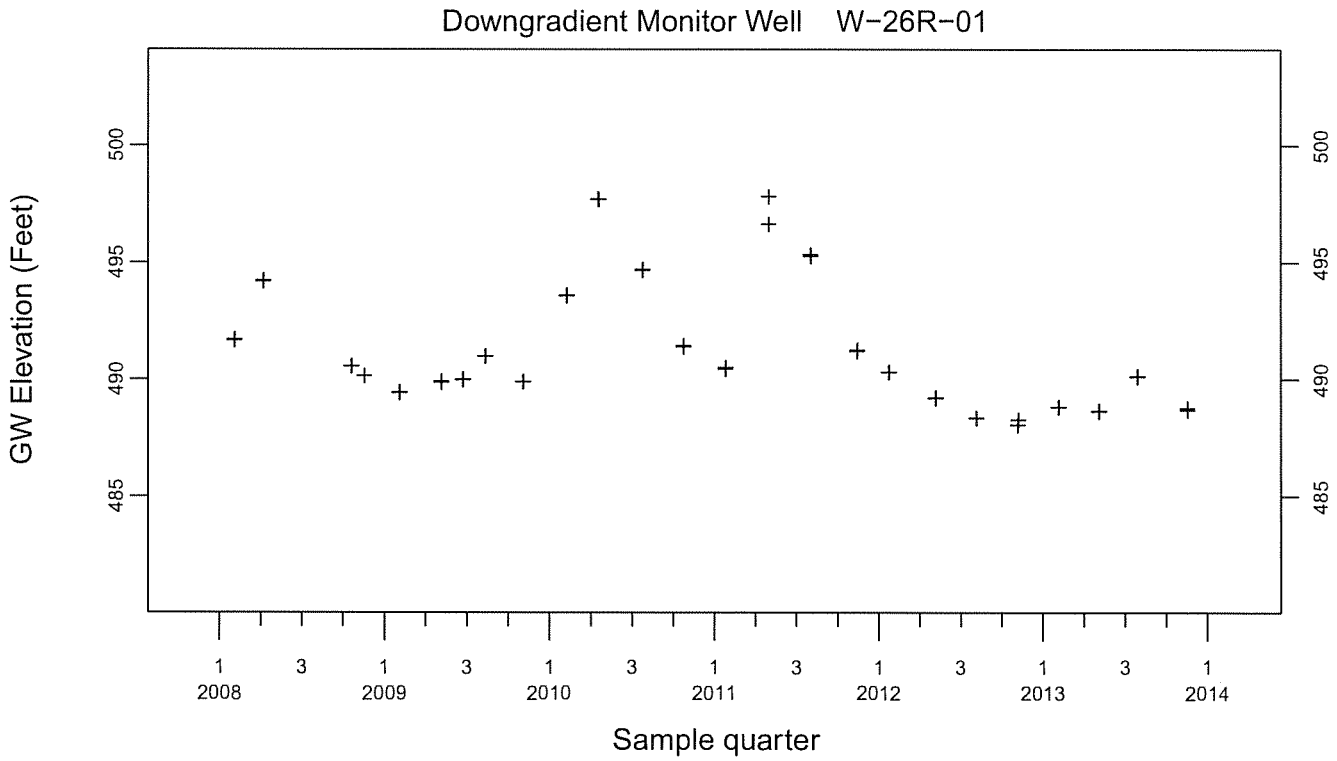
Sewage Ponds Ground Water
GW Elevation (Feet)

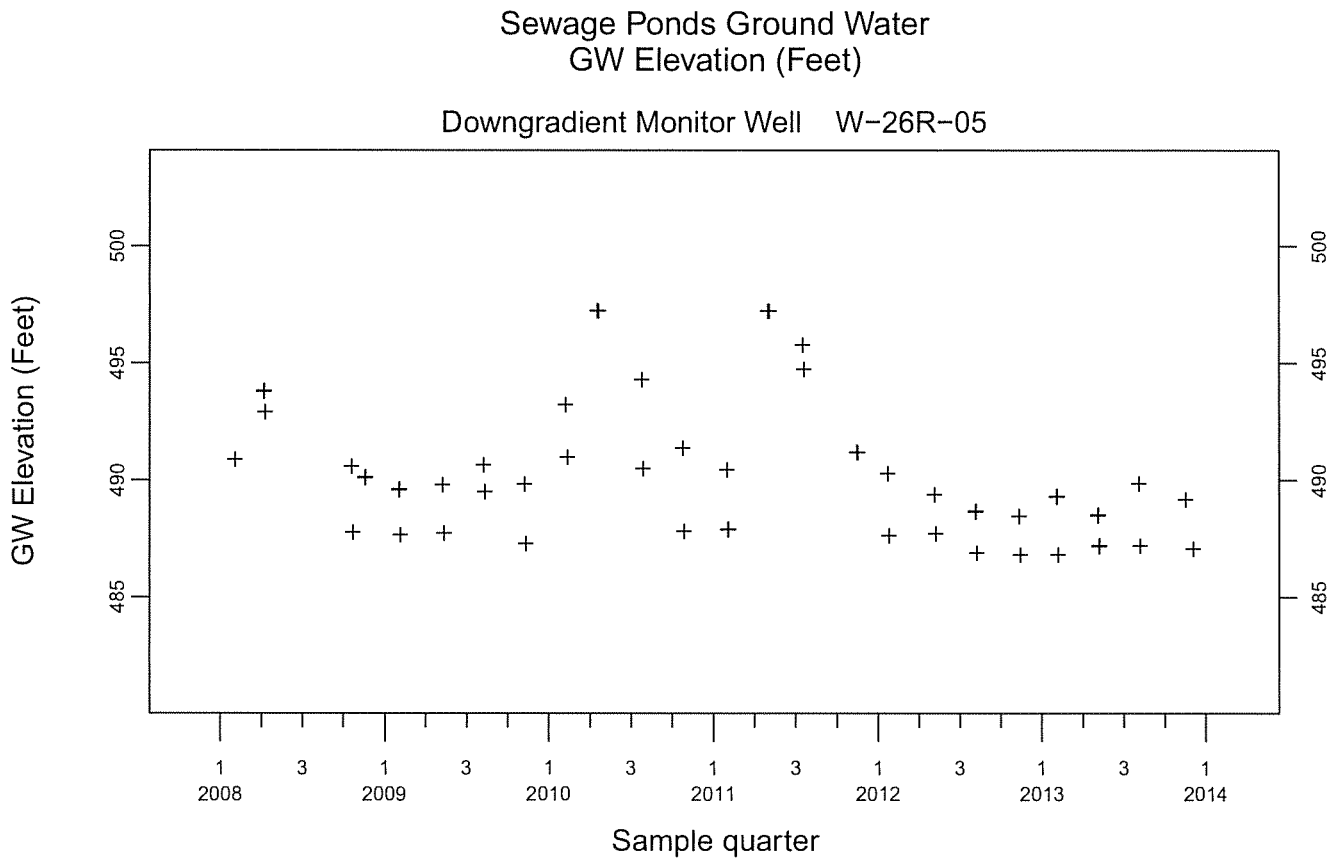


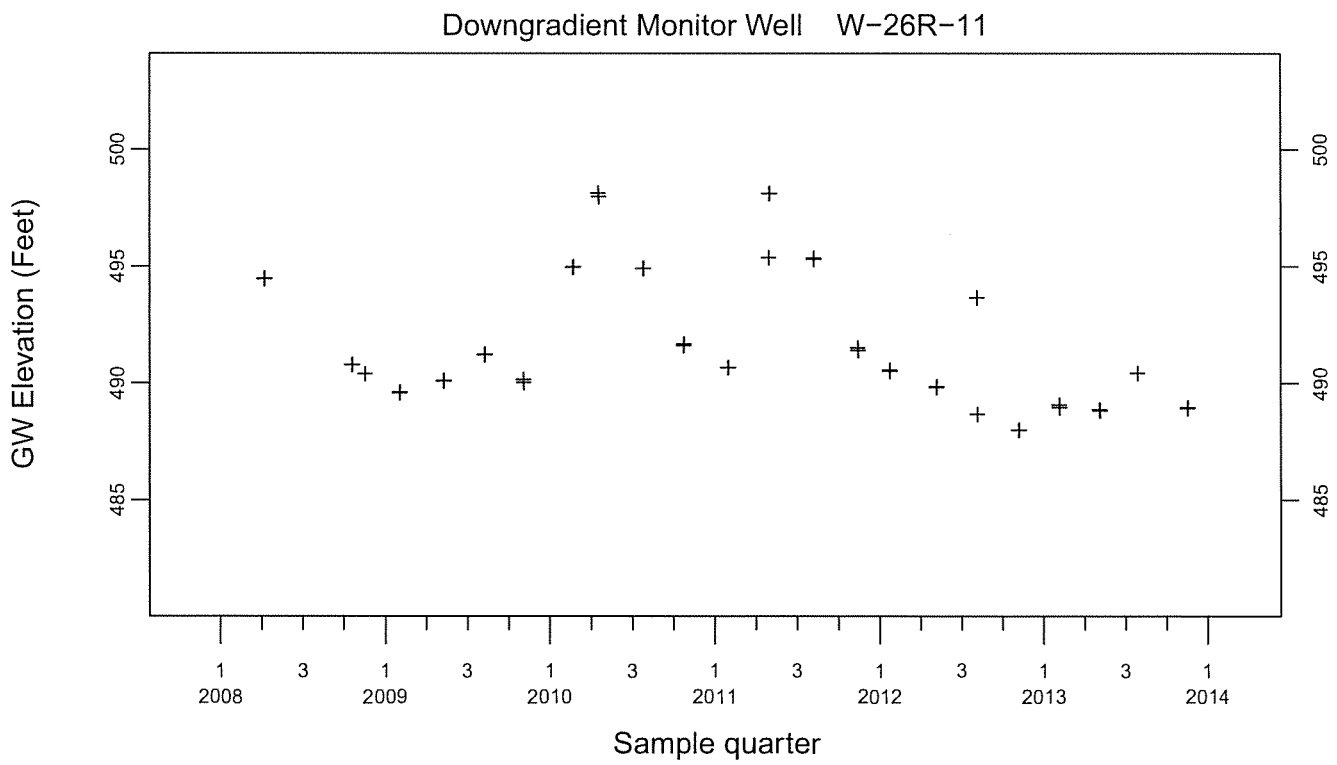


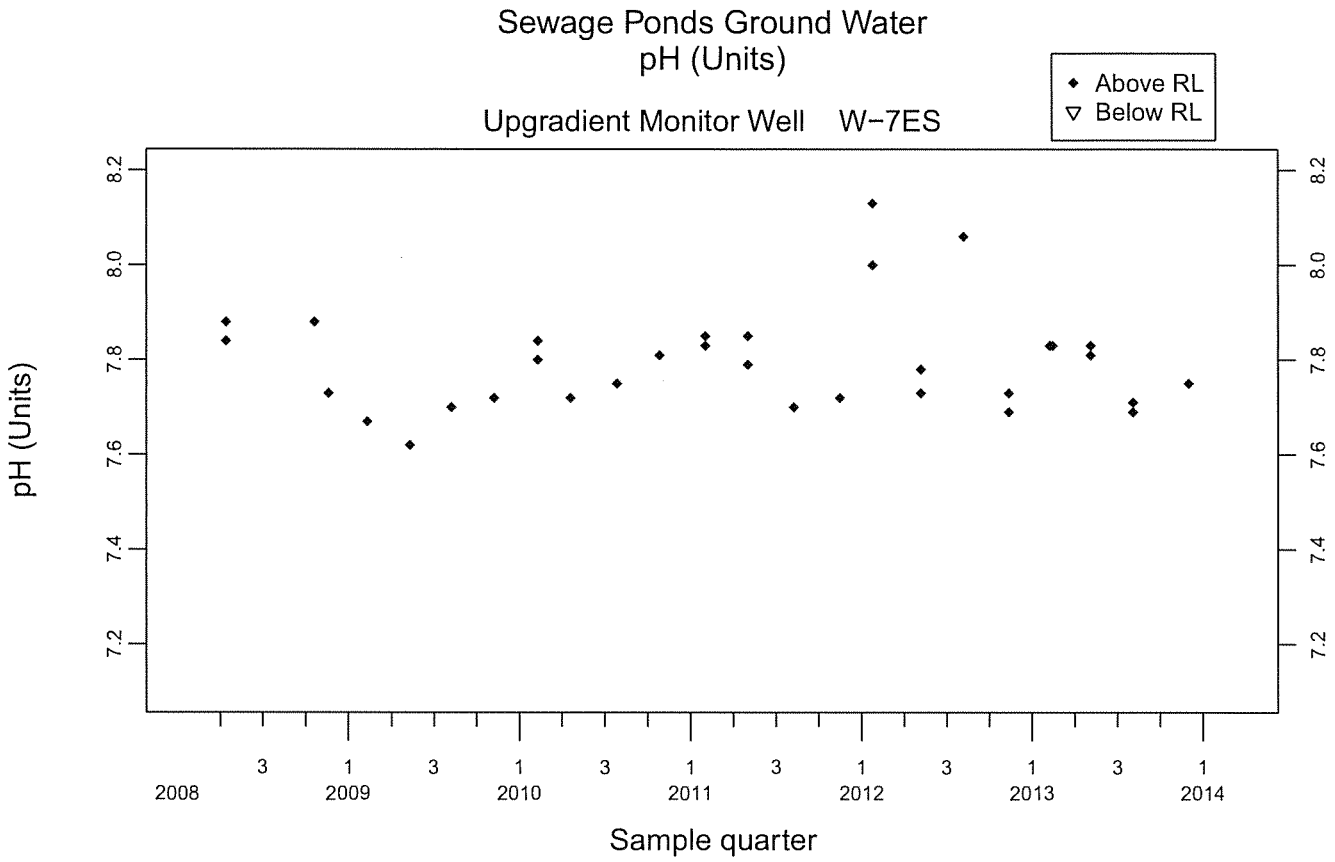
Sewage Ponds Ground Water
GW Elevation (Feet)

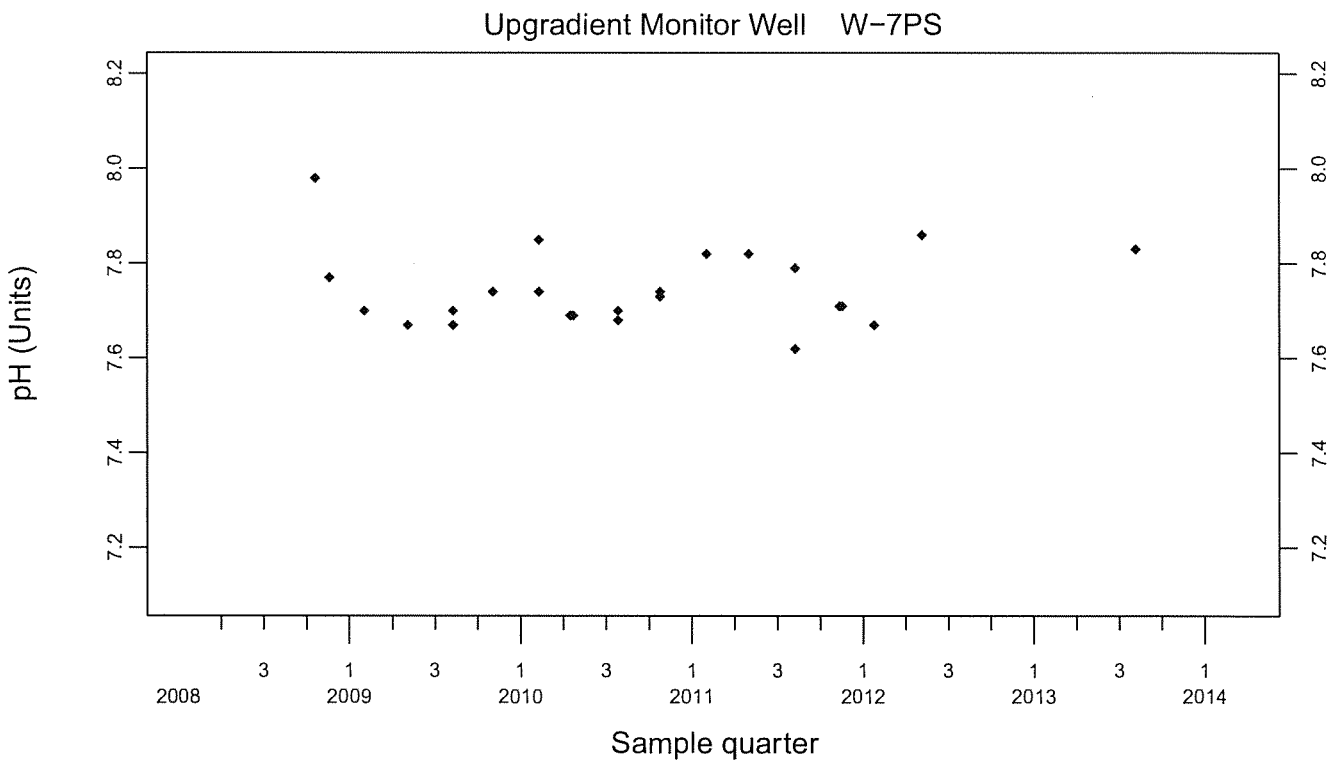


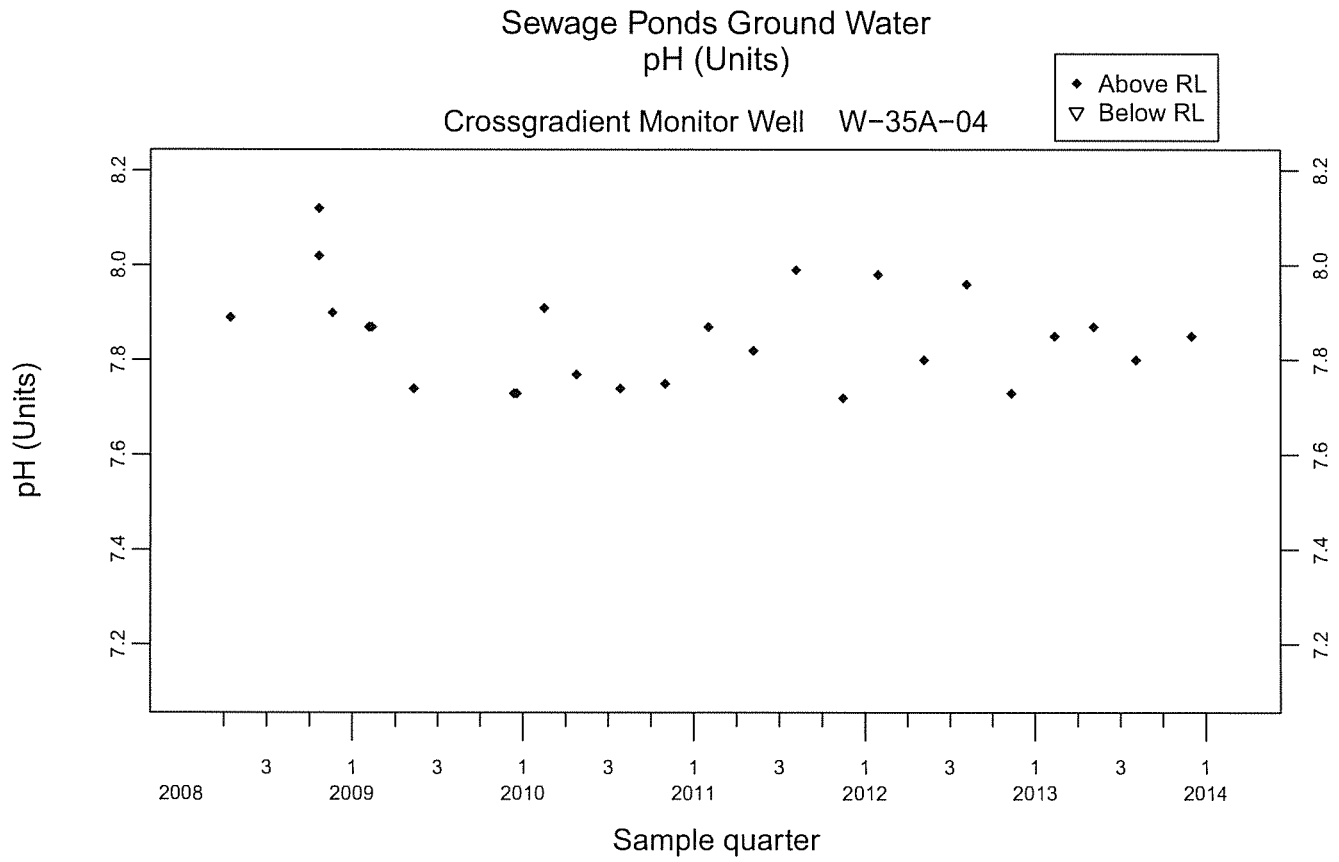


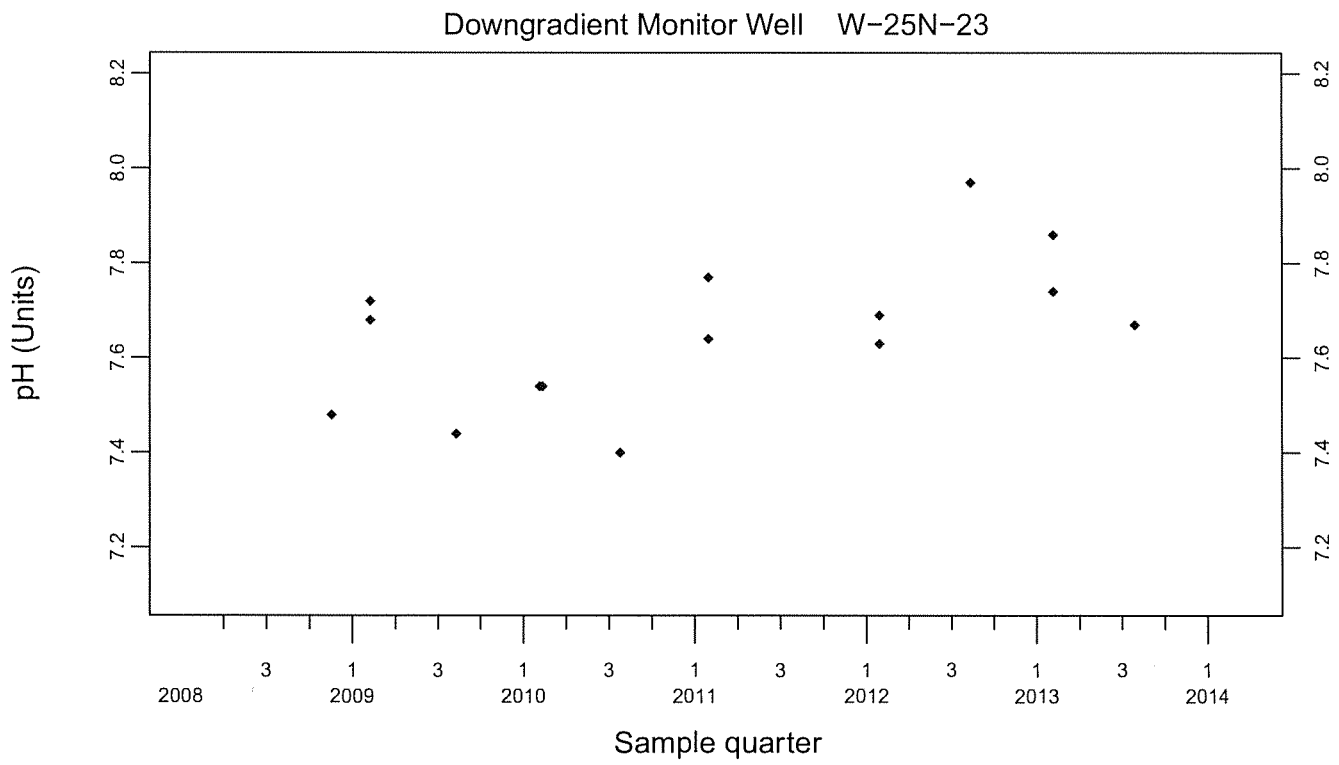

Sewage Ponds Ground Water
GW Elevation (Feet)
Downgradient Monitor Well W-26R-05
GW Elevation (Feet)
500
495
490
485
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

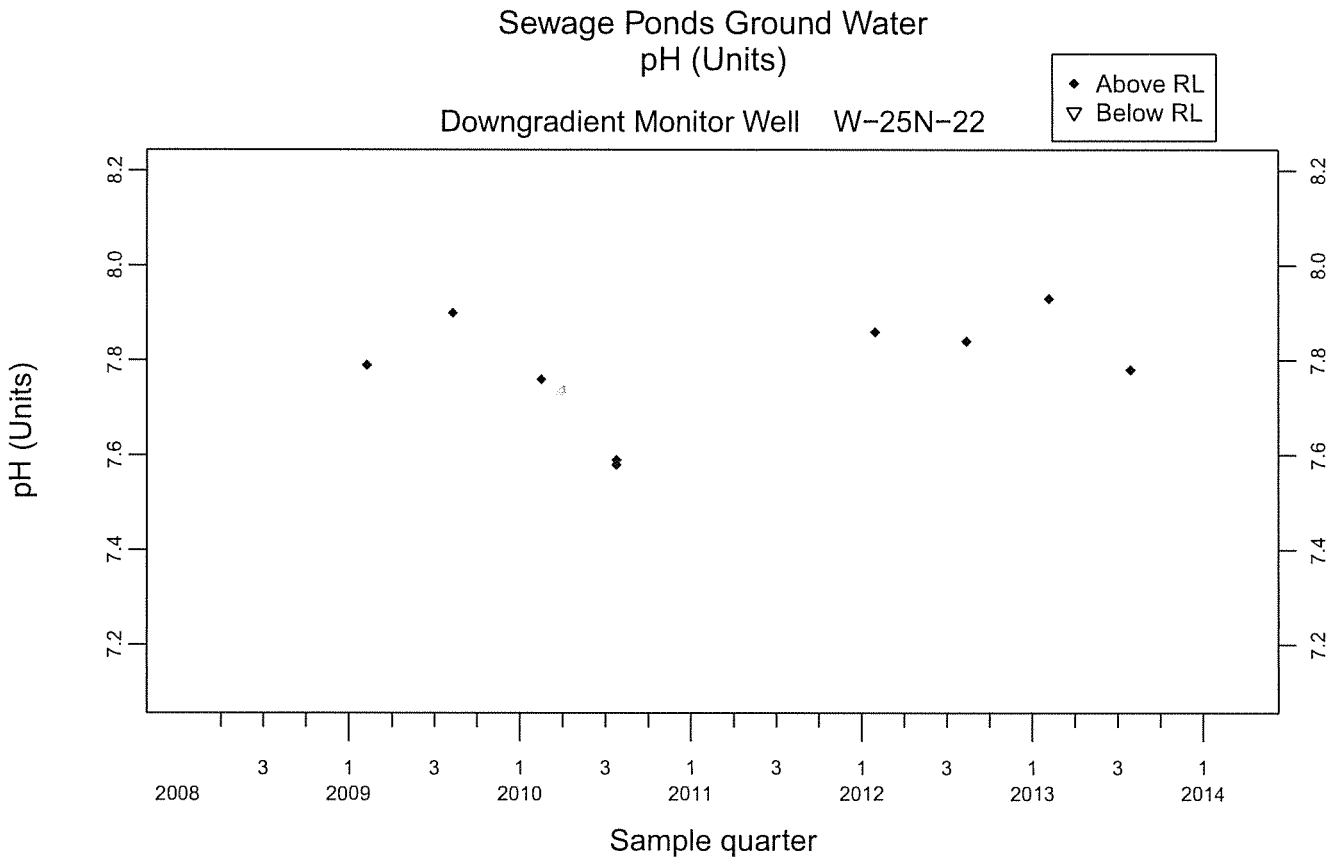

Downgradient Monitor Well W-26R-11
GW Elevation (Feet)
500
495
490
485
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

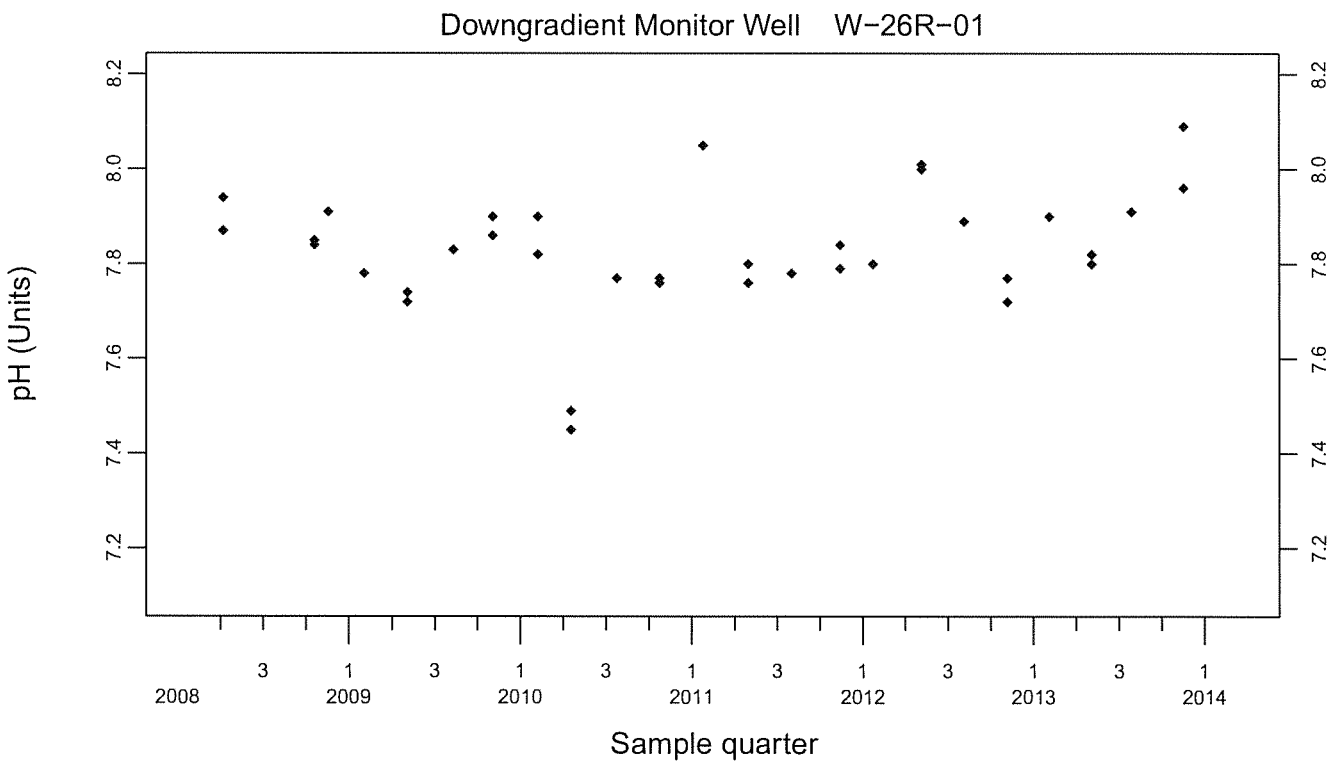

Sewage Ponds Ground Water
pH (Units)
Above RL
Below RL
Upgradient Monitor Well W-7ES
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

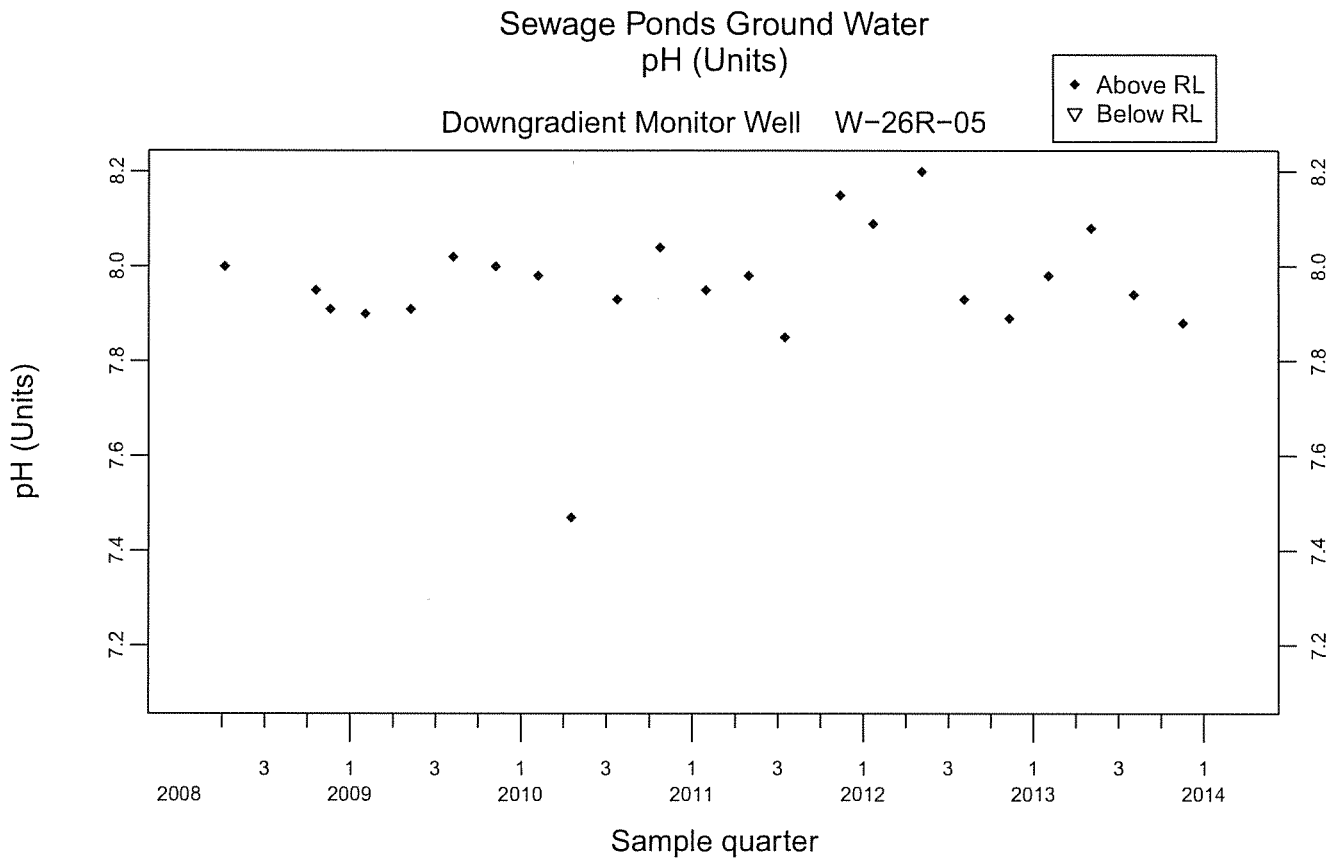

Upgradient Monitor Well W-7PS
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

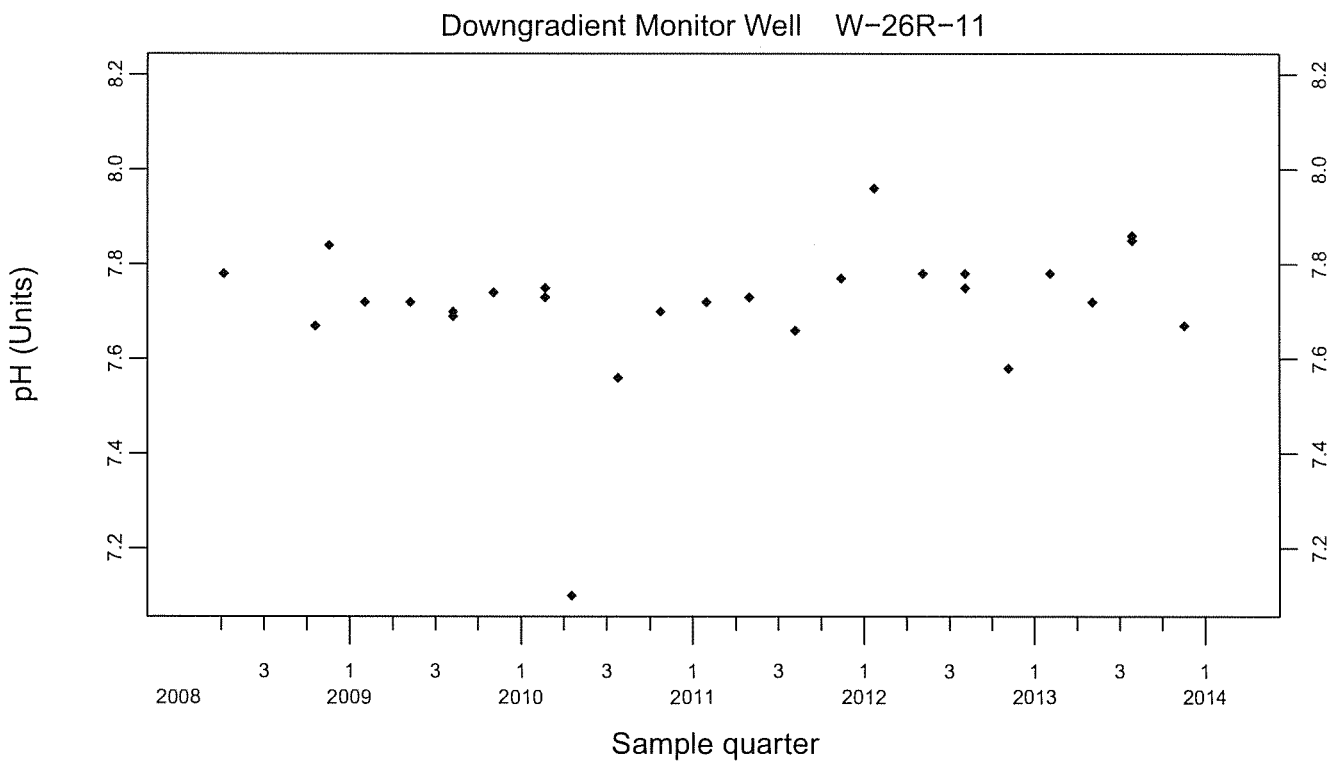

Sewage Ponds Ground Water
pH (Units)
Above RL
Below RL
Crossgradient Monitor Well W-35A-04
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

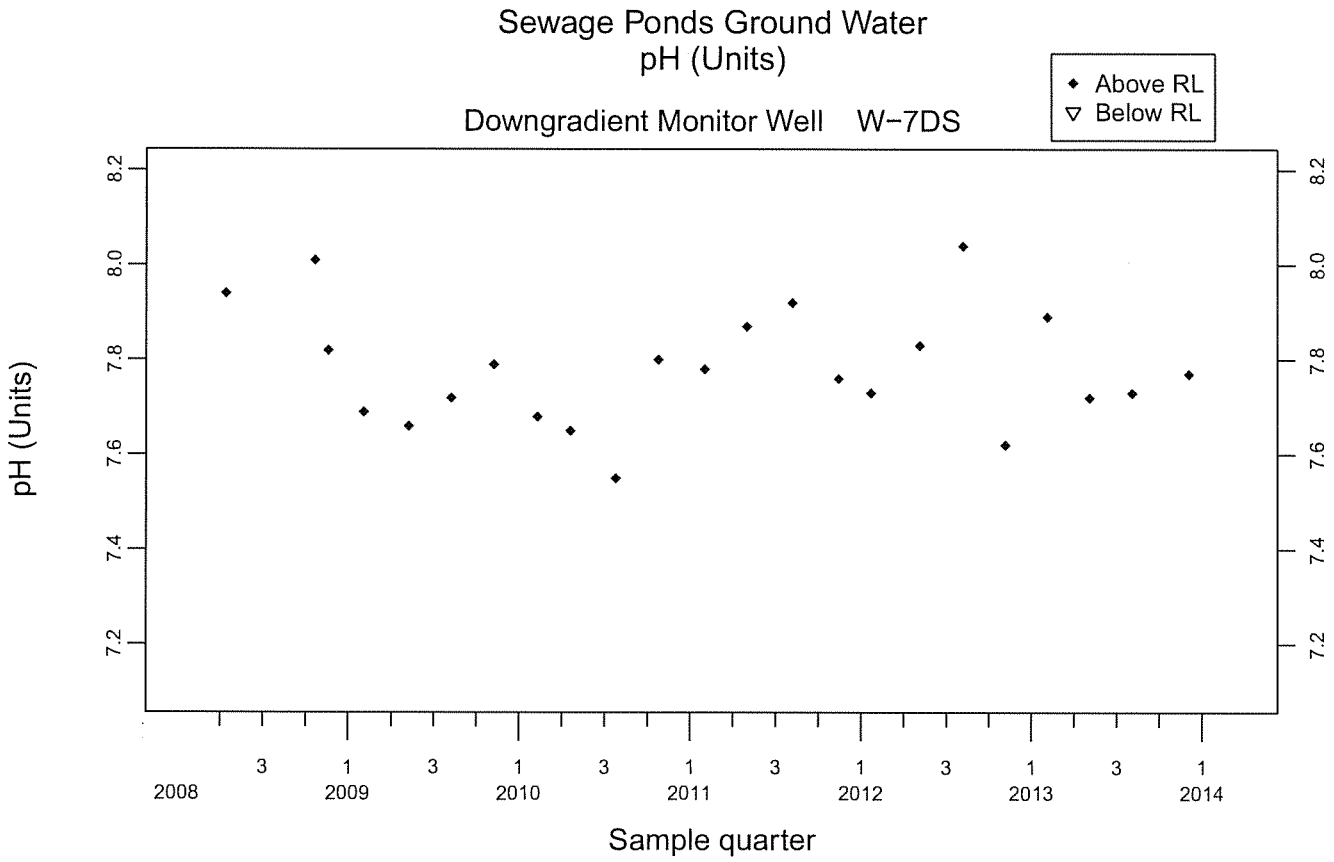

Downgradient Monitor Well W-25N-23
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

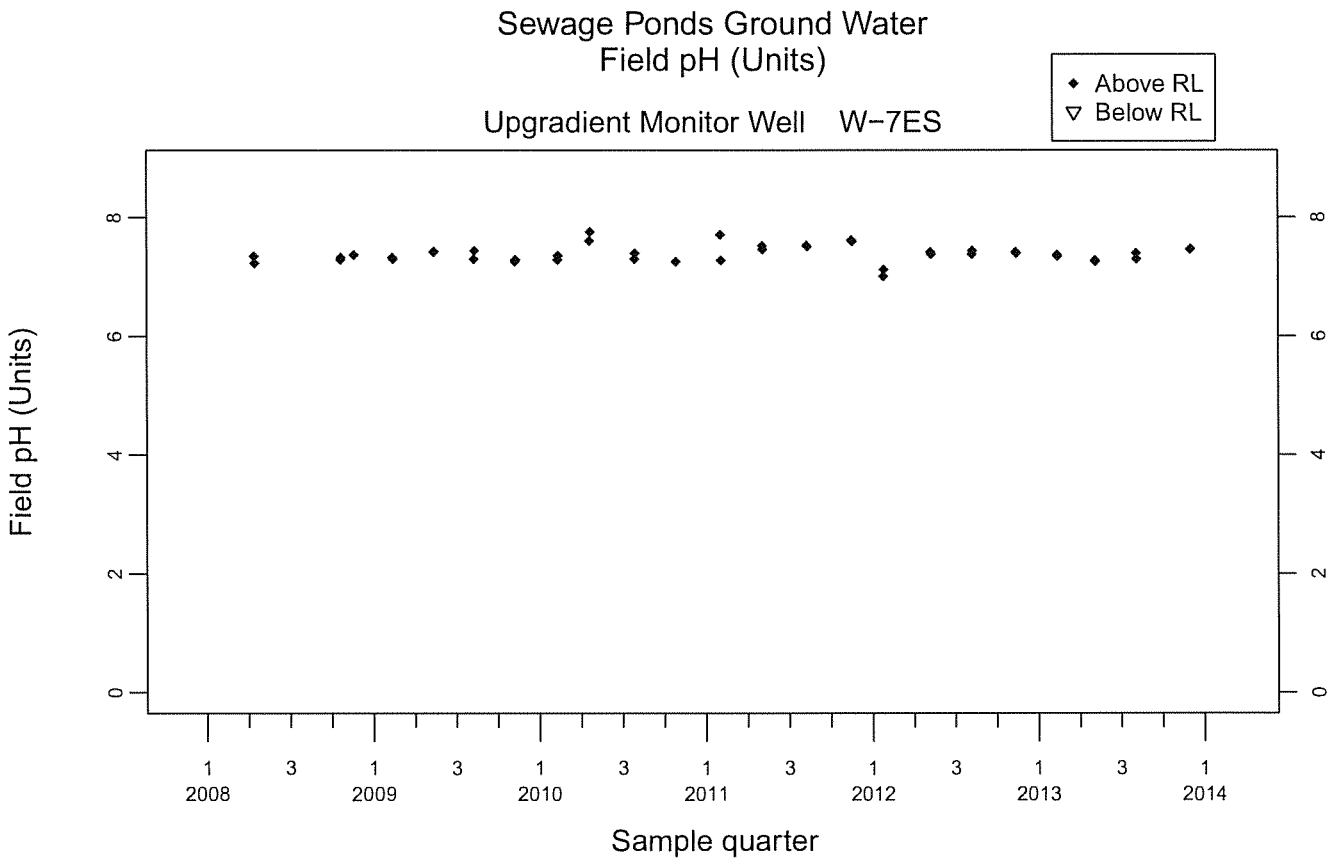

Sewage Ponds Ground Water
pH (Units)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

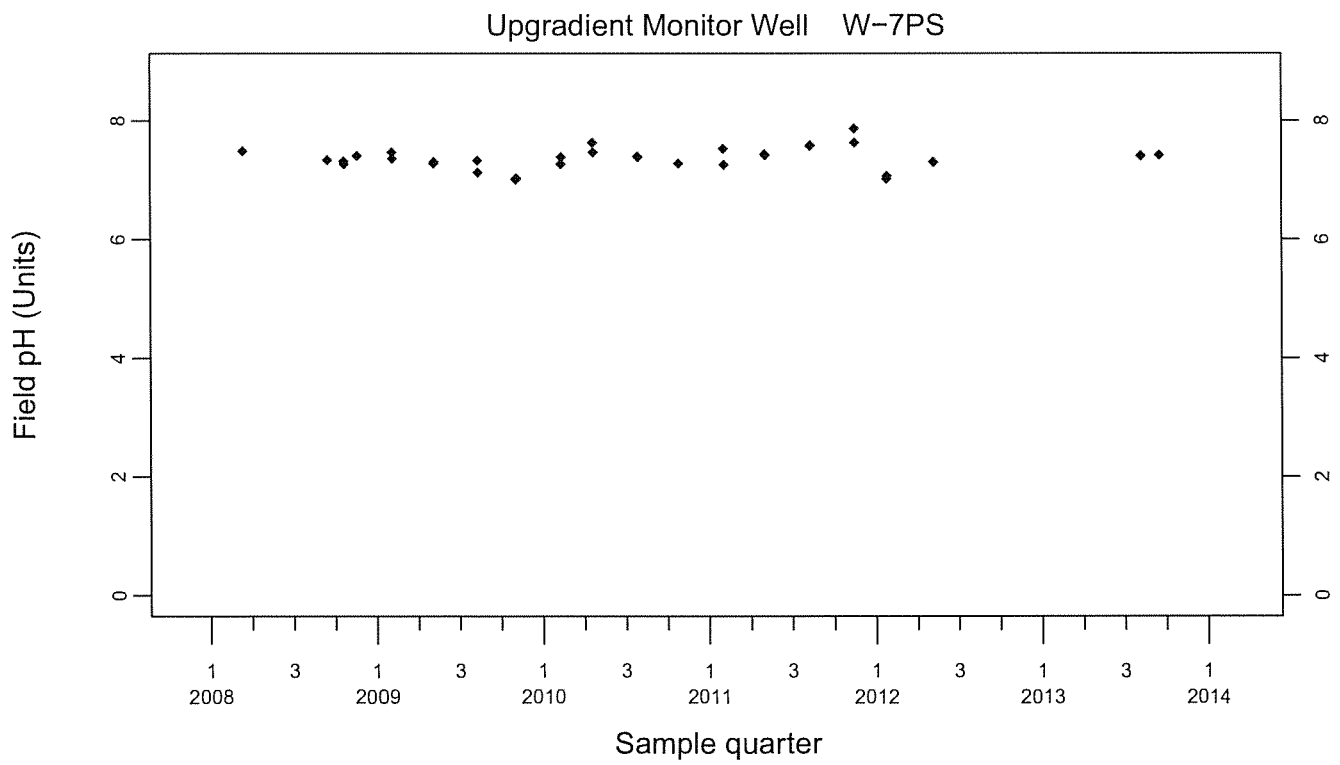

Downgradient Monitor Well W-26R-01
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

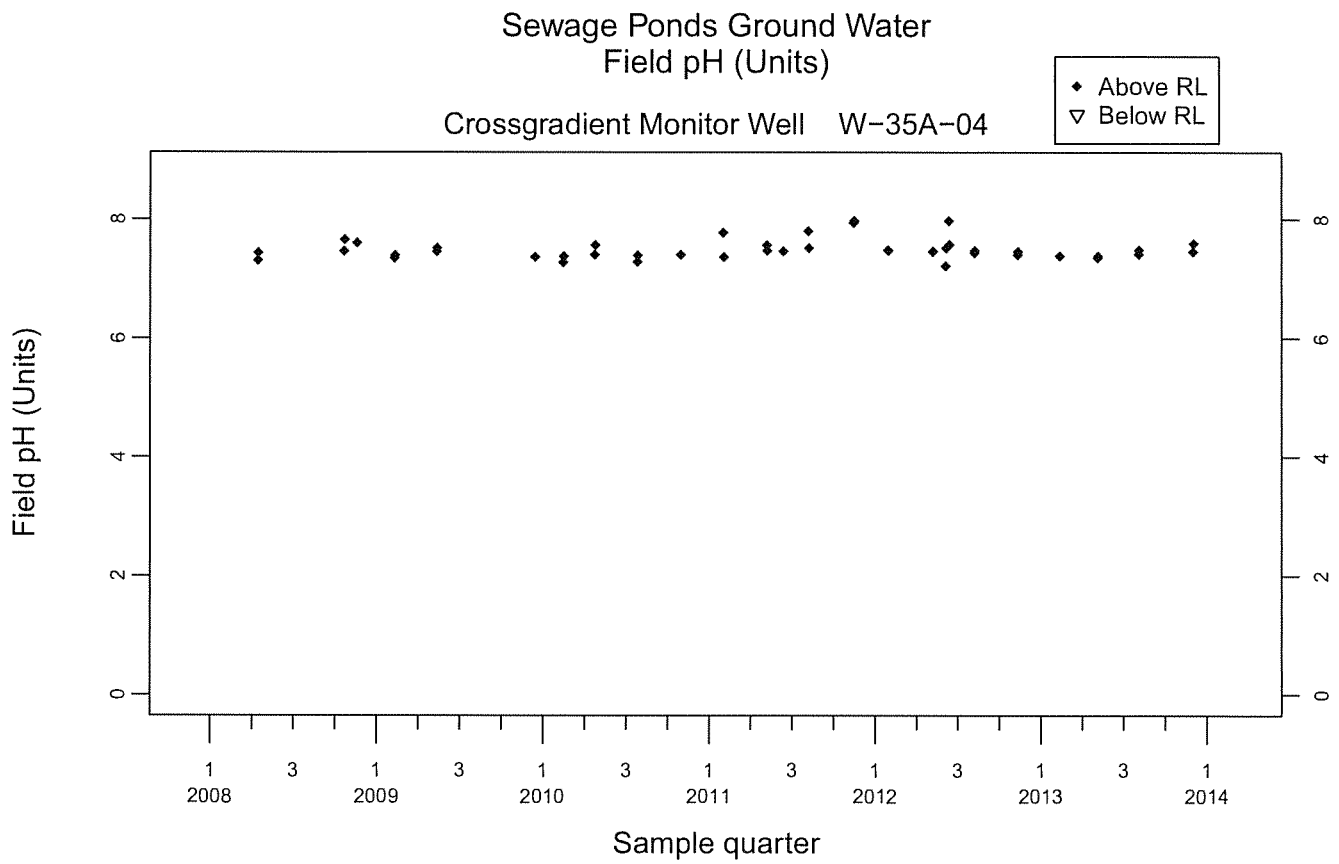

Sewage Ponds Ground Water
pH (Units)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

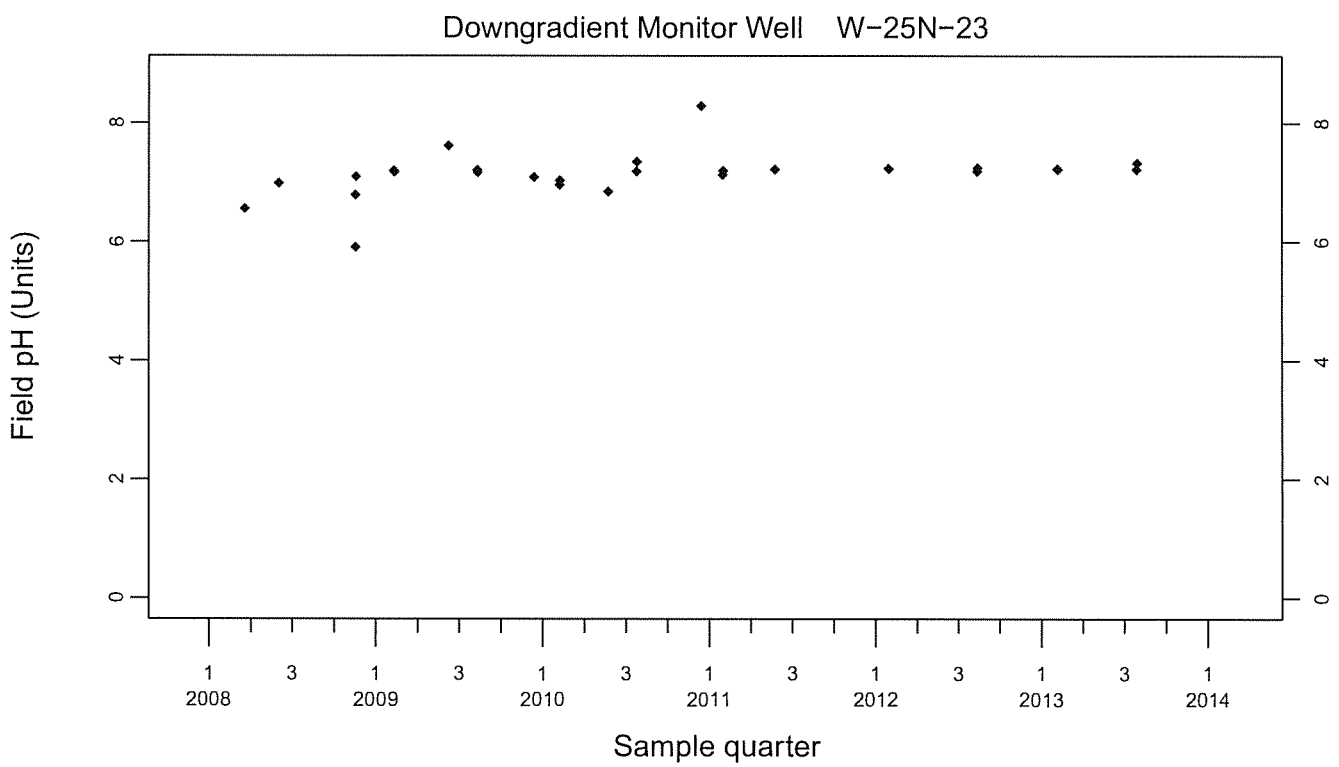

Downgradient Monitor Well W-26R-11
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

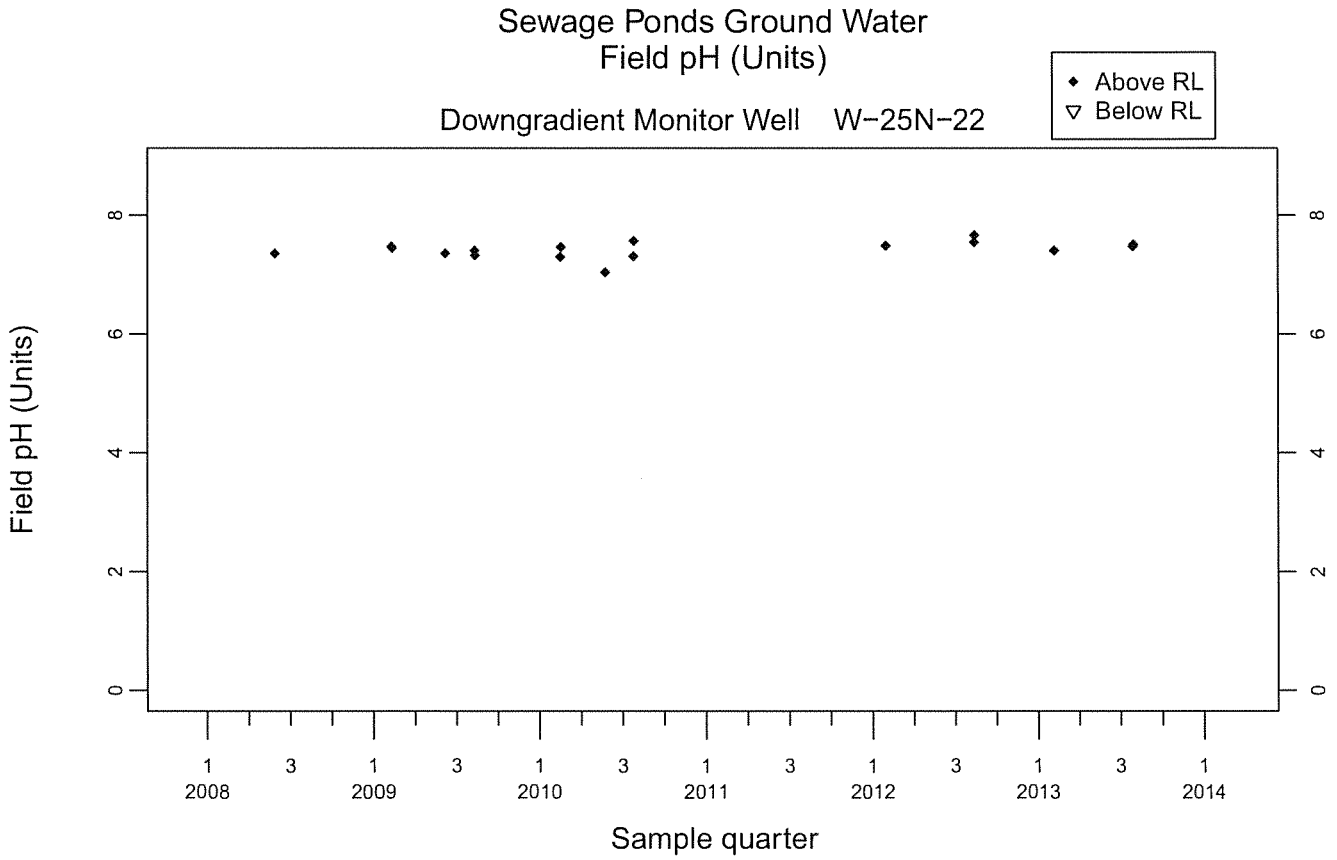

Sewage Ponds Ground Water
pH (Units)
Downgradient Monitor Well W-7DS
Above RL
Below RL
pH (Units)
8.2
8.0
7.8
7.6
7.4
7.2
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

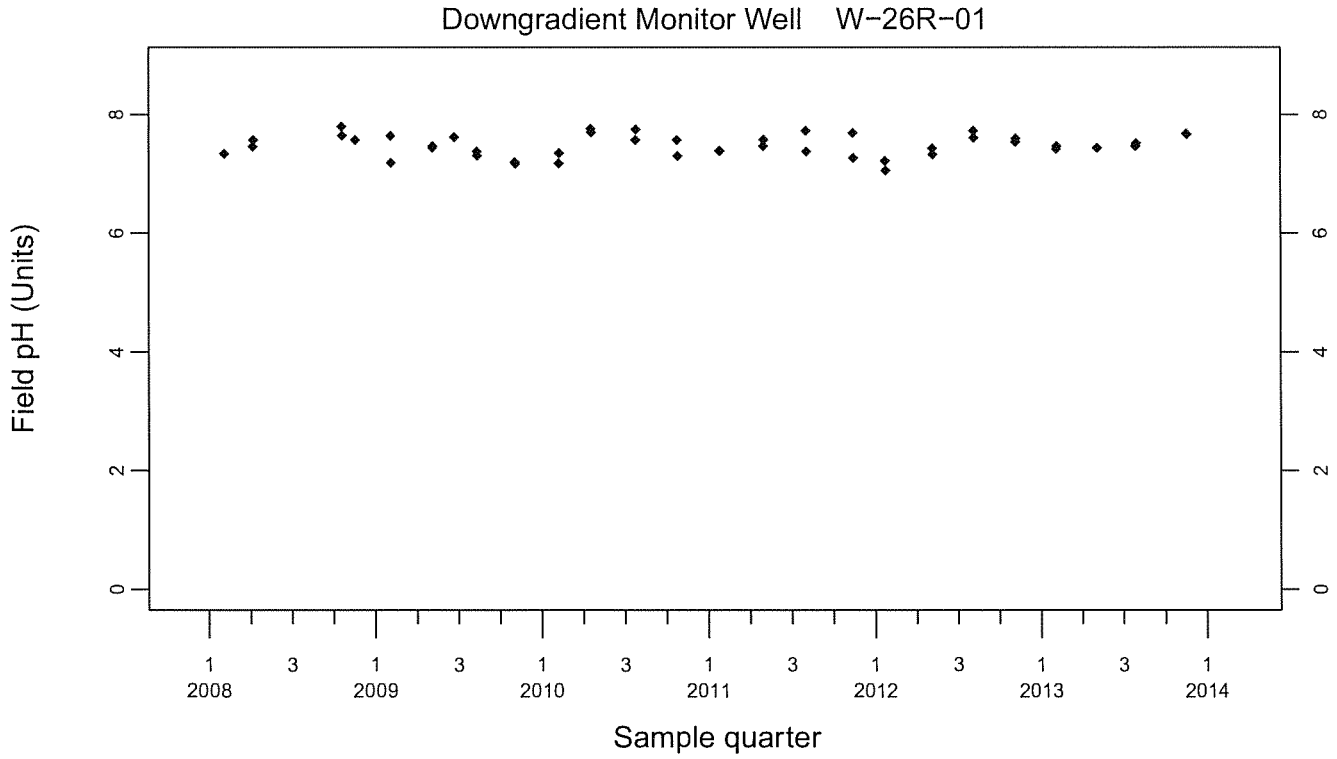

Sewage Ponds Ground Water
Field pH (Units)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Field pH (Units)
0
2
4
6
8
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

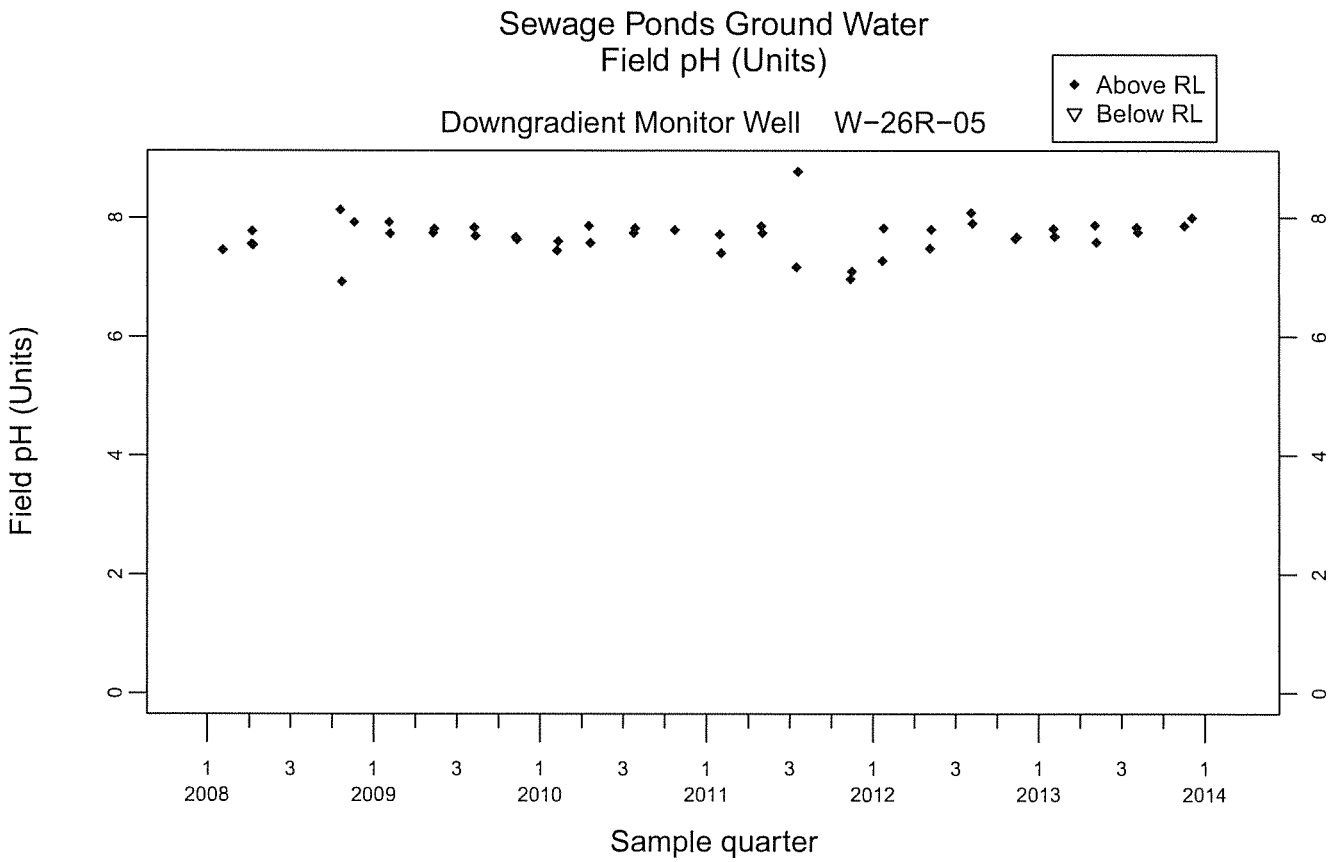

Upgradient Monitor Well W-7PS
Field pH (Units)
0
2
4
6
8
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

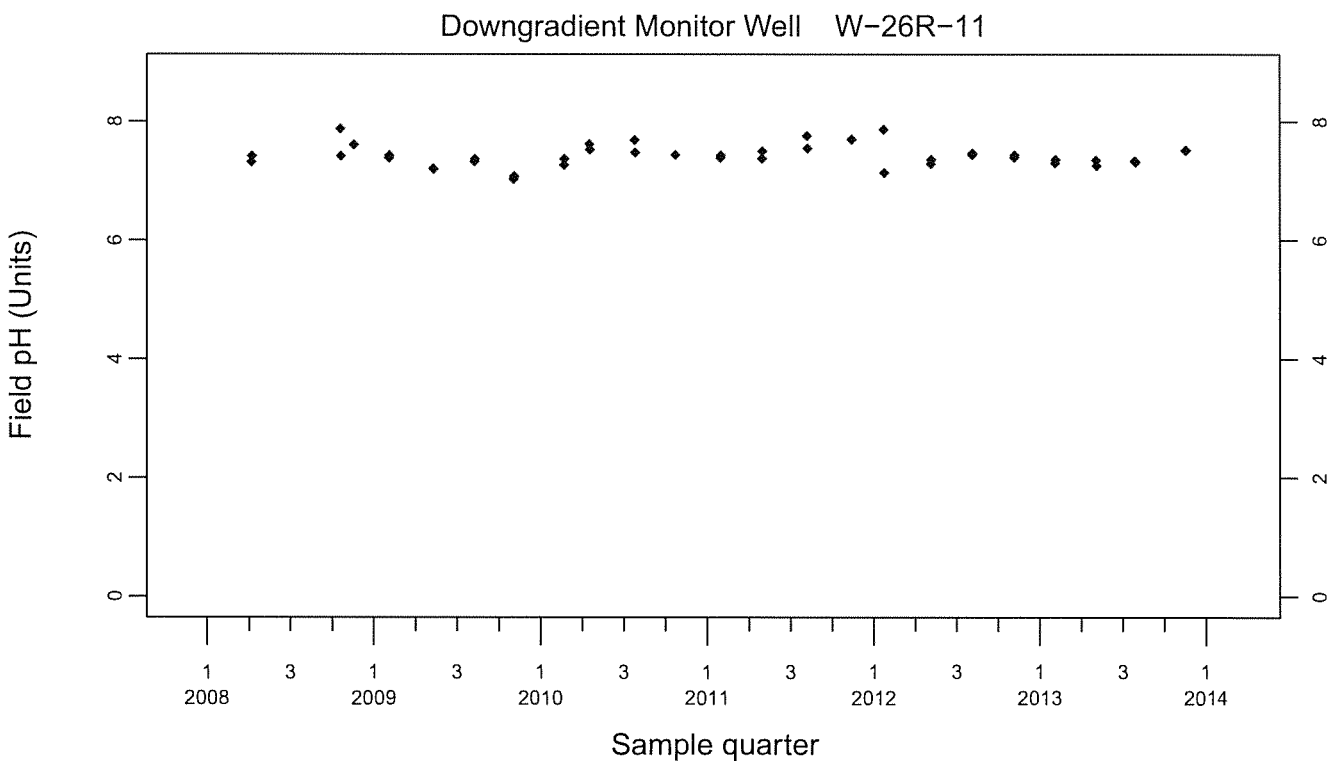

Sewage Ponds Ground Water
Field pH (Units)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Field pH (Units)
0
2
4
6
8
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

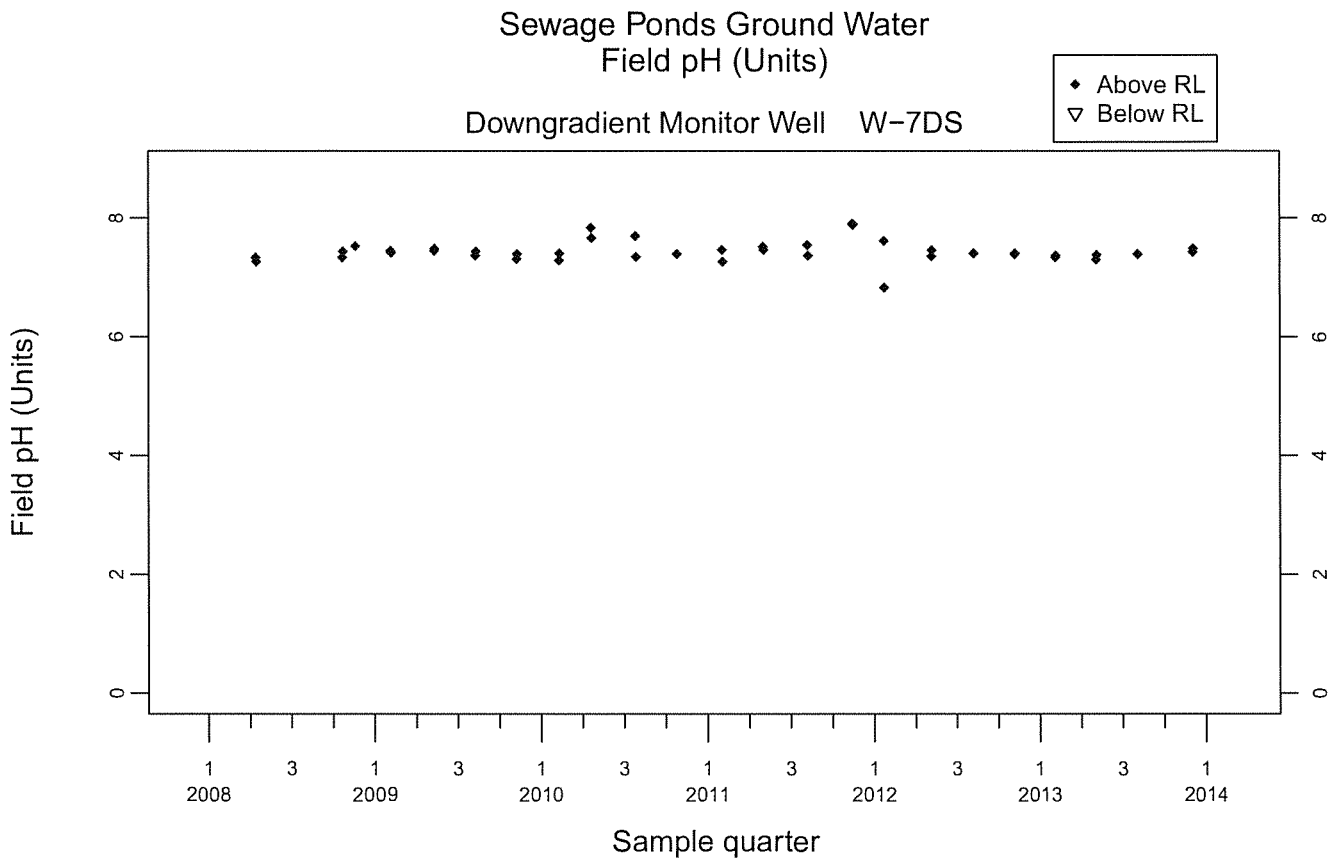

Downgradient Monitor Well W-25N-23
Field pH (Units)
0
2
4
6
8
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

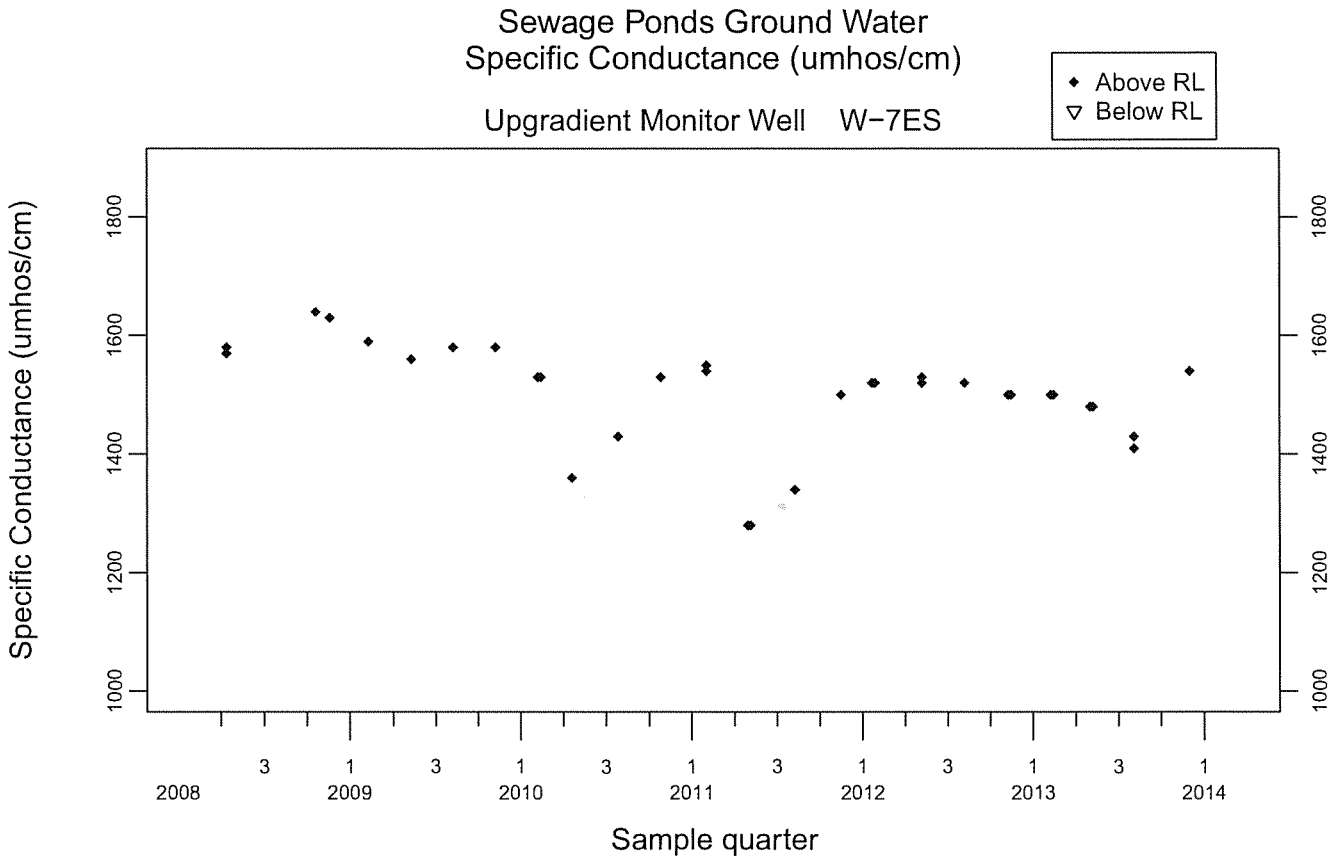

Sewage Ponds Ground Water
Field pH (Units)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Field pH (Units)
0
2
4
6
8
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

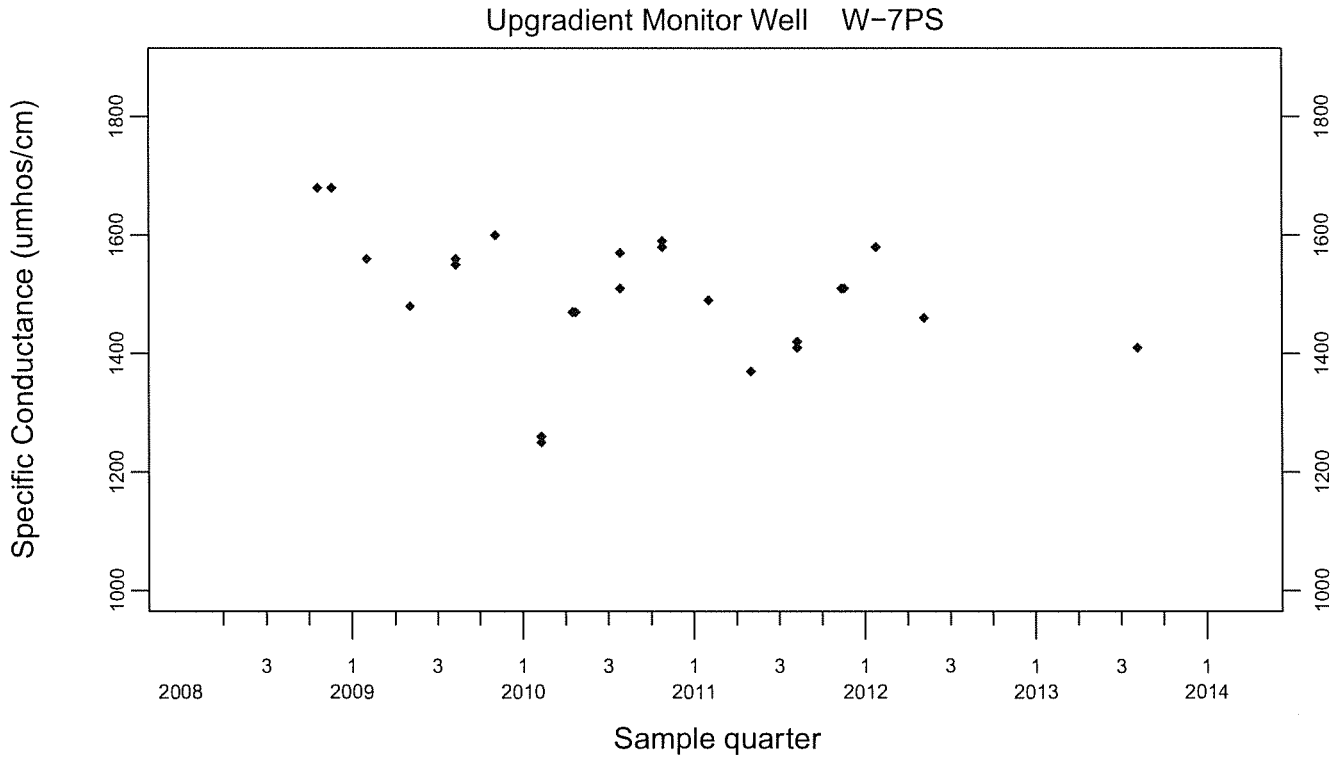

Downgradient Monitor Well W-26R-01
Field pH (Units)
0
2
4
6
8
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

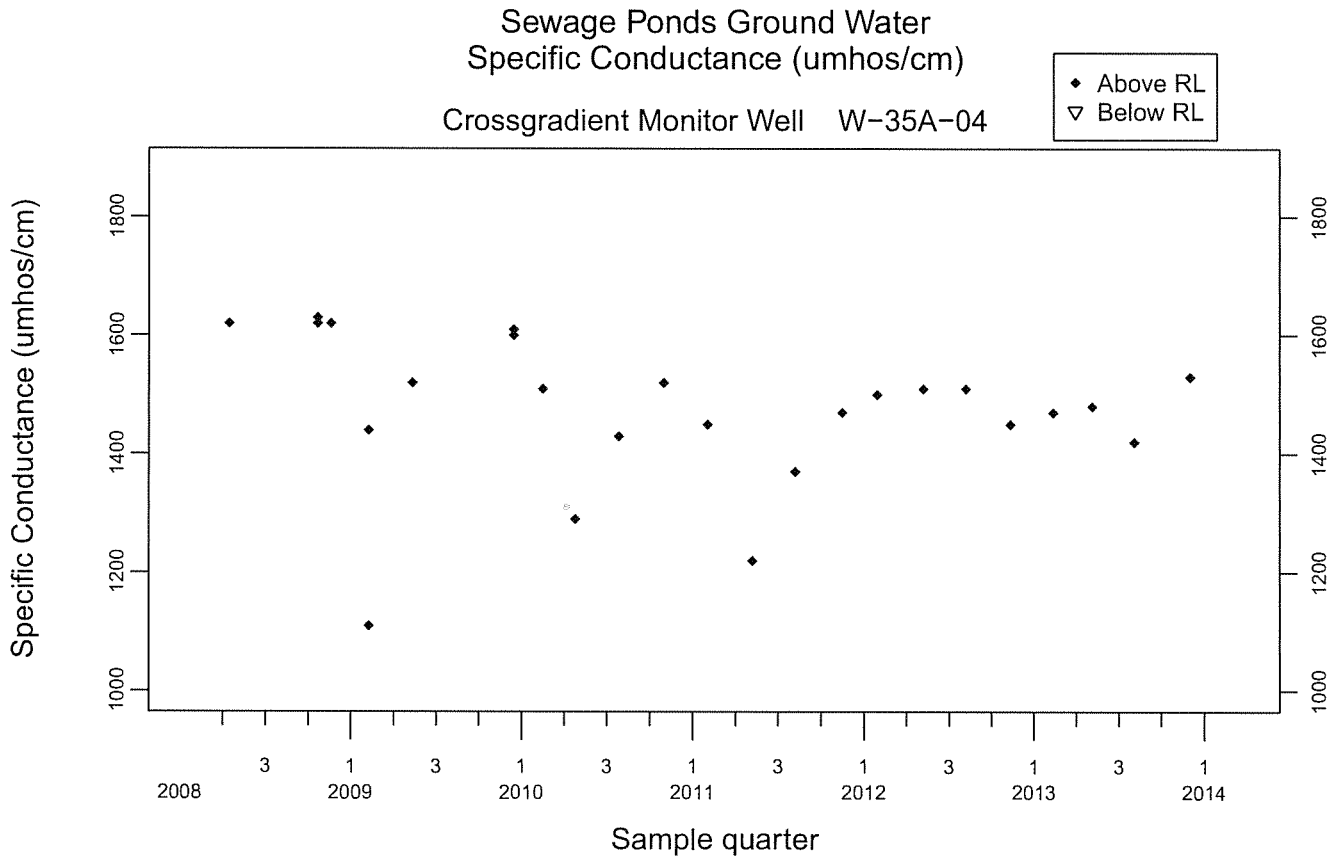

Sewage Ponds Ground Water
Field pH (Units)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Field pH (Units)
0
2
4
6
8
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

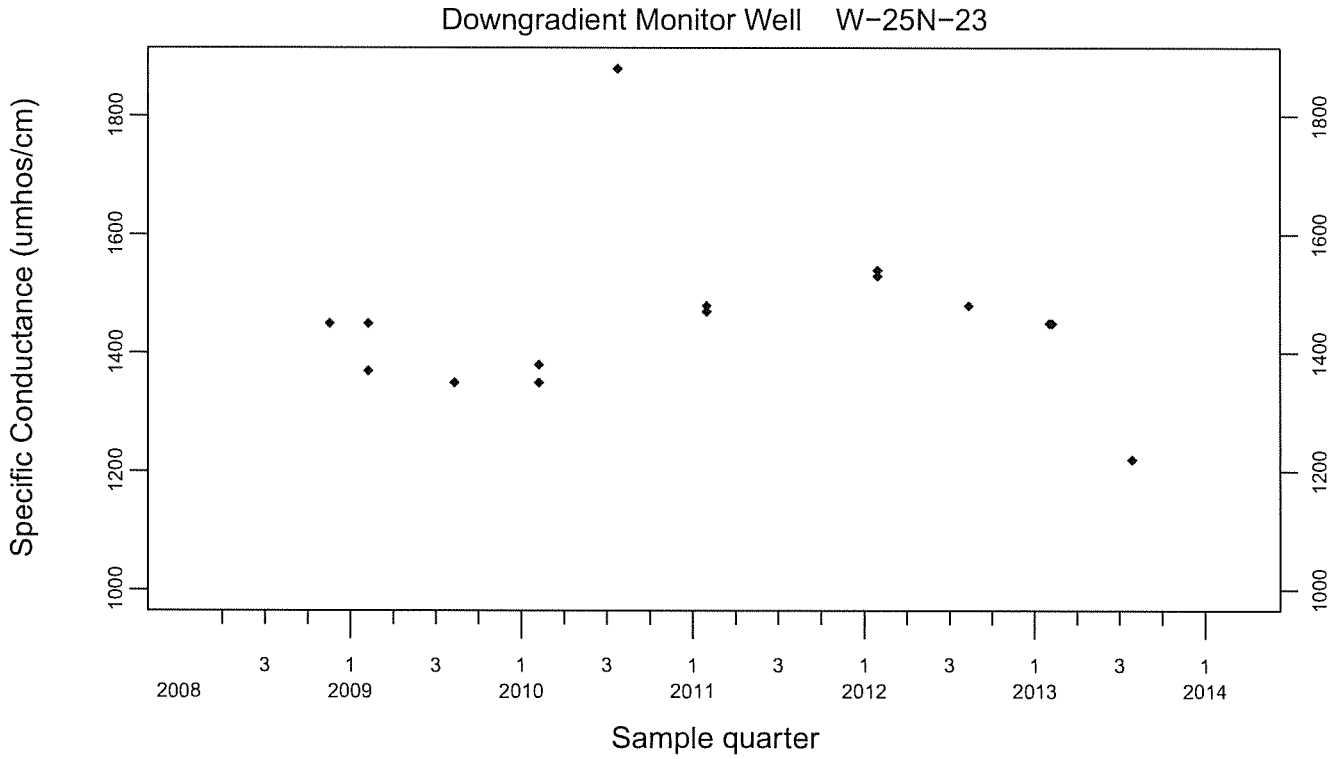

Downgradient Monitor Well W-26R-11
Field pH (Units)
0
2
4
6
8
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

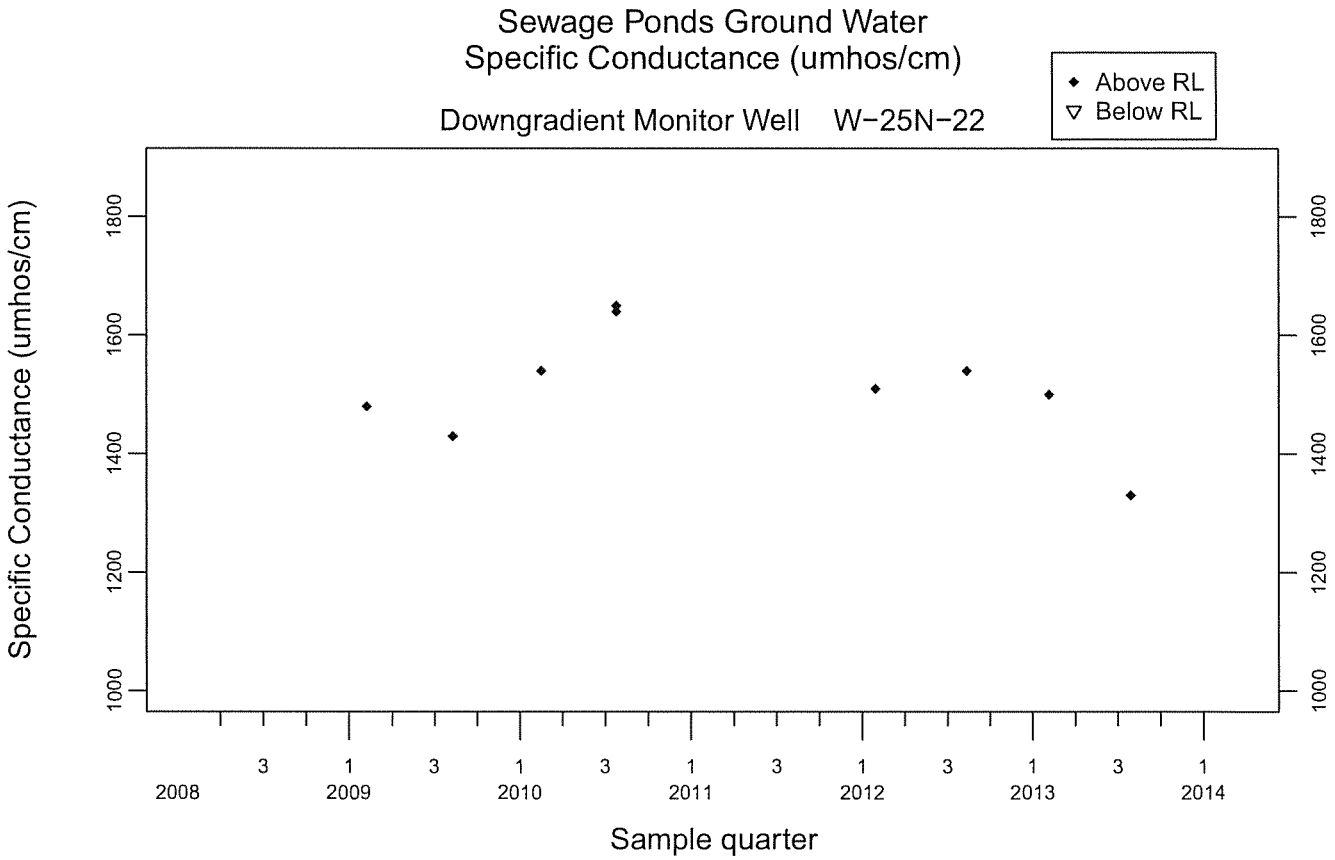

Sewage Ponds Ground Water
Field pH (Units)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Field pH (Units)
0
2
4
6
8
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

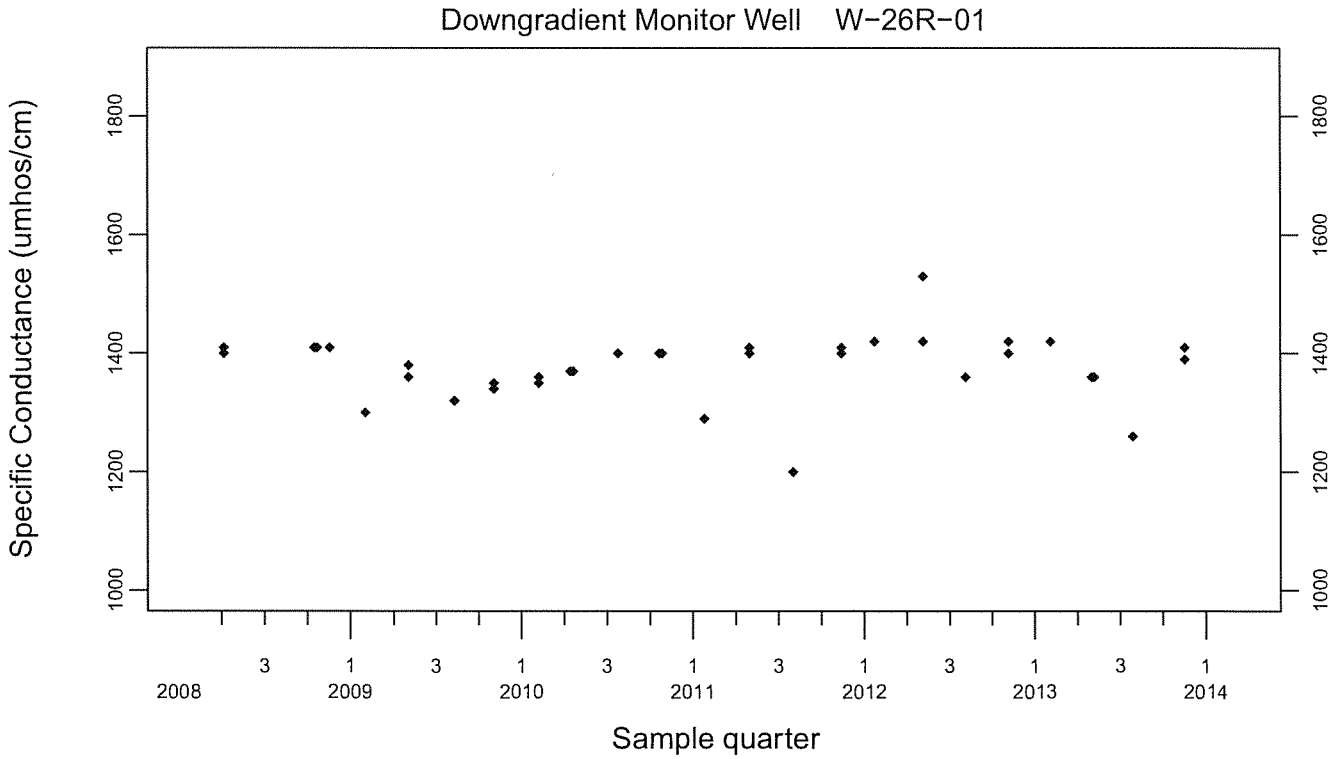

Sewage Ponds Ground Water
Specific Conductance (umhos/cm)
Above RL
Below RL
Upgradient Monitor Well W-7ES
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

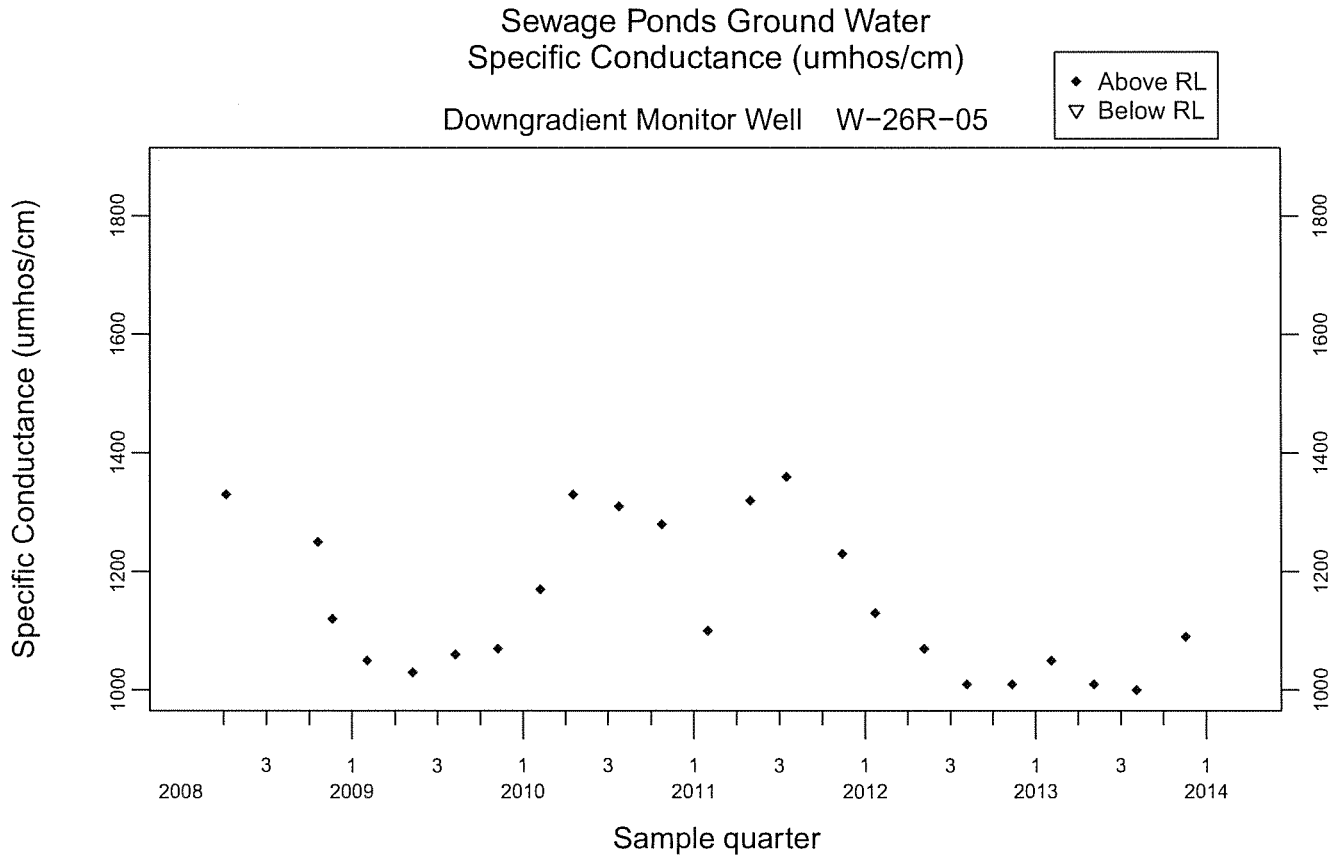

Upgradient Monitor Well W-7PS
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

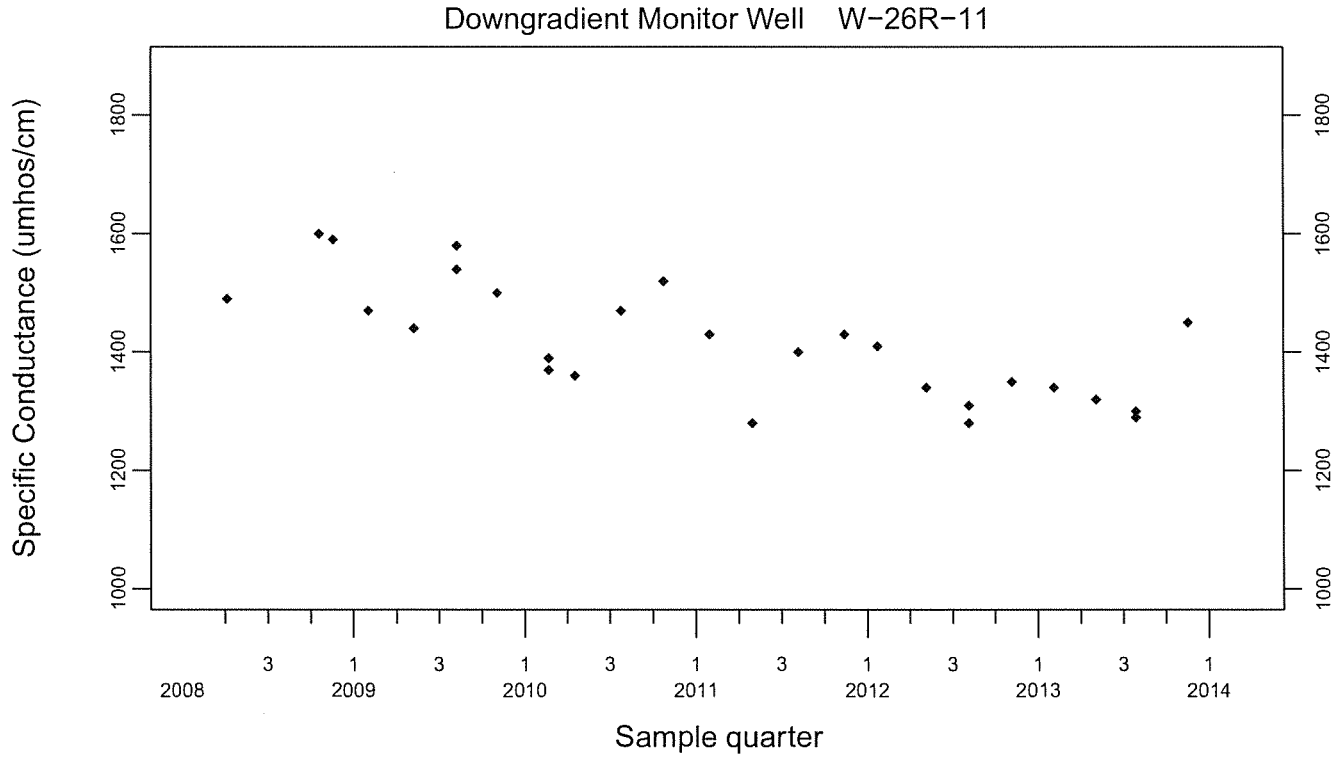

Sewage Ponds Ground Water
Specific Conductance (umhos/cm)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
2008
2009
2010
2011
2012
2013
2014
Sample quarter

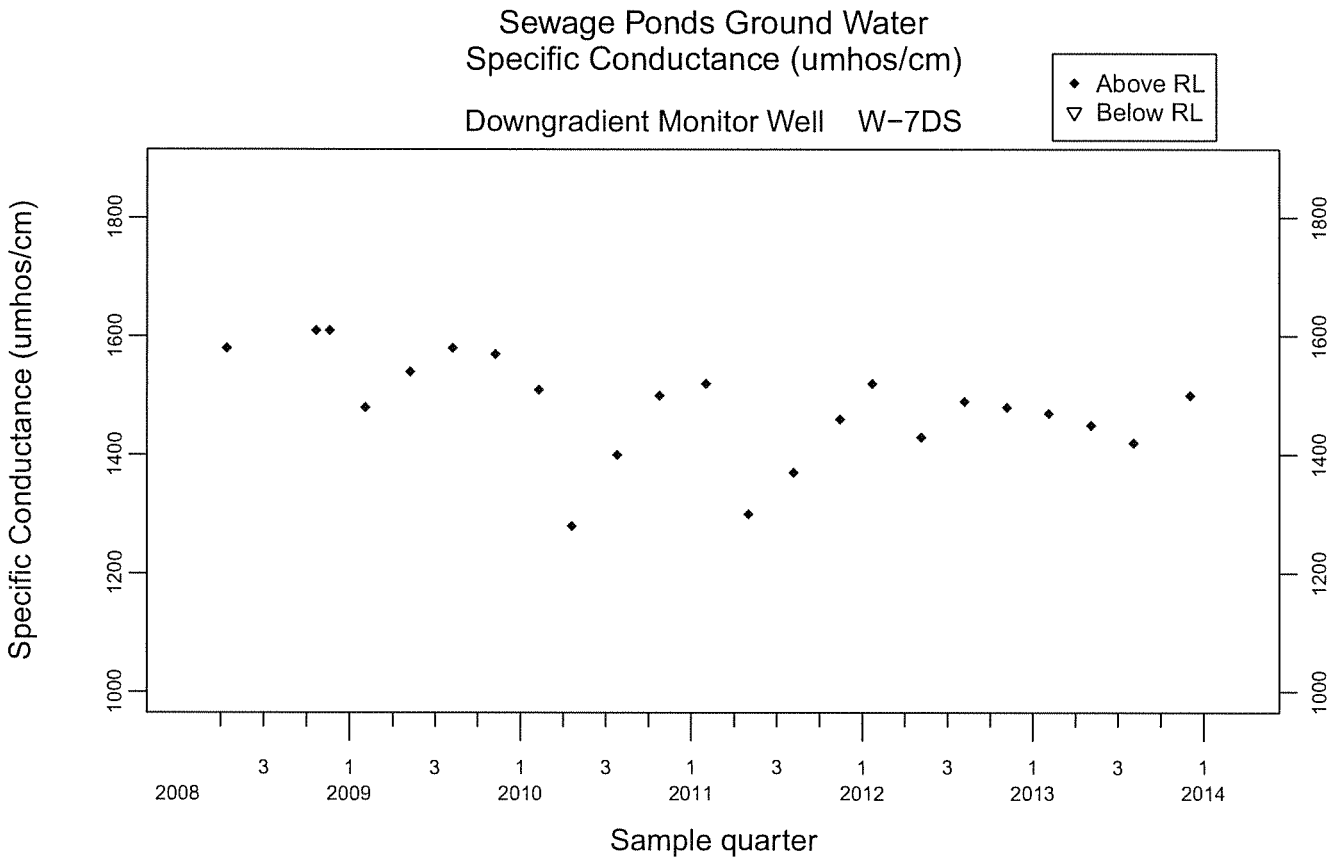

Downgradient Monitor Well W-25N-23
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
2008
2009
2010
2011
2012
2013
2014
Sample quarter

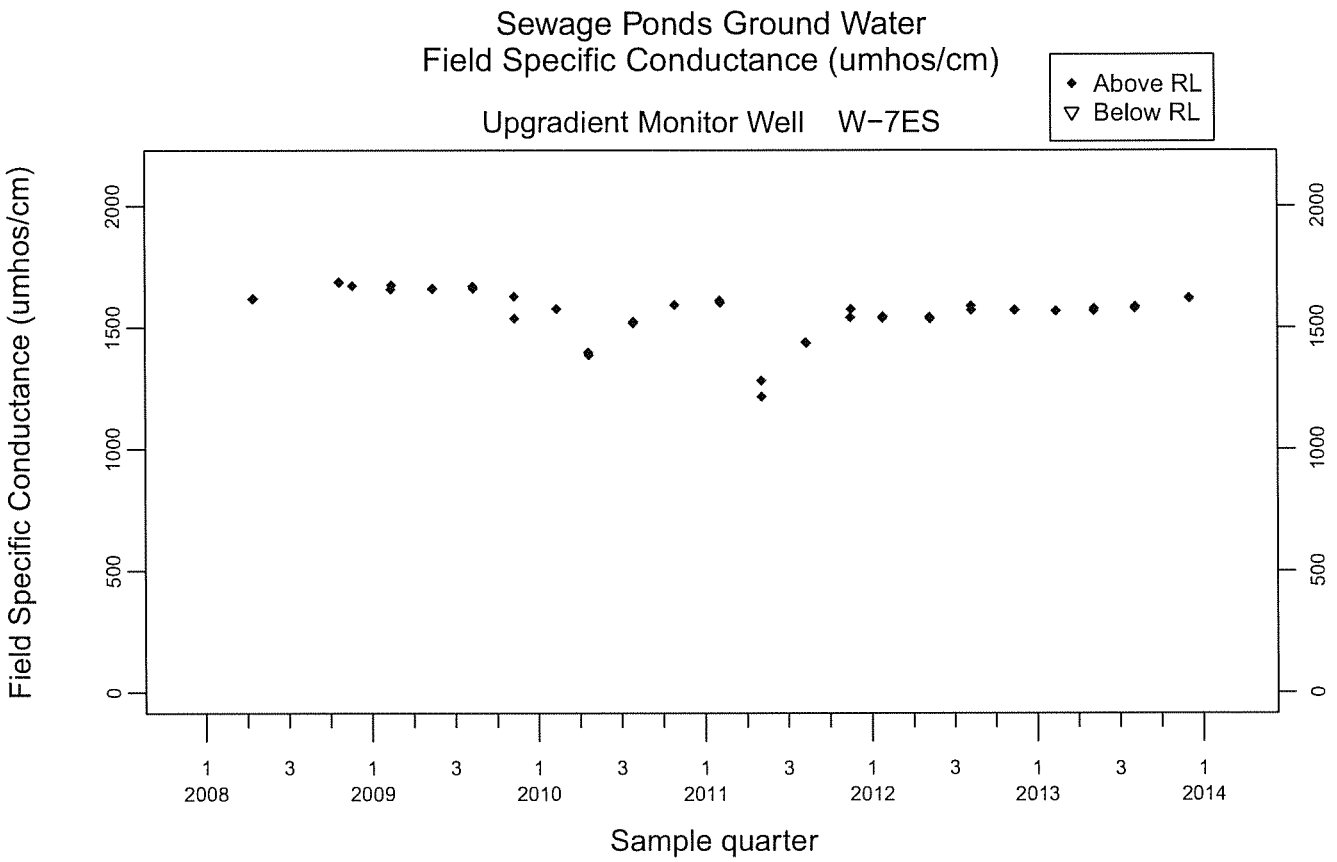

Sewage Ponds Ground Water
Specific Conductance (umhos/cm)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

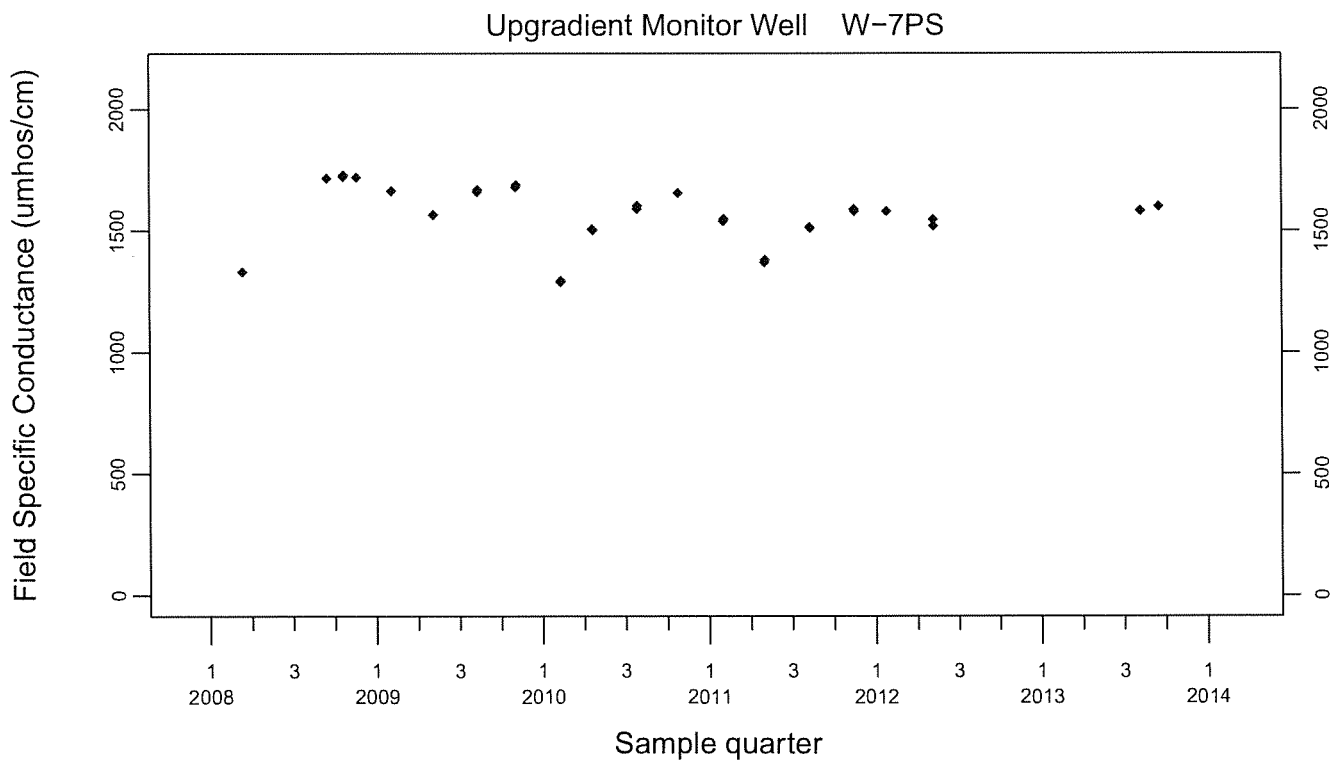

Downgradient Monitor Well W-26R-01
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

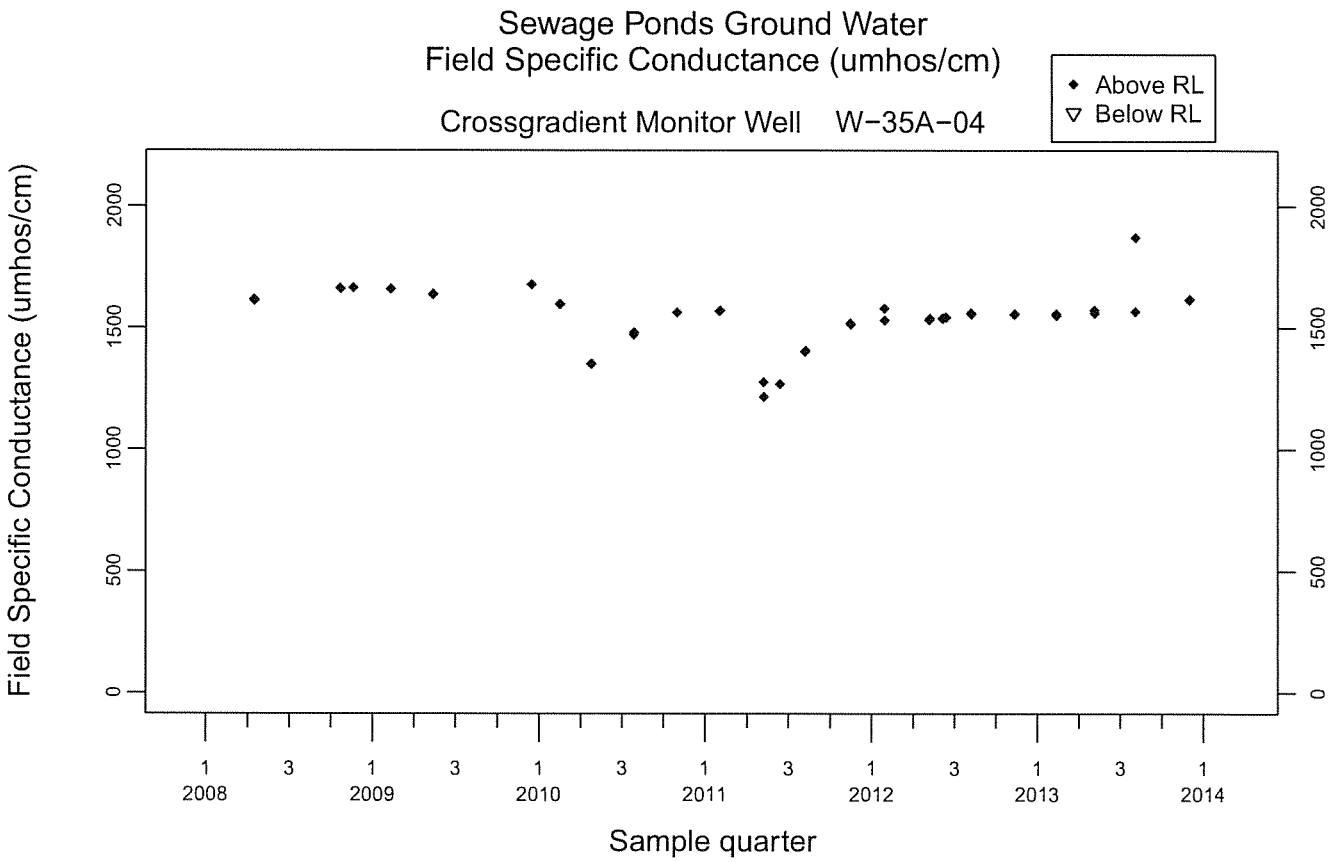

Sewage Ponds Ground Water
Specific Conductance (umhos/cm)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

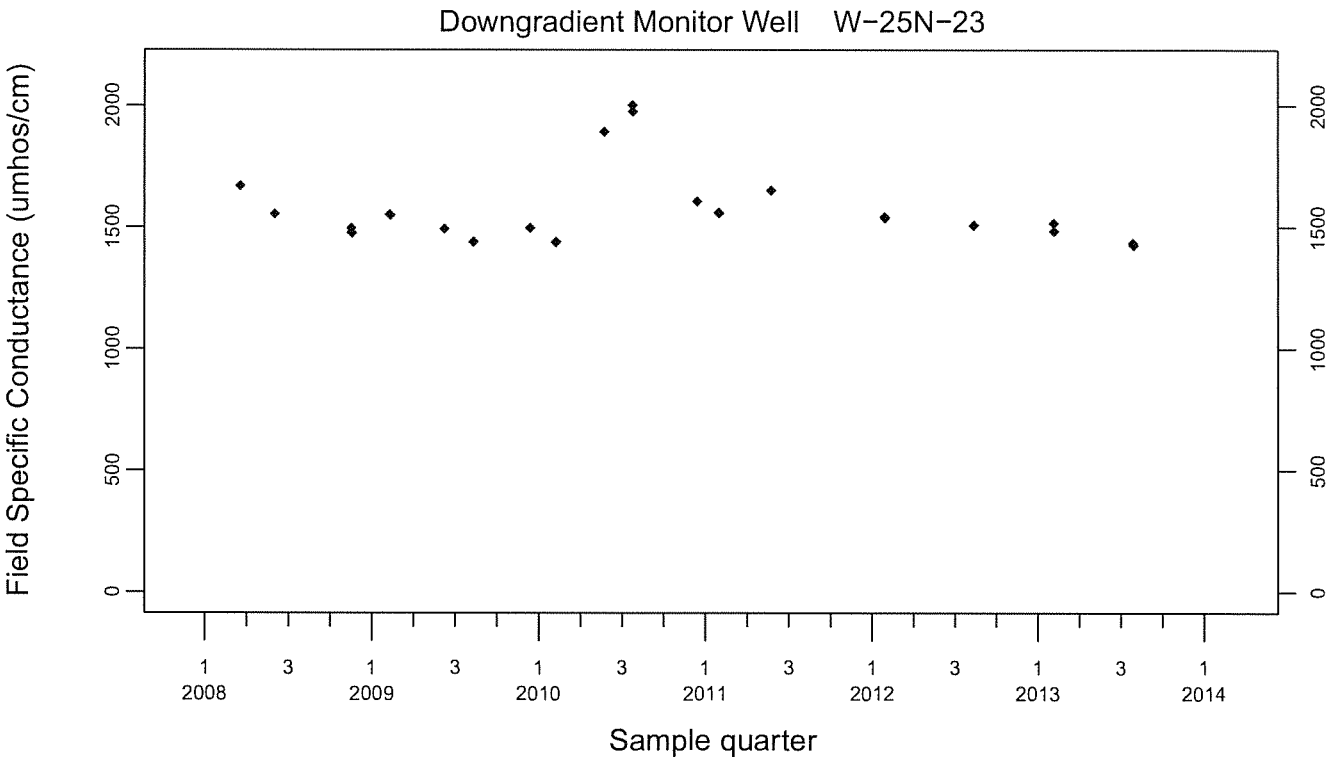

Downgradient Monitor Well W-26R-11
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

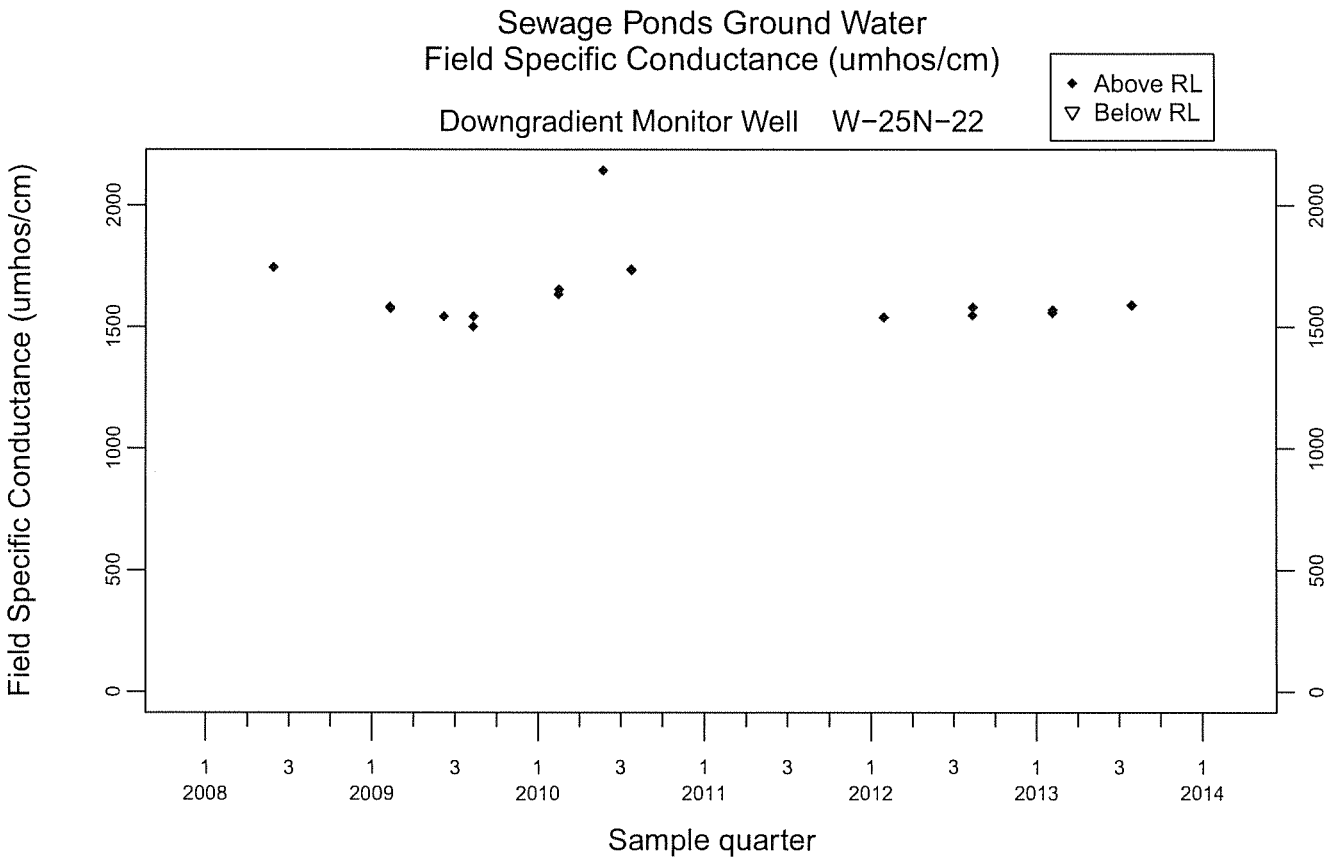

Sewage Ponds Ground Water
Specific Conductance (umhos/cm)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Specific Conductance (umhos/cm)
1000
1200
1400
1600
1800
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

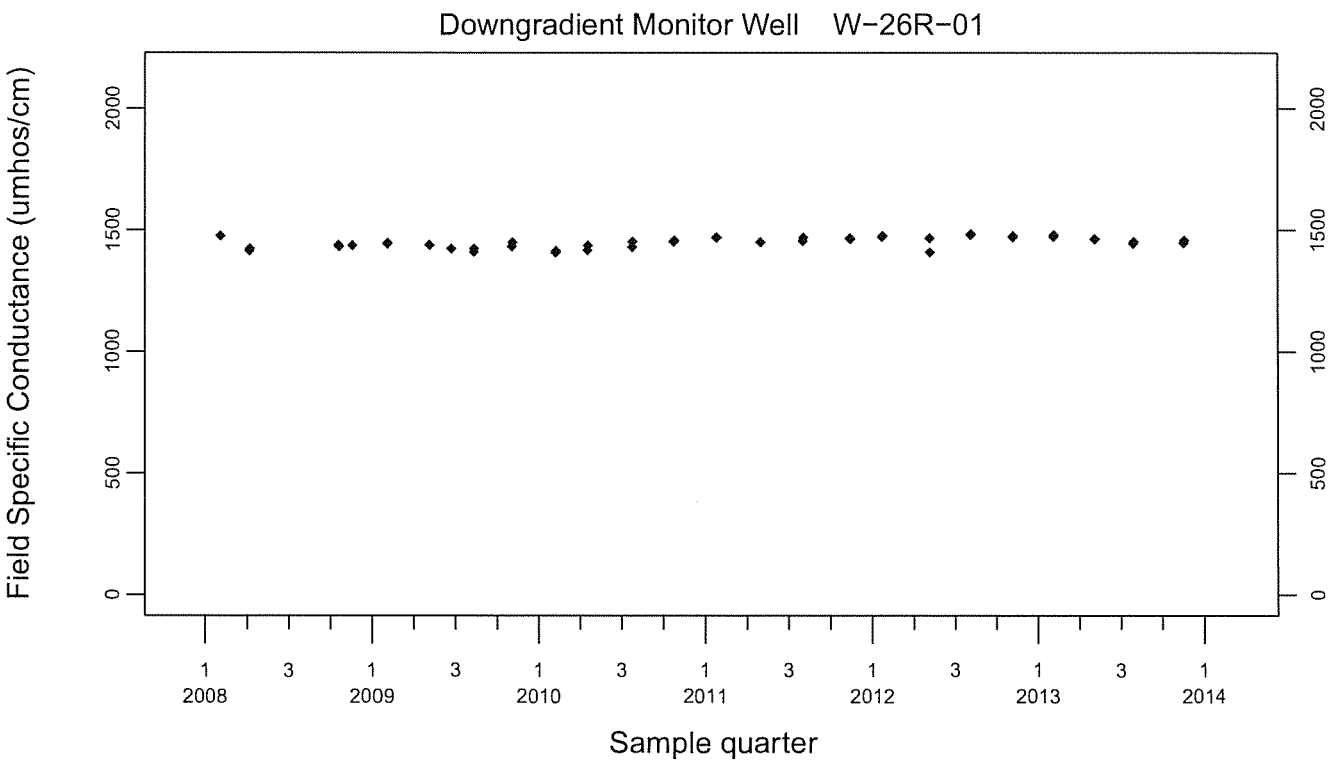

Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

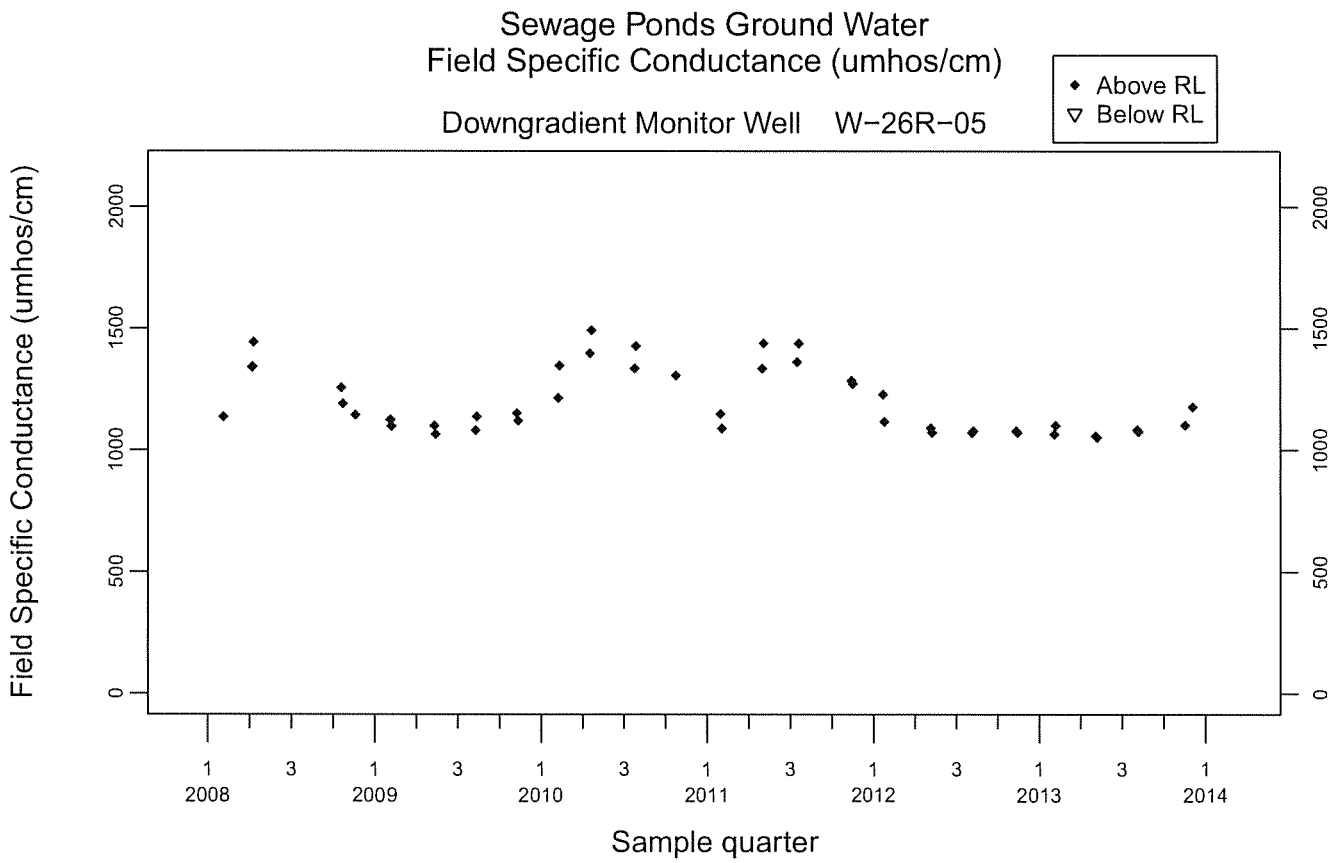

Upgradient Monitor Well W-7PS
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

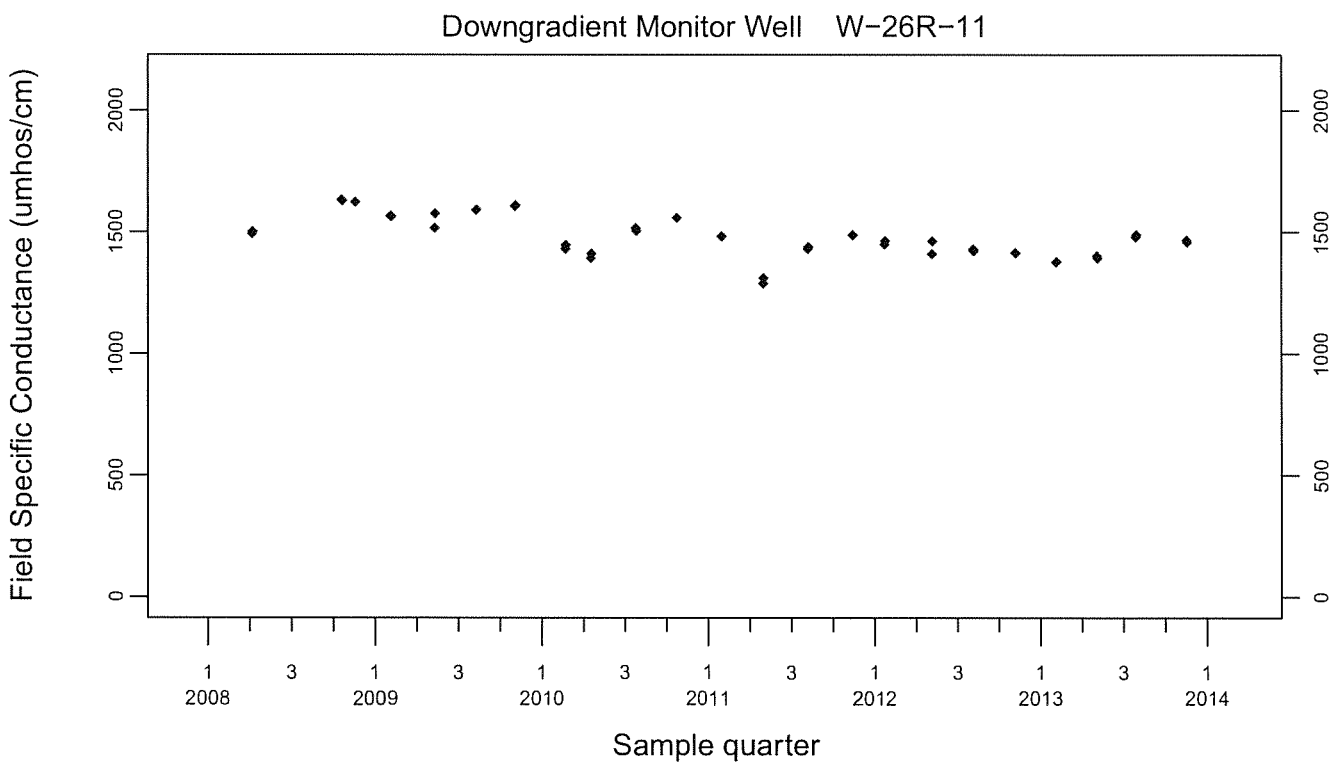

Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)
Above RL
Below RL
Crossgradient Monitor Well W-35A-04
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1 3 1 3 1 3 1 3 1 3 1 3 1
2008 2009 2010 2011 2012 2013 2014
Sample quarter

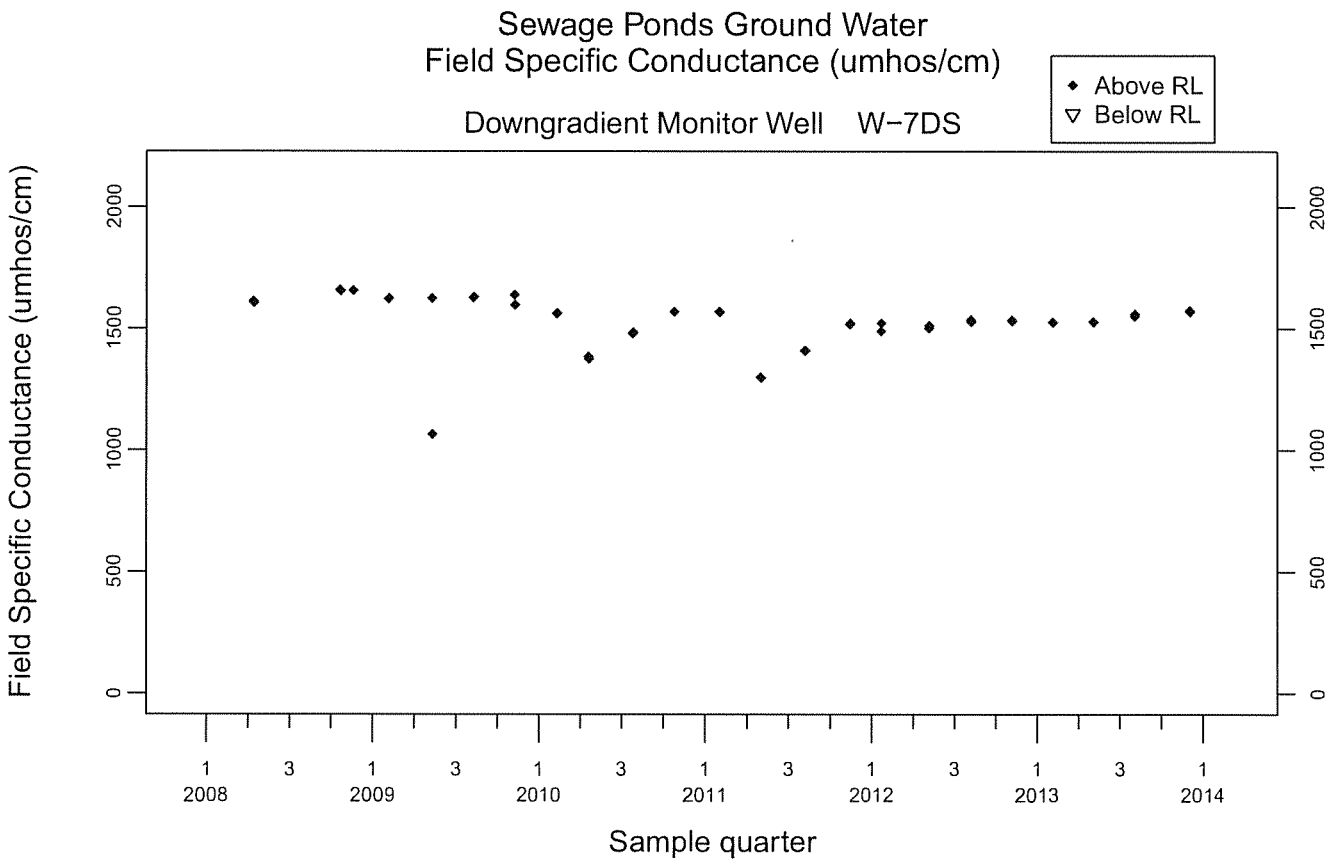

Downgradient Monitor Well W-25N-23
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1 3 1 3 1 3 1 3 1 3 1 3 1
2008 2009 2010 2011 2012 2013 2014
Sample quarter

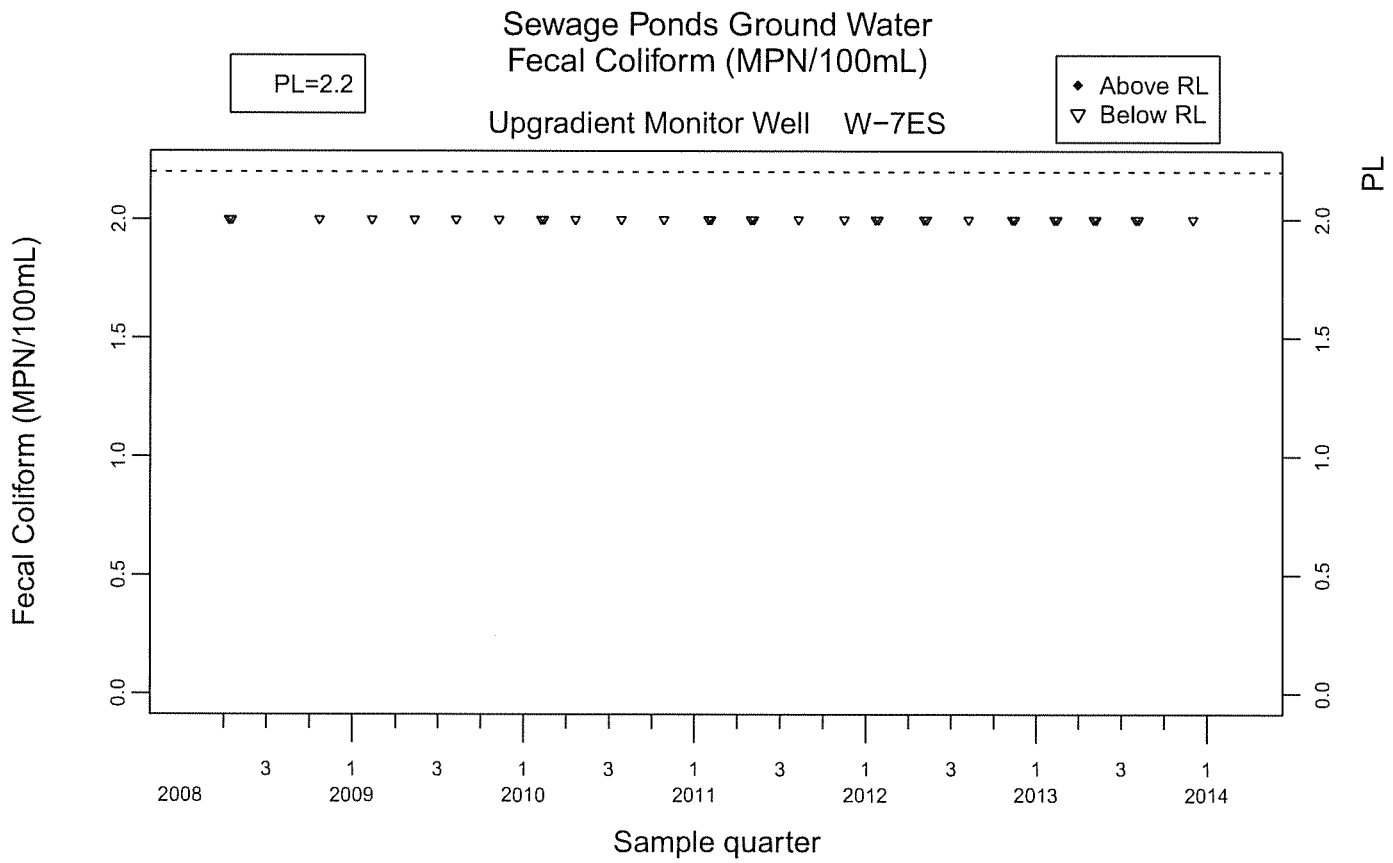

Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1 3 1 3 1 3 1 3 1 3 1 3 1
2008 2009 2010 2011 2012 2013 2014
Sample quarter

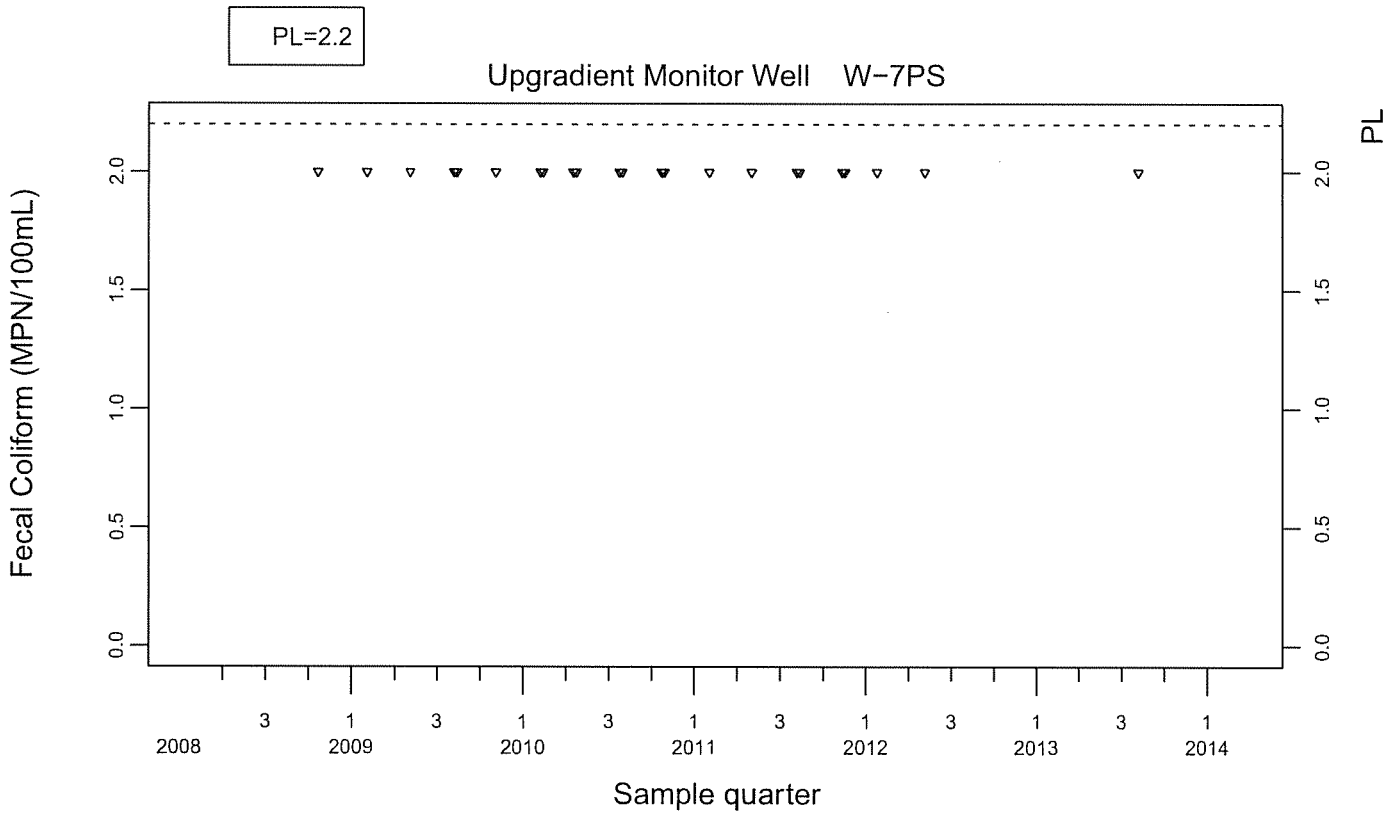

Downgradient Monitor Well W-26R-01
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1 3 1 3 1 3 1 3 1 3 1 3 1
2008 2009 2010 2011 2012 2013 2014
Sample quarter

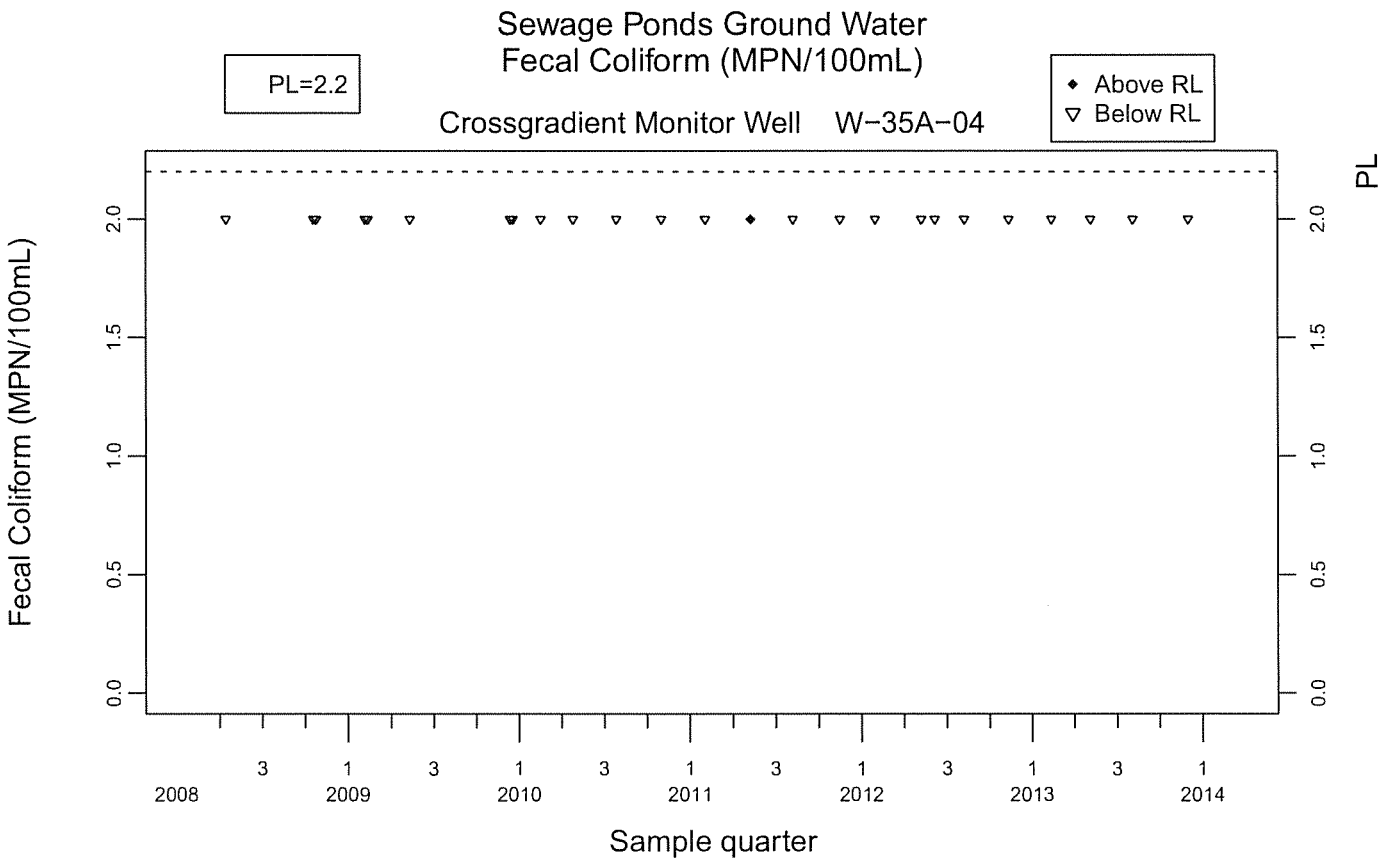

Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

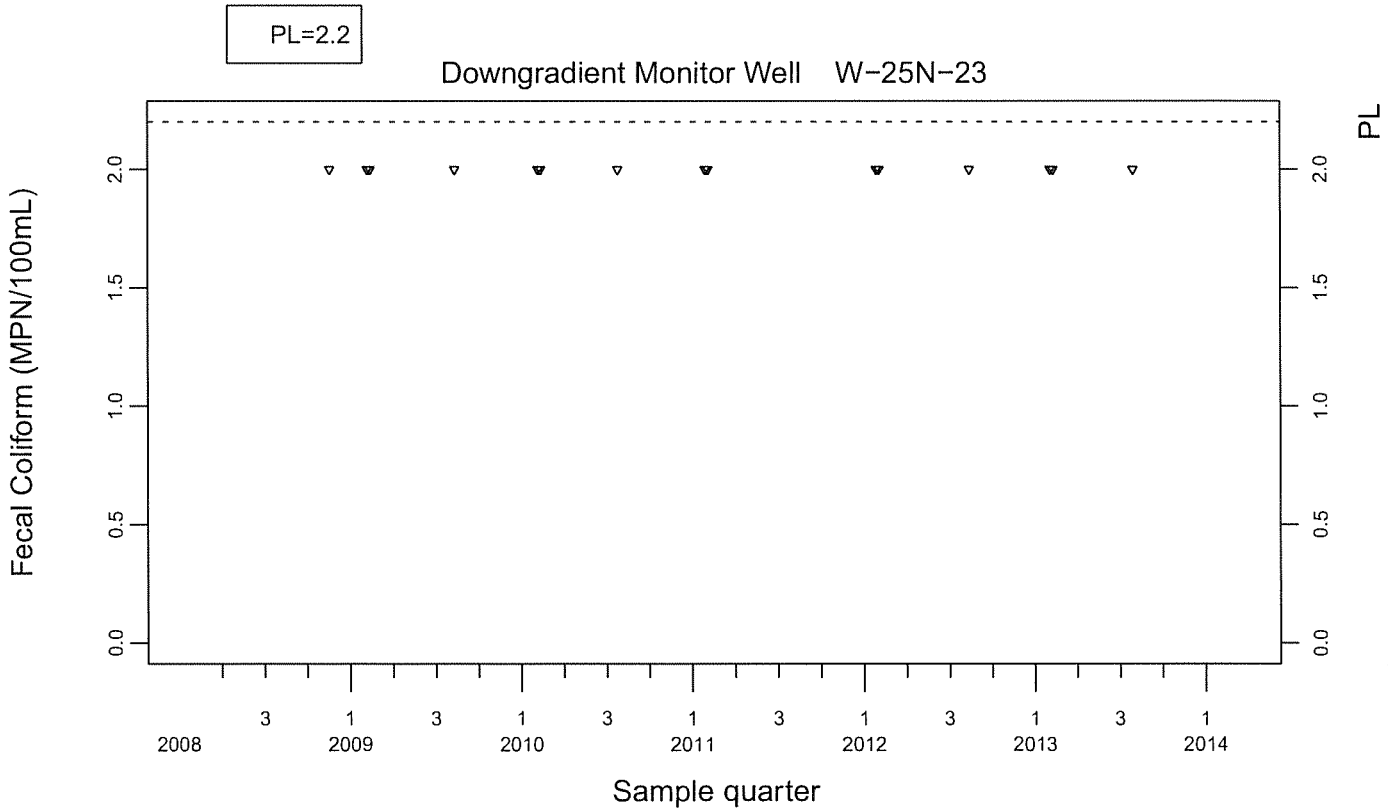

Downgradient Monitor Well W-26R-11
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1
3
2008
2009
2010
2011
2012
2013
2014
Sample quarter

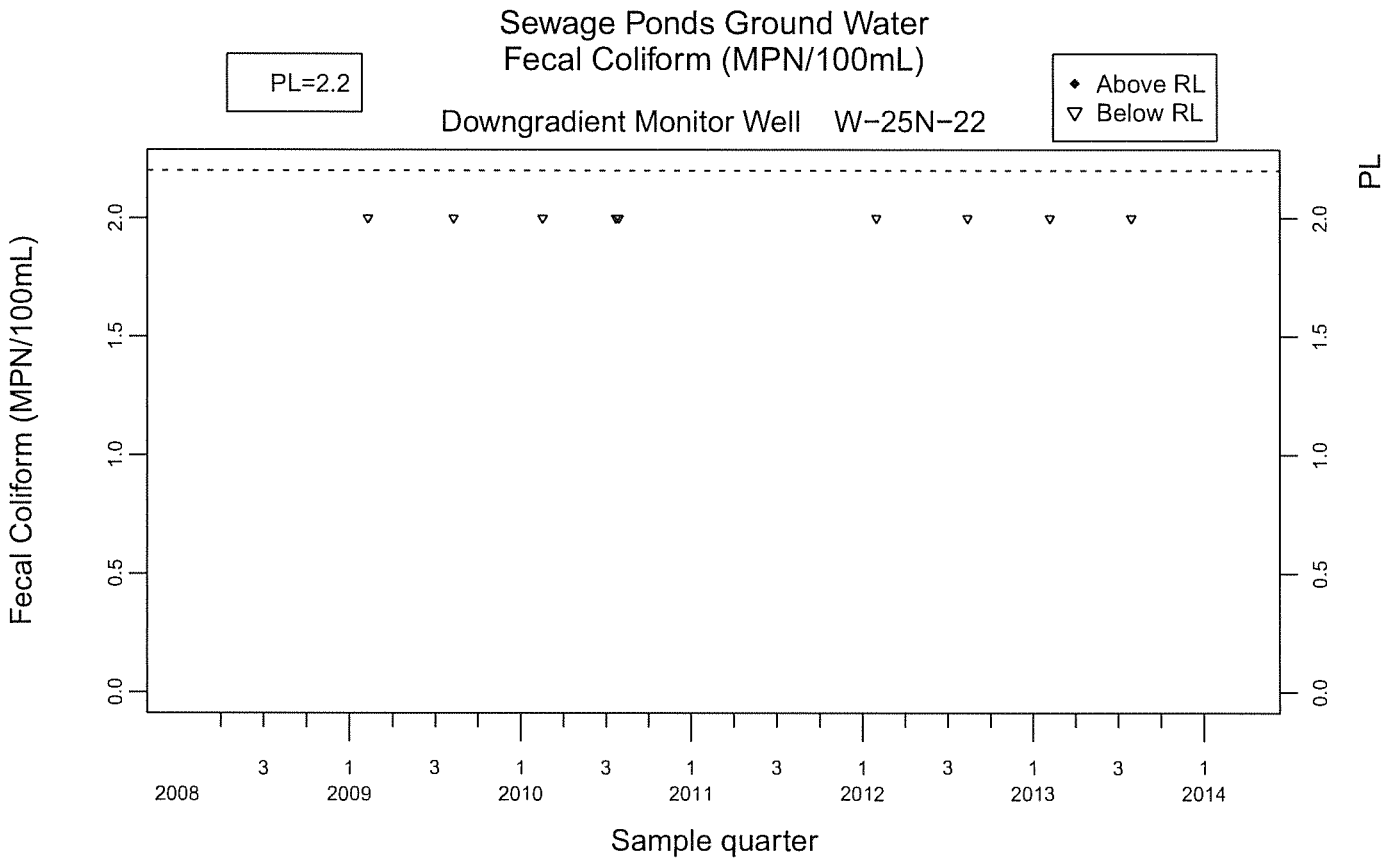

Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Field Specific Conductance (umhos/cm)
0
500
1000
1500
2000
1 2008
3
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

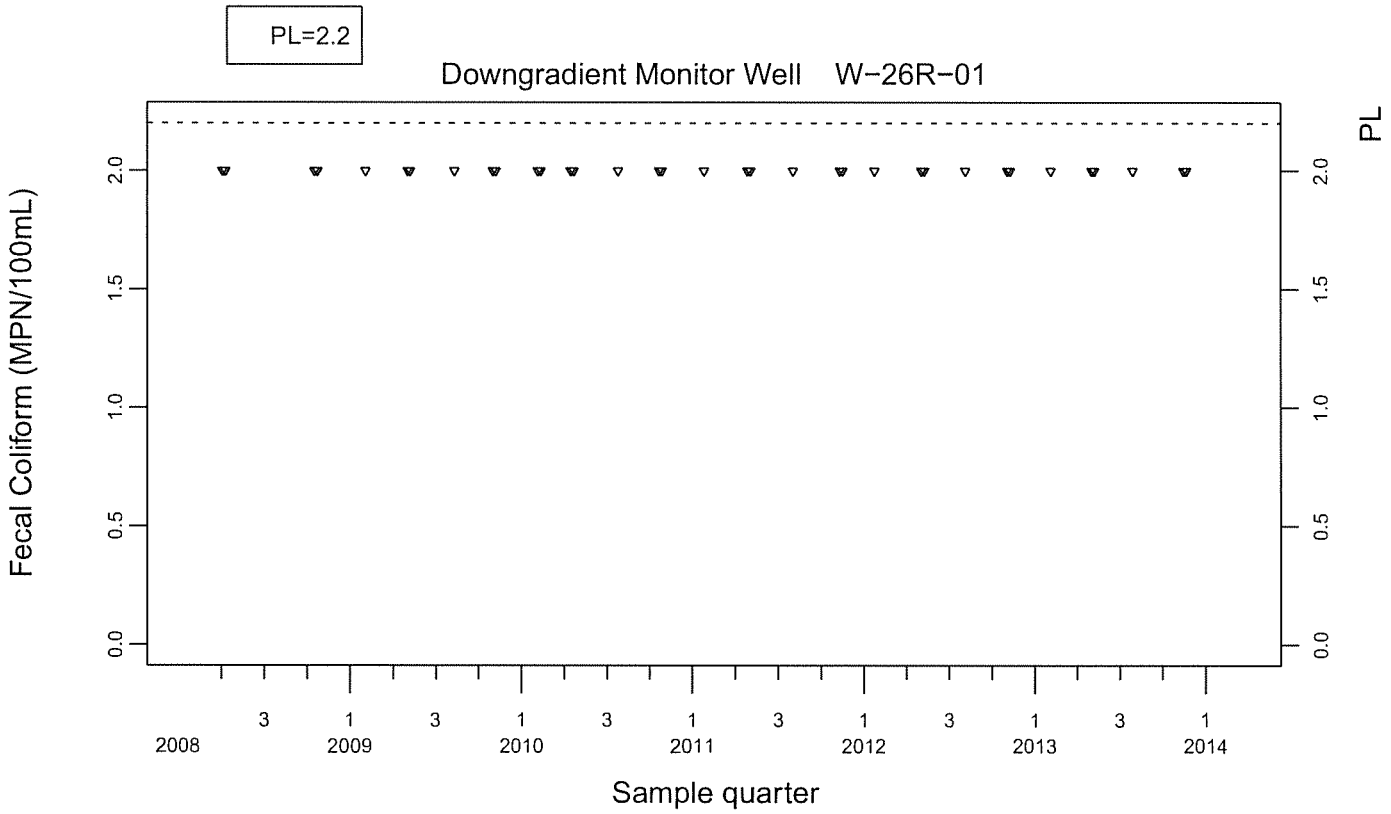

Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)
PL=2.2
Above RL
Below RL
Upgradient Monitor Well W-7ES
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

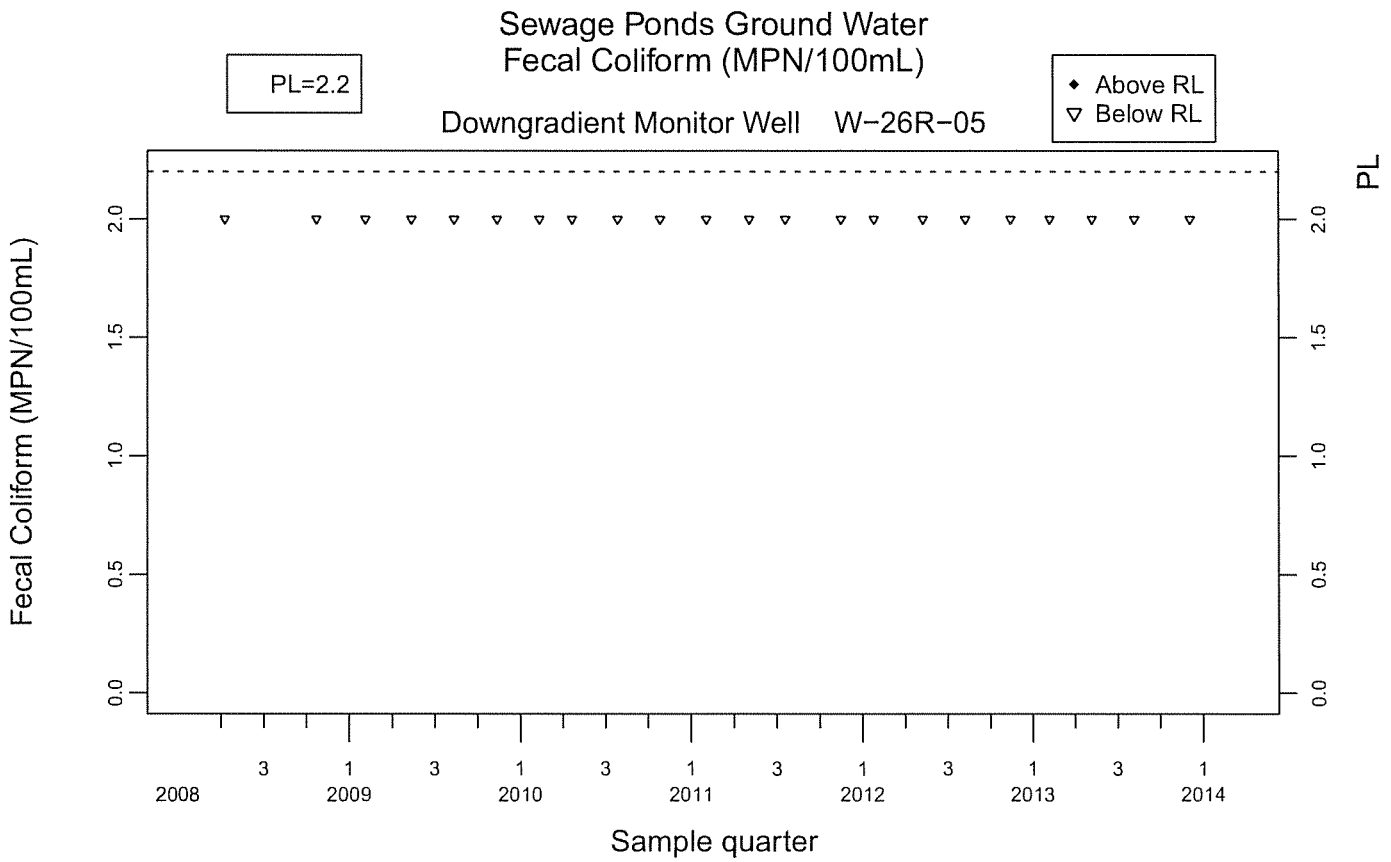

PL=2.2
Upgradient Monitor Well W-7PS
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

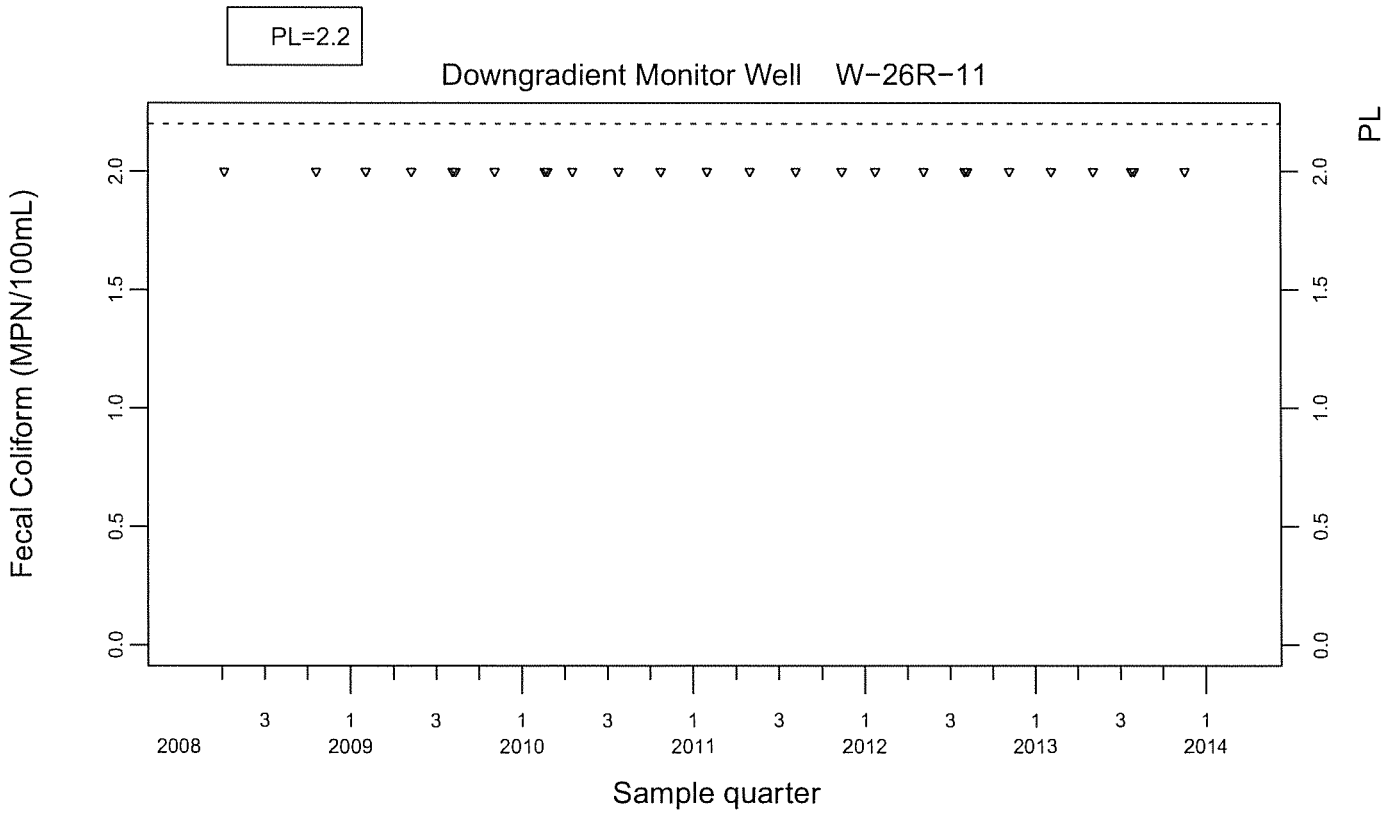

Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)
PL=2.2
Above RL
Below RL
Crossgradient Monitor Well W-35A-04
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

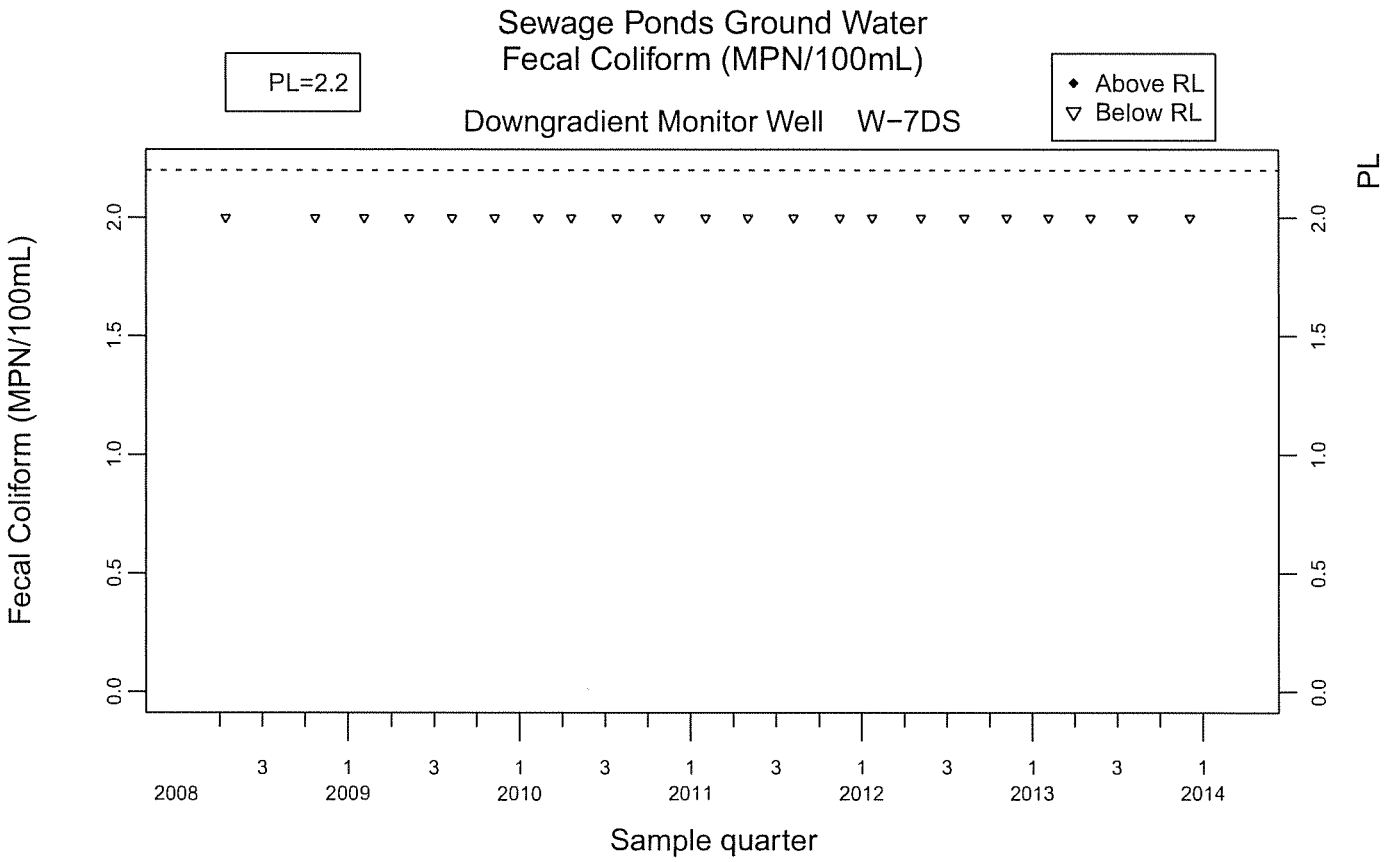

PL=2.2
Downgradient Monitor Well W-25N-23
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

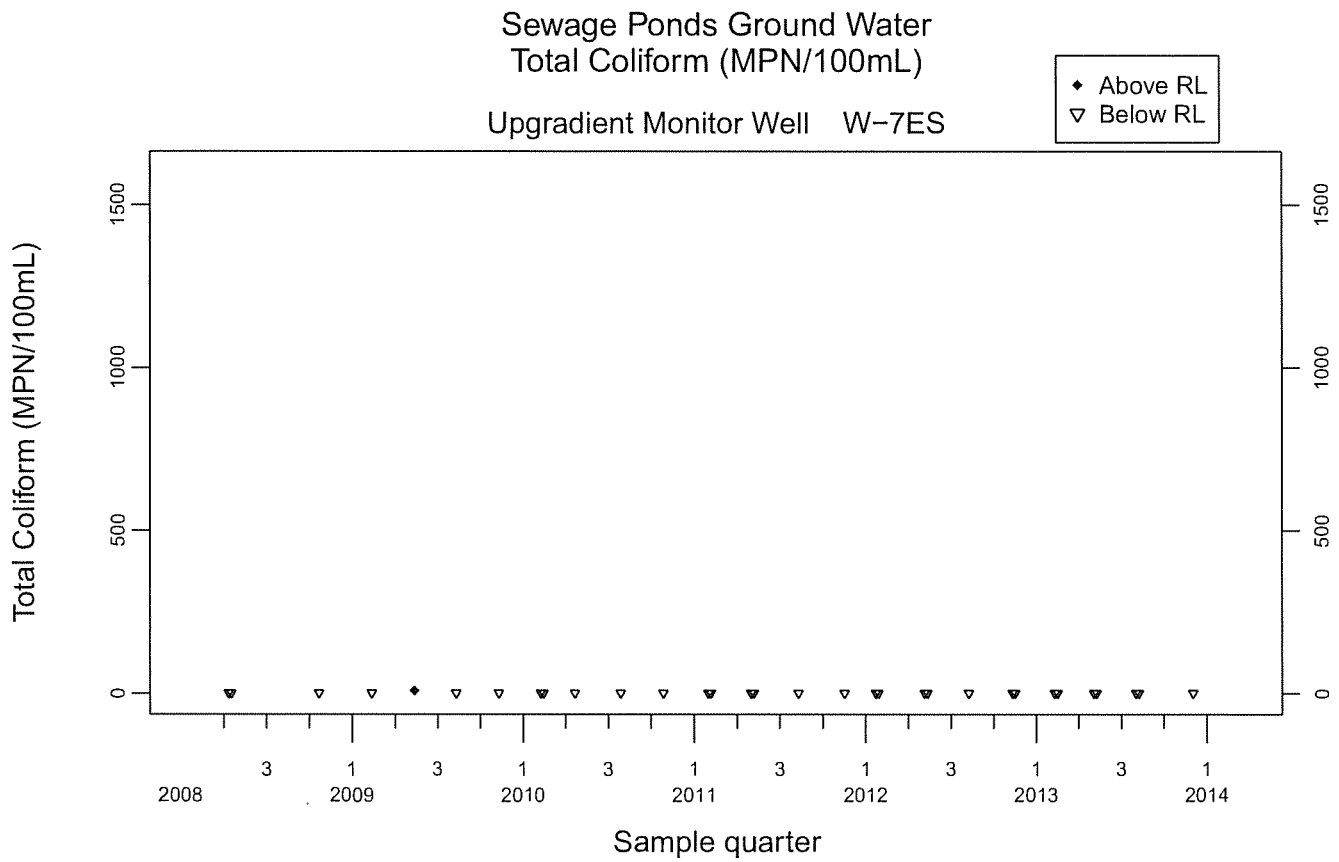

Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)
PL=2.2
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

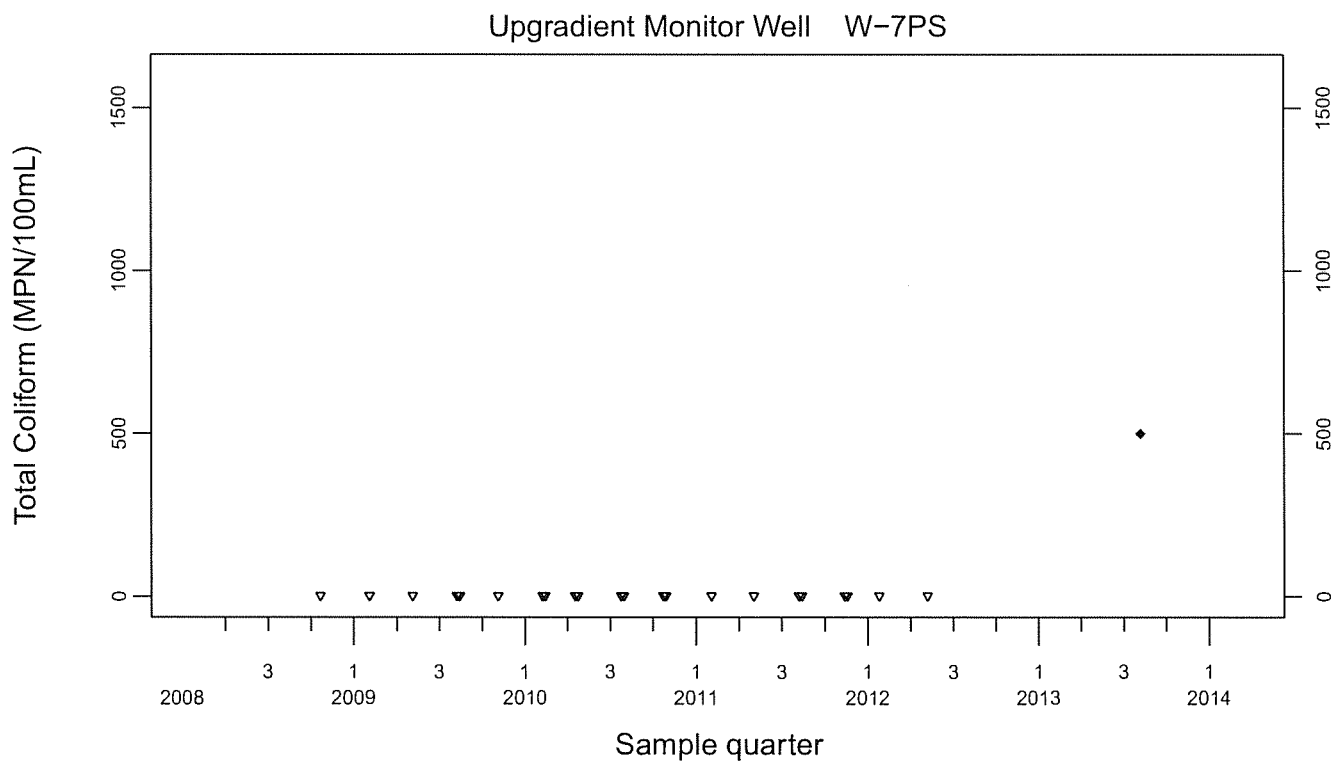

PL=2.2
Downgradient Monitor Well W-26R-01
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

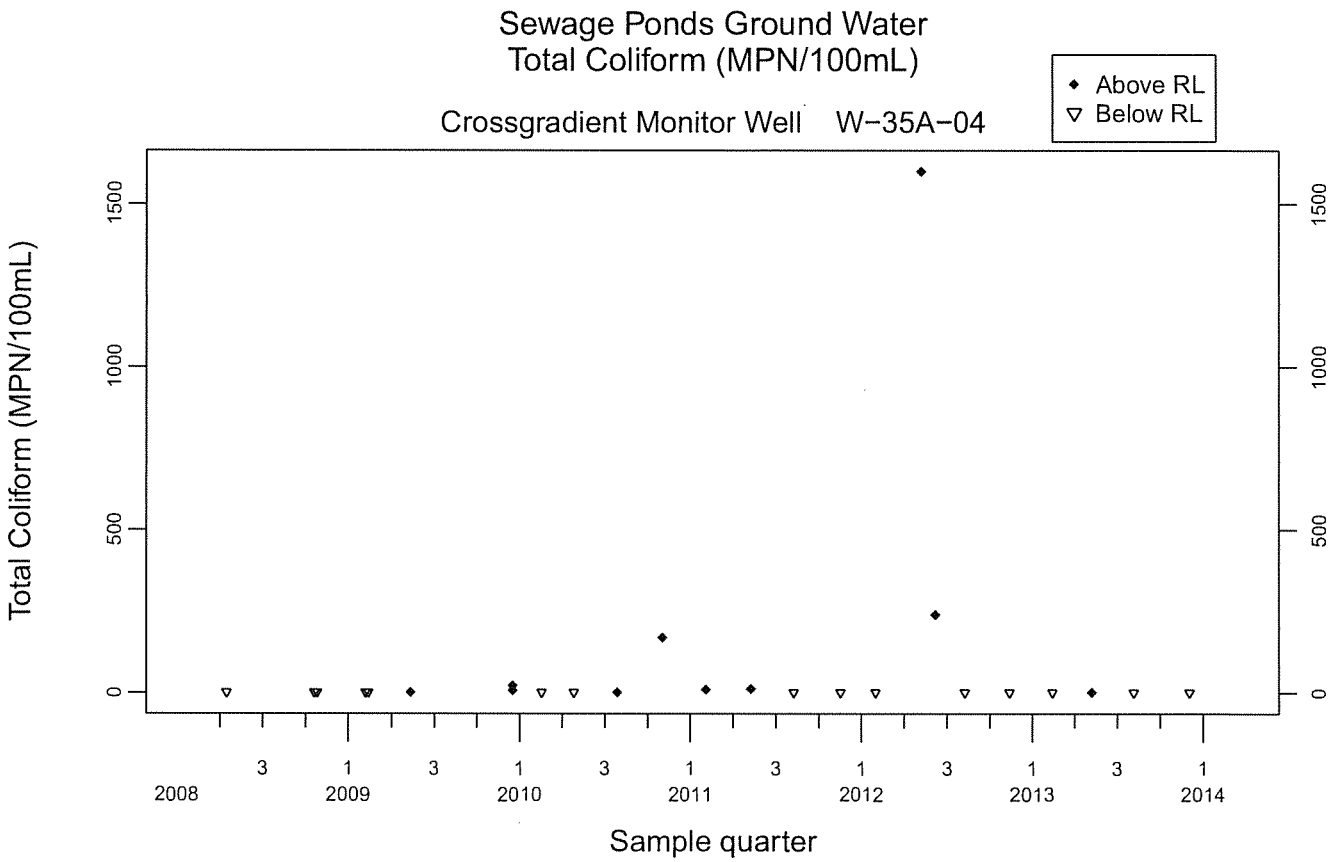

Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)
PL=2.2
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

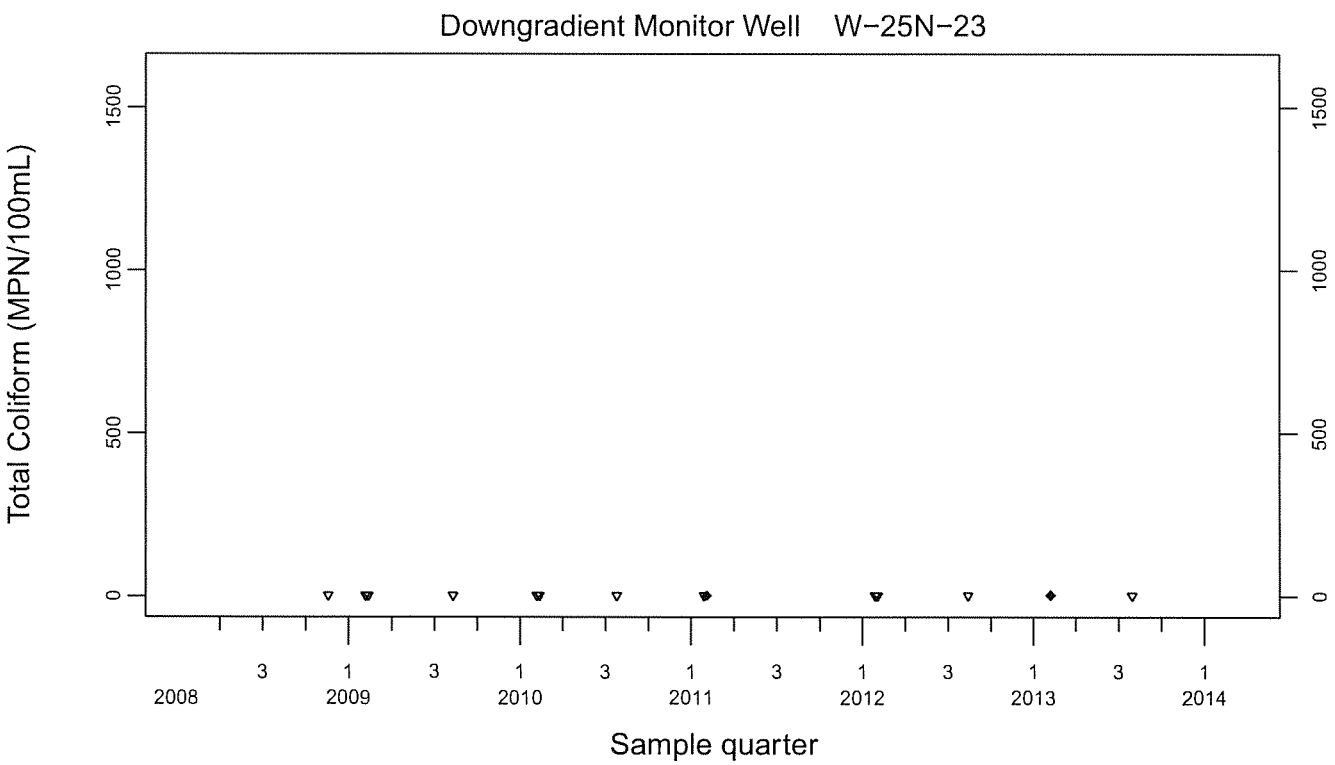

PL=2.2
Downgradient Monitor Well W-26R-11
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

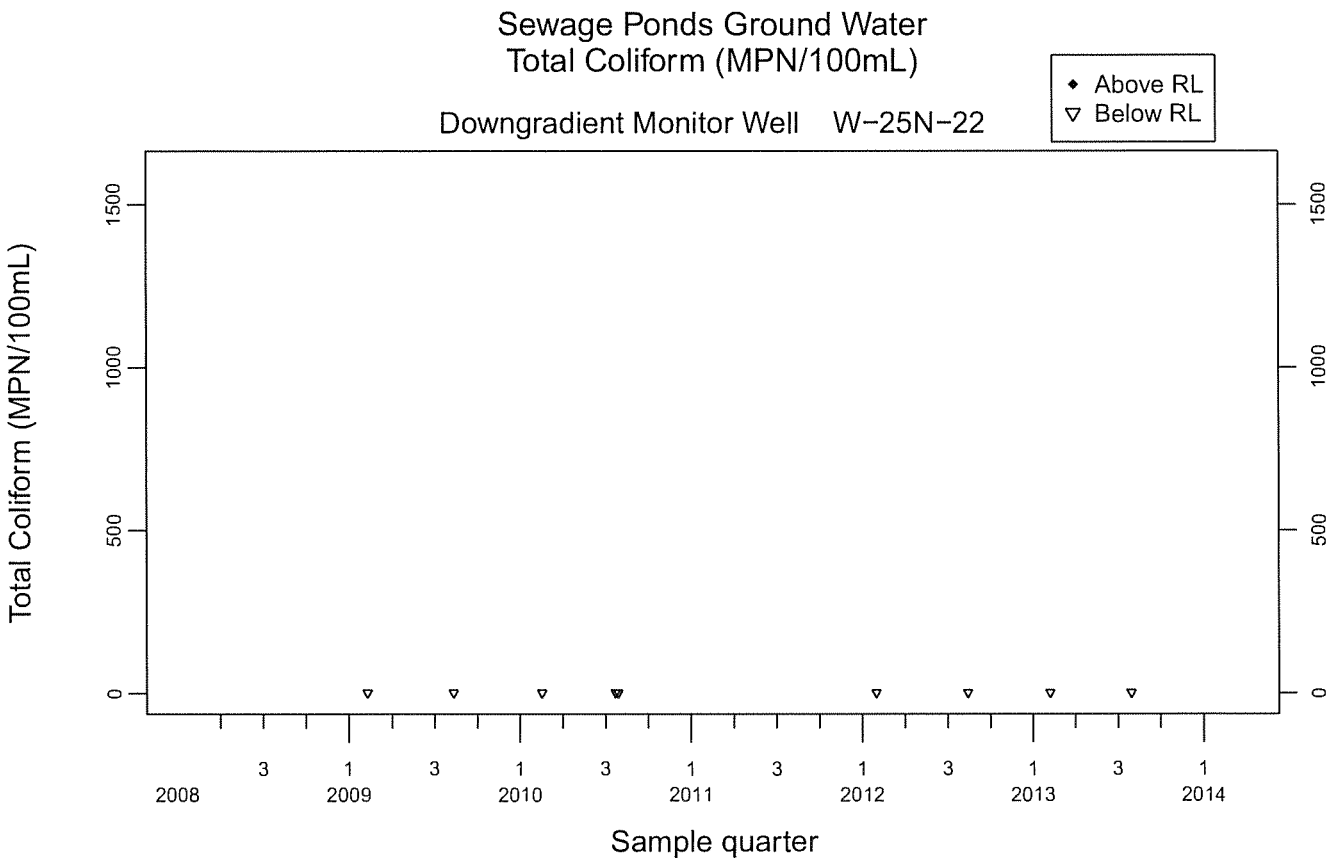

Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)
Downgradient Monitor Well W-7DS
PL=2.2
Above RL
Below RL
Fecal Coliform (MPN/100mL)
PL
0.0
0.5
1.0
1.5
2.0
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

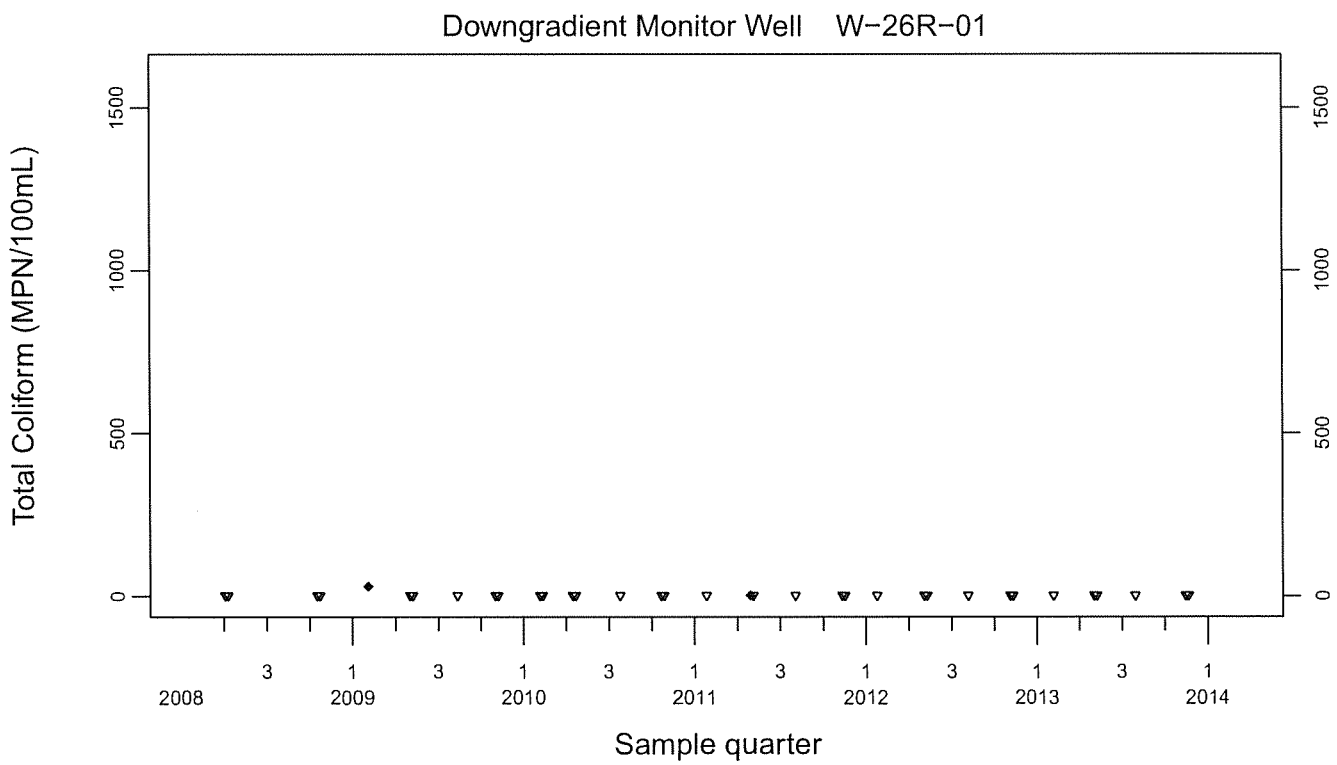

Sewage Ponds Ground Water
Total Coliform (MPN/100mL)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

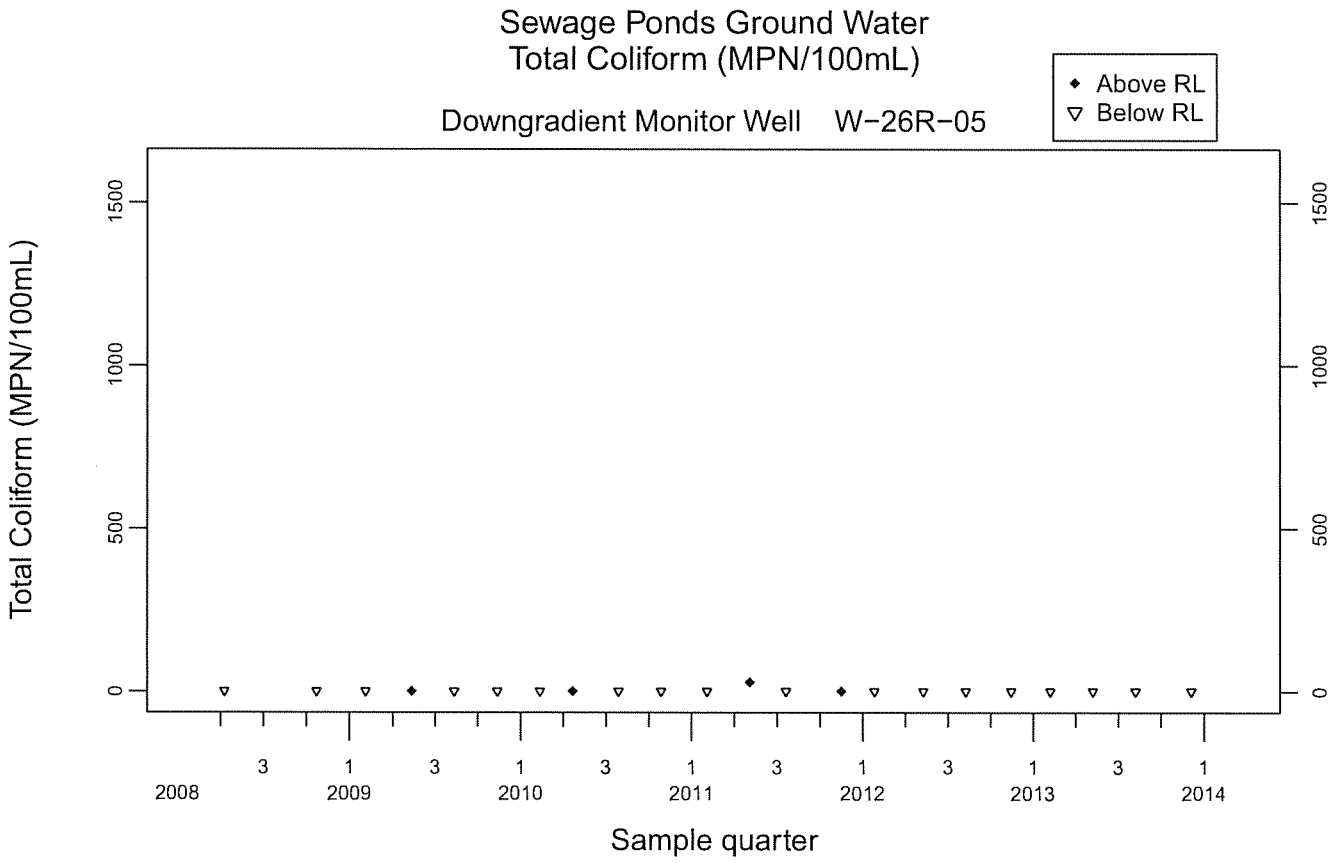

Upgradient Monitor Well W-7PS
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

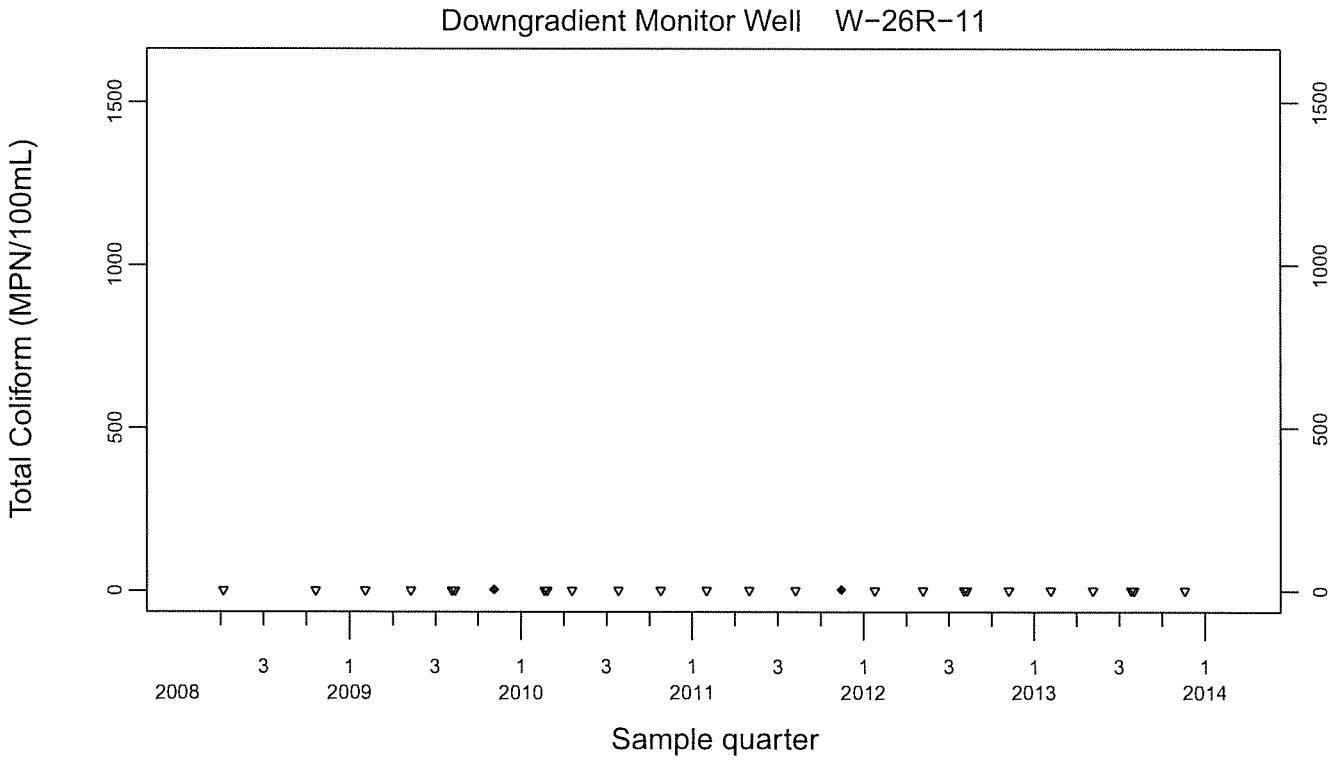

Sewage Ponds Ground Water
Total Coliform (MPN/100mL)
Above RL
Below RL
Crossgradient Monitor Well W-35A-04
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

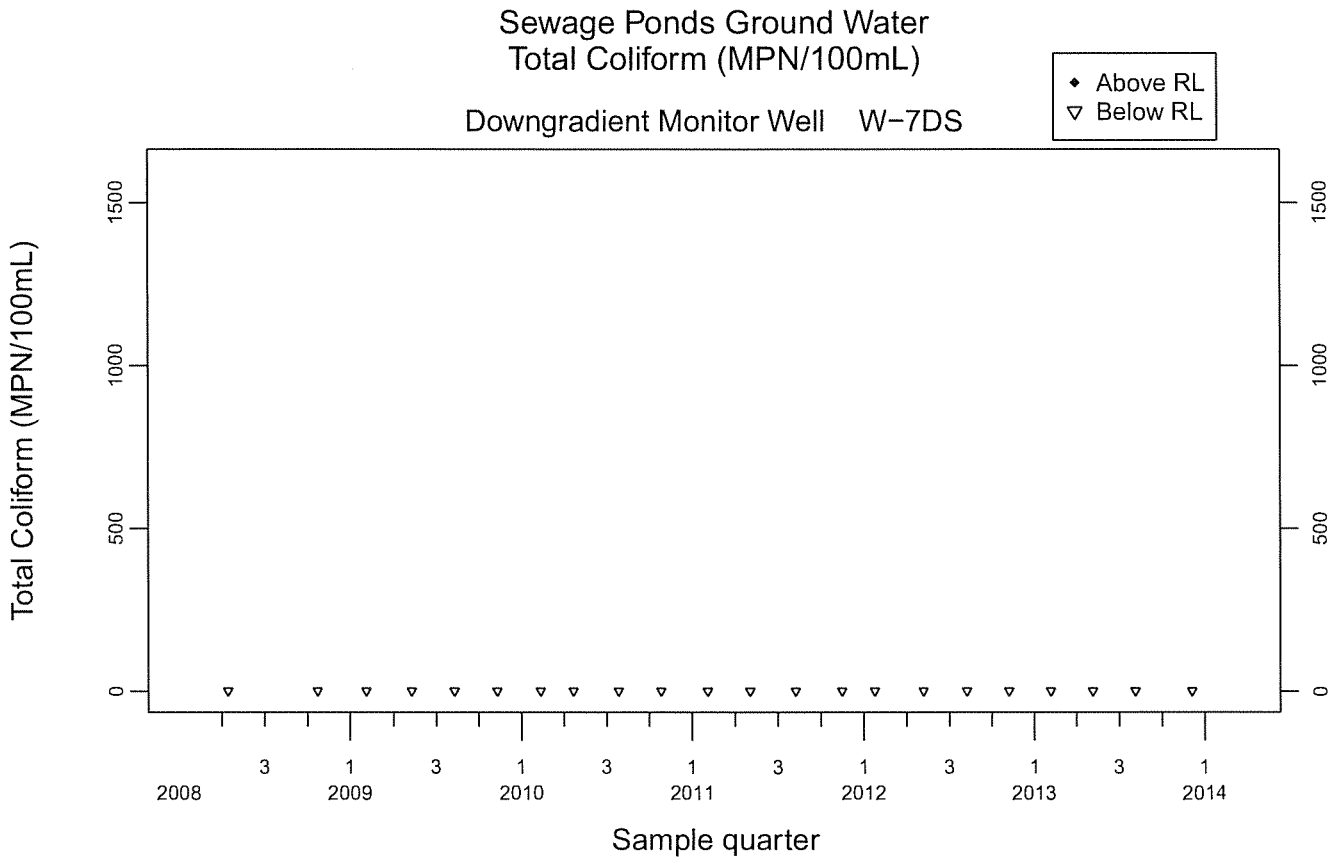

Downgradient Monitor Well W-25N-23
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

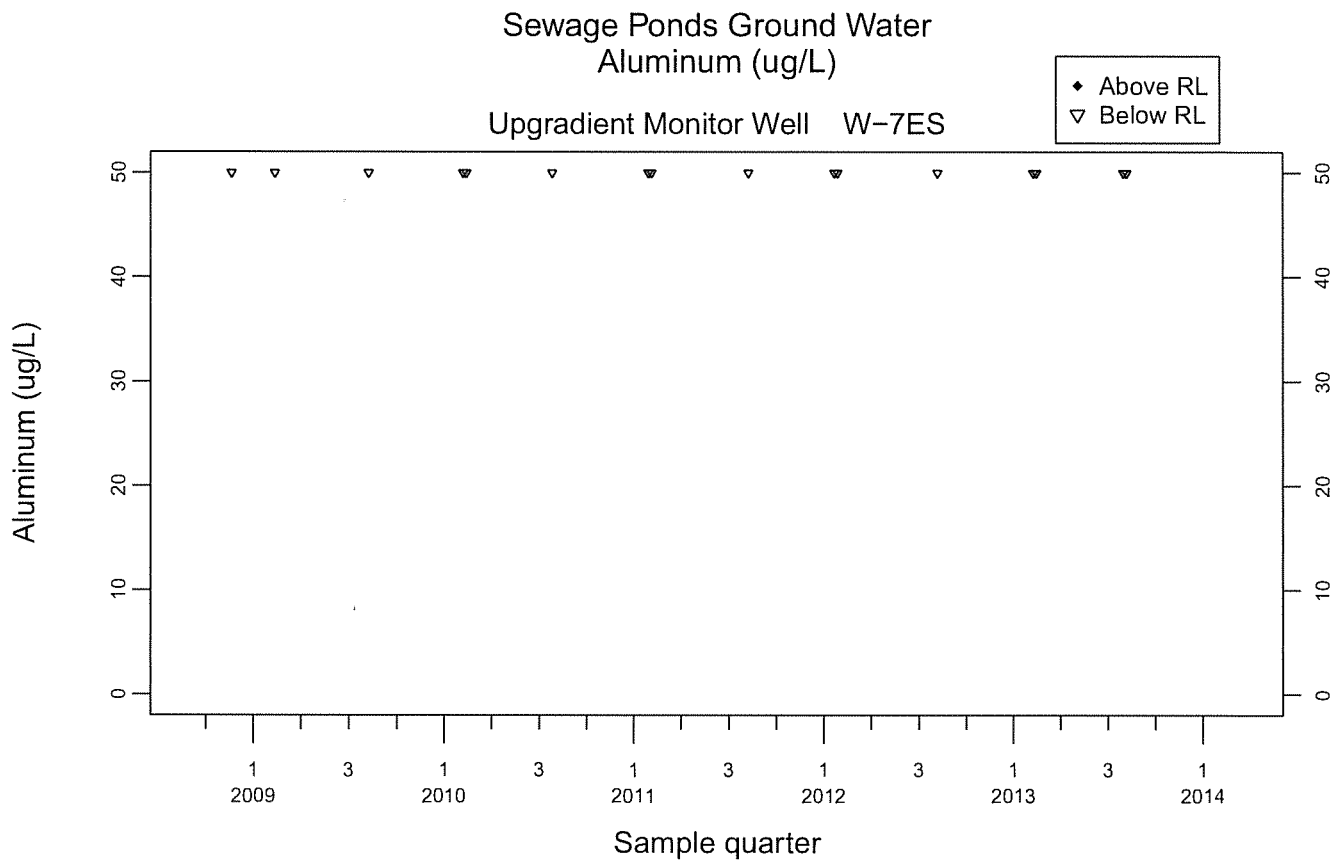

Sewage Ponds Ground Water
Total Coliform (MPN/100mL)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

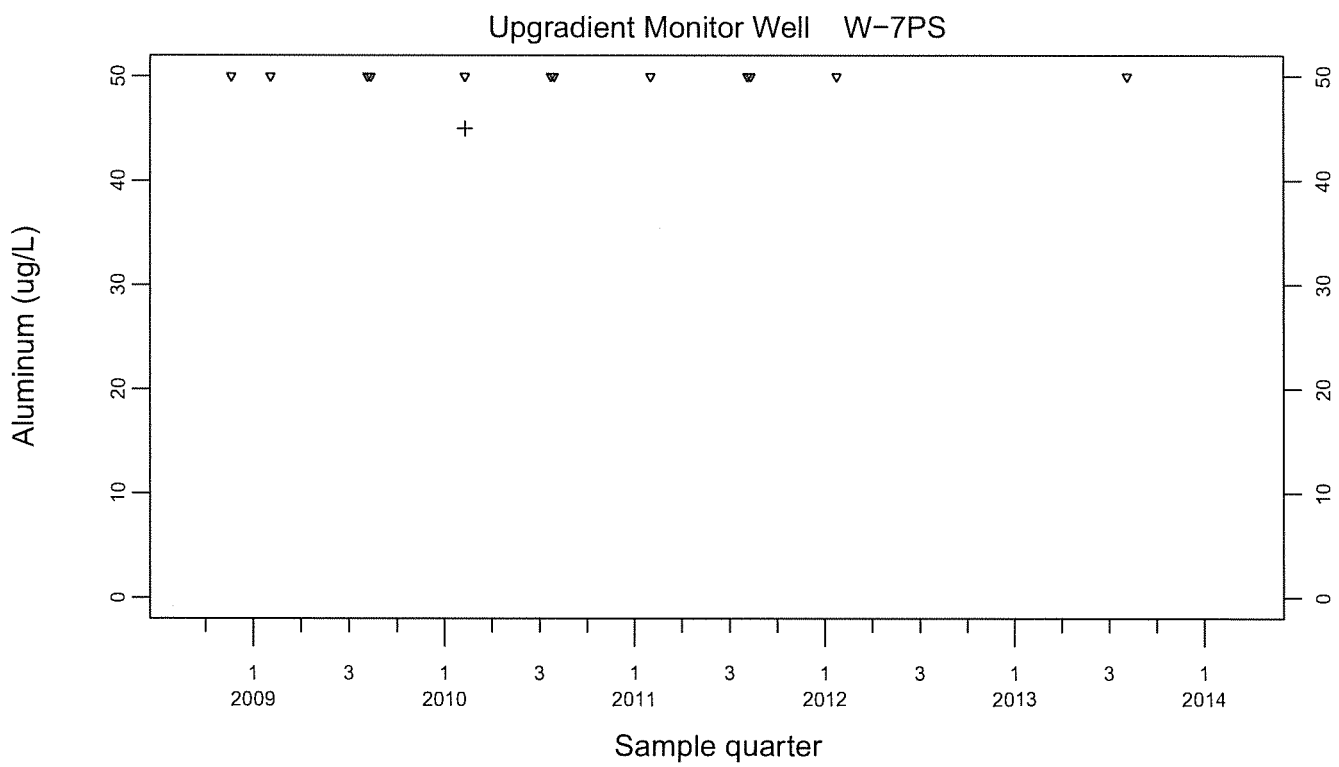

Downgradient Monitor Well W-26R-01
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

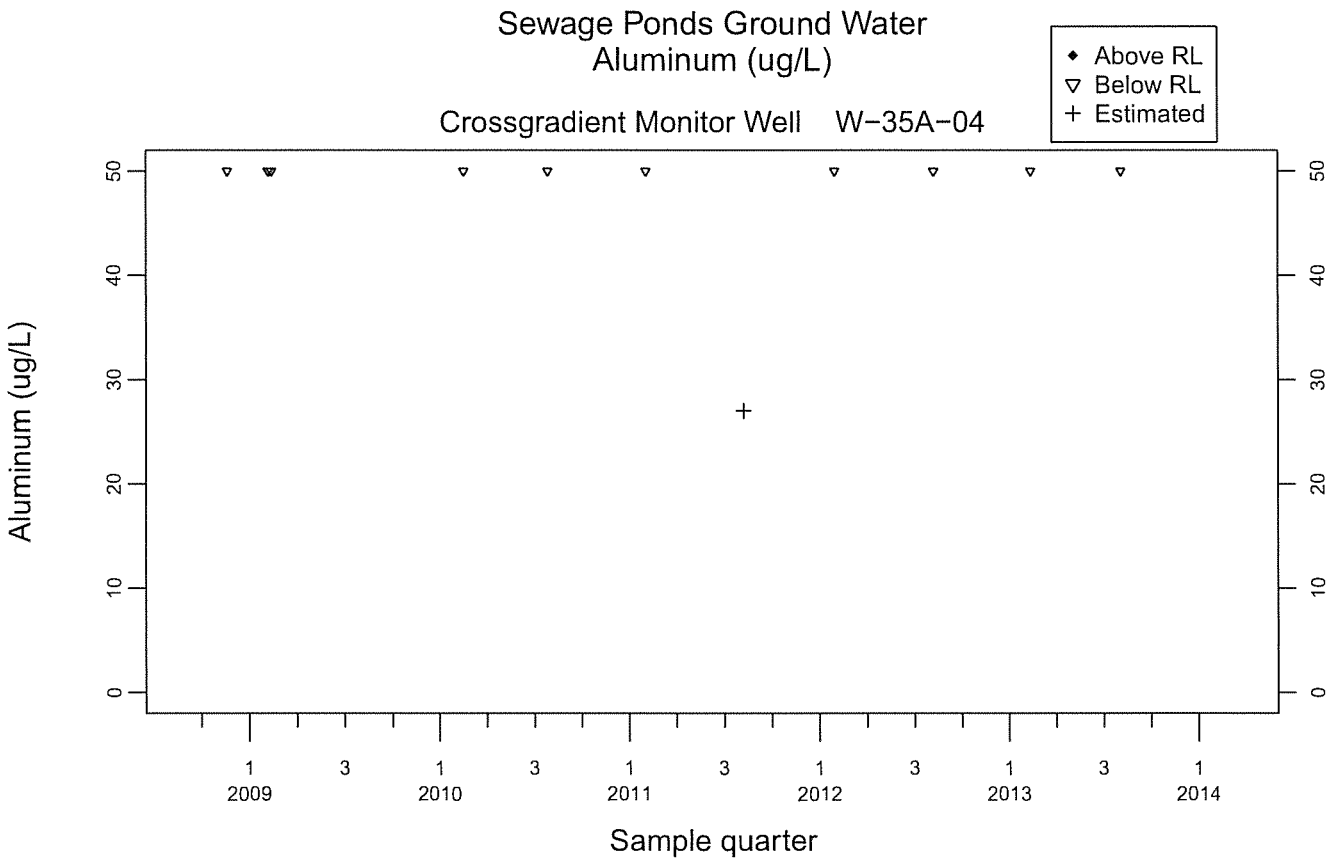

Sewage Ponds Ground Water
Total Coliform (MPN/100mL)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

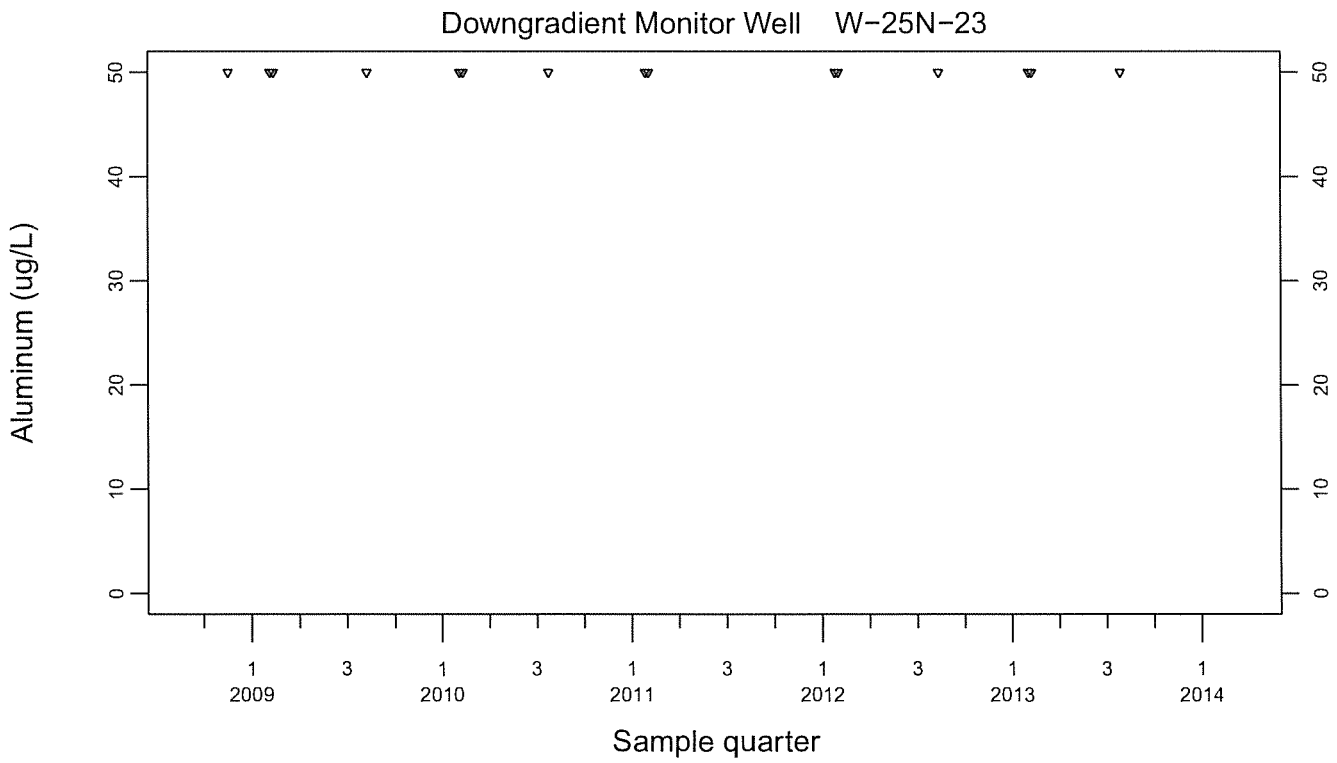

Downgradient Monitor Well W-26R-11
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

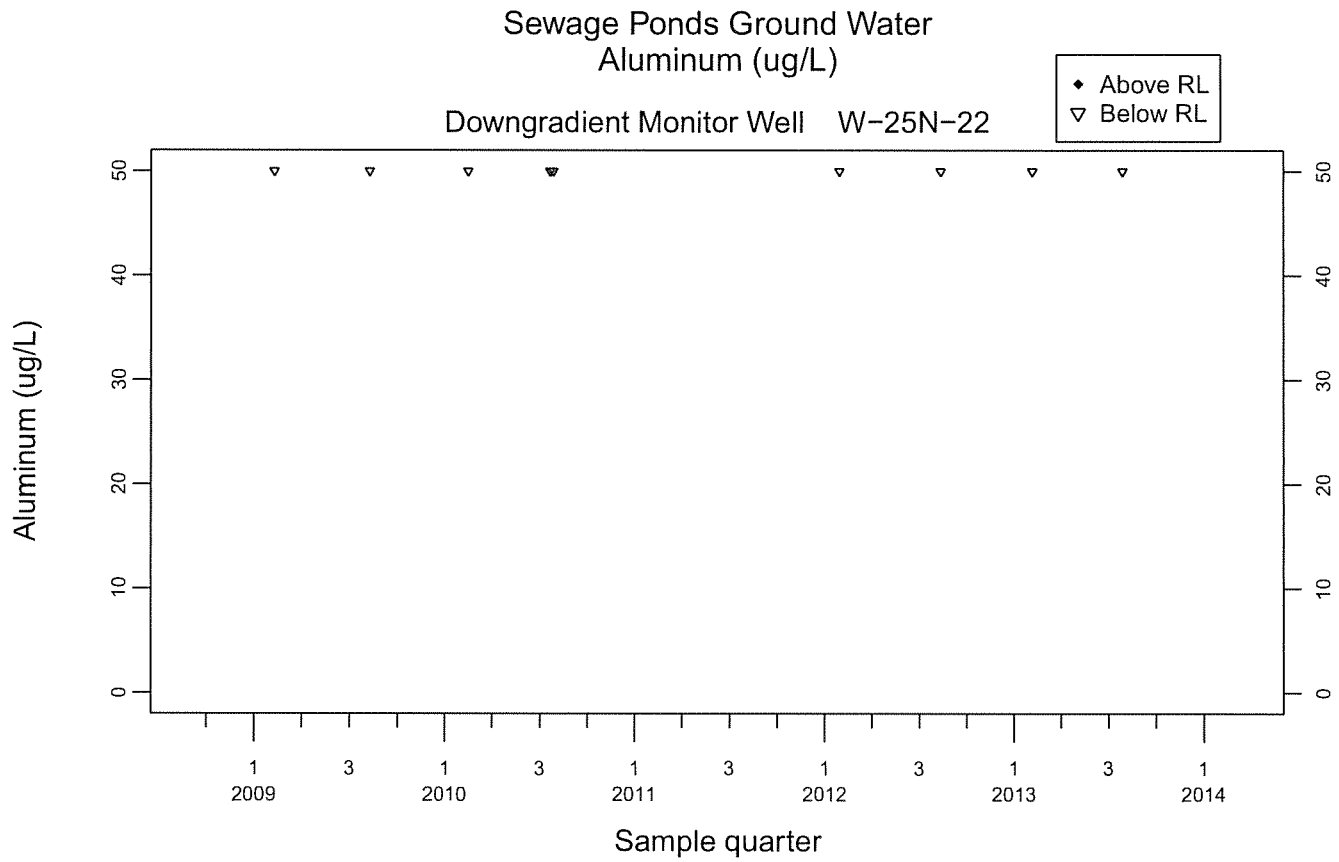

Sewage Ponds Ground Water
Total Coliform (MPN/100mL)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Total Coliform (MPN/100mL)
0
500
1000
1500
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

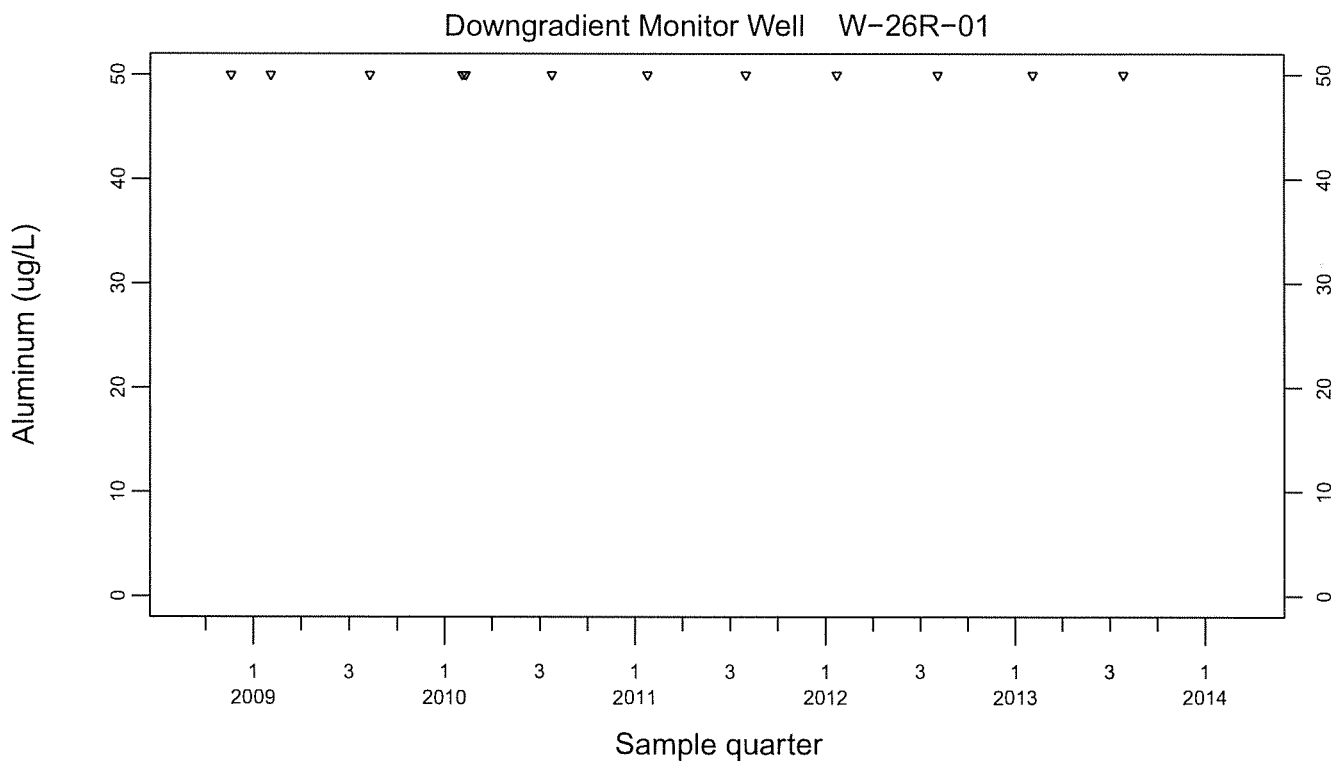

Sewage Ponds Ground Water
Aluminum (ug/L)
Above RL
Below RL
Upgradient Monitor Well W-7ES
Aluminum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

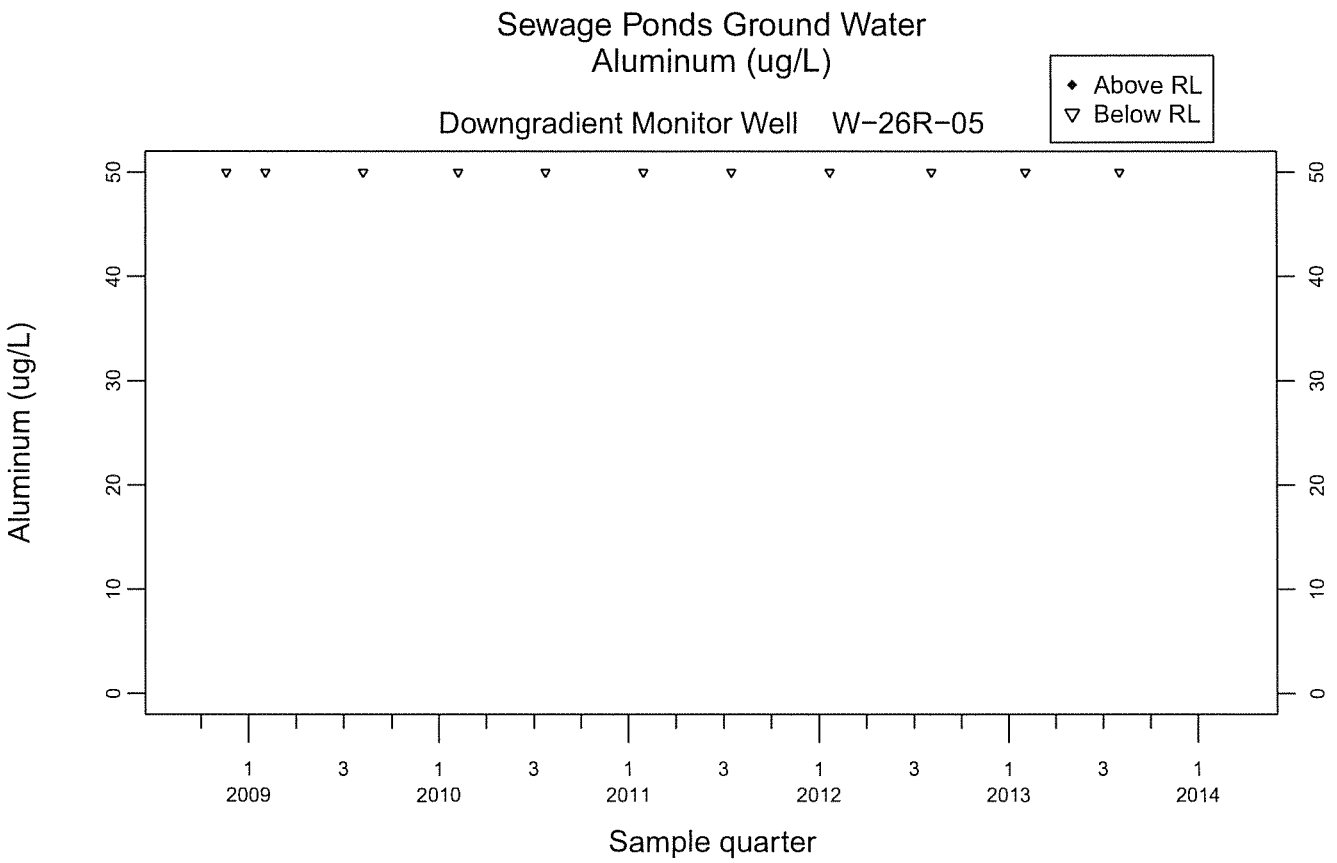

Upgradient Monitor Well W-7PS
Aluminum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

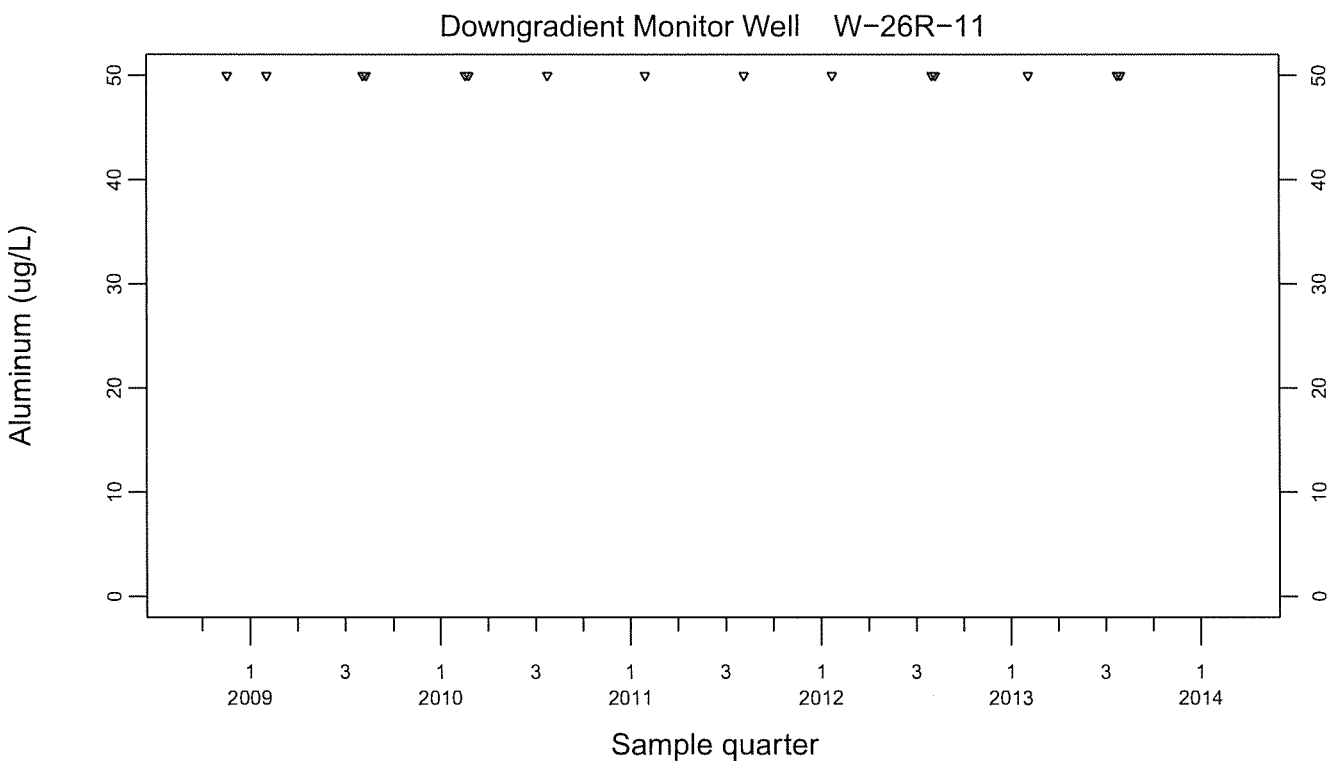

Sewage Ponds Ground Water
Aluminum (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Aluminum (ug/L)
0
10
20
30
40
50
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

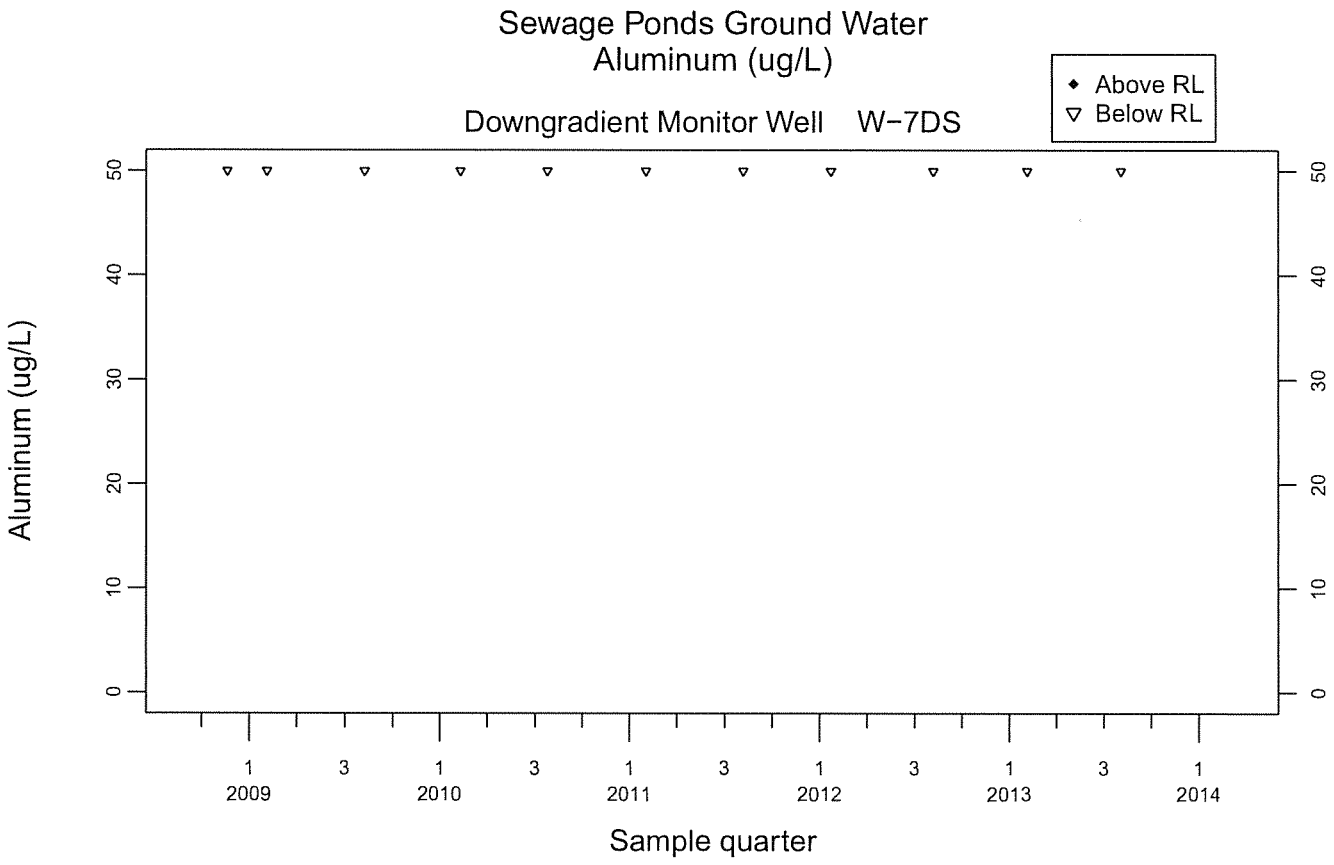

Downgradient Monitor Well W-25N-23
Aluminum (ug/L)
0
10
20
30
40
50
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

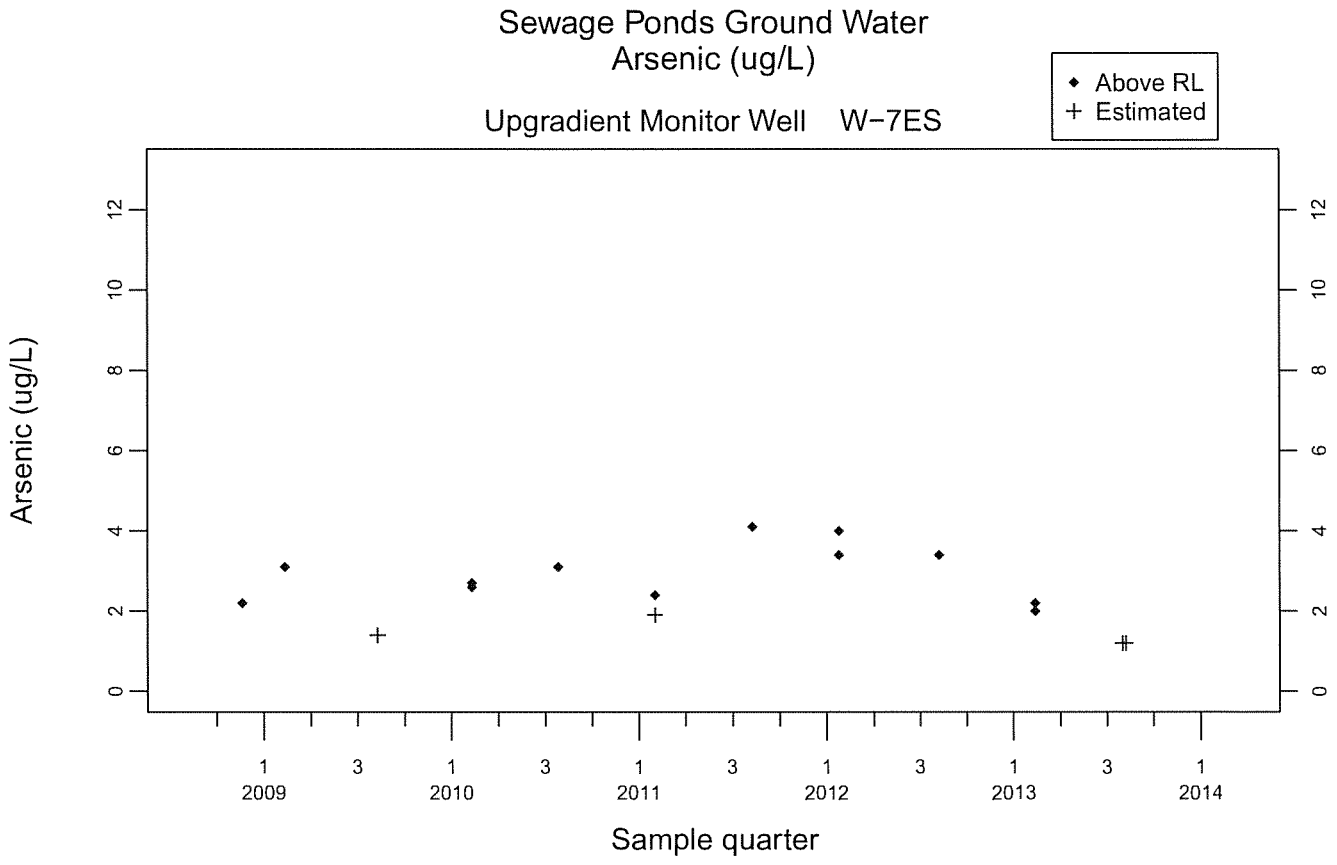

Sewage Ponds Ground Water
Aluminum (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Aluminum (ug/L)
0
10
20
30
40
50
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

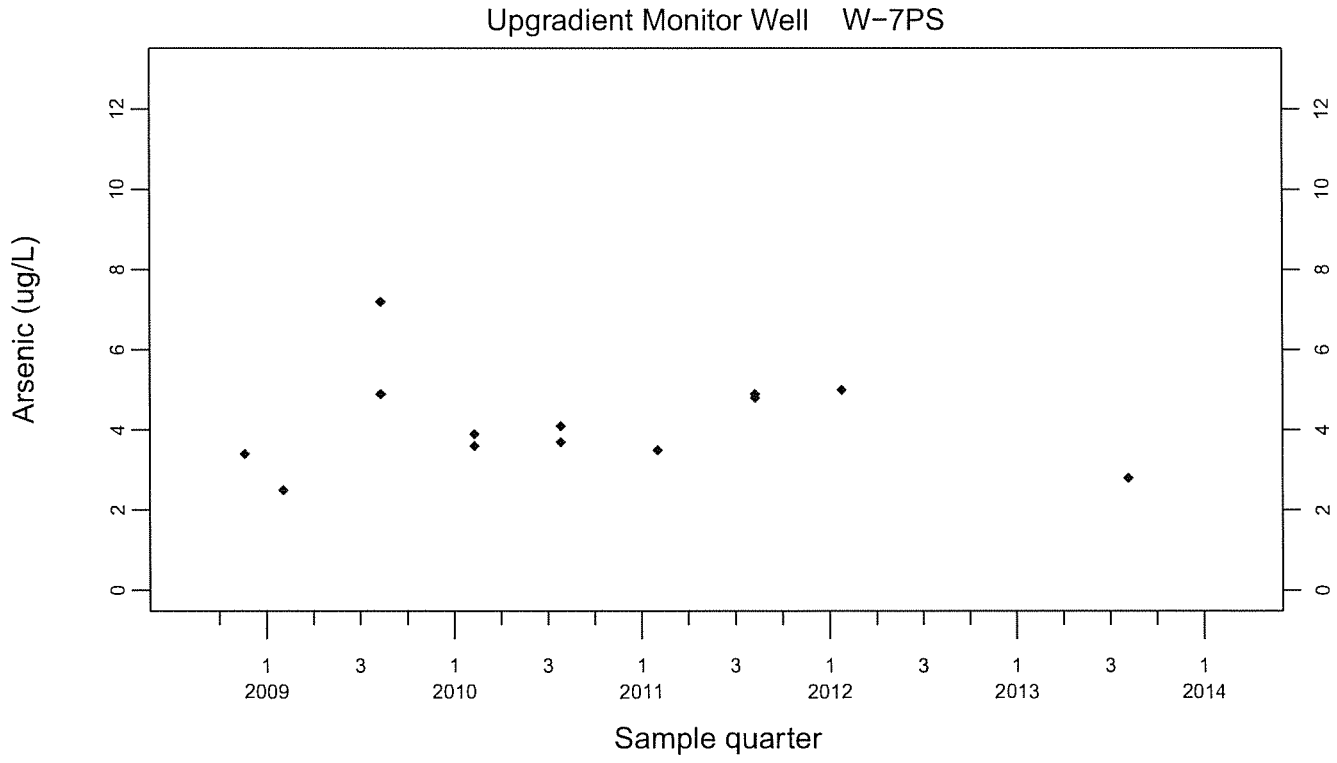

Downgradient Monitor Well W-26R-01
Aluminum (ug/L)
0
10
20
30
40
50
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

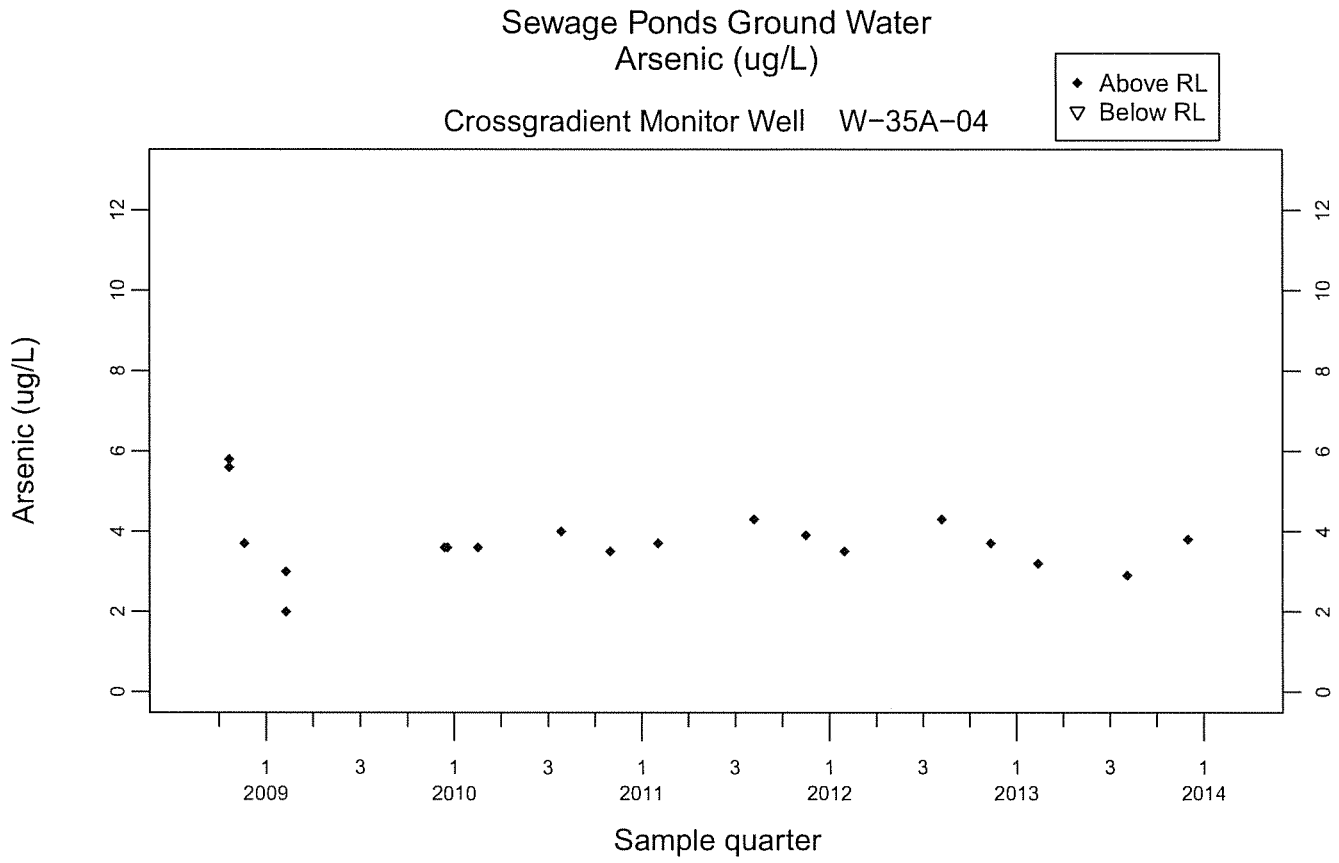

Sewage Ponds Ground Water
Aluminum (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Aluminum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

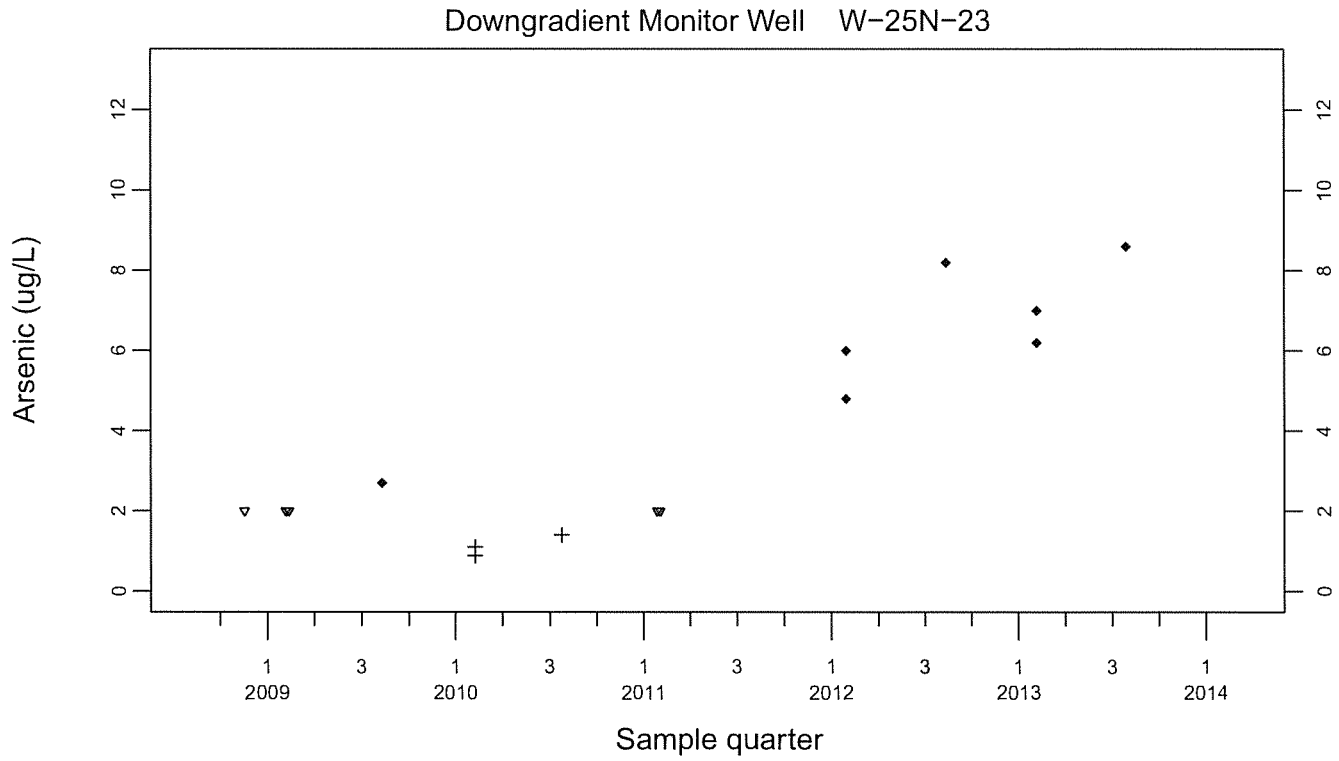

Downgradient Monitor Well W-26R-11
Aluminum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

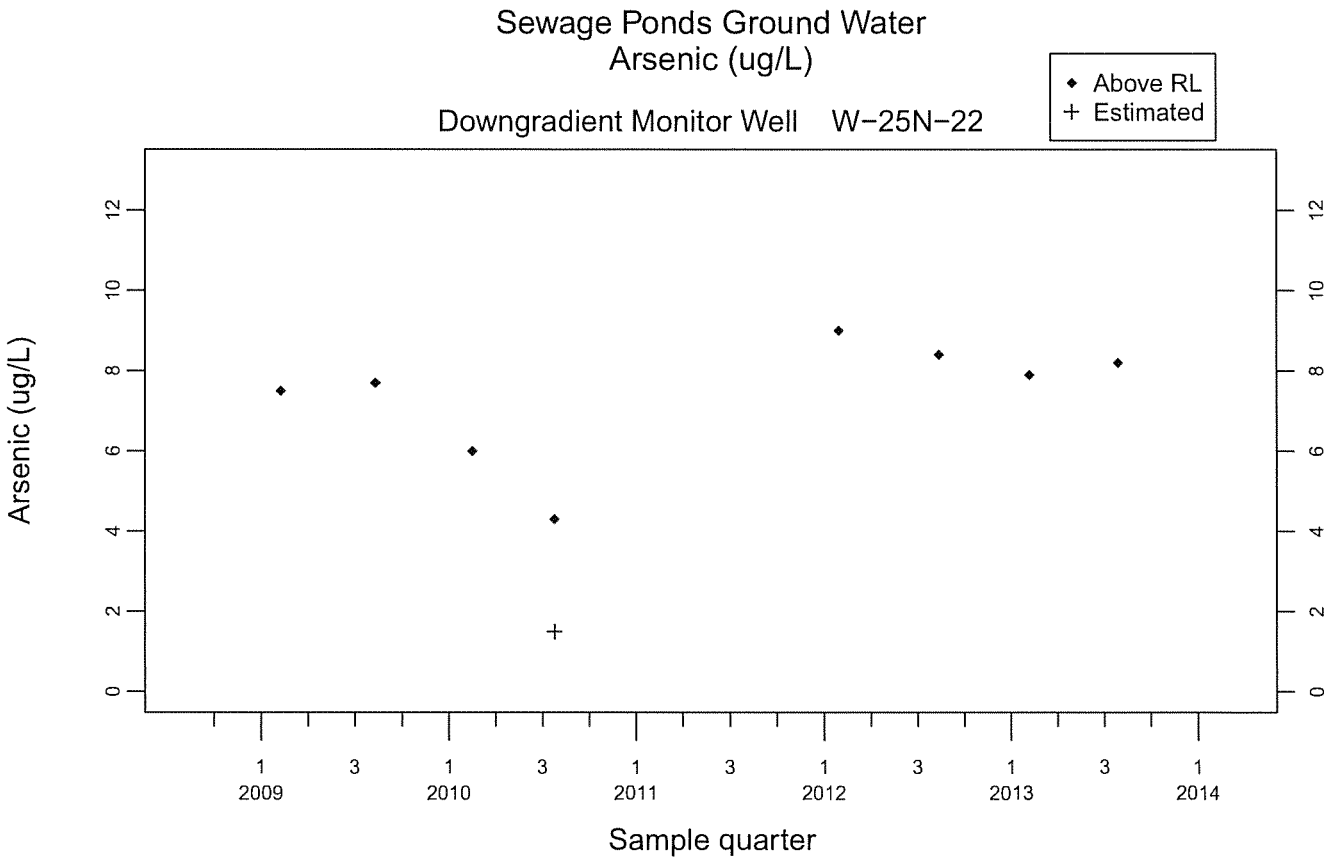

Sewage Ponds Ground Water
Aluminum (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Aluminum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

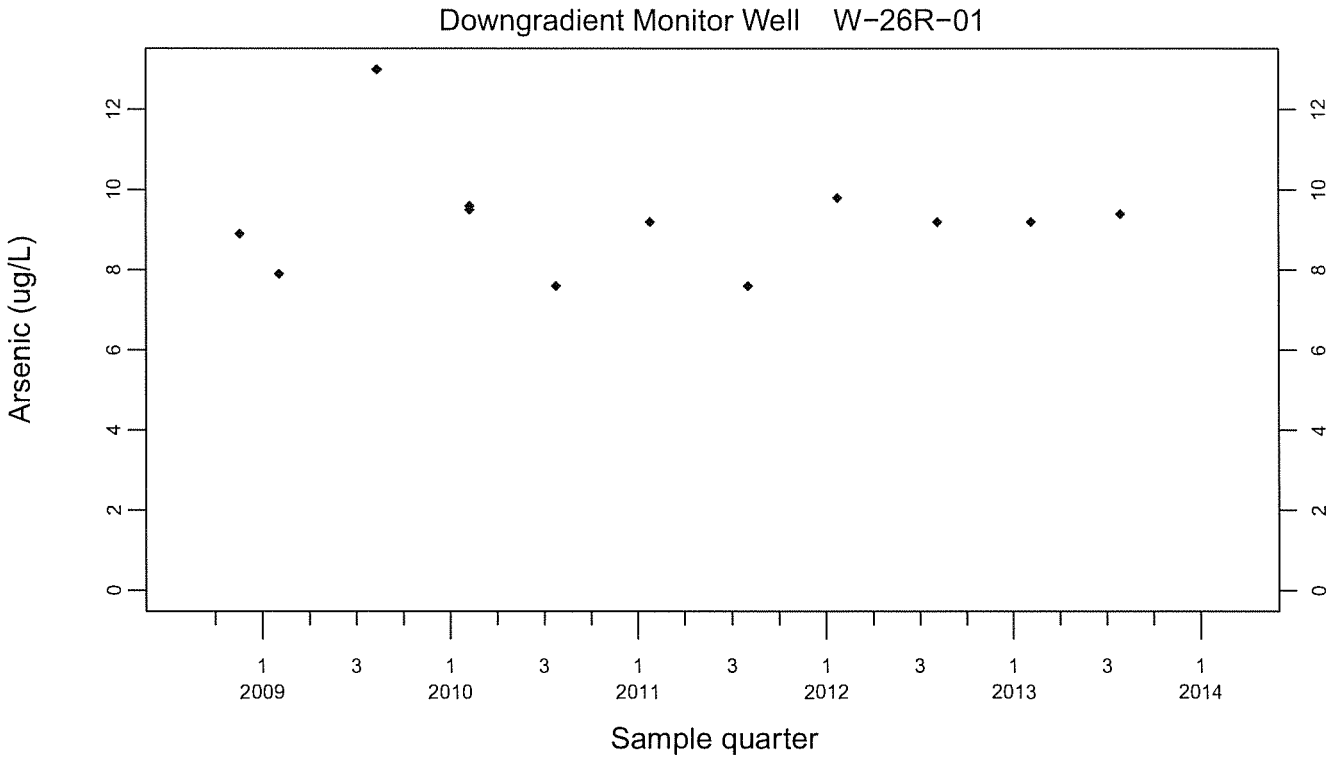

Sewage Ponds Ground Water
Arsenic (ug/L)
Above RL
Estimated
Upgradient Monitor Well W-7ES
Arsenic (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

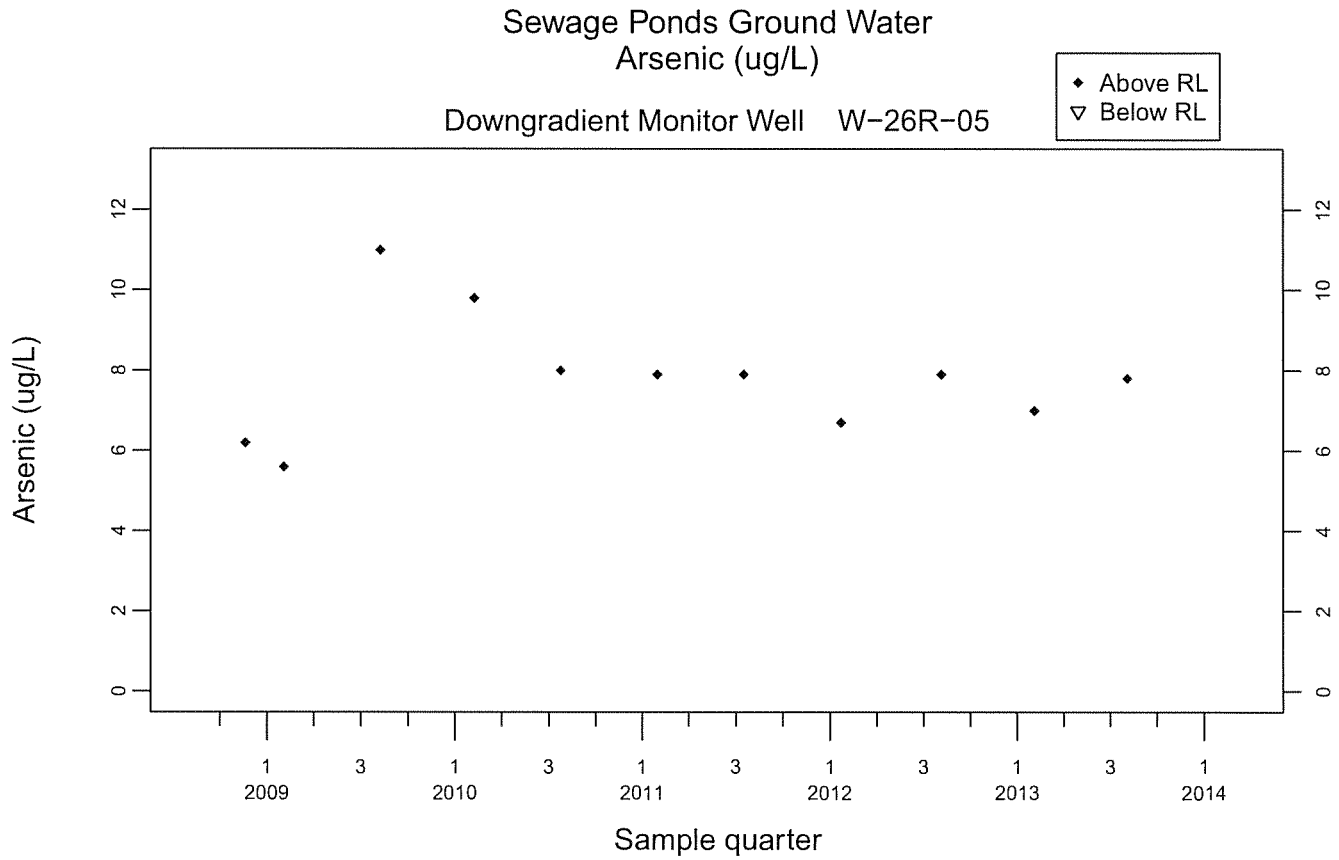

Upgradient Monitor Well W-7PS
Arsenic (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

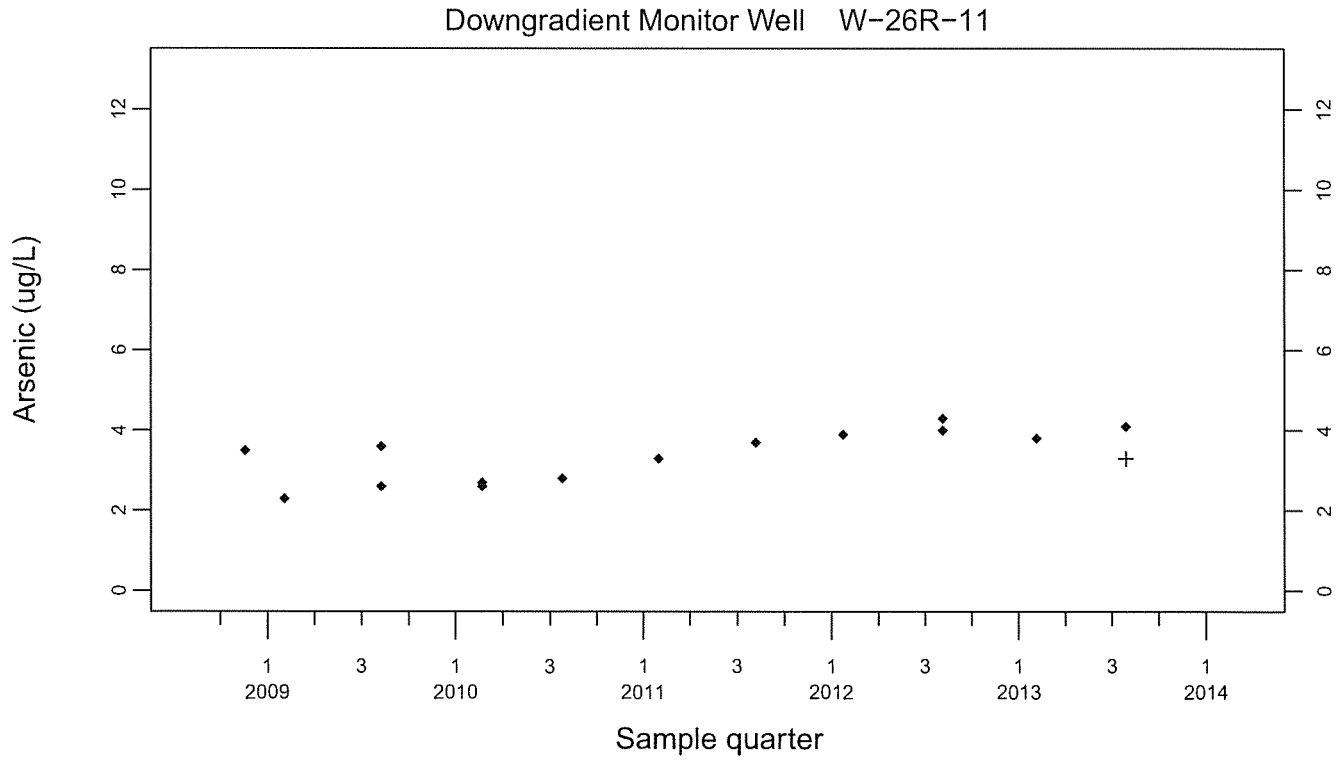

Sewage Ponds Ground Water
Arsenic (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Arsenic (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

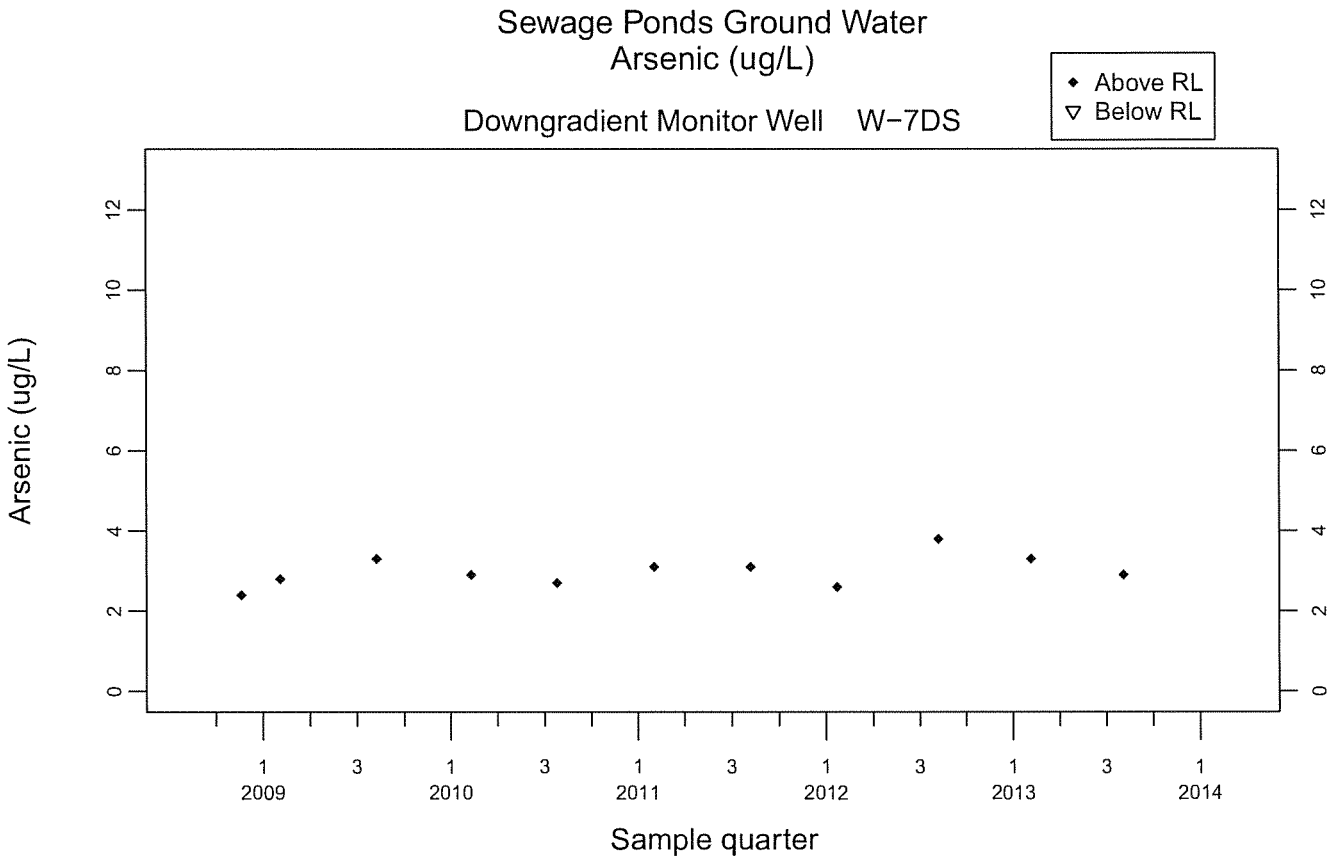

Downgradient Monitor Well W-25N-23
Arsenic (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

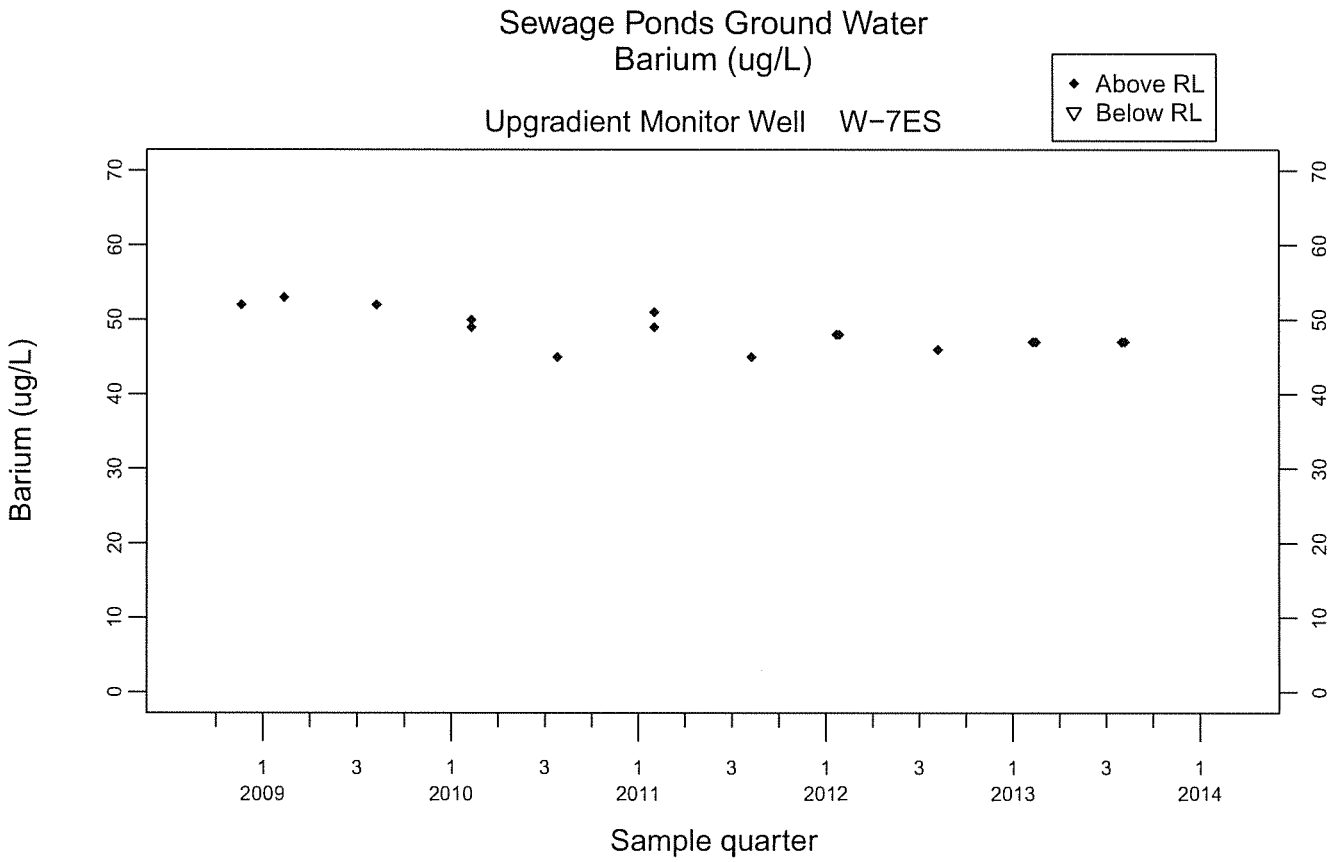

Sewage Ponds Ground Water
Arsenic (ug/L)
Downgradient Monitor Well W-25N-22
Above RL
Estimated
Arsenic (ug/L)
0
2
4
6
8
10
12
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

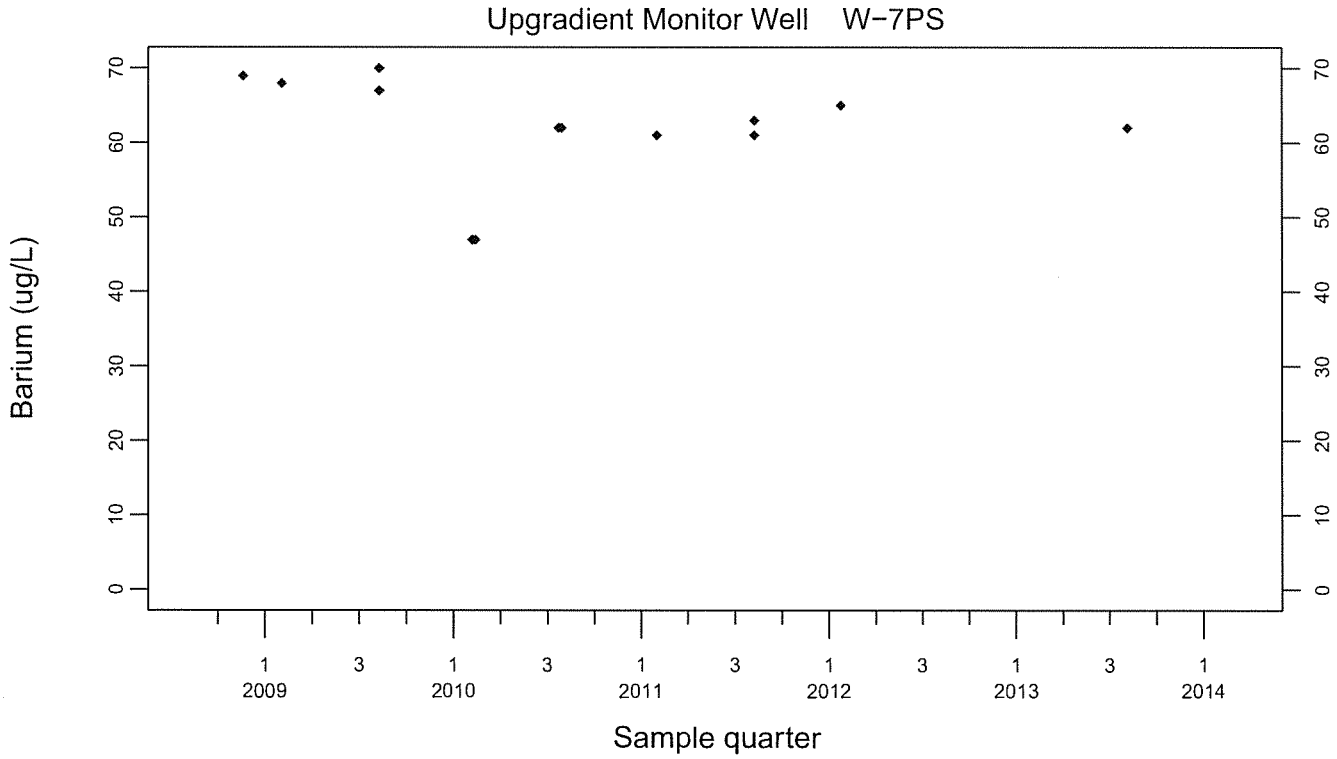

Downgradient Monitor Well W-26R-01
Arsenic (ug/L)
0
2
4
6
8
10
12
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

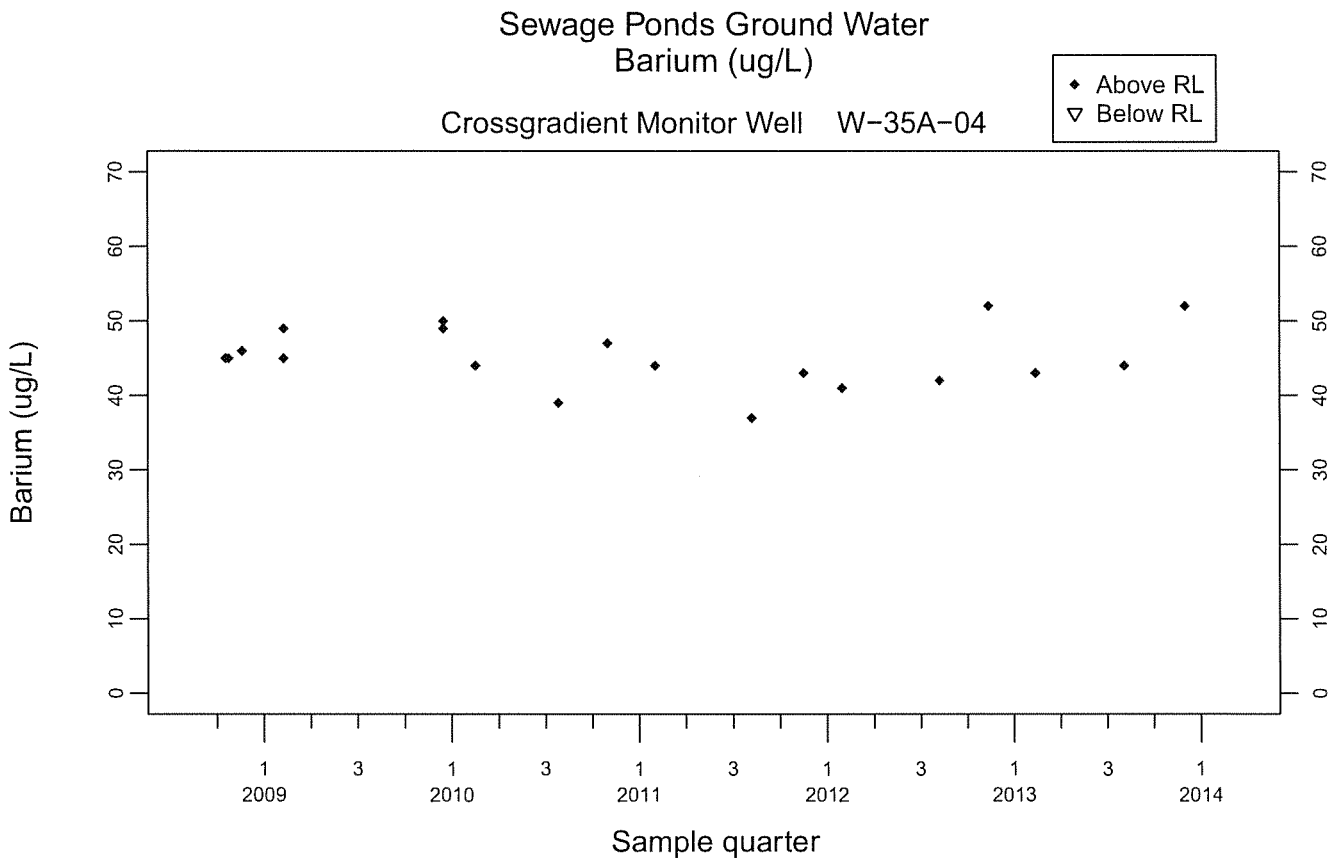

Sewage Ponds Ground Water
Arsenic (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Arsenic (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

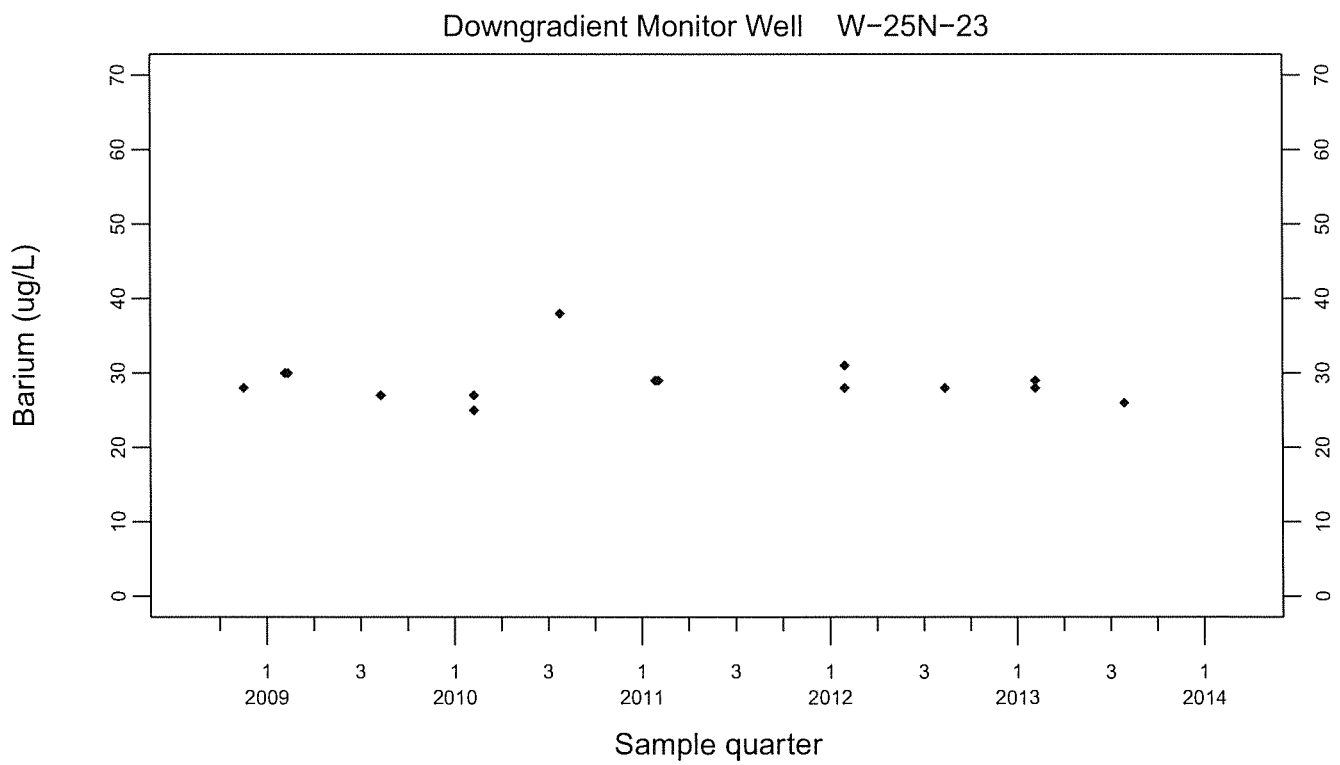

Downgradient Monitor Well W-26R-11
Arsenic (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

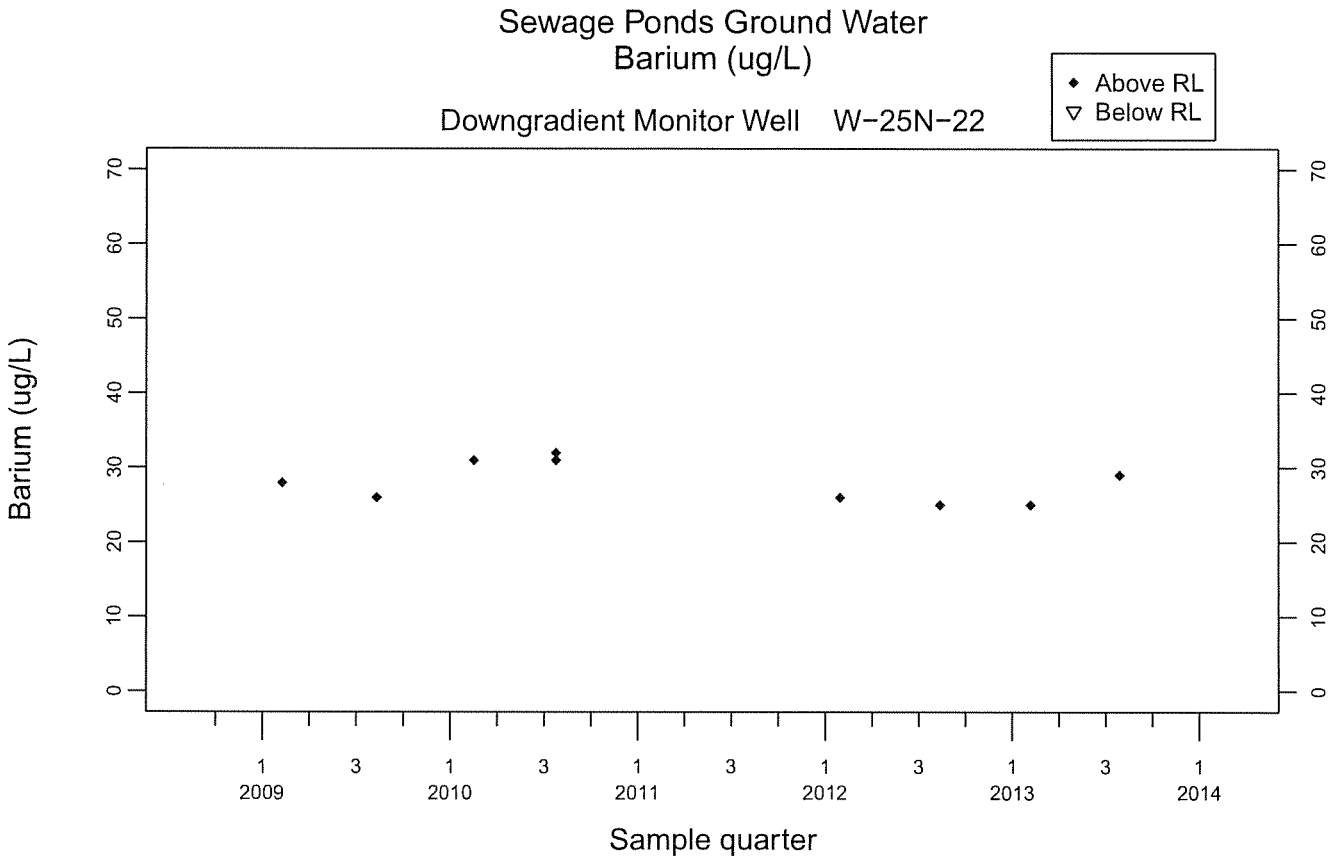

Sewage Ponds Ground Water
Arsenic (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Arsenic (ug/L)
0
2
4
6
8
10
12
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

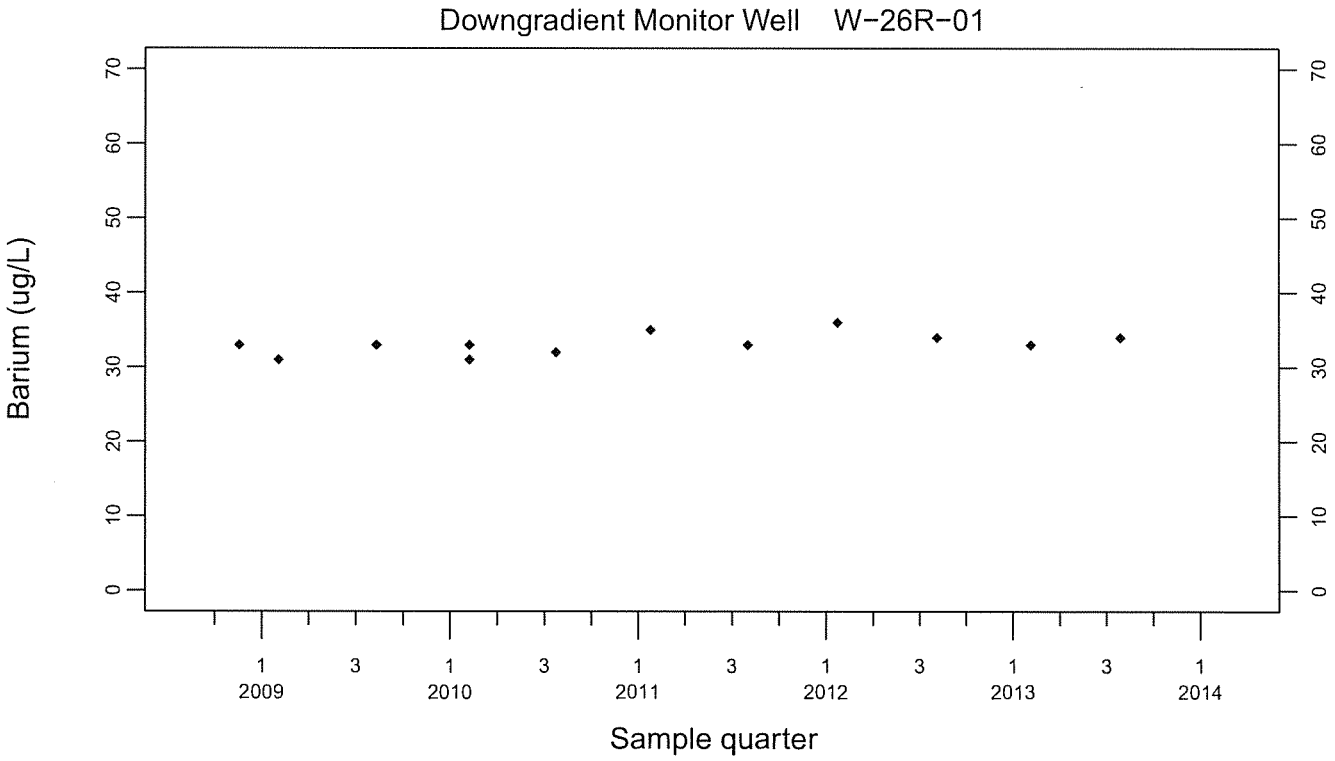

Sewage Ponds Ground Water
Barium (ug/L)
Above RL
Below RL
Upgradient Monitor Well W-7ES
Barium (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

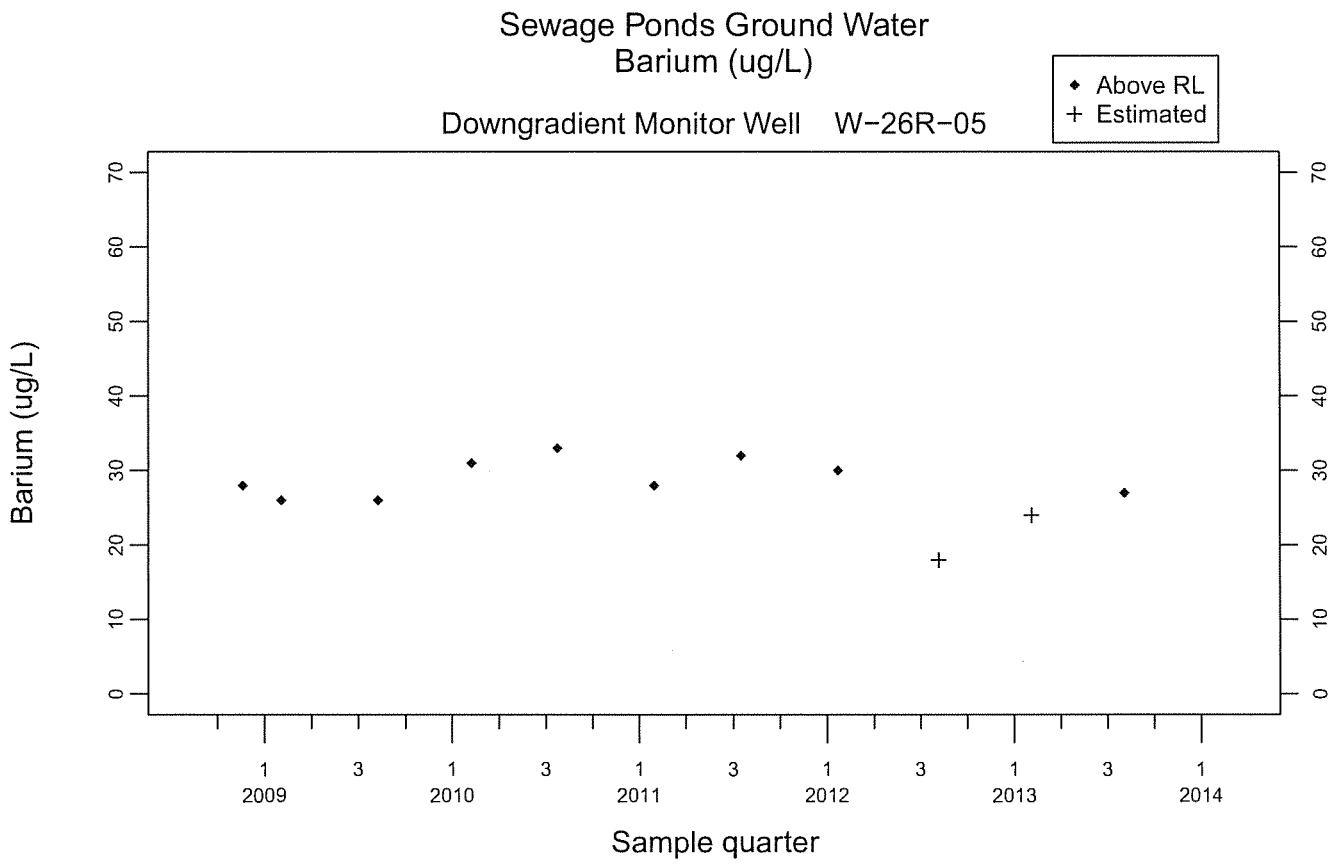

Upgradient Monitor Well W-7PS
Barium (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

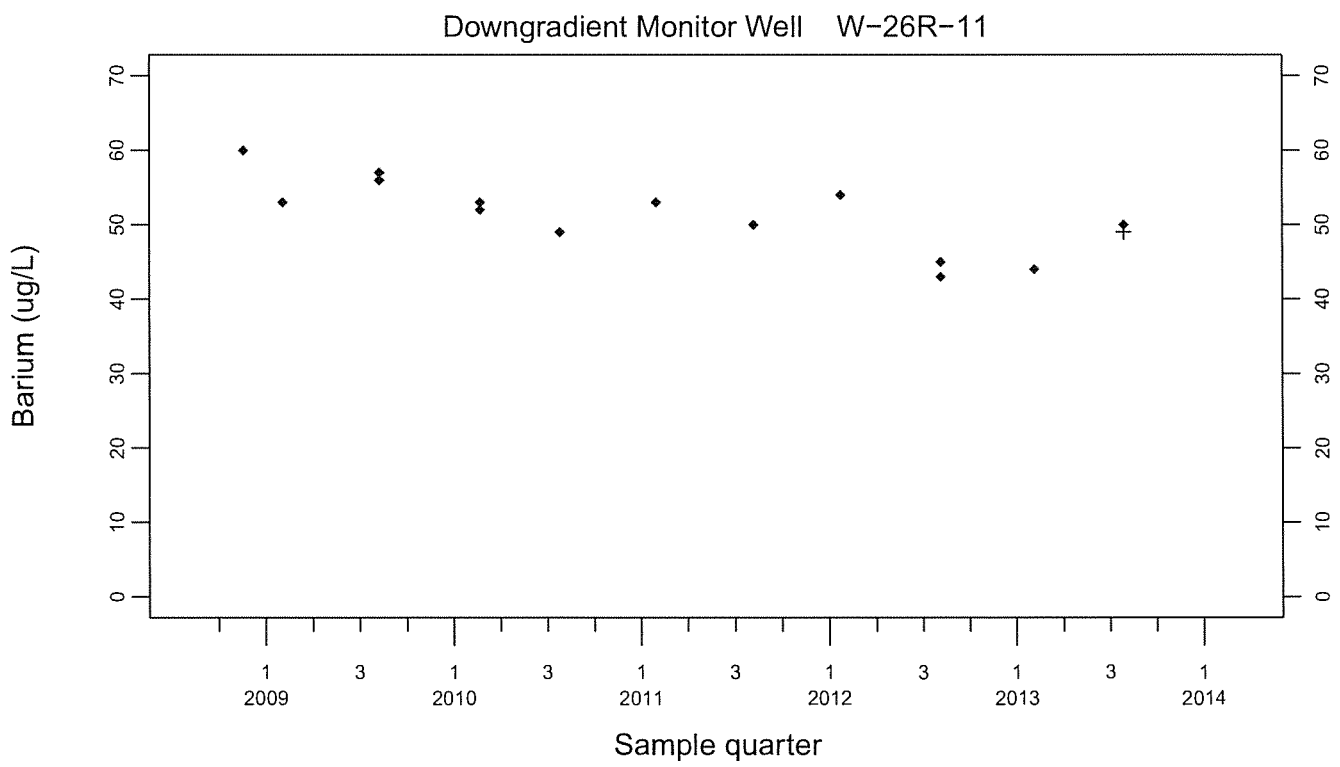

Sewage Ponds Ground Water
Barium (ug/L)
Above RL
Below RL
Crossgradient Monitor Well W-35A-04
Barium (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

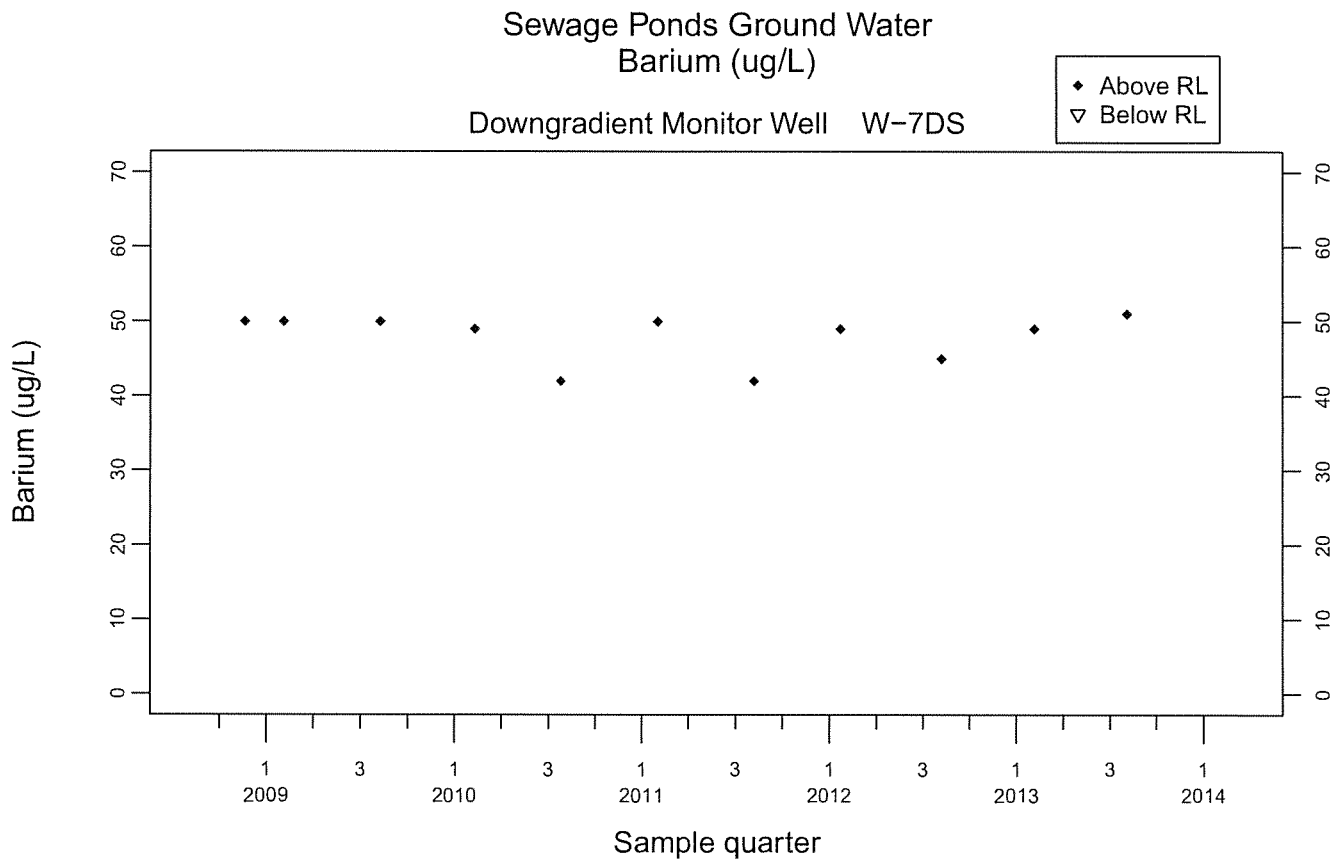

Downgradient Monitor Well W-25N-23
Barium (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

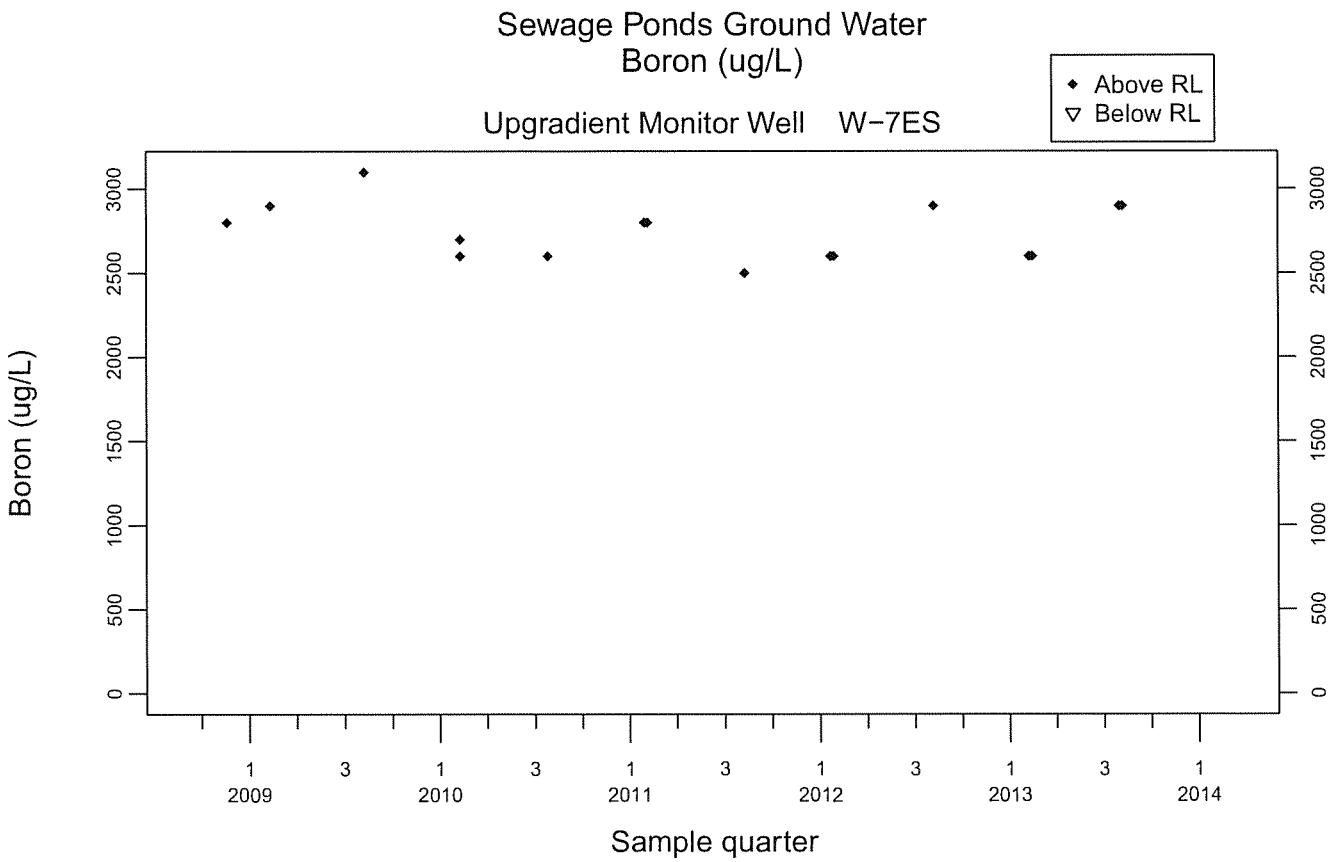

Sewage Ponds Ground Water
Barium (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Barium (ug/L)
0
10
20
30
40
50
60
70
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

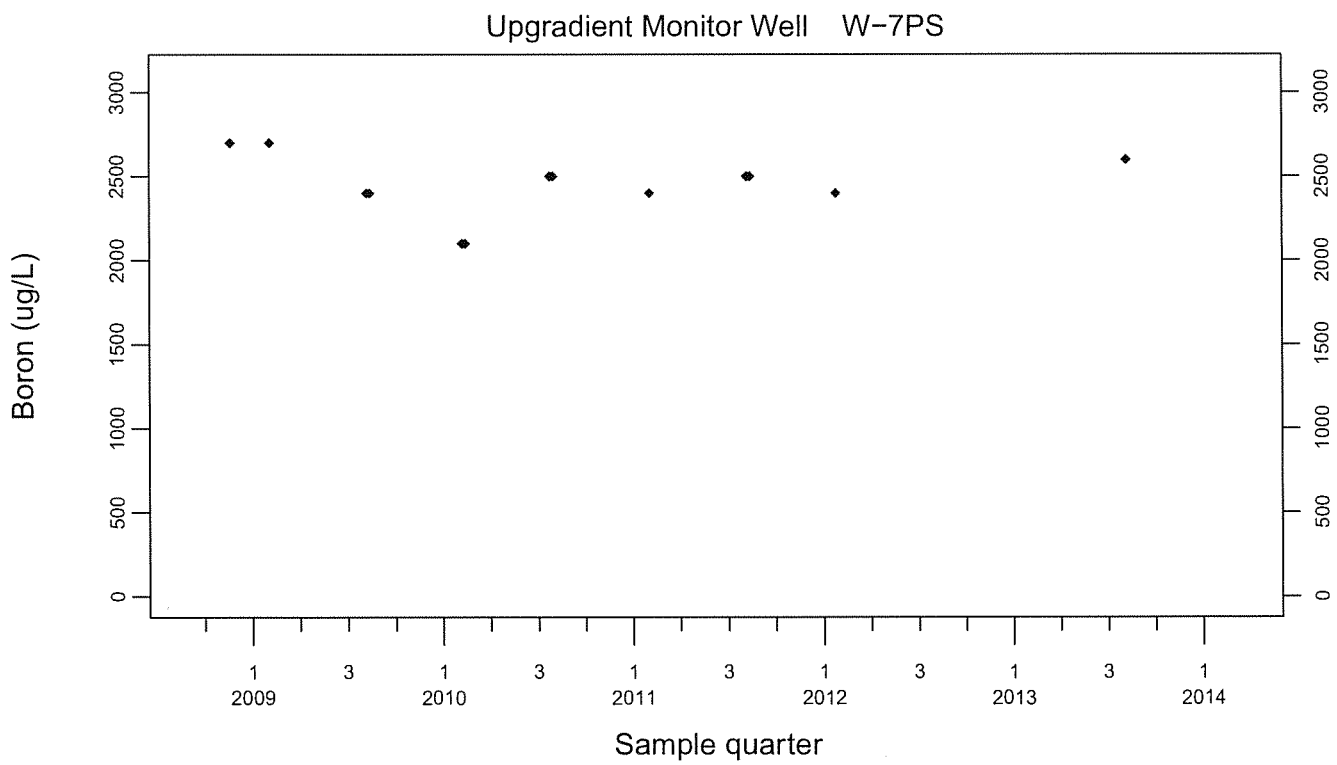

Downgradient Monitor Well W-26R-01
Barium (ug/L)
0
10
20
30
40
50
60
70
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

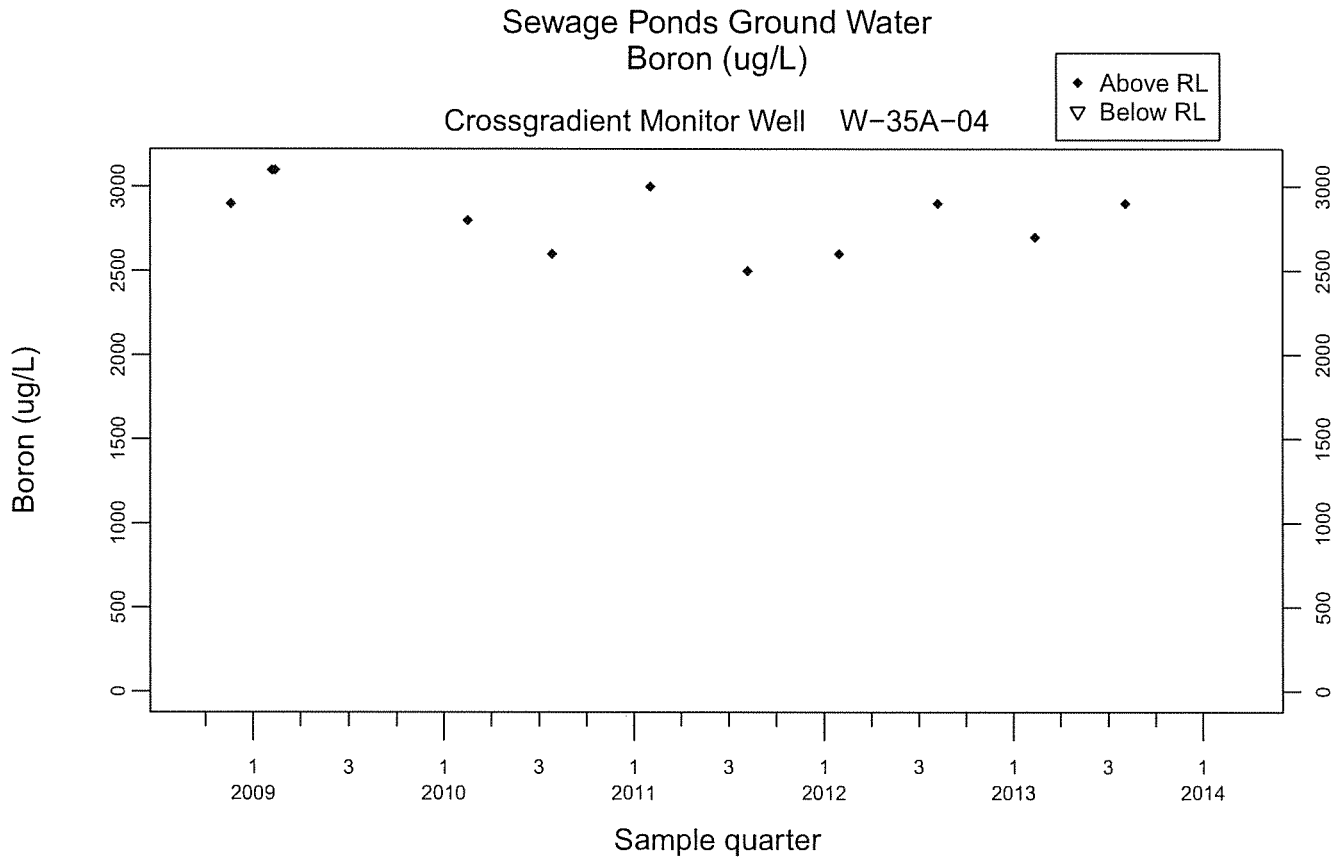

Sewage Ponds Ground Water
Barium (ug/L)
Above RL
Estimated
Downgradient Monitor Well W-26R-05
Barium (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

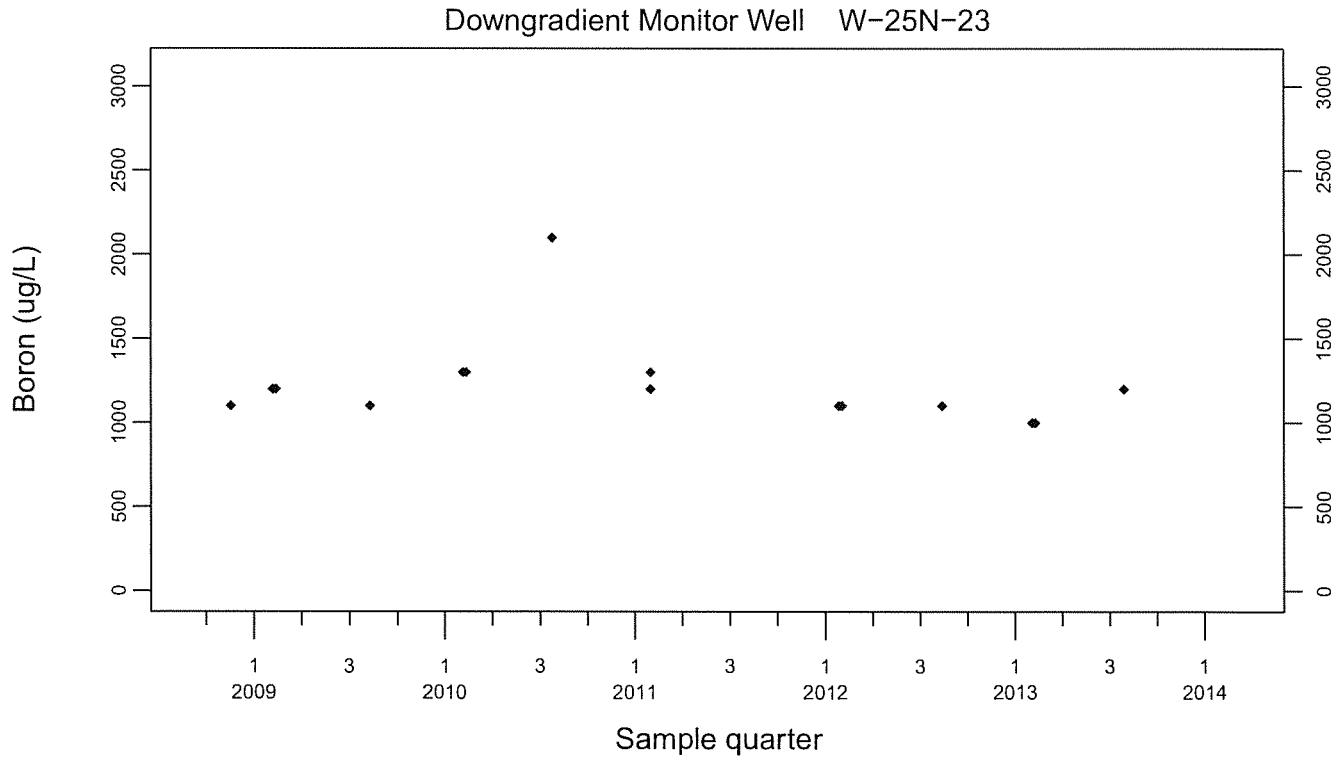

Downgradient Monitor Well W-26R-11
Barium (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

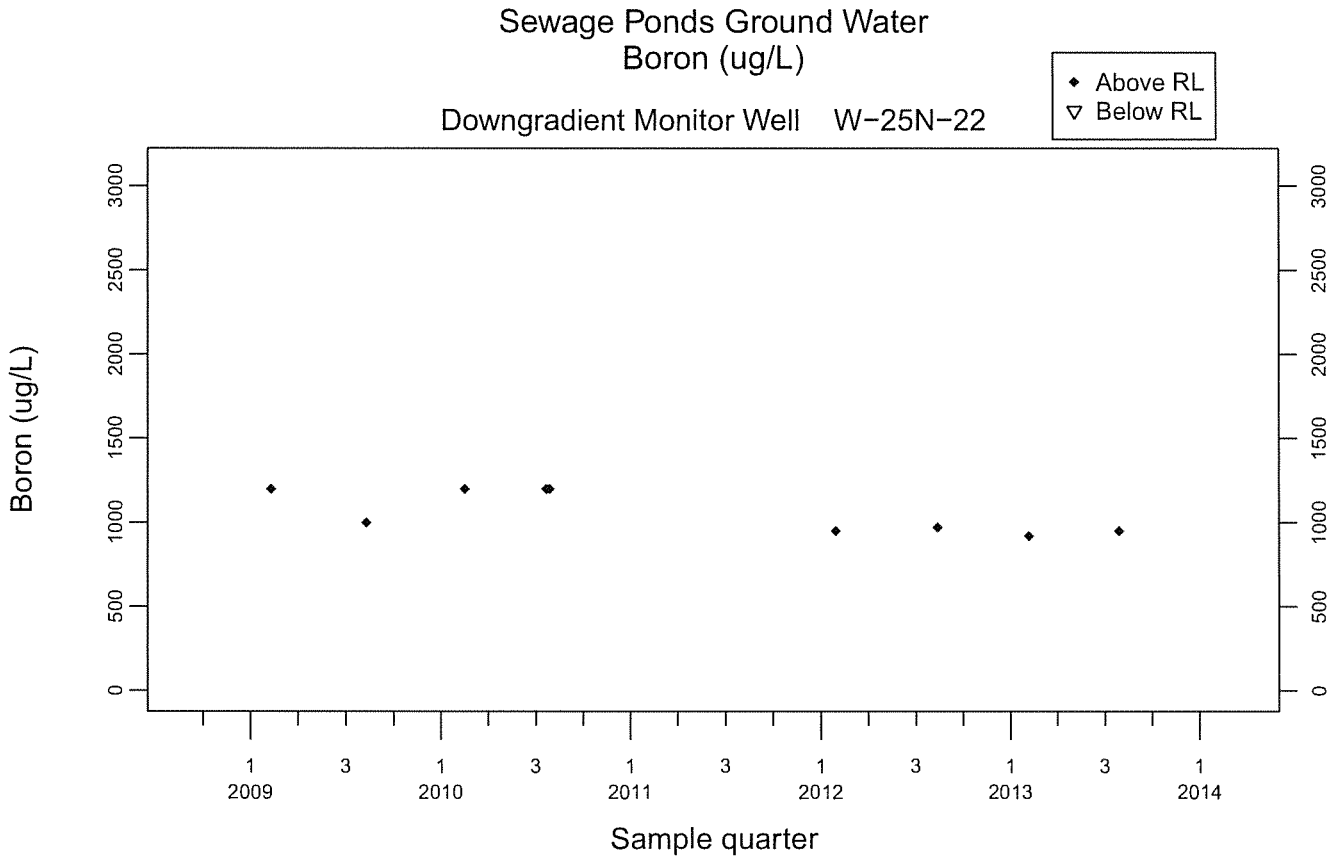

Sewage Ponds Ground Water
Barium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Barium (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

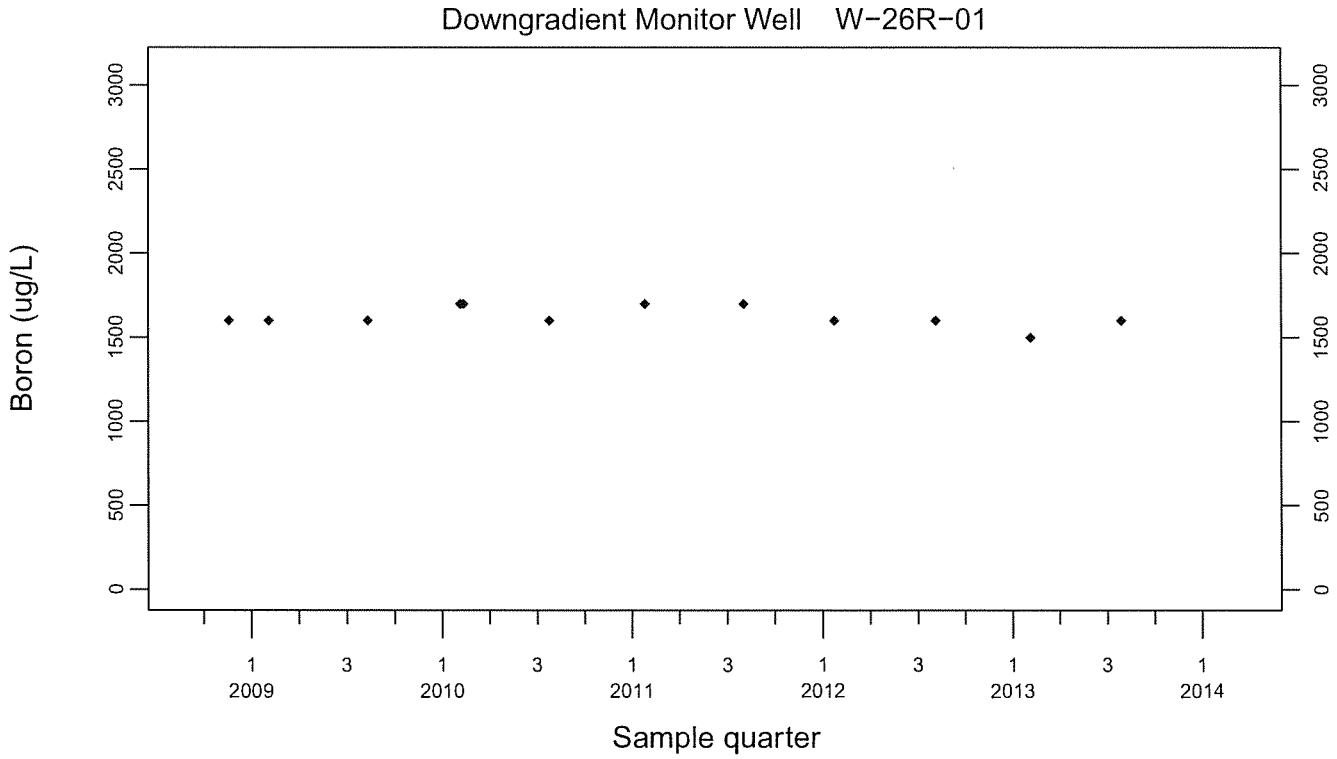

Sewage Ponds Ground Water
Boron (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

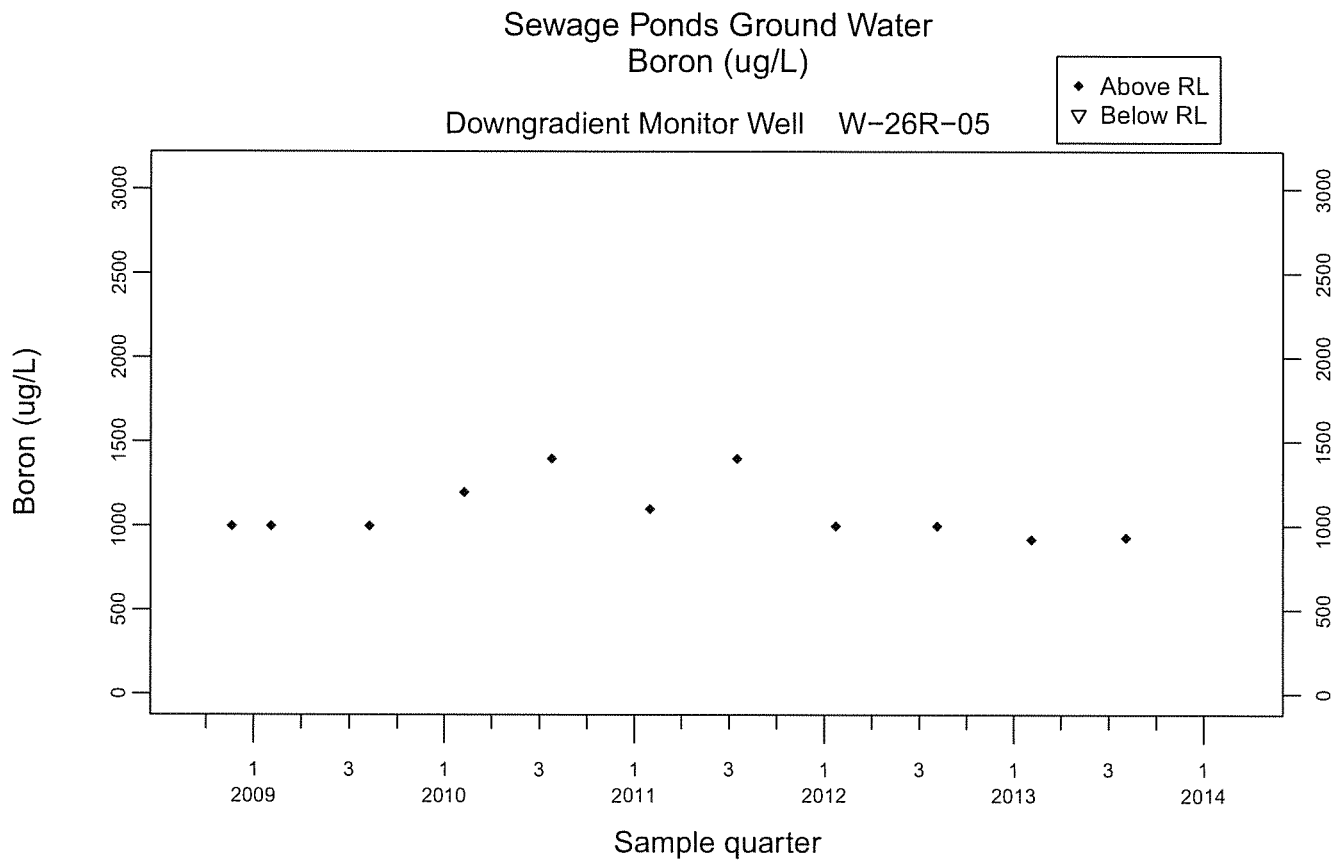

Upgradient Monitor Well W-7PS
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

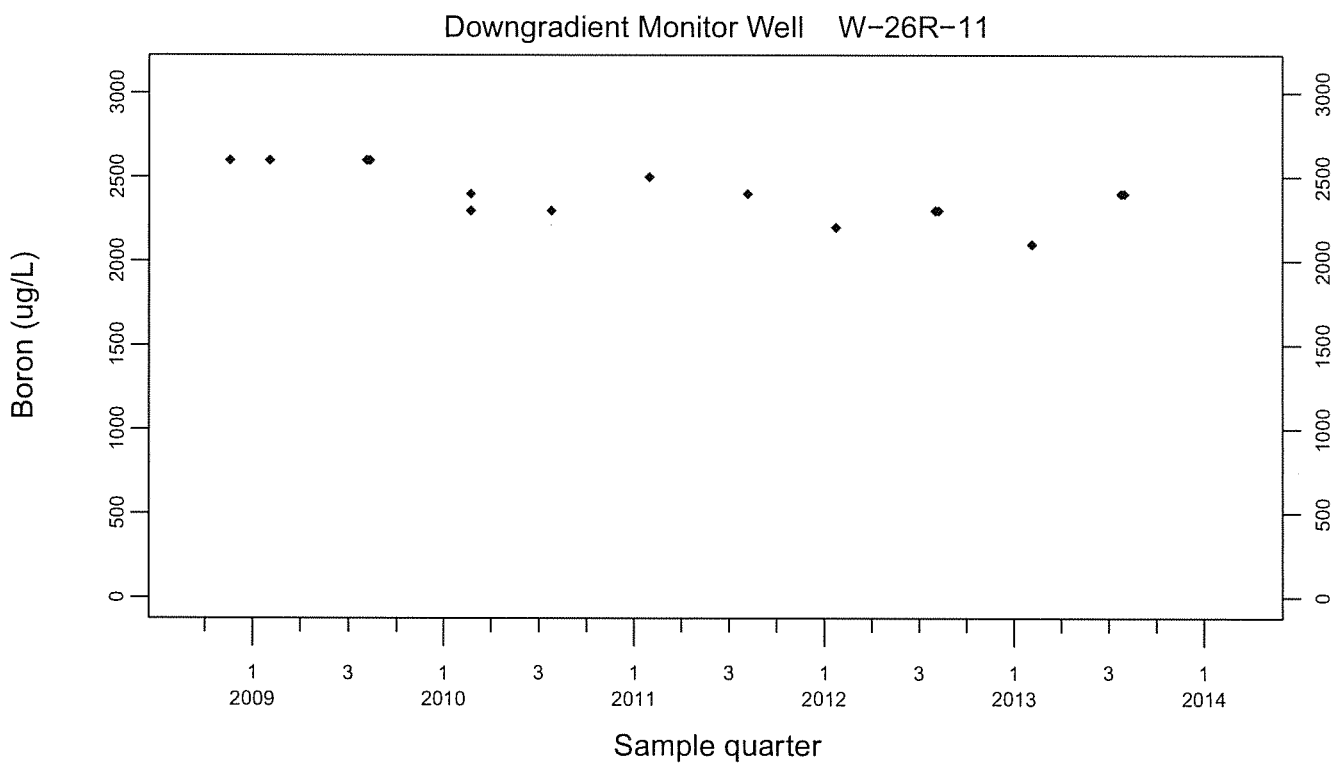

Sewage Ponds Ground Water
Boron (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

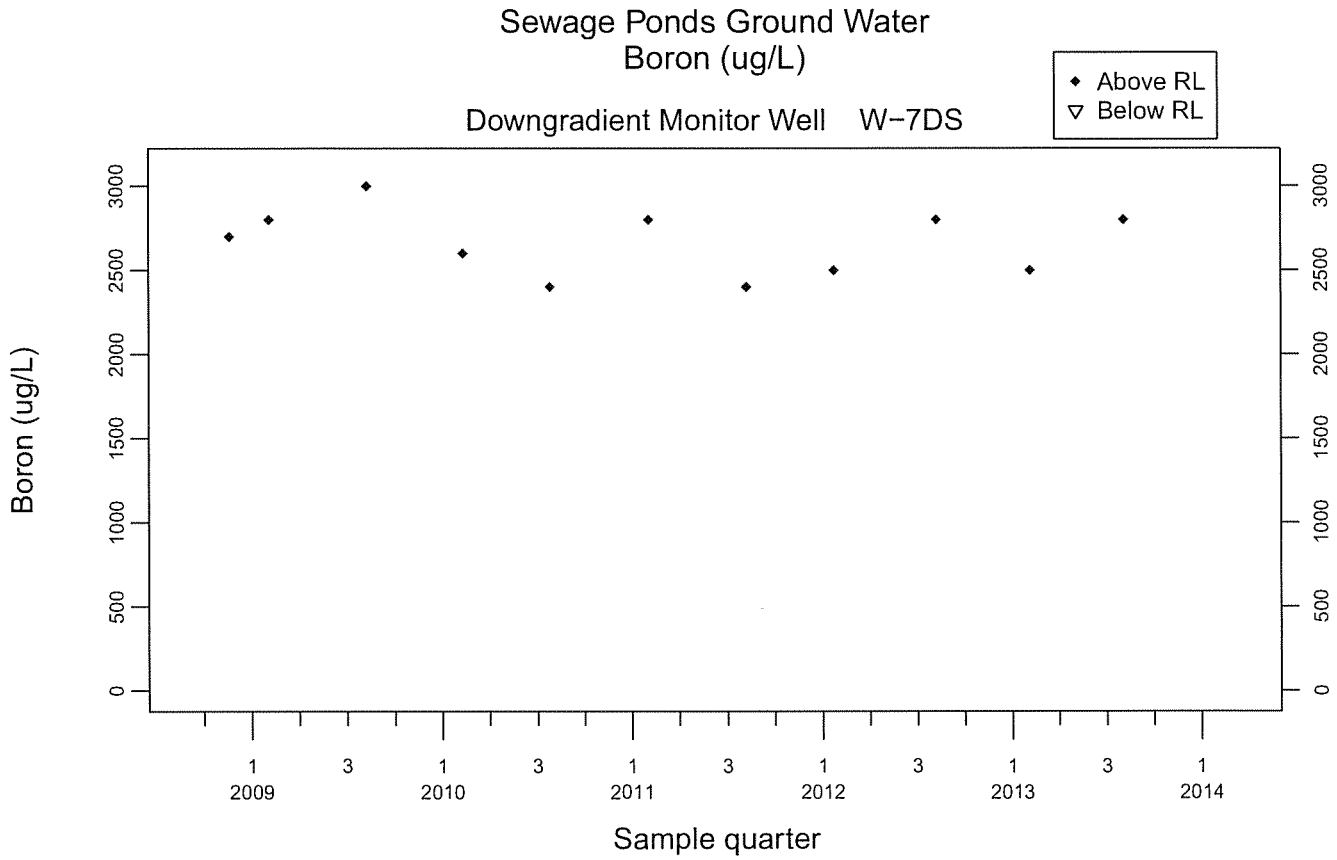

Downgradient Monitor Well W-25N-23
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

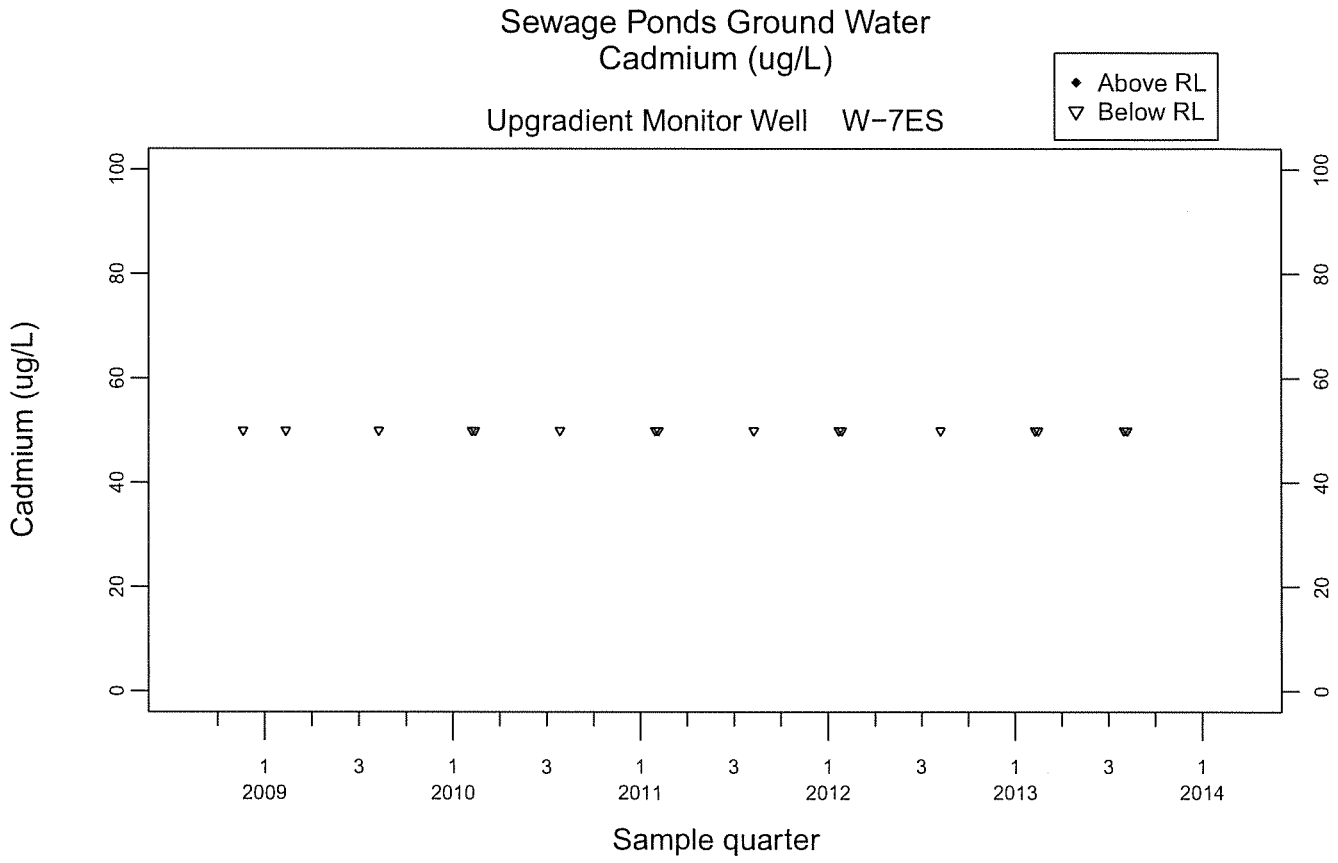

Sewage Ponds Ground Water
Boron (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

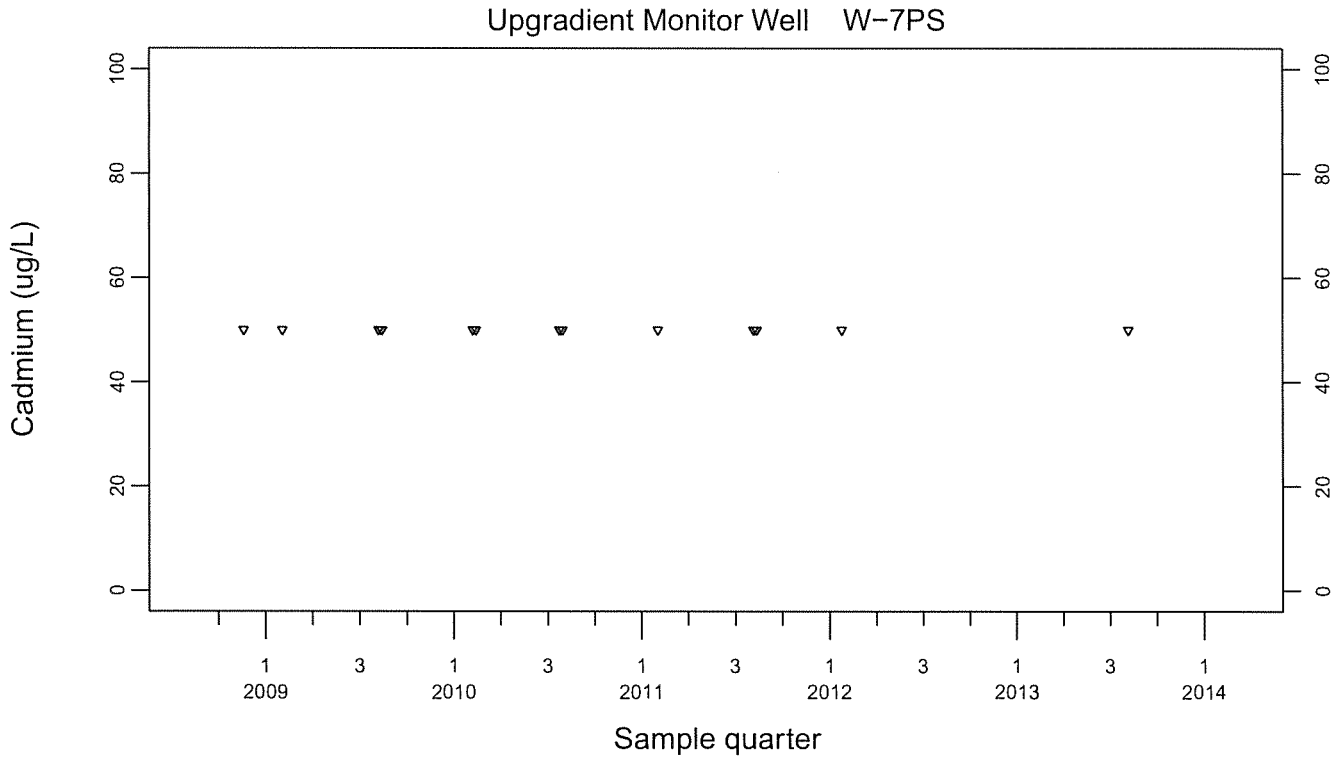

Downgradient Monitor Well W-26R-01
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

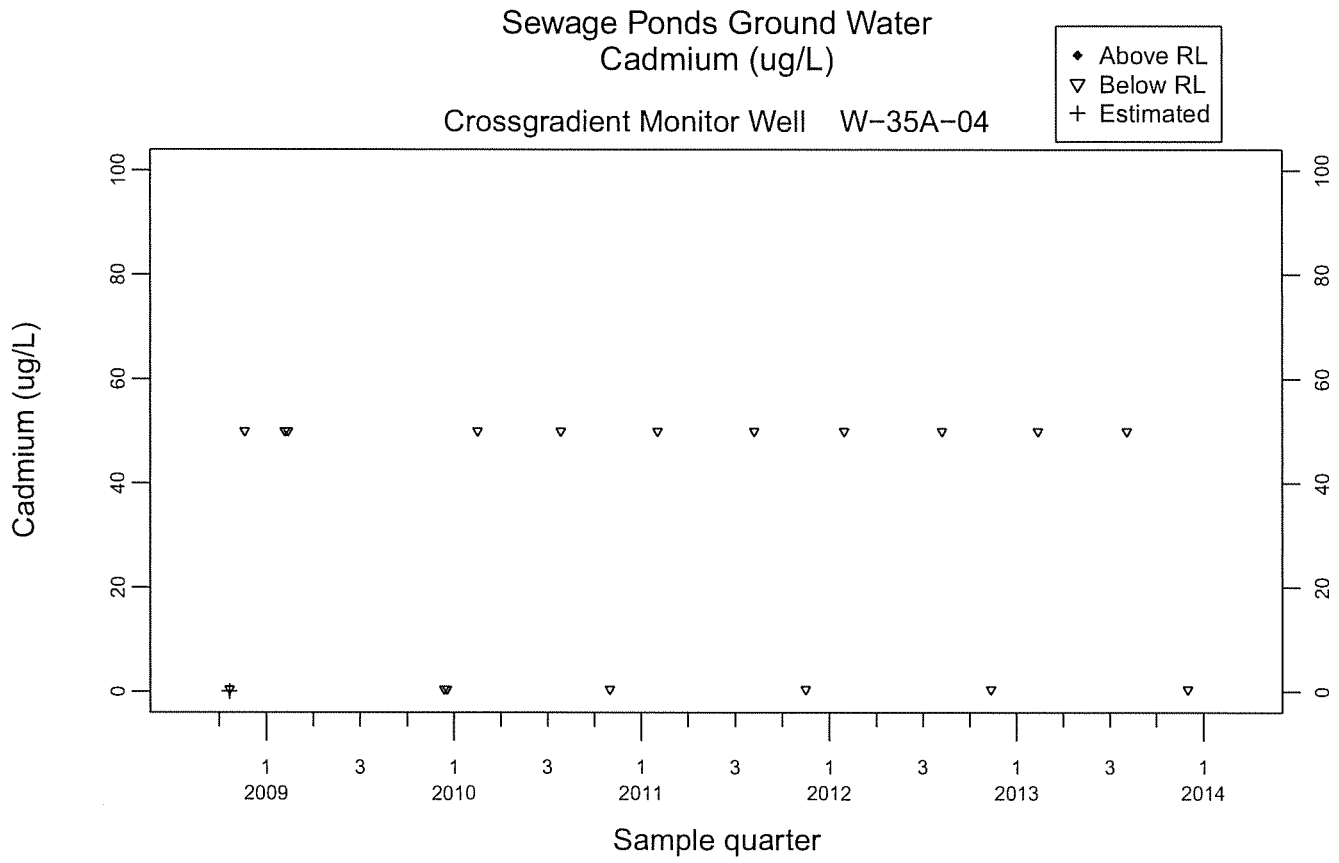

Sewage Ponds Ground Water
Boron (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

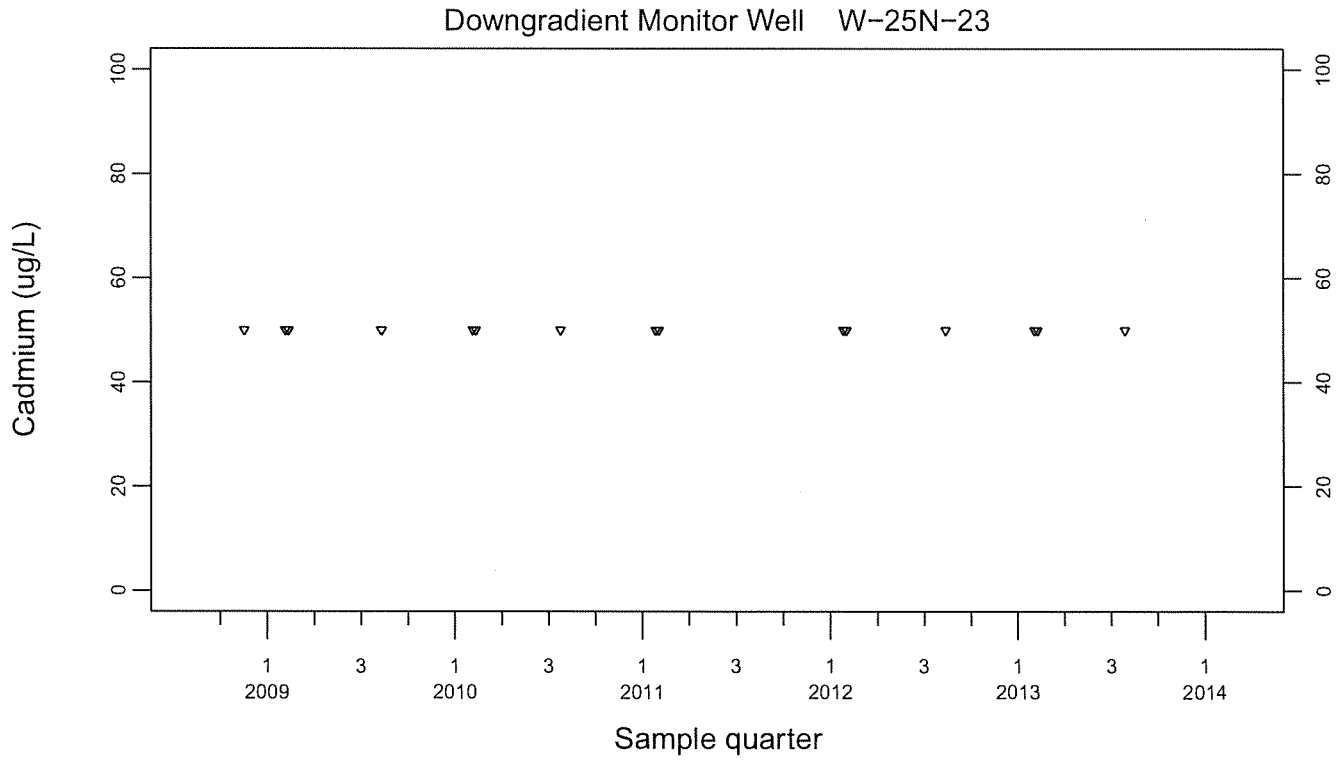

Downgradient Monitor Well W-26R-11
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

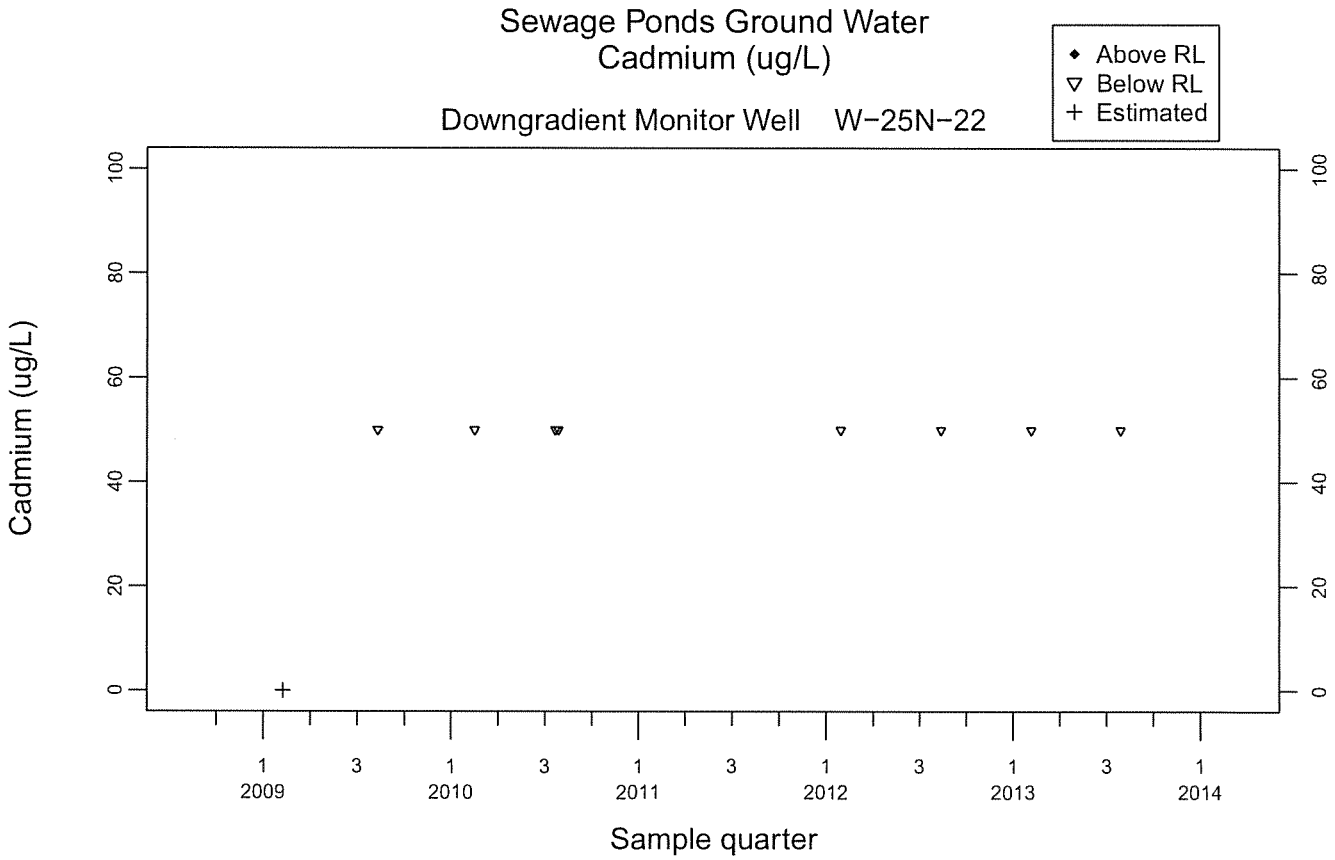

Sewage Ponds Ground Water
Boron (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Boron (ug/L)
0
500
1000
1500
2000
2500
3000
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

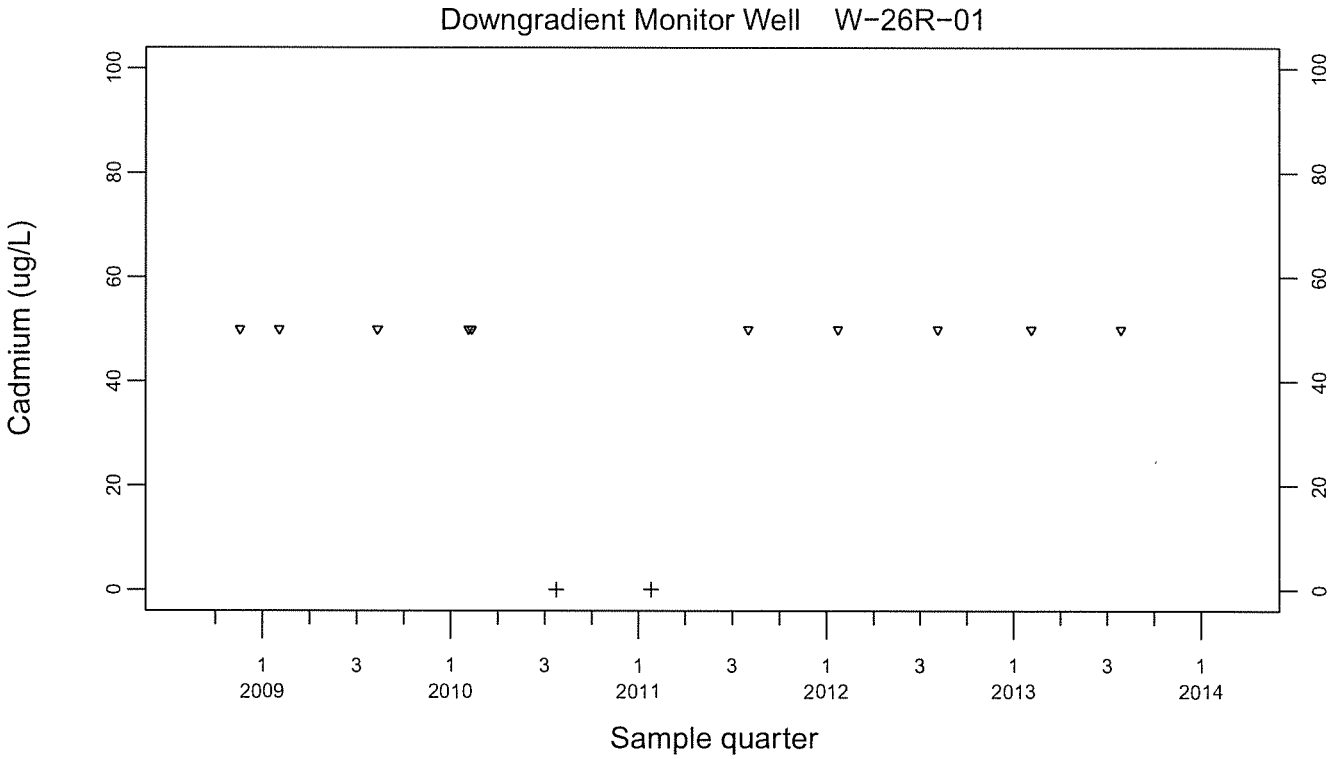

Sewage Ponds Ground Water
Cadmium (ug/L)
Above RL
Below RL
Upgradient Monitor Well W-7ES
Cadmium (ug/L)
0
20
40
60
80
100
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

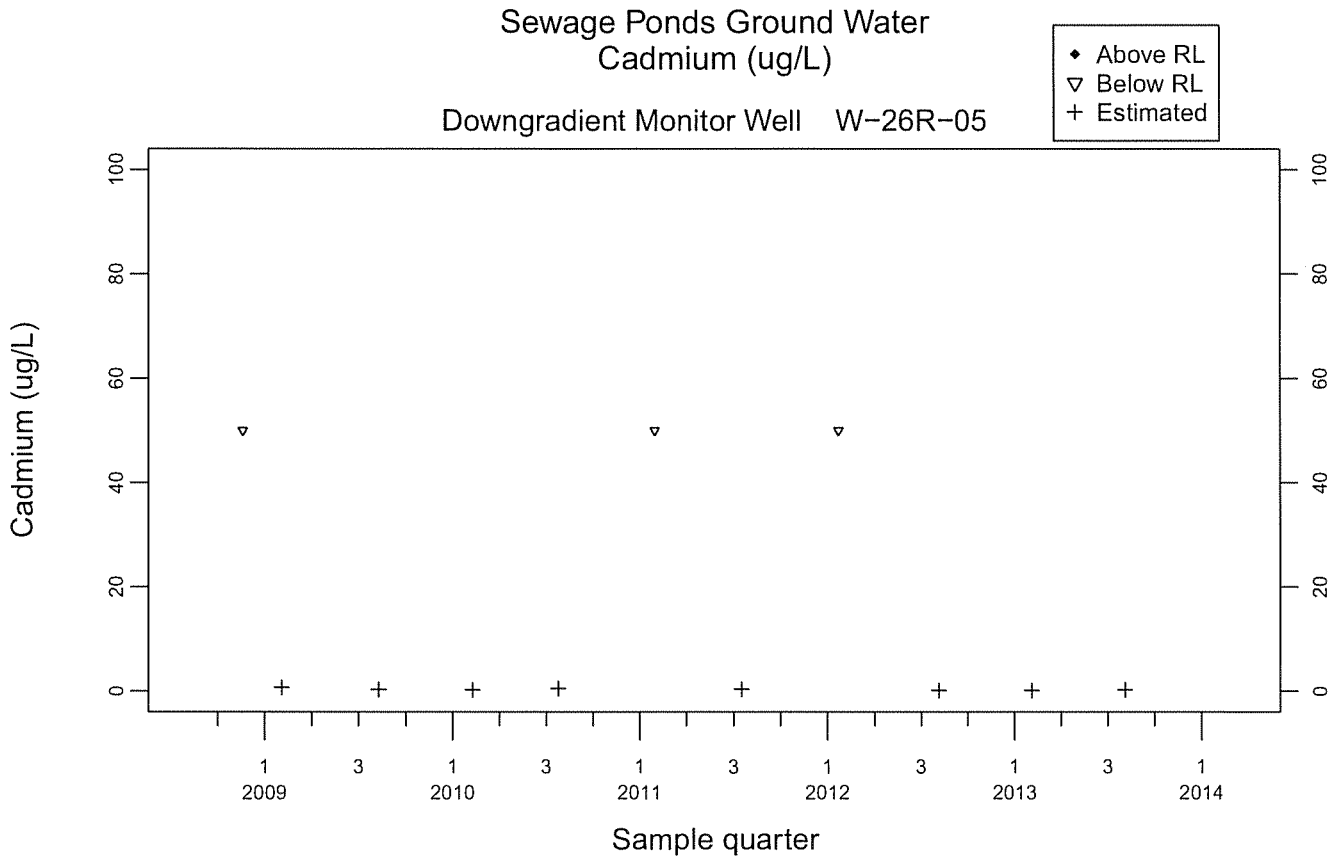

Upgradient Monitor Well W-7PS
Cadmium (ug/L)
0
20
40
60
80
100
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

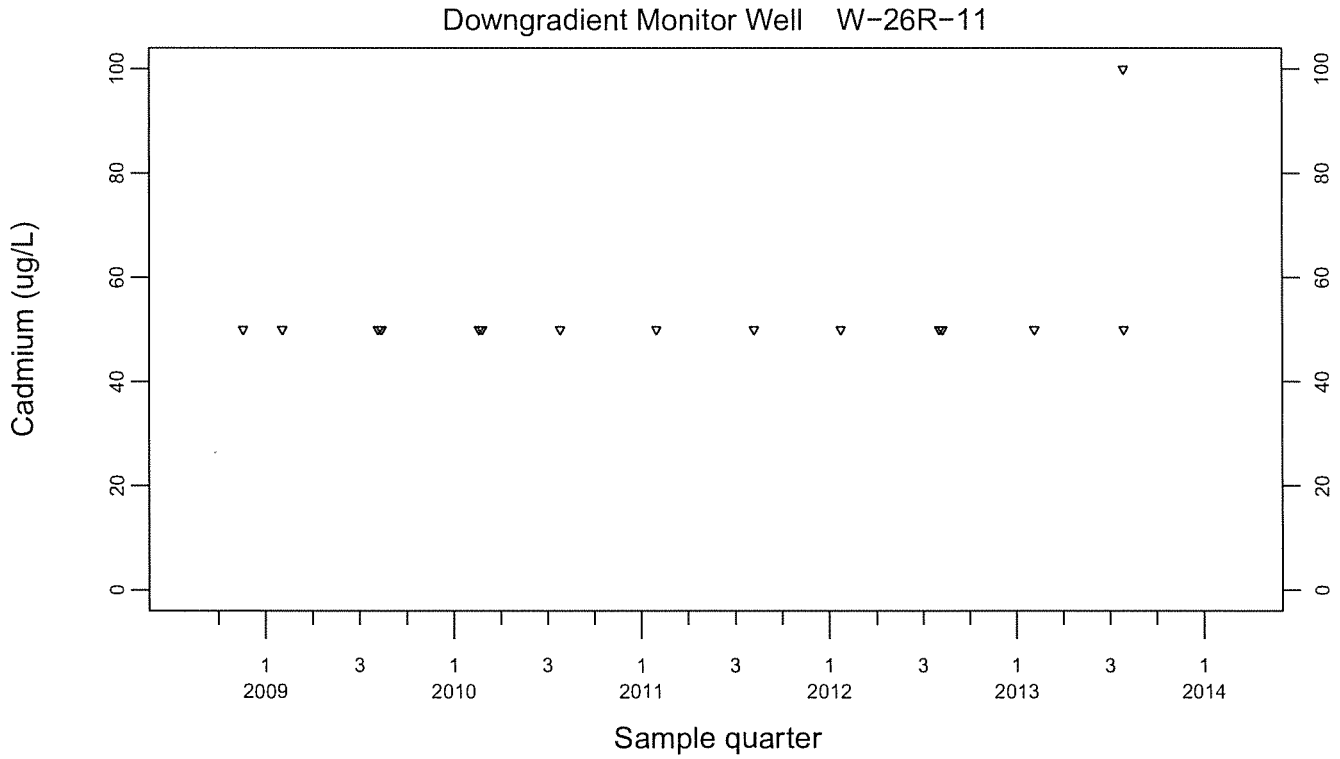

Sewage Ponds Ground Water
Cadmium (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Cadmium (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

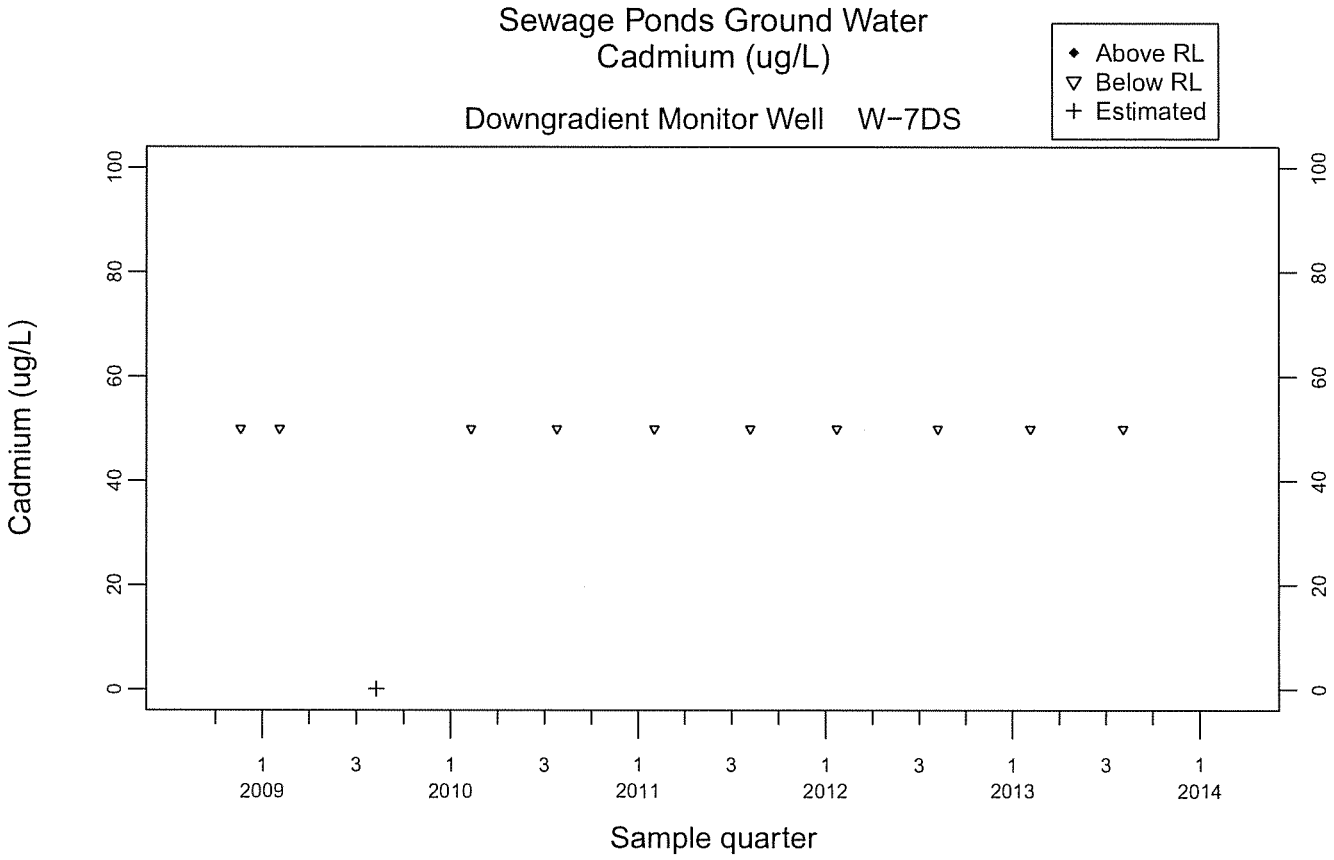

Downgradient Monitor Well W-25N-23
Cadmium (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

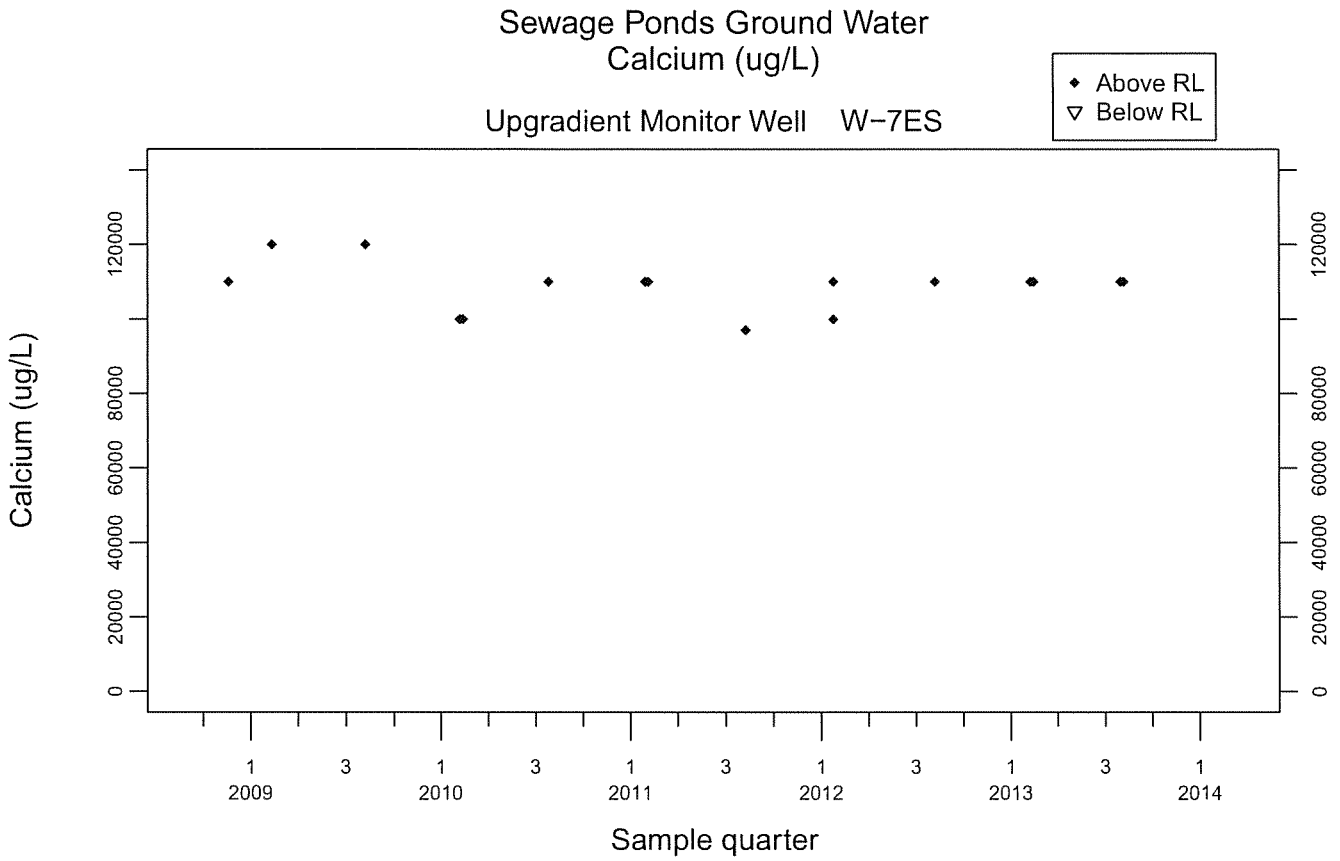

Sewage Ponds Ground Water
Cadmium (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-25N-22
Cadmium (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

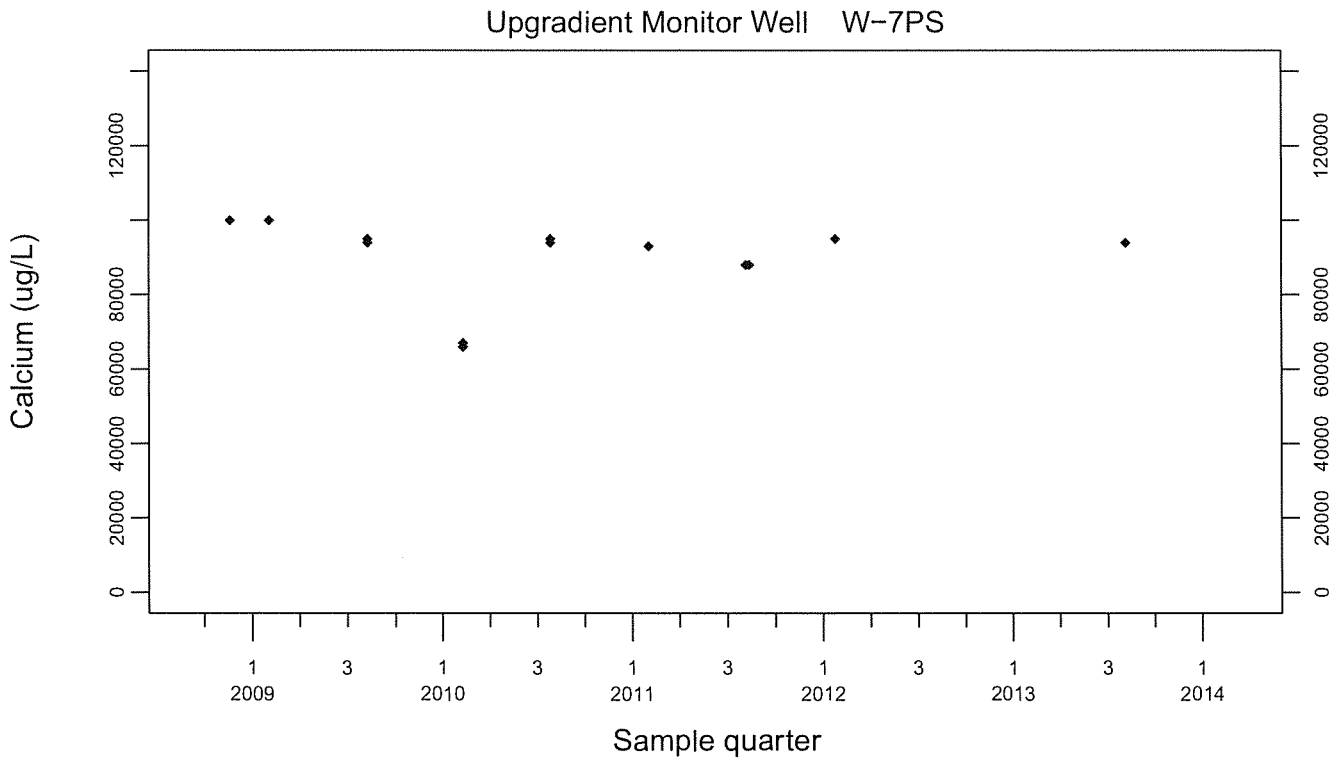

Downgradient Monitor Well W-26R-01
Cadmium (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

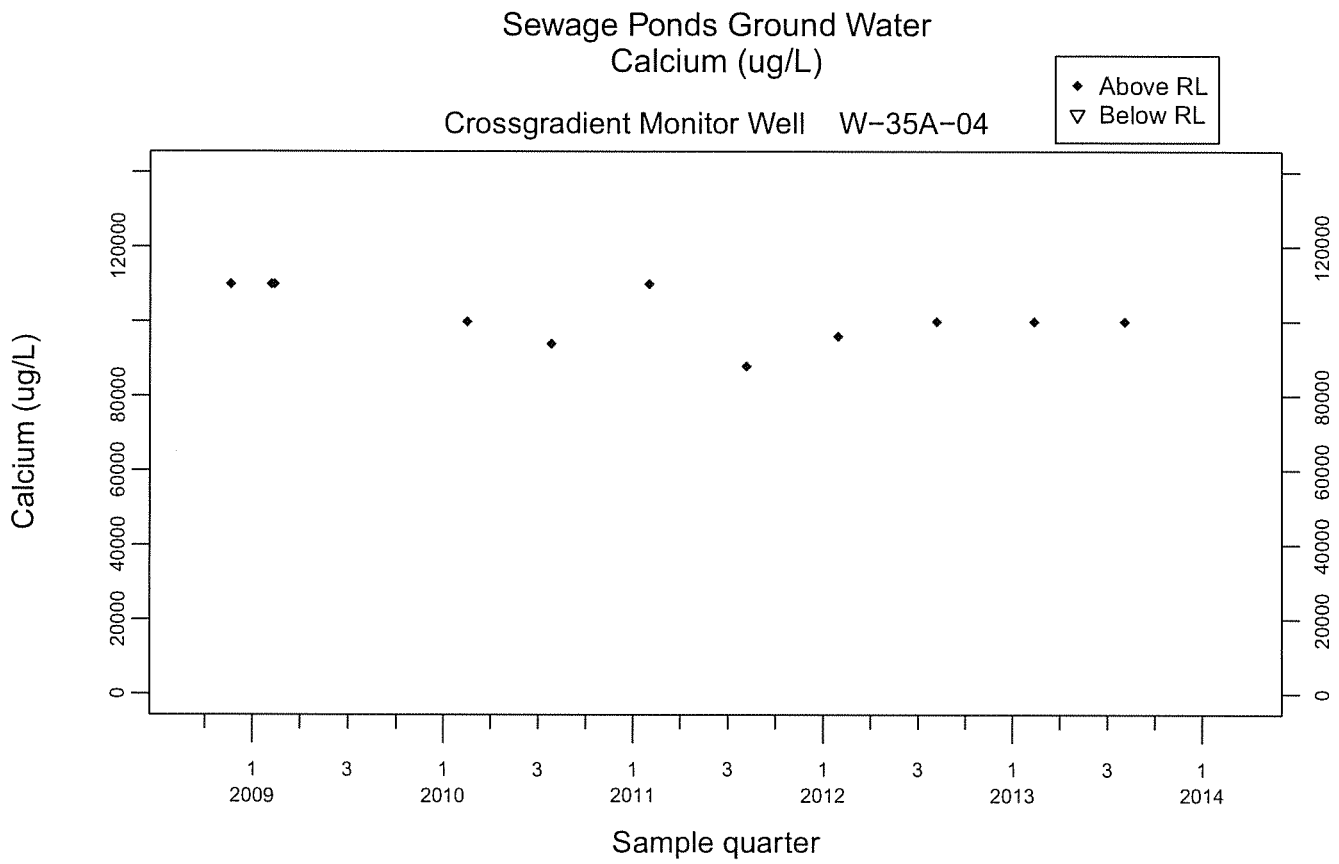

Sewage Ponds Ground Water
Cadmium (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-26R-05
Cadmium (ug/L)
0
20
40
60
80
100
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

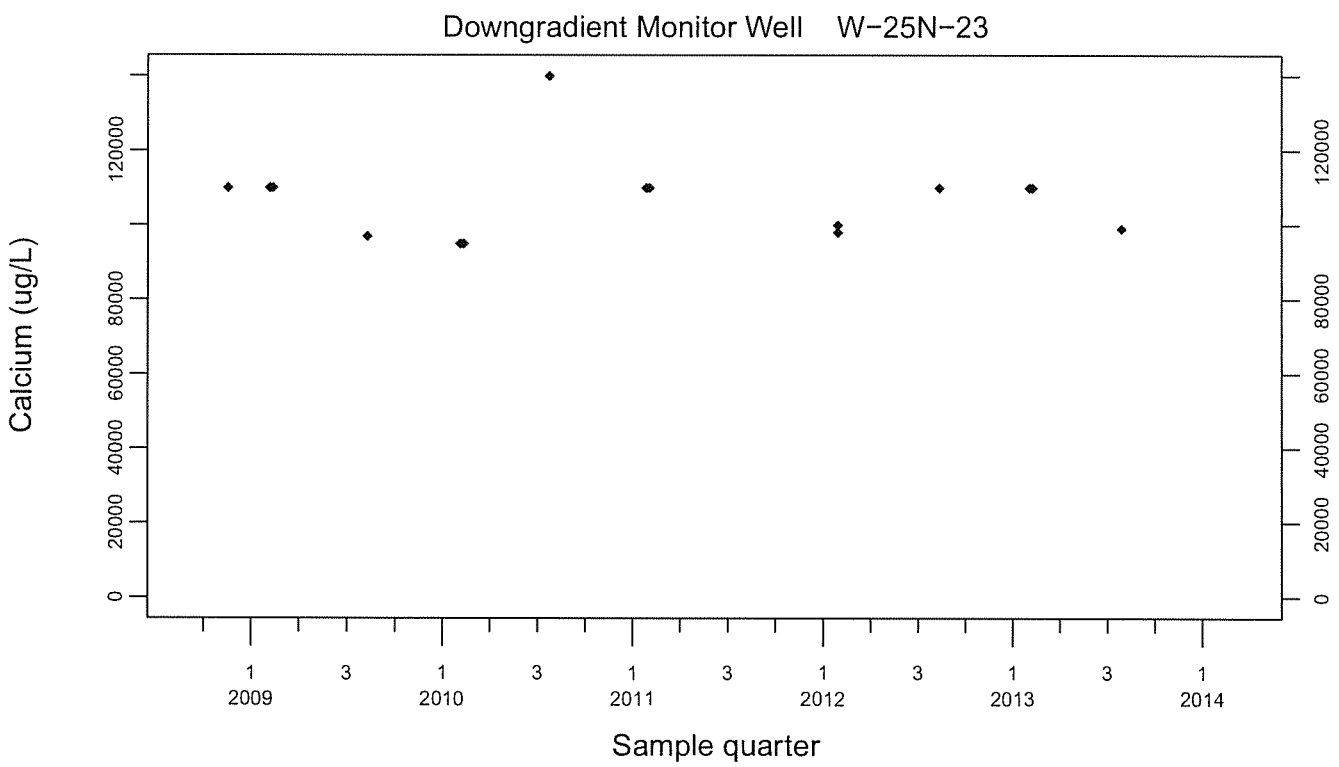

Downgradient Monitor Well W-26R-11
Cadmium (ug/L)
0
20
40
60
80
100
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

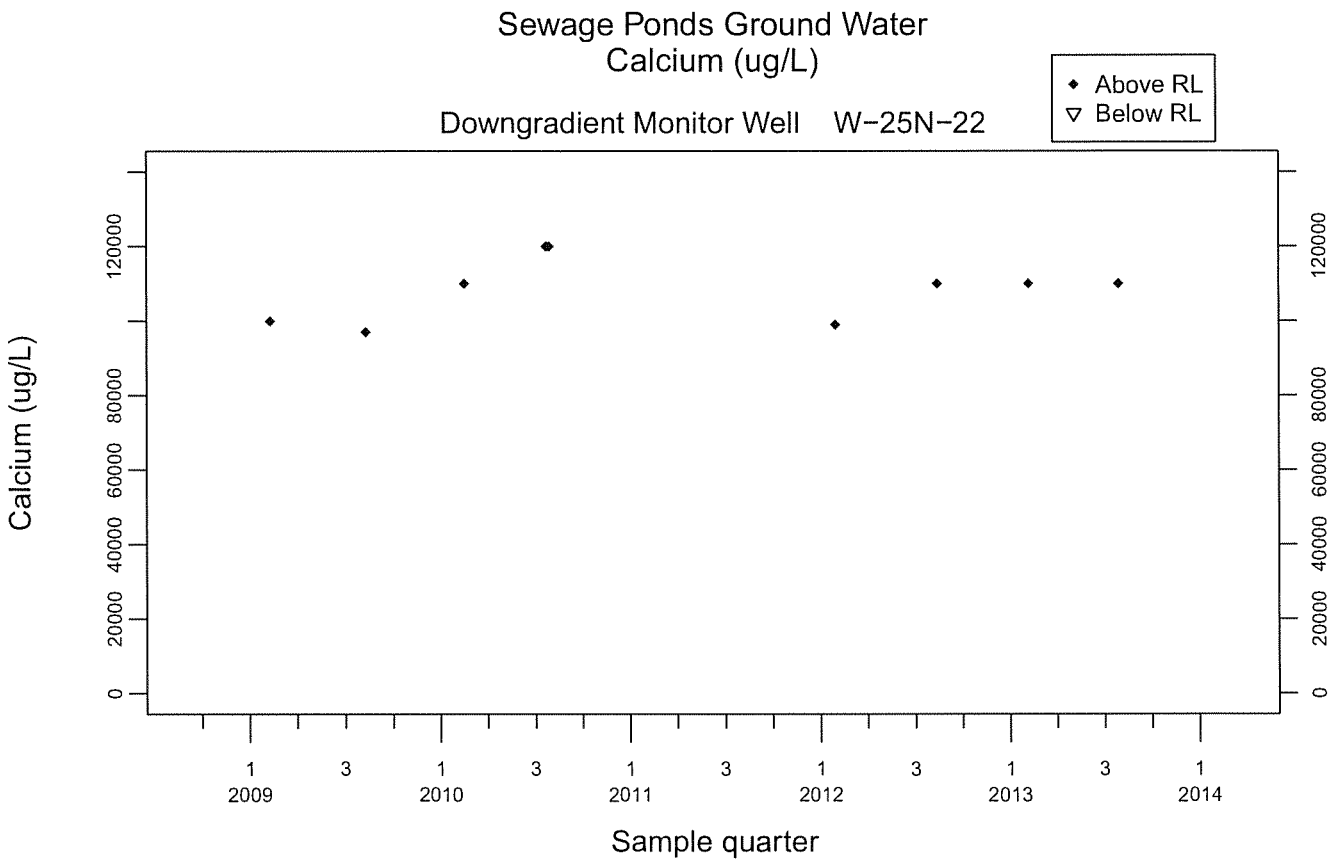

Sewage Ponds Ground Water
Cadmium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Cadmium (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

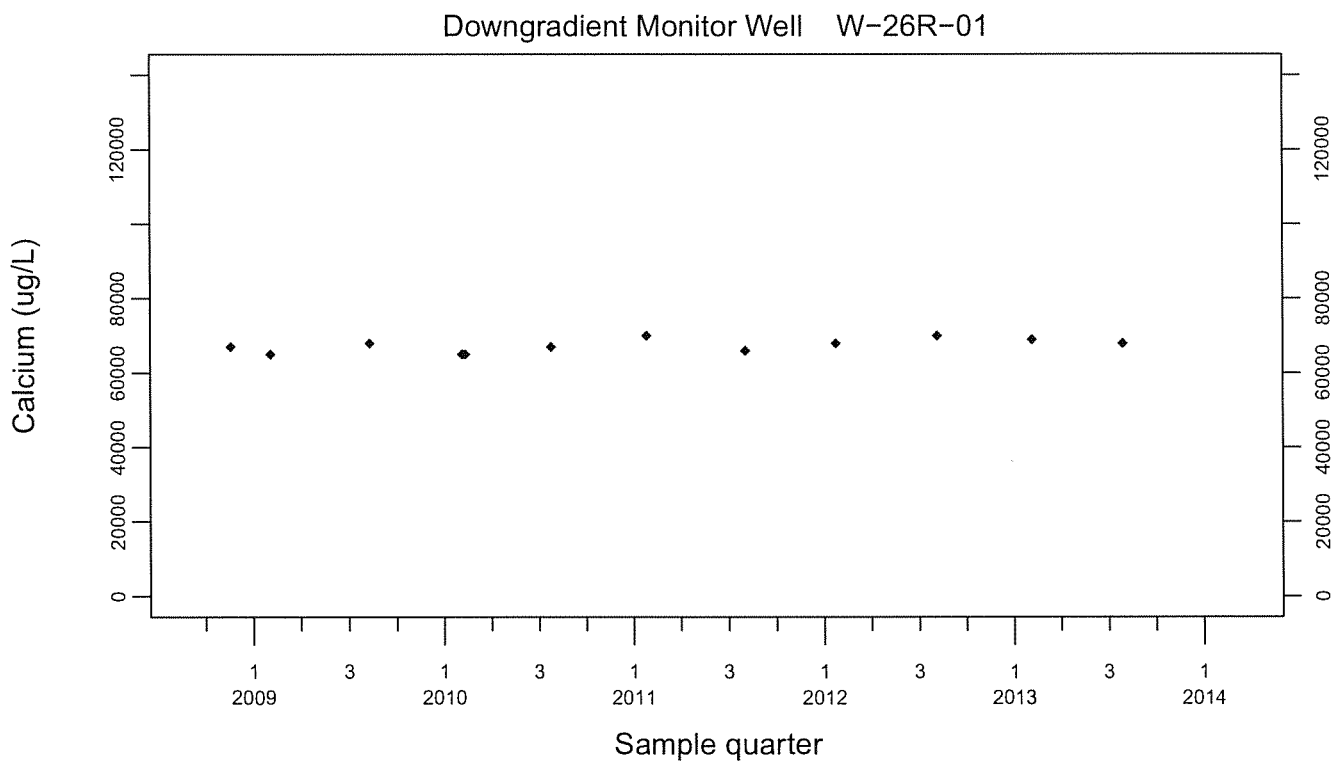

Sewage Ponds Ground Water
Calcium (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

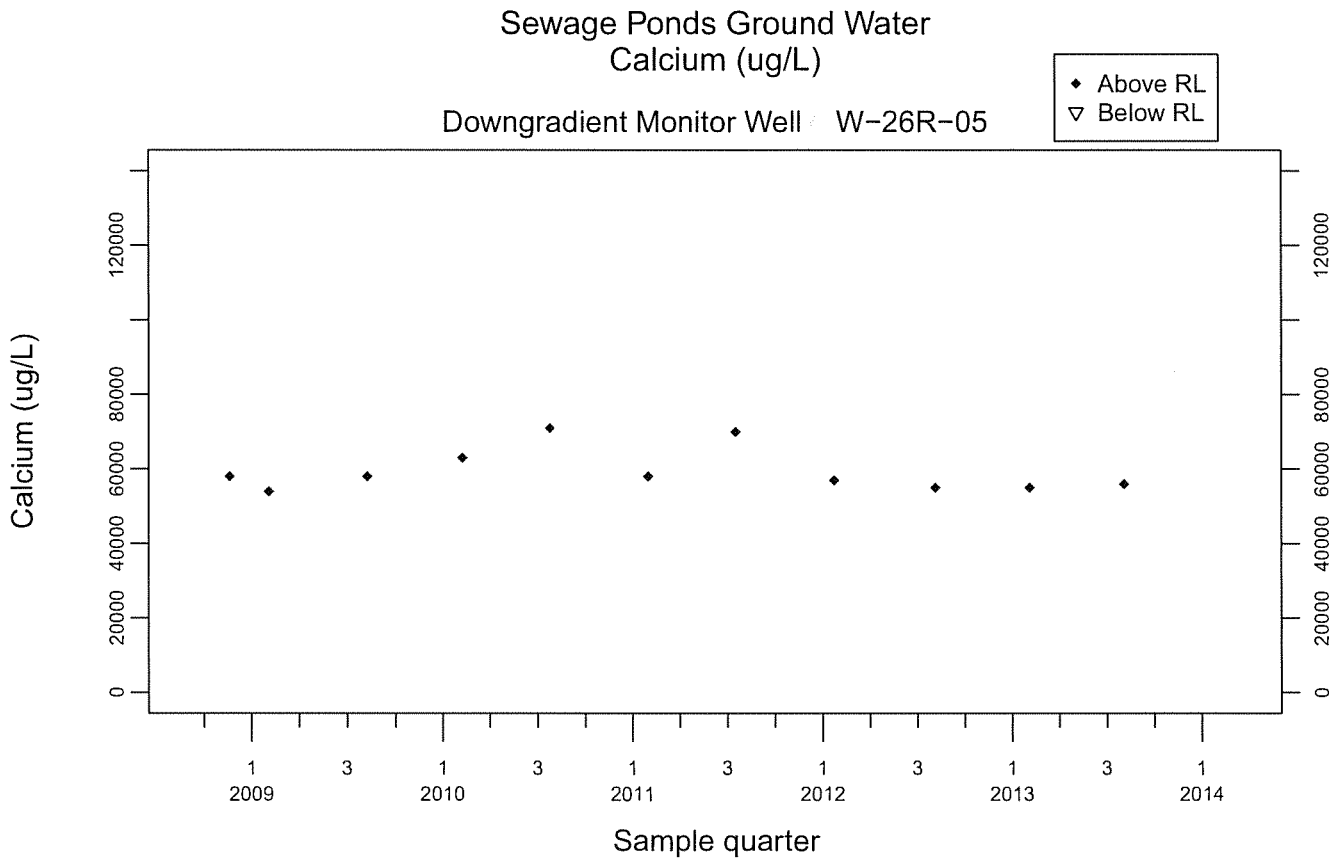

Upgradient Monitor Well W-7PS
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

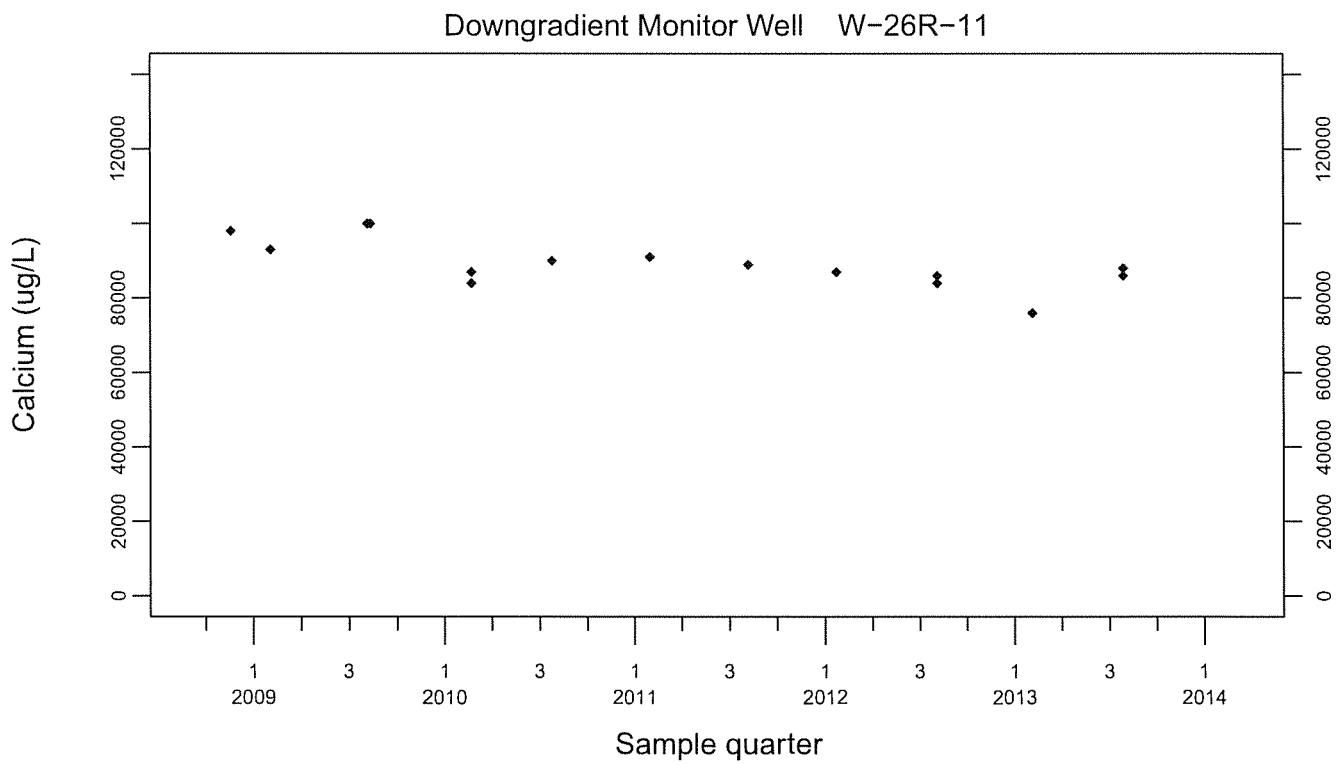

Sewage Ponds Ground Water
Calcium (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

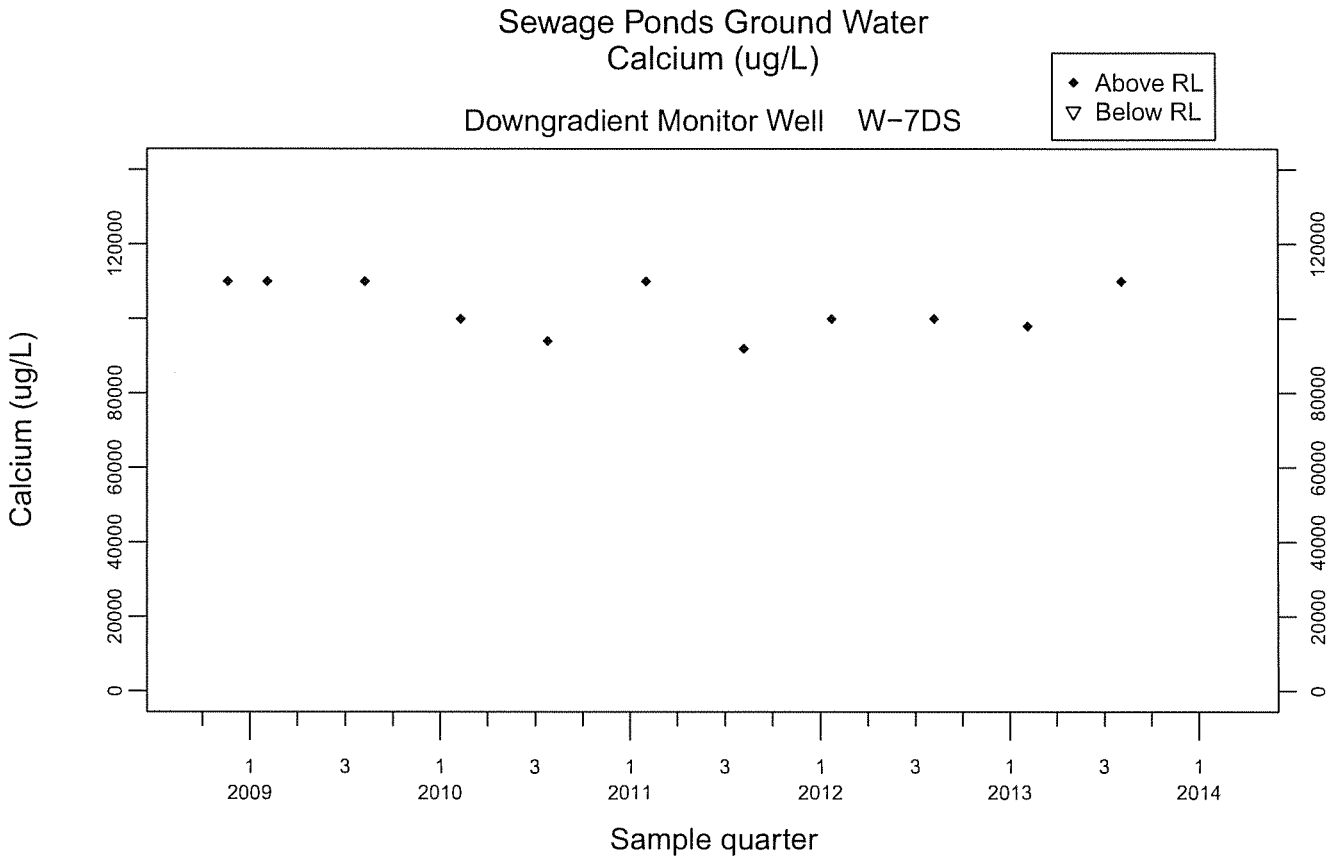

Downgradient Monitor Well W-25N-23
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

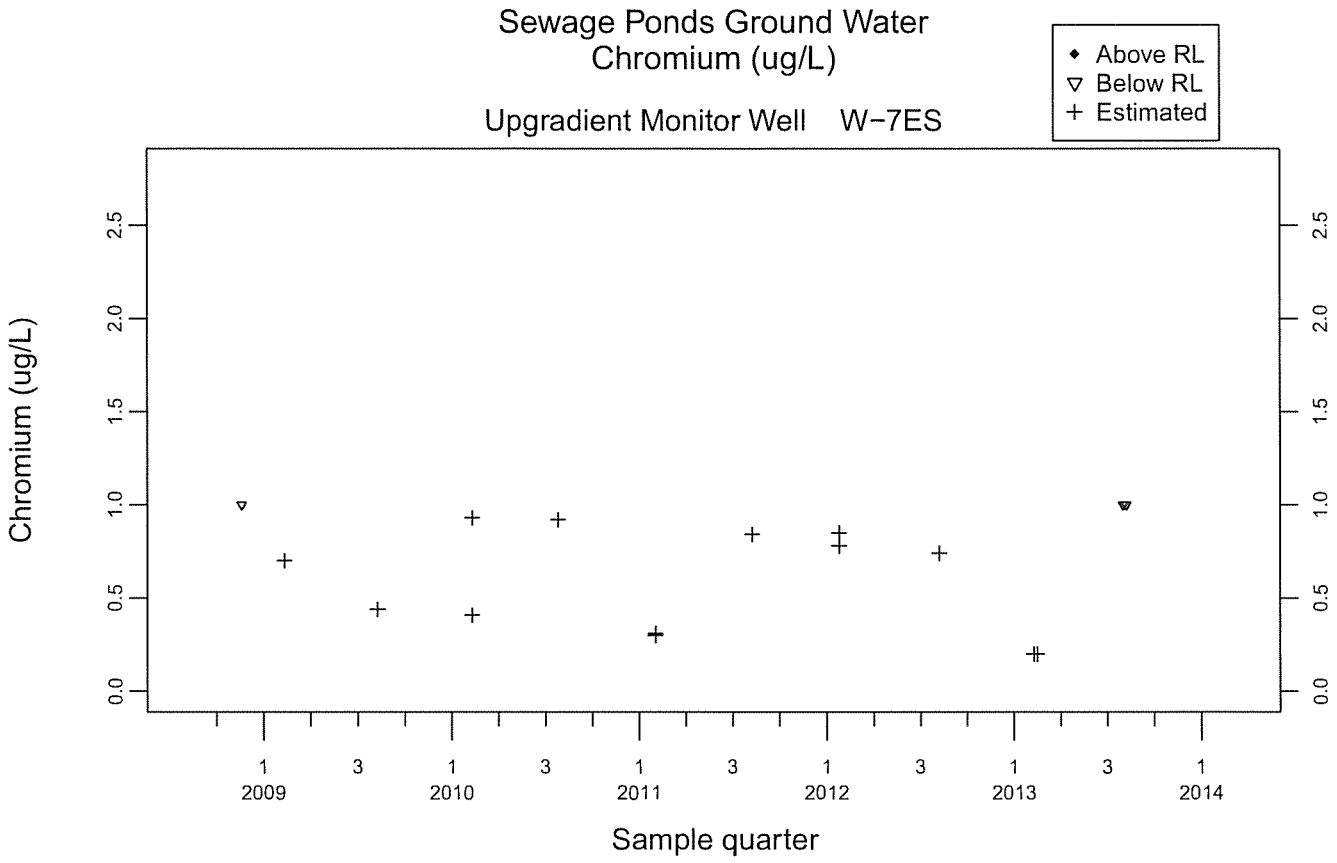

Sewage Ponds Ground Water
Calcium (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

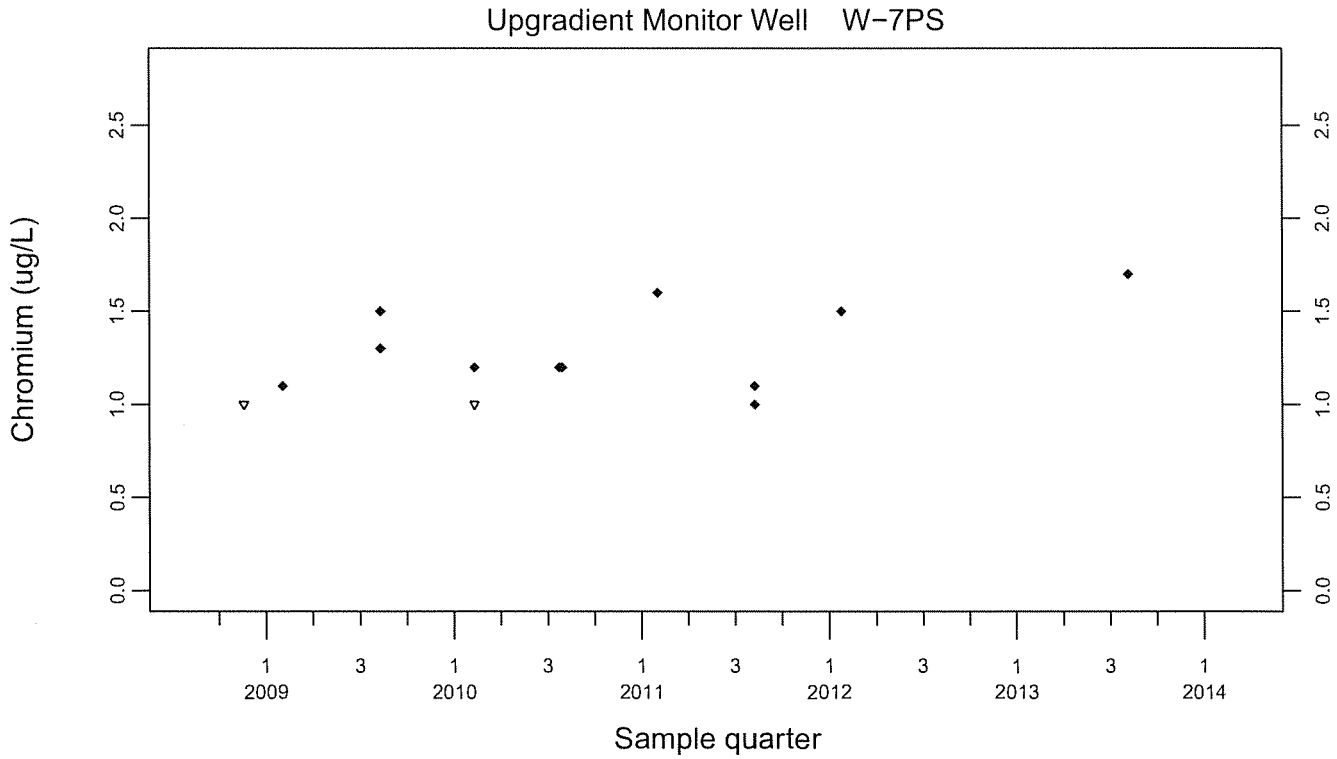

Downgradient Monitor Well W-26R-01
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

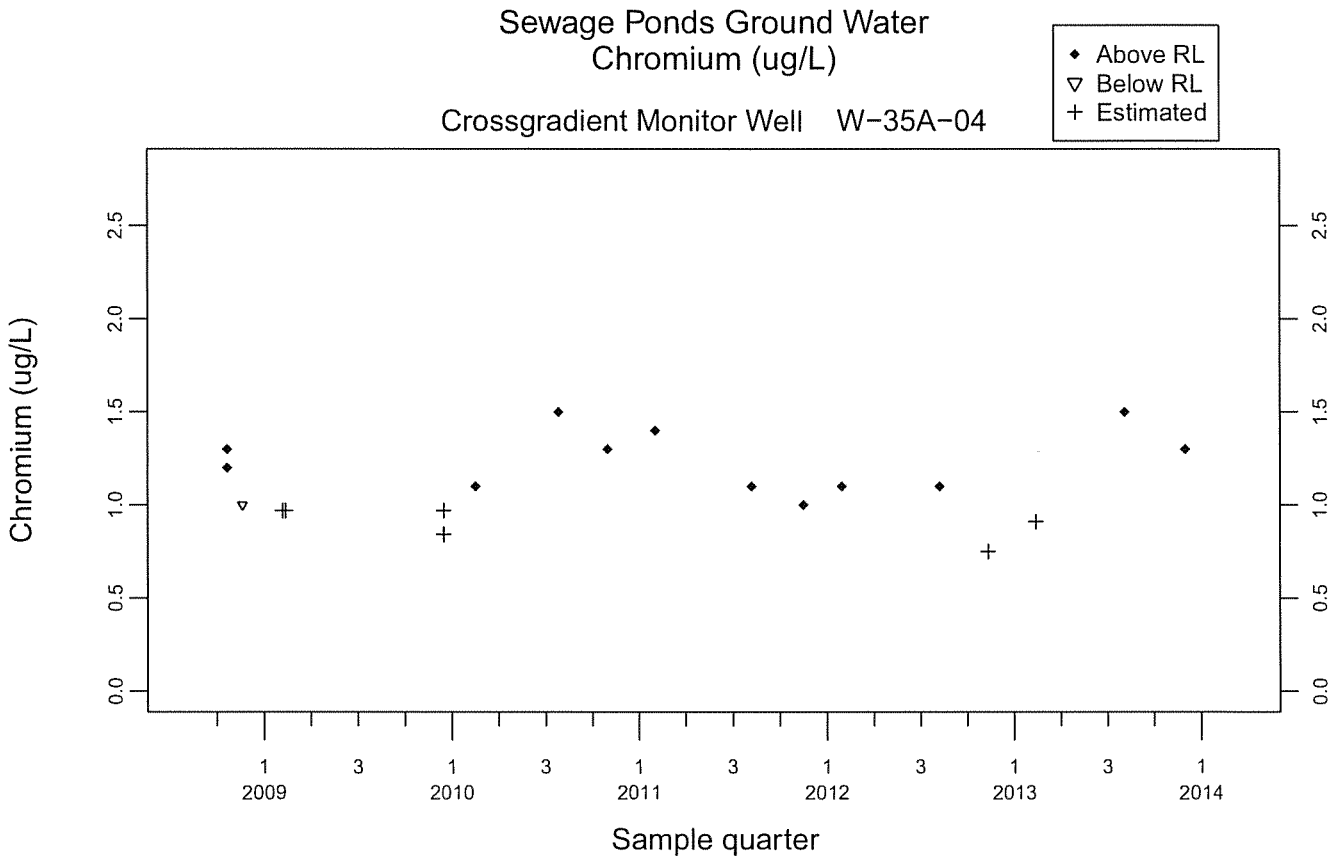

Sewage Ponds Ground Water
Calcium (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

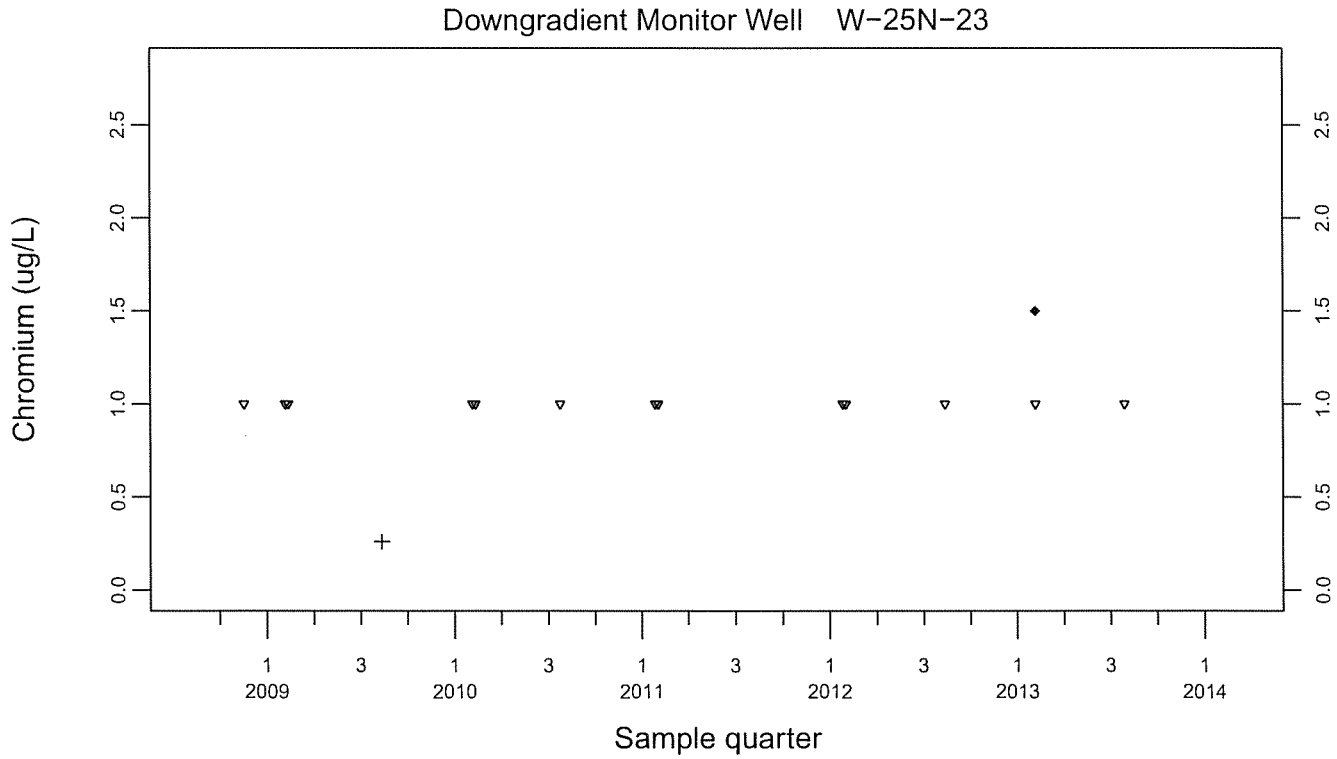

Downgradient Monitor Well W-26R-11
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

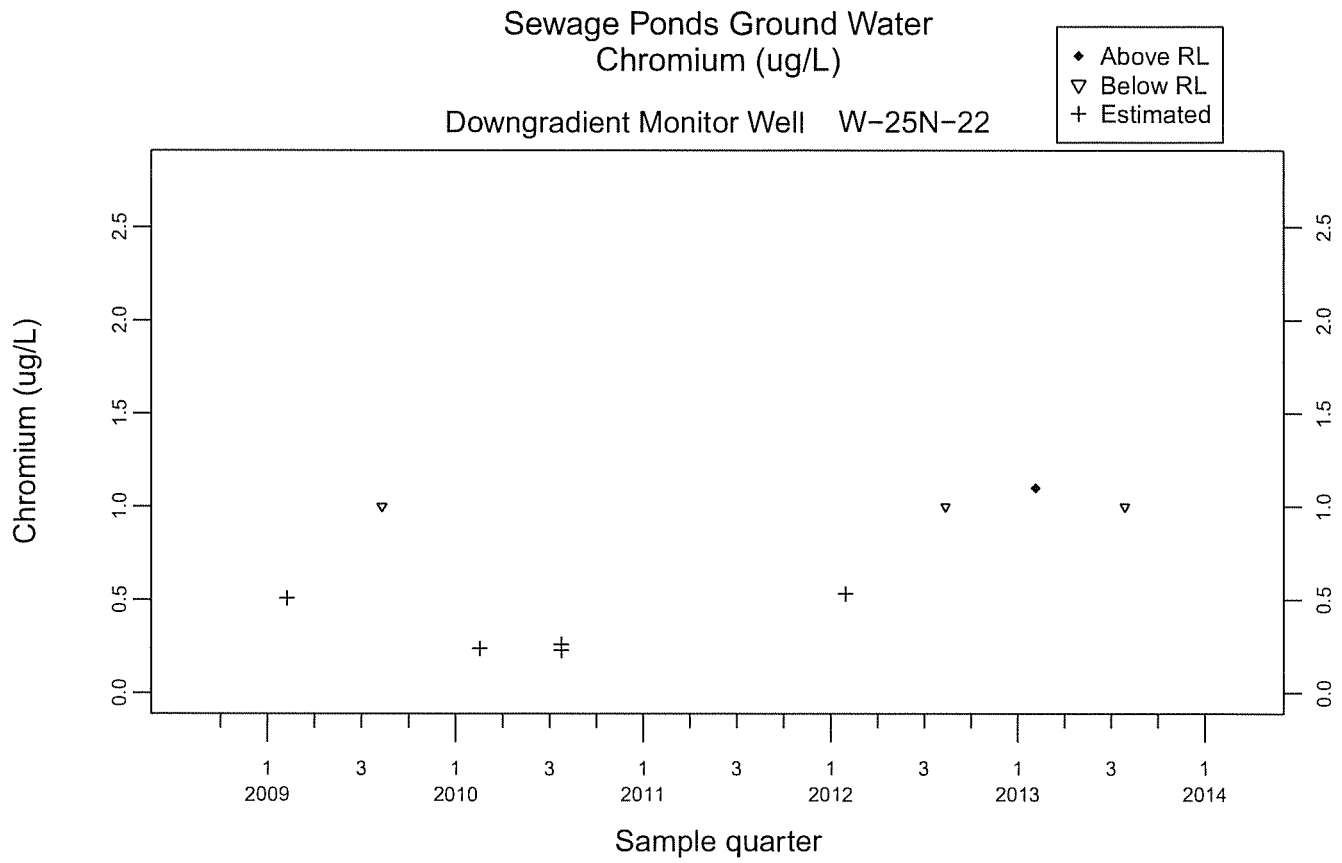

Sewage Ponds Ground Water
Calcium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Calcium (ug/L)
0
20000
40000
60000
80000
120000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

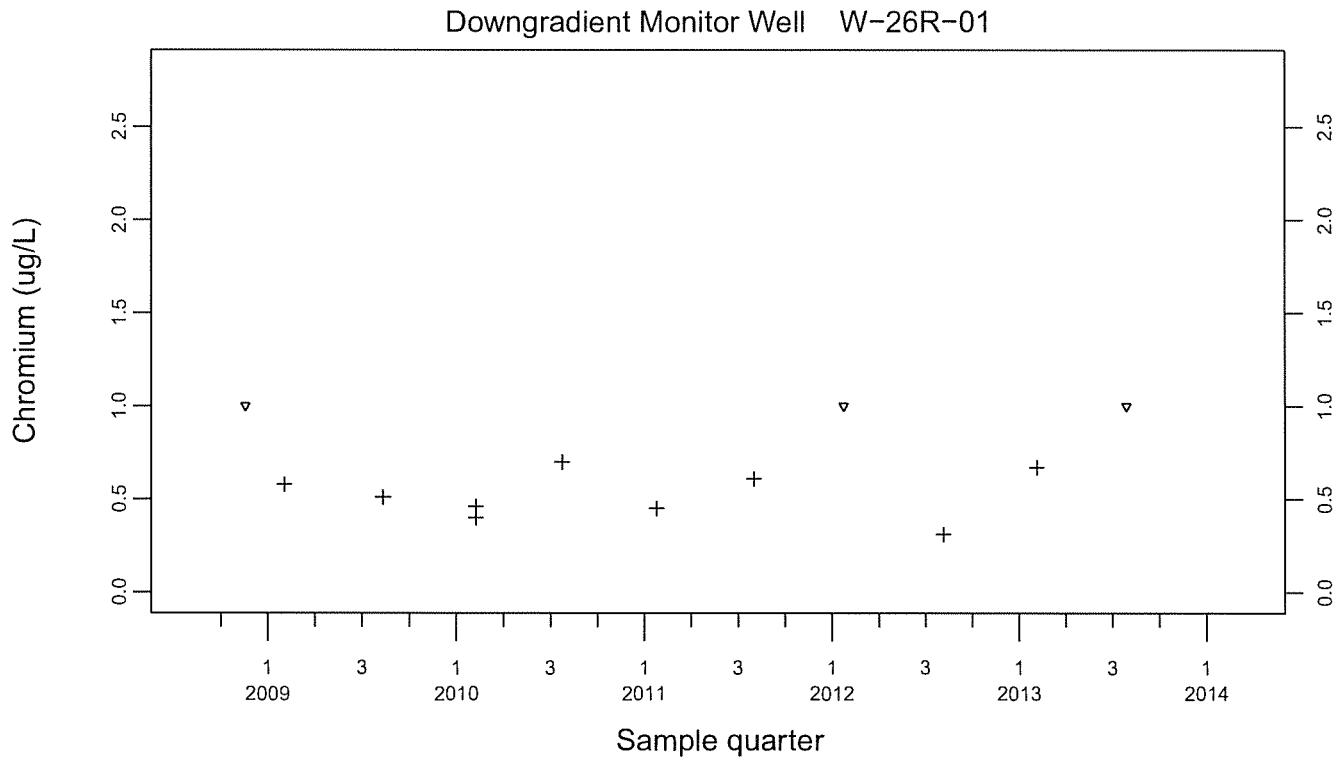

Sewage Ponds Ground Water
Chromium (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Estimated
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

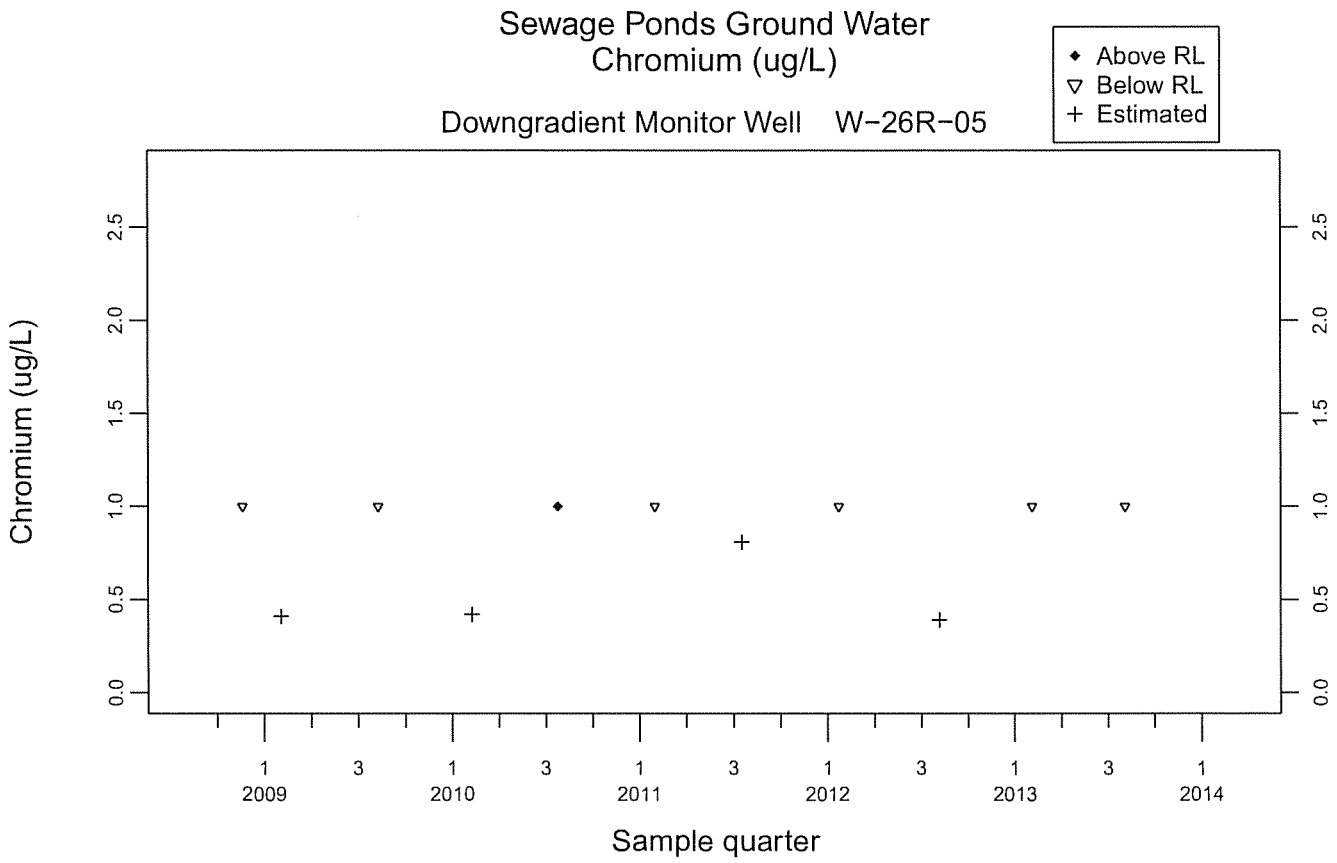

Upgradient Monitor Well W-7PS
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

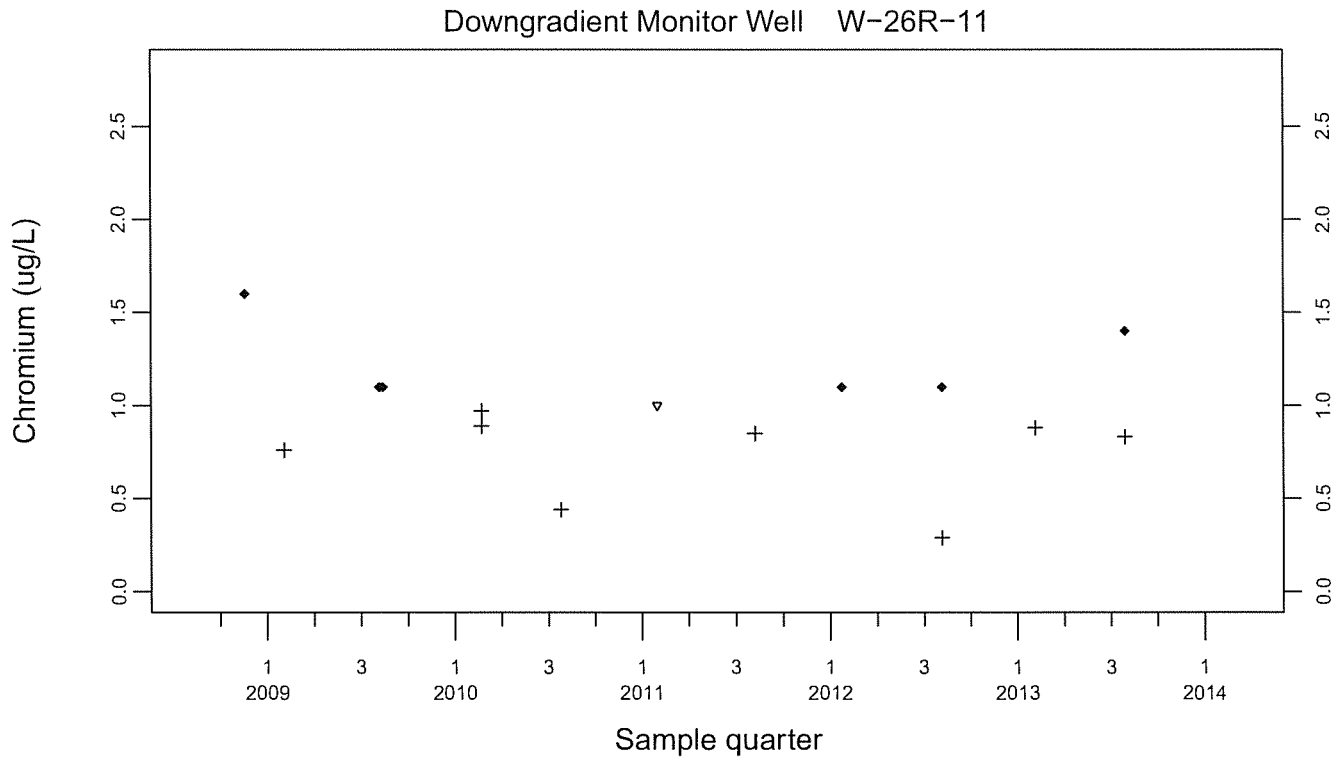

Sewage Ponds Ground Water
Chromium (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Estimated
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

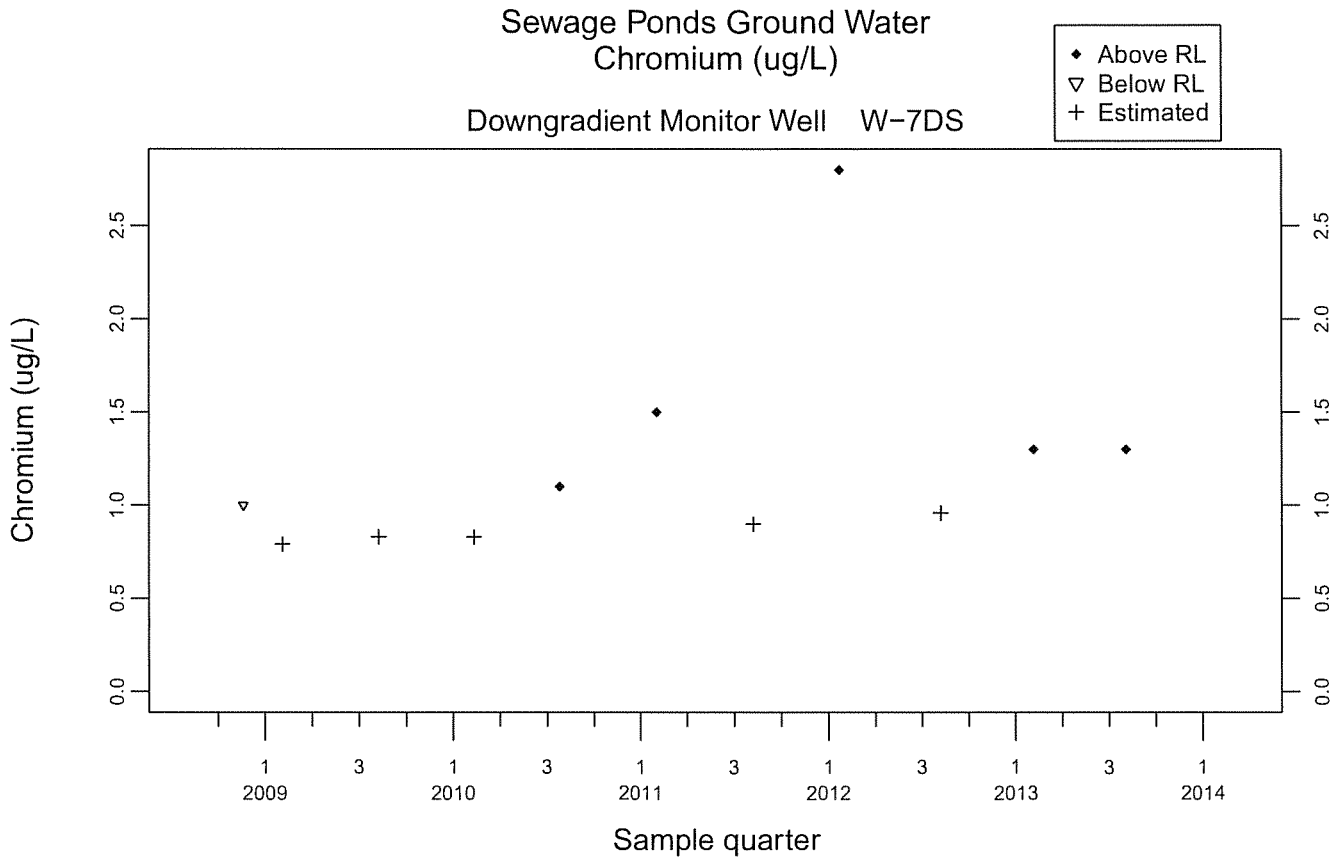

Downgradient Monitor Well W-25N-23
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

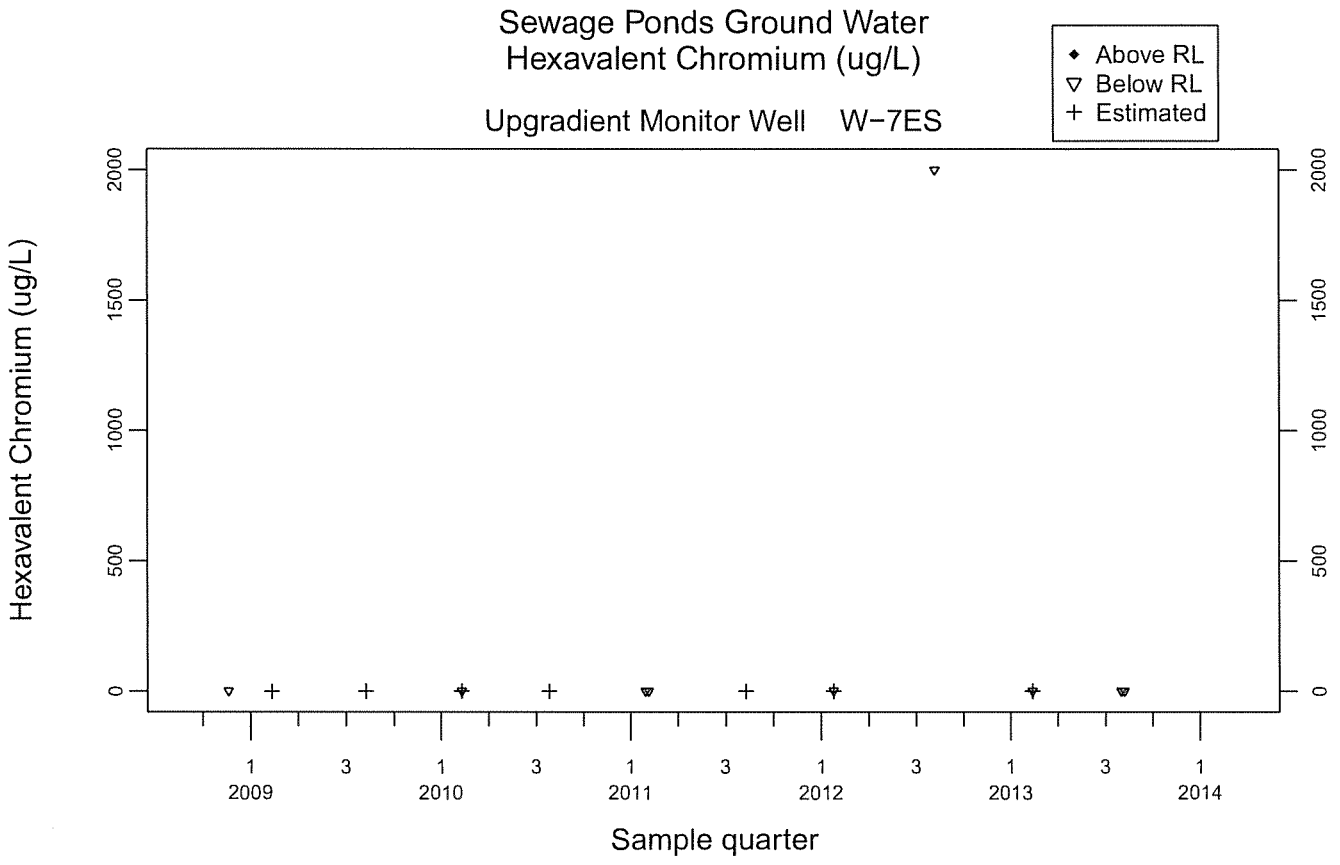

Sewage Ponds Ground Water
Chromium (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-25N-22
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

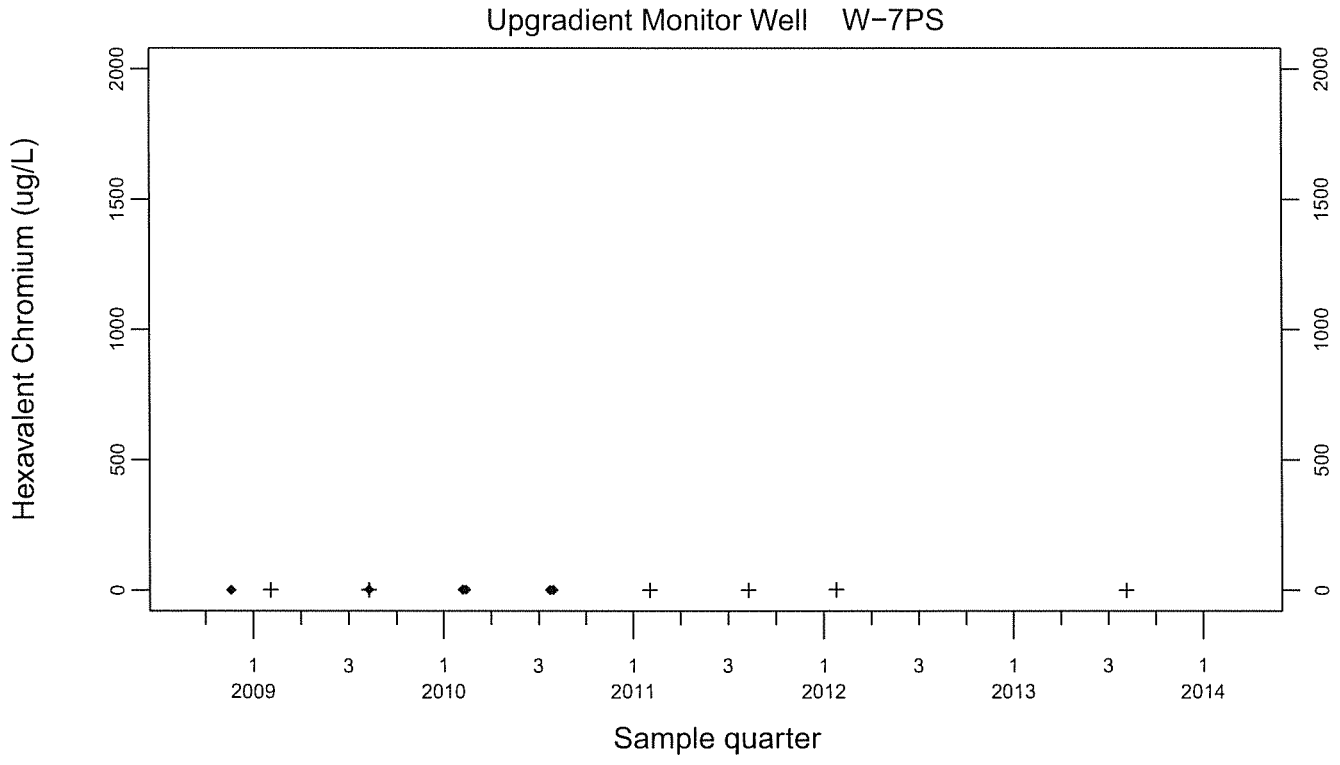

Downgradient Monitor Well W-26R-01
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

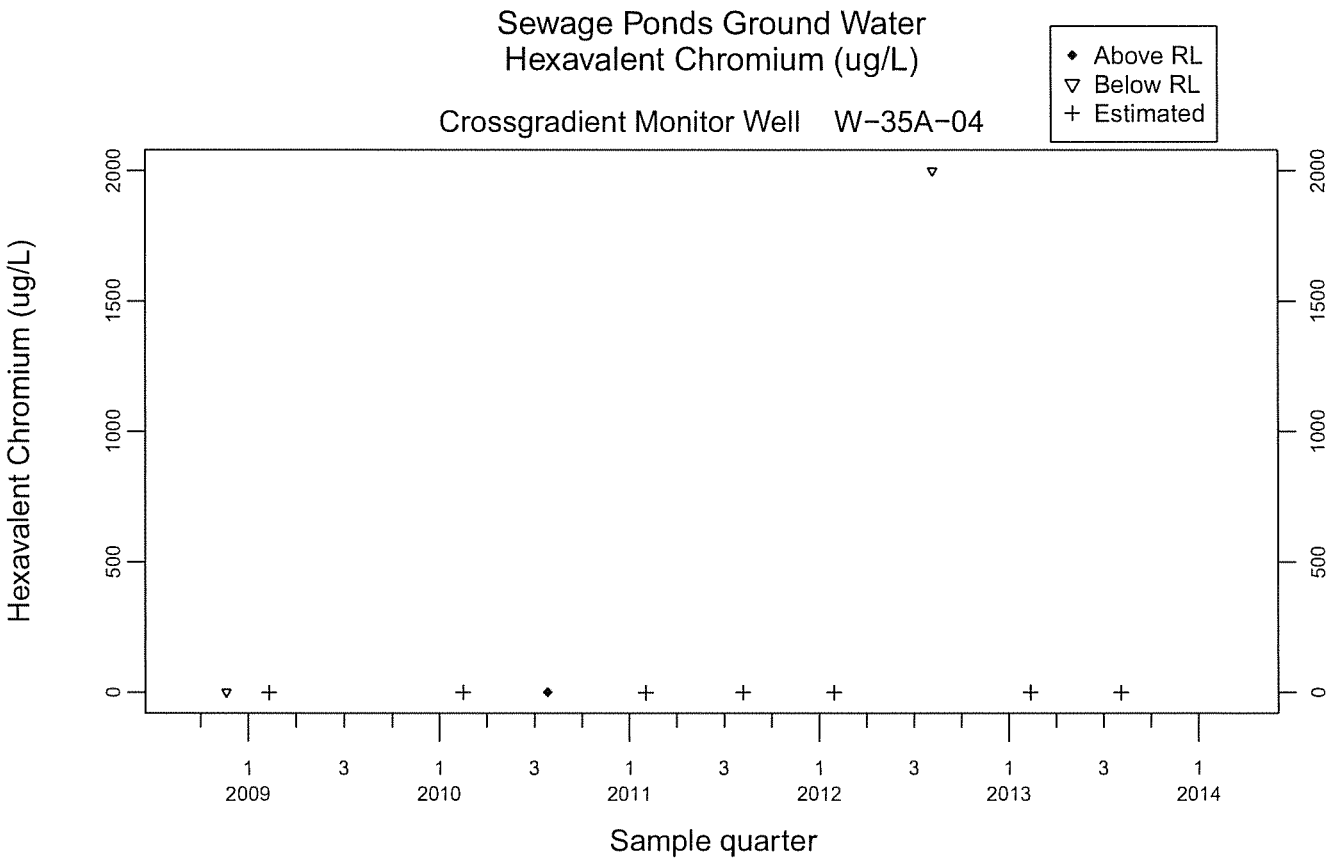

Sewage Ponds Ground Water
Chromium (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Estimated
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

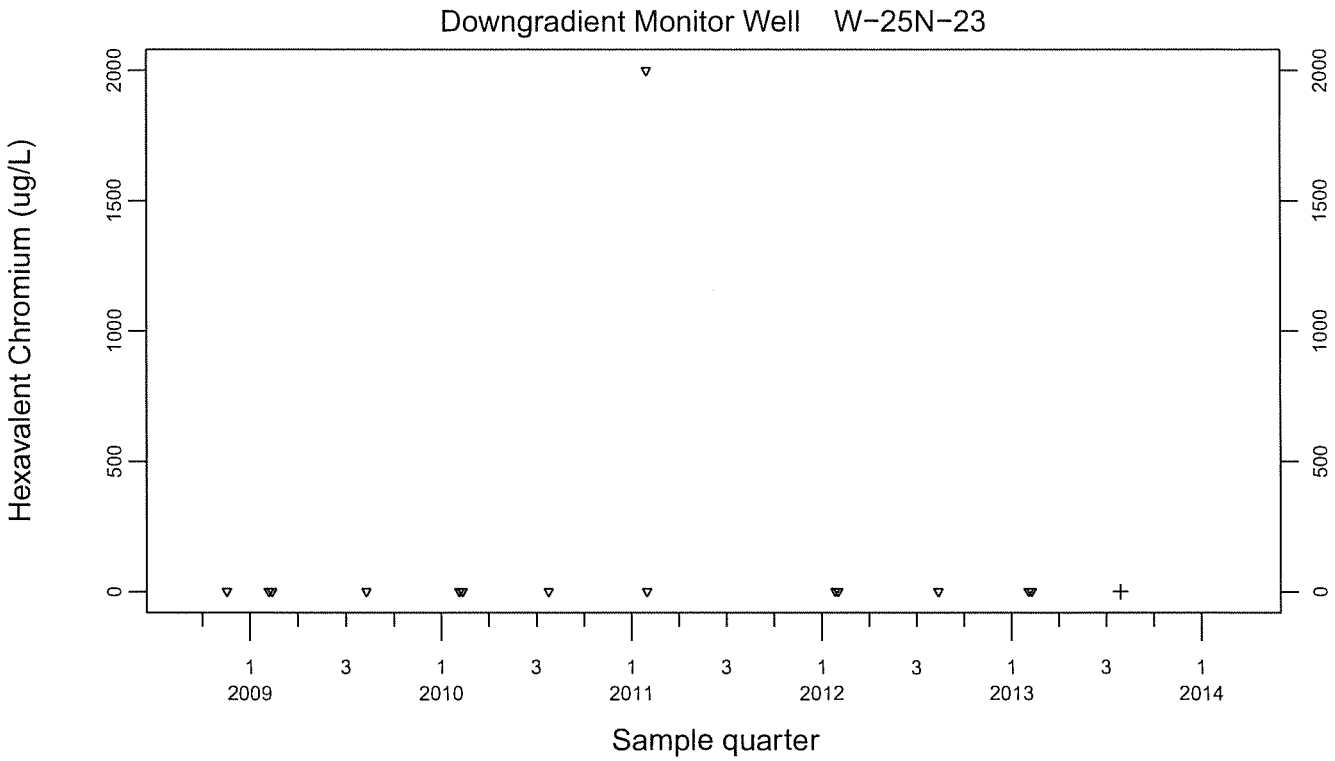

Downgradient Monitor Well W-26R-11
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

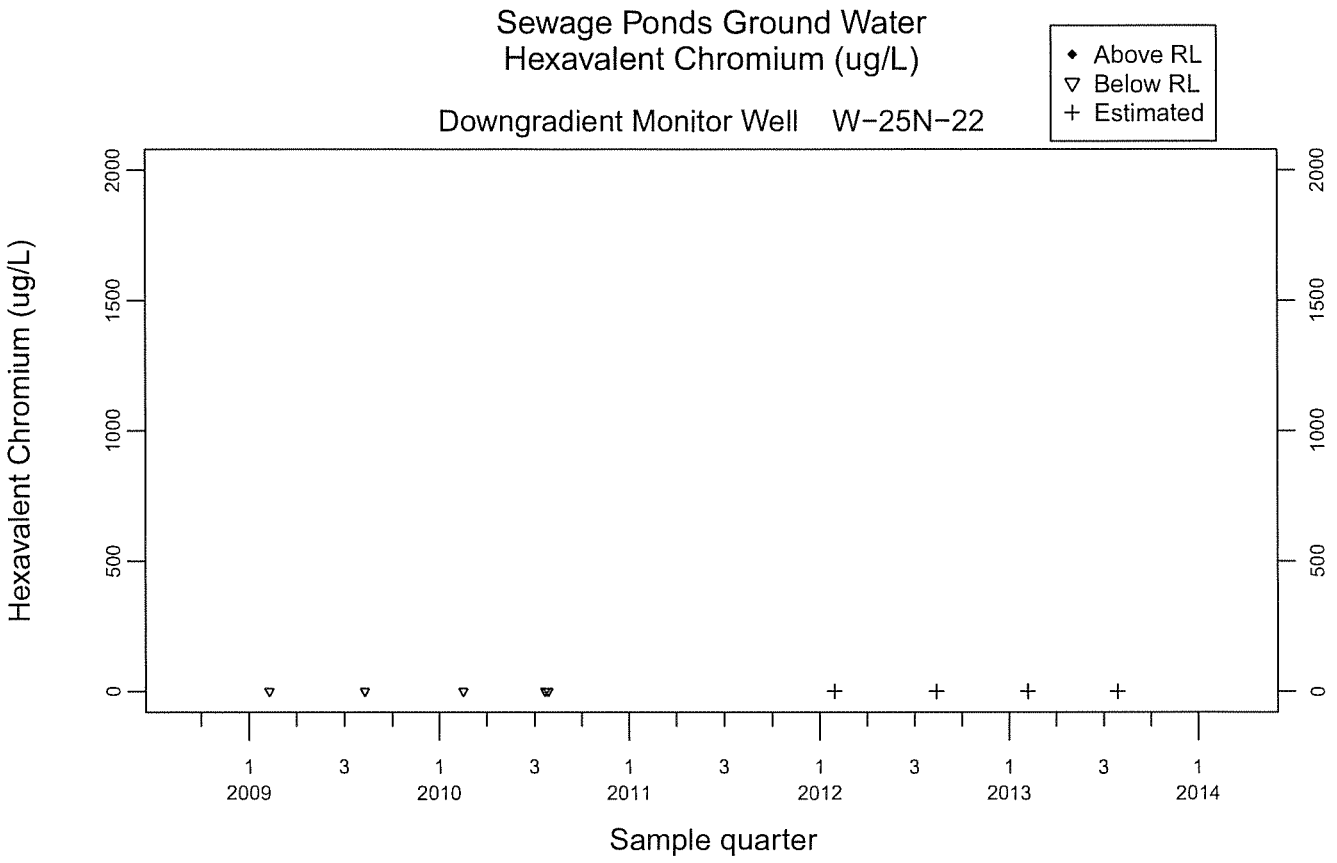

Sewage Ponds Ground Water
Chromium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Chromium (ug/L)
0.0
0.5
1.0
1.5
2.0
2.5
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

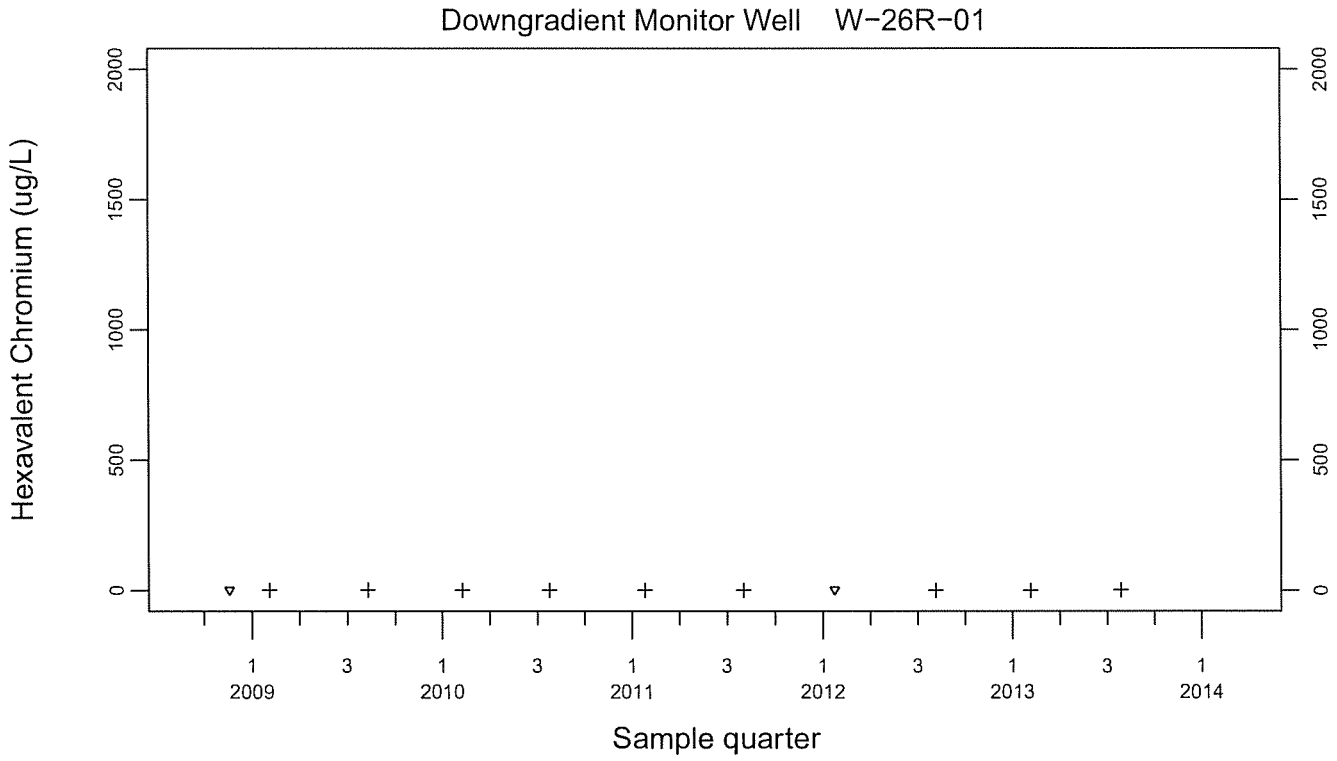

Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Estimated
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

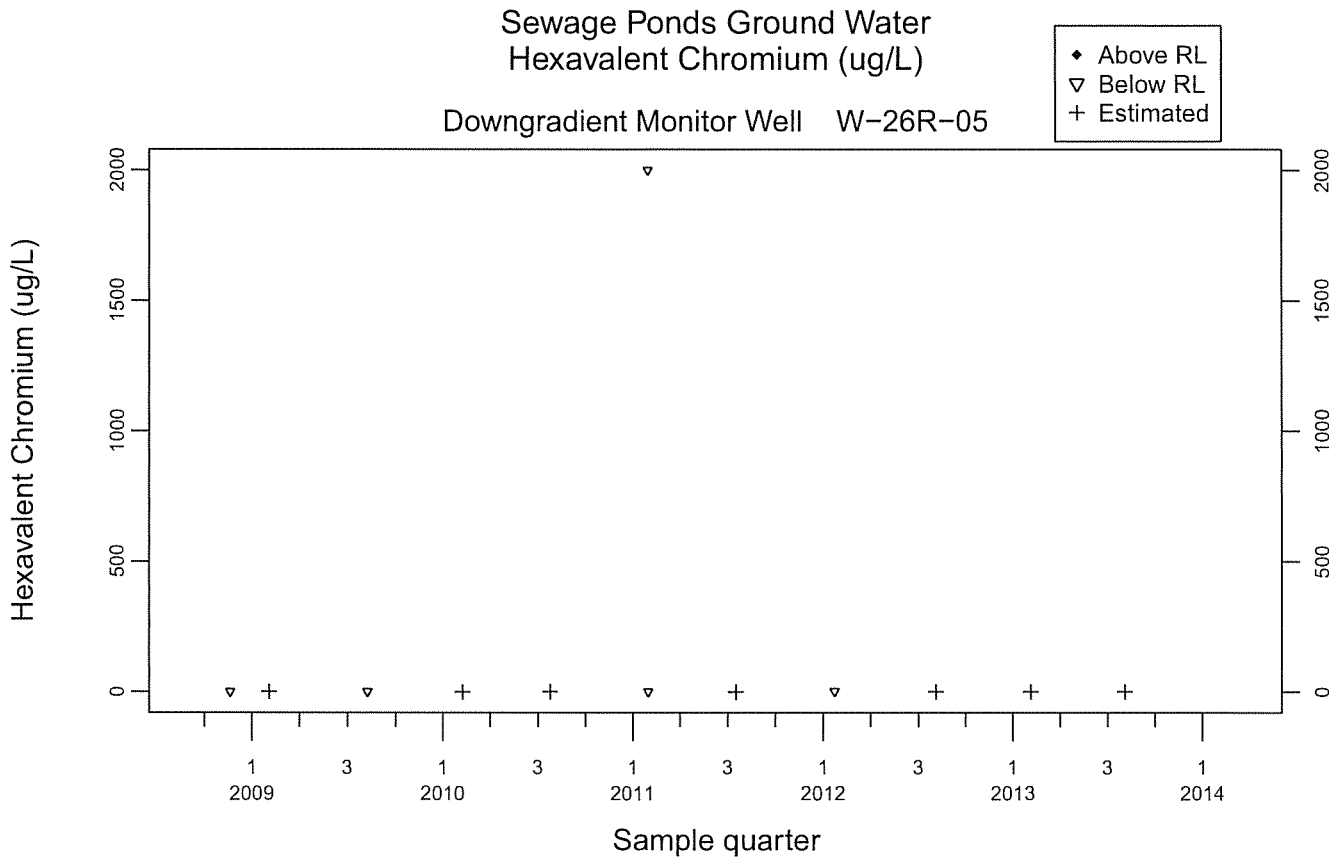

Upgradient Monitor Well W-7PS
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

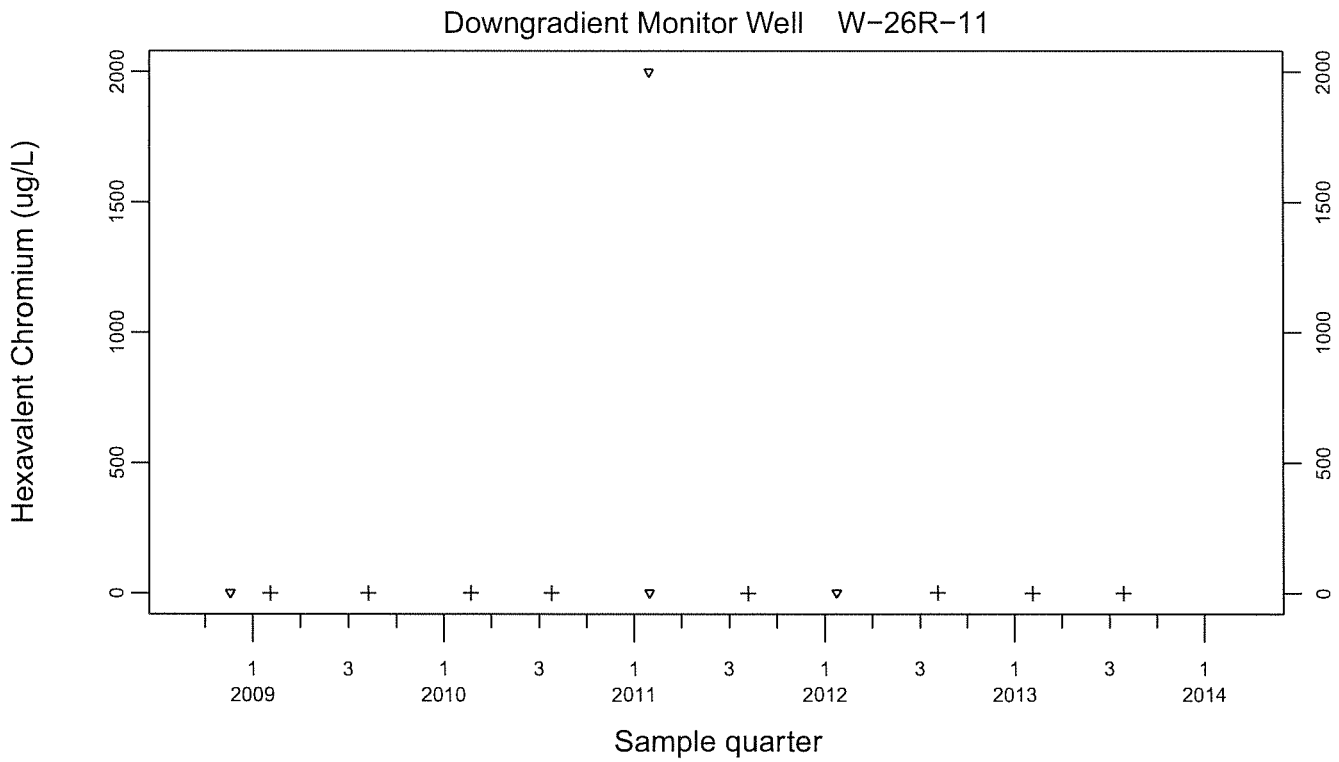

Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Estimated
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

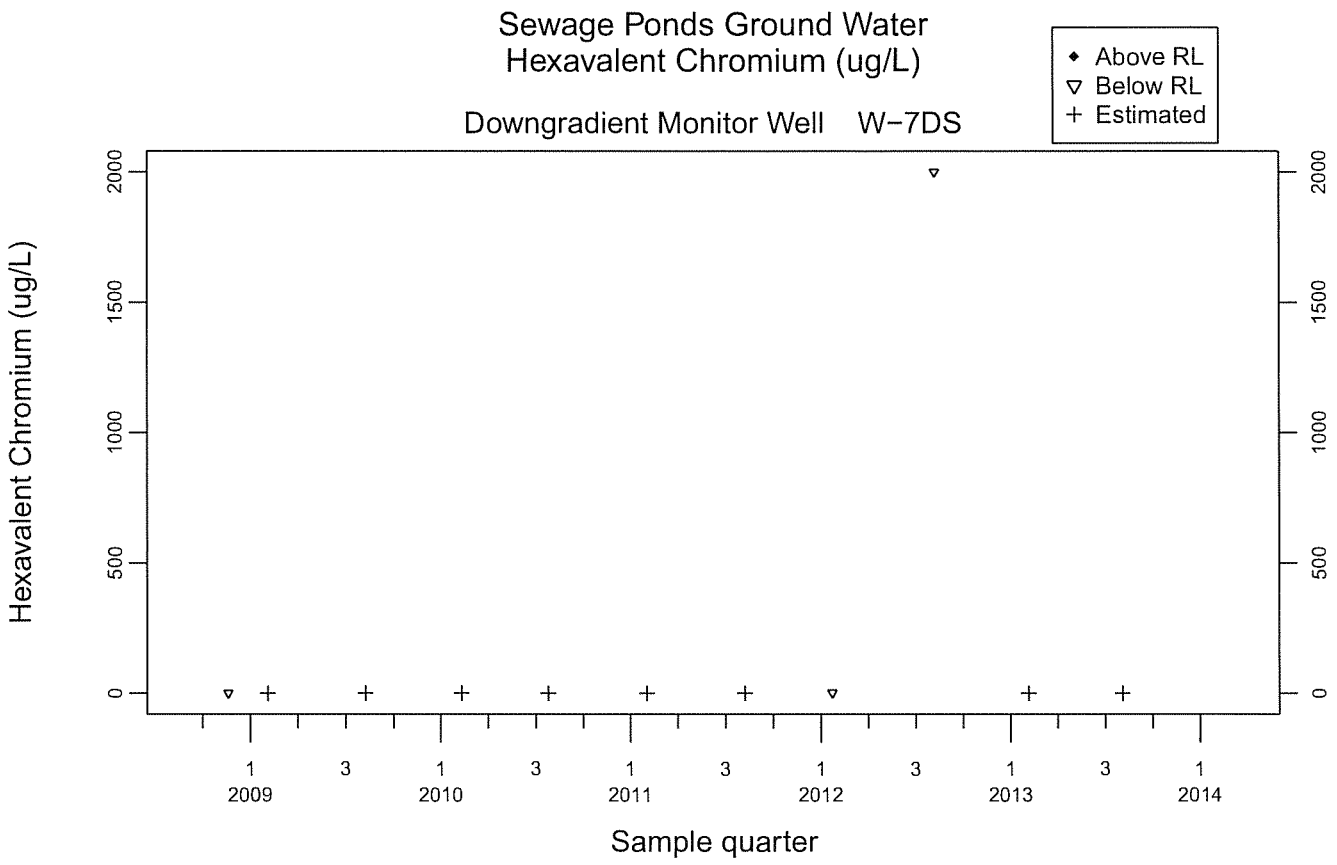

Downgradient Monitor Well W-25N-23
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

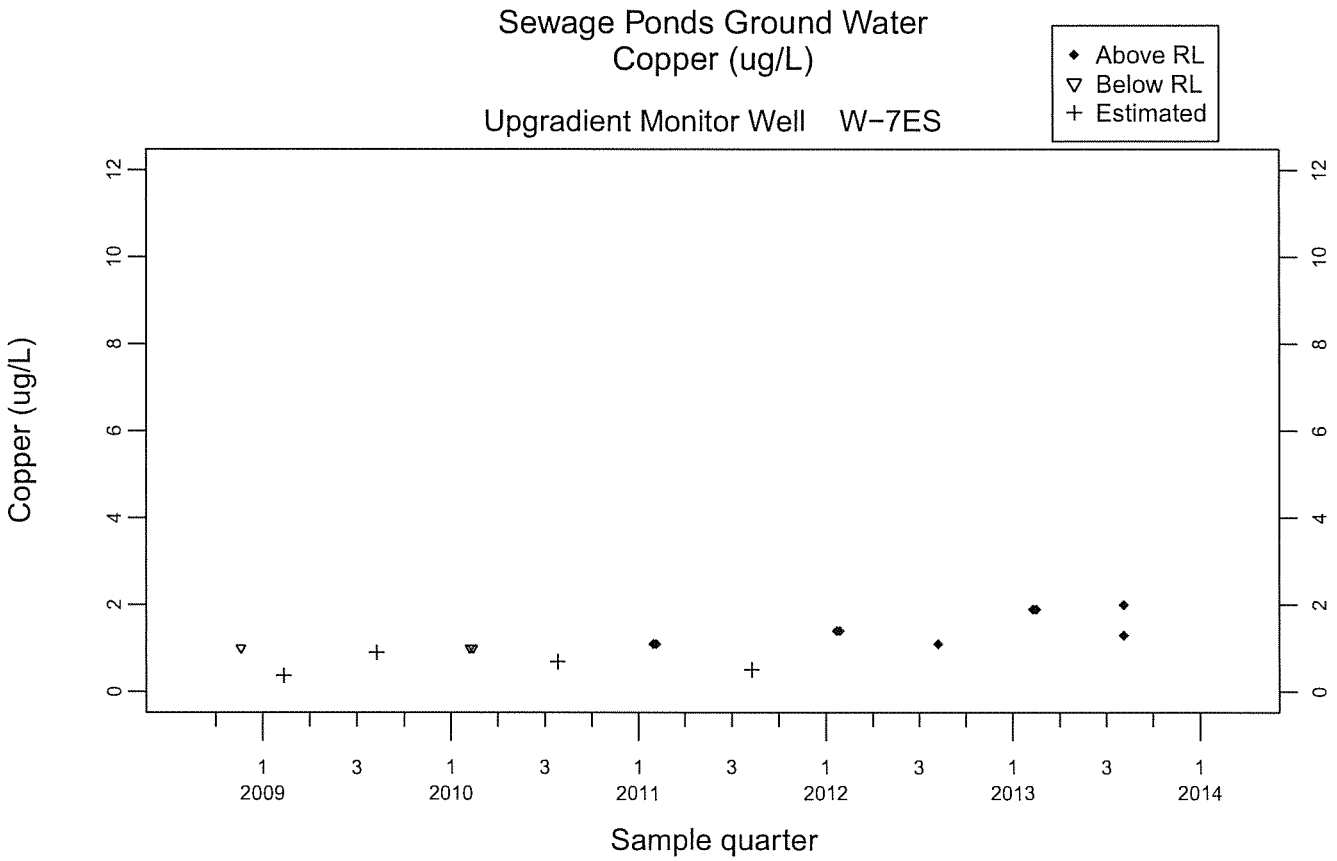

Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-25N-22
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

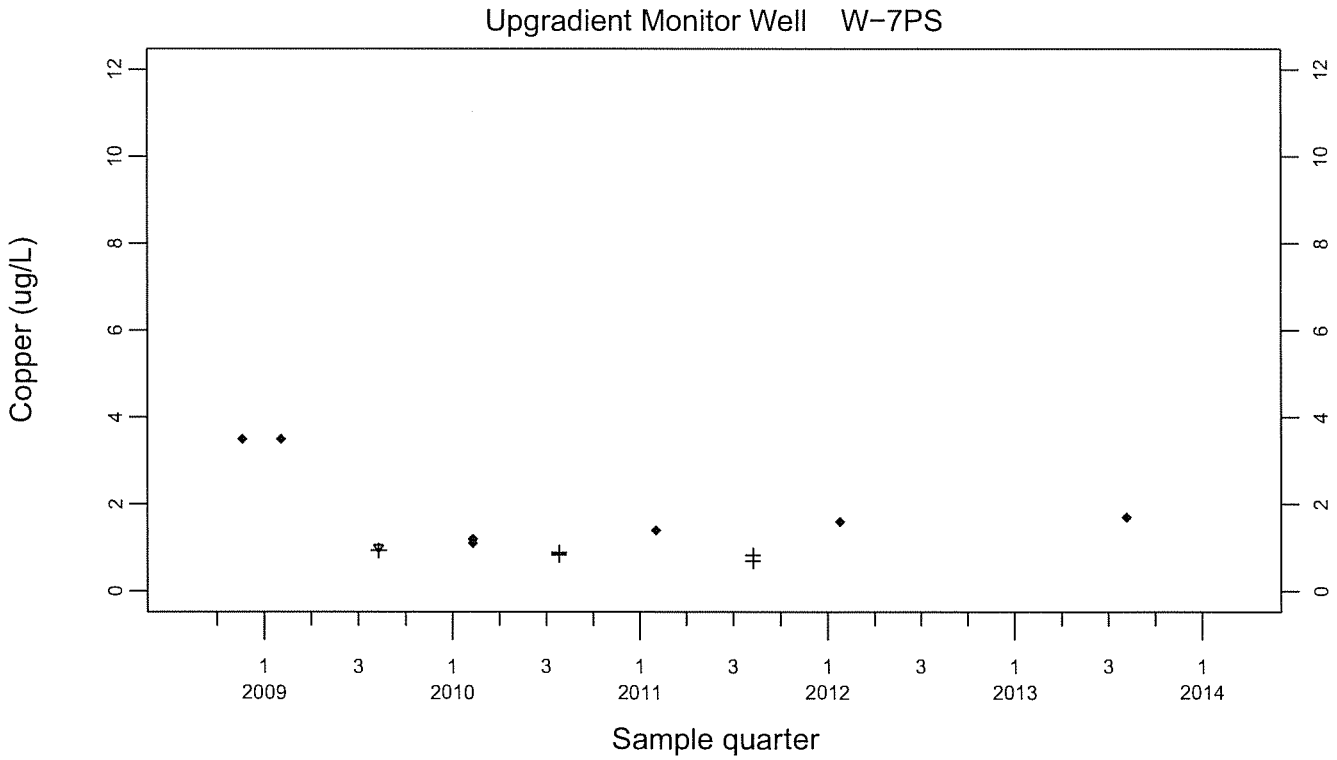

Downgradient Monitor Well W-26R-01
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

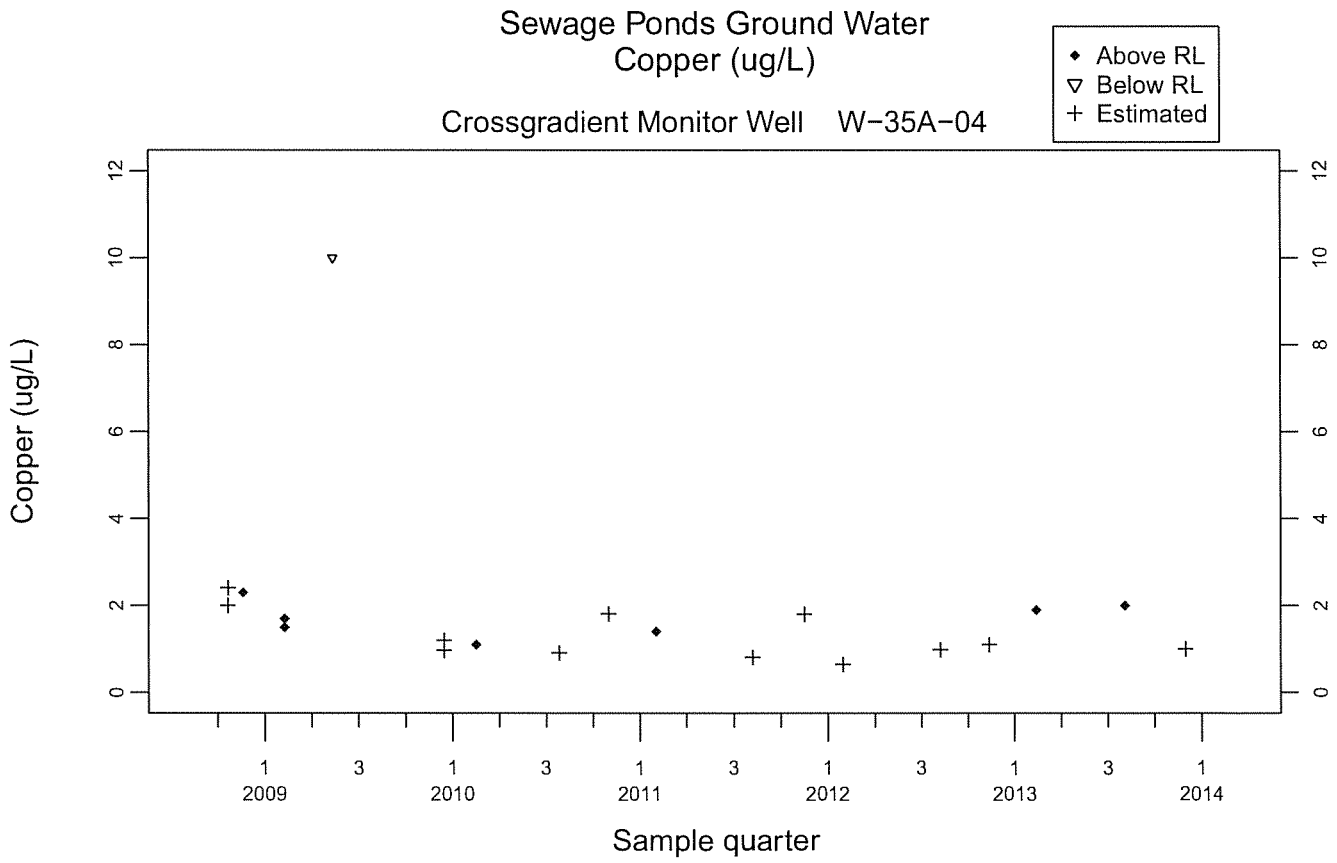

Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-26R-05
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

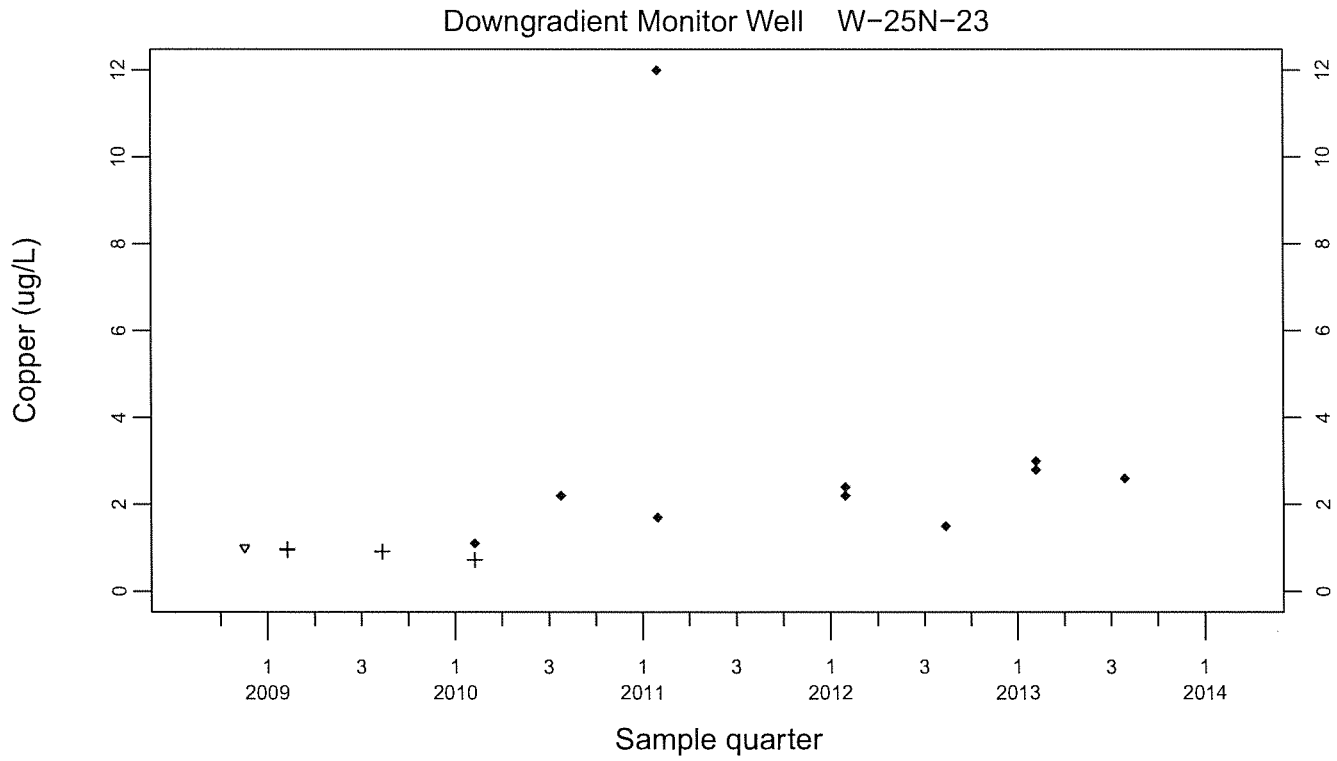

Downgradient Monitor Well W-26R-11
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

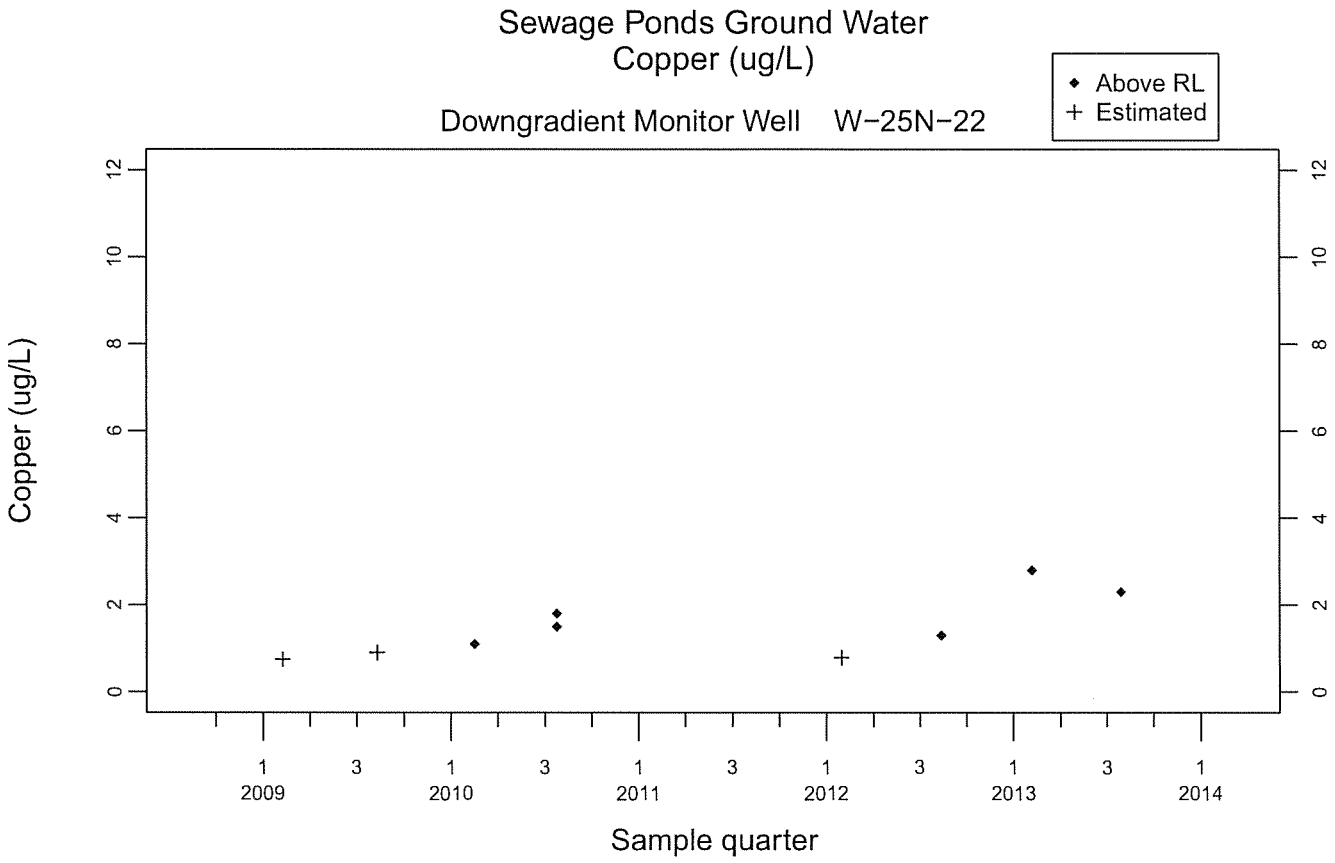

Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Hexavalent Chromium (ug/L)
0
500
1000
1500
2000
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

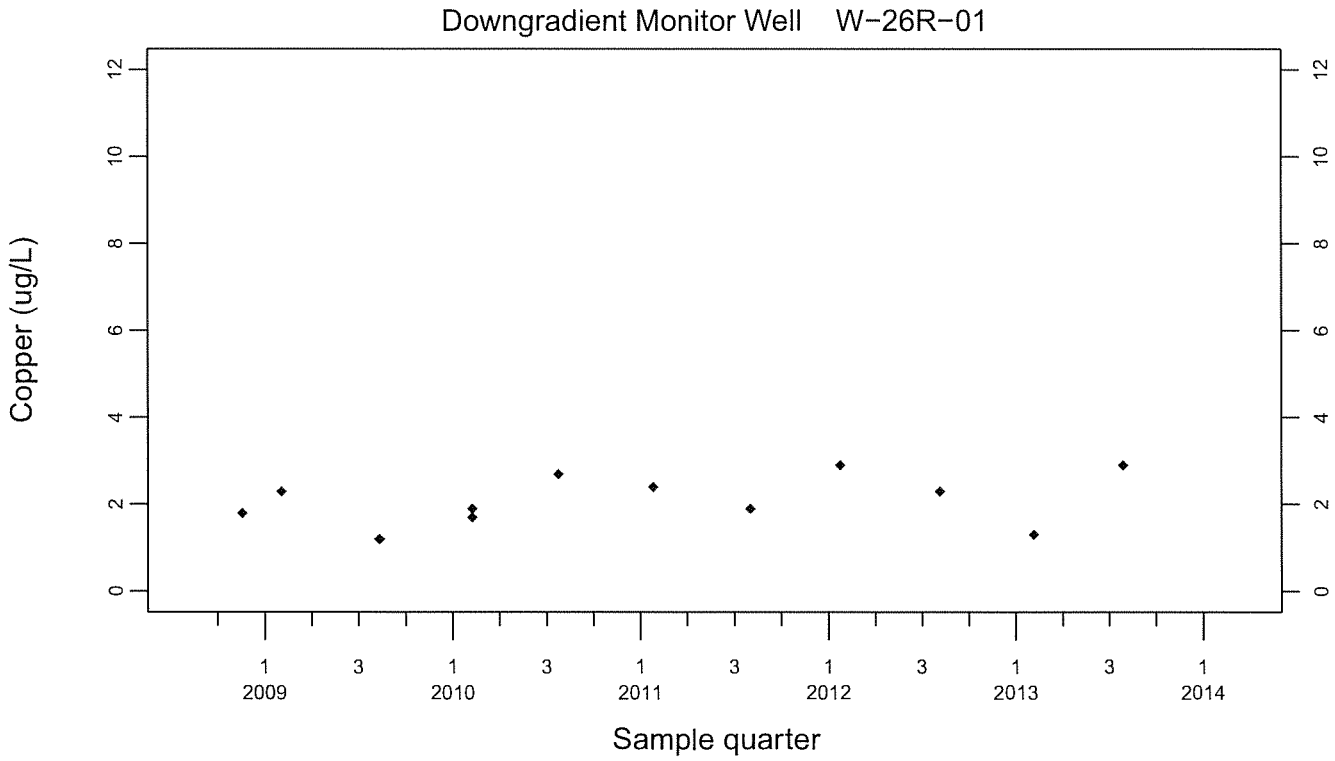

Sewage Ponds Ground Water
Copper (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Estimated
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

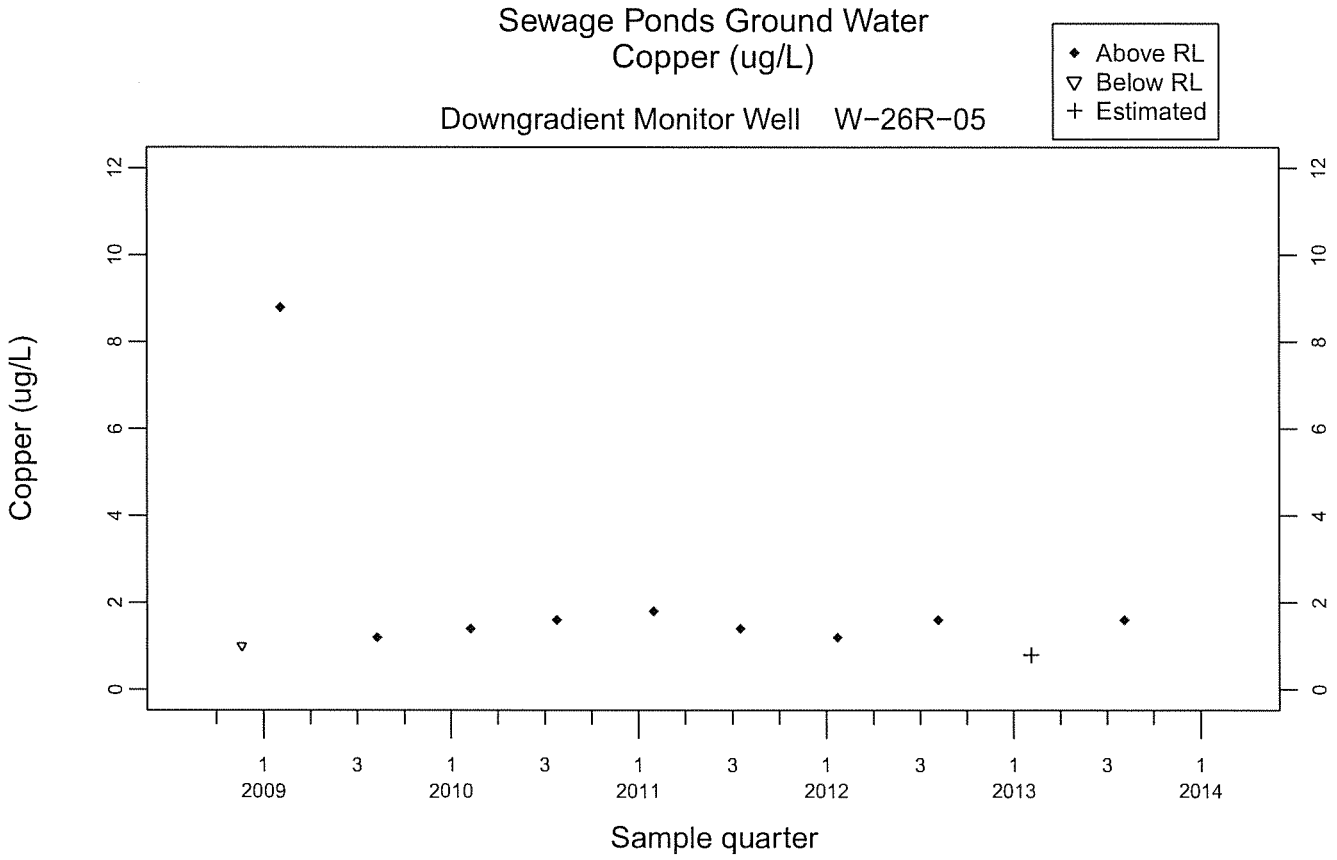

Upgradient Monitor Well W-7PS
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

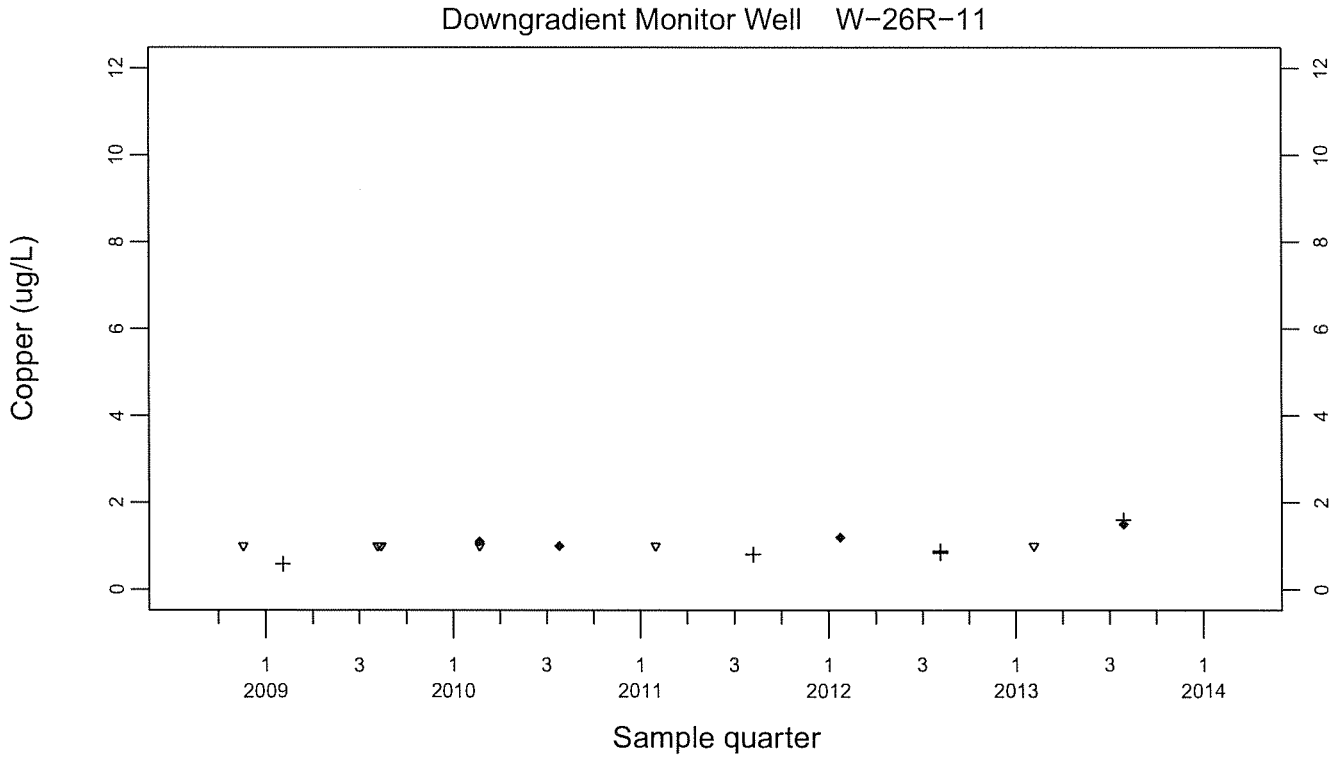

Sewage Ponds Ground Water
Copper (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

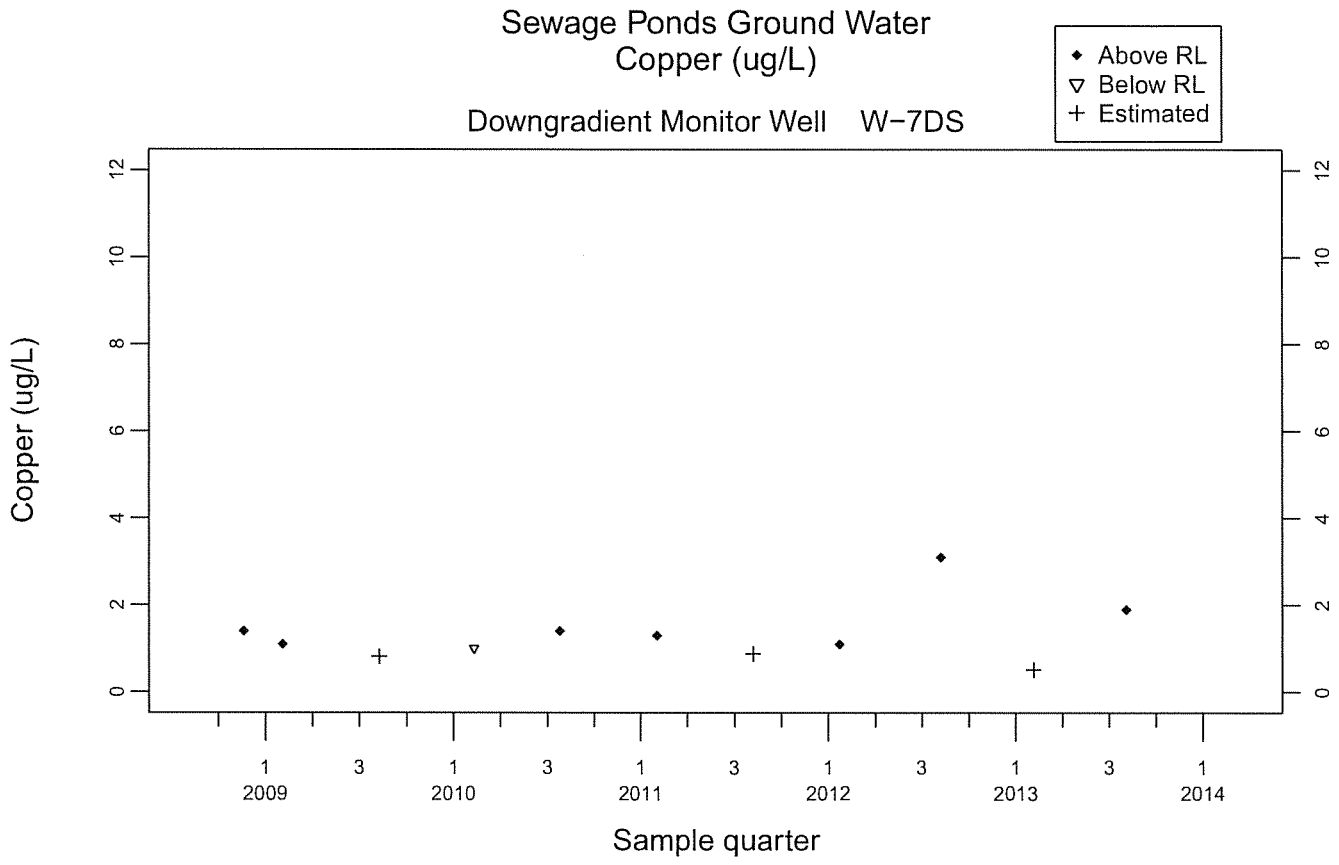

Downgradient Monitor Well W-25N-23
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

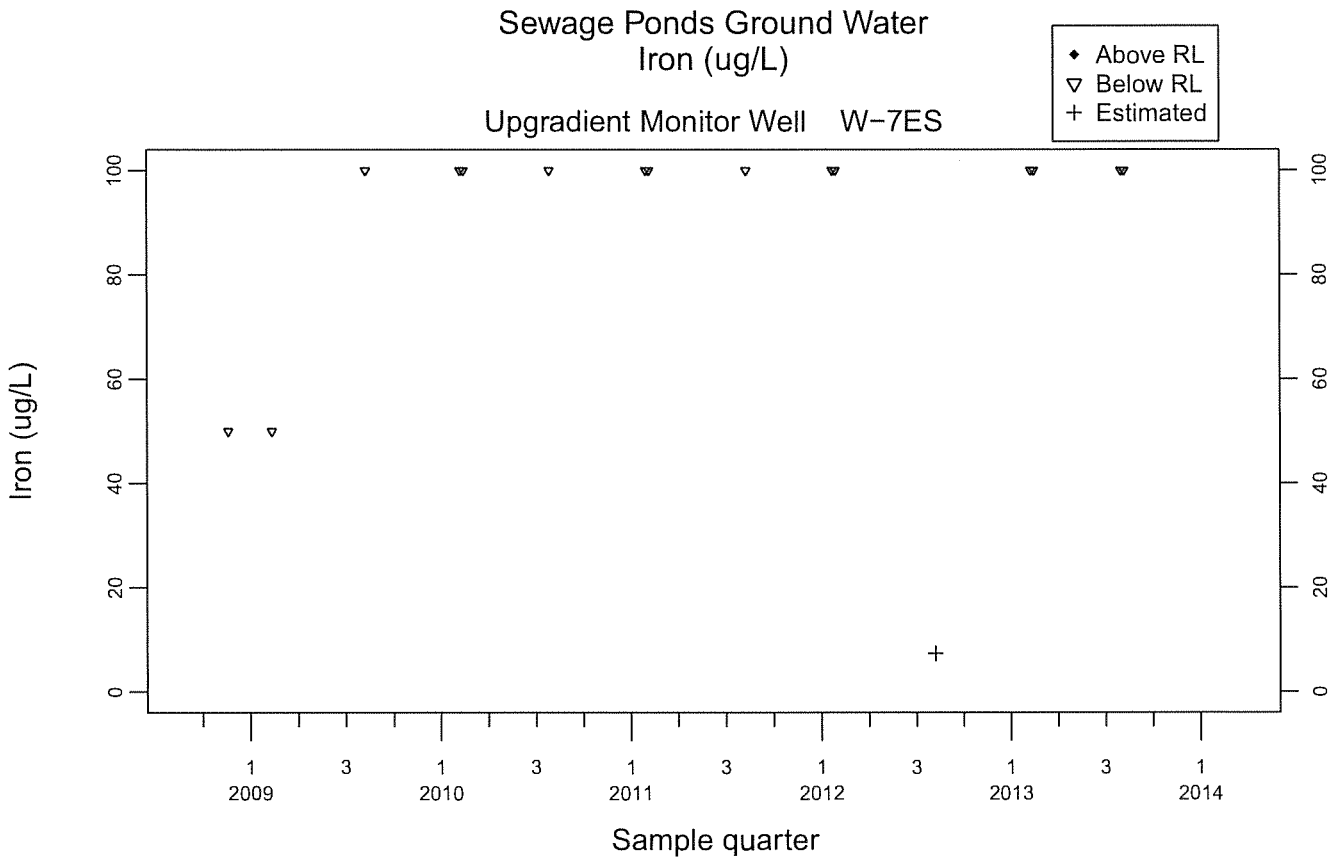

Sewage Ponds Ground Water
Copper (ug/L)
Downgradient Monitor Well W-25N-22
Above RL
Estimated
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

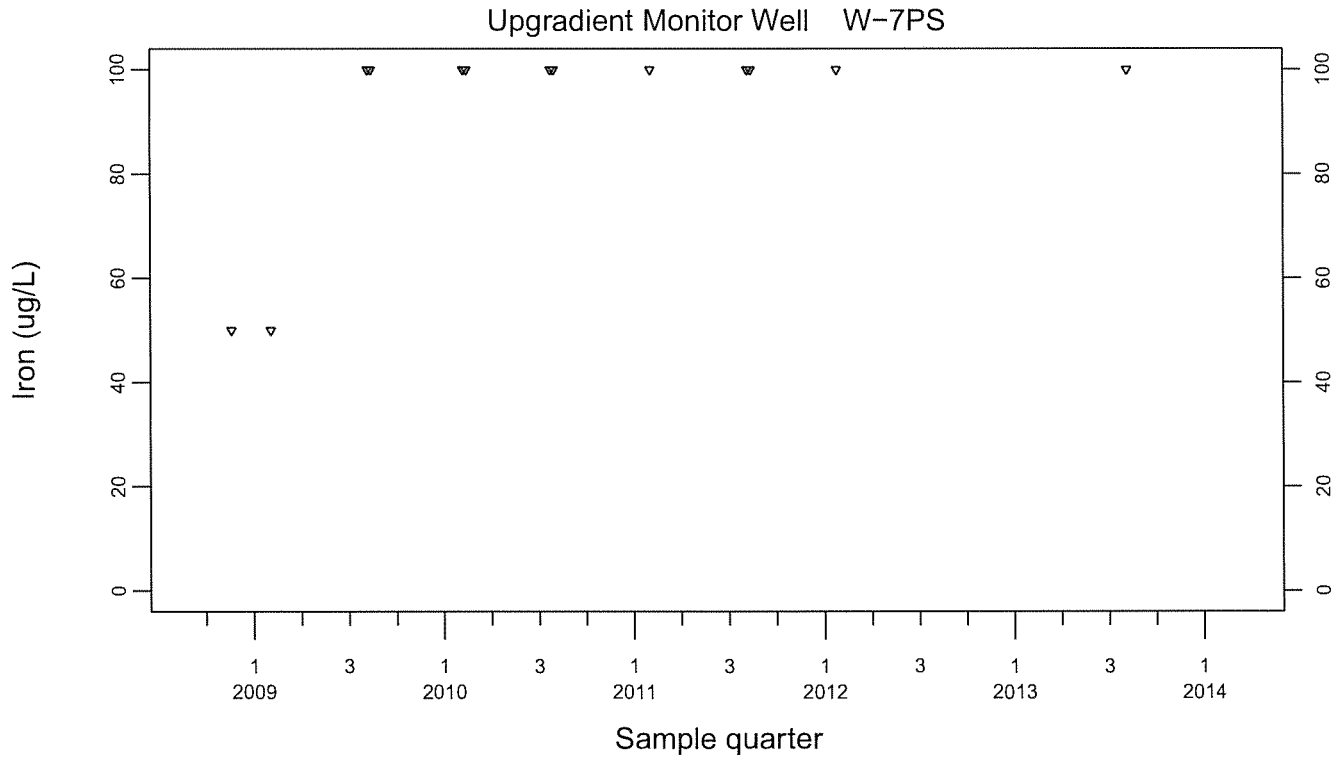

Downgradient Monitor Well W-26R-01
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

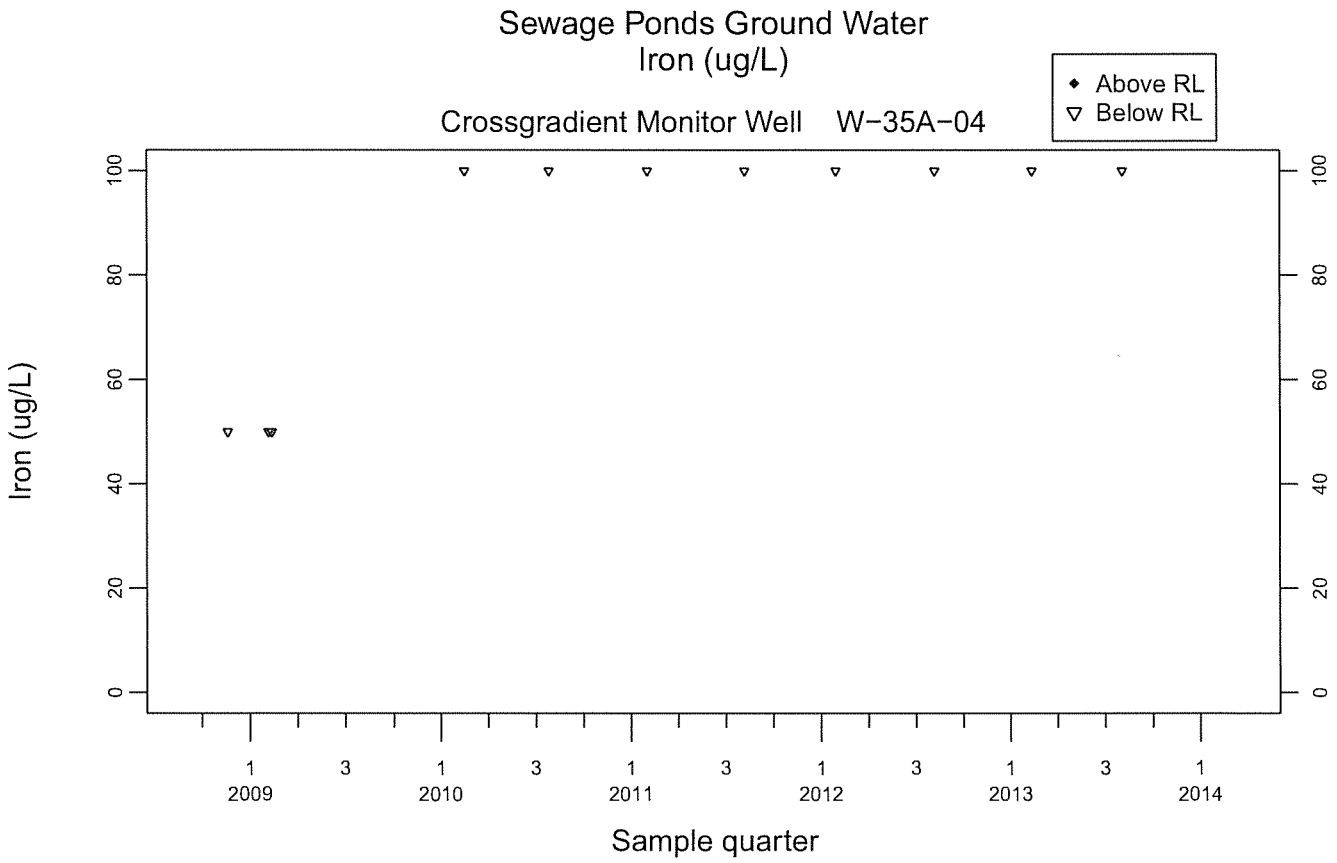

Sewage Ponds Ground Water
Copper (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Estimated
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

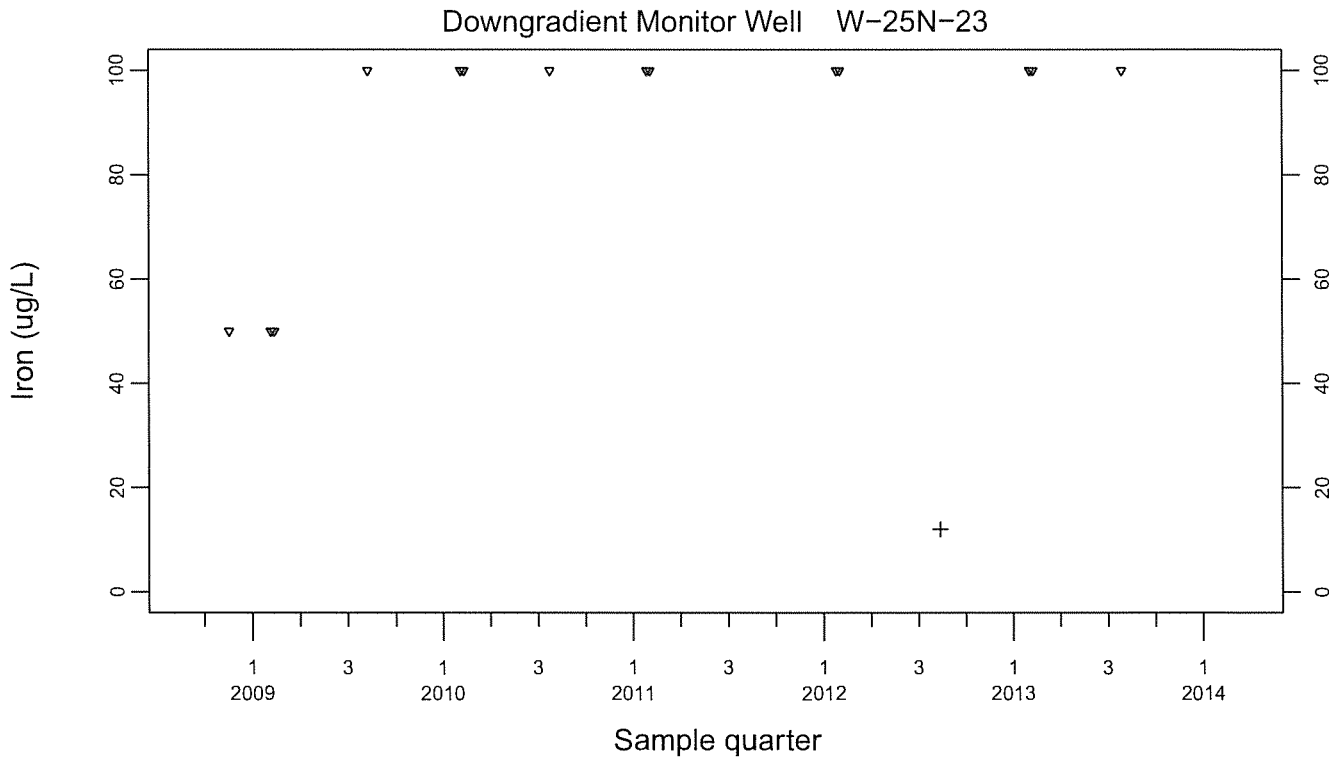

Downgradient Monitor Well W-26R-11
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

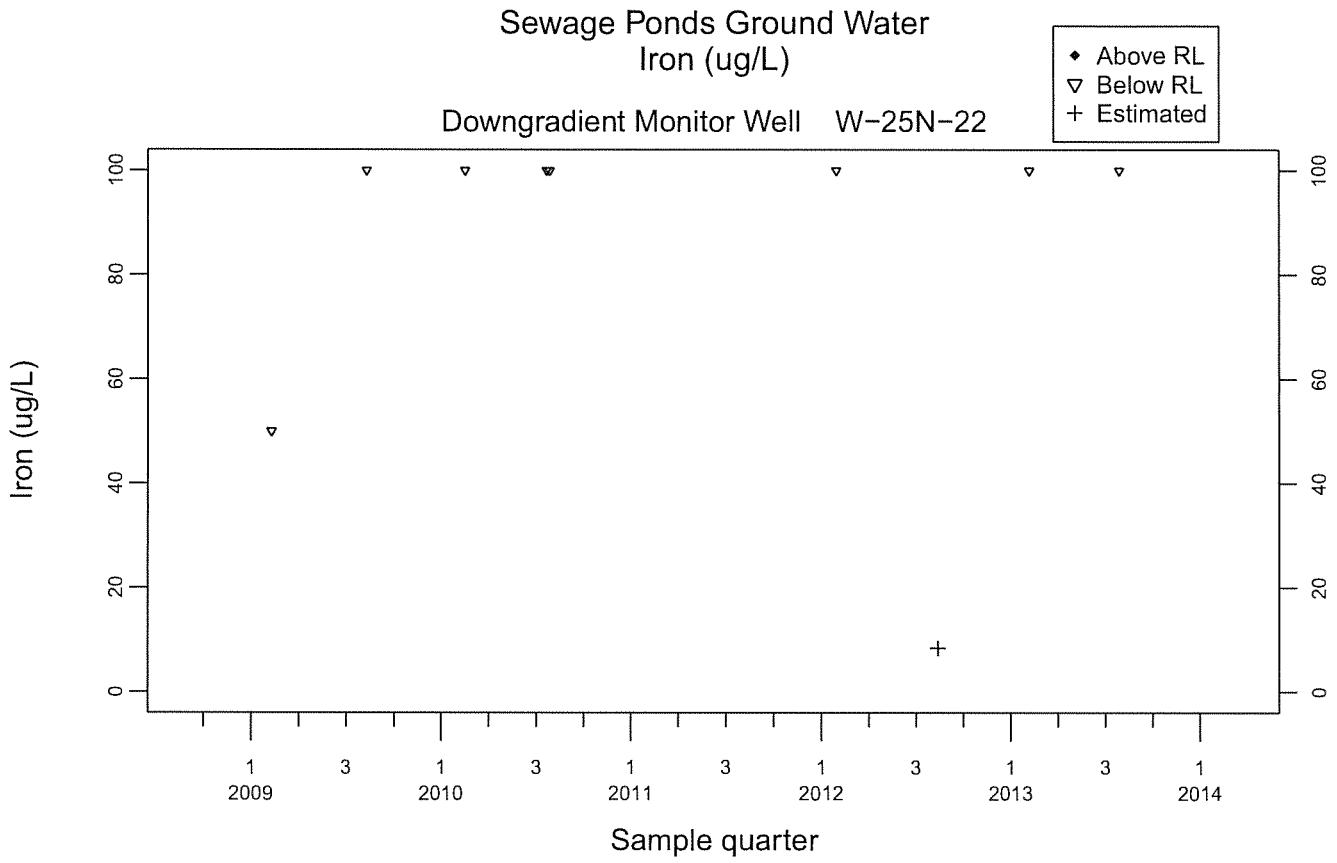

Sewage Ponds Ground Water
Copper (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Copper (ug/L)
0
2
4
6
8
10
12
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

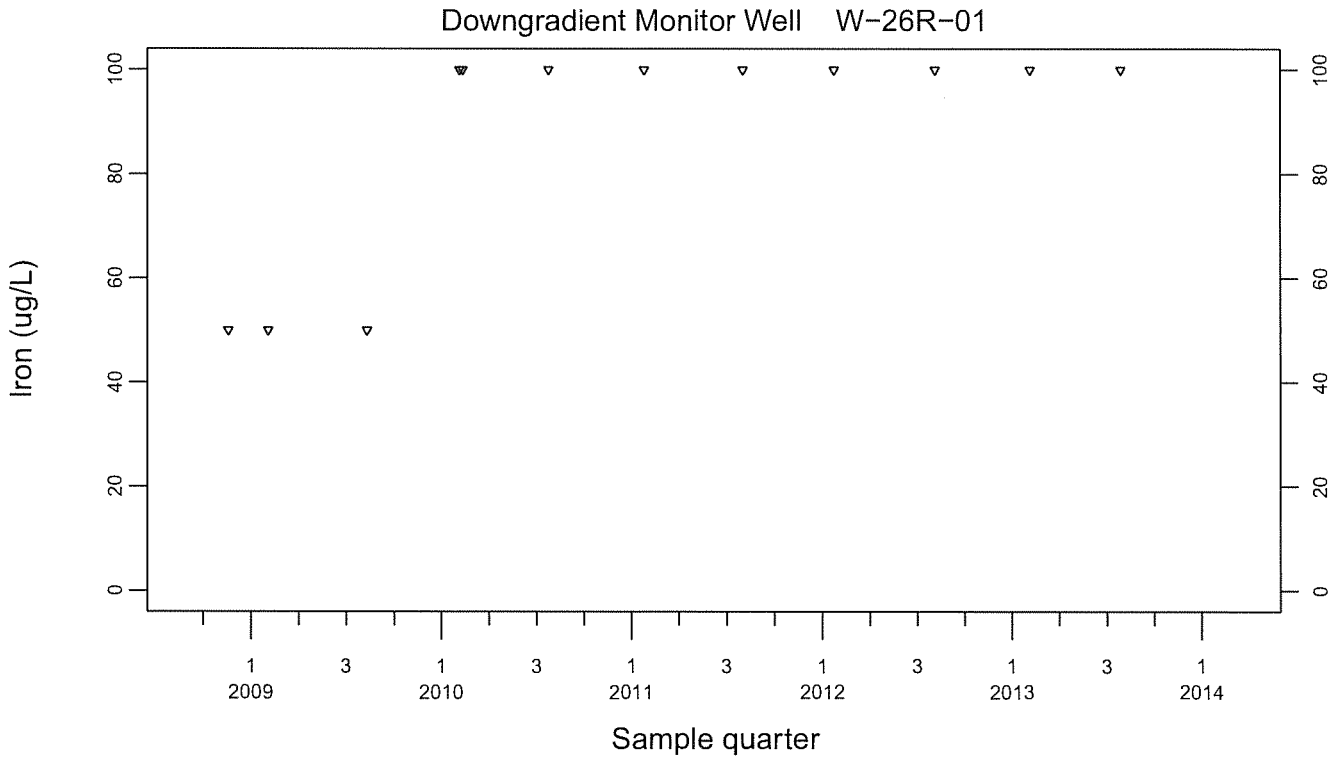

Sewage Ponds Ground Water
Iron (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Estimated
Iron (ug/L)
0
20
40
60
80
100
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

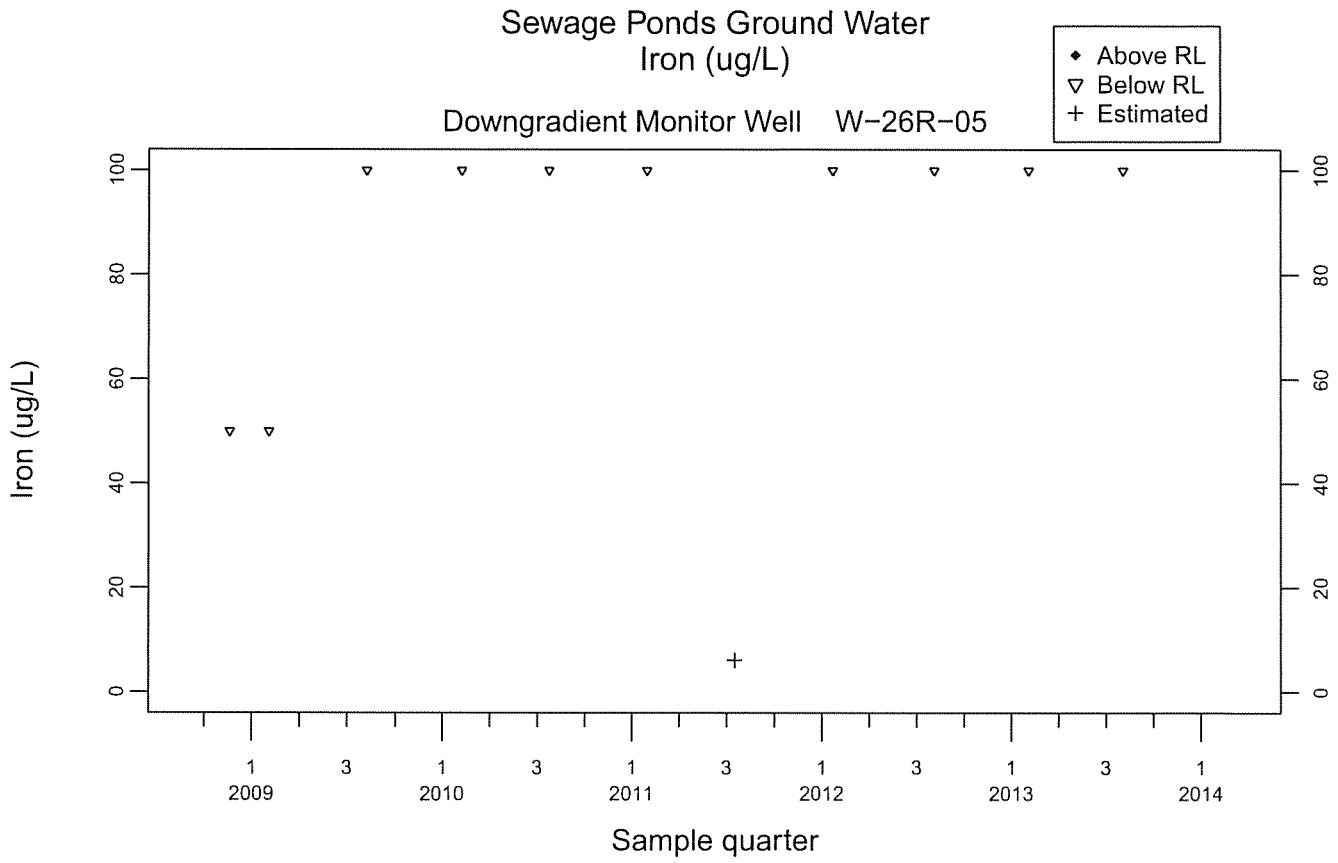

Upgradient Monitor Well W-7PS
Iron (ug/L)
0
20
40
60
80
100
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

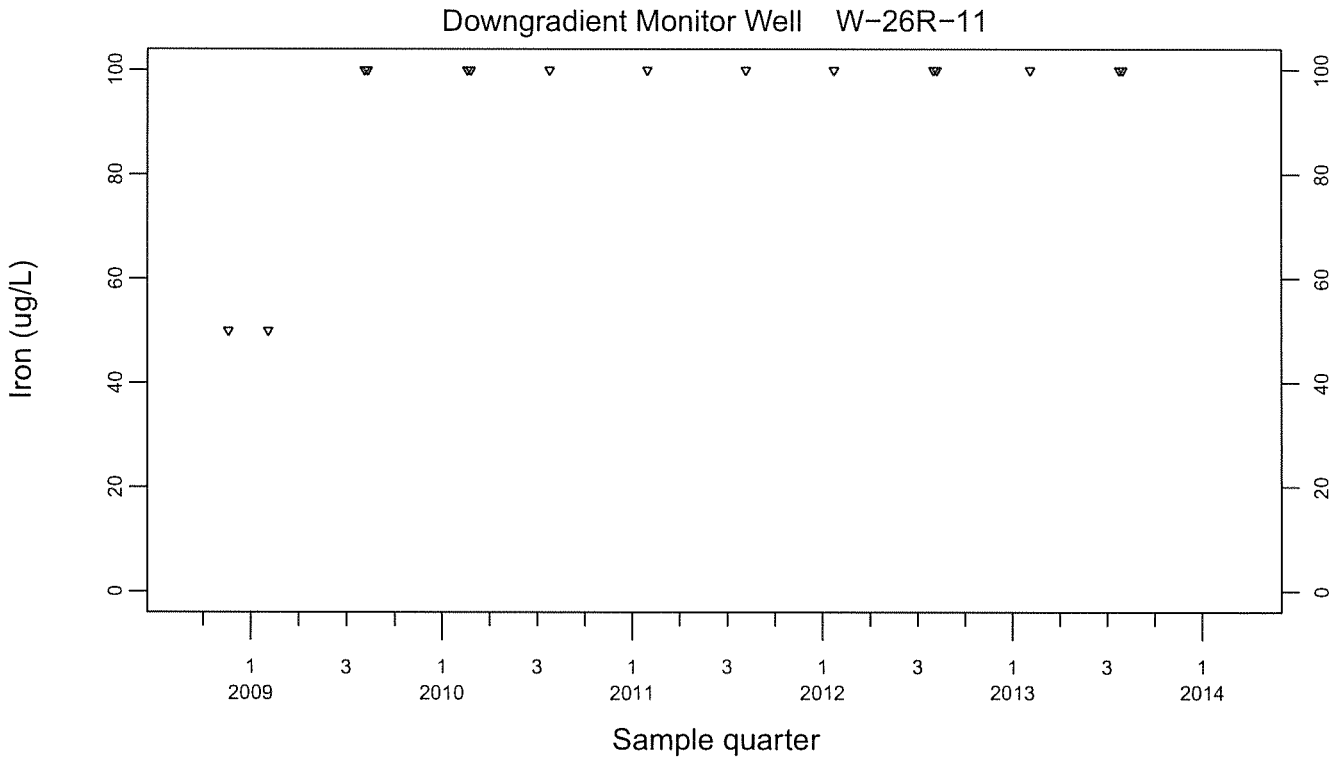

Sewage Ponds Ground Water
Iron (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Iron (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

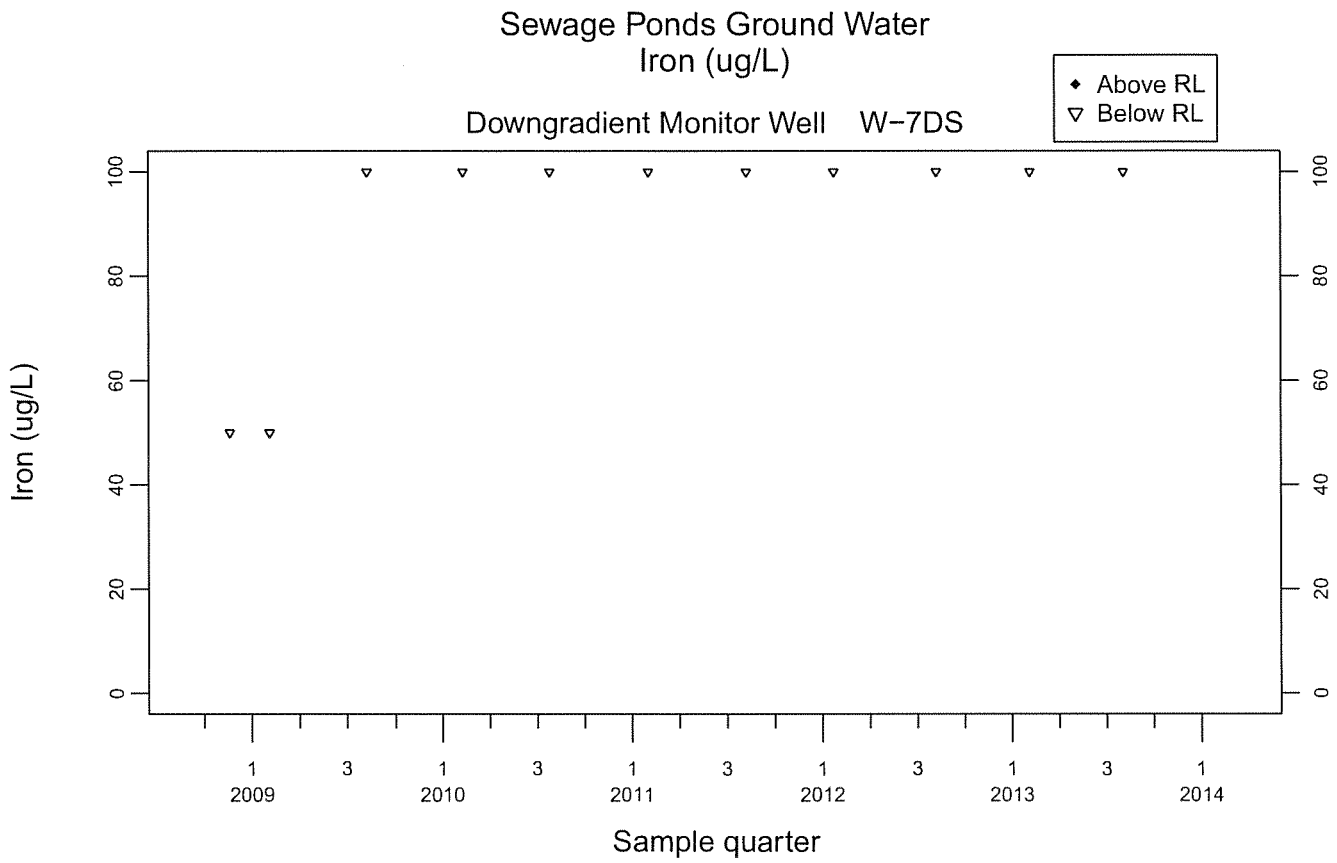

Downgradient Monitor Well W-25N-23
Iron (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

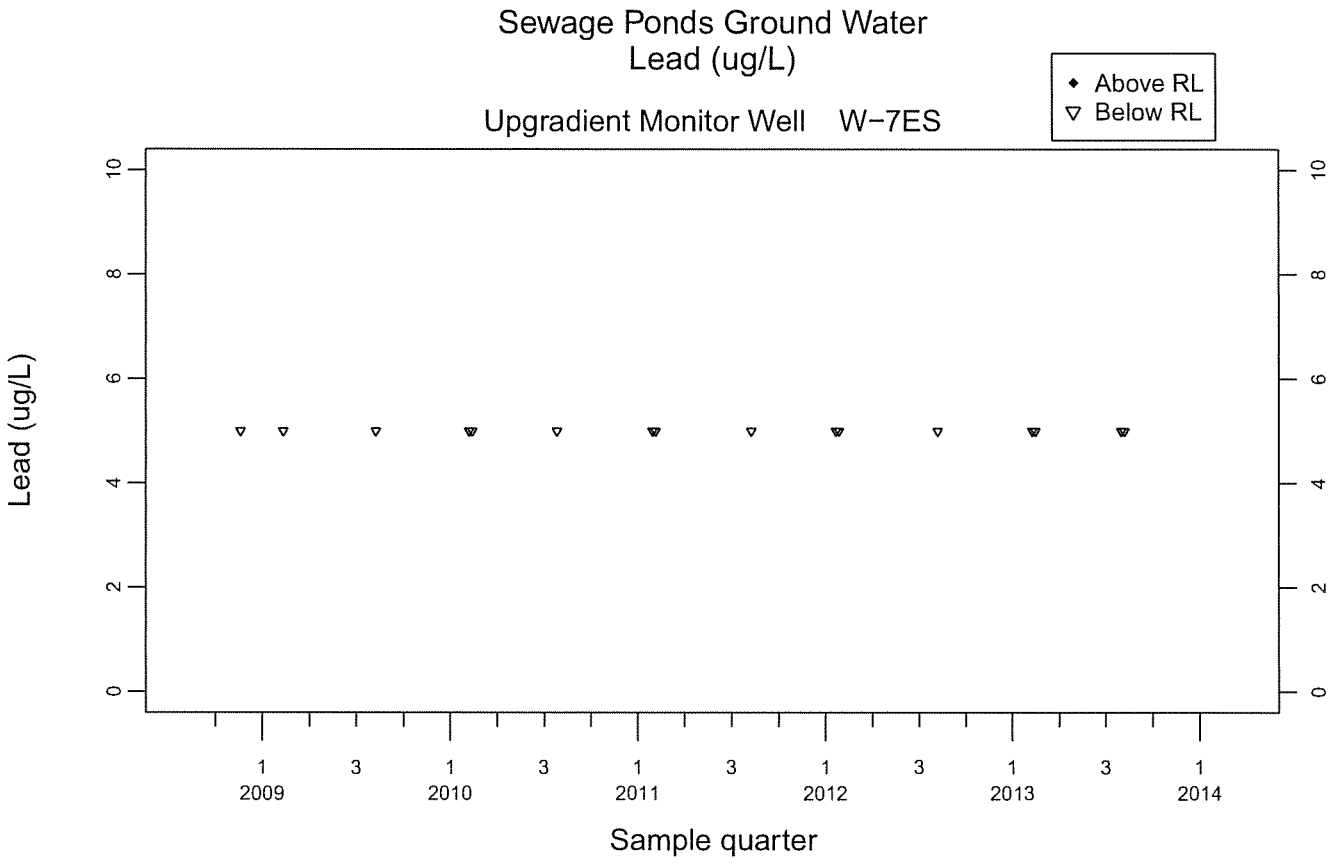

Sewage Ponds Ground Water
Iron (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-25N-22
Iron (ug/L)
0
20
40
60
80
100
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

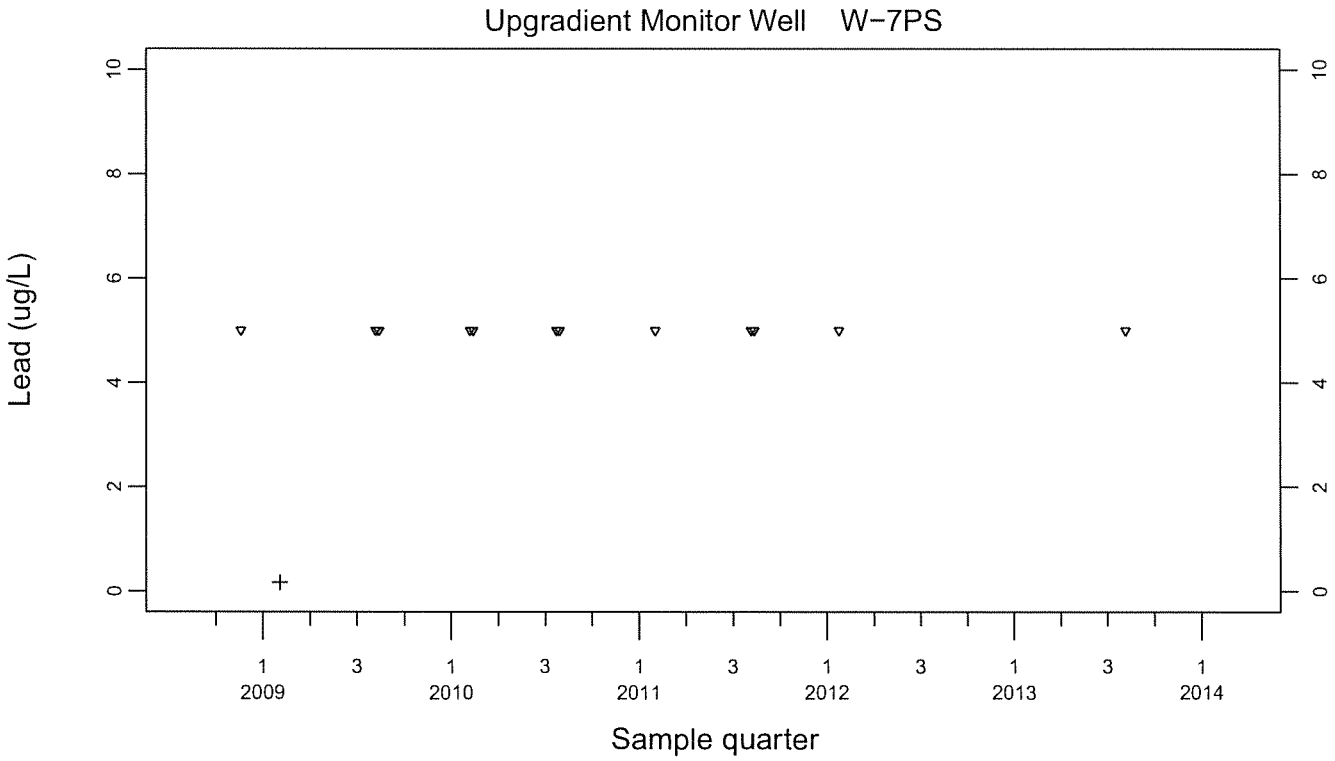

Downgradient Monitor Well W-26R-01
Iron (ug/L)
0
20
40
60
80
100
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

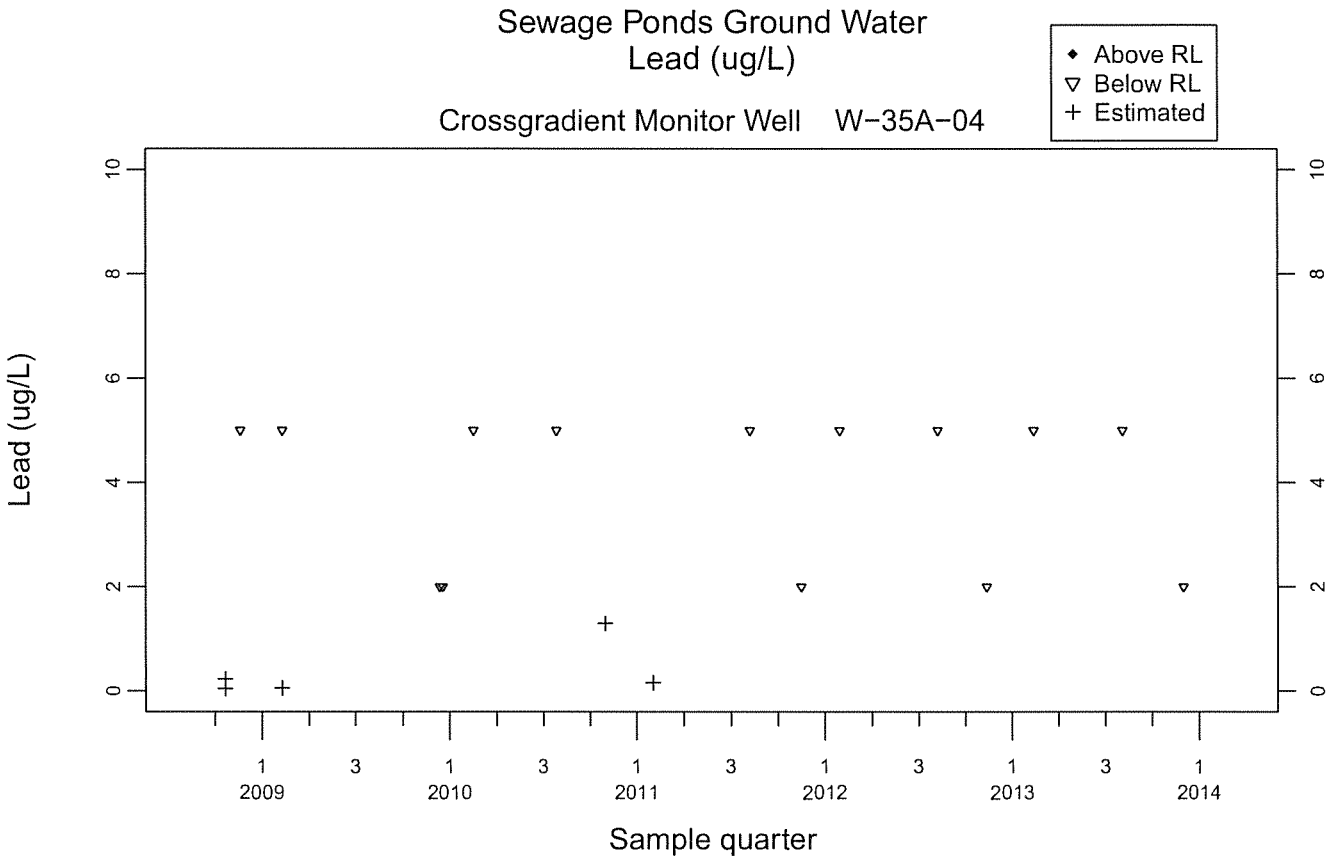

Sewage Ponds Ground Water
Iron (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Estimated
Iron (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

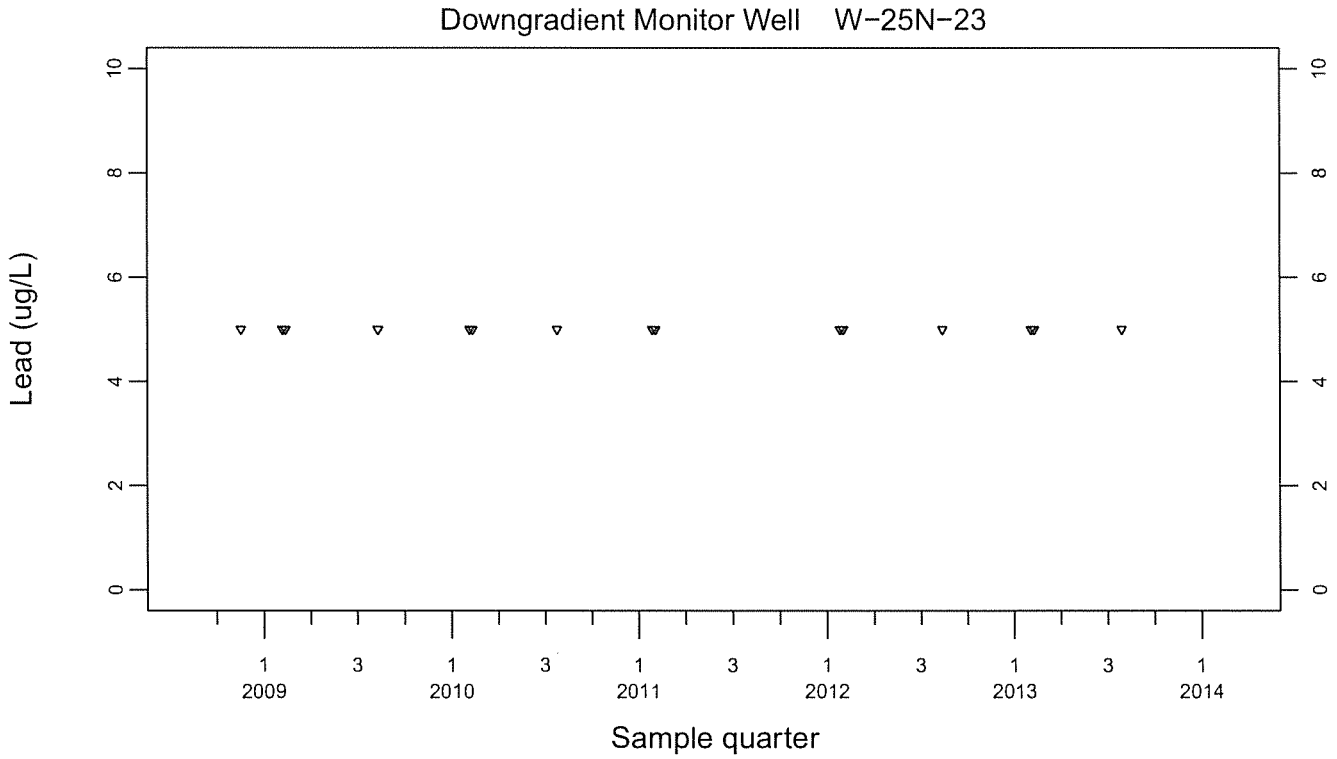

Downgradient Monitor Well W-26R-11
Iron (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

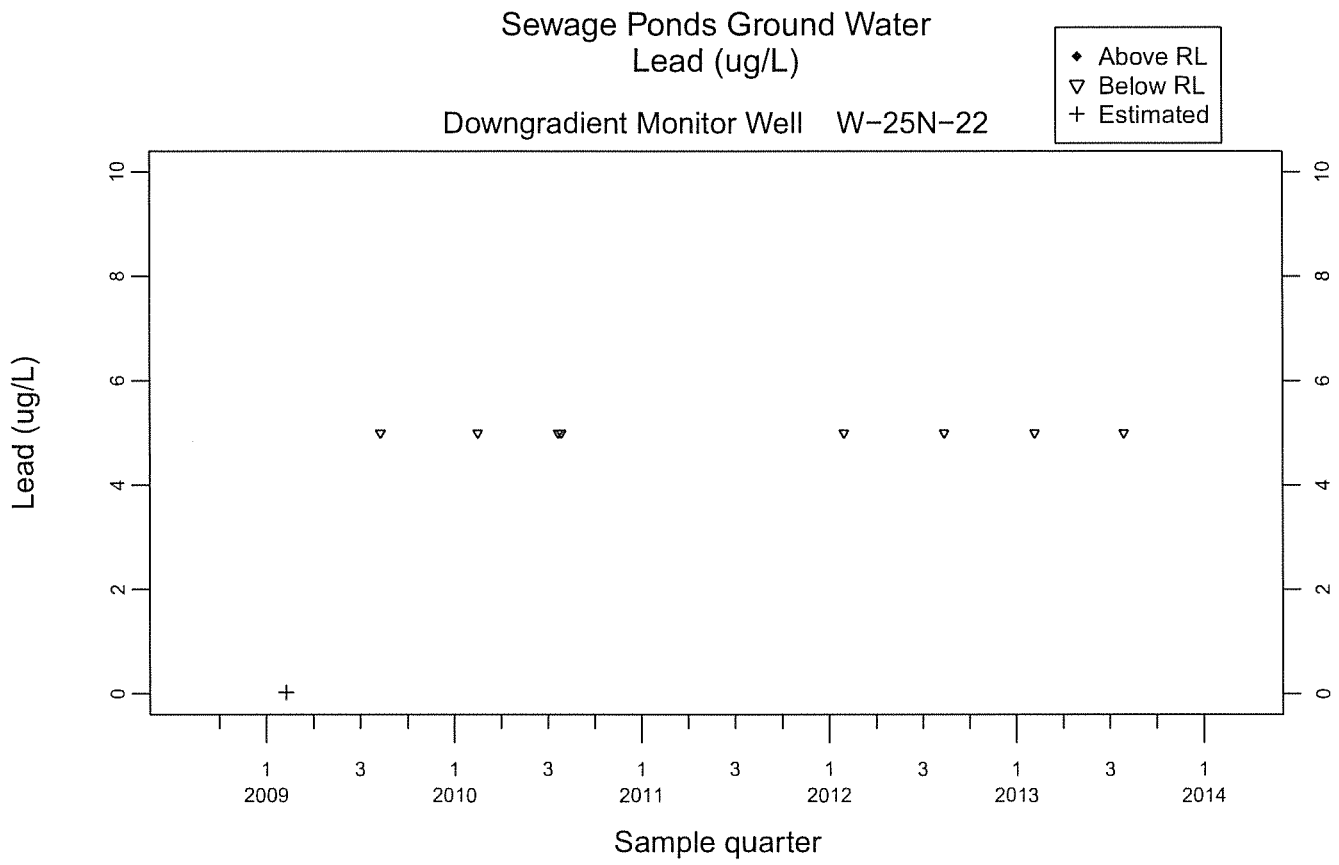

Sewage Ponds Ground Water
Iron (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Iron (ug/L)
0
20
40
60
80
100
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

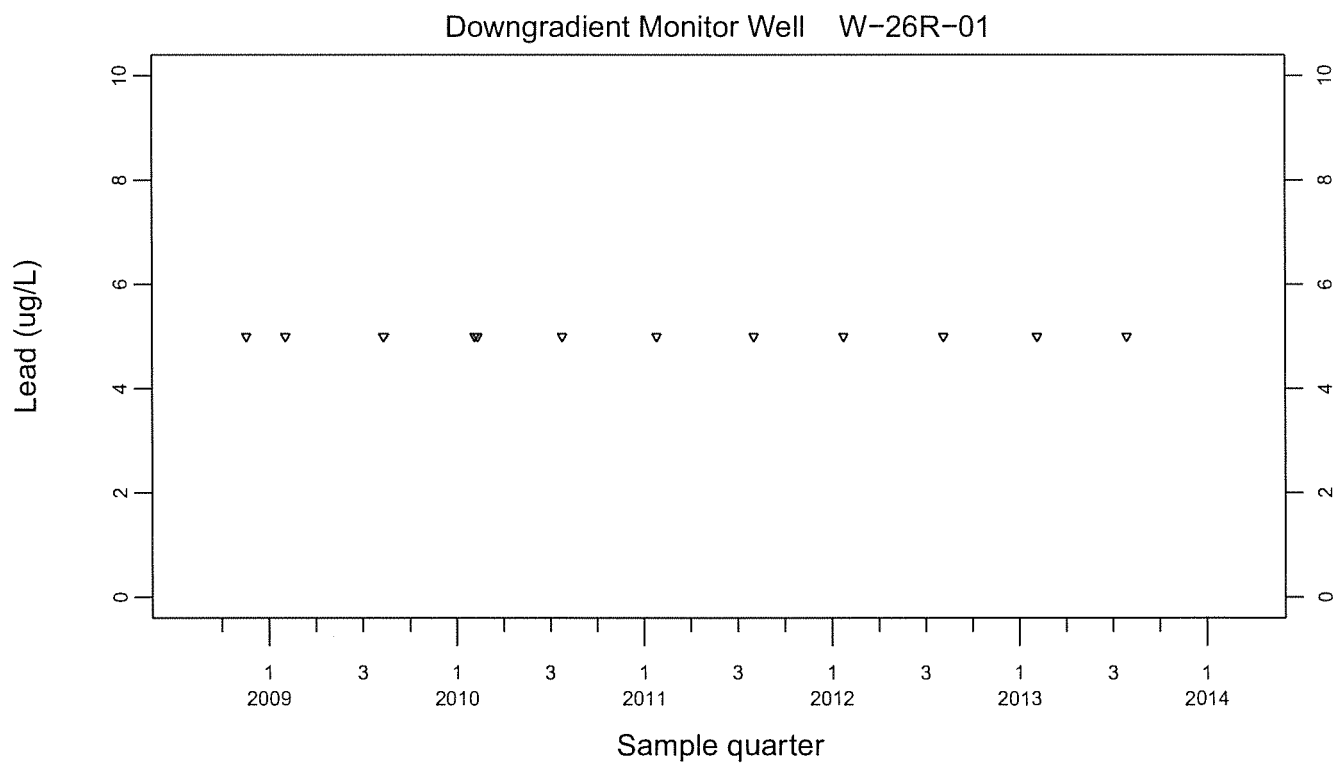

Sewage Ponds Ground Water
Lead (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Lead (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

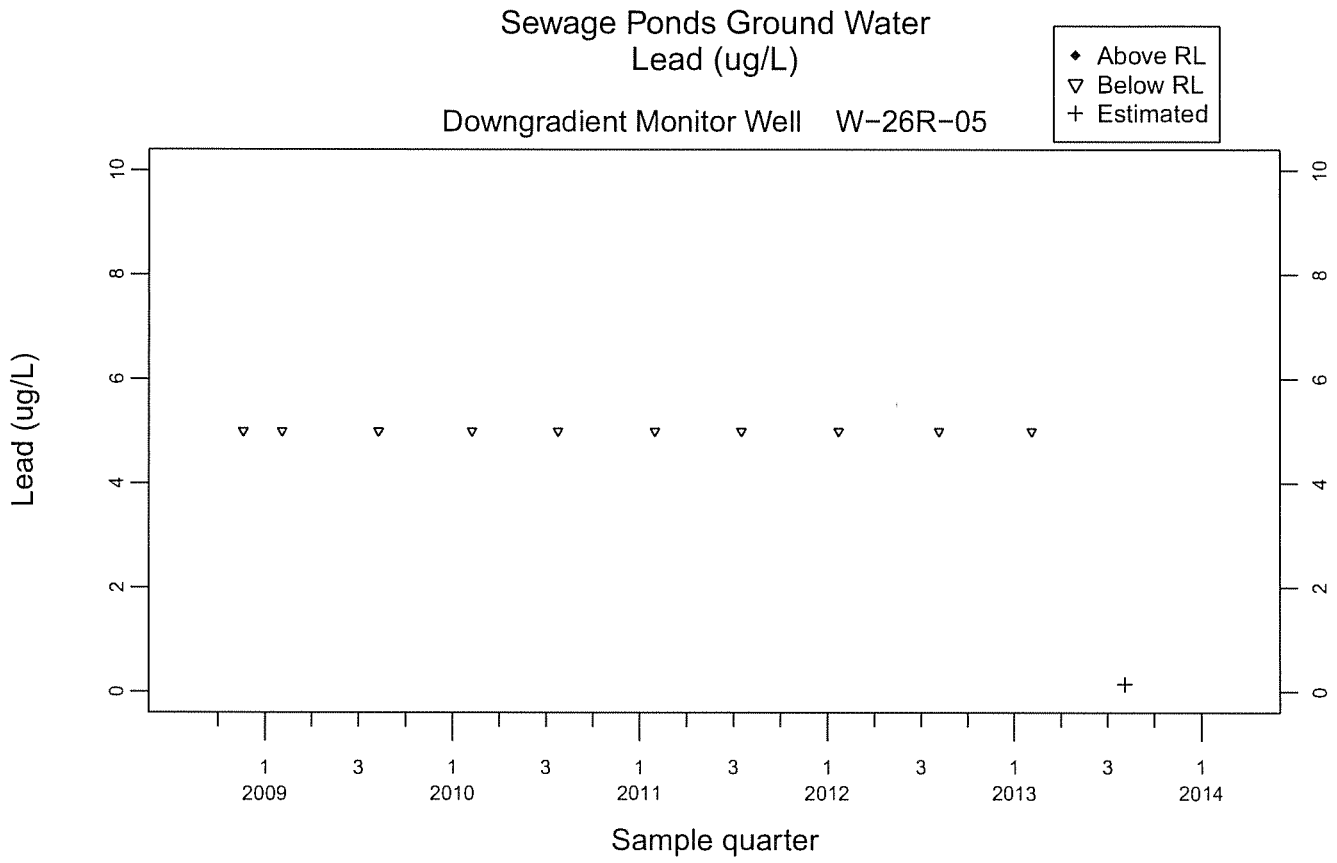

Upgradient Monitor Well W-7PS
Lead (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

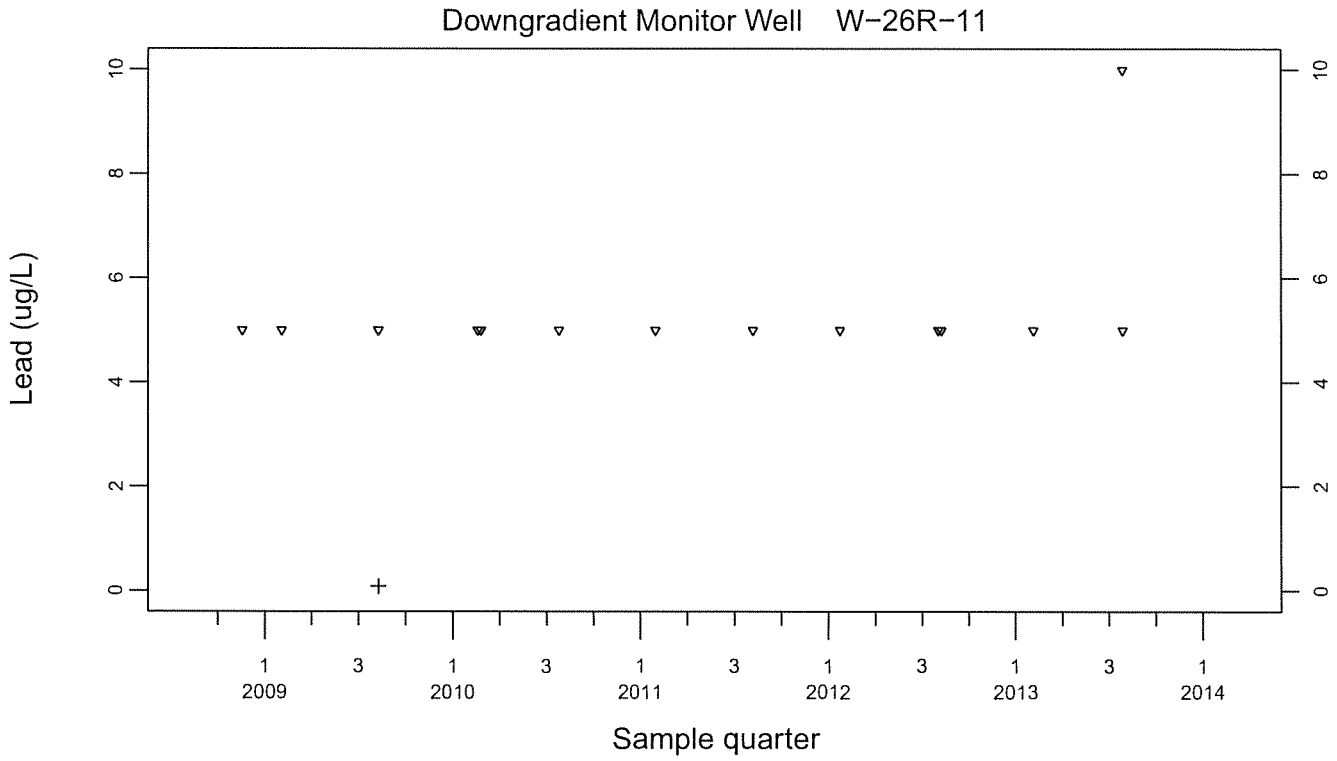

Sewage Ponds Ground Water
Lead (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Lead (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

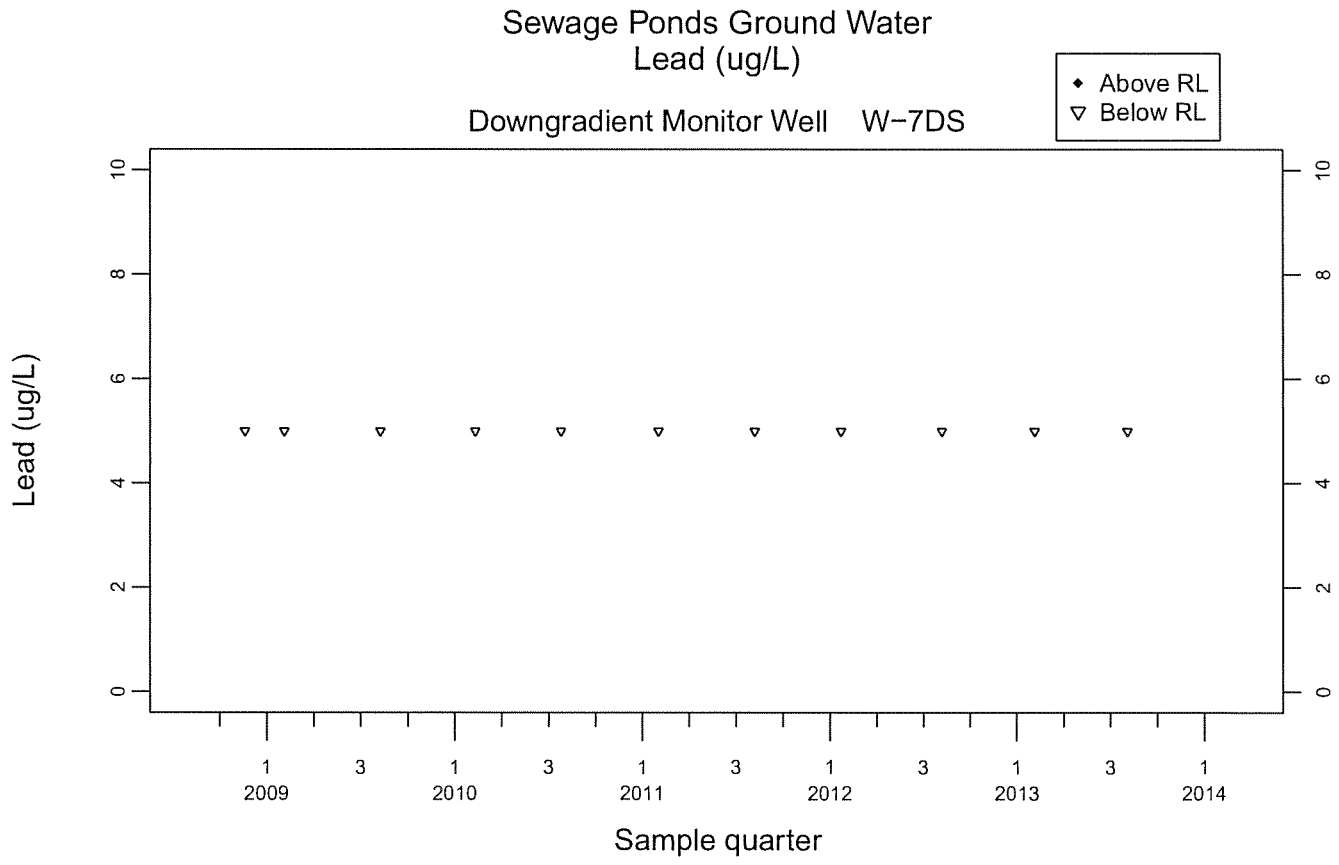

Downgradient Monitor Well W-25N-23
Lead (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

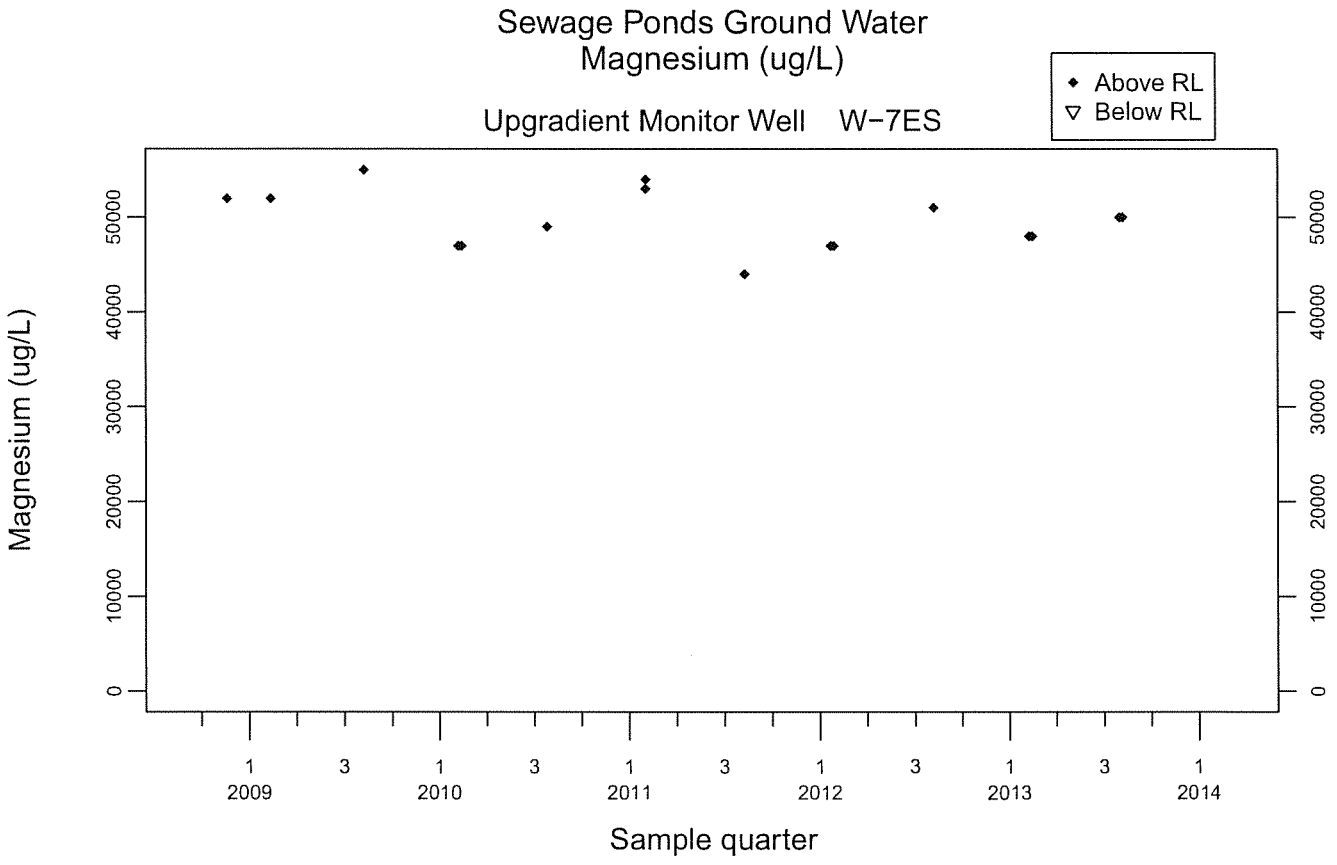

Sewage Ponds Ground Water
Lead (ug/L)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Estimated
Lead (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

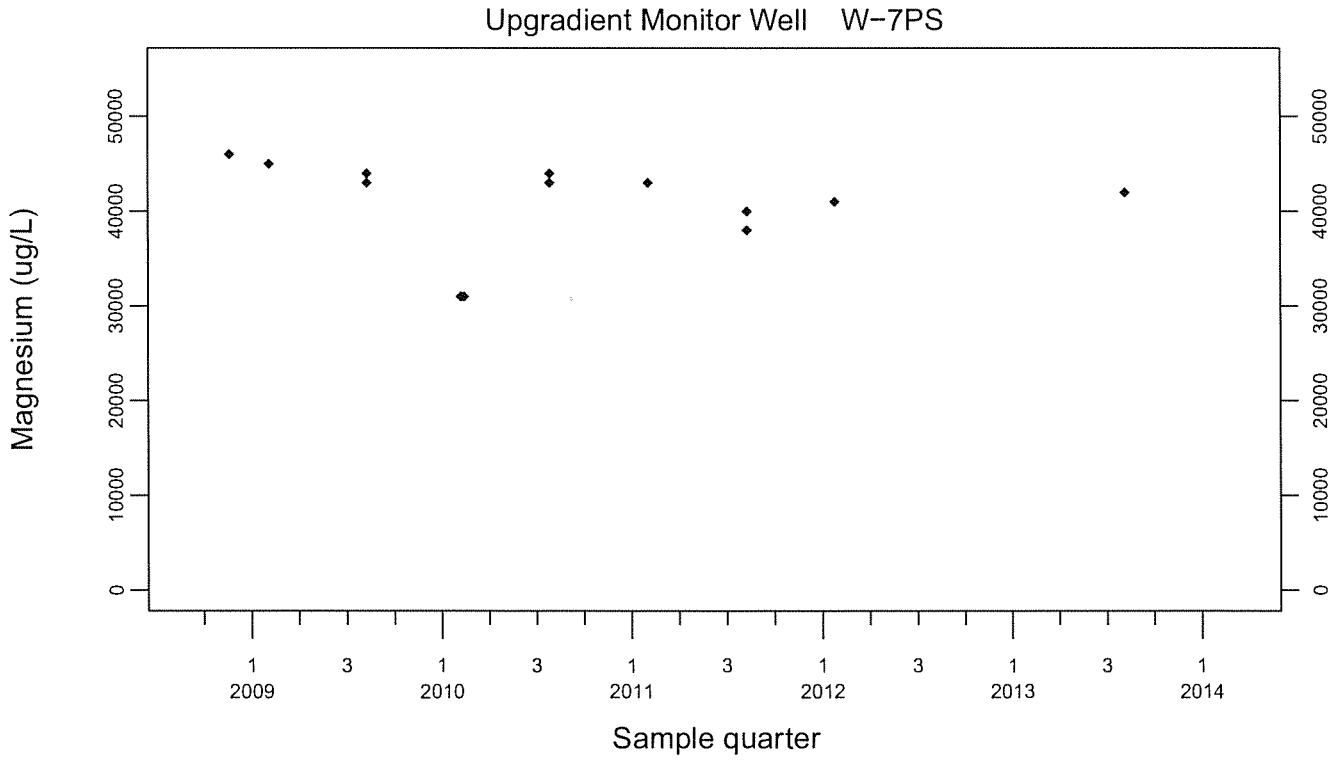

Downgradient Monitor Well W-26R-01
Lead (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

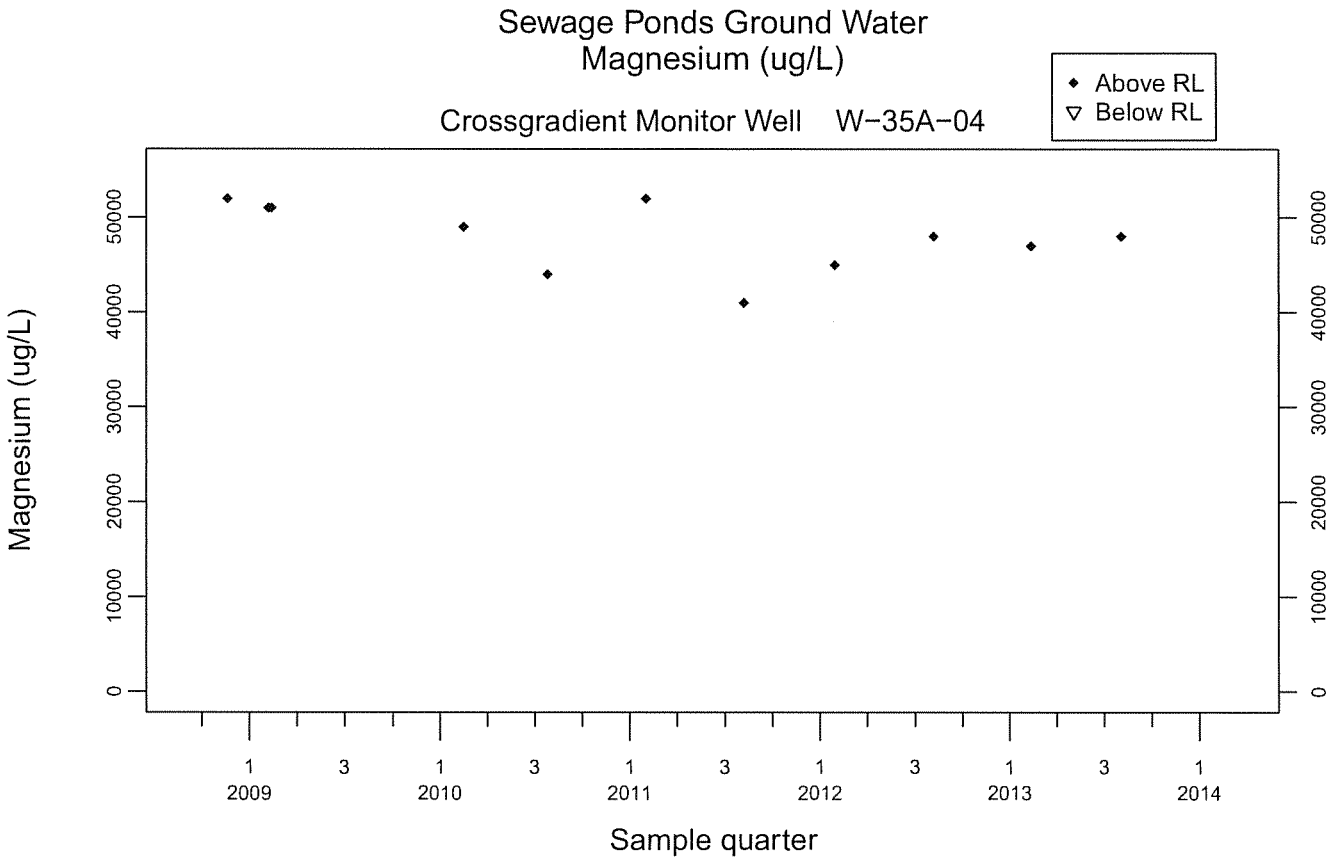

Sewage Ponds Ground Water
Lead (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Estimated
Lead (ug/L)
0
2
4
6
8
10
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

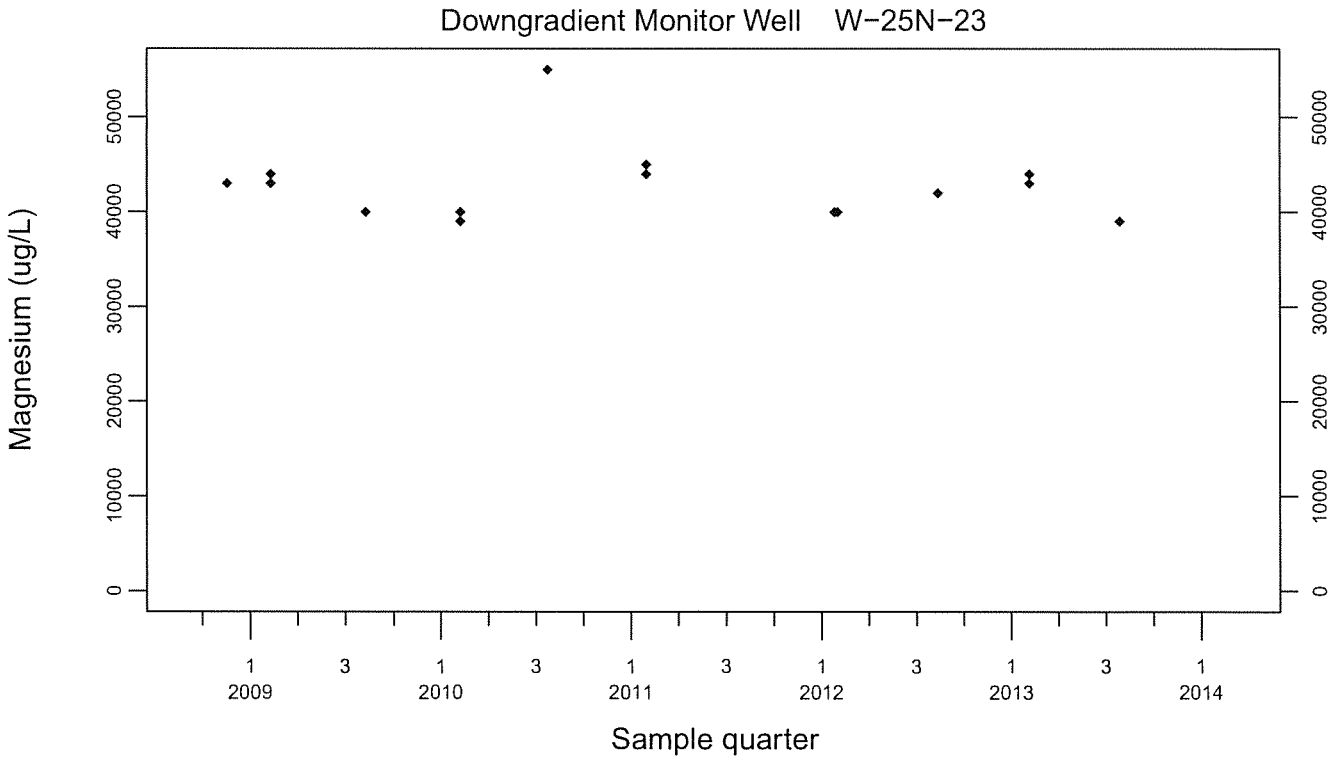

Downgradient Monitor Well W-26R-11
Lead (ug/L)
0
2
4
6
8
10
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

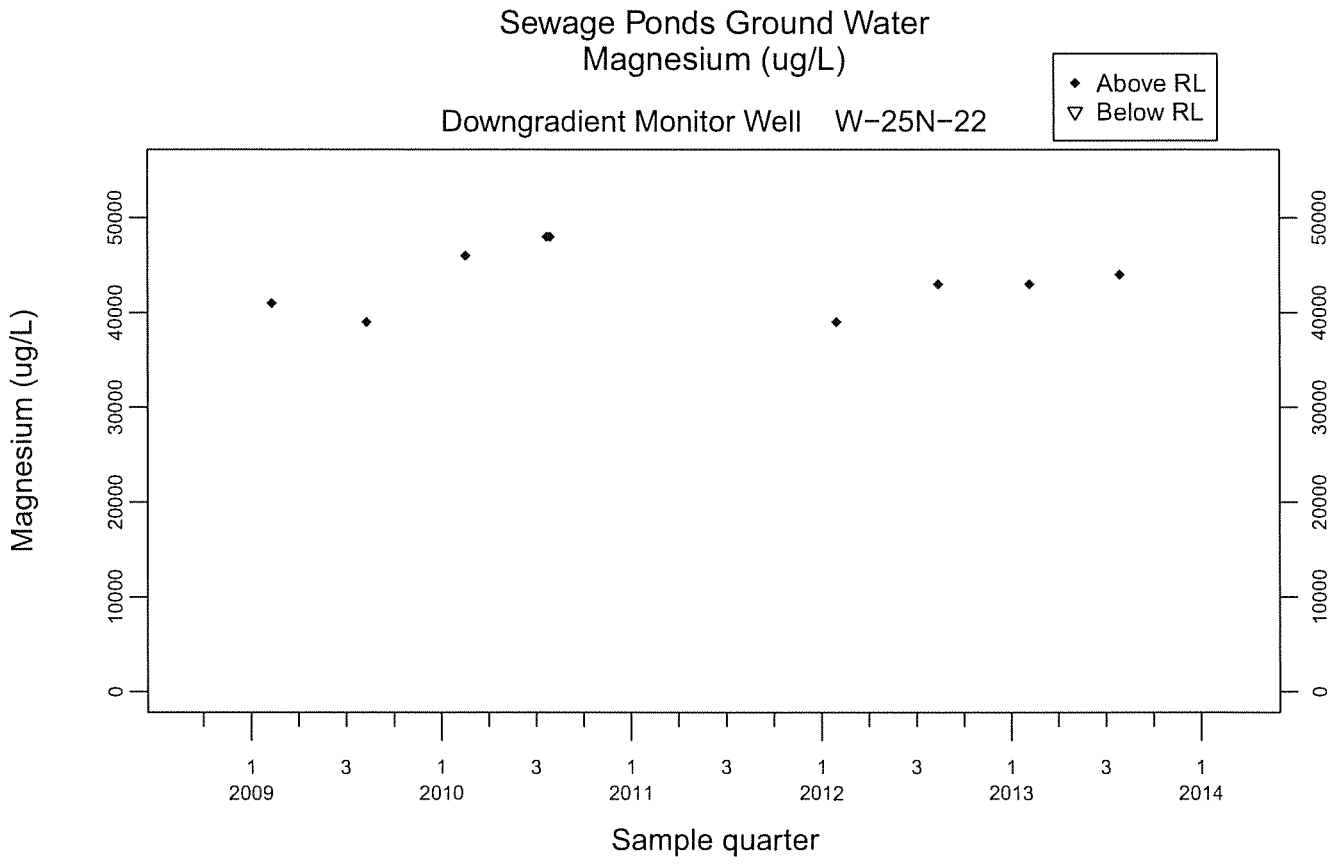

Sewage Ponds Ground Water
Lead (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Lead (ug/L)
0
2
4
6
8
10
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

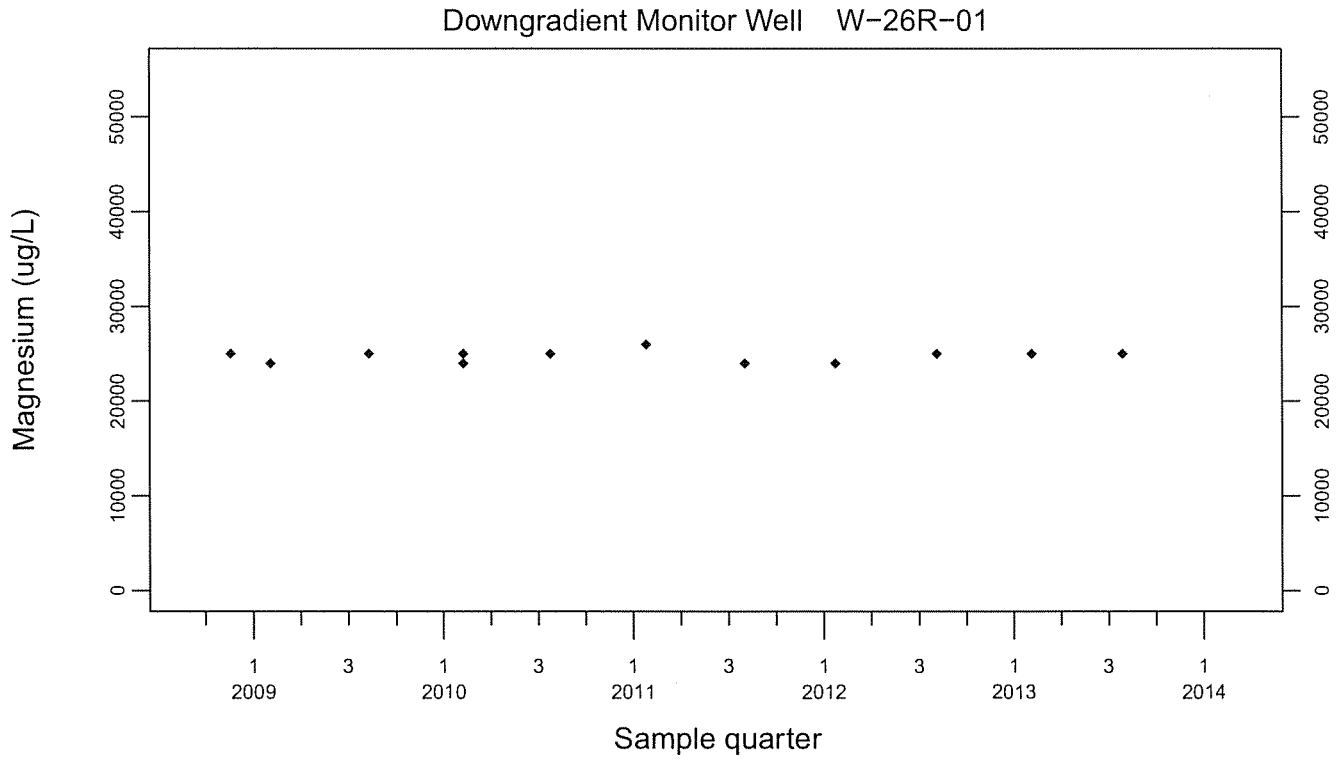

Sewage Ponds Ground Water
Magnesium (ug/L)
Above RL
Below RL
Upgradient Monitor Well W-7ES
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

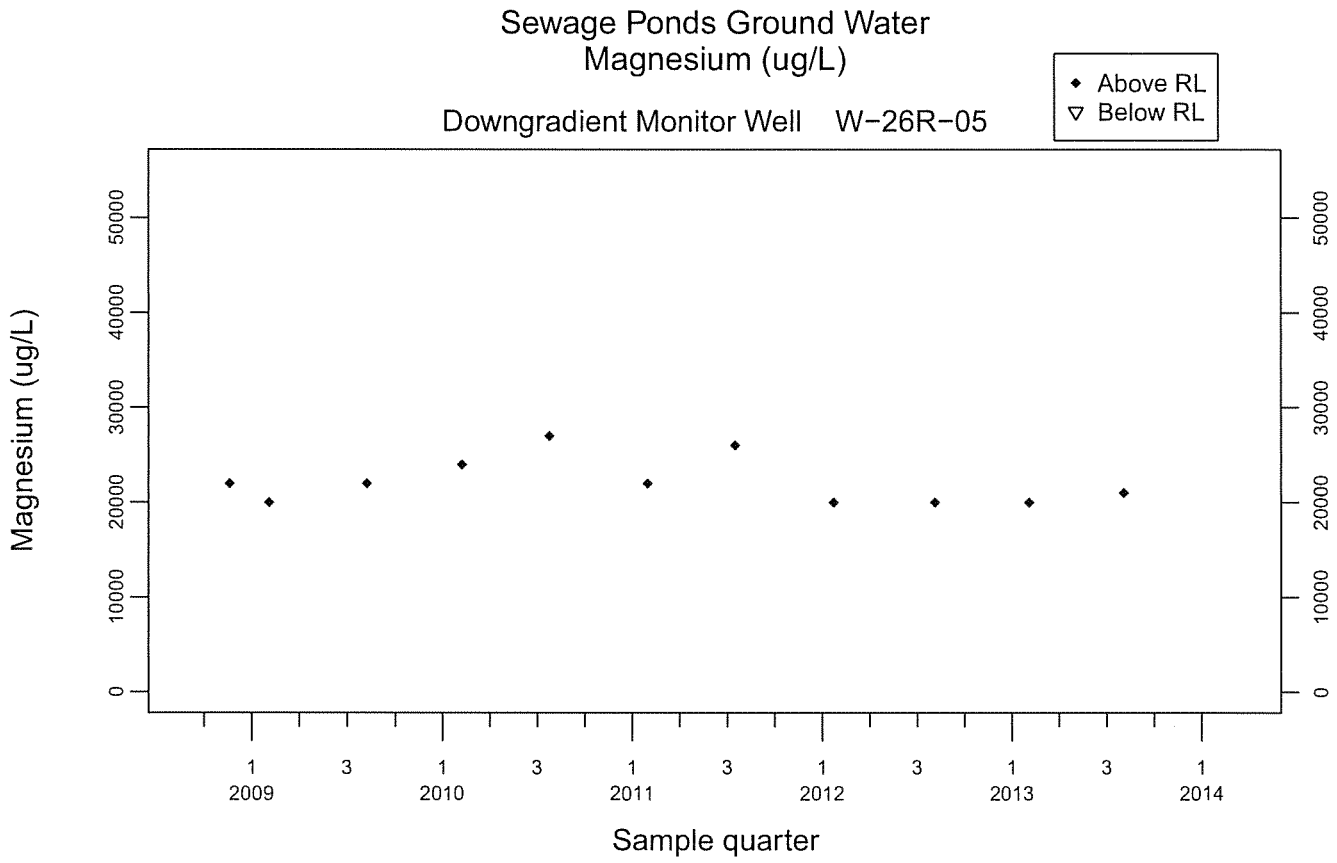

Upgradient Monitor Well W-7PS
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

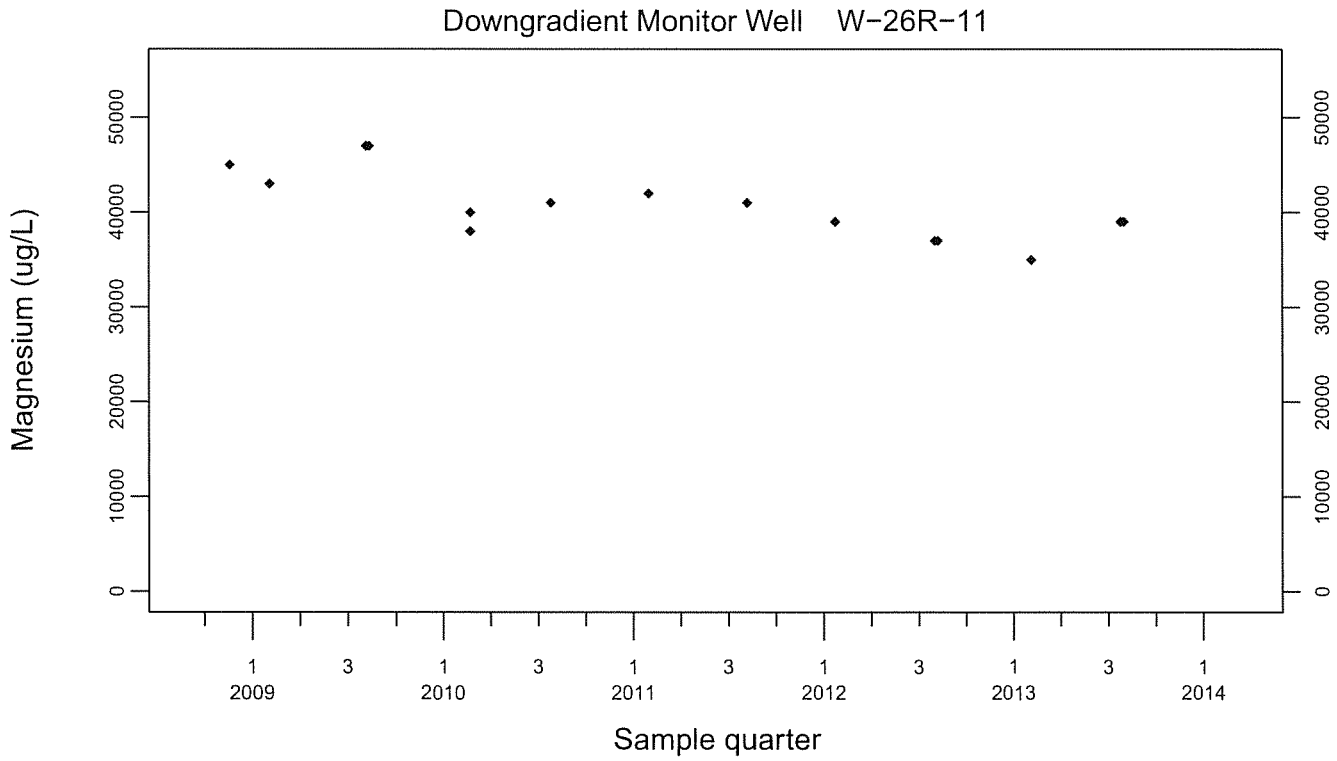

Sewage Ponds Ground Water
Magnesium (ug/L)
Above RL
Below RL
Crossgradient Monitor Well W-35A-04
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

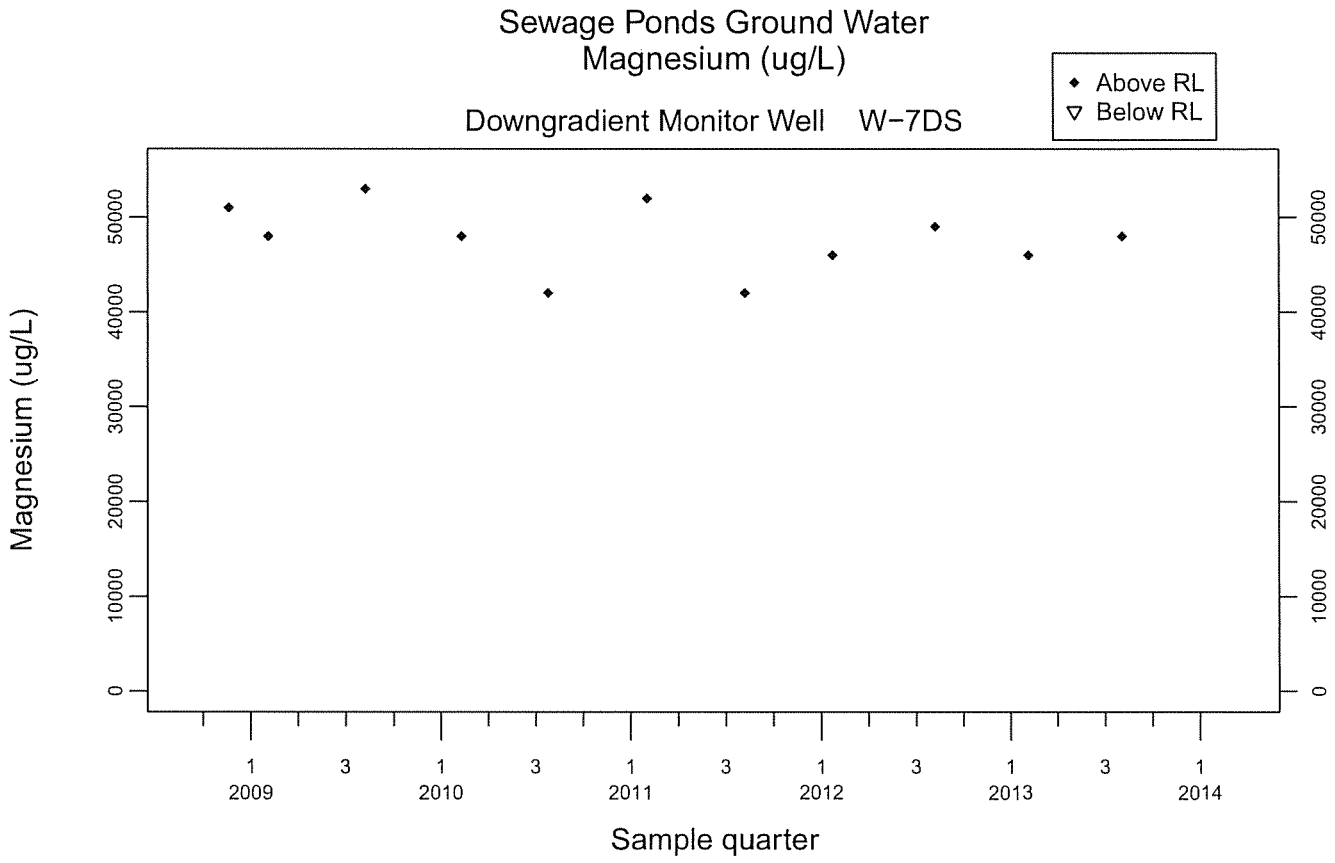

Downgradient Monitor Well W-25N-23
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

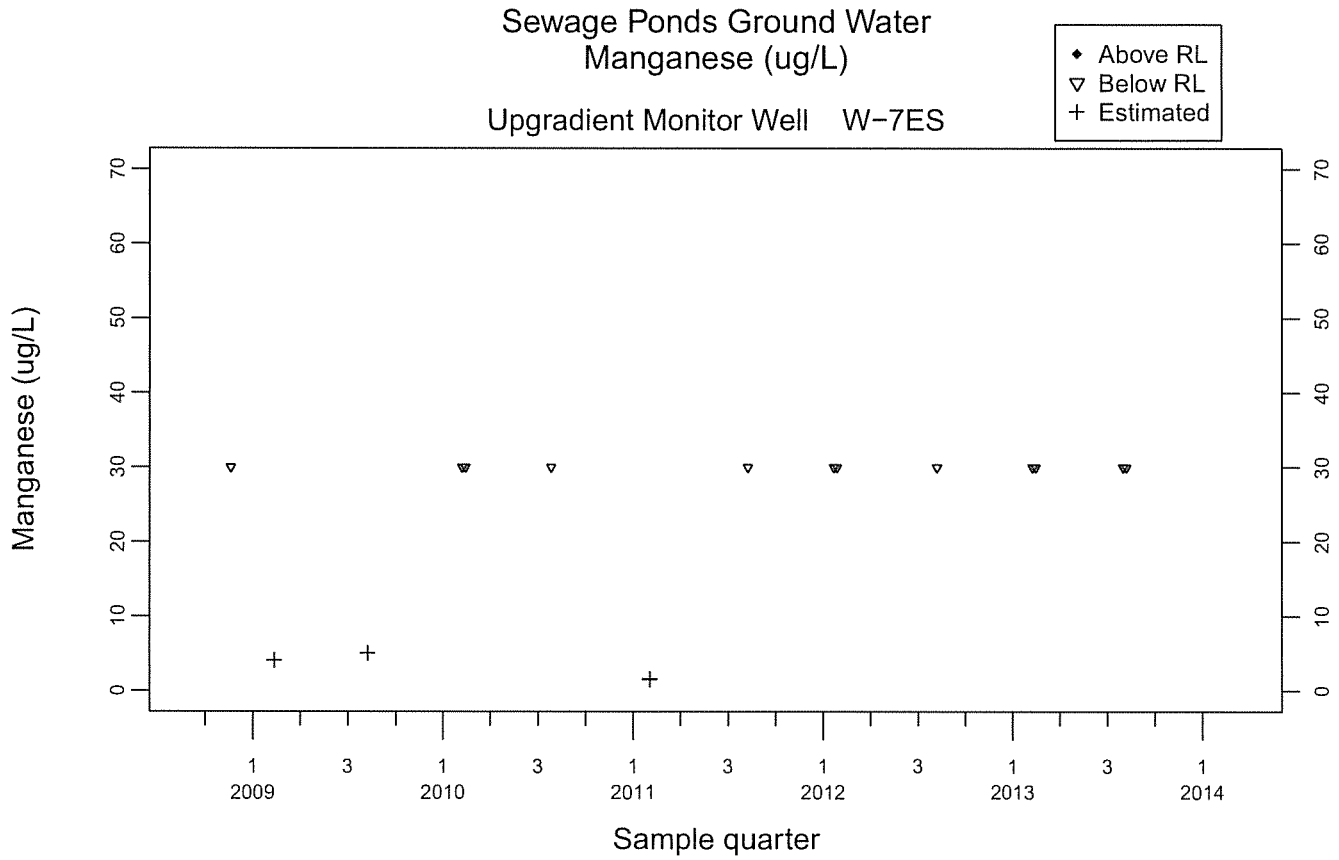

Sewage Ponds Ground Water
Magnesium (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

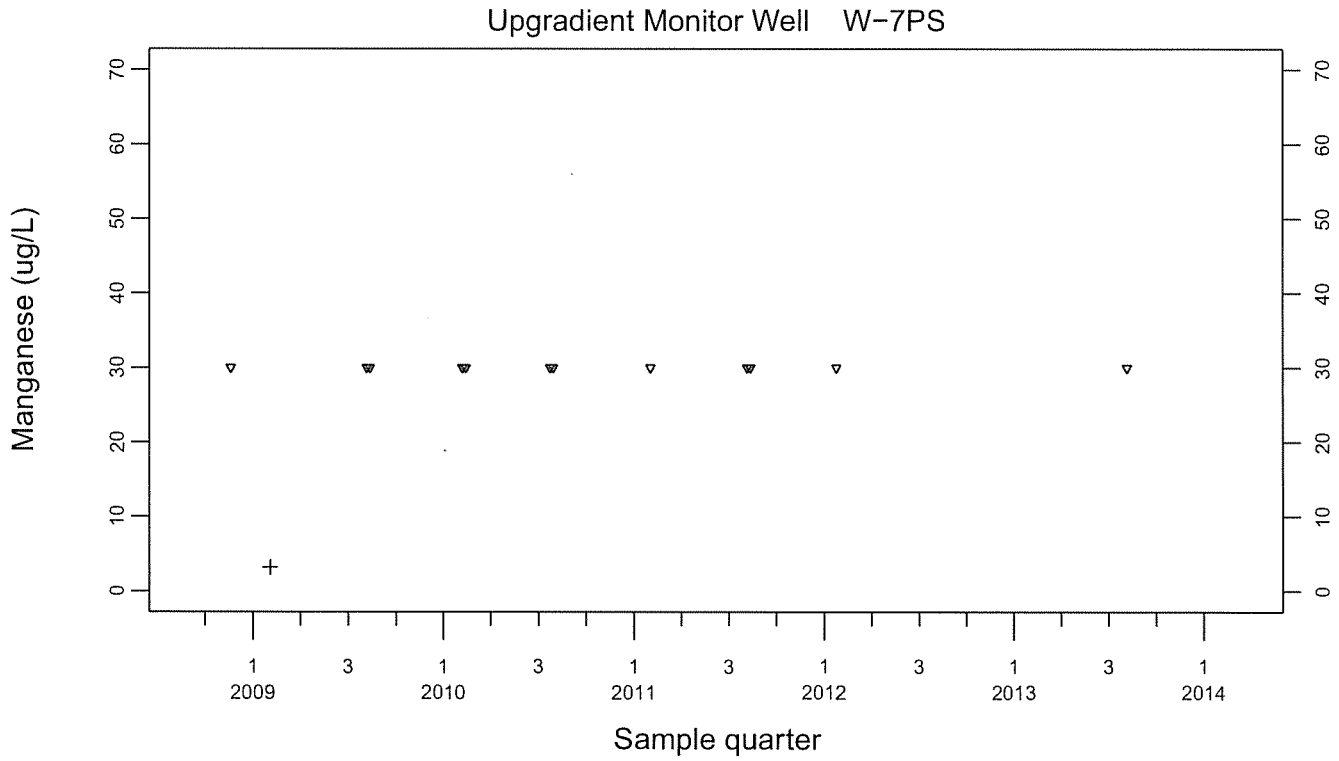

Downgradient Monitor Well W-26R-01
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

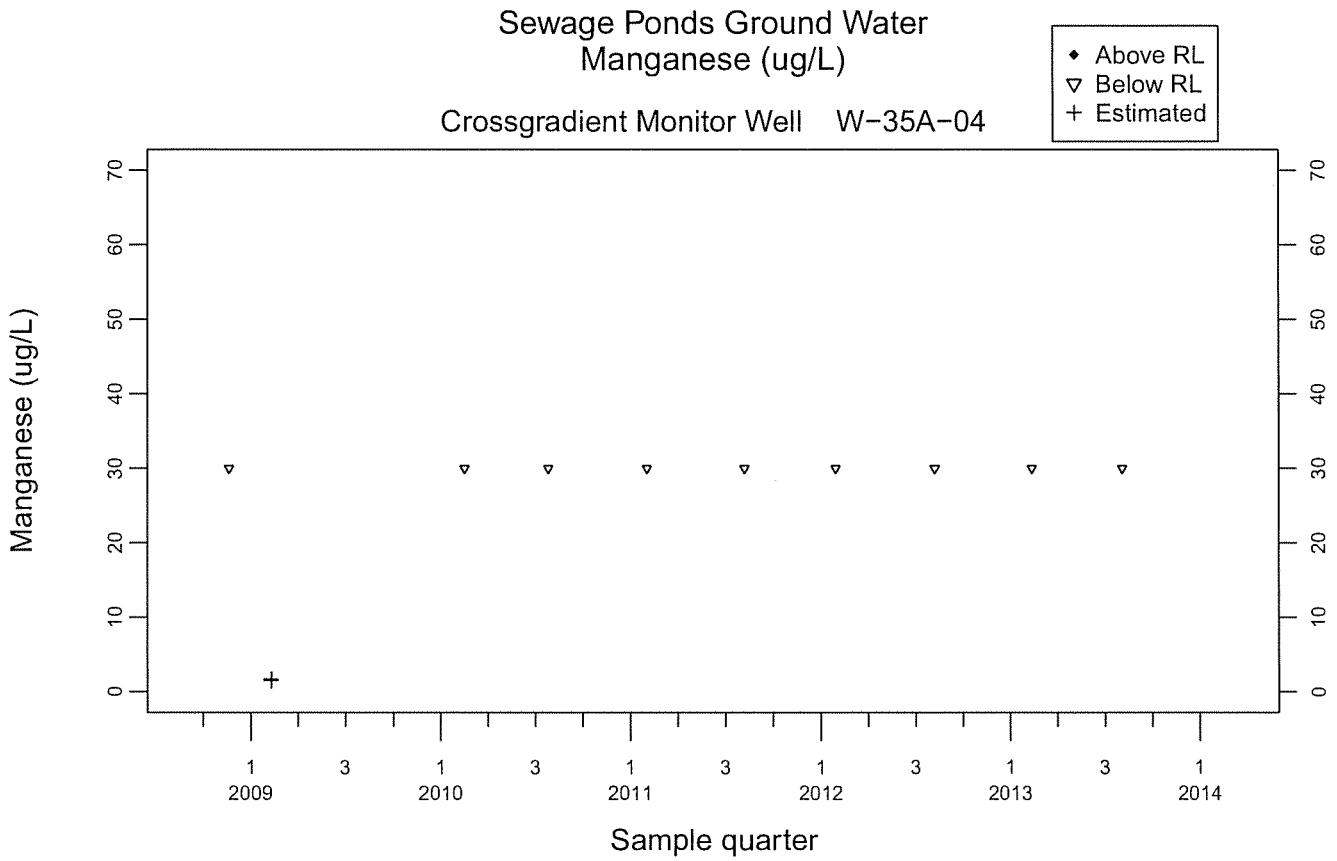

Sewage Ponds Ground Water
Magnesium (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

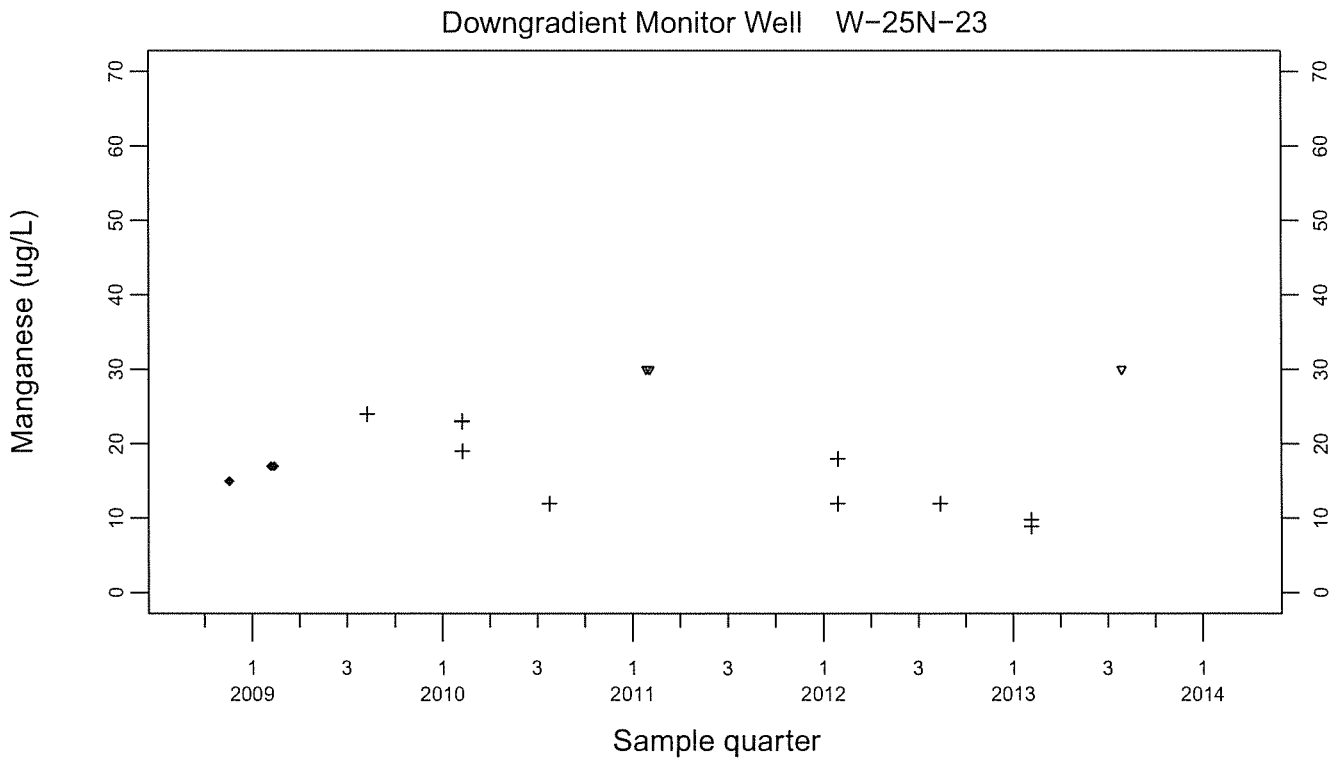

Downgradient Monitor Well W-26R-11
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

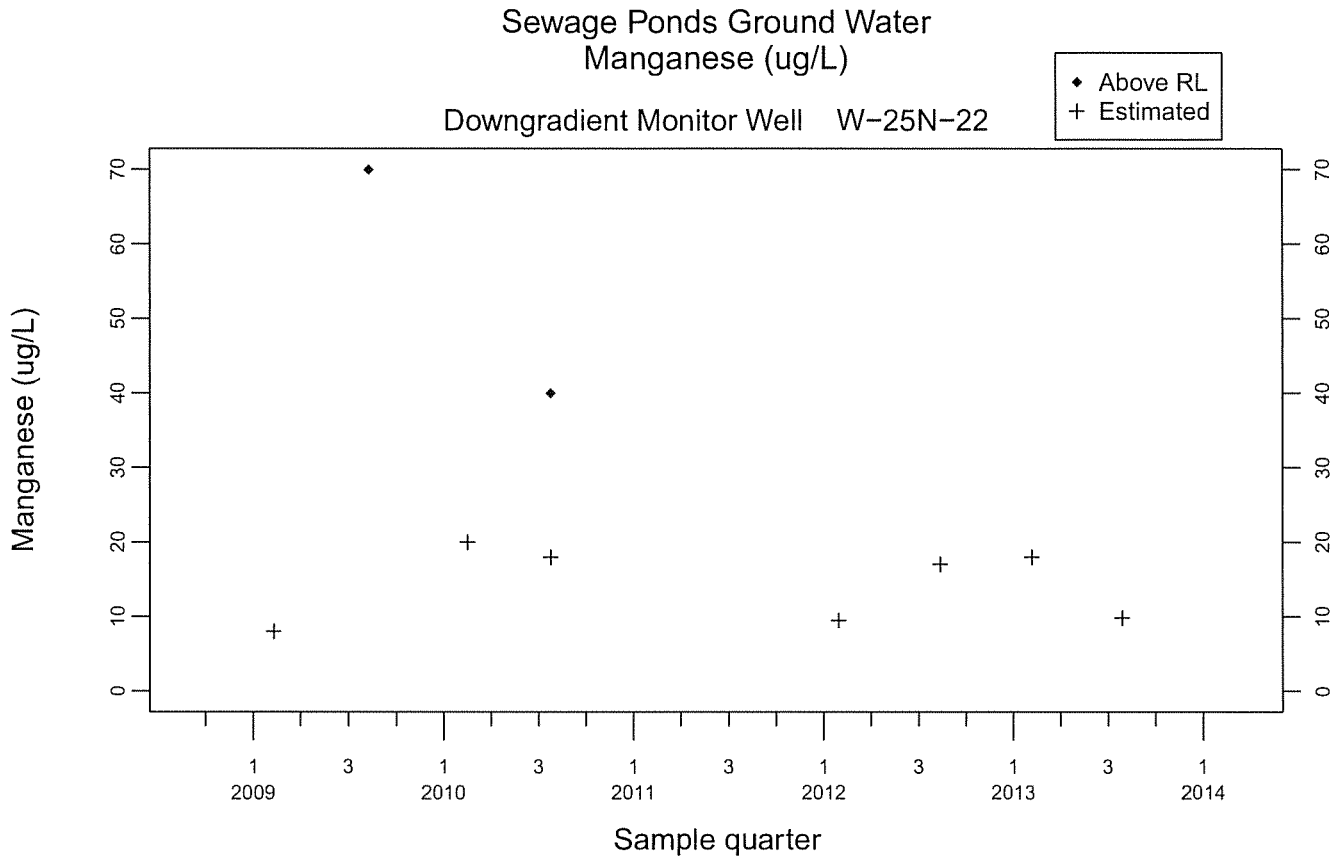

Sewage Ponds Ground Water
Magnesium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Magnesium (ug/L)
0
10000
20000
30000
40000
50000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

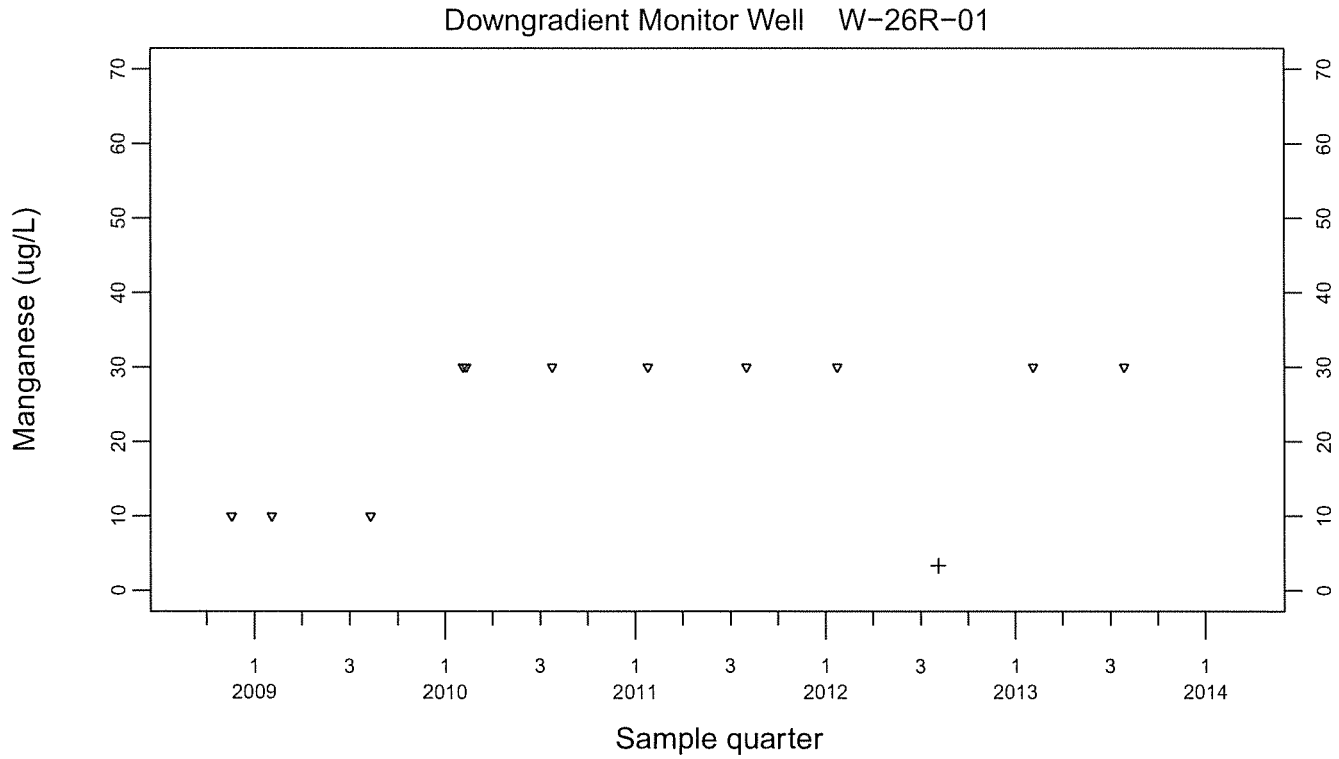

Sewage Ponds Ground Water
Manganese (ug/L)
Above RL
Below RL
Estimated
Upgradient Monitor Well W-7ES
Manganese (ug/L)
0
10
20
30
40
50
60
70
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

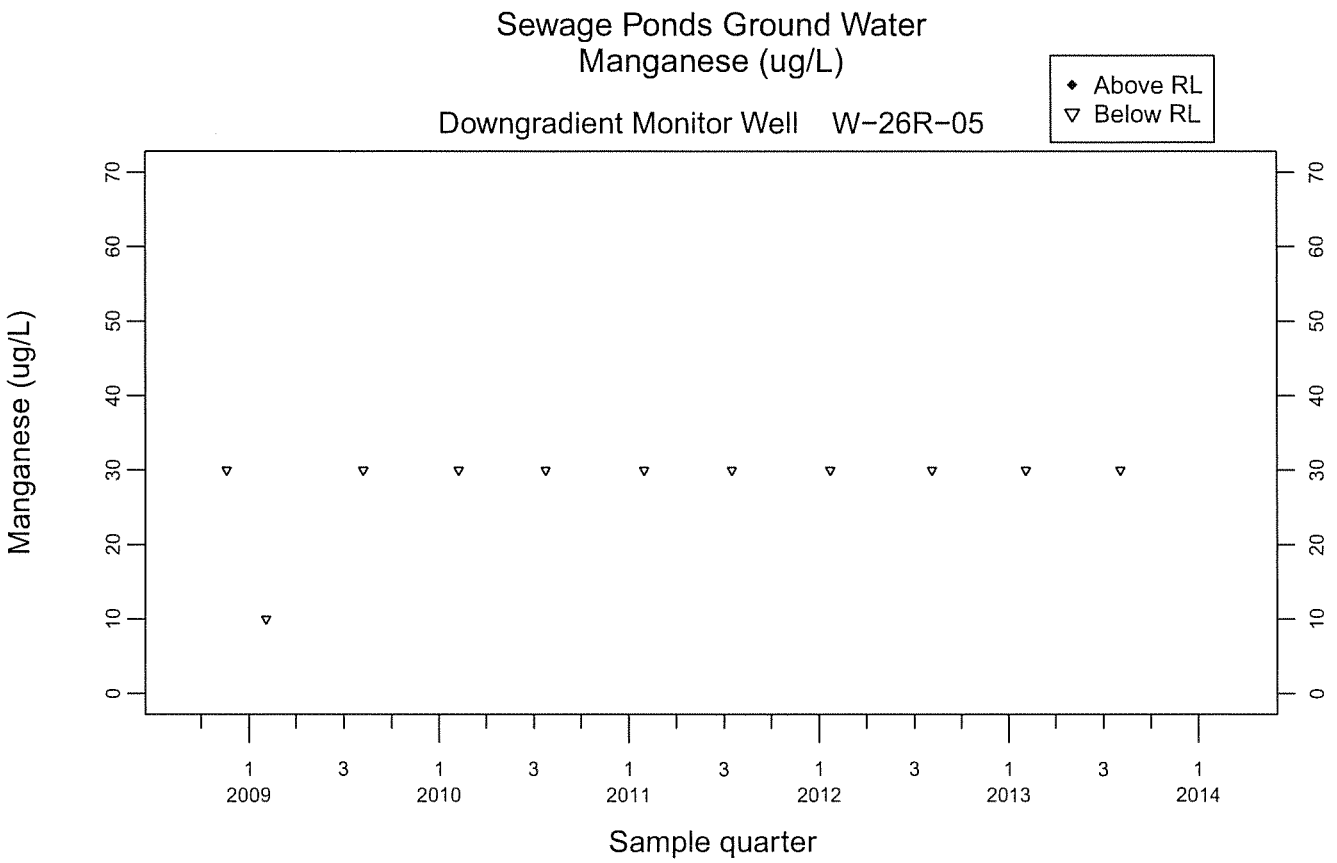

Upgradient Monitor Well W-7PS
Manganese (ug/L)
0
10
20
30
40
50
60
70
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

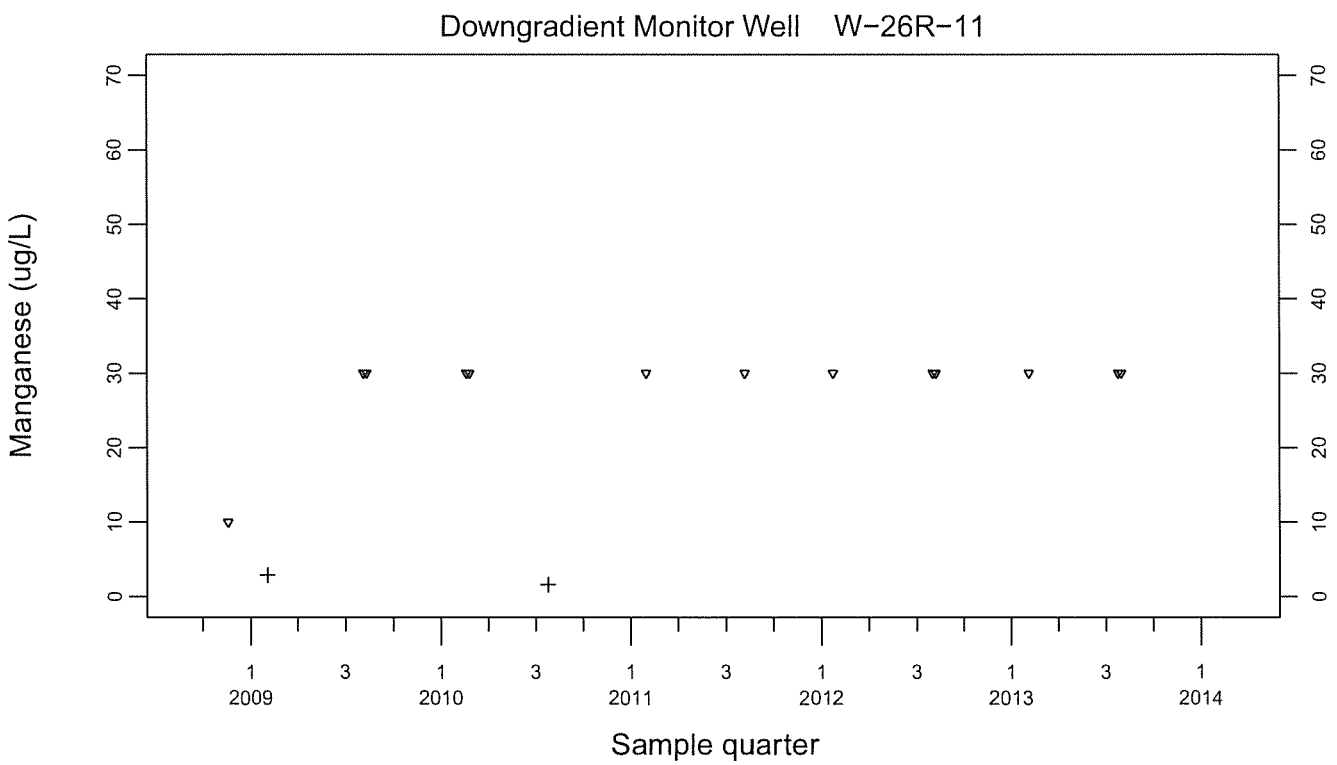

Sewage Ponds Ground Water
Manganese (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Manganese (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

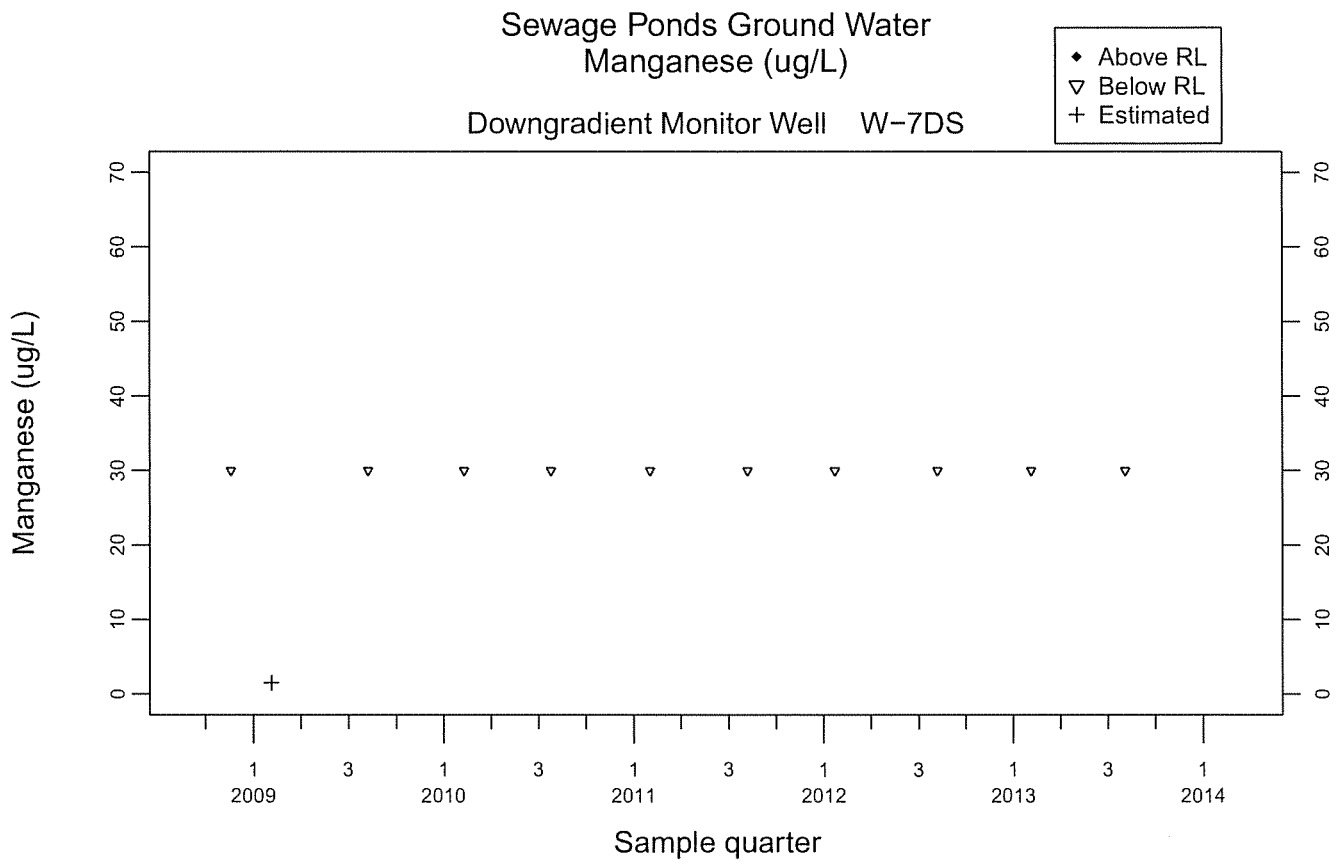

Downgradient Monitor Well W-25N-23
Manganese (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

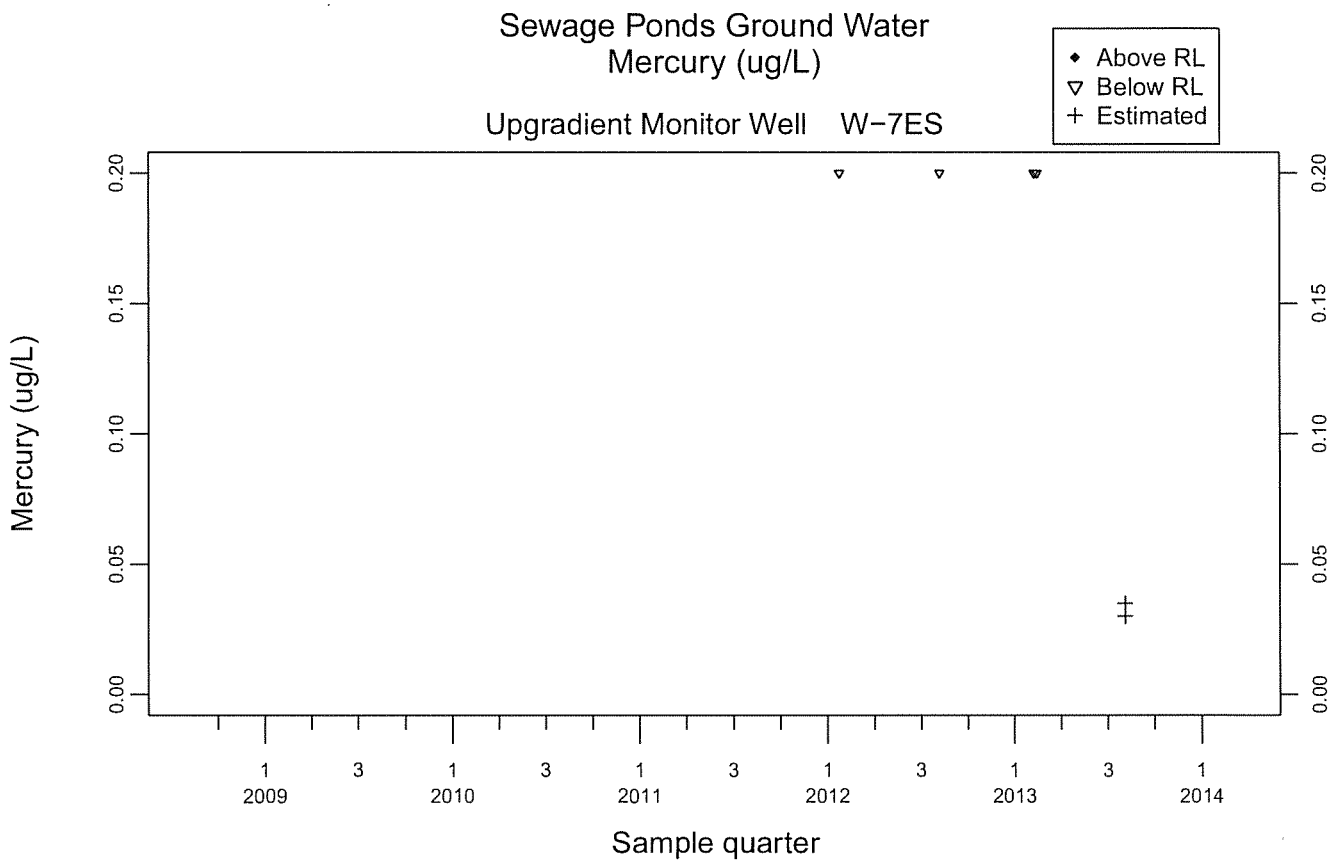

Sewage Ponds Ground Water
Manganese (ug/L)
Above RL
Estimated
Downgradient Monitor Well W-25N-22
Manganese (ug/L)
0
10
20
30
40
50
60
70
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

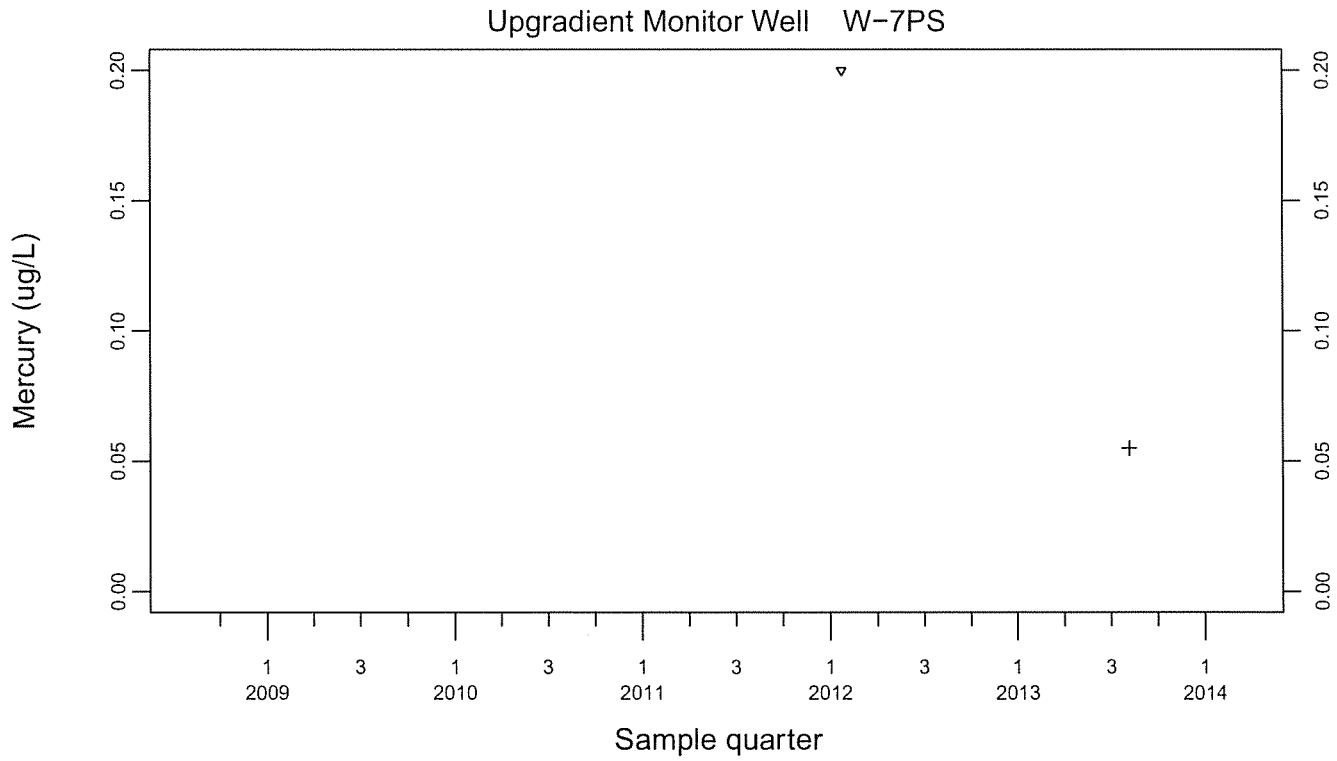

Downgradient Monitor Well W-26R-01
Manganese (ug/L)
0
10
20
30
40
50
60
70
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

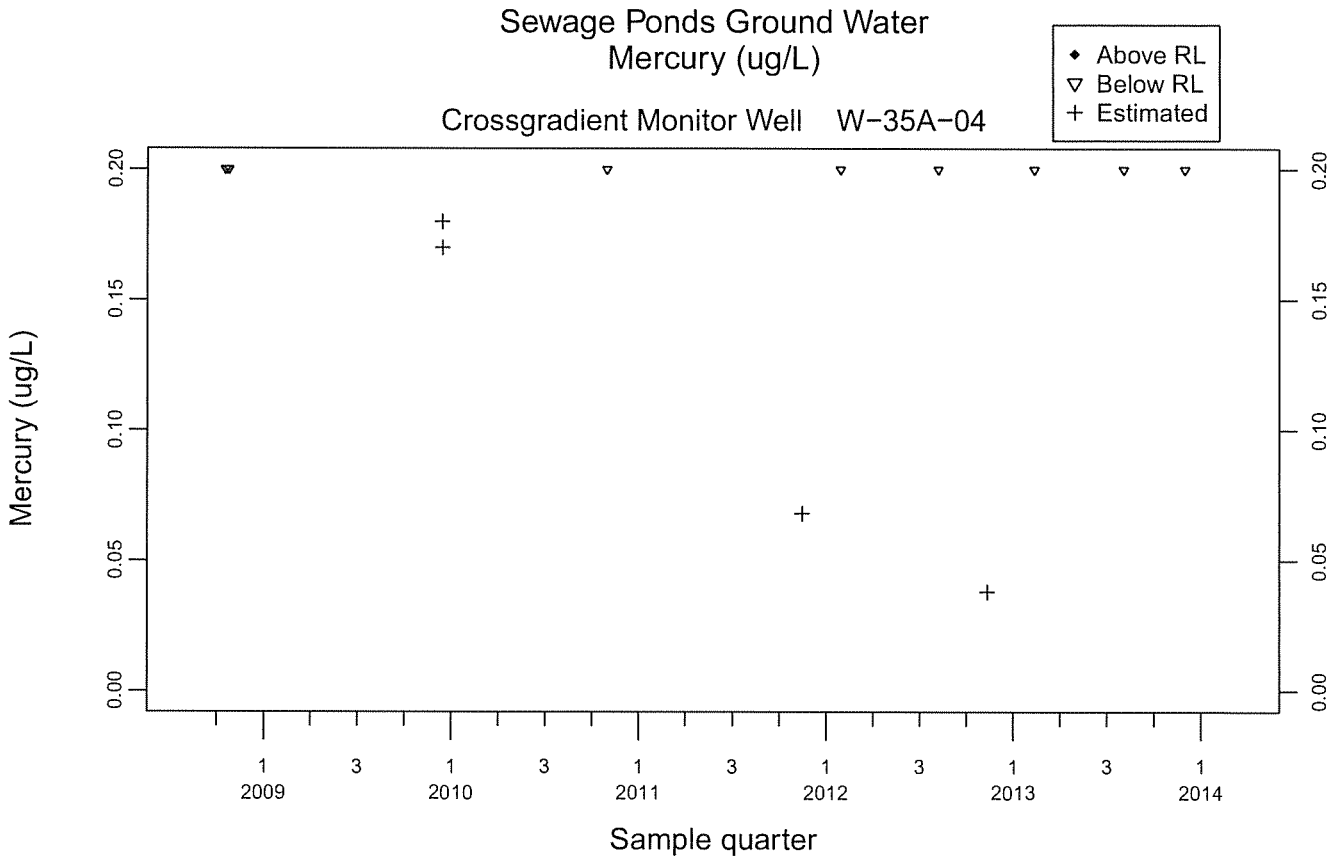

Sewage Ponds Ground Water
Manganese (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Manganese (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

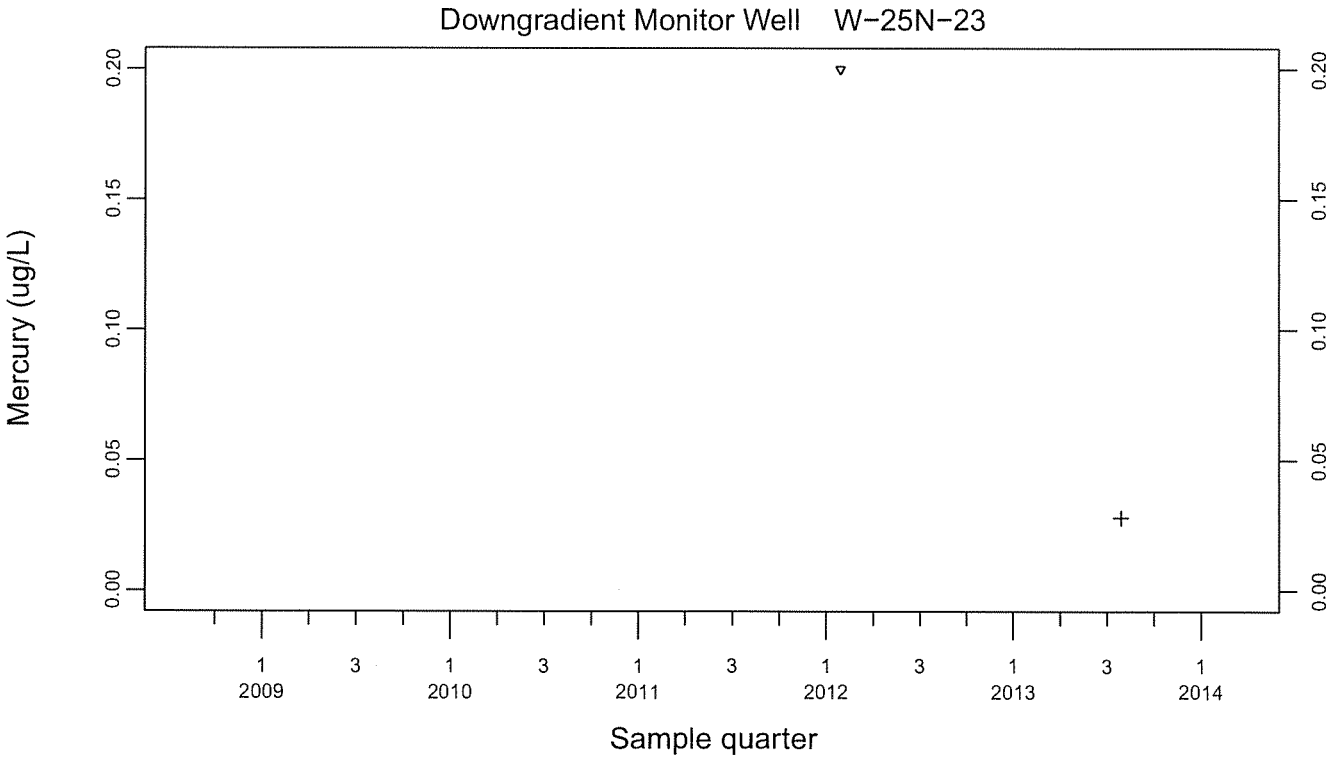

Downgradient Monitor Well W-26R-11
Manganese (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

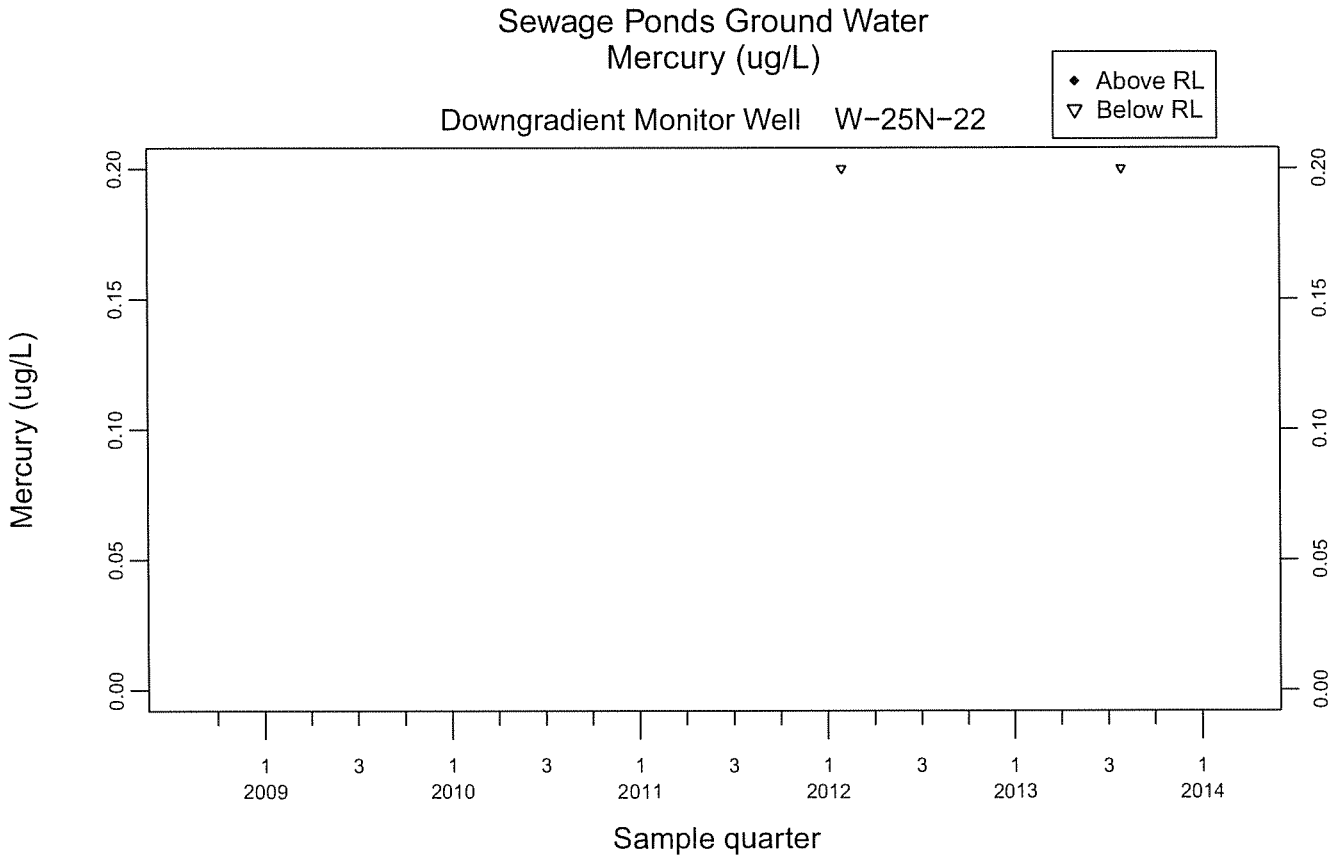

Sewage Ponds Ground Water
Manganese (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Manganese (ug/L)
0
10
20
30
40
50
60
70
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

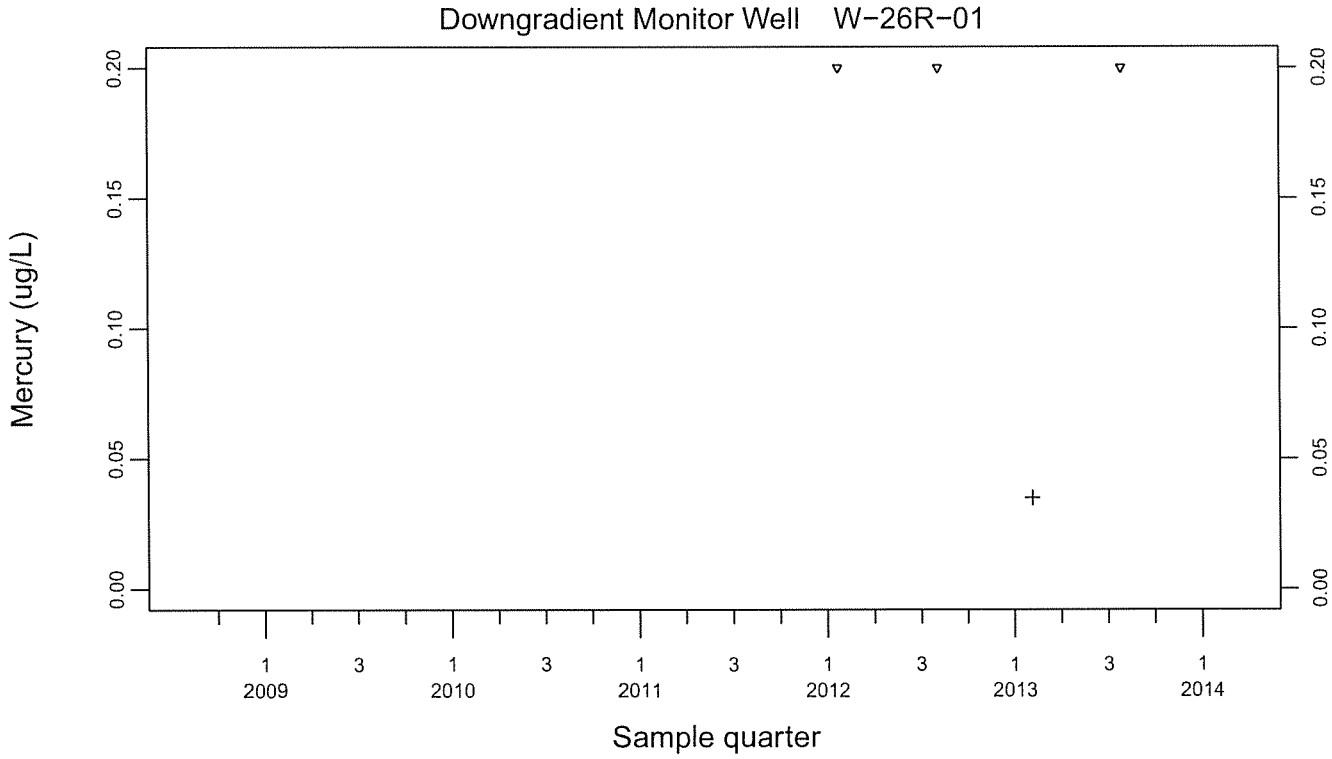

Sewage Ponds Ground Water
Mercury (ug/L)
Above RL
Below RL
Estimated
Upgradient Monitor Well W-7ES
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

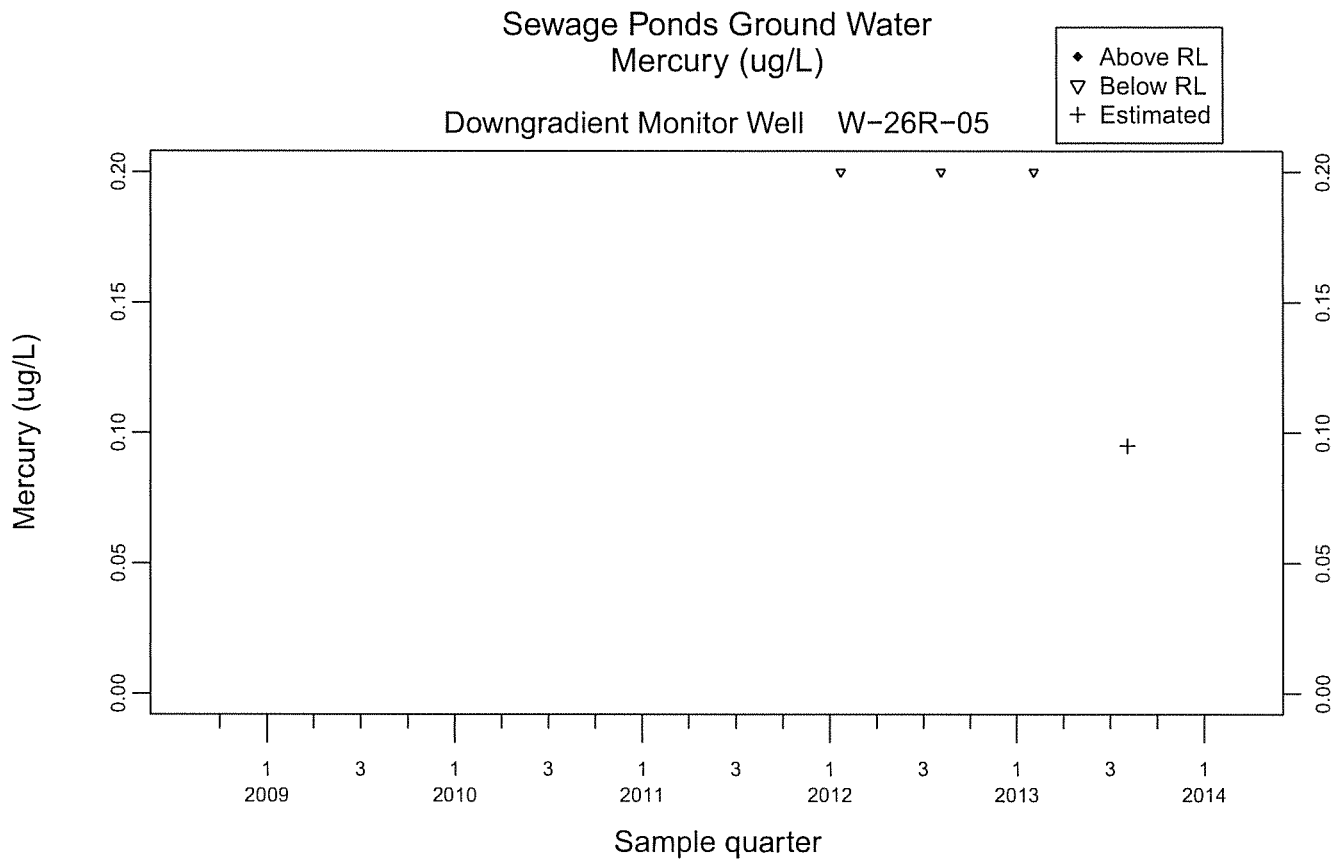

Upgradient Monitor Well W-7PS
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

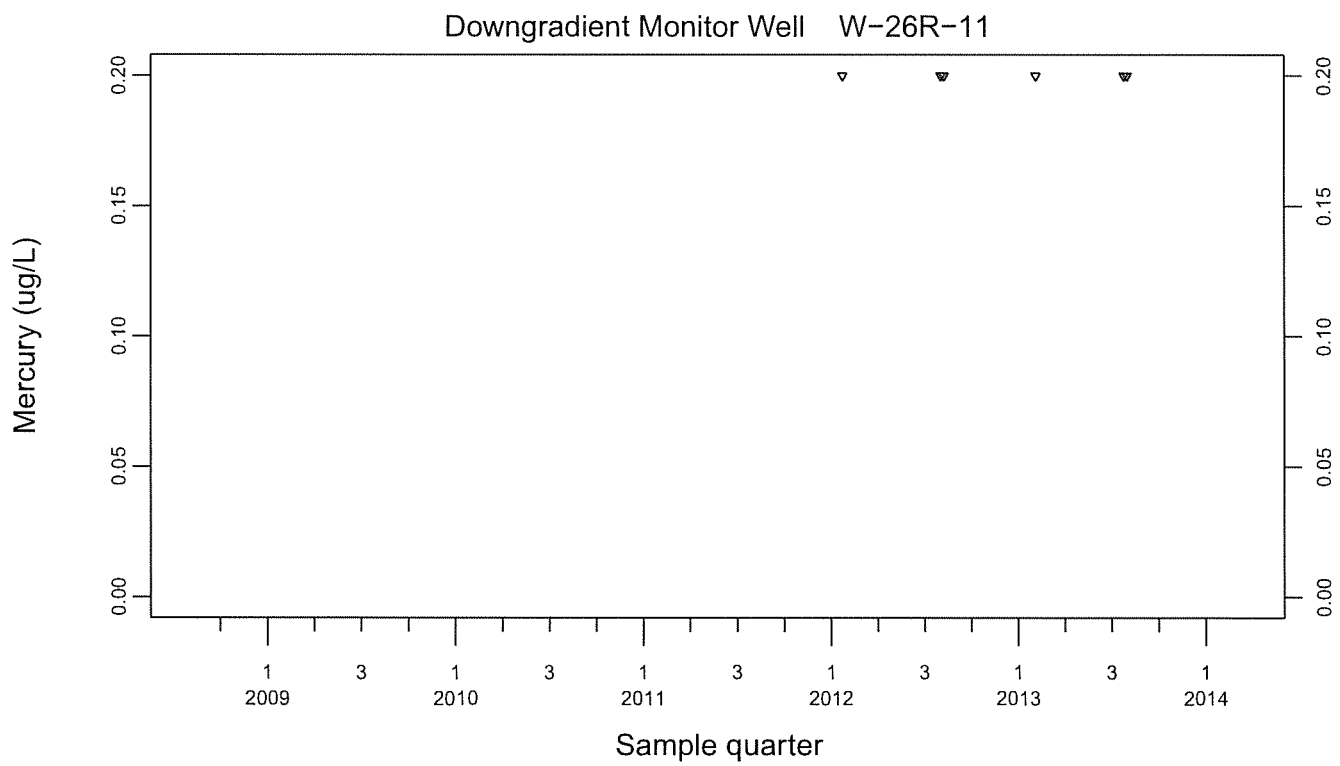

Sewage Ponds Ground Water
Mercury (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

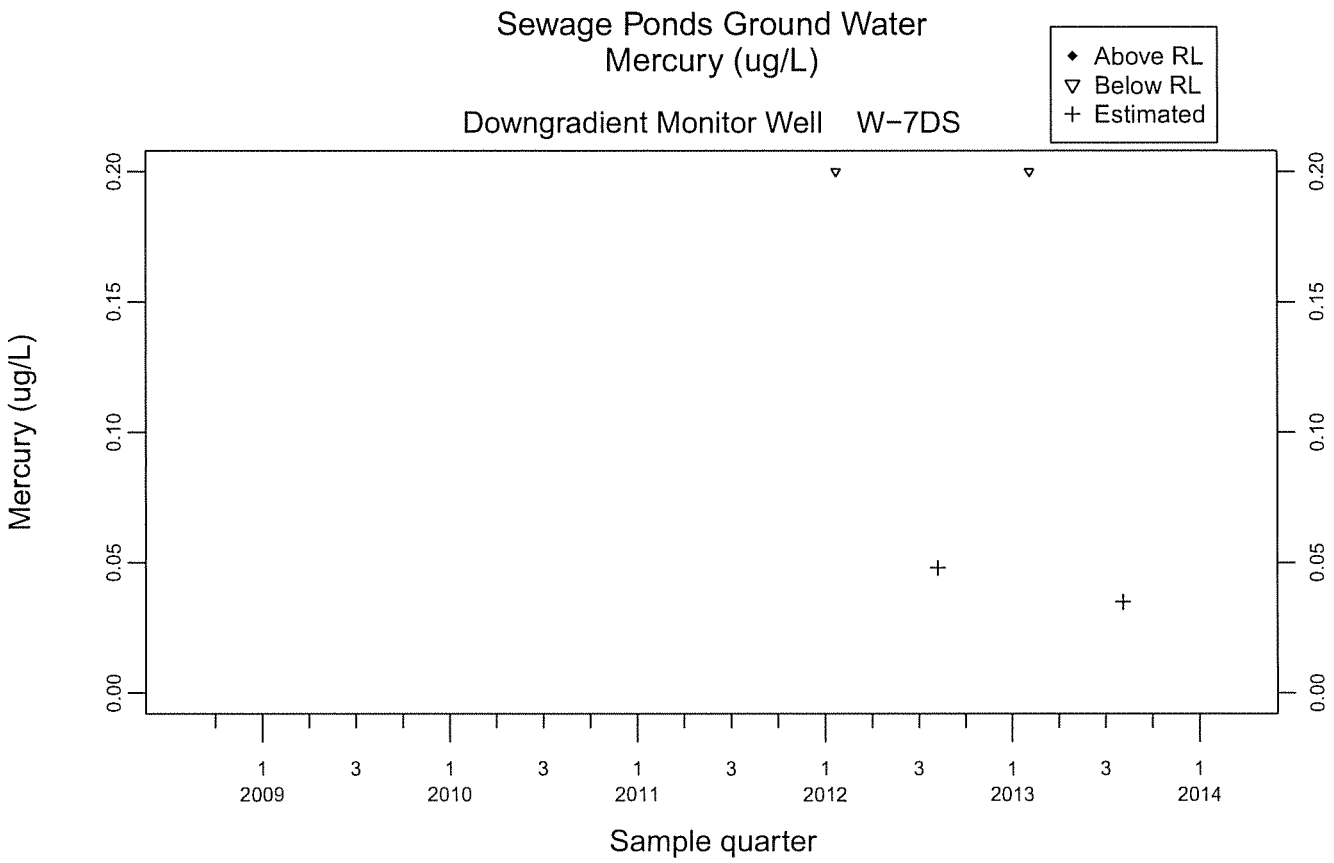

Downgradient Monitor Well W-25N-23
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

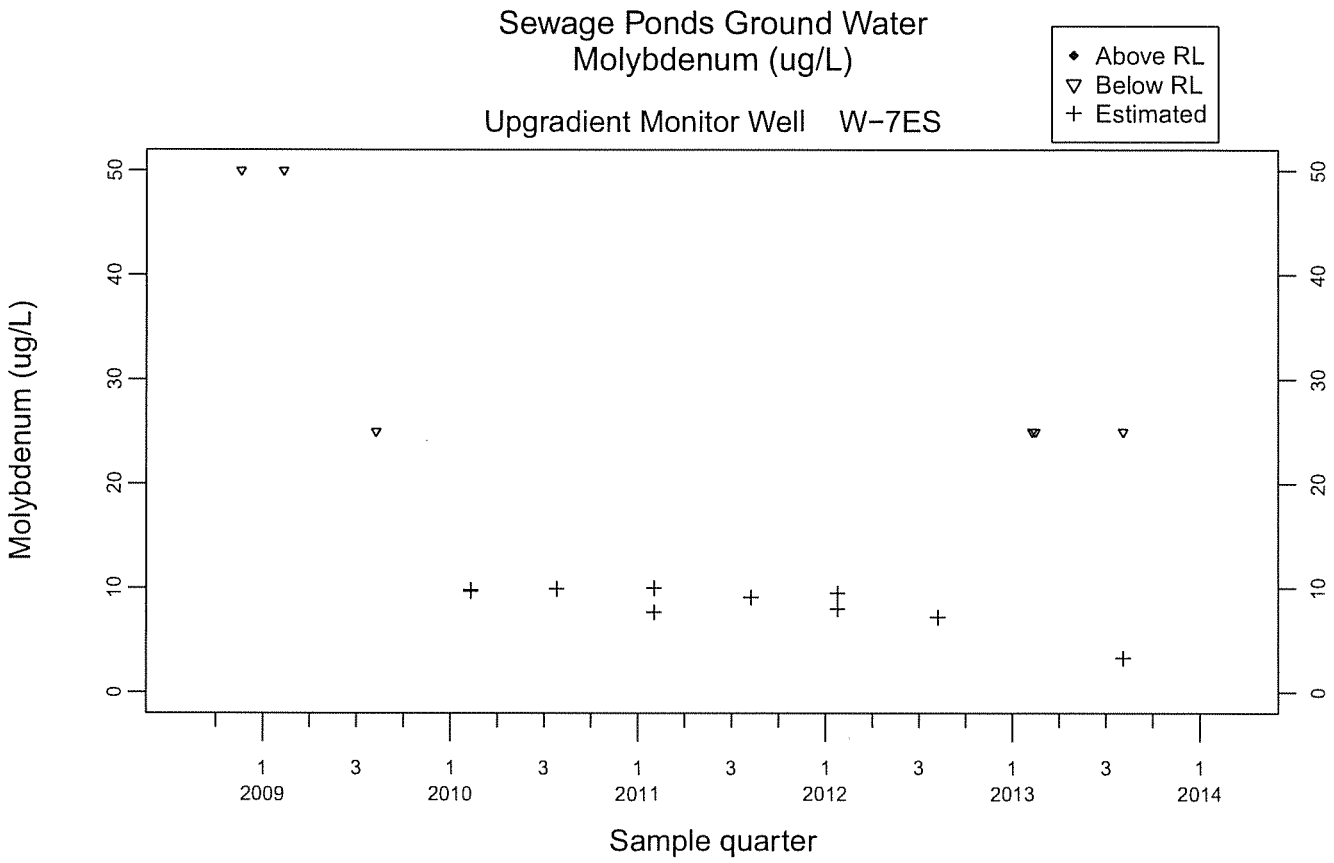

Sewage Ponds Ground Water
Mercury (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

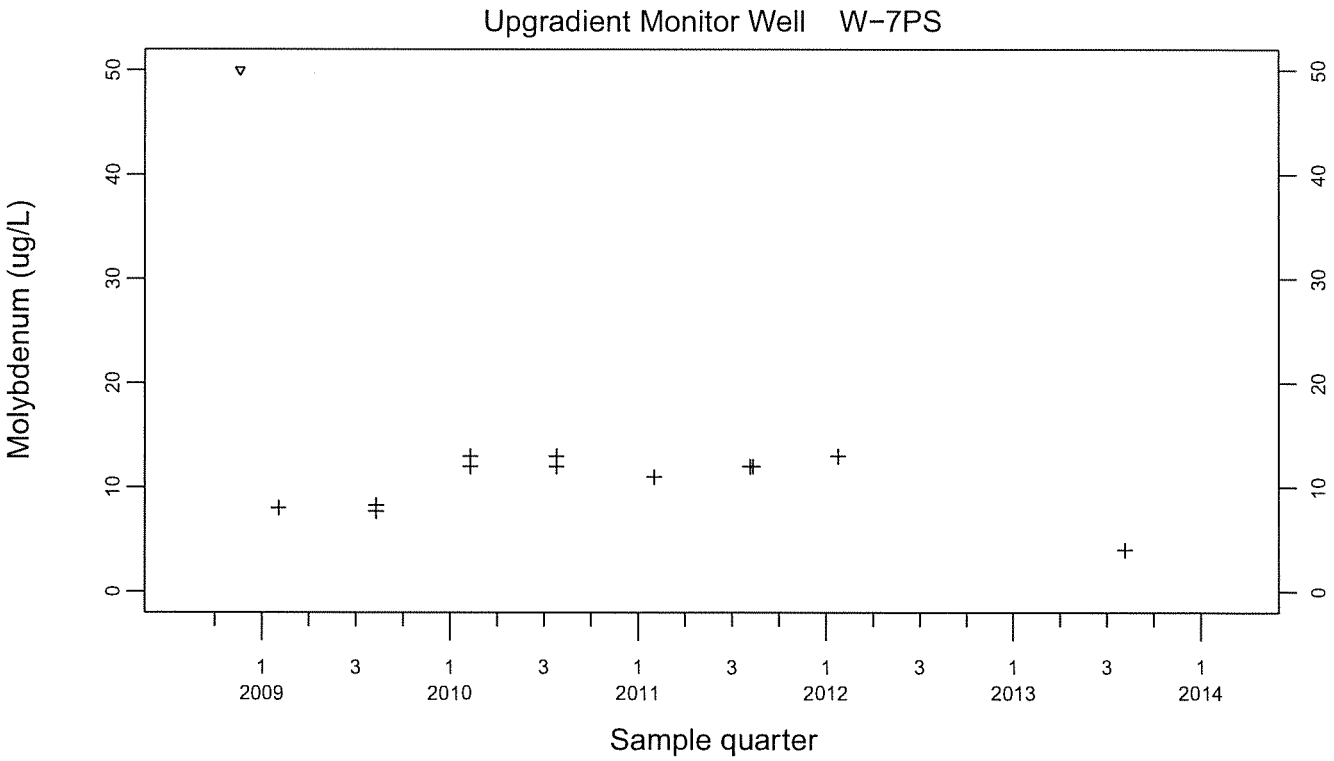

Downgradient Monitor Well W-26R-01
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

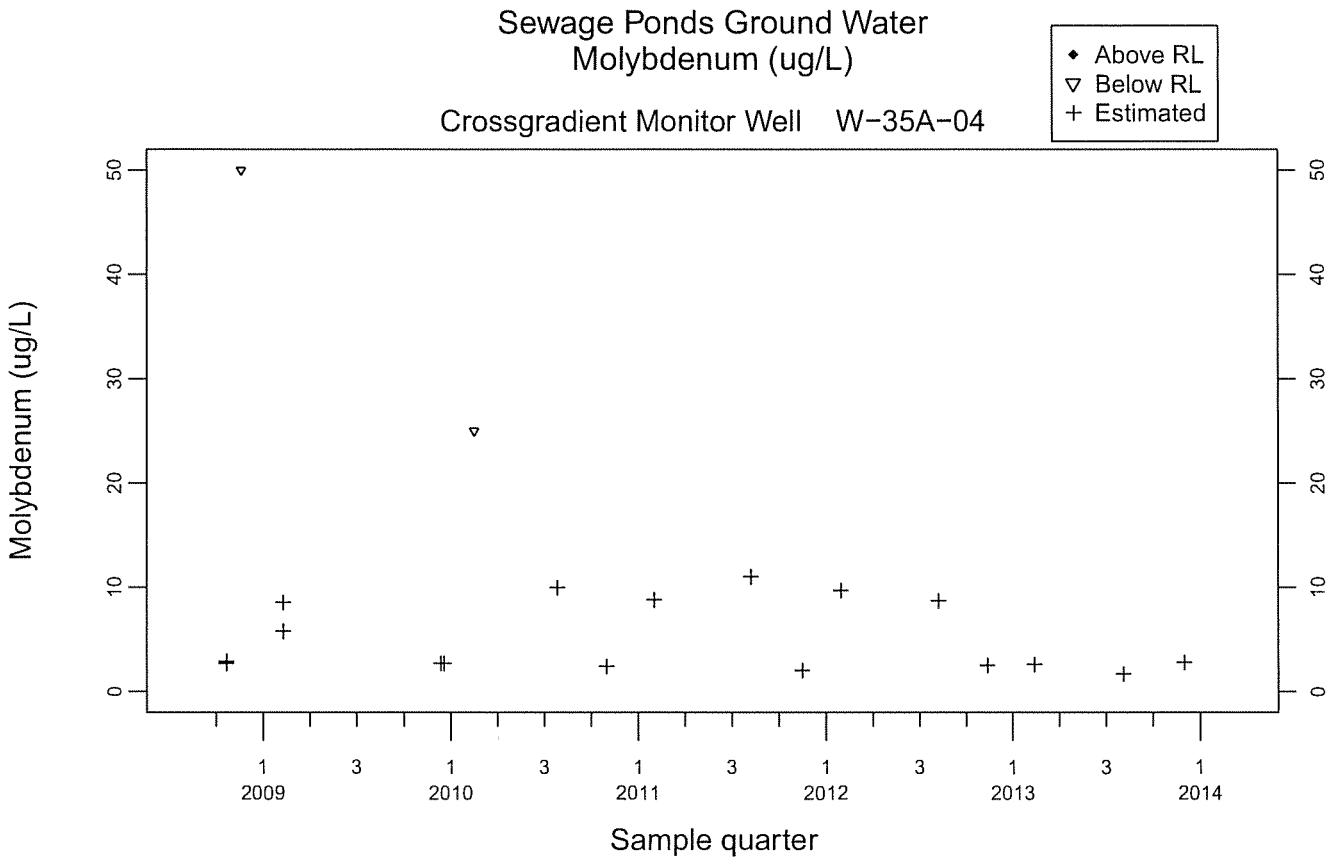

Sewage Ponds Ground Water
Mercury (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-26R-05
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 3 1 3 1 3 1 3 1 3 1
2009 2010 2011 2012 2013 2014
Sample quarter

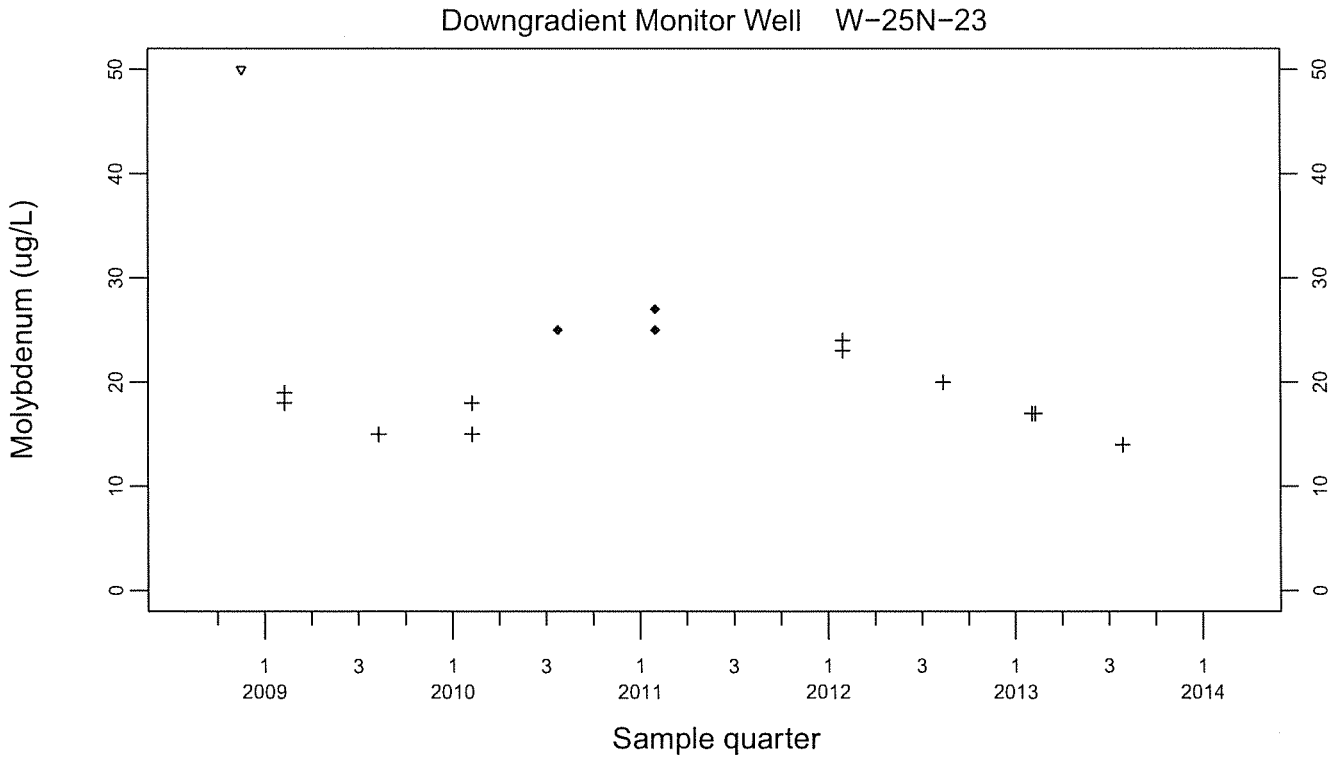

Downgradient Monitor Well W-26R-11
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1 3 1 3 1 3 1 3 1 3 1
2009 2010 2011 2012 2013 2014
Sample quarter

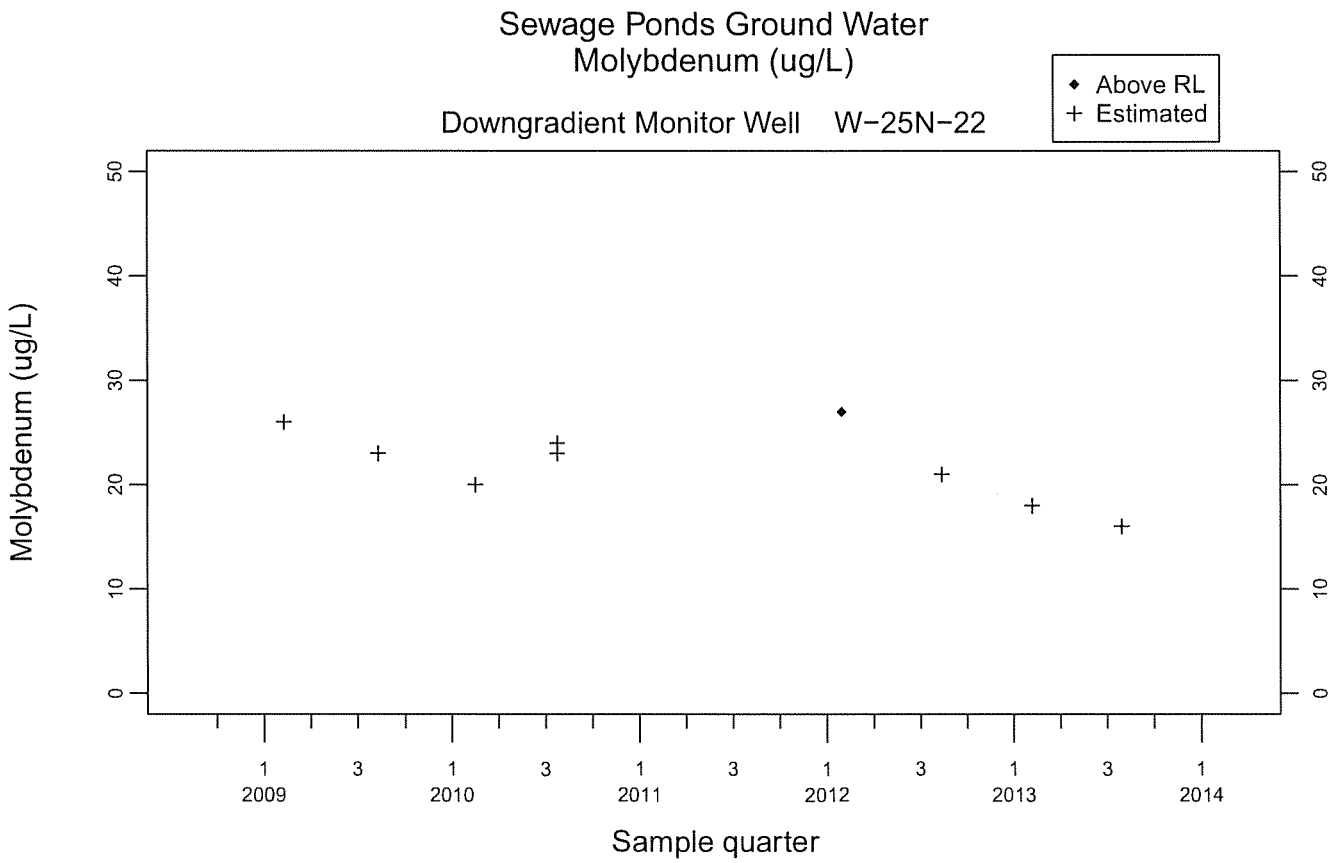

Sewage Ponds Ground Water
Mercury (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Mercury (ug/L)
0.00
0.05
0.10
0.15
0.20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

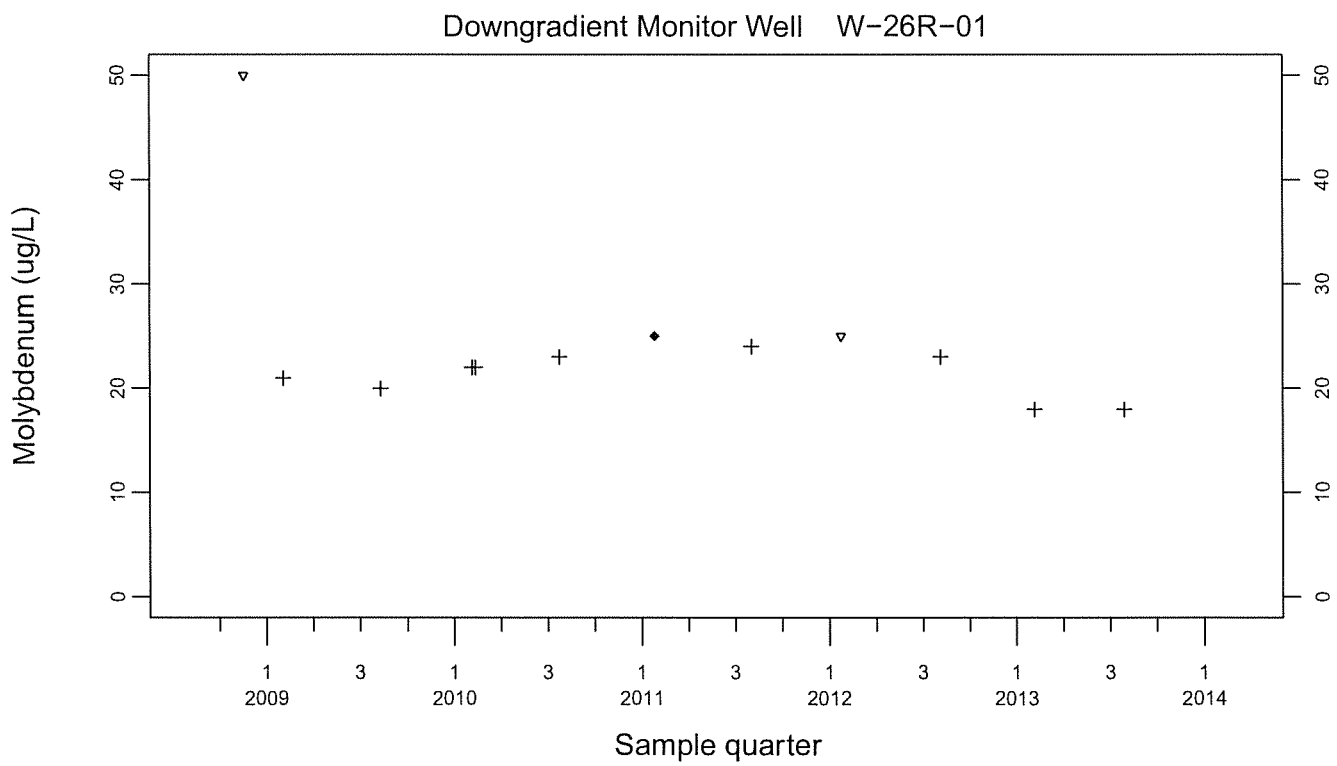

Sewage Ponds Ground Water
Molybdenum (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Estimated
Molybdenum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

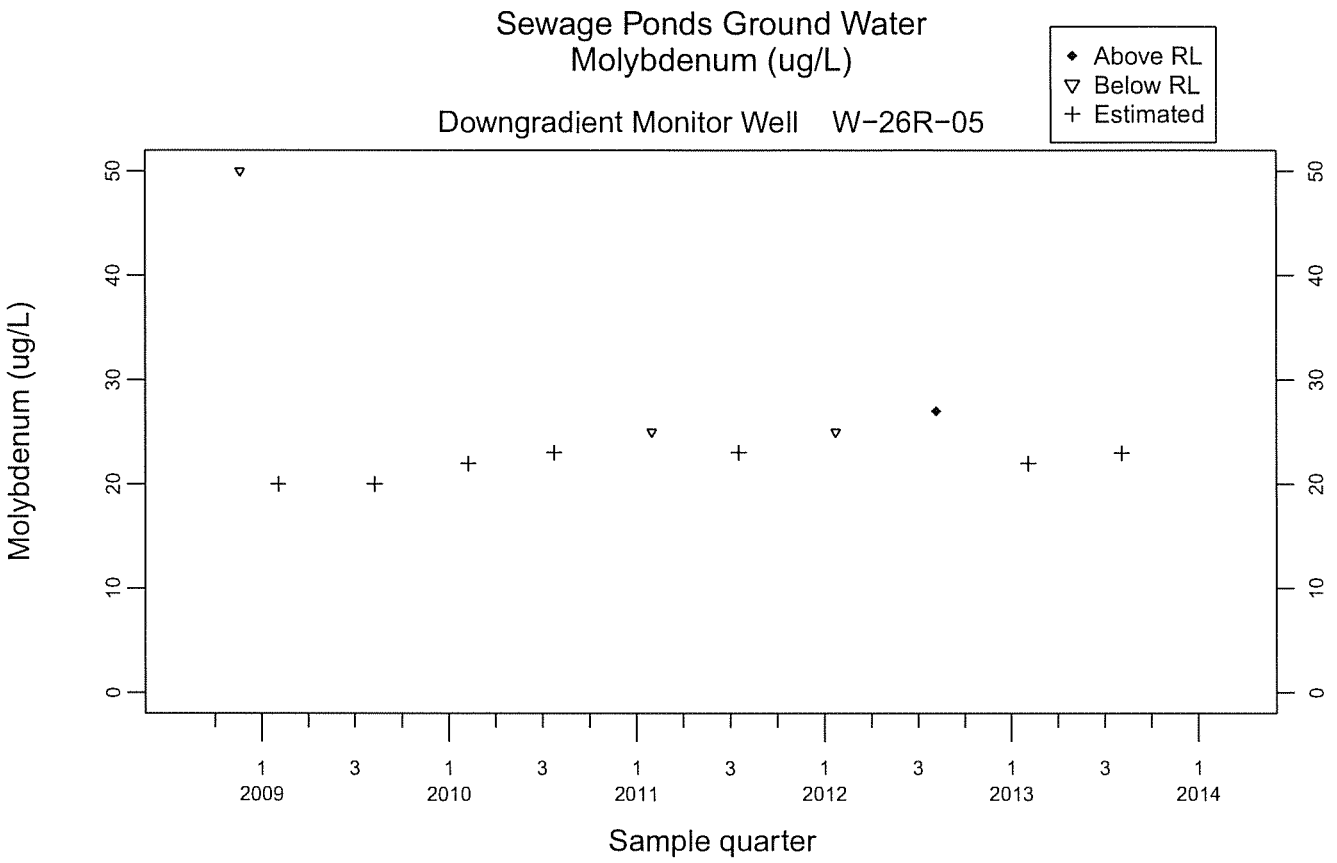

Upgradient Monitor Well W-7PS
Molybdenum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

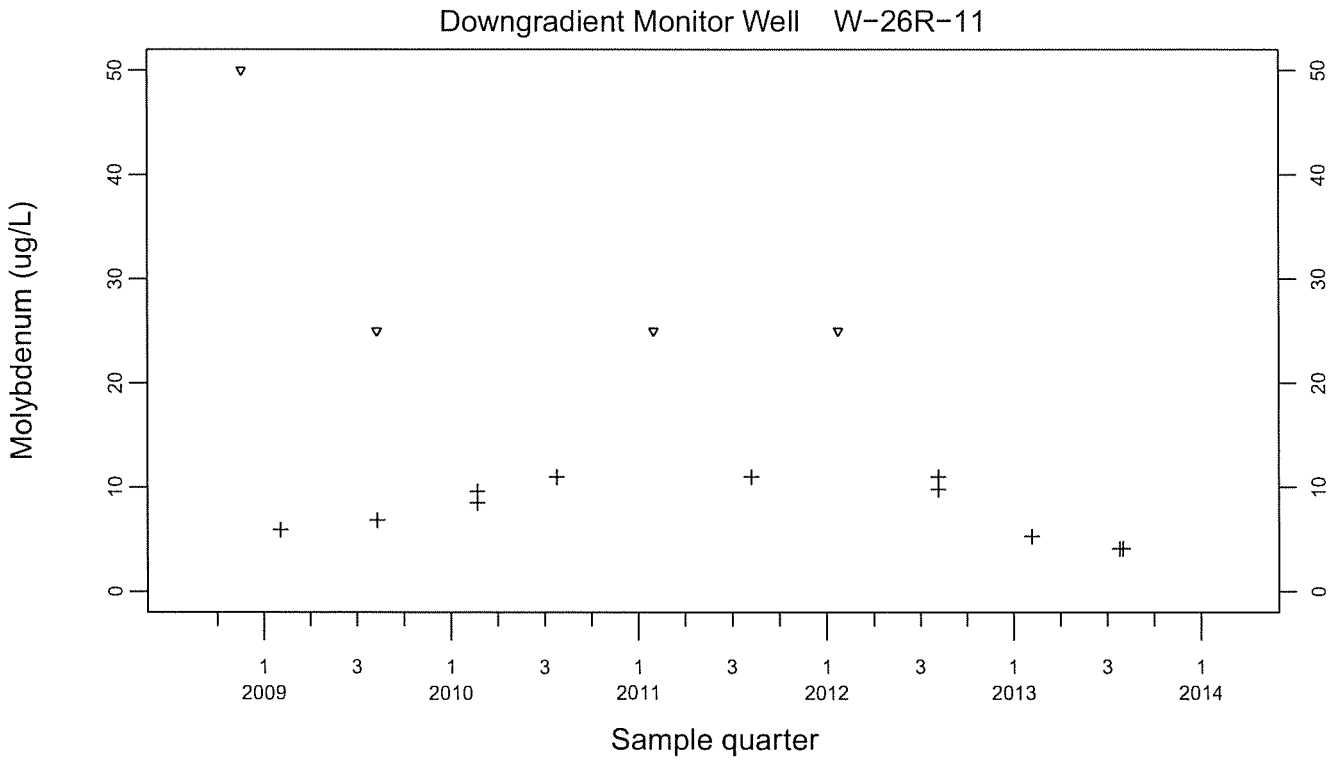

Sewage Ponds Ground Water
Molybdenum (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Molybdenum (ug/L)
0
10
20
30
40
50
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

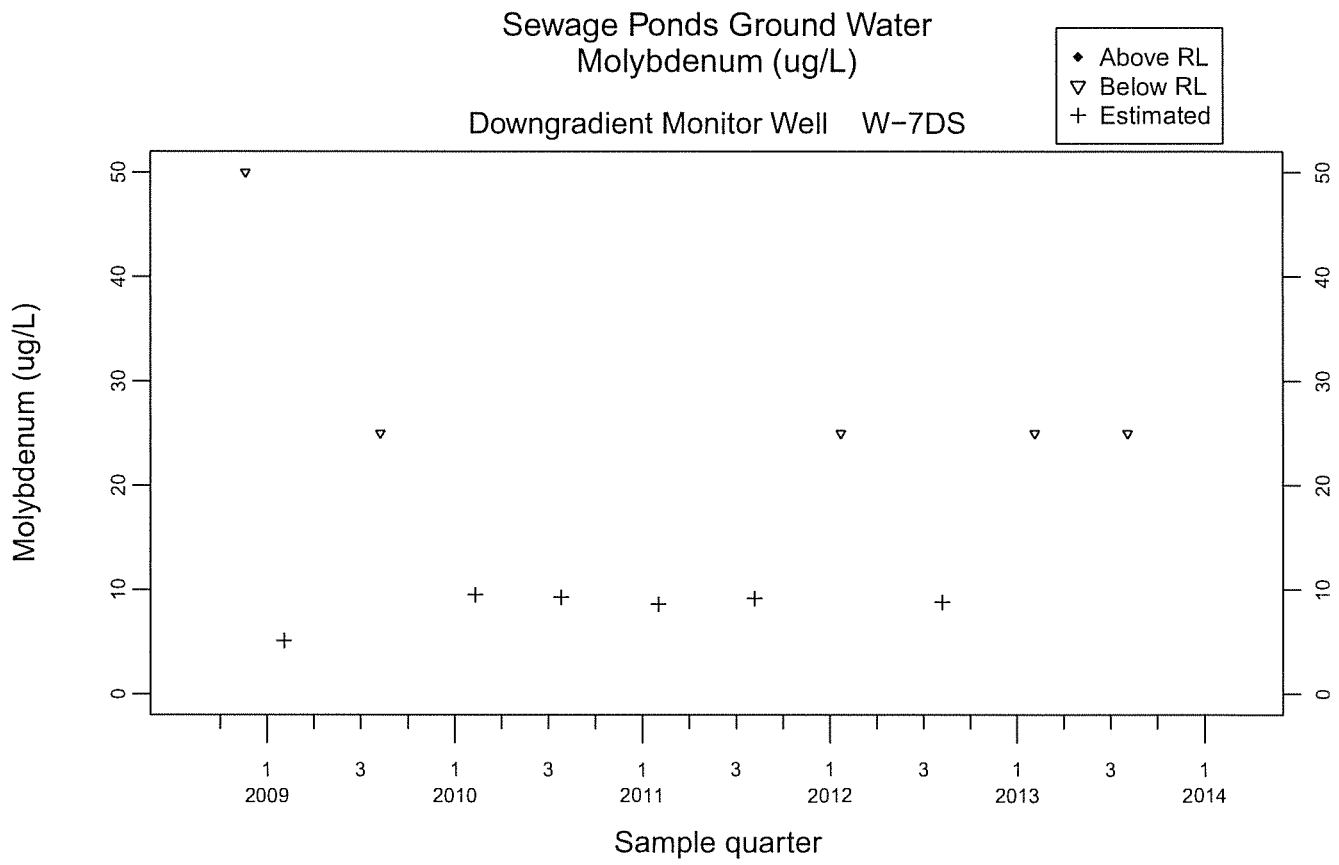

Downgradient Monitor Well W-25N-23
Molybdenum (ug/L)
0
10
20
30
40
50
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

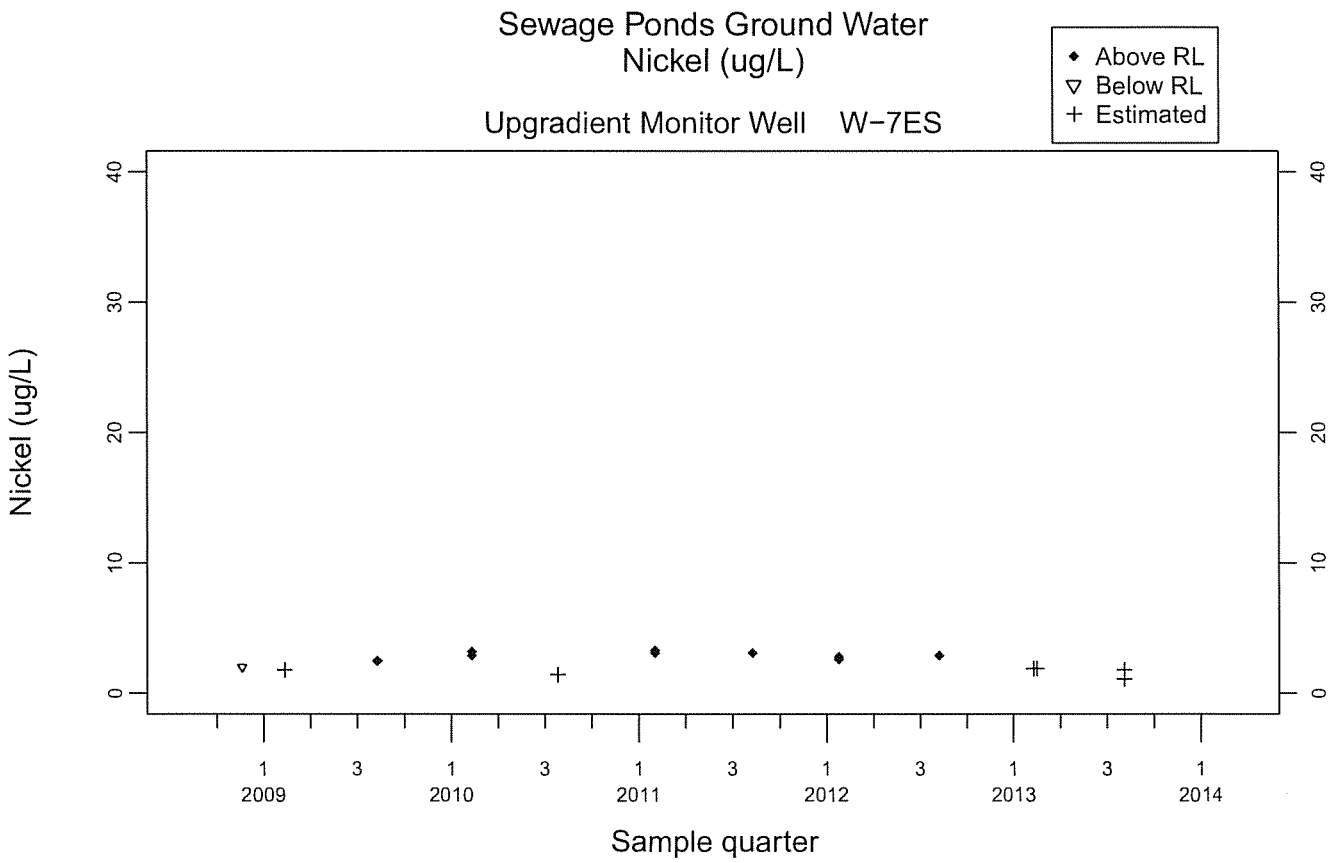

Sewage Ponds Ground Water
Molybdenum (ug/L)
Above RL
Estimated
Downgradient Monitor Well W-25N-22
Molybdenum (ug/L)
0
10
20
30
40
50
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

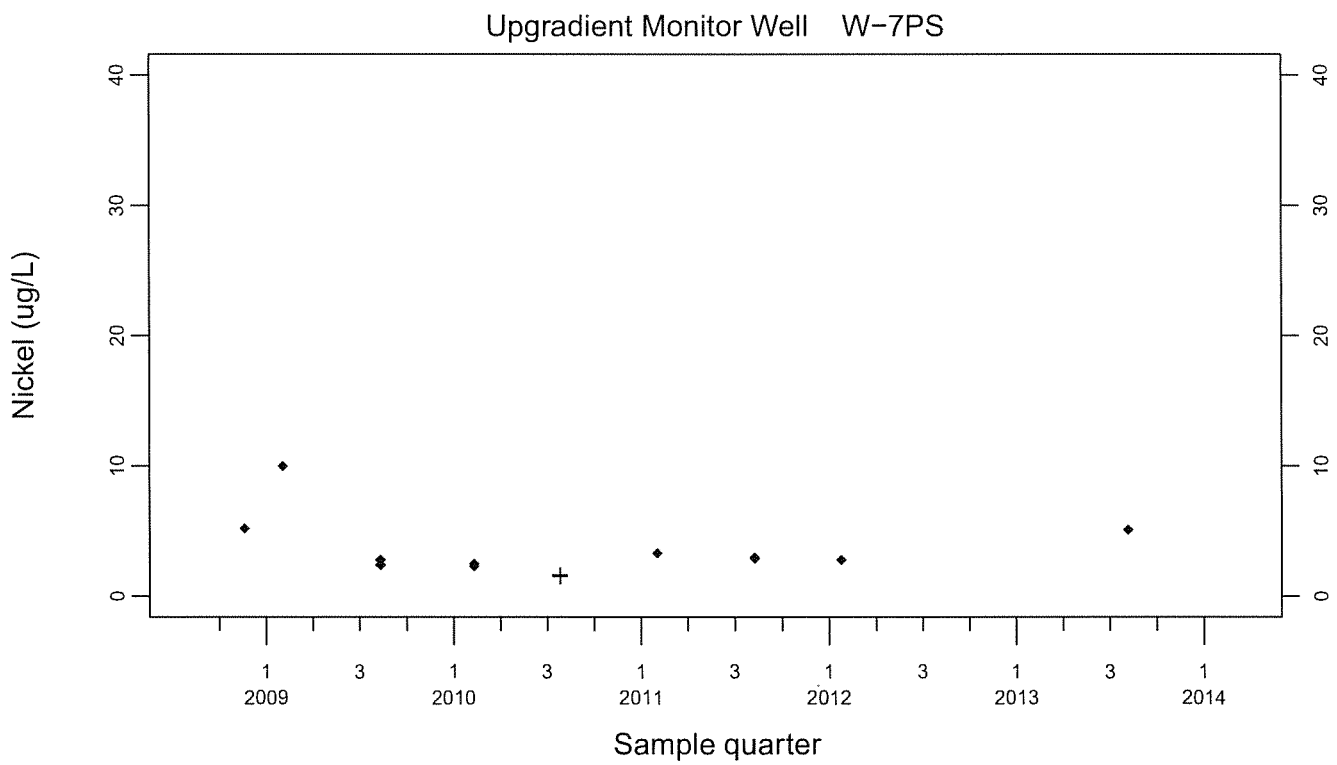

Downgradient Monitor Well W-26R-01
Molybdenum (ug/L)
0
10
20
30
40
50
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

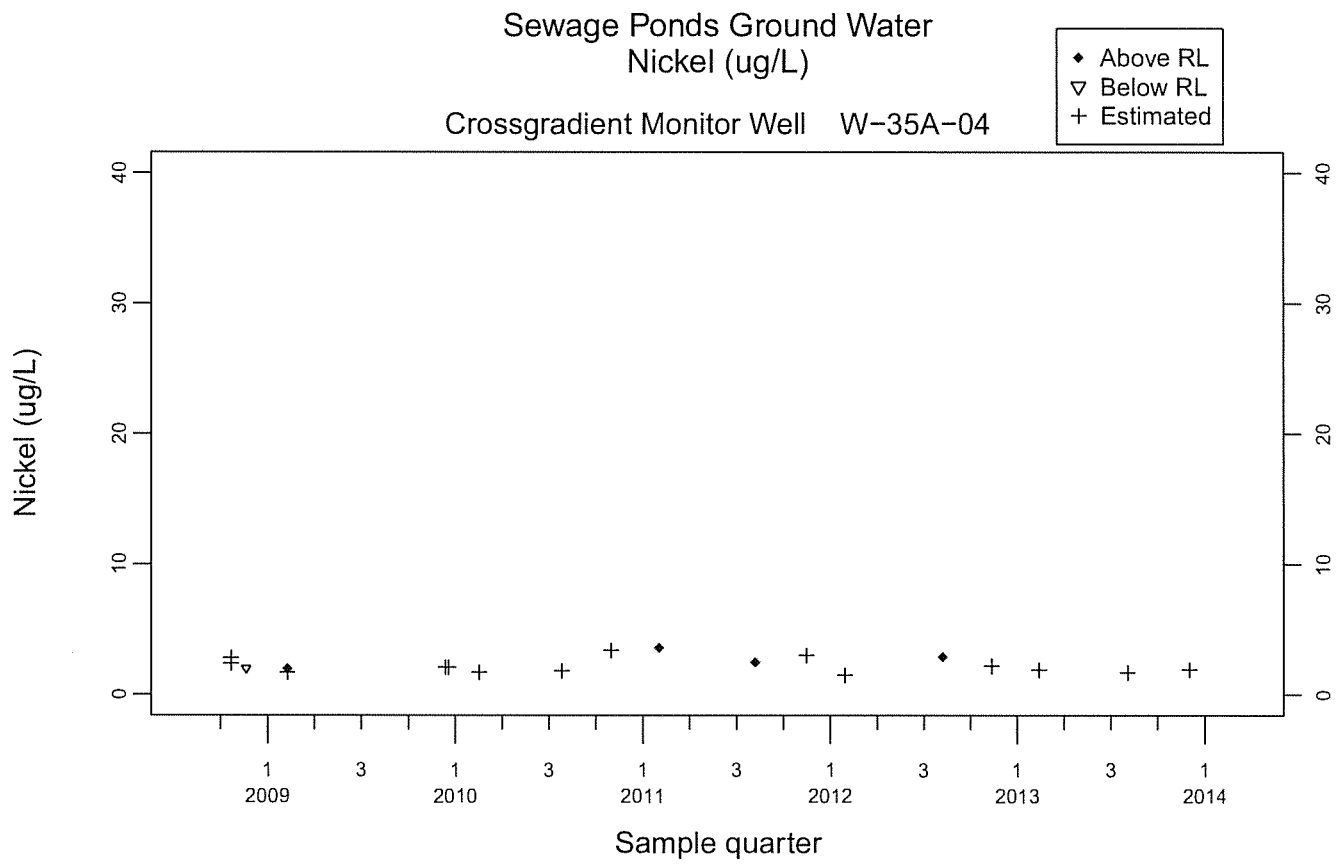

Sewage Ponds Ground Water
Molybdenum (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-26R-05
Molybdenum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

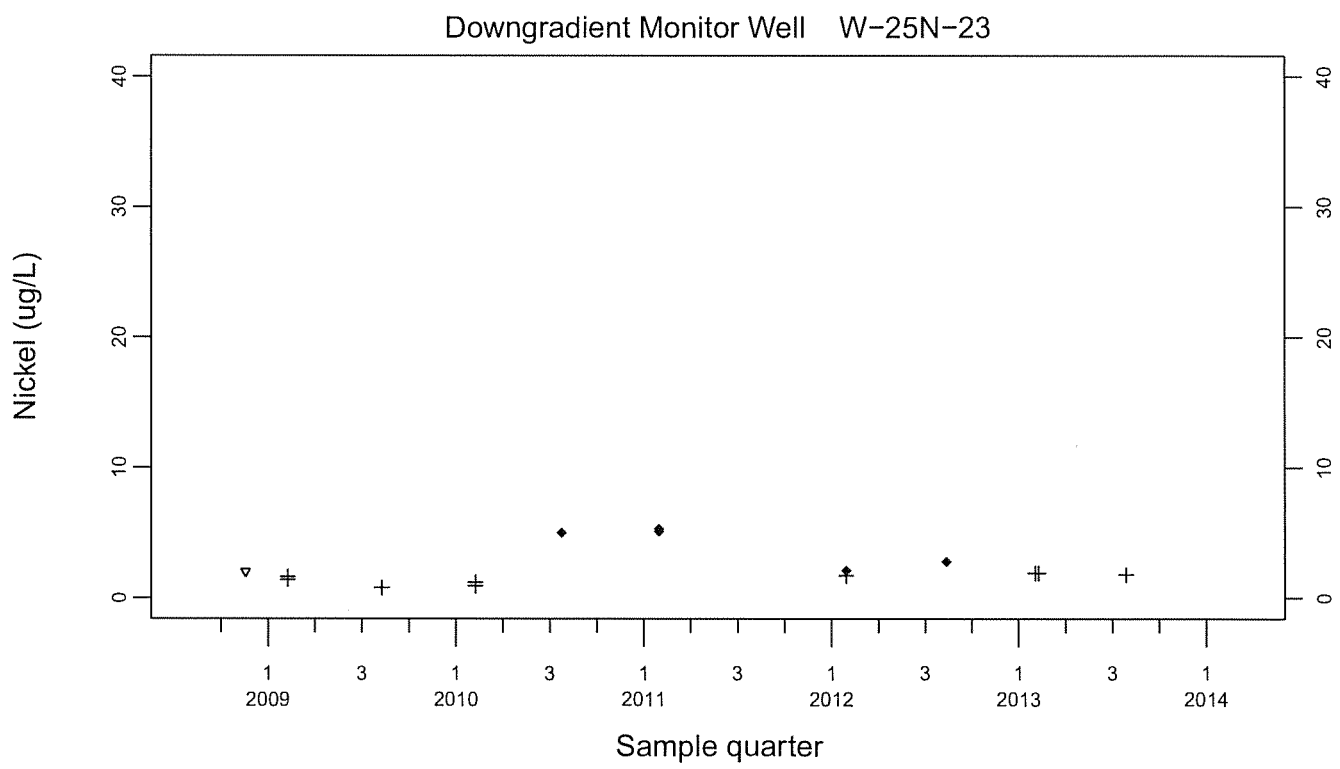

Downgradient Monitor Well W-26R-11
Molybdenum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

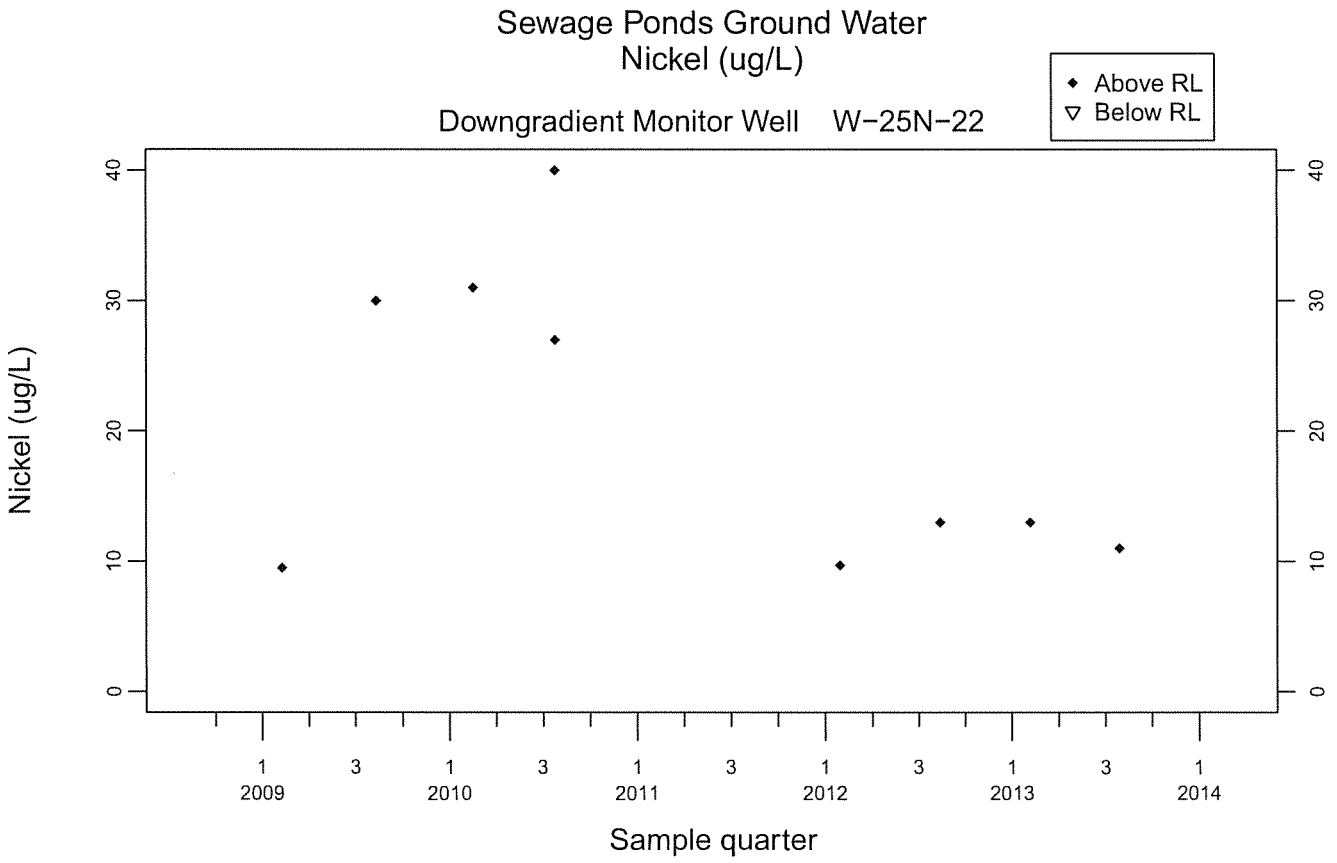

Sewage Ponds Ground Water
Molybdenum (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Molybdenum (ug/L)
0
10
20
30
40
50
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

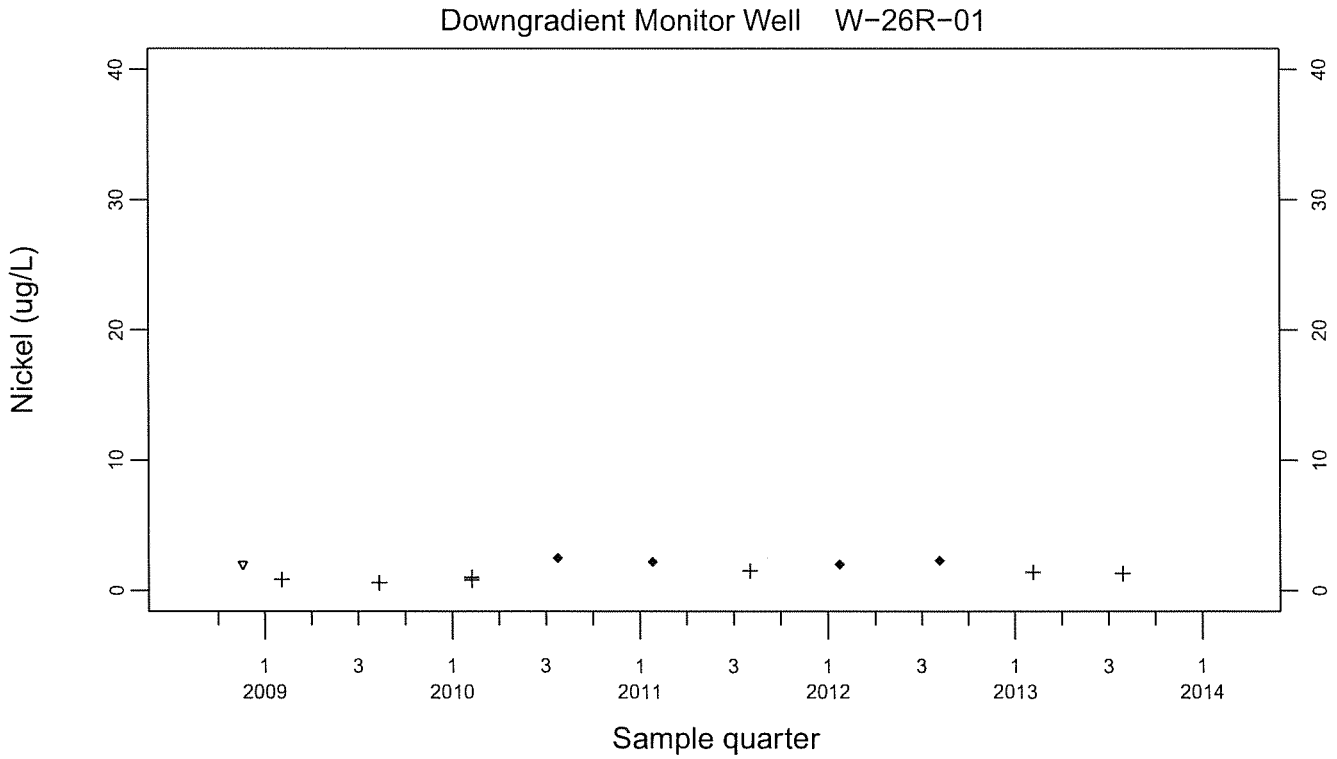

Sewage Ponds Ground Water
Nickel (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Estimated
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

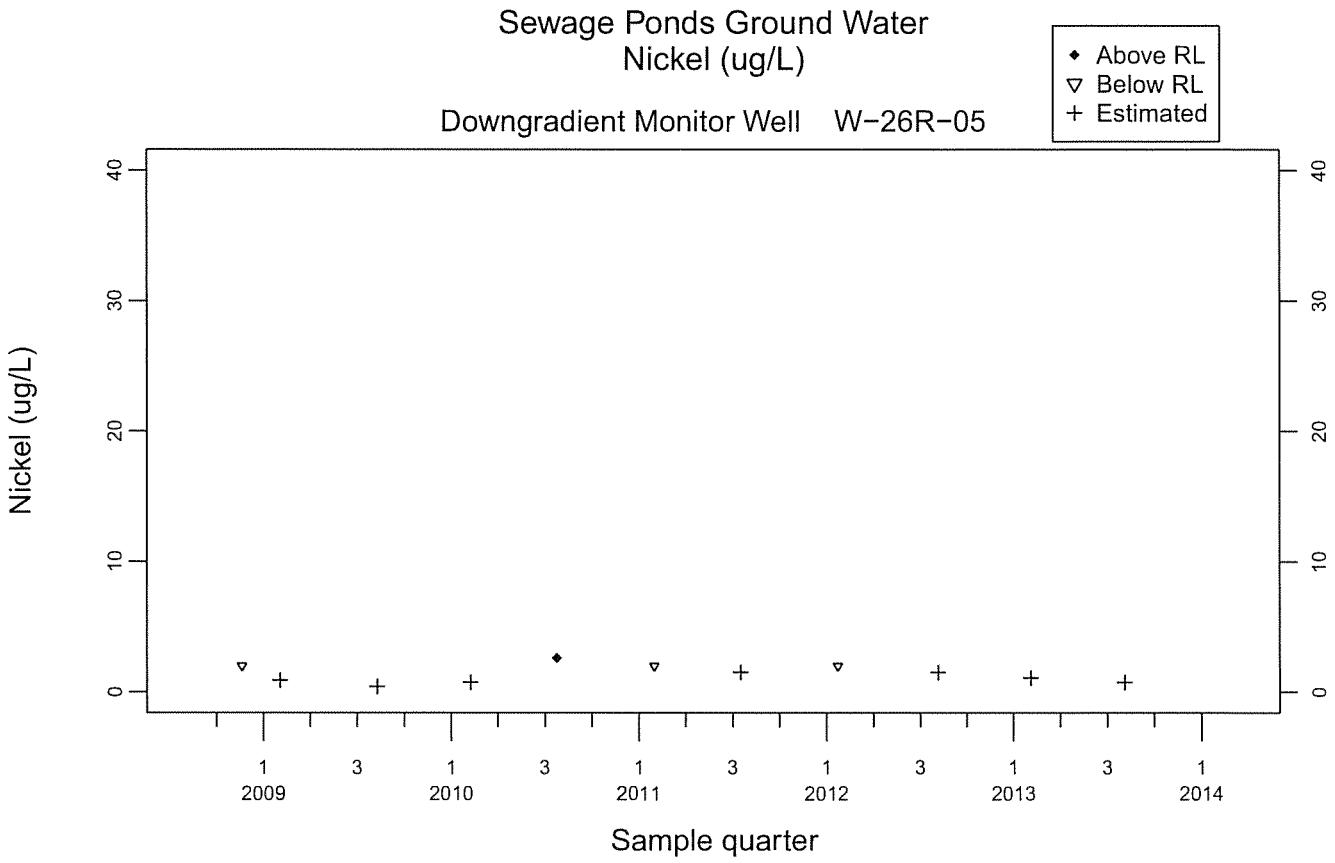

Upgradient Monitor Well W-7PS
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

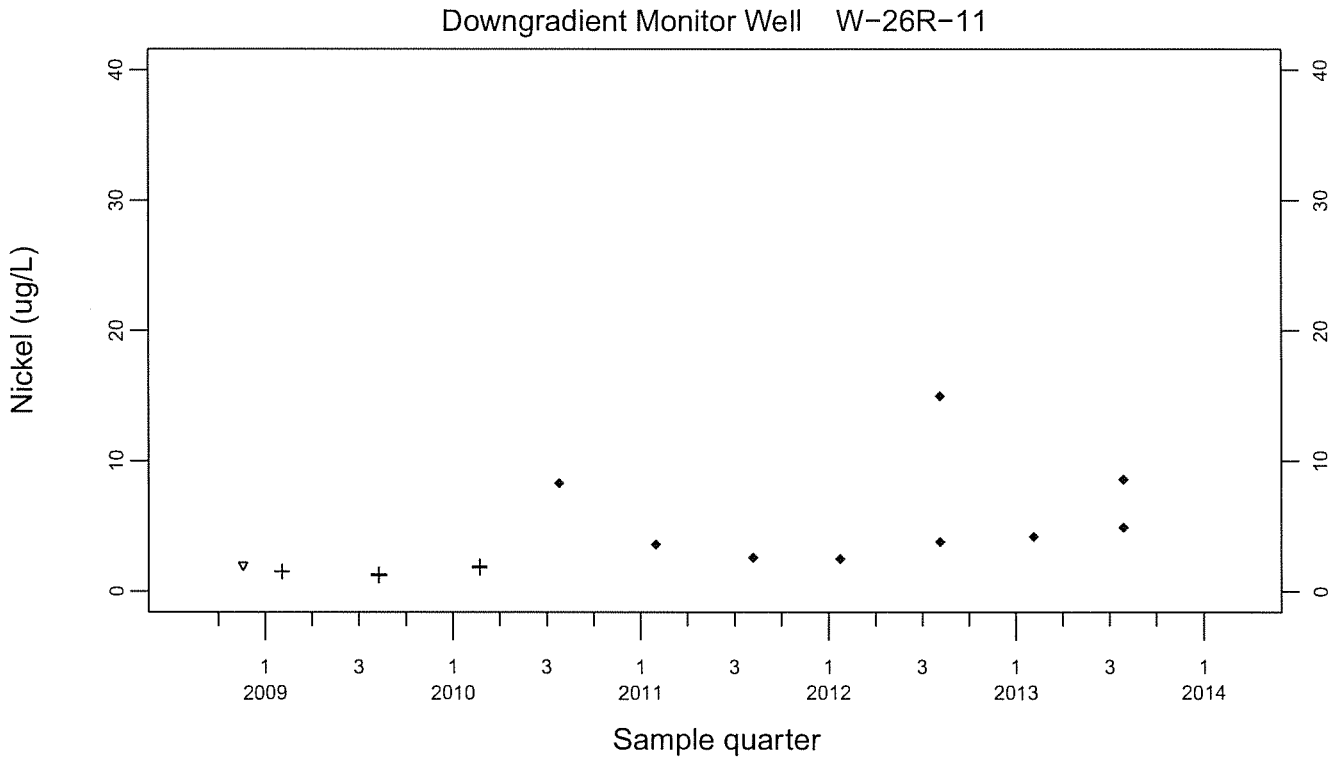

Sewage Ponds Ground Water
Nickel (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Estimated
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

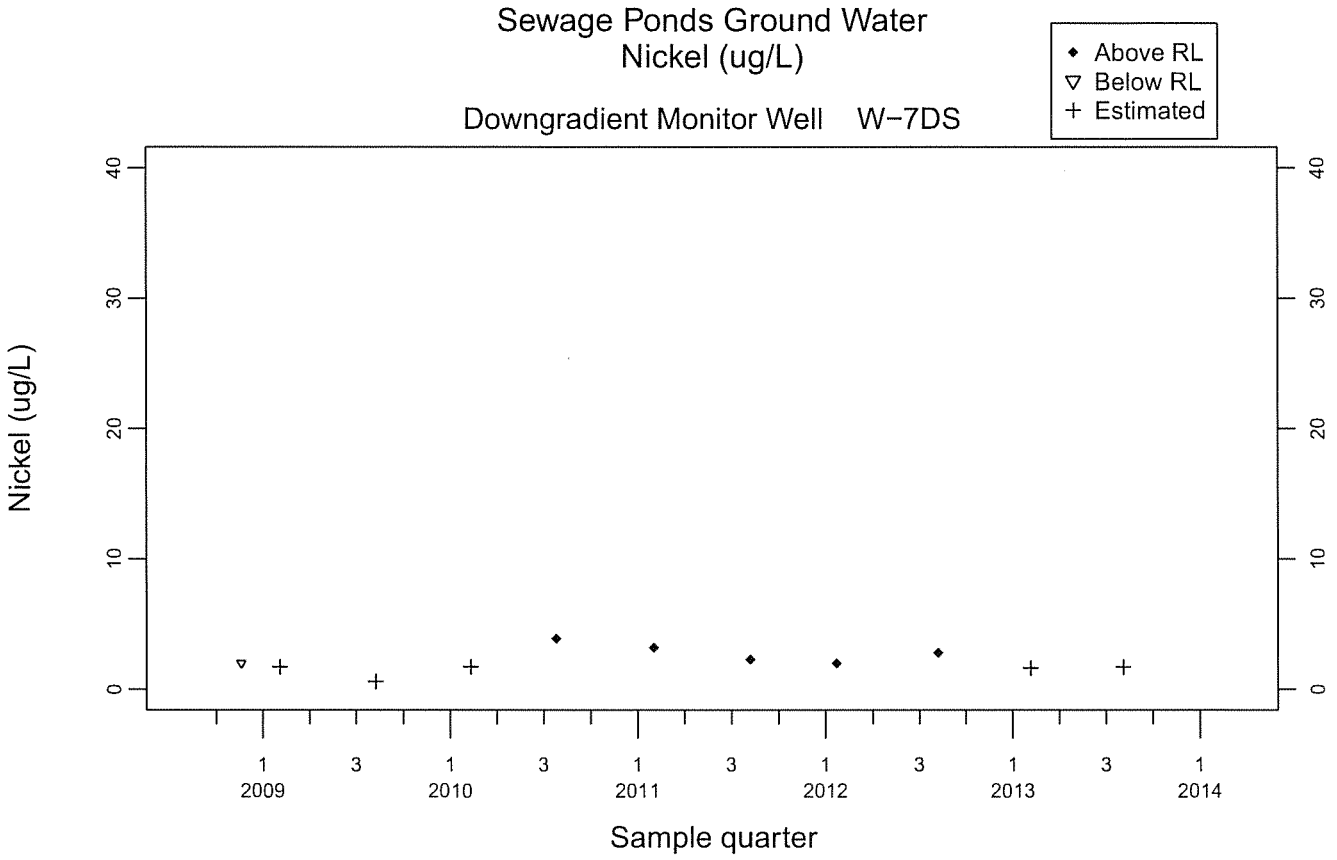

Downgradient Monitor Well W-25N-23
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

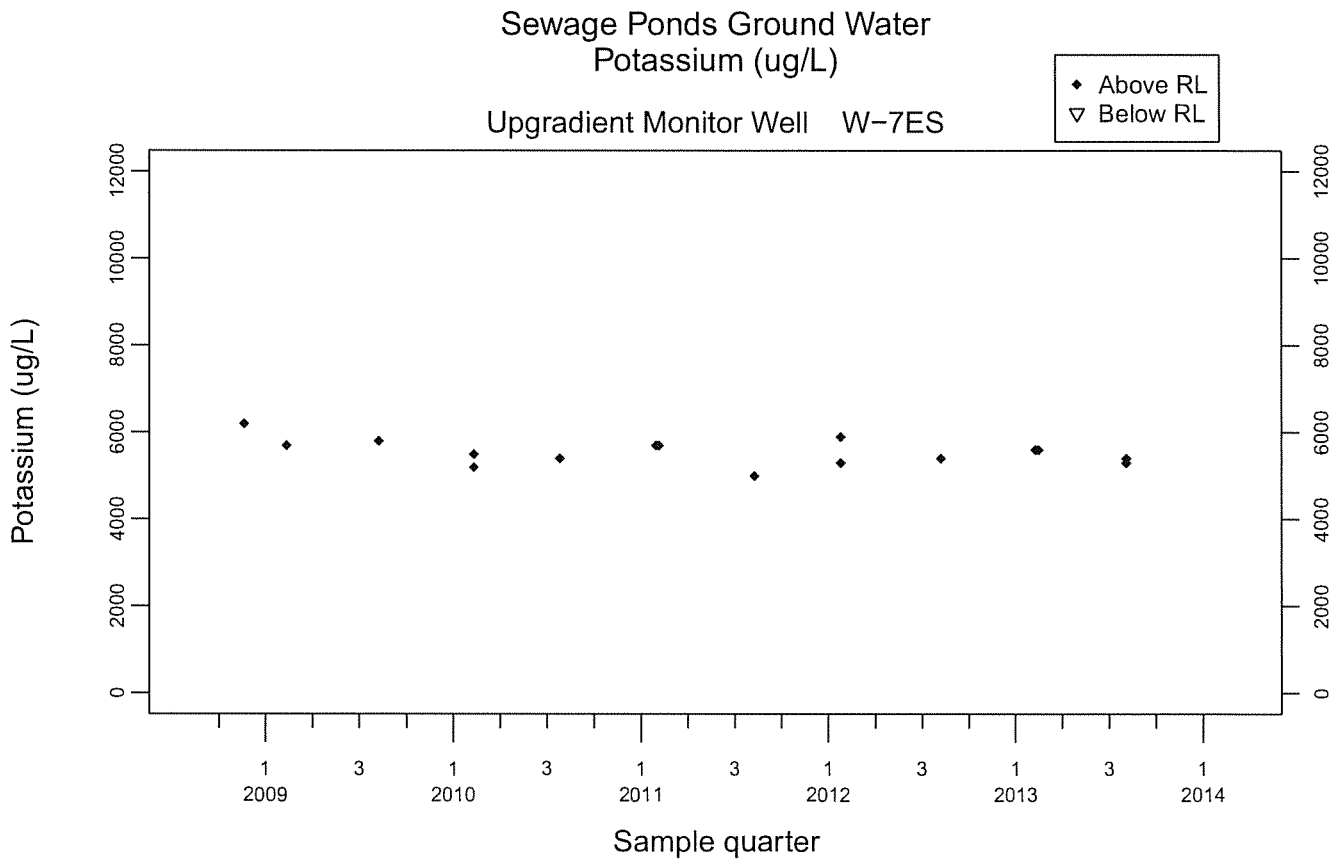

Sewage Ponds Ground Water
Nickel (ug/L)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

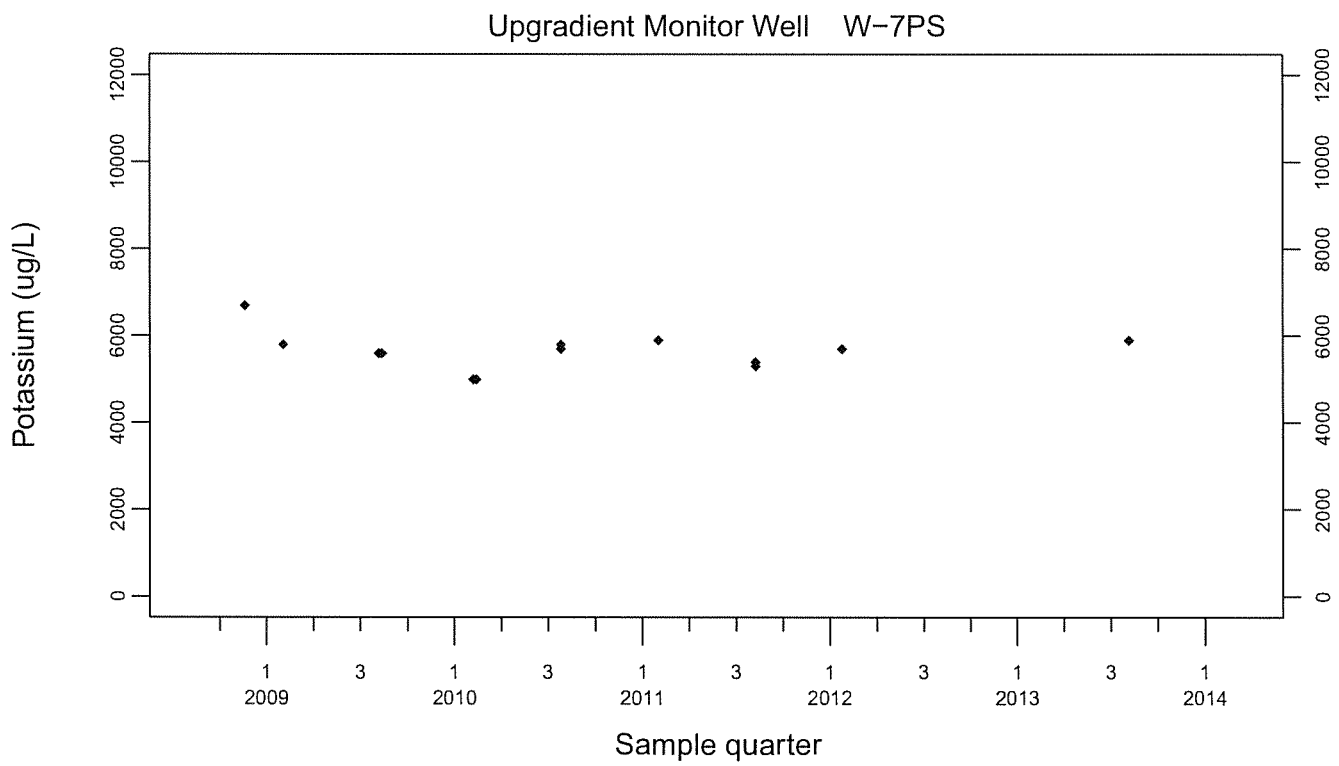

Downgradient Monitor Well W-26R-01
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

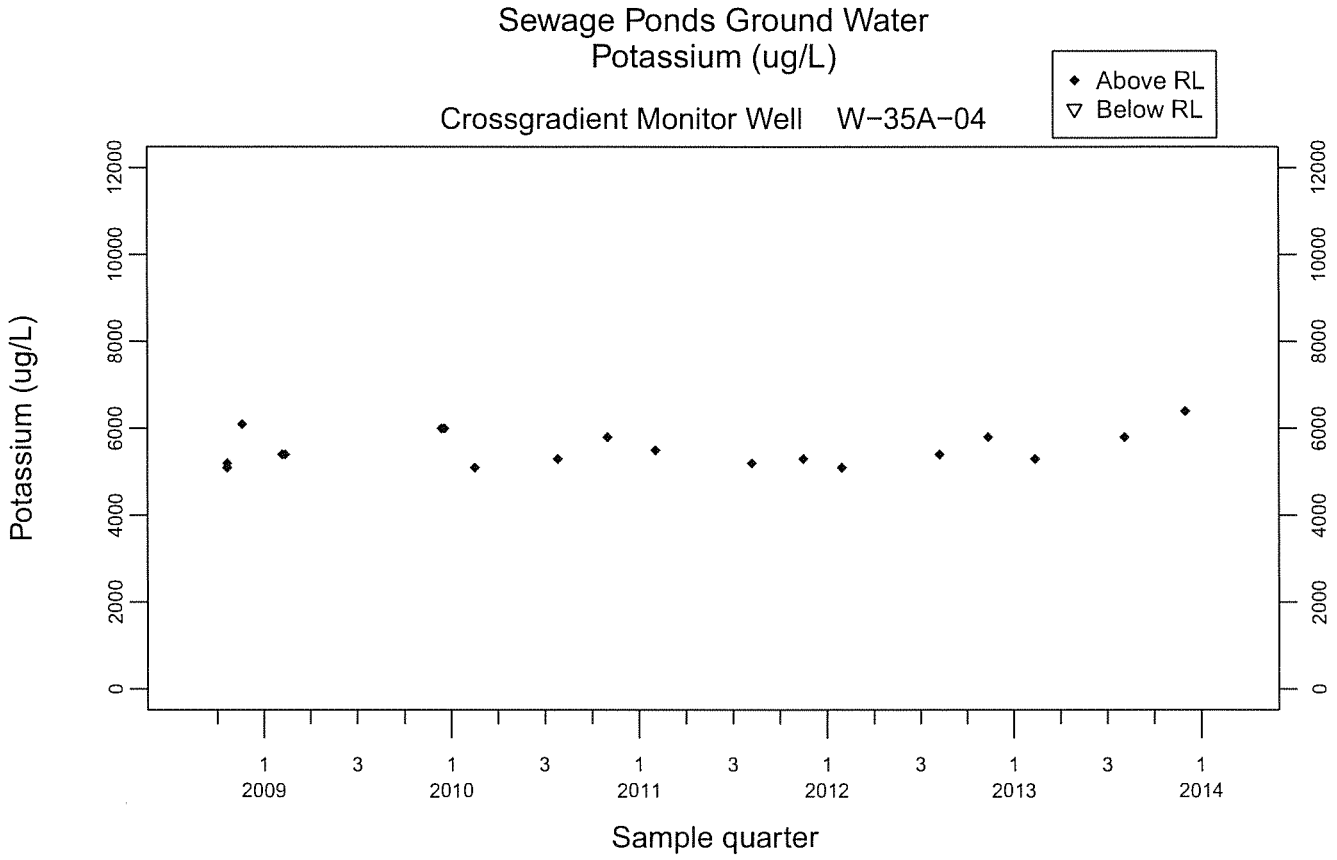

Sewage Ponds Ground Water
Nickel (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-26R-05
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

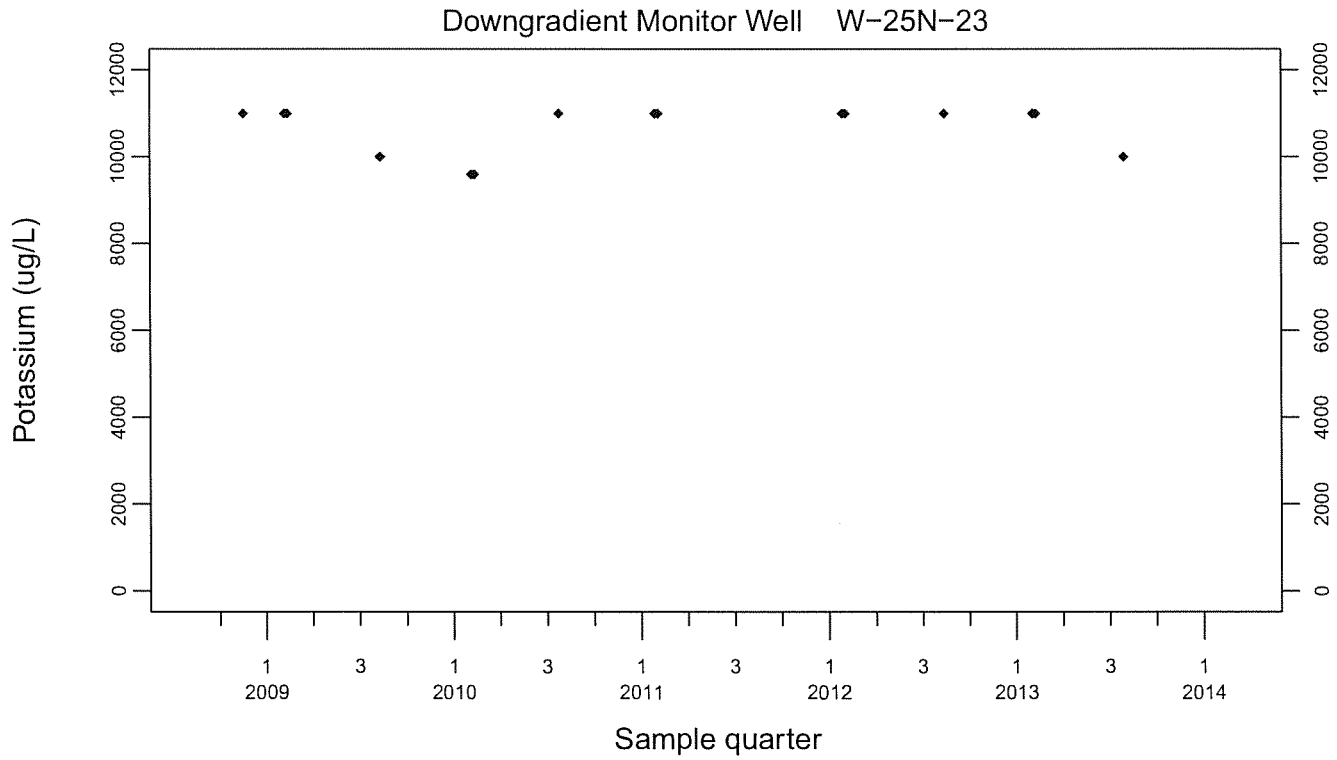

Downgradient Monitor Well W-26R-11
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

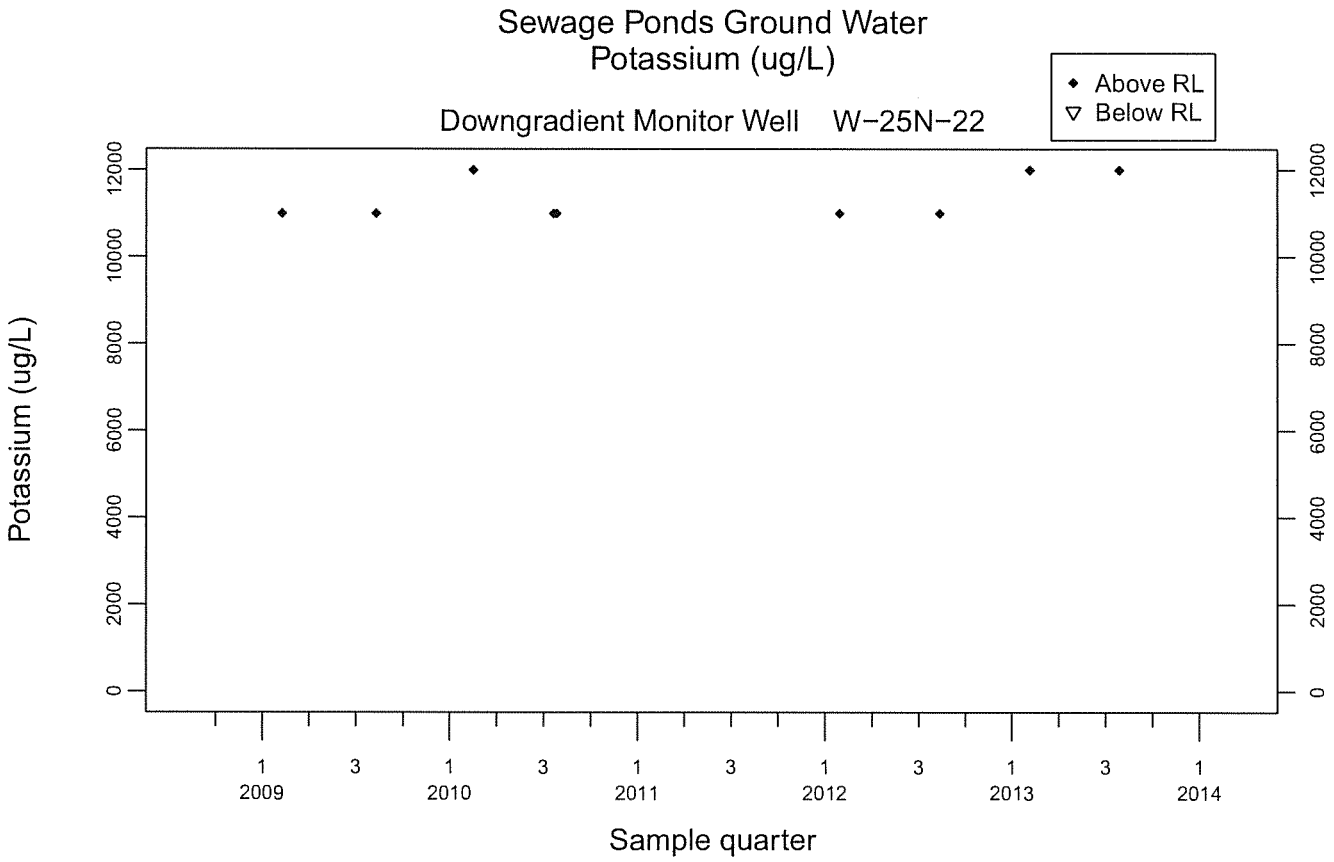

Sewage Ponds Ground Water
Nickel (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Nickel (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

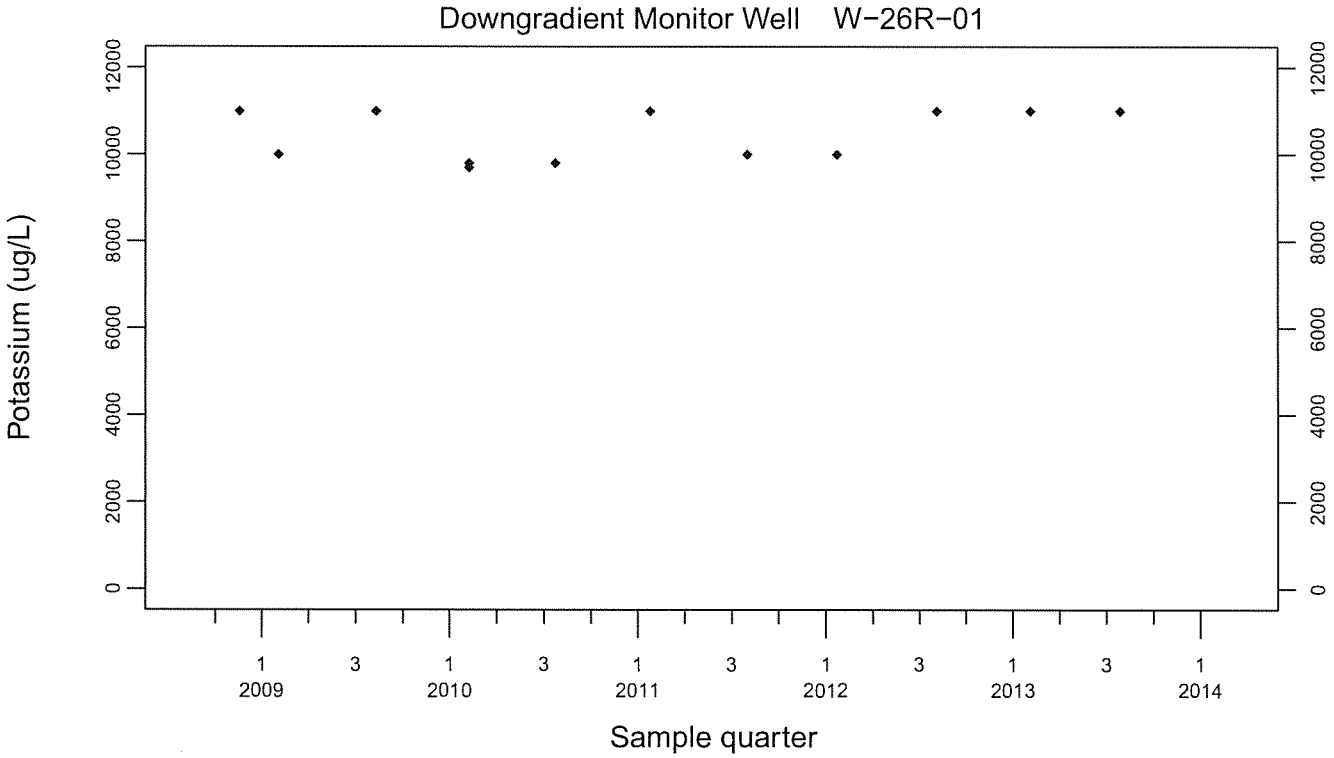

Sewage Ponds Ground Water
Potassium (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

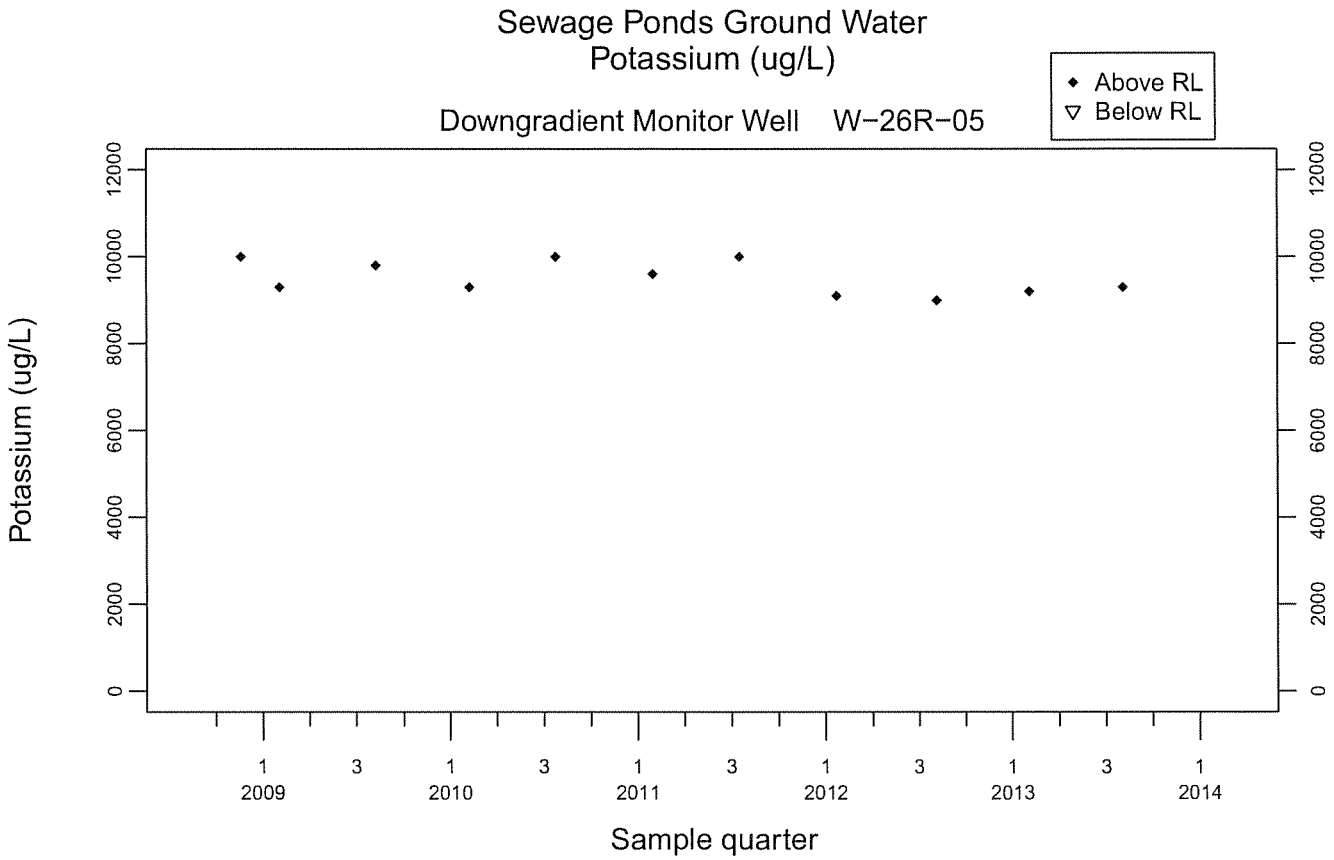

Upgradient Monitor Well W-7PS
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

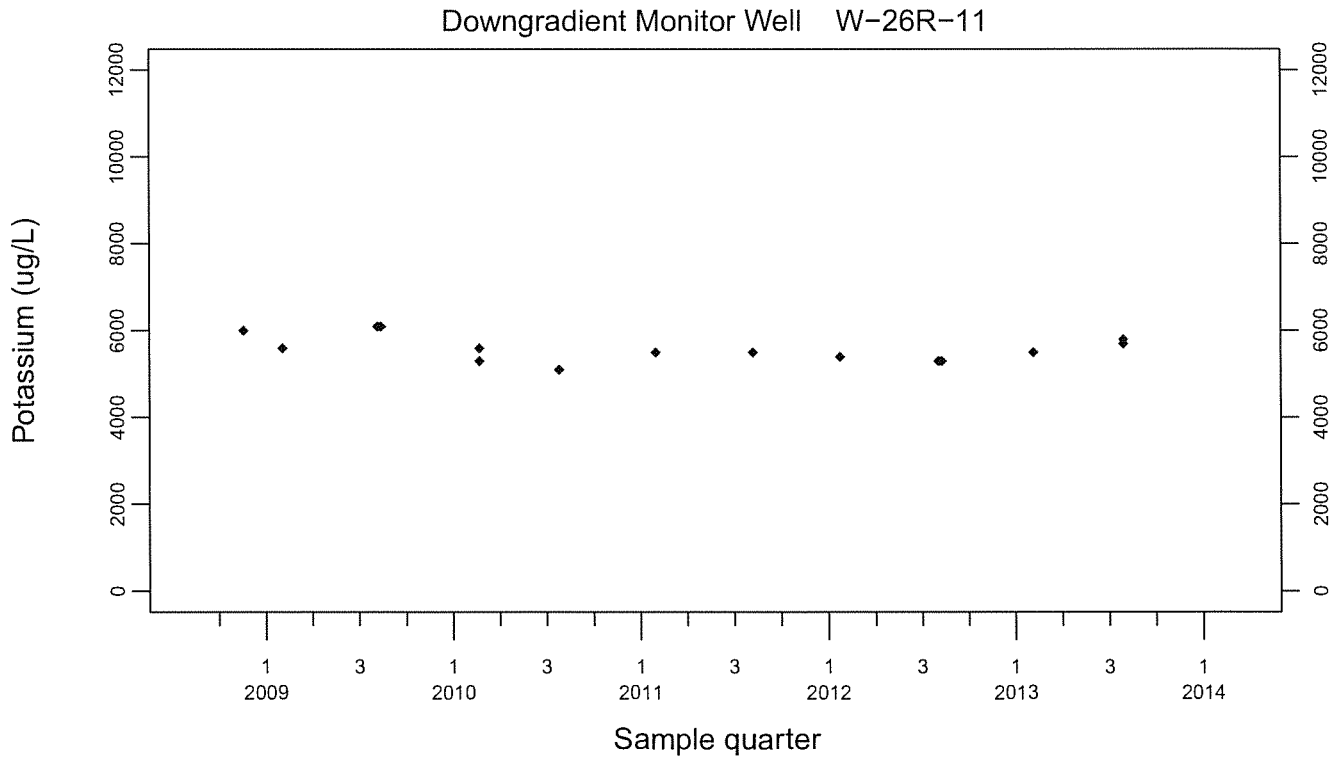

Sewage Ponds Ground Water
Potassium (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

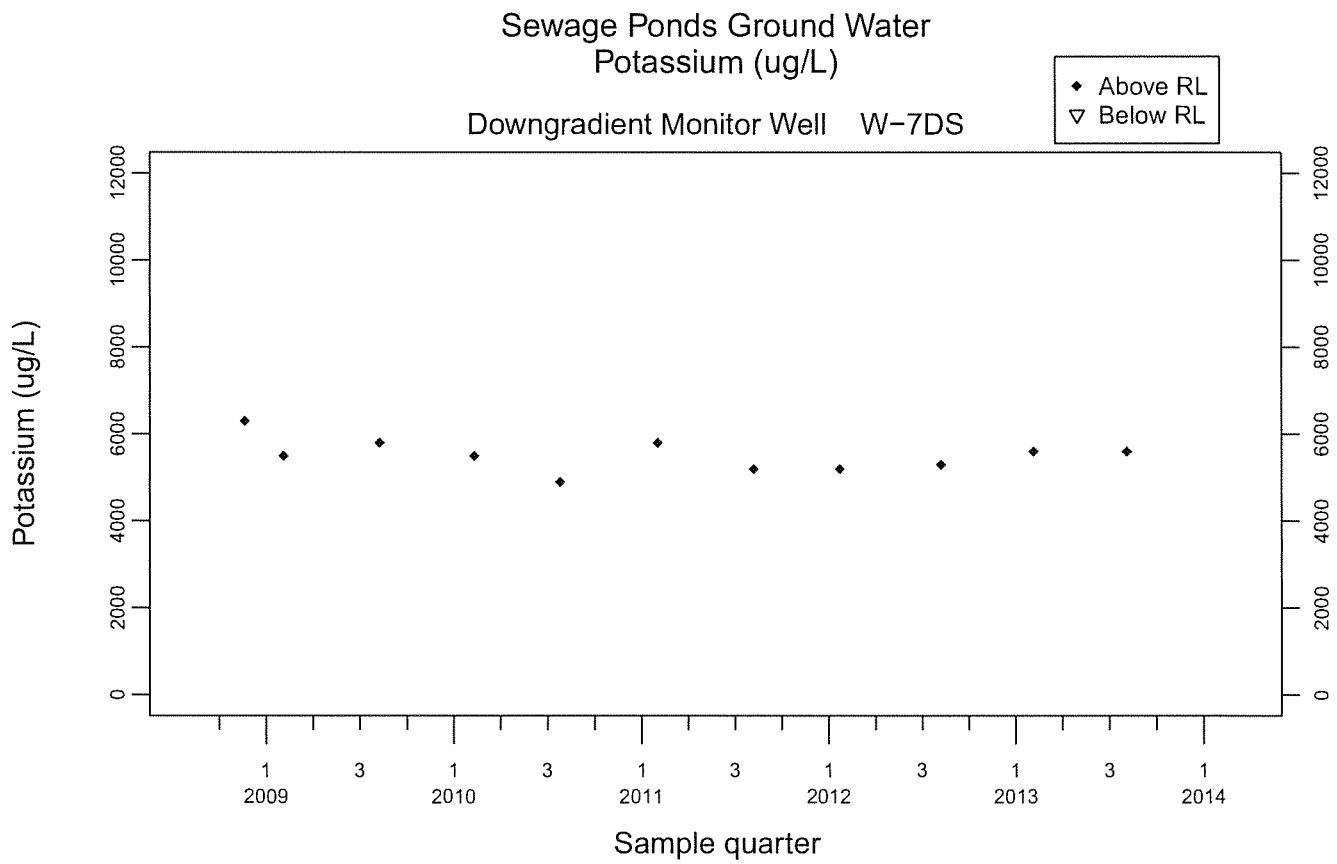

Downgradient Monitor Well W-25N-23
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

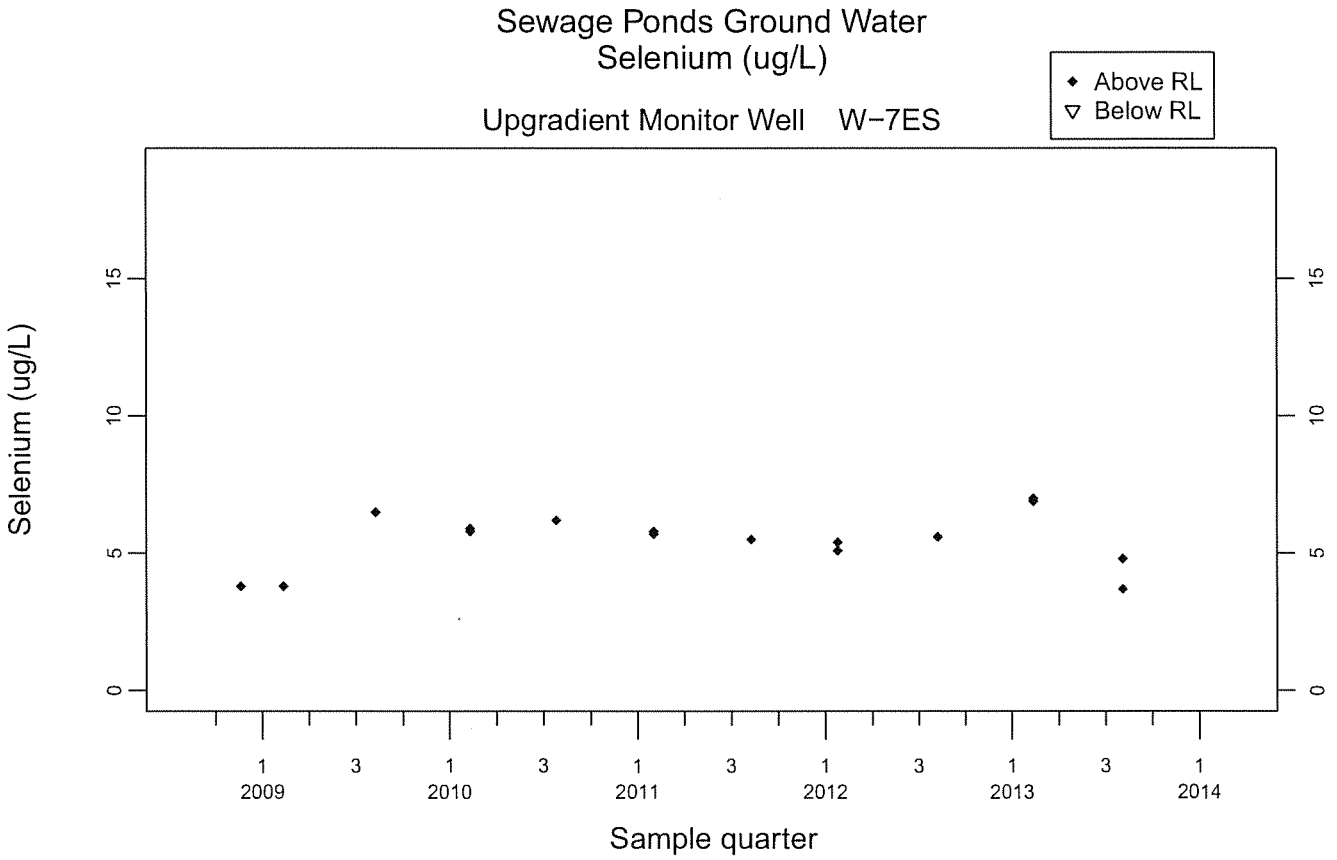

Sewage Ponds Ground Water
Potassium (ug/L)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

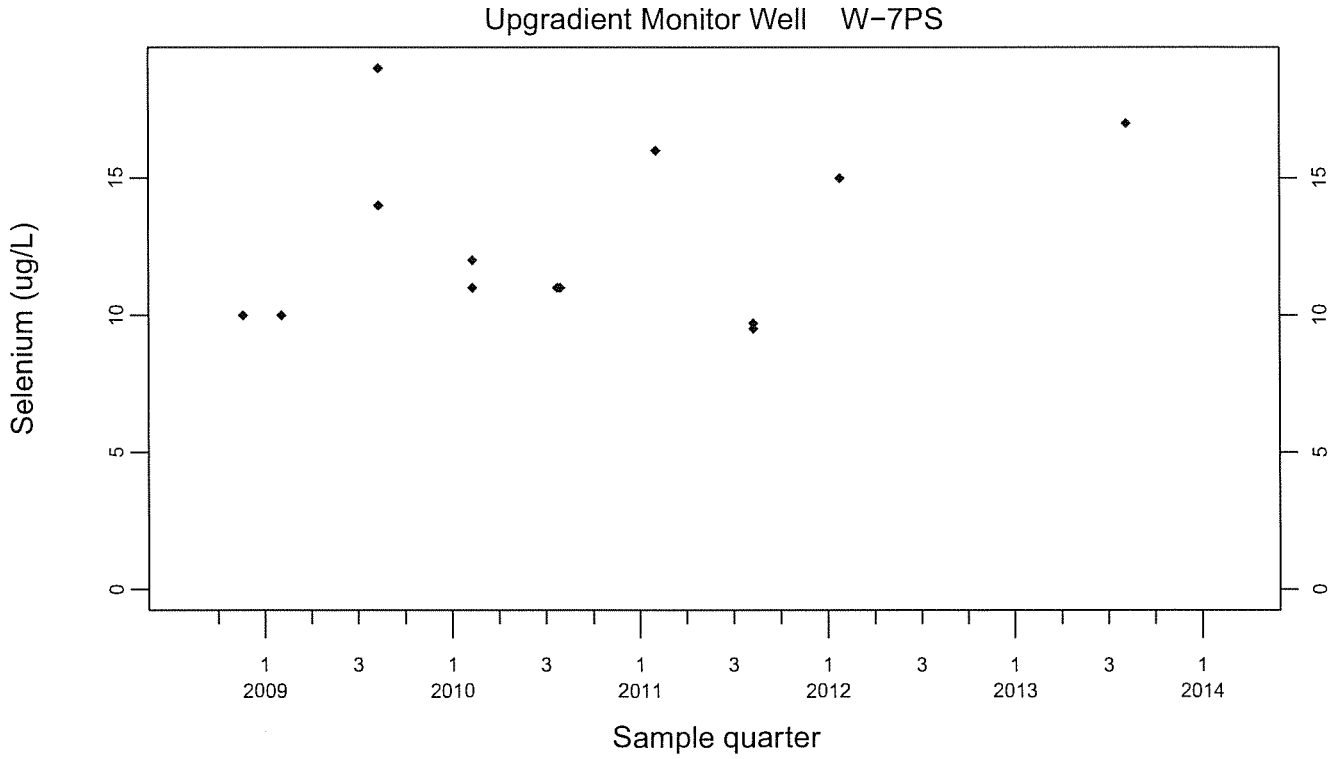

Downgradient Monitor Well W-26R-01
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

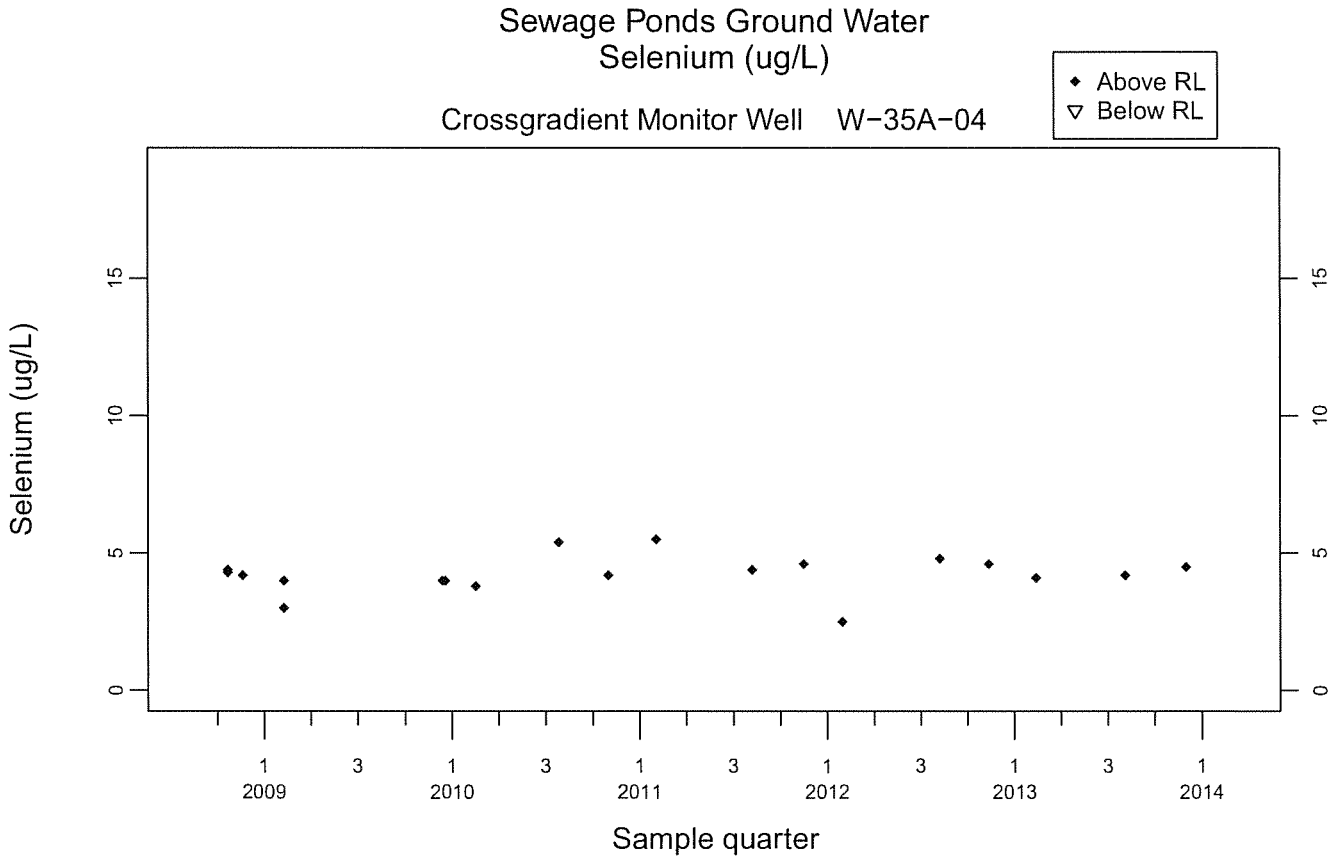

Sewage Ponds Ground Water
Potassium (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

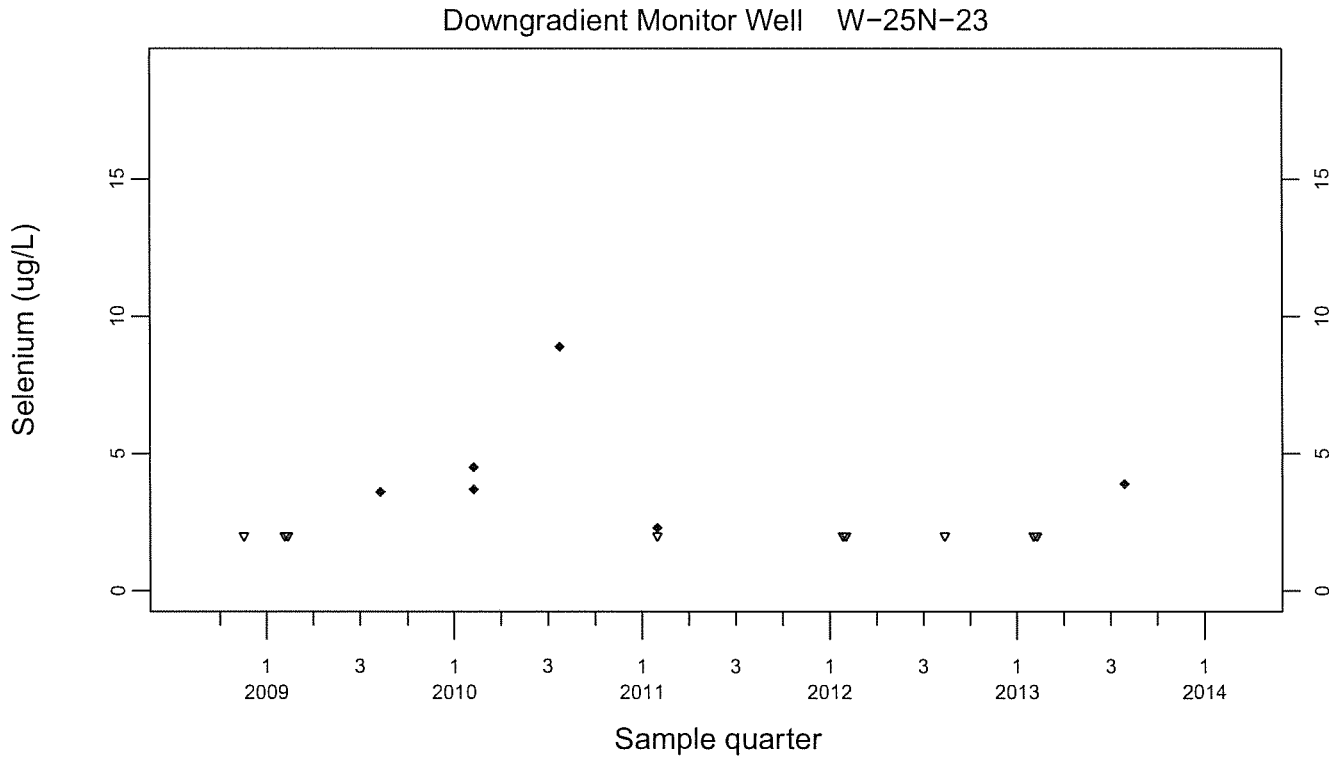

Downgradient Monitor Well W-26R-11
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

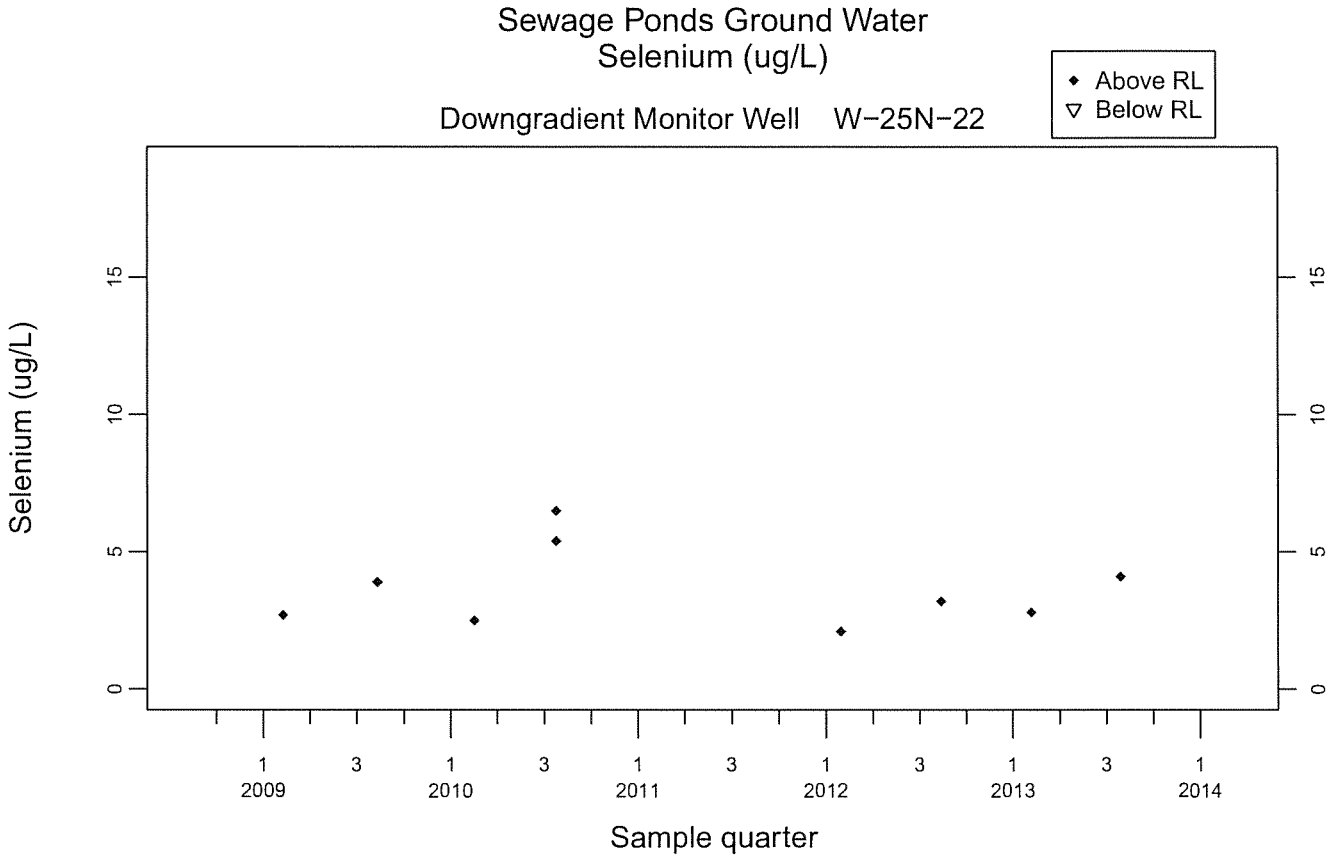

Sewage Ponds Ground Water
Potassium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Potassium (ug/L)
0
2000
4000
6000
8000
10000
12000
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

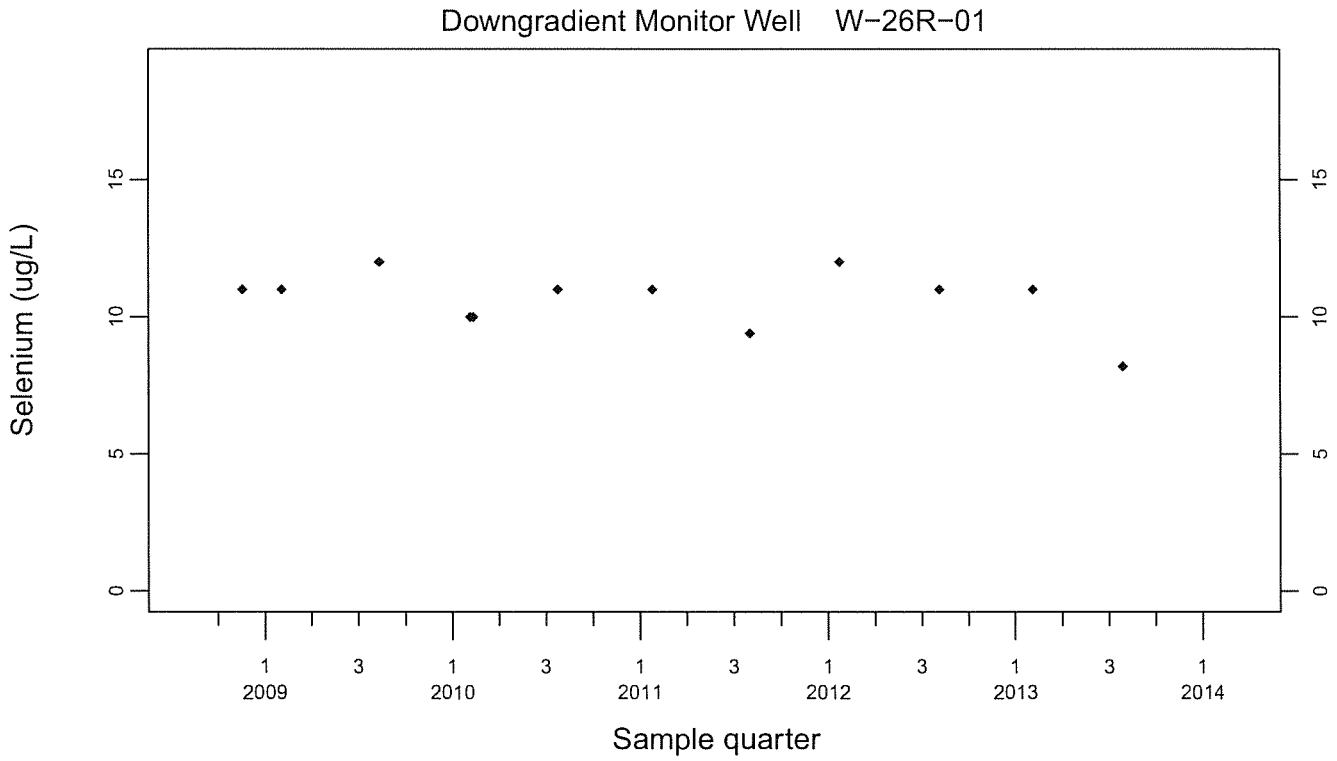

Sewage Ponds Ground Water
Selenium (ug/L)
Above RL
Below RL
Upgradient Monitor Well W-7ES
Selenium (ug/L)
0
5
10
15
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

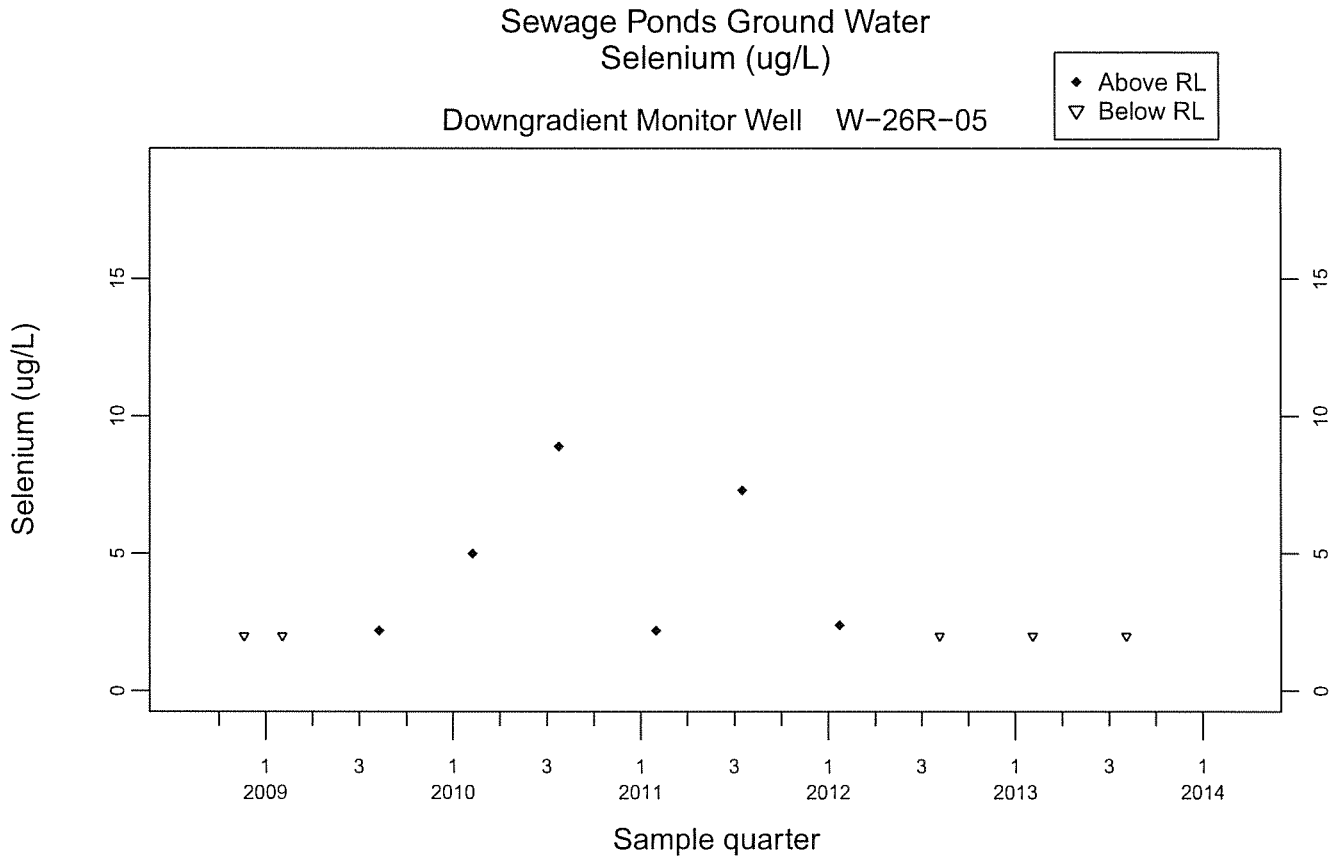

Upgradient Monitor Well W-7PS
Selenium (ug/L)
0
5
10
15
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

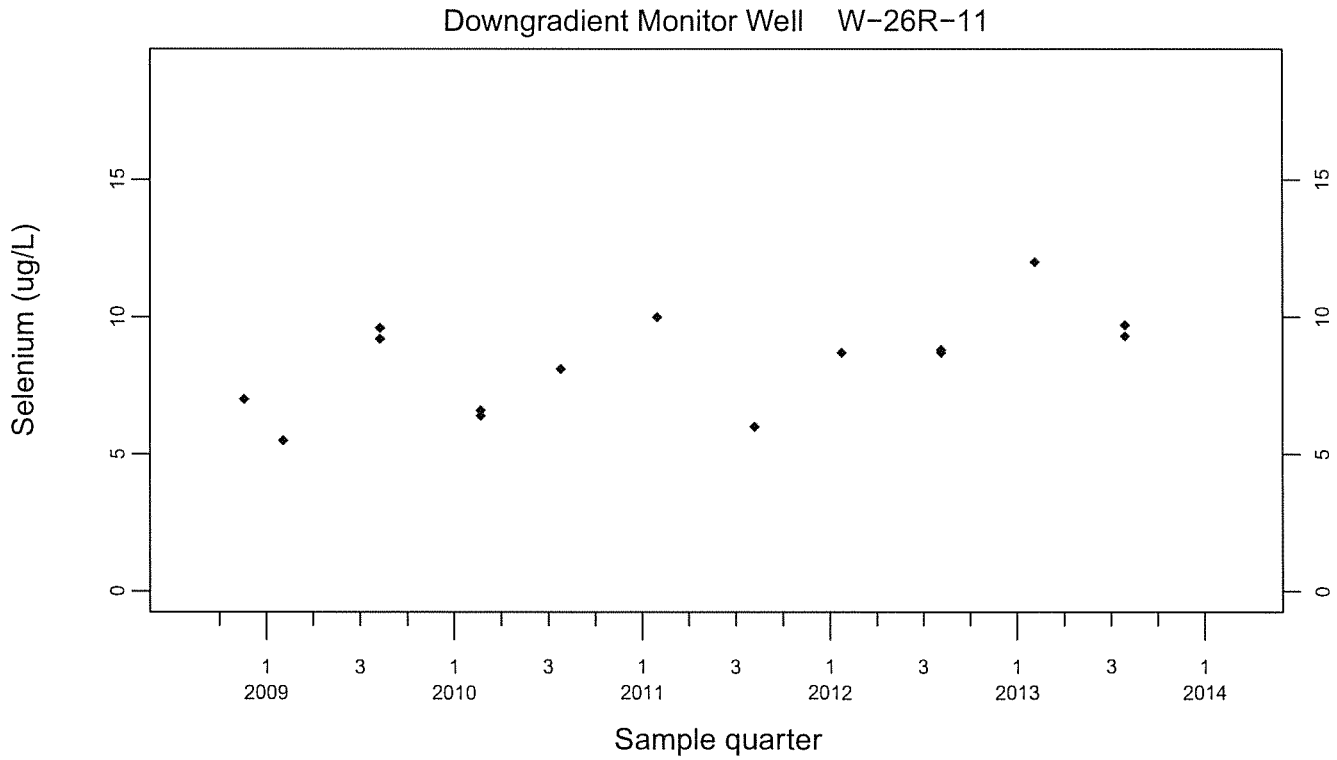

Sewage Ponds Ground Water
Selenium (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Selenium (ug/L)
0
5
10
15
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

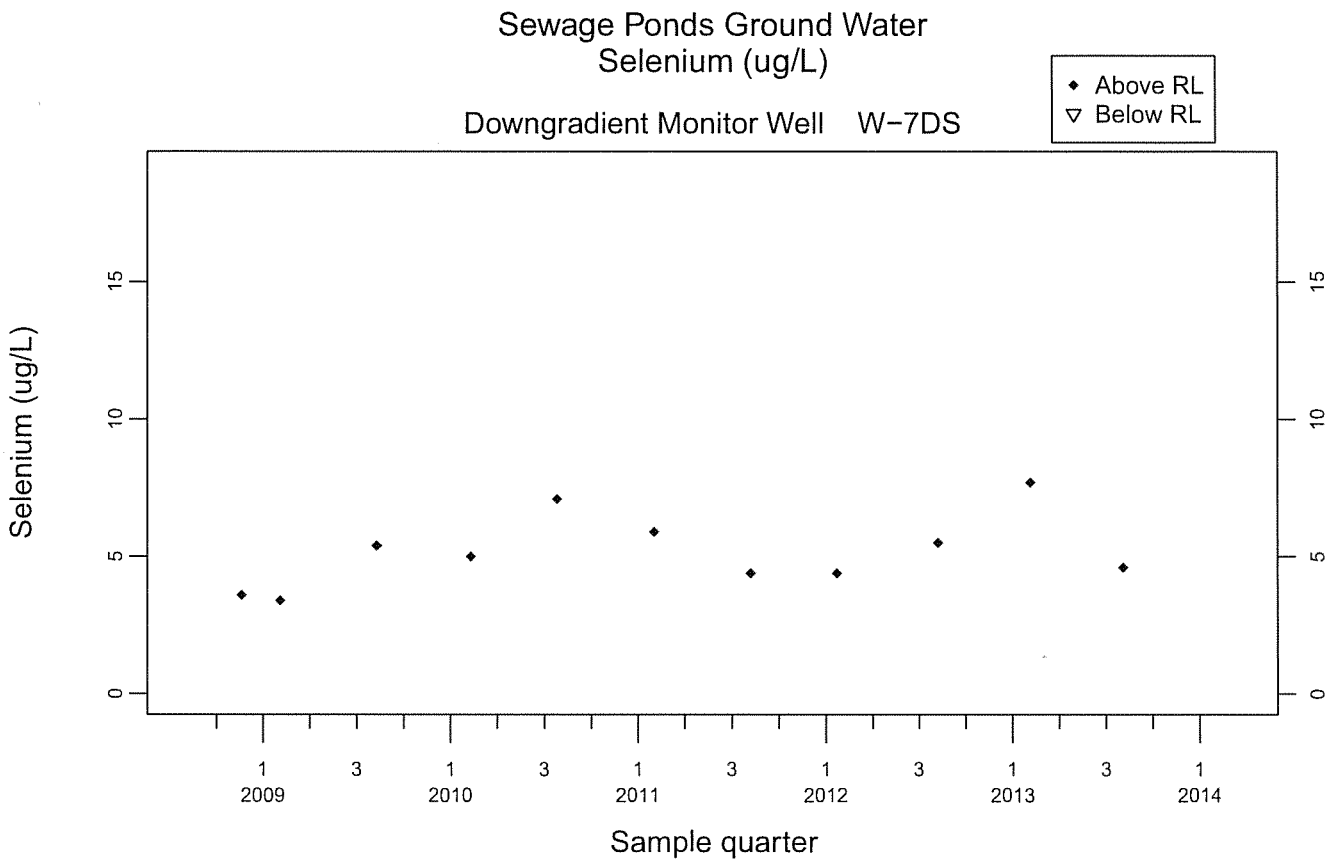

Downgradient Monitor Well W-25N-23
Selenium (ug/L)
0
5
10
15
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

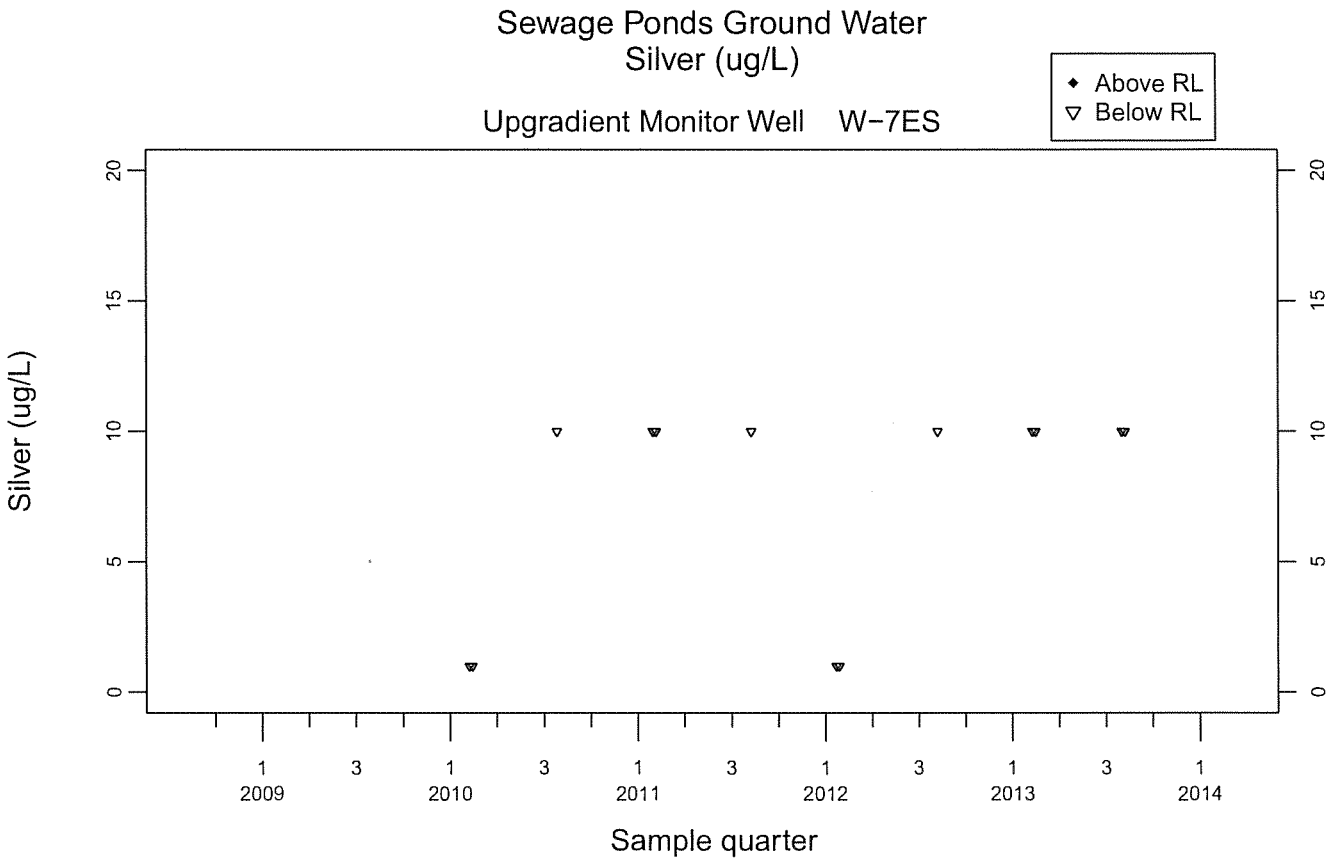

Sewage Ponds Ground Water
Selenium (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Selenium (ug/L)
0
5
10
15
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

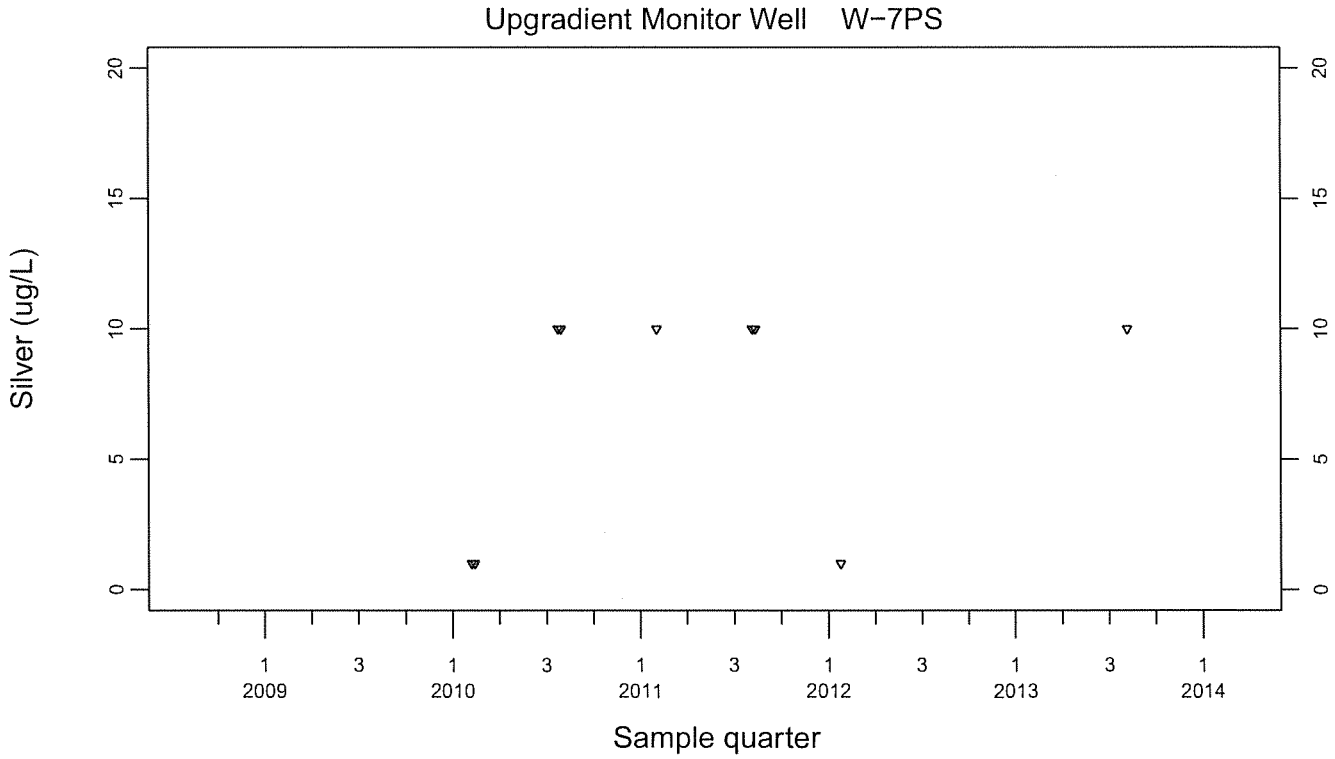

Downgradient Monitor Well W-26R-01
Selenium (ug/L)
0
5
10
15
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

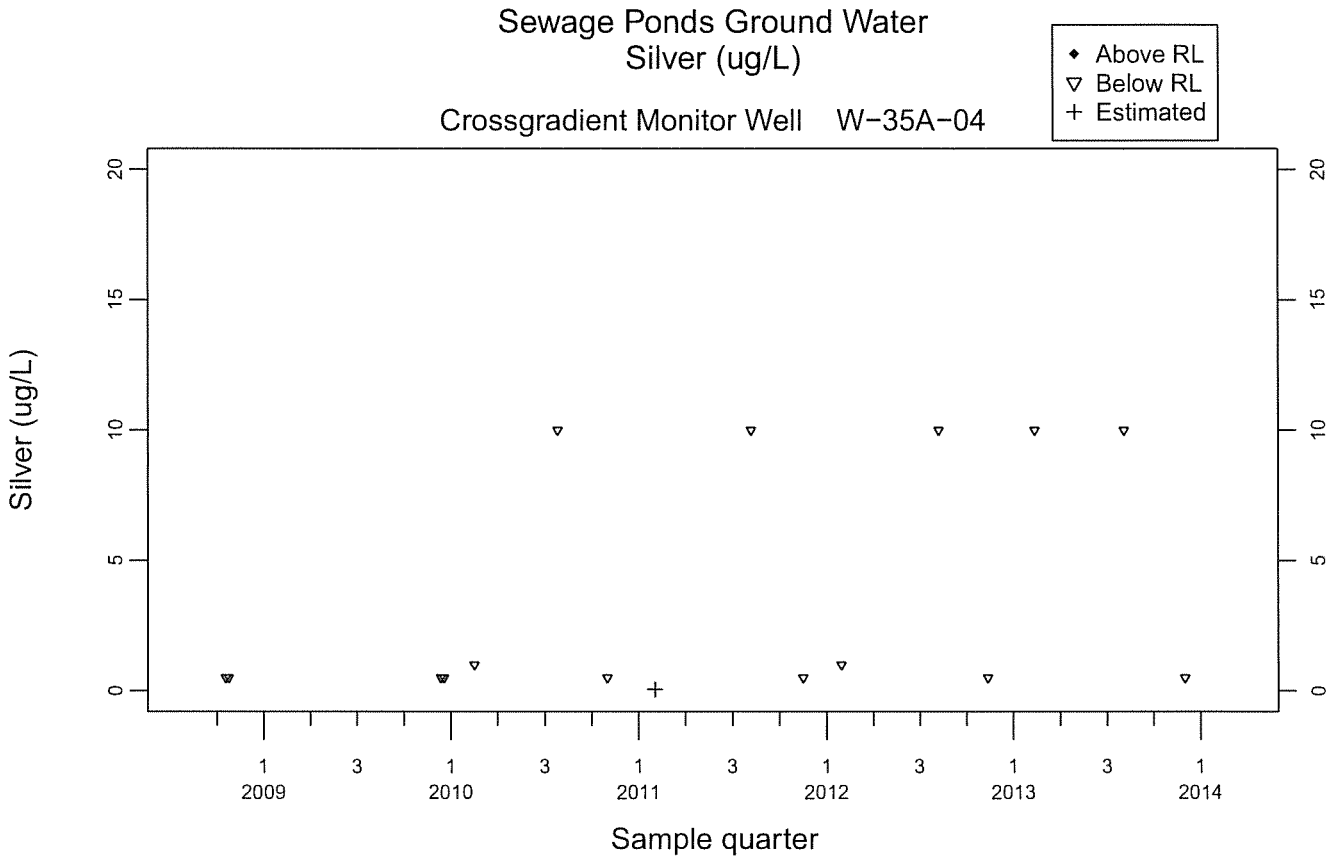

Sewage Ponds Ground Water
Selenium (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Selenium (ug/L)
0
5
10
15
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

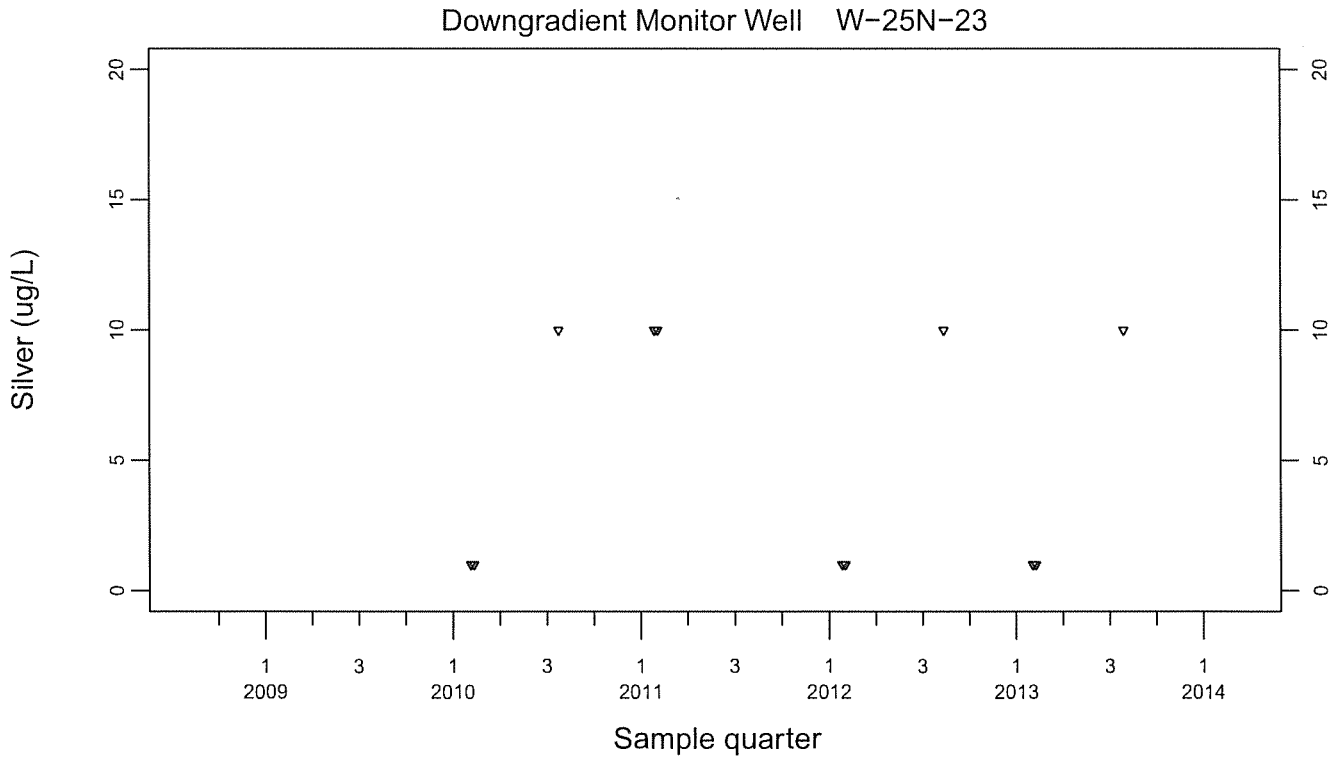

Downgradient Monitor Well W-26R-11
Selenium (ug/L)
0
5
10
15
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

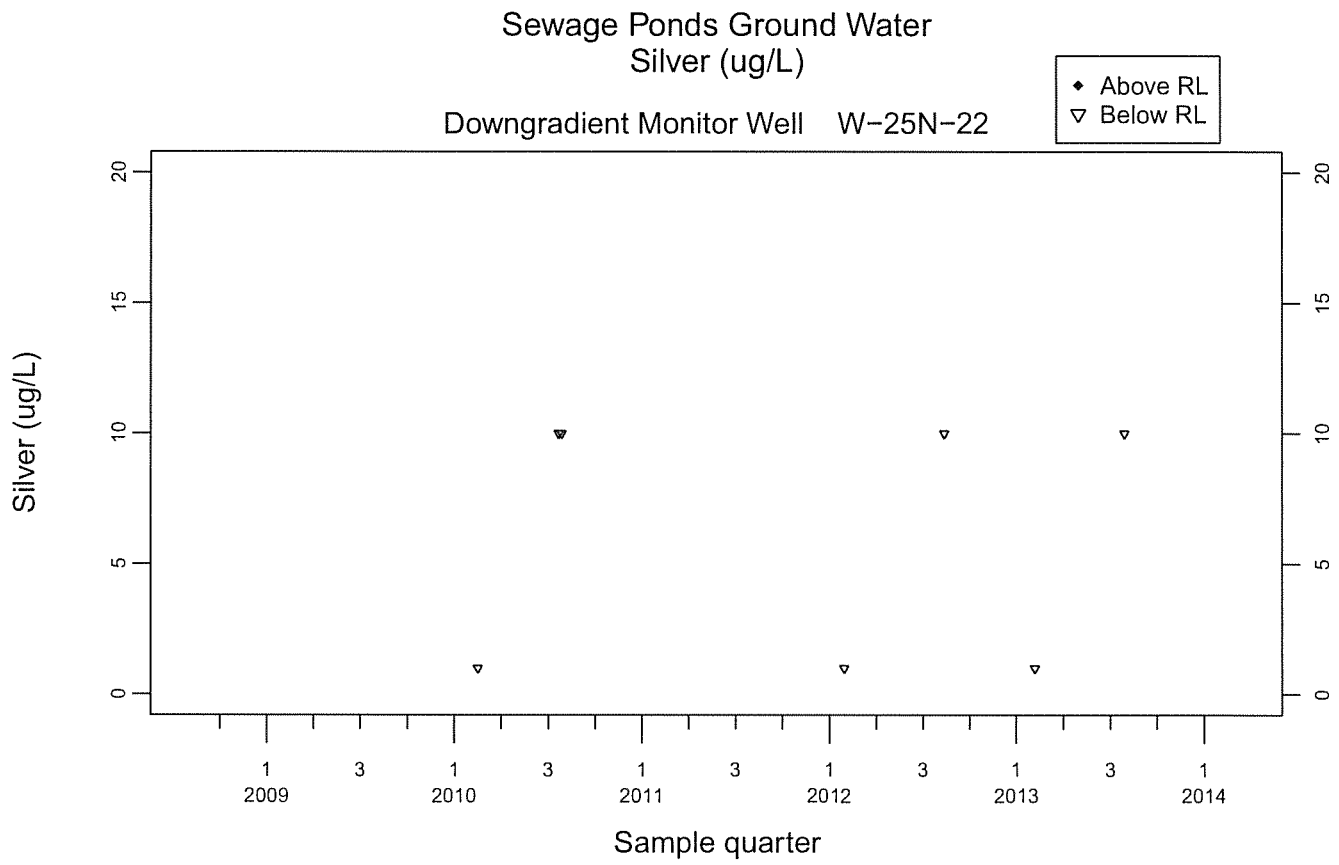

Sewage Ponds Ground Water
Selenium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Selenium (ug/L)
0
5
10
15
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

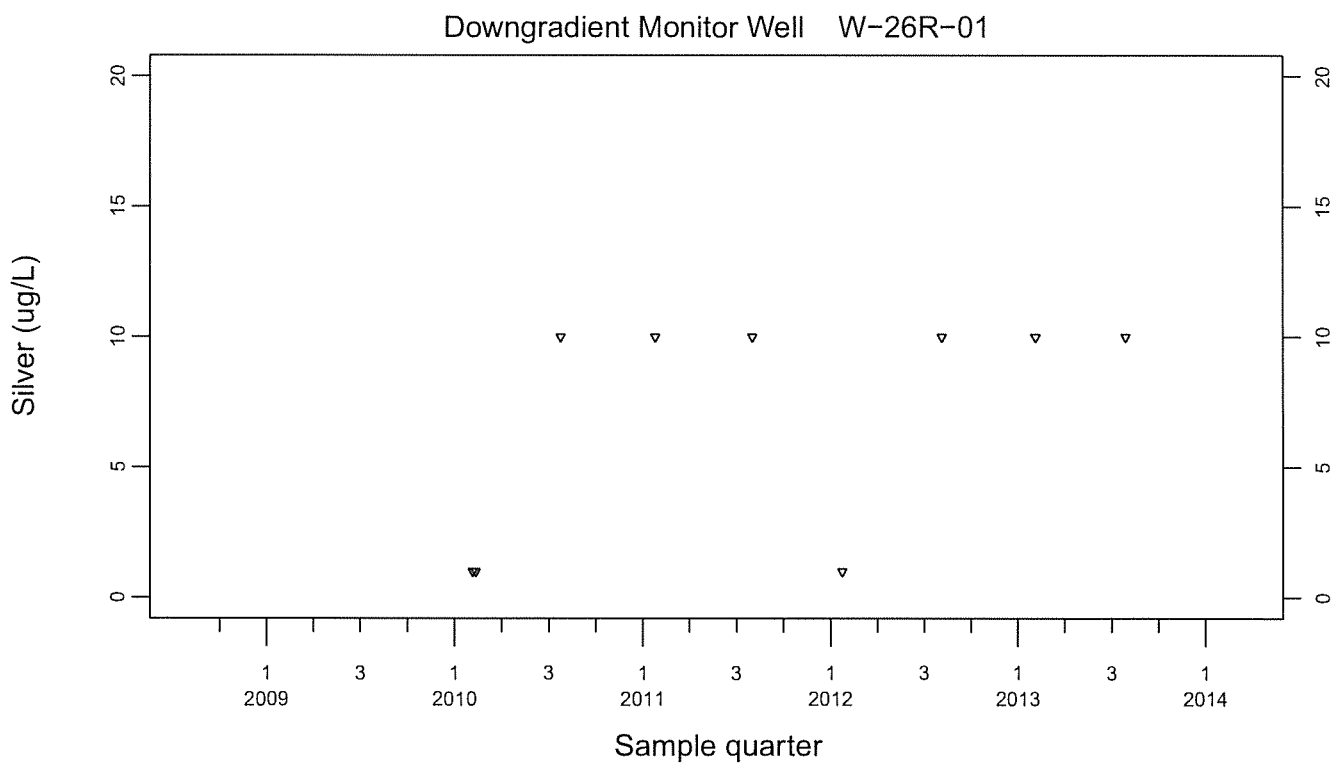

Sewage Ponds Ground Water
Silver (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Silver (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

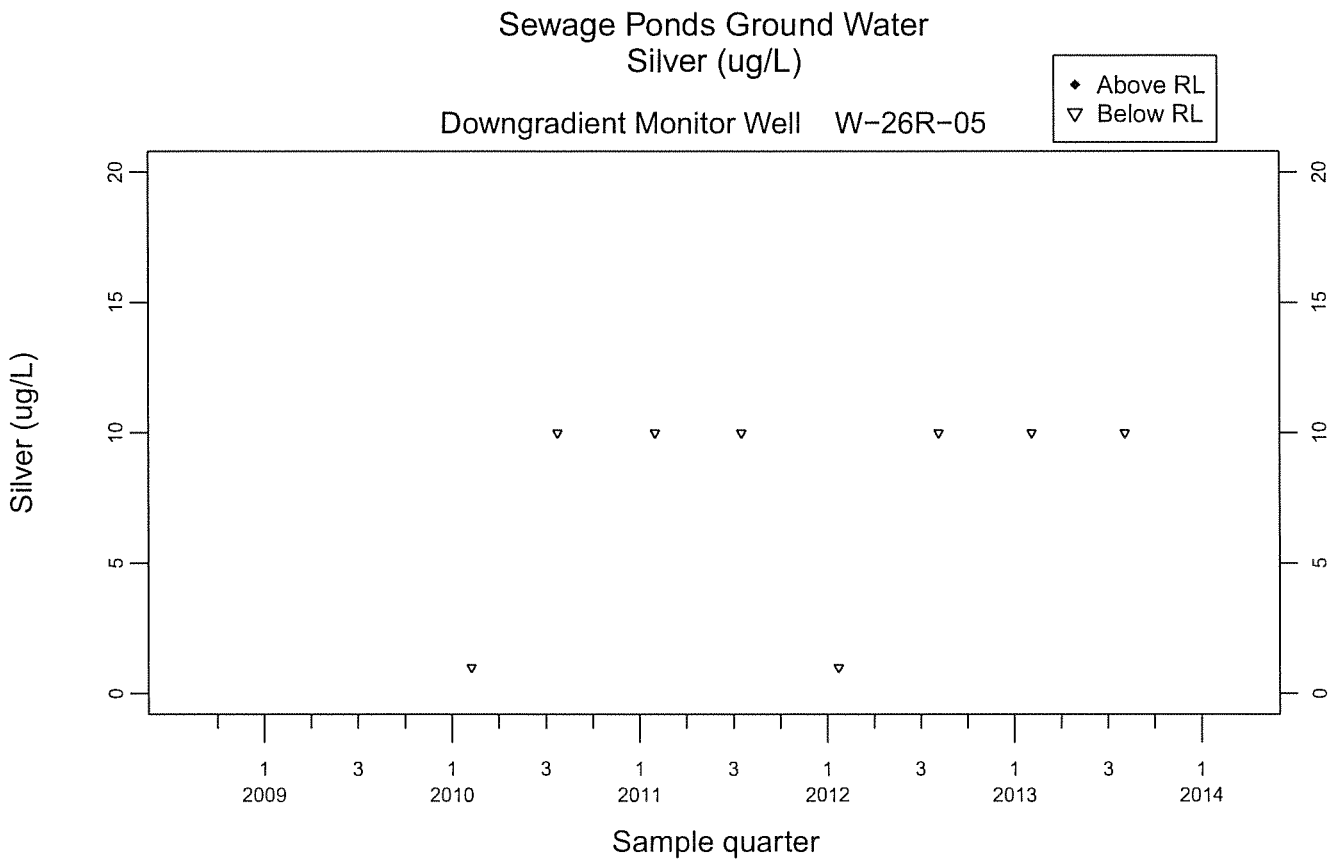

Upgradient Monitor Well W-7PS
Silver (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

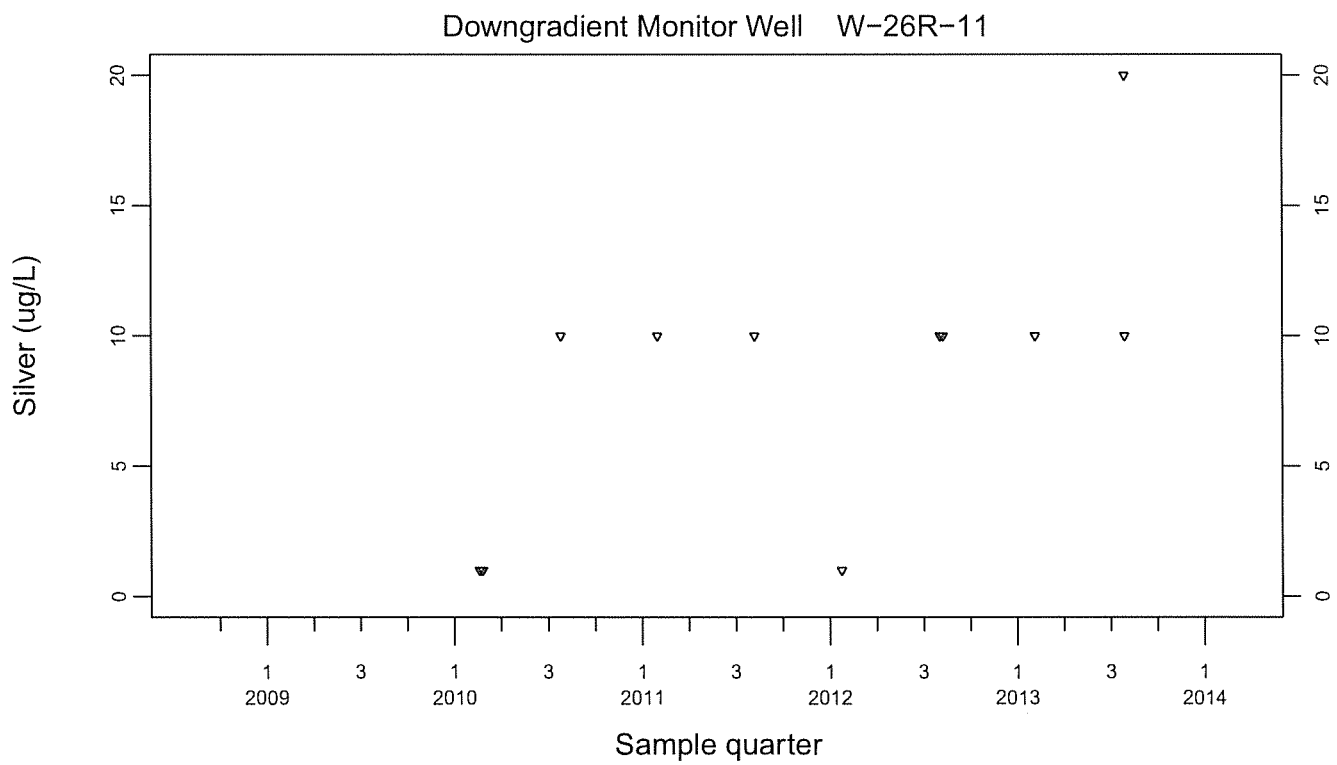

Sewage Ponds Ground Water
Silver (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Estimated
Silver (ug/L)
0
5
10
15
20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

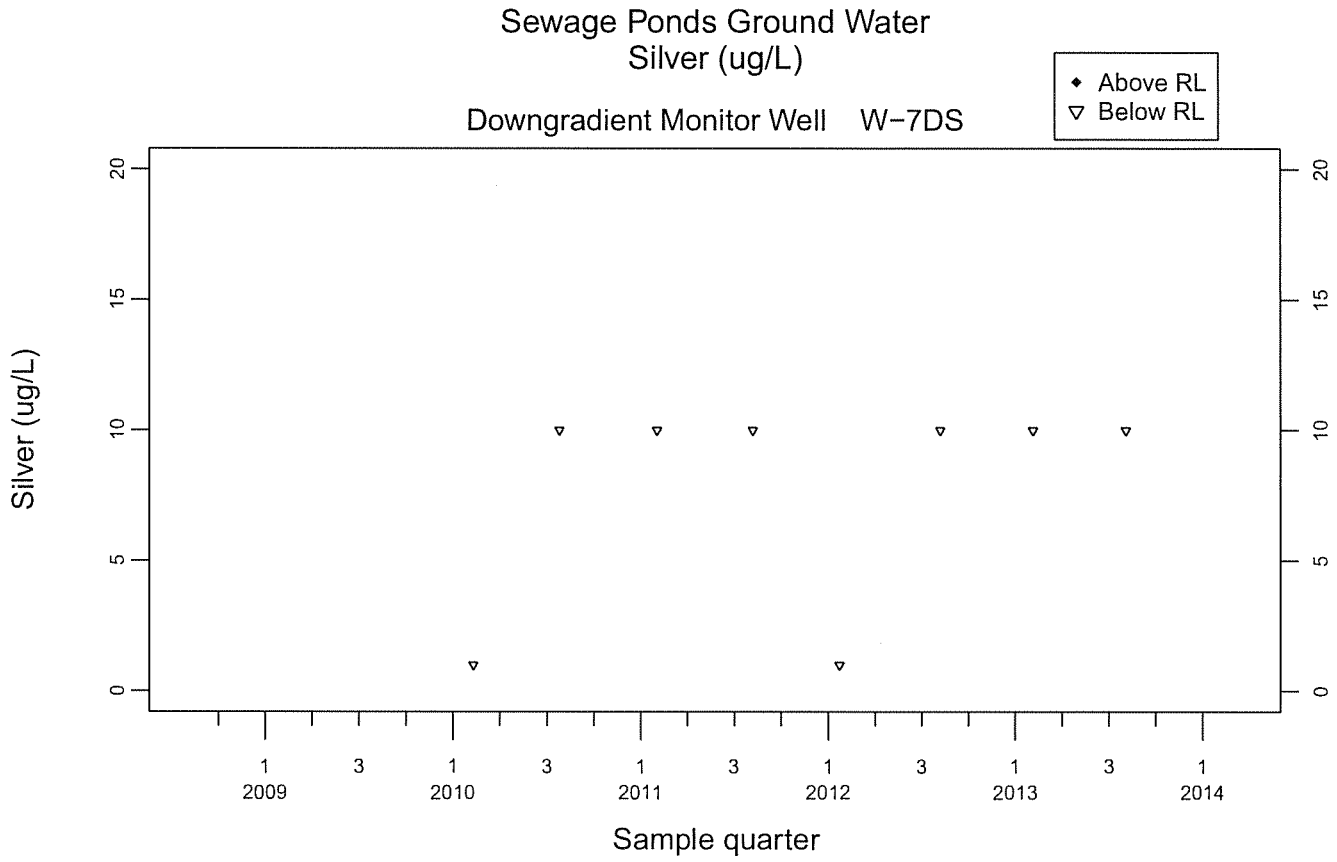

Downgradient Monitor Well W-25N-23
Silver (ug/L)
0
5
10
15
20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

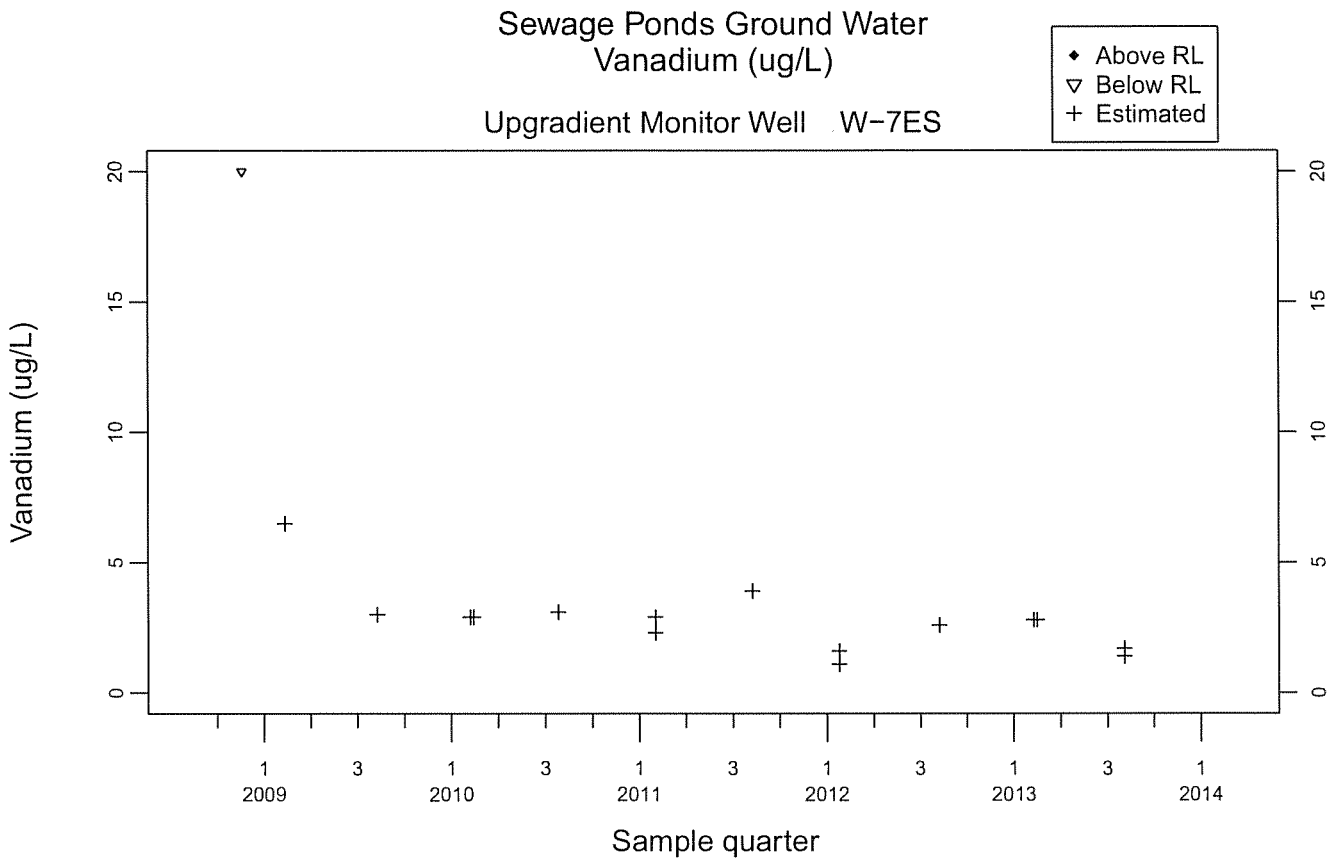

Sewage Ponds Ground Water
Silver (ug/L)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Silver (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

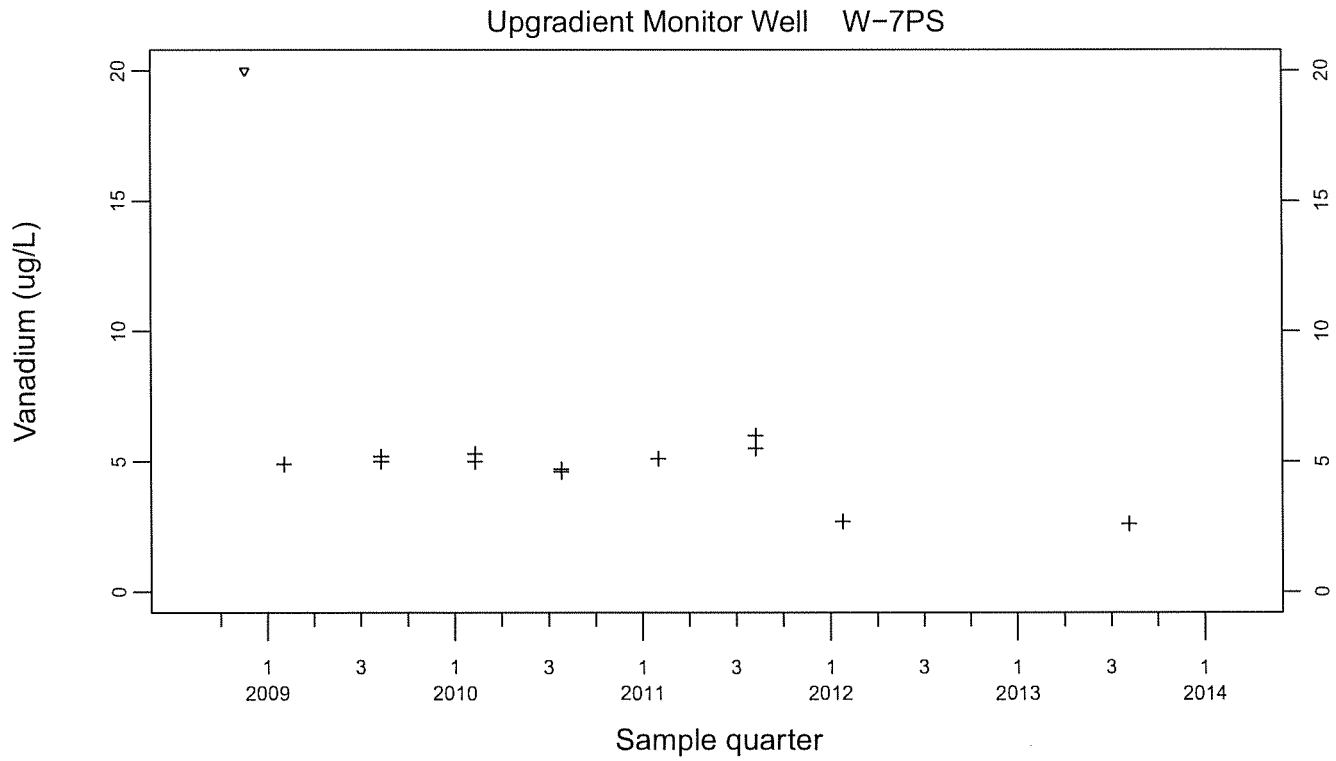

Downgradient Monitor Well W-26R-01
Silver (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

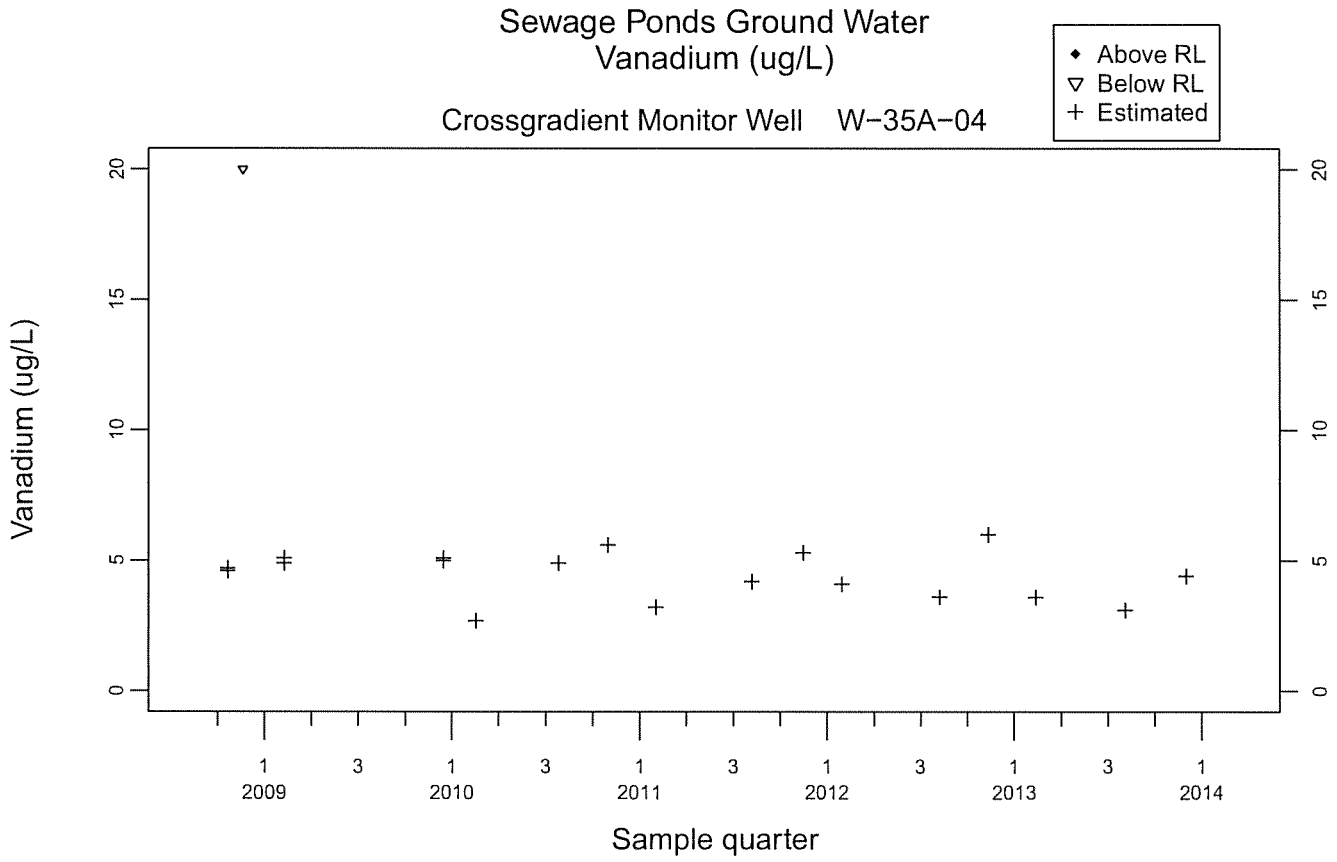

Sewage Ponds Ground Water
Silver (ug/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Silver (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

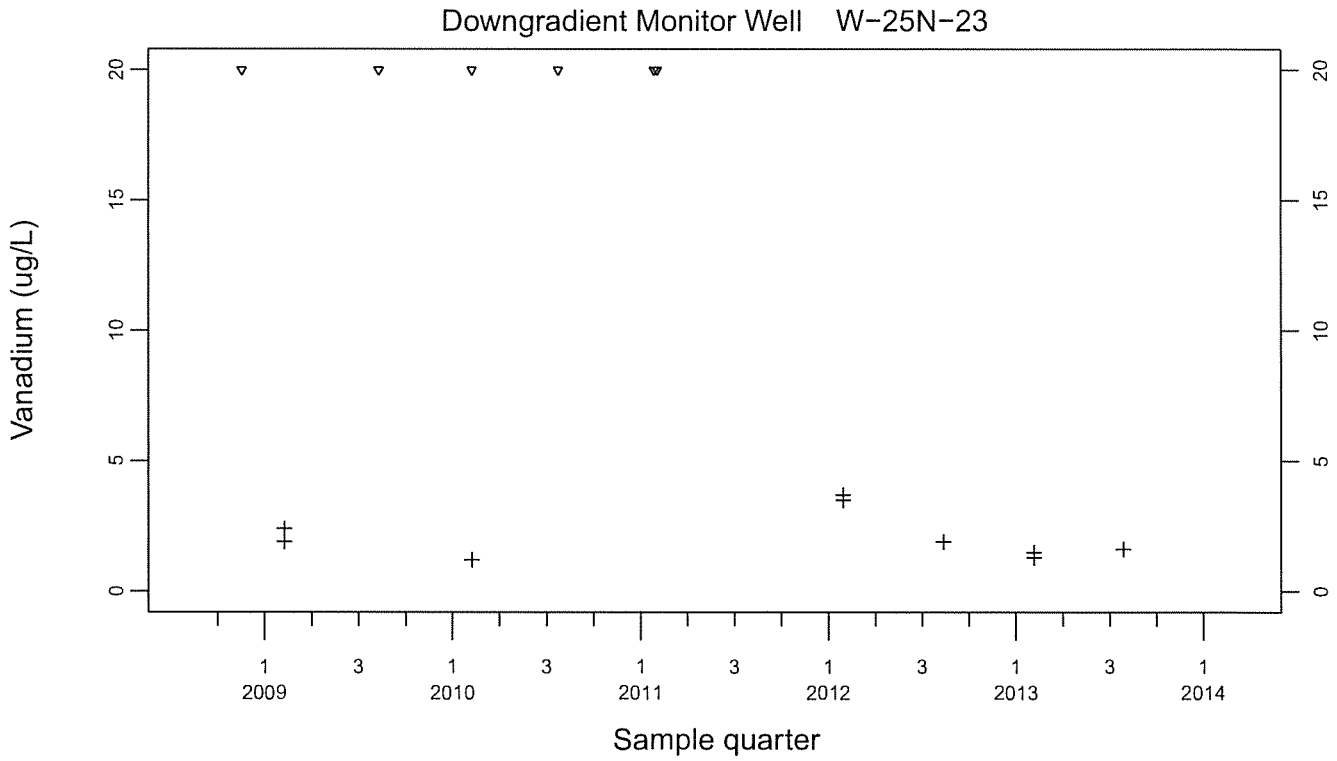

Downgradient Monitor Well W-26R-11
Silver (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

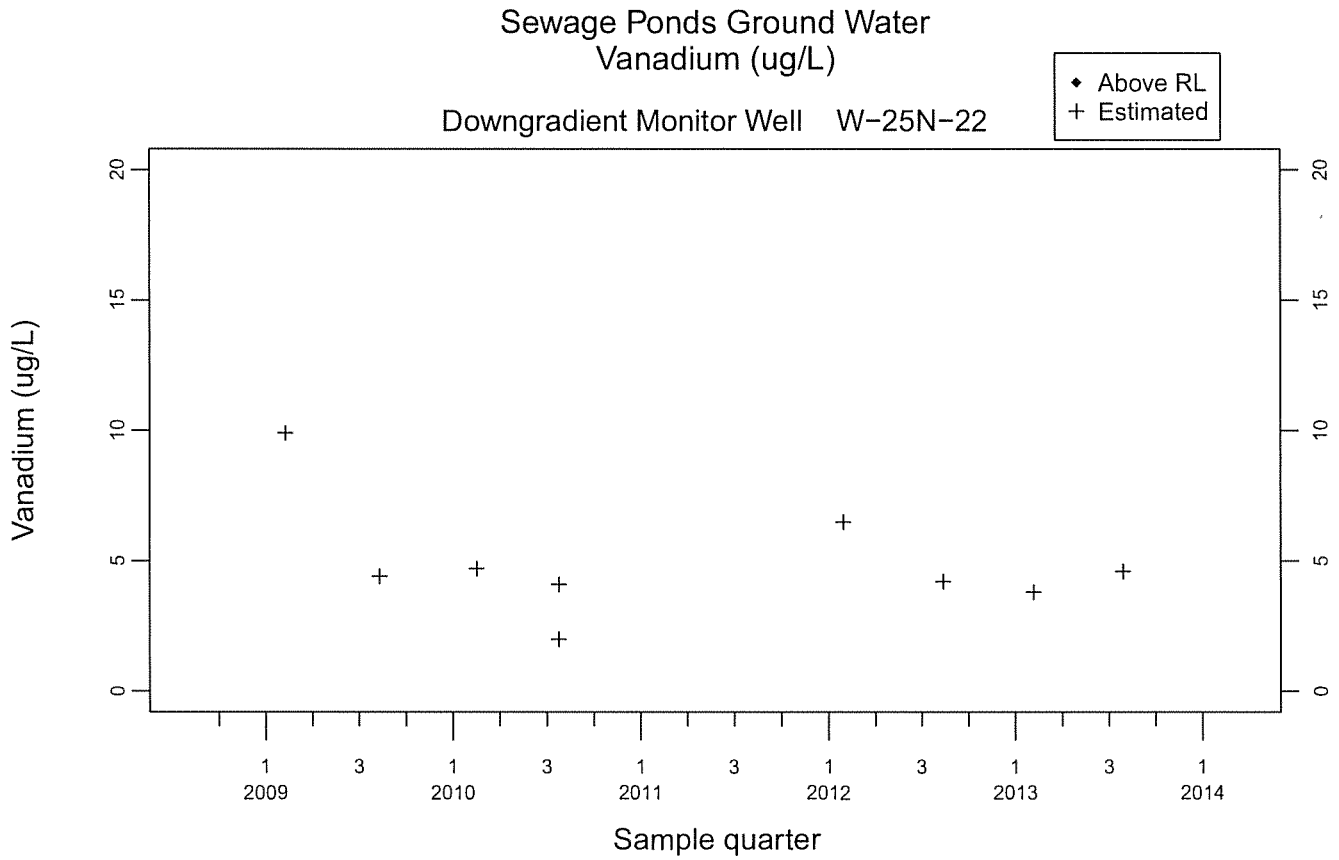

Sewage Ponds Ground Water
Silver (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Silver (ug/L)
0
5
10
15
20
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

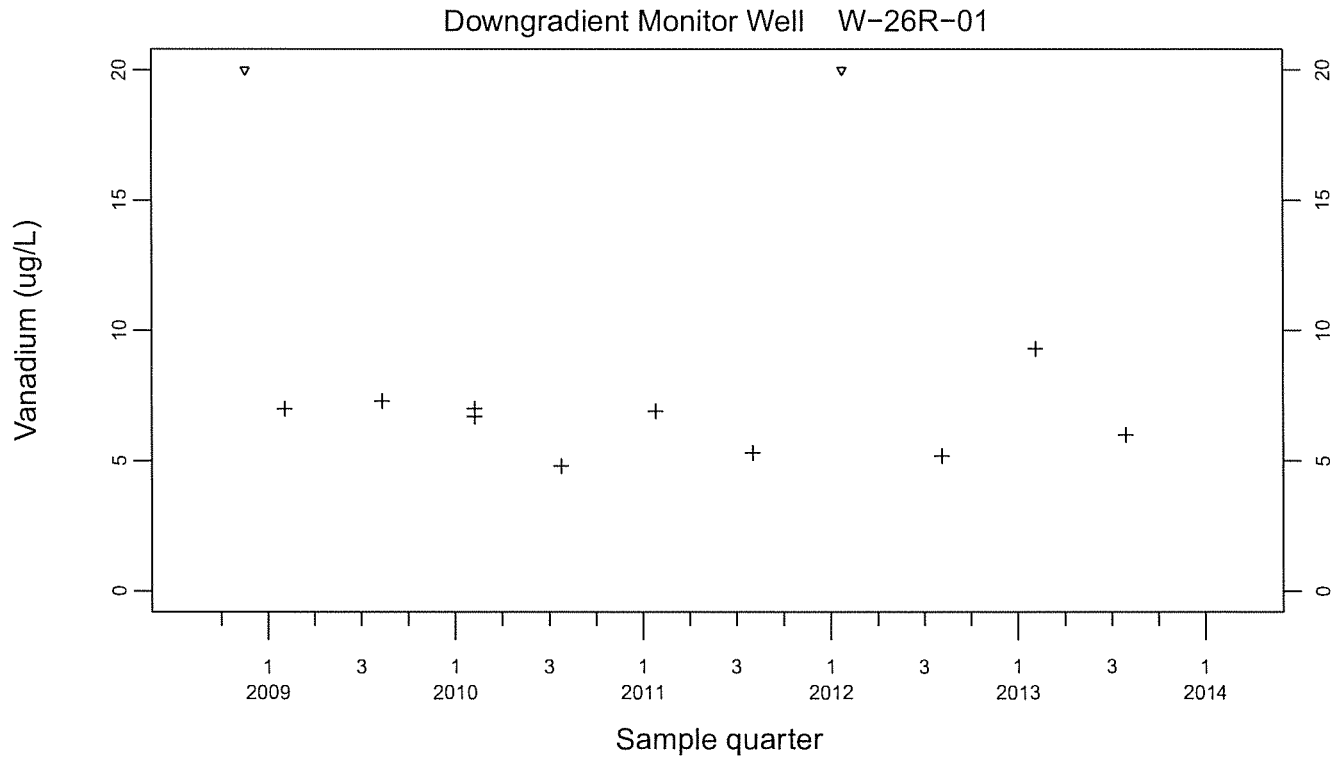

Sewage Ponds Ground Water
Vanadium (ug/L)
Above RL
Below RL
Estimated
Upgradient Monitor Well W-7ES
Vanadium (ug/L)
0
5
10
15
20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

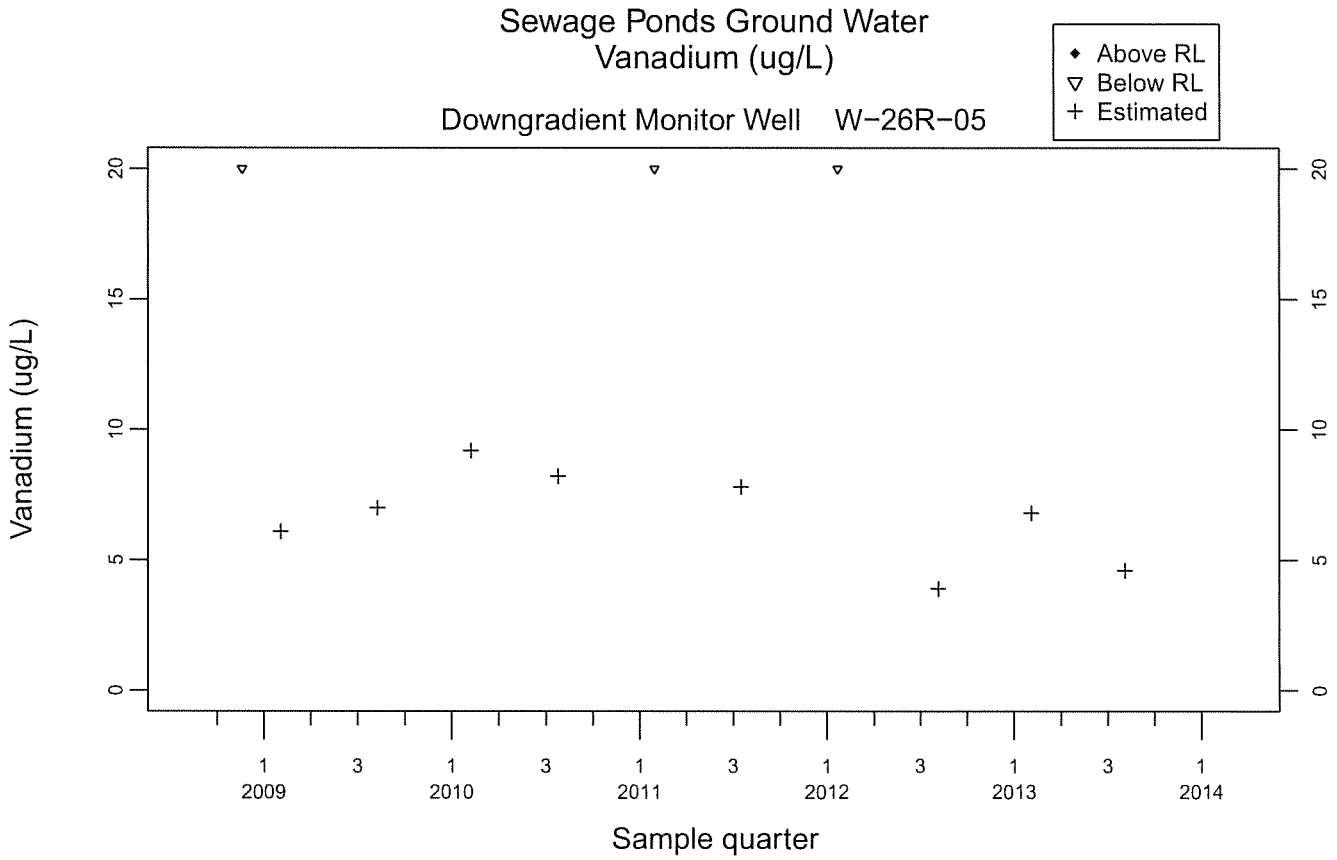

Upgradient Monitor Well W-7PS
Vanadium (ug/L)
0
5
10
15
20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

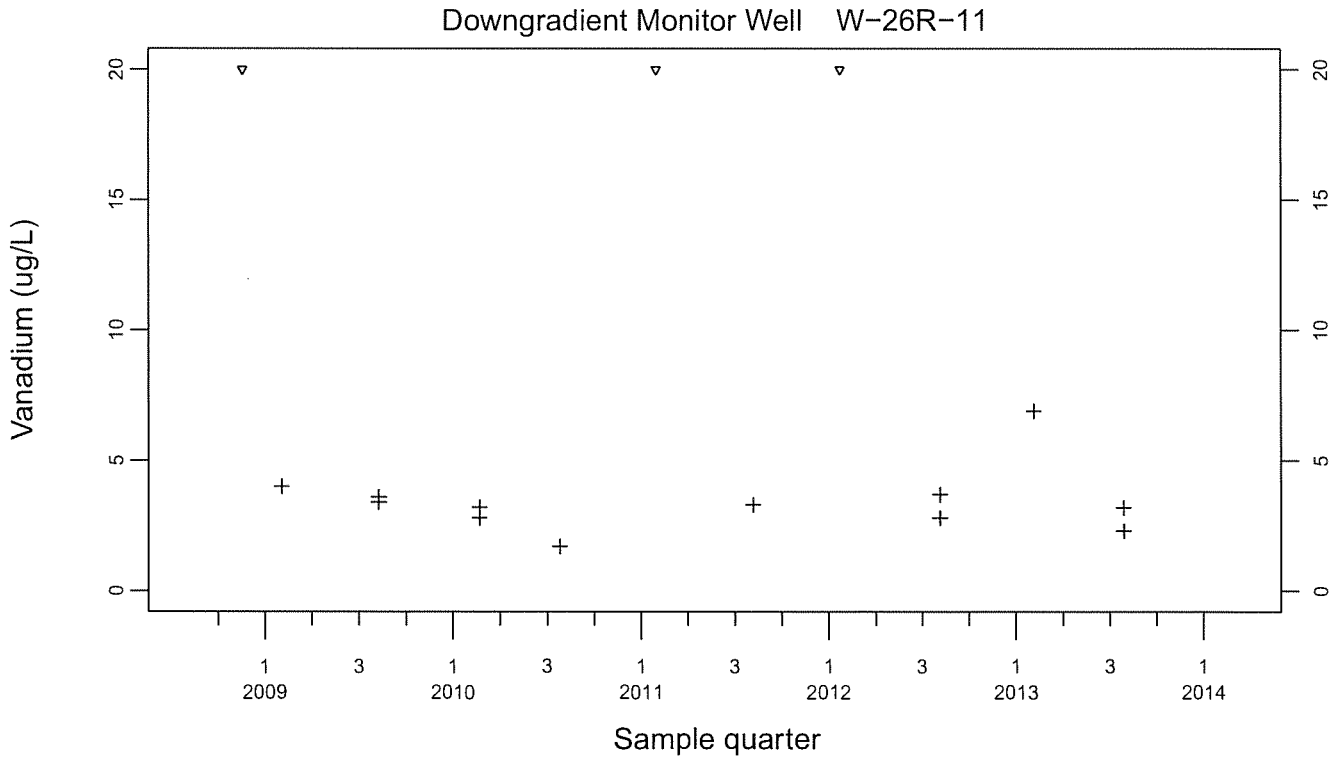

Sewage Ponds Ground Water
Vanadium (ug/L)
Above RL
Below RL
Estimated
Crossgradient Monitor Well W-35A-04
Vanadium (ug/L)
0
5
10
15
20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

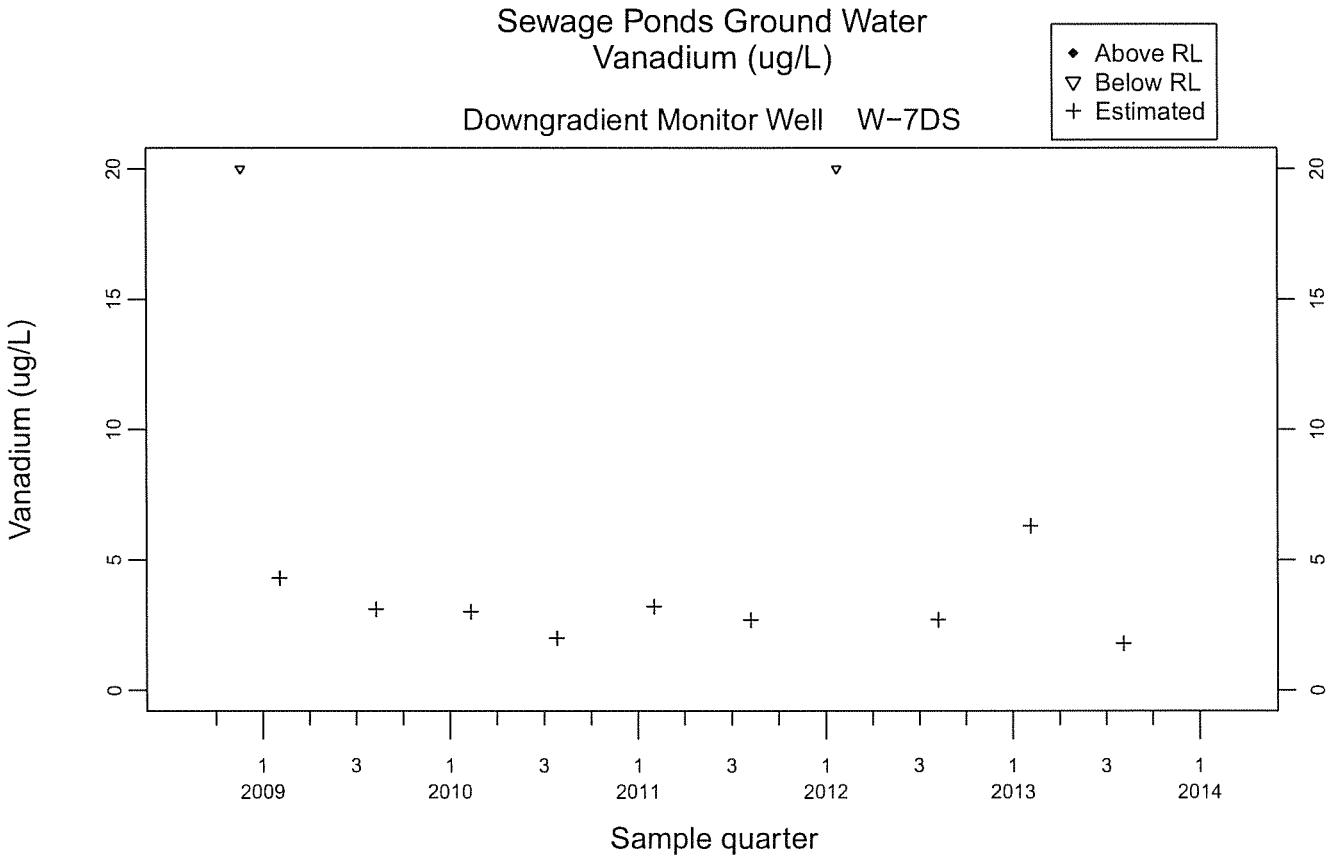

Downgradient Monitor Well W-25N-23
Vanadium (ug/L)
0
5
10
15
20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

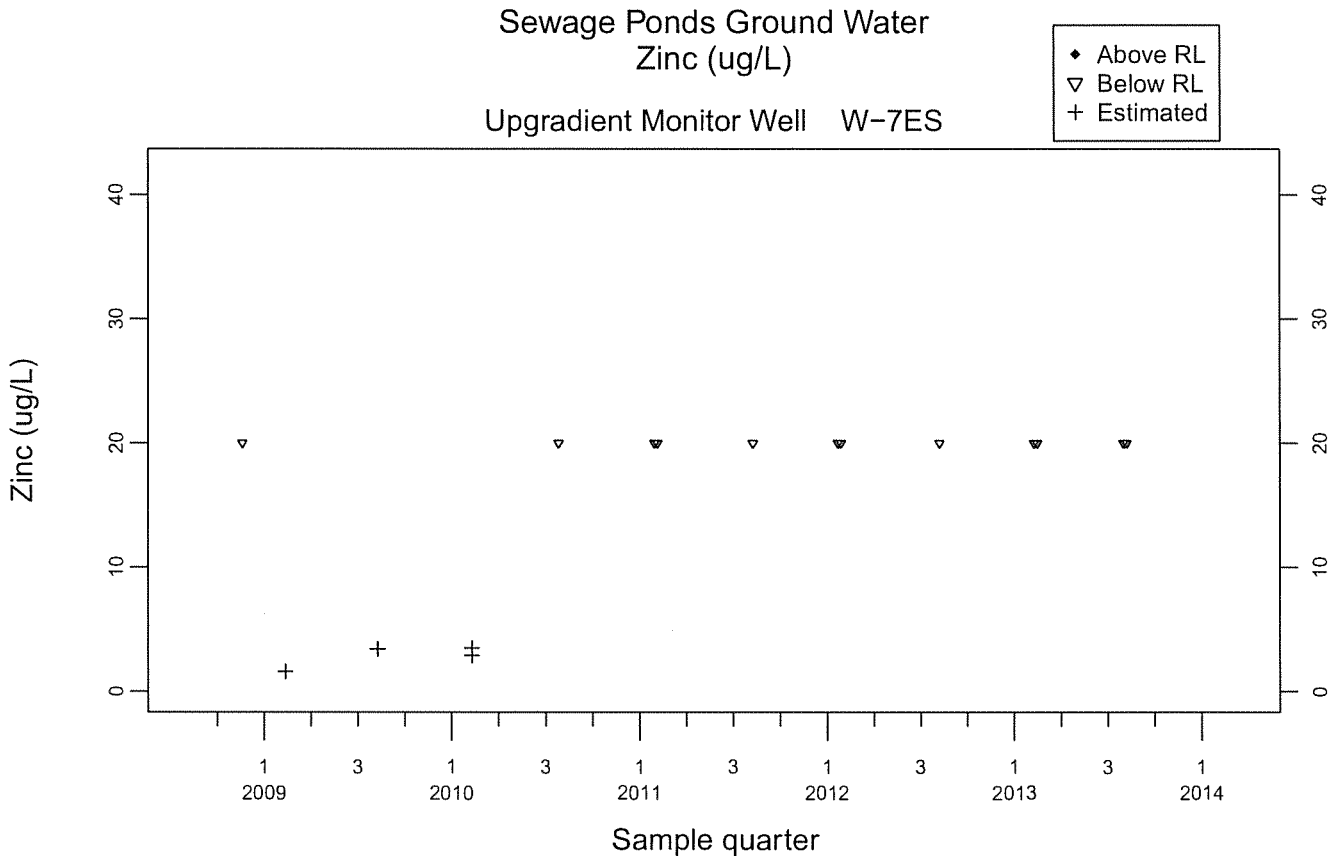

Sewage Ponds Ground Water
Vanadium (ug/L)
Above RL
Estimated
Downgradient Monitor Well W-25N-22
Vanadium (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

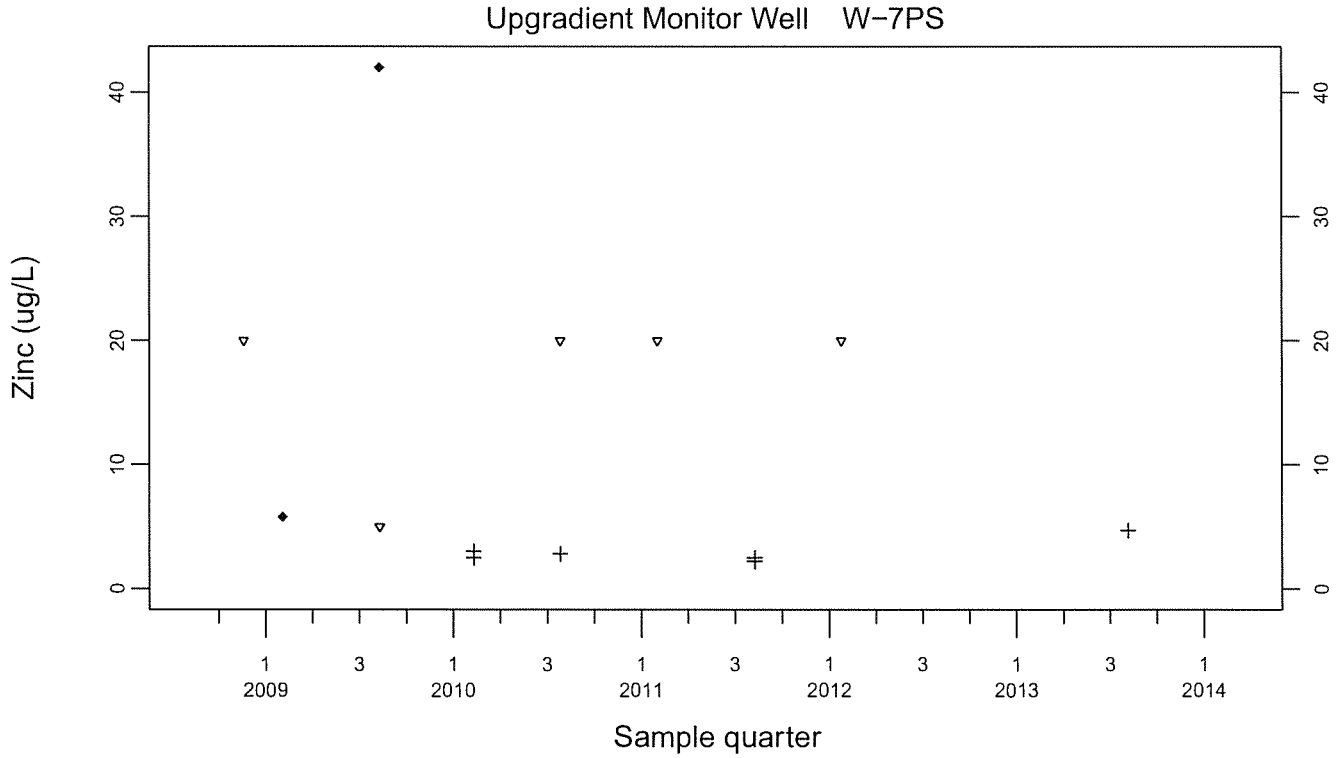

Downgradient Monitor Well W-26R-01
Vanadium (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

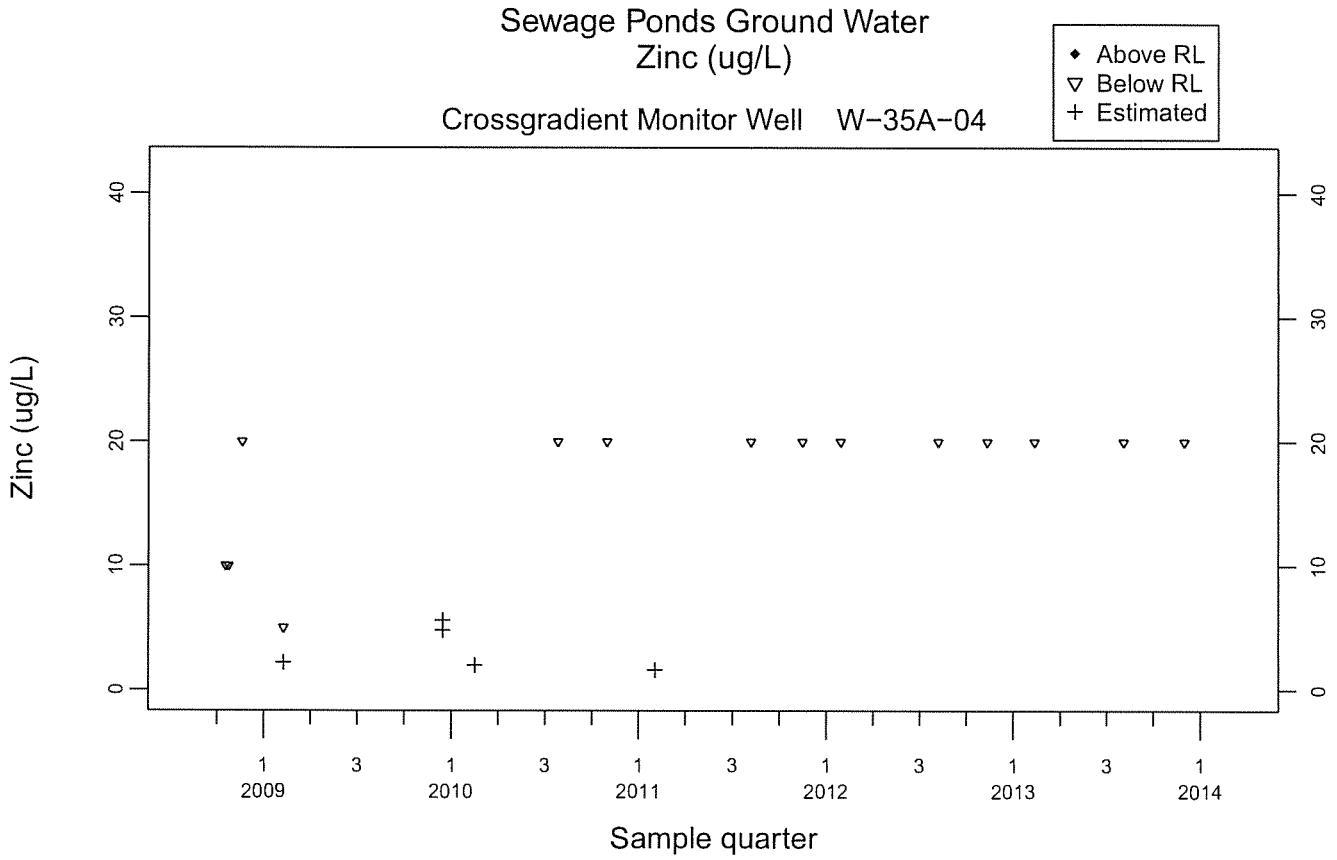

Sewage Ponds Ground Water
Vanadium (ug/L)
Above RL
Below RL
Estimated
Downgradient Monitor Well W-26R-05
Vanadium (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

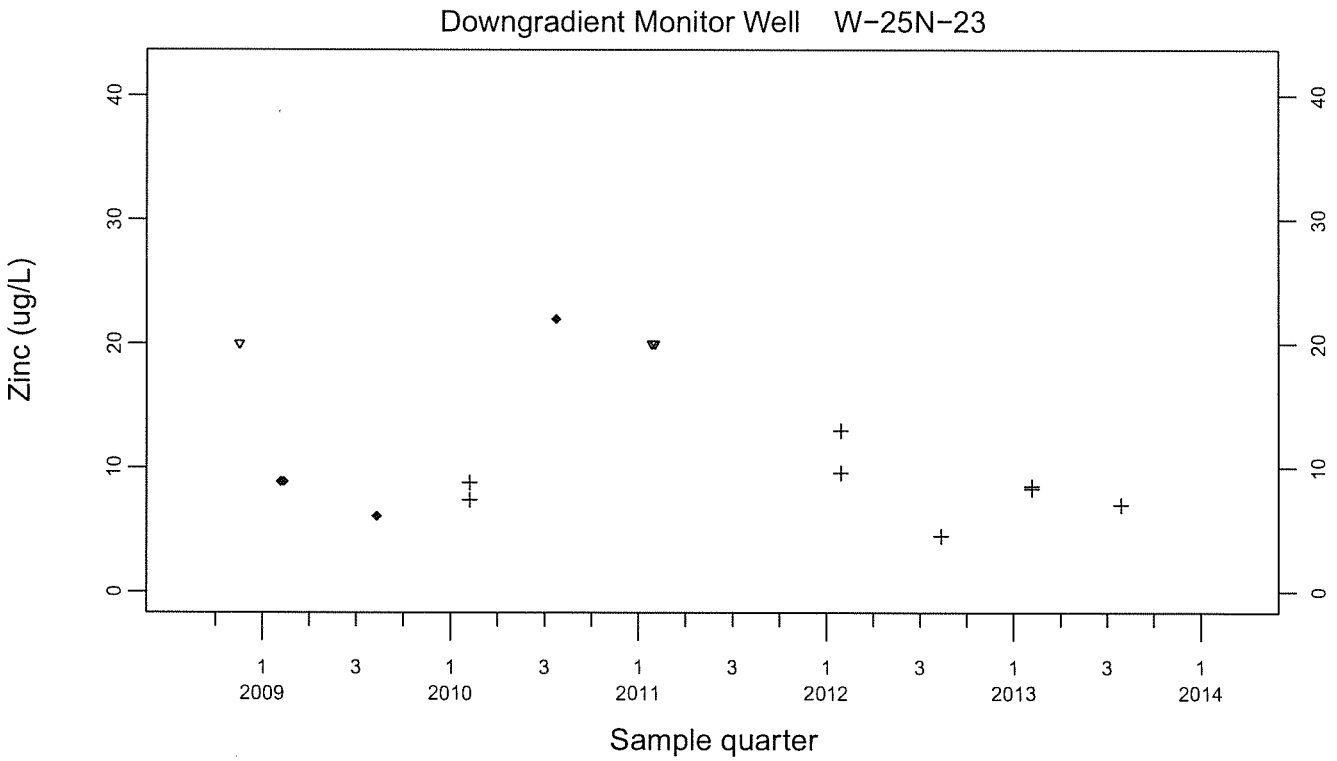

Downgradient Monitor Well W-26R-11
Vanadium (ug/L)
0
5
10
15
20
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

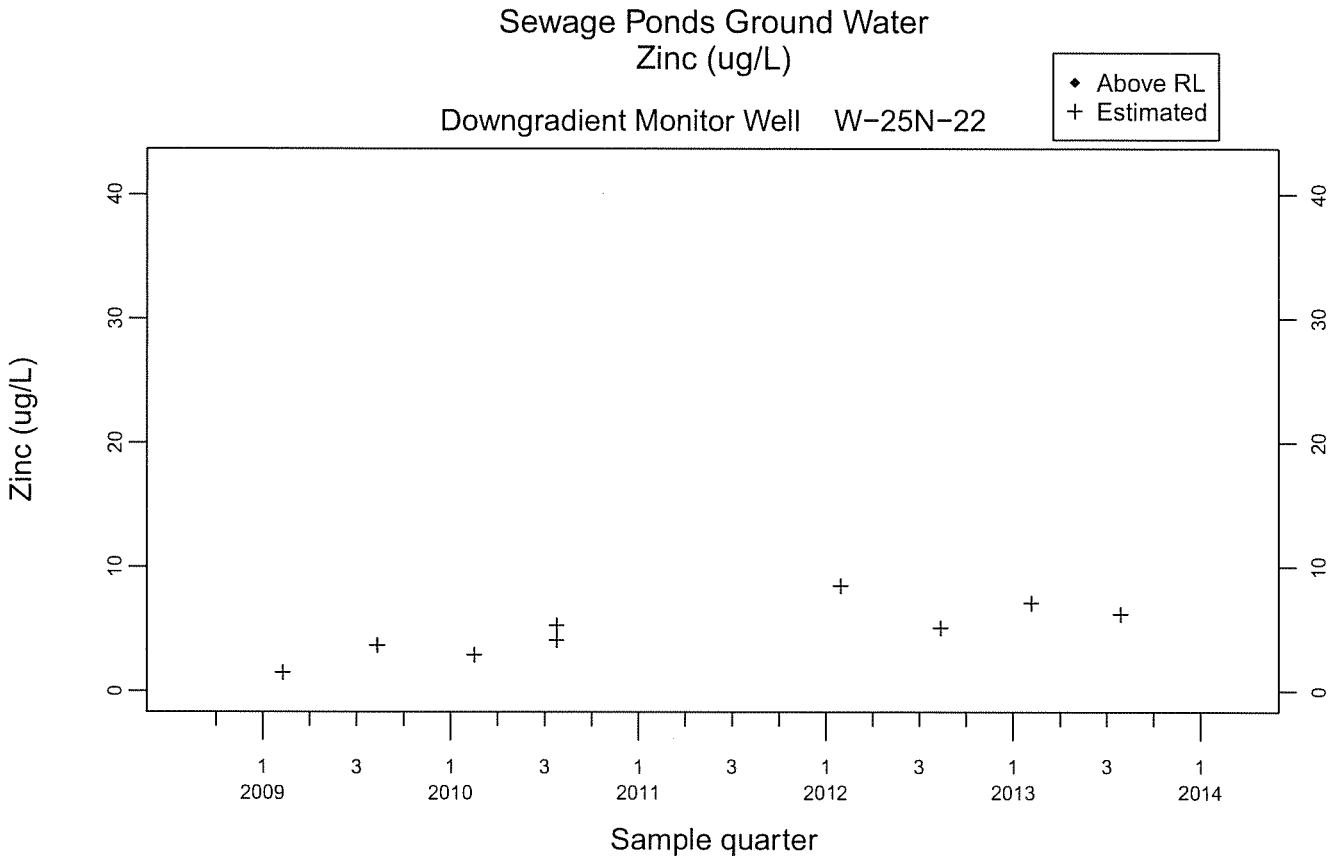

Sewage Ponds Ground Water
Vanadium (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Vanadium (ug/L)
0
5
10
15
20
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

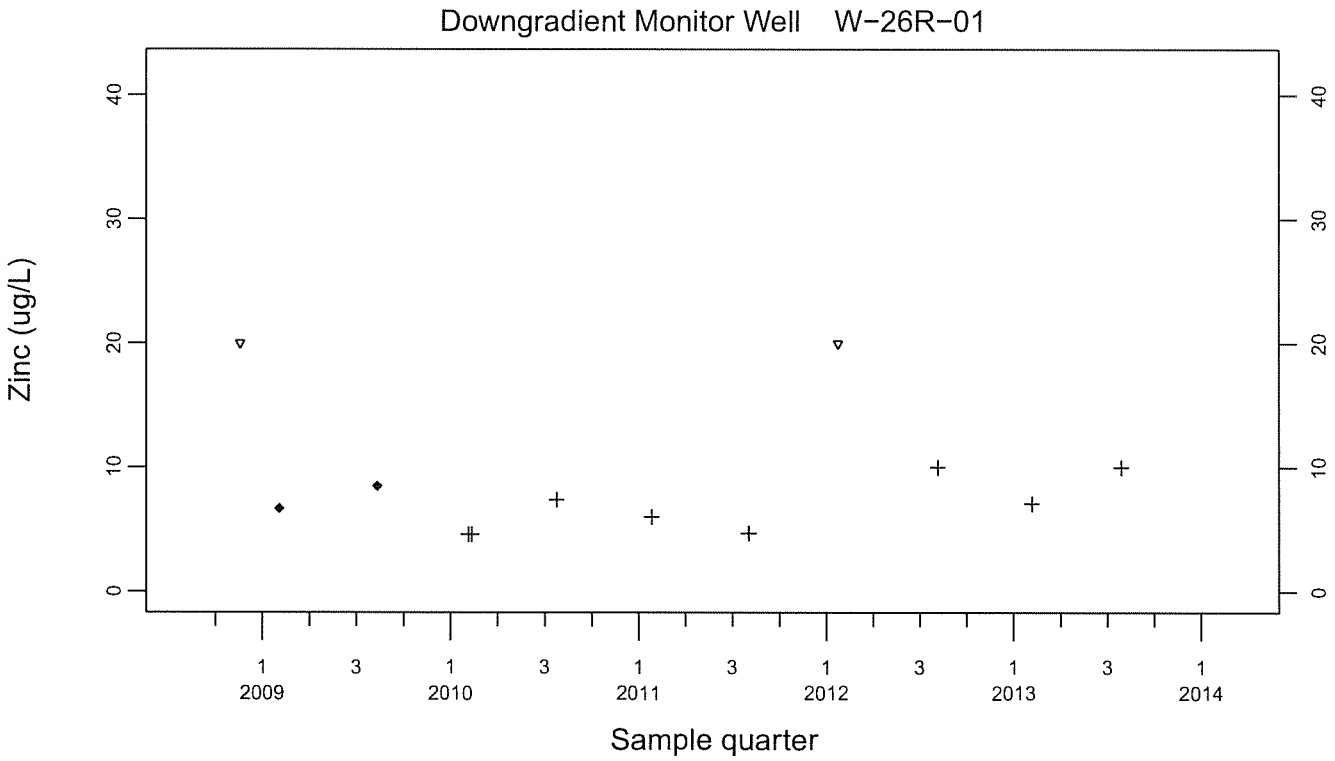

Sewage Ponds Ground Water
Zinc (ug/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Estimated
Zinc (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

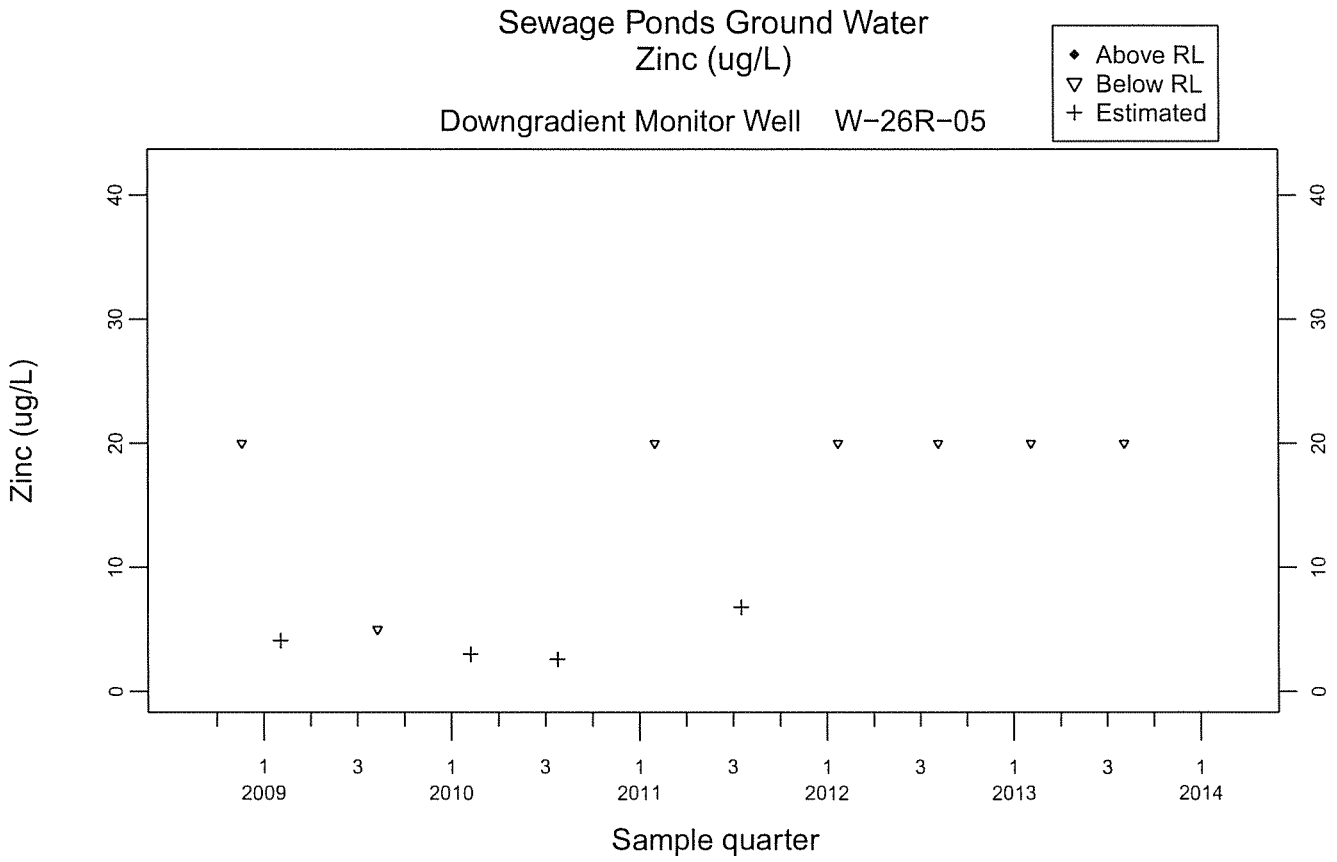

Upgradient Monitor Well W-7PS
Zinc (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

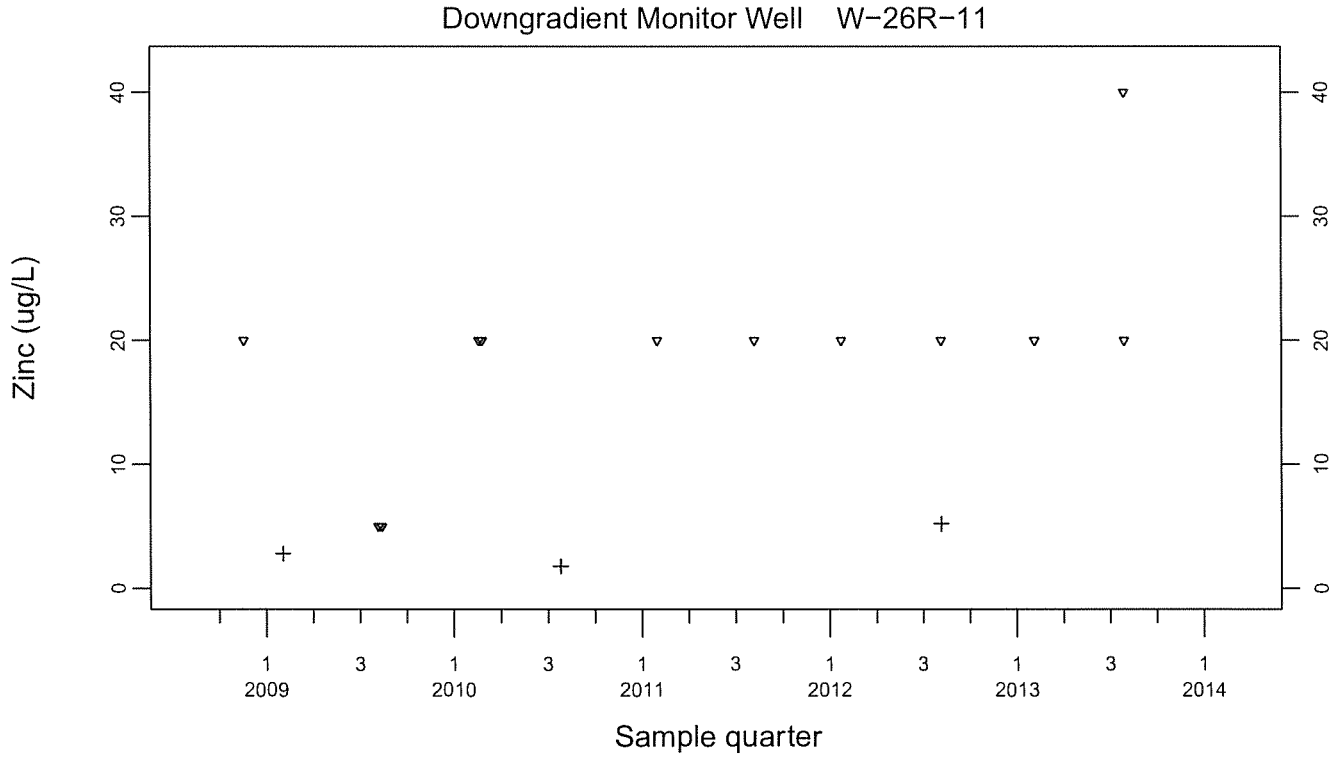

Sewage Ponds Ground Water
Zinc (ug/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Estimated
Zinc (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

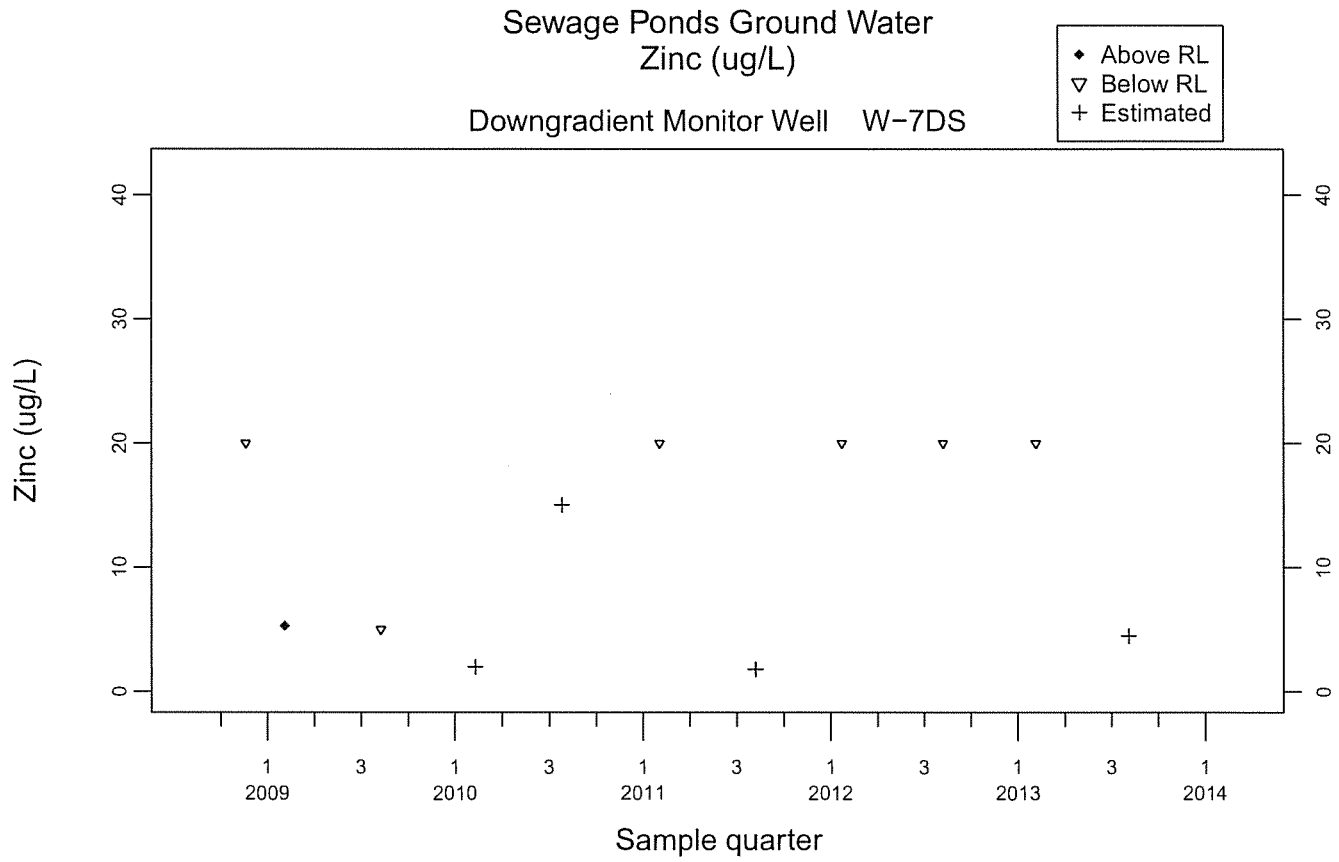

Downgradient Monitor Well W-25N-23
Zinc (ug/L)
0
10
20
30
40
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

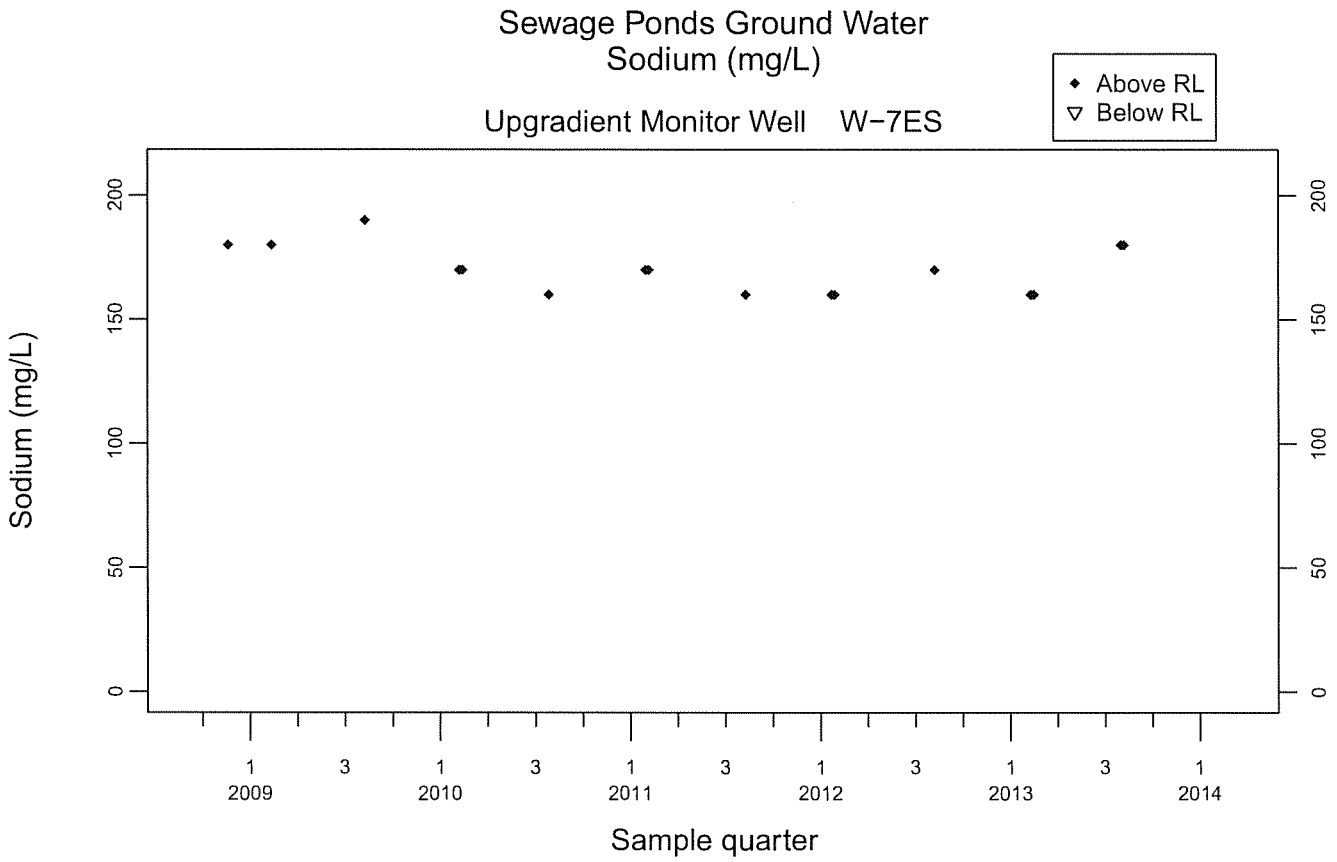

Sewage Ponds Ground Water
Zinc (ug/L)
Above RL
Estimated
Downgradient Monitor Well W-25N-22
Zinc (ug/L)
0
10
20
30
40
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

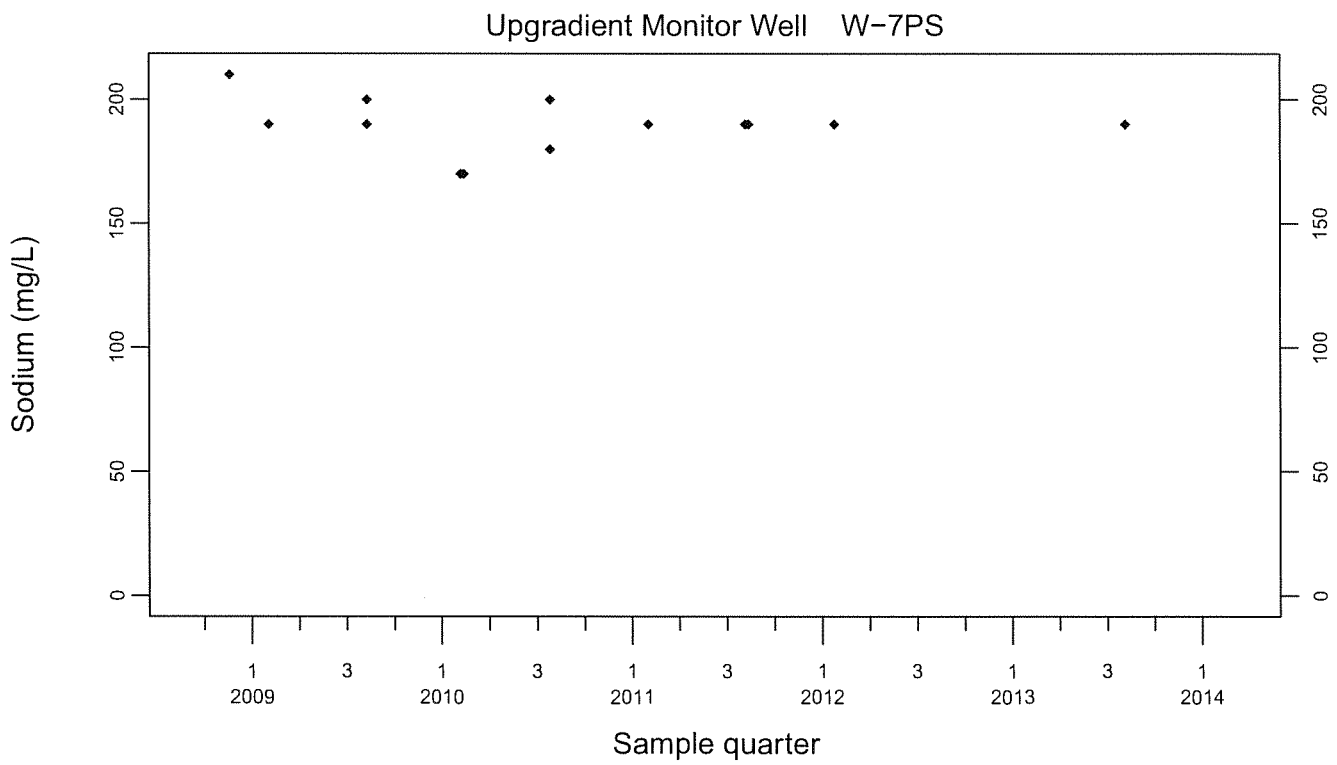

Downgradient Monitor Well W-26R-01
Zinc (ug/L)
0
10
20
30
40
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

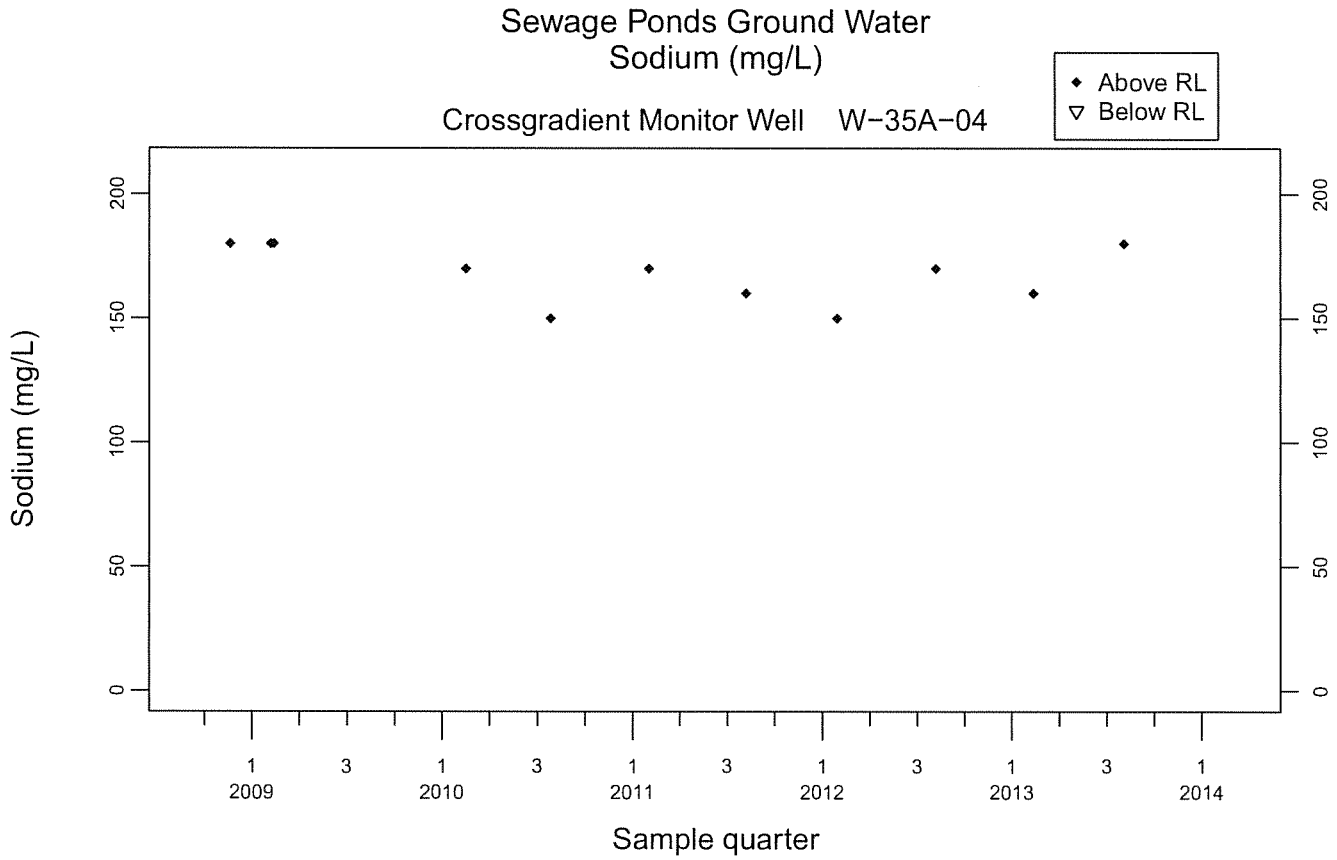

Sewage Ponds Ground Water
Zinc (ug/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Estimated
Zinc (ug/L)
0
10
20
30
40
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

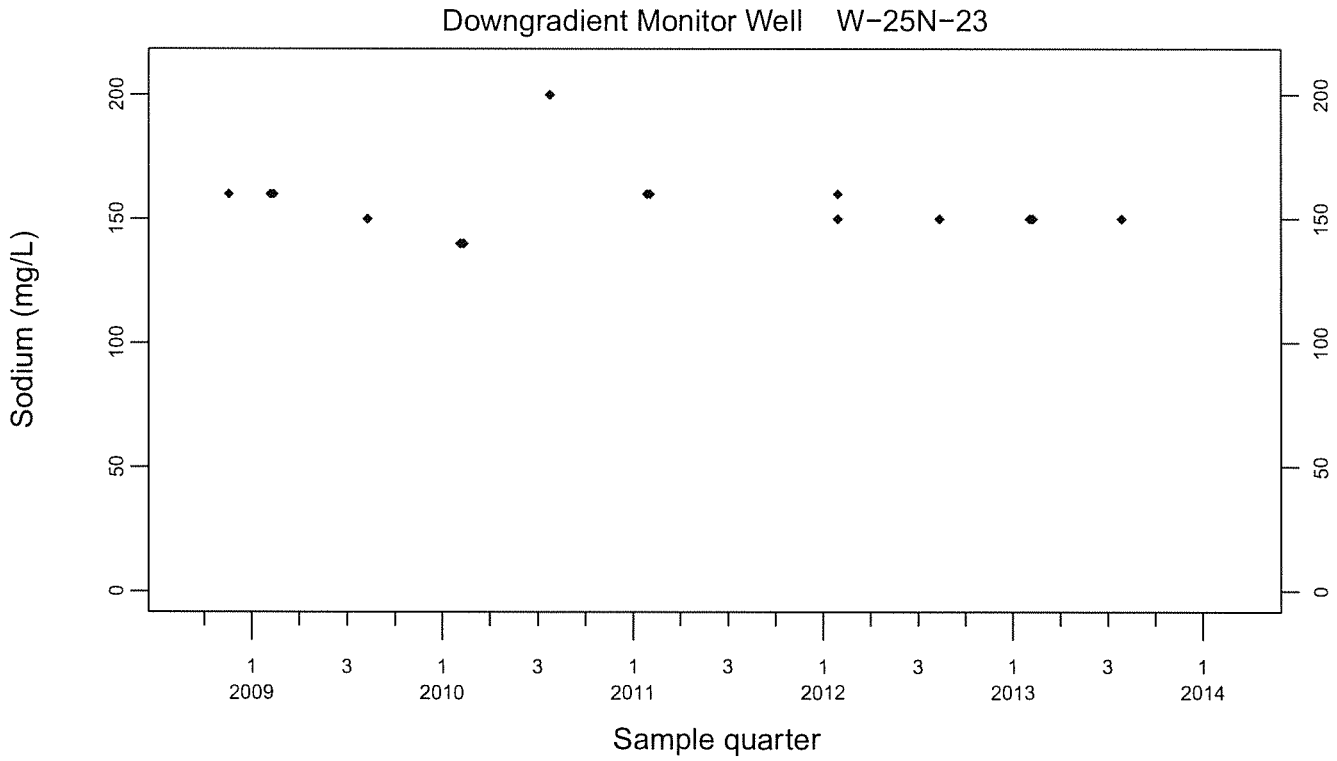

Downgradient Monitor Well W-26R-11
Zinc (ug/L)
0
10
20
30
40
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

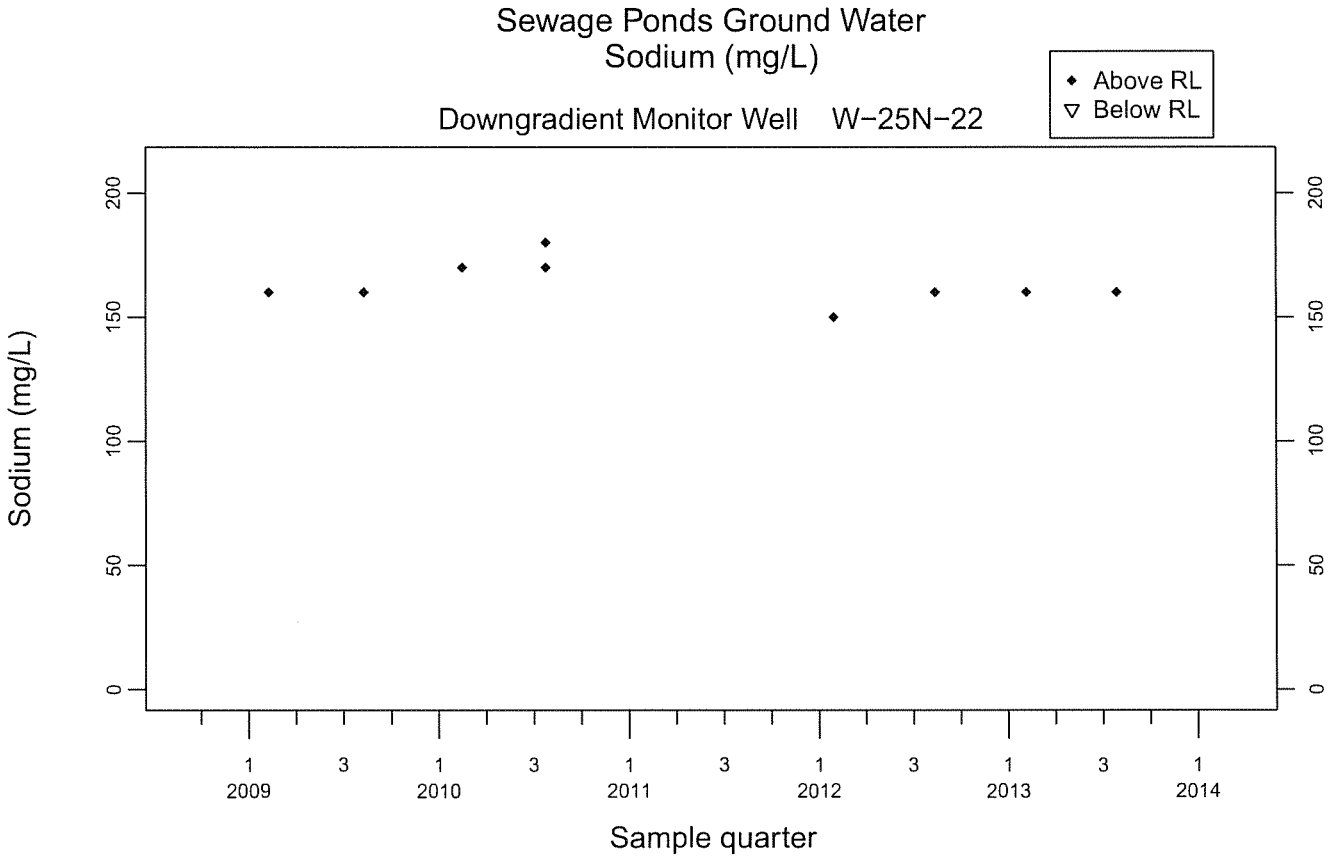

Sewage Ponds Ground Water
Zinc (ug/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Estimated
Zinc (ug/L)
0
10
20
30
40
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

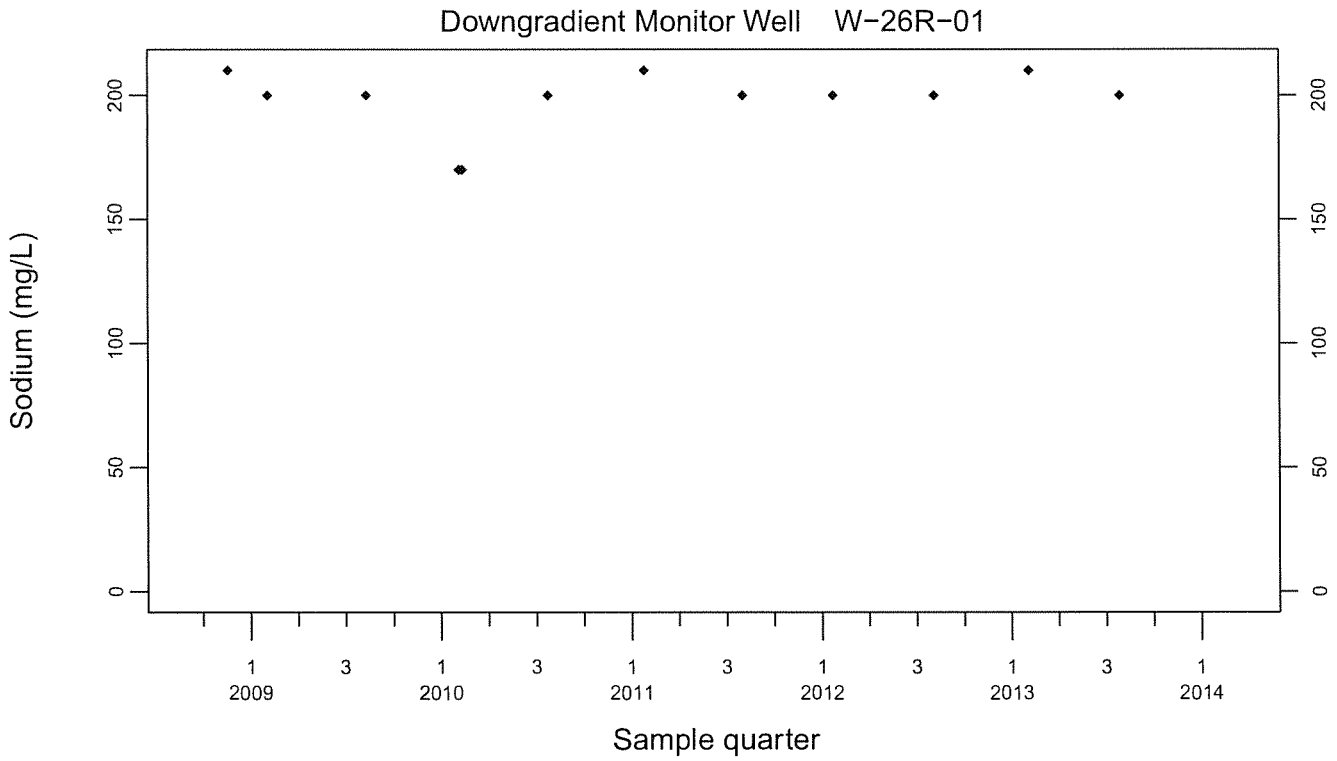

Sewage Ponds Ground Water
Sodium (mg/L)
Above RL
Below RL
Upgradient Monitor Well W-7ES
Sodium (mg/L)
0
50
100
150
200
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

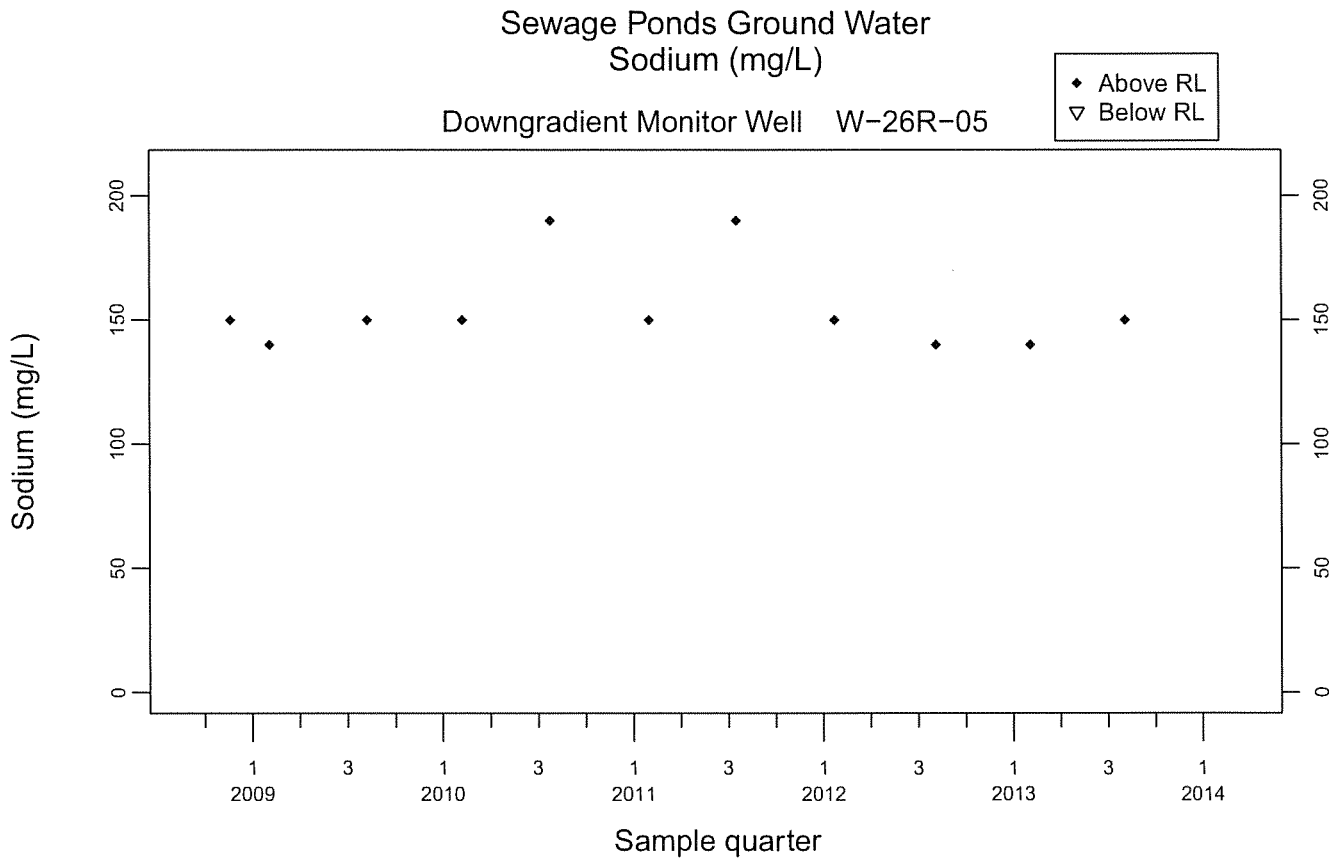

Upgradient Monitor Well W-7PS
Sodium (mg/L)
0
50
100
150
200
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

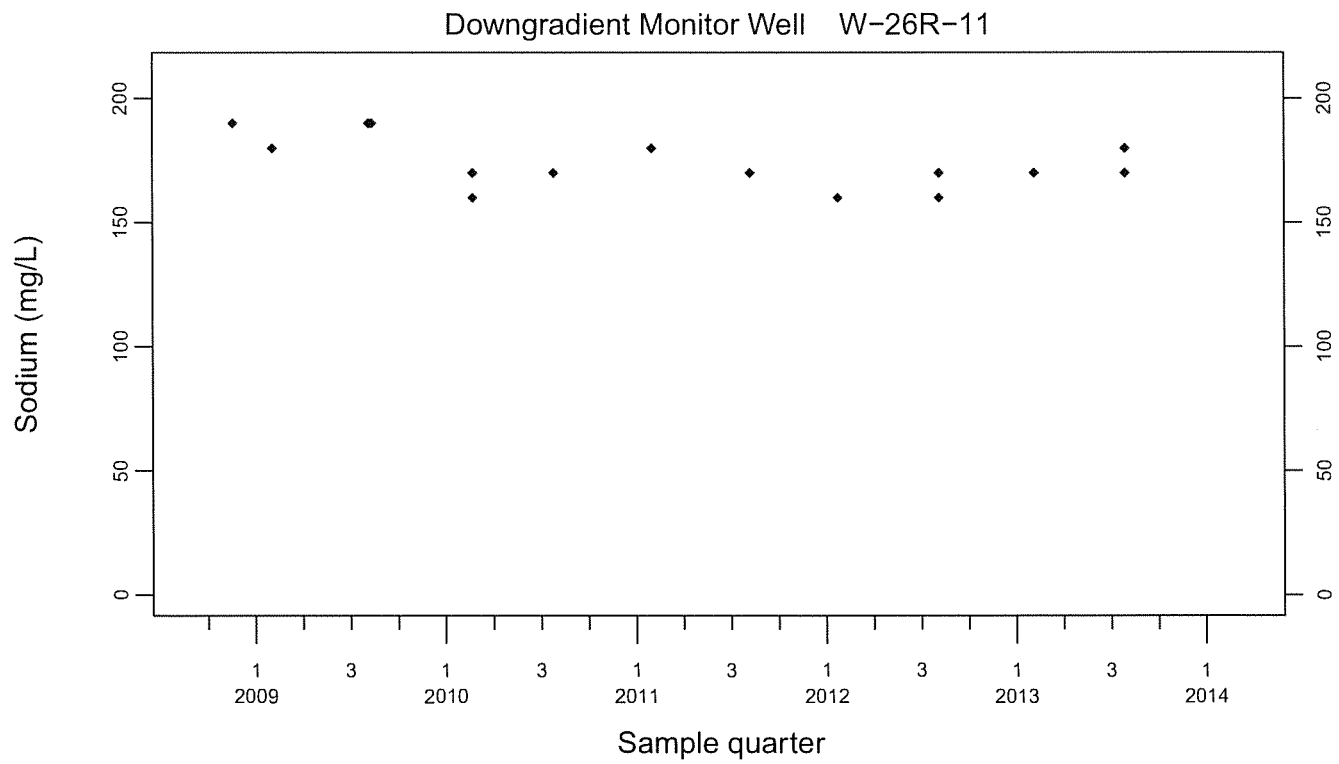

Sewage Ponds Ground Water
Sodium (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Sodium (mg/L)
0
50
100
150
200
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

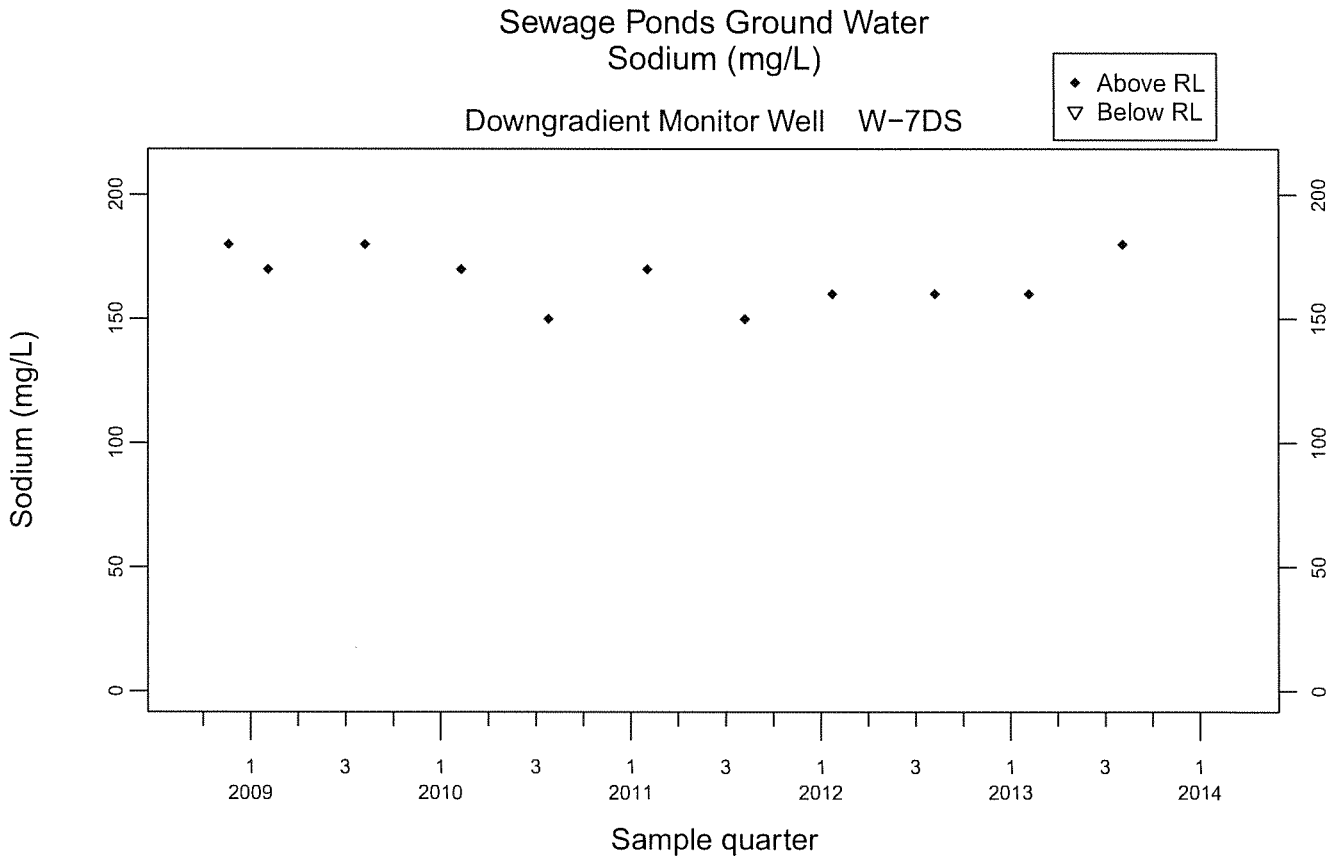

Downgradient Monitor Well W-25N-23
Sodium (mg/L)
0
50
100
150
200
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

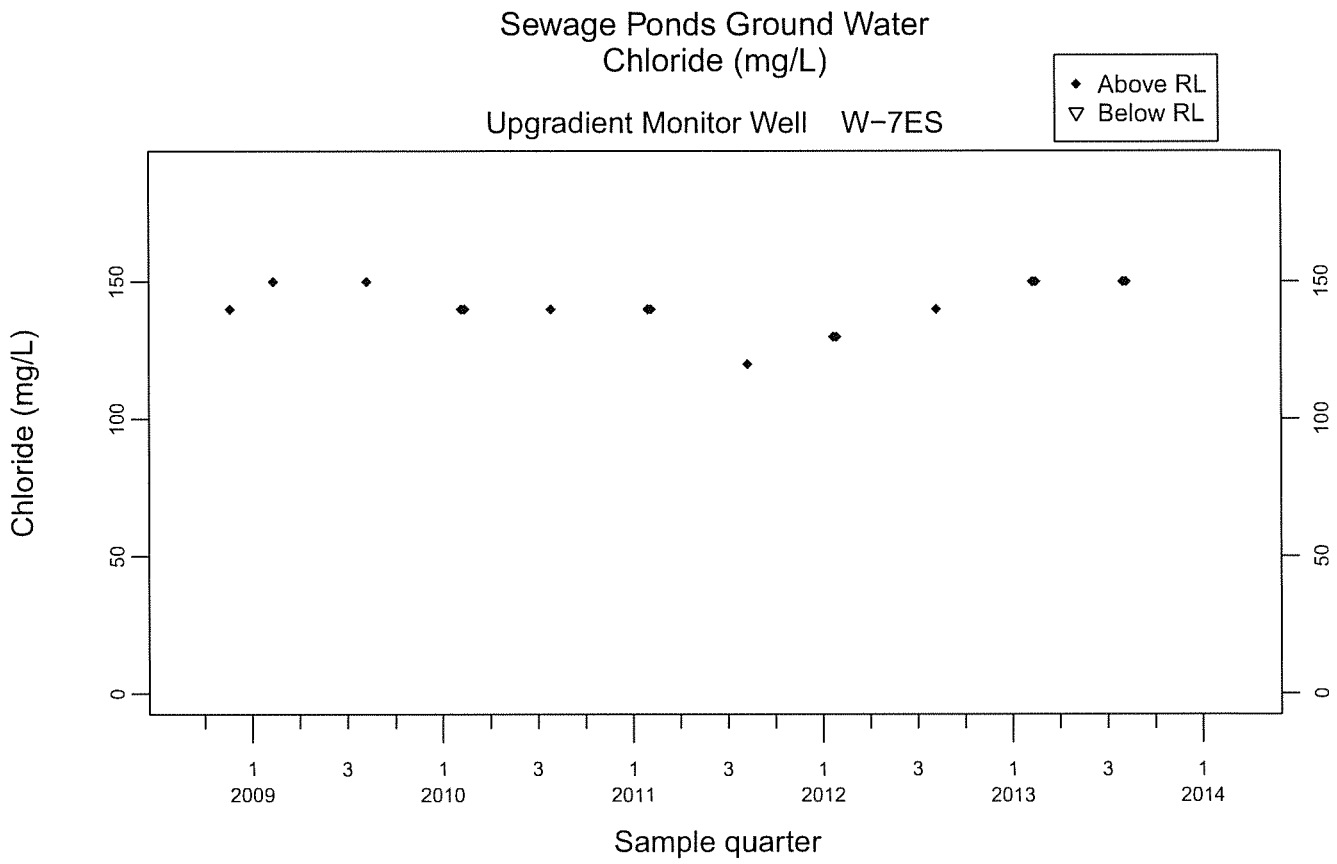

Sewage Ponds Ground Water
Sodium (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Sodium (mg/L)
0
50
100
150
200
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

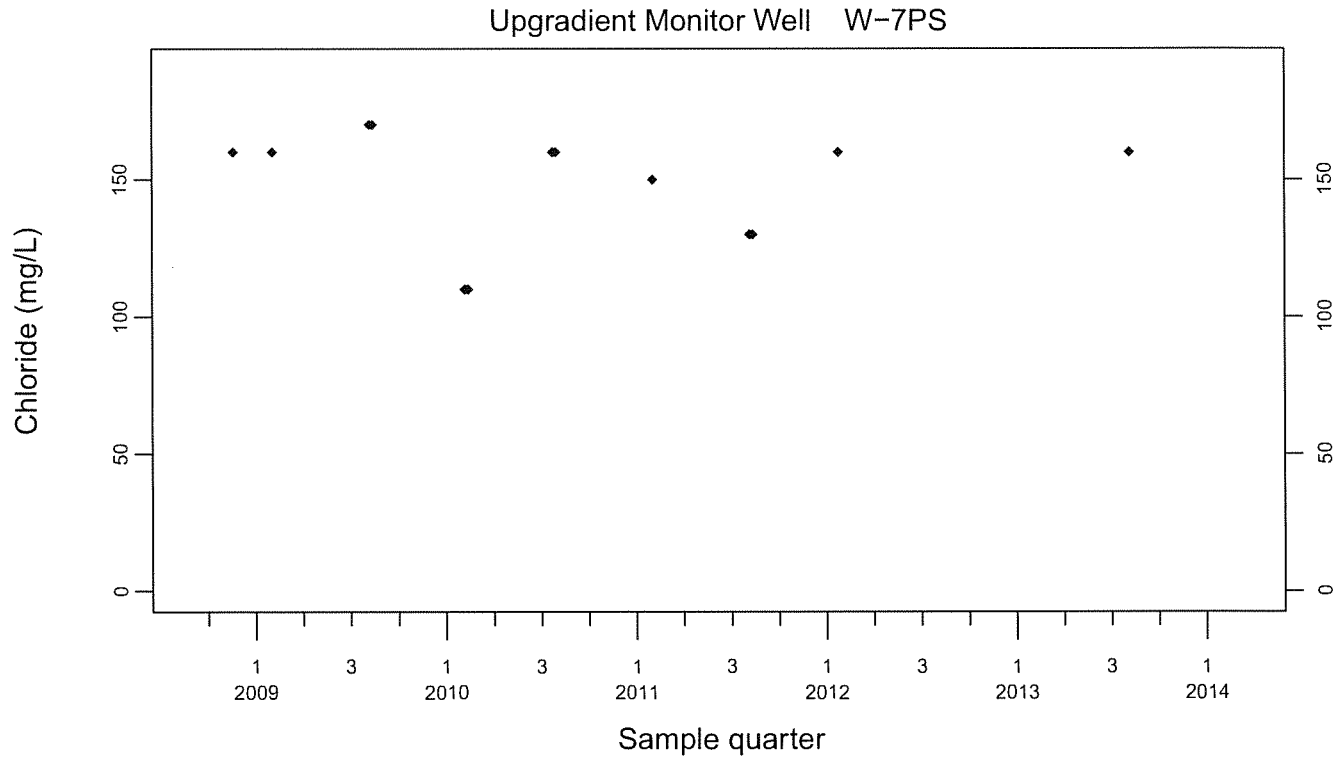

Downgradient Monitor Well W-26R-01
Sodium (mg/L)
0
50
100
150
200
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

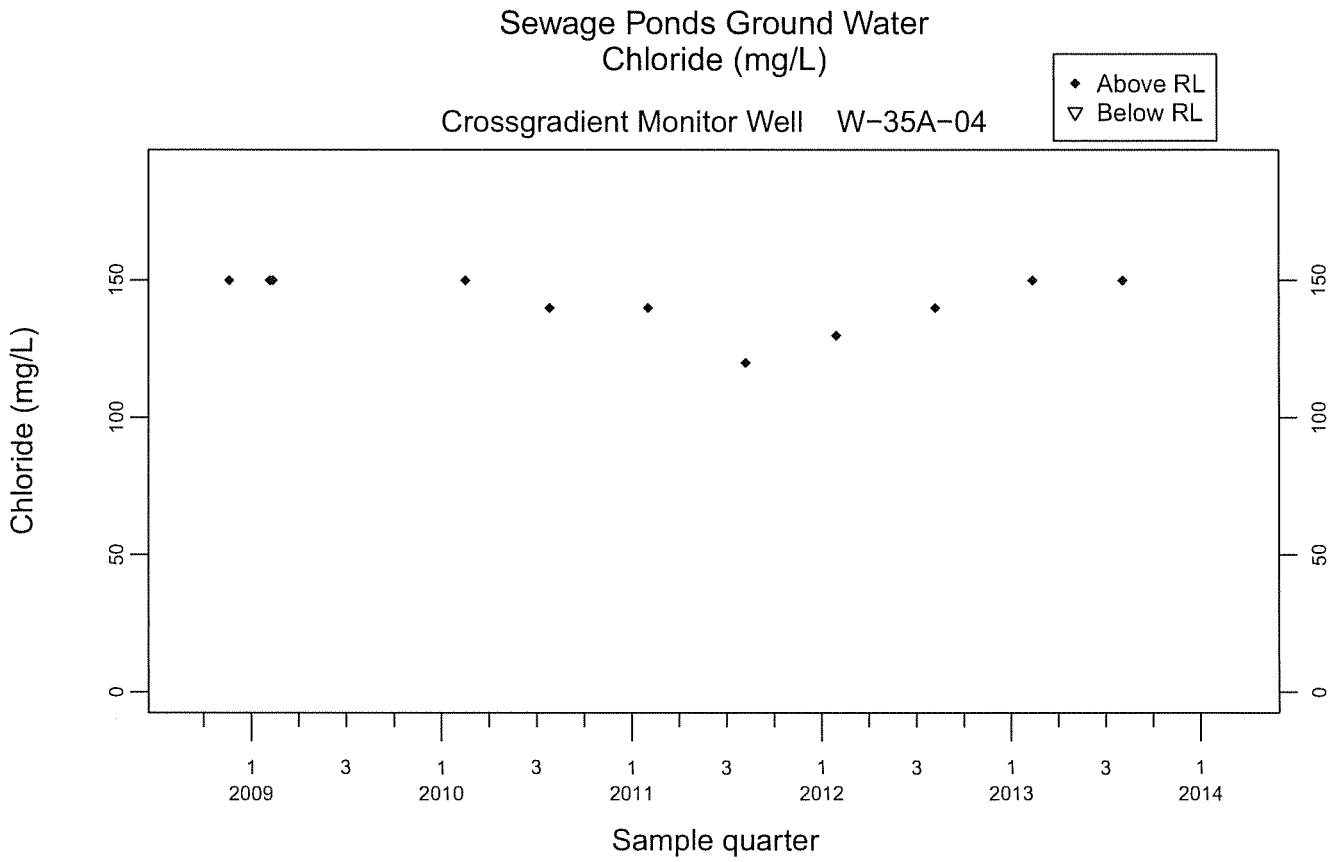

Sewage Ponds Ground Water
Sodium (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Sodium (mg/L)
0
50
100
150
200
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

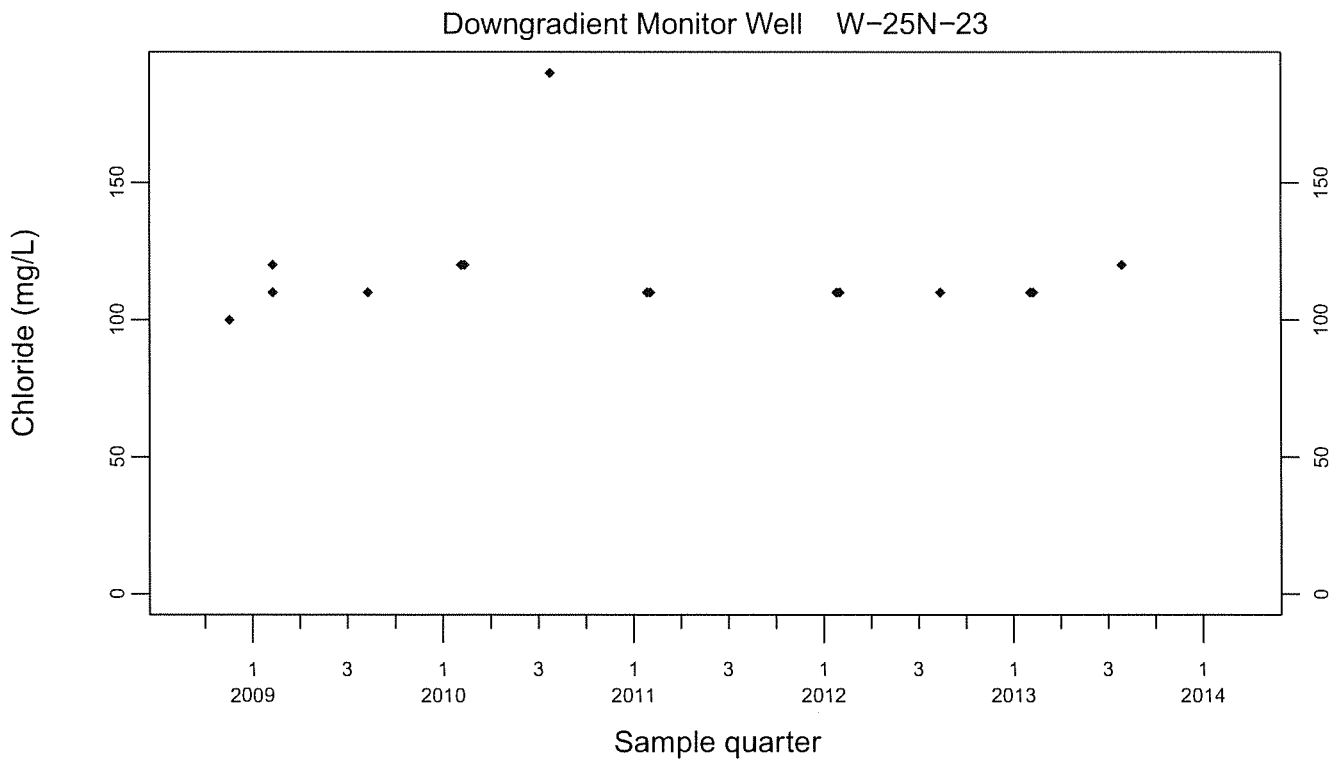

Downgradient Monitor Well W-26R-11
Sodium (mg/L)
0
50
100
150
200
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

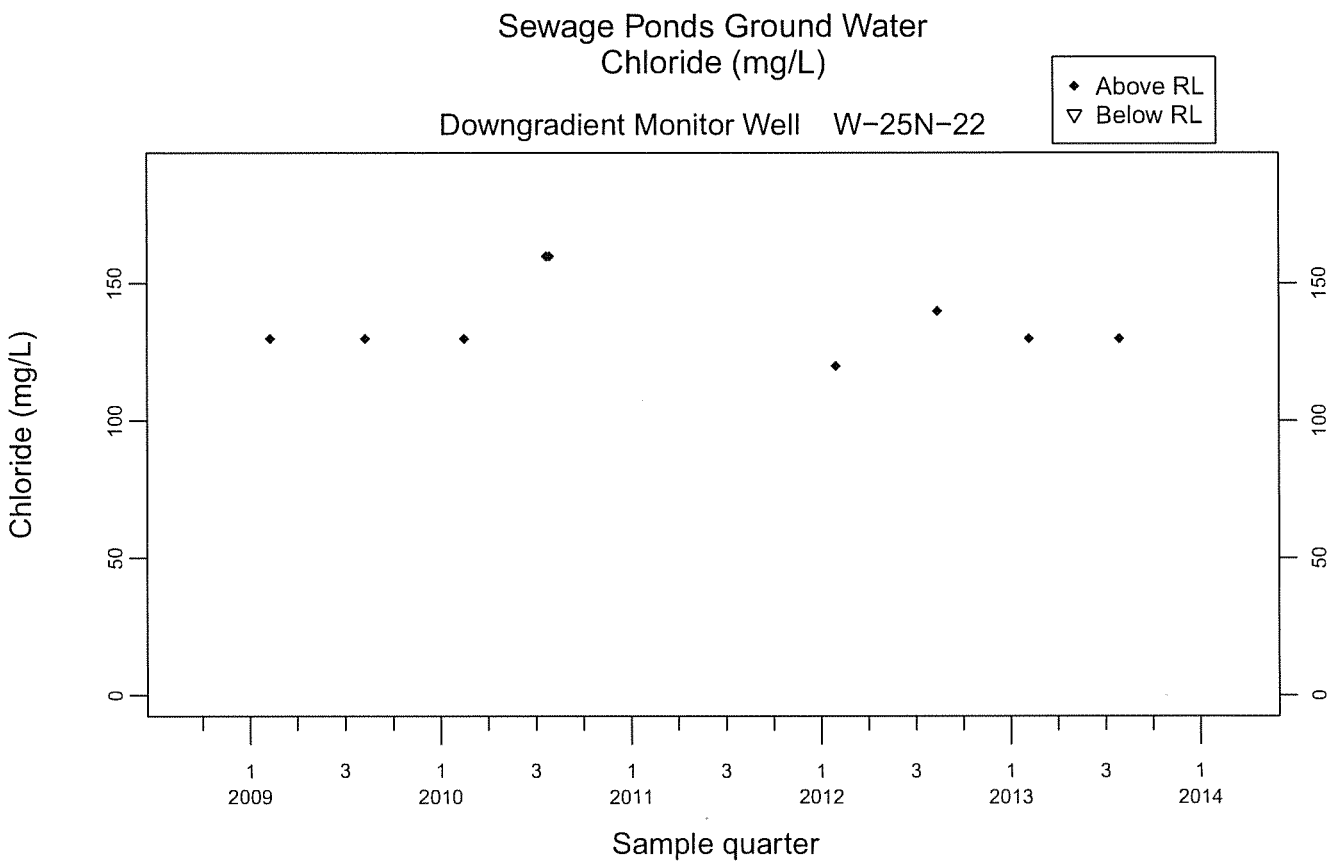

Sewage Ponds Ground Water
Sodium (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Sodium (mg/L)
0
50
100
150
200
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

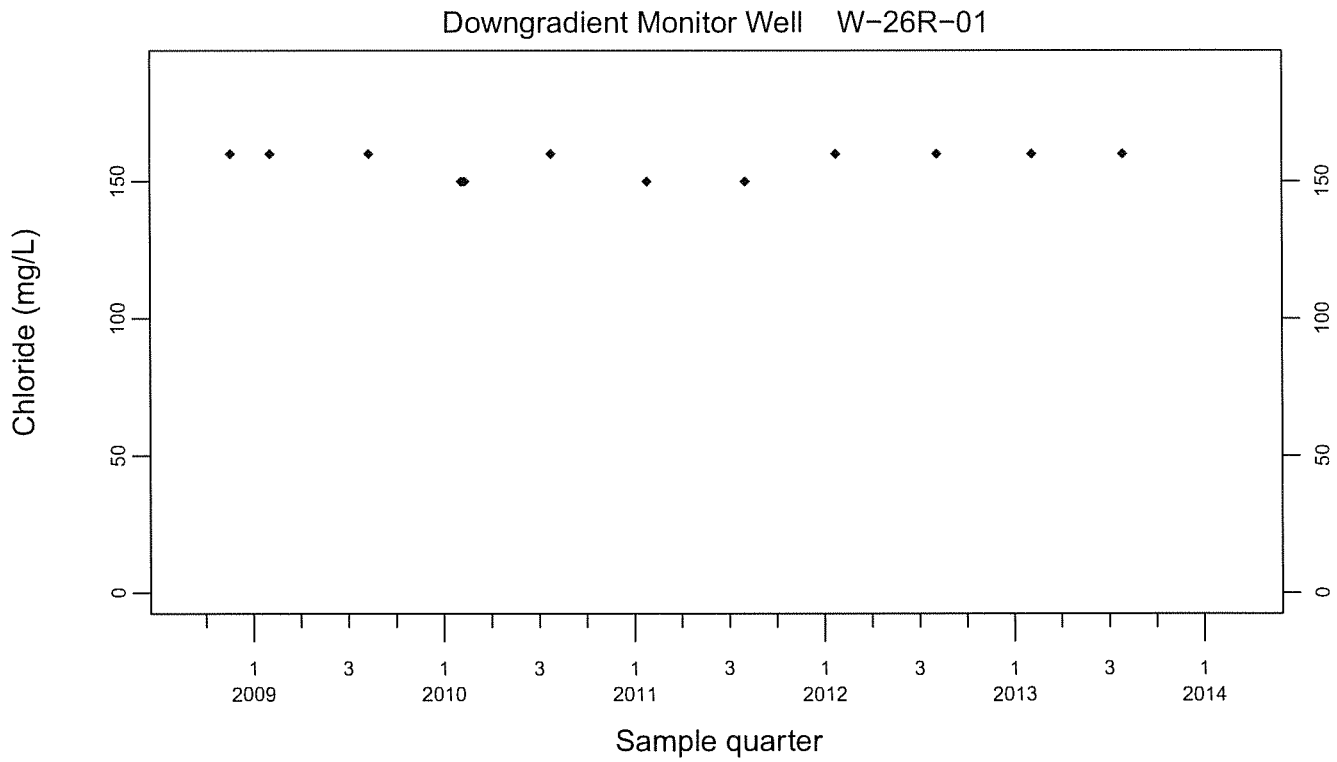

Sewage Ponds Ground Water
Chloride (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Chloride (mg/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

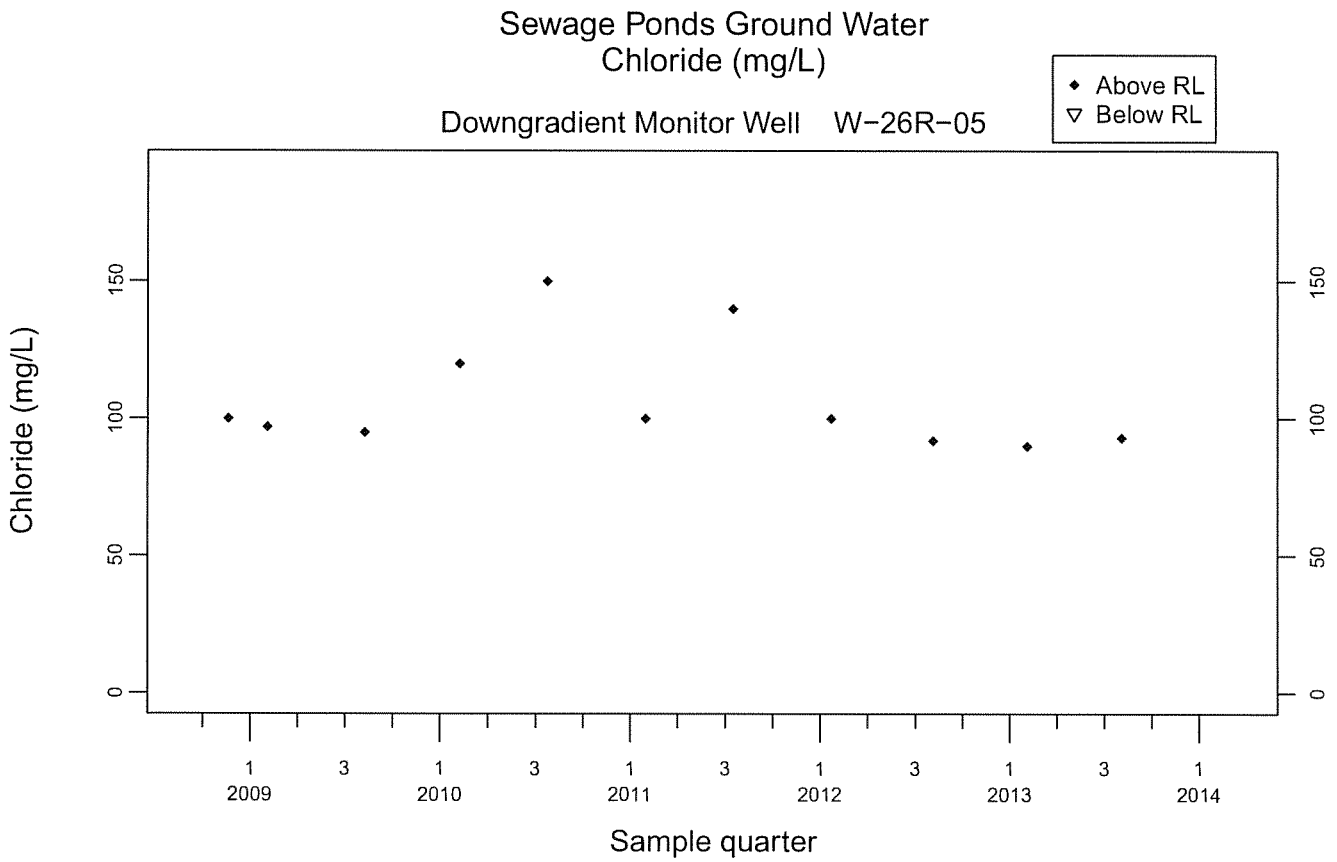

Upgradient Monitor Well W-7PS
Chloride (mg/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

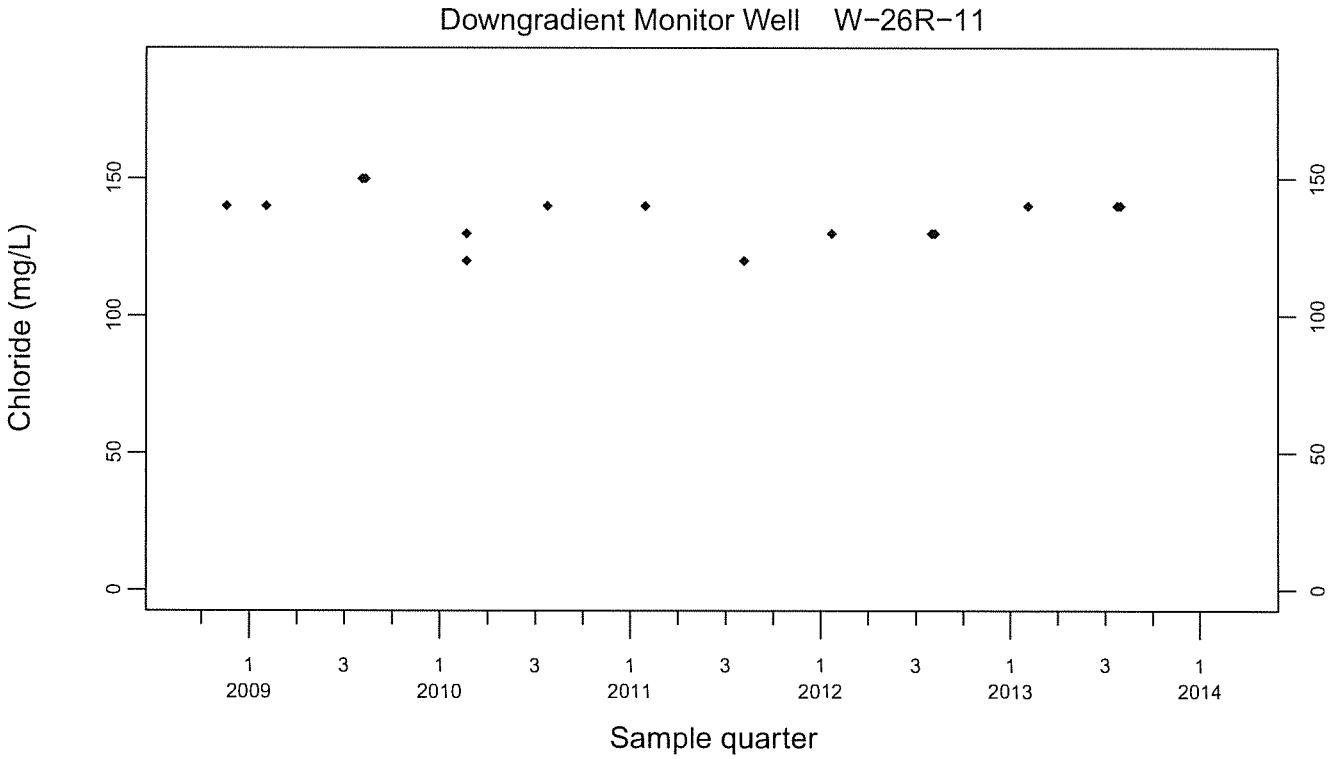

Sewage Ponds Ground Water
Chloride (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Chloride (mg/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

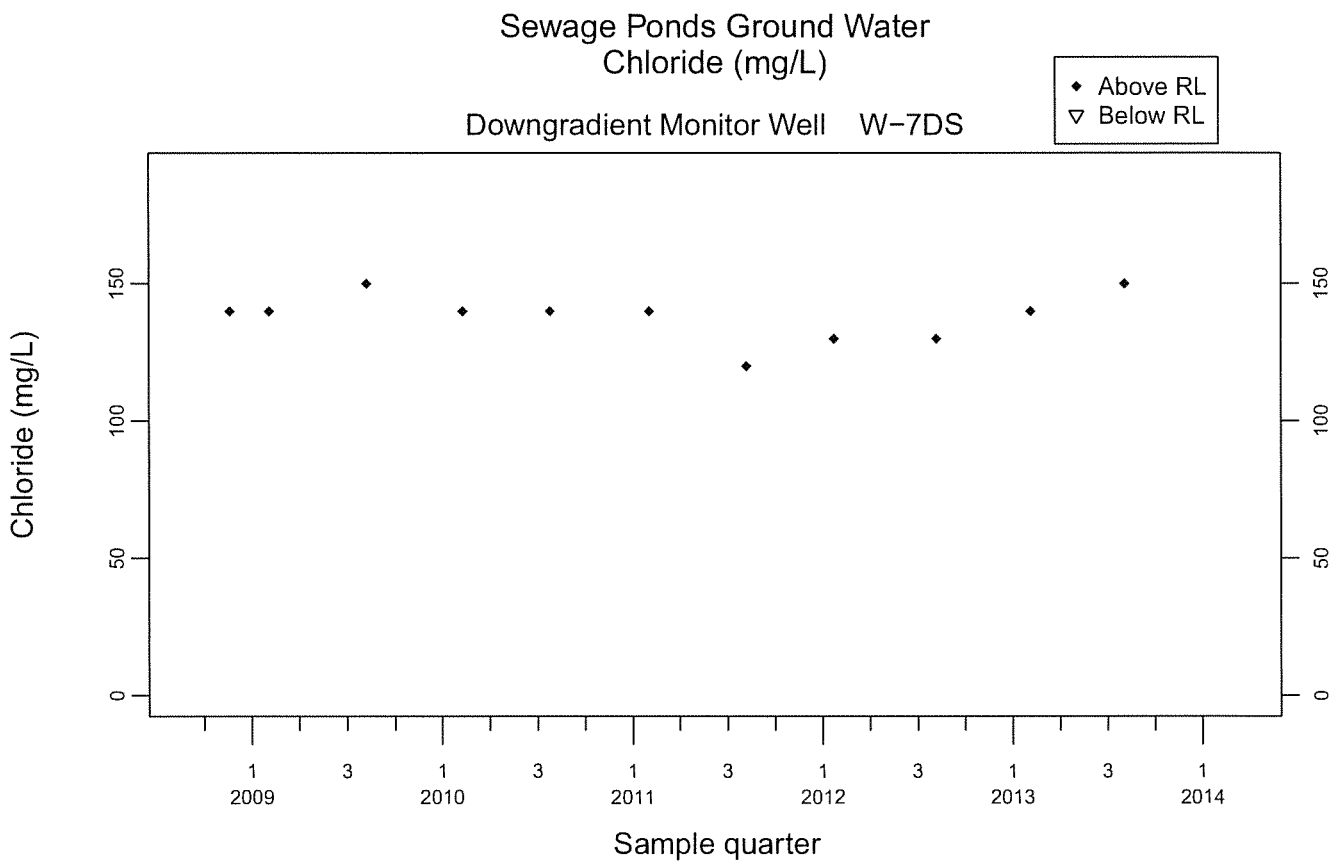

Downgradient Monitor Well W-25N-23
Chloride (mg/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

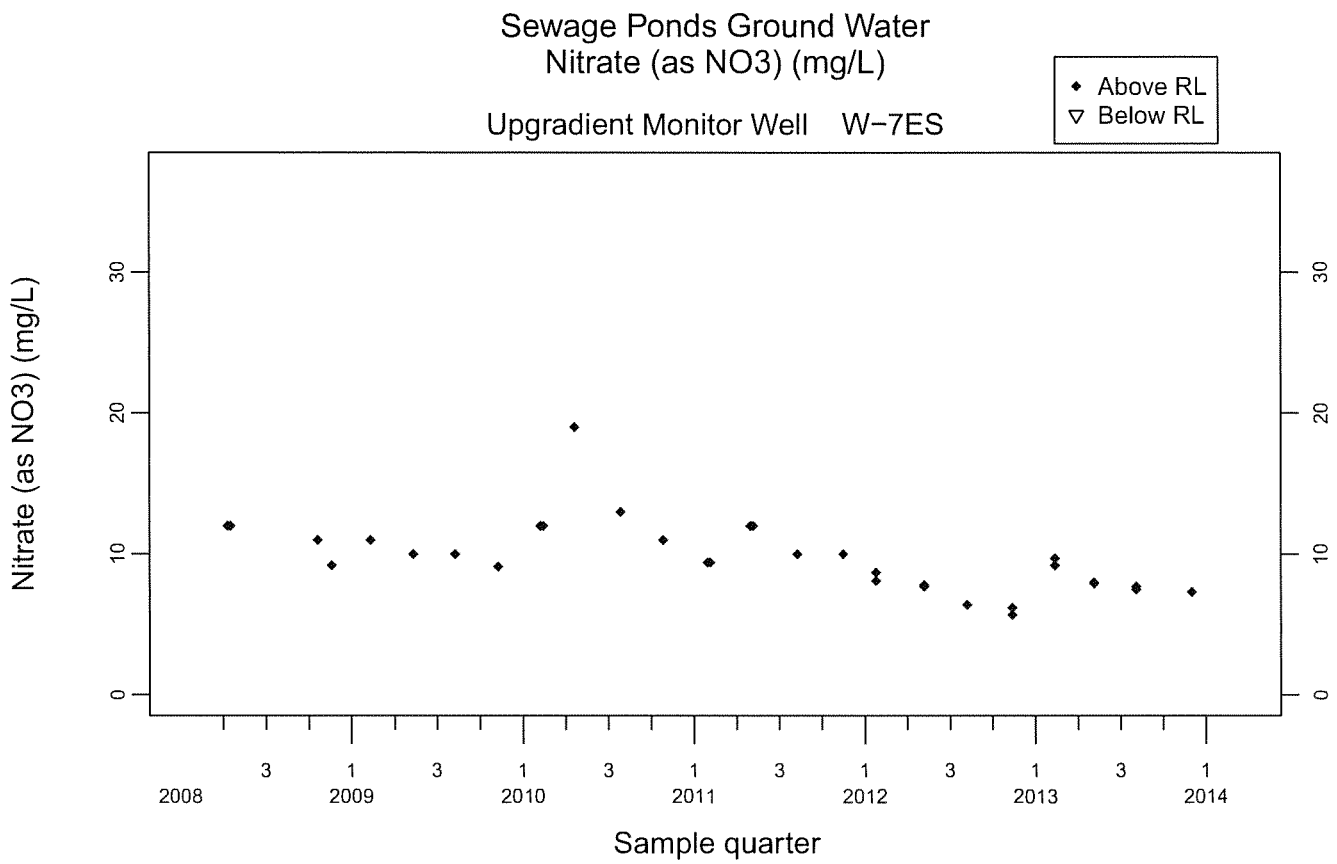

Sewage Ponds Ground Water
Chloride (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Chloride (mg/L)
0
50
100
150
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

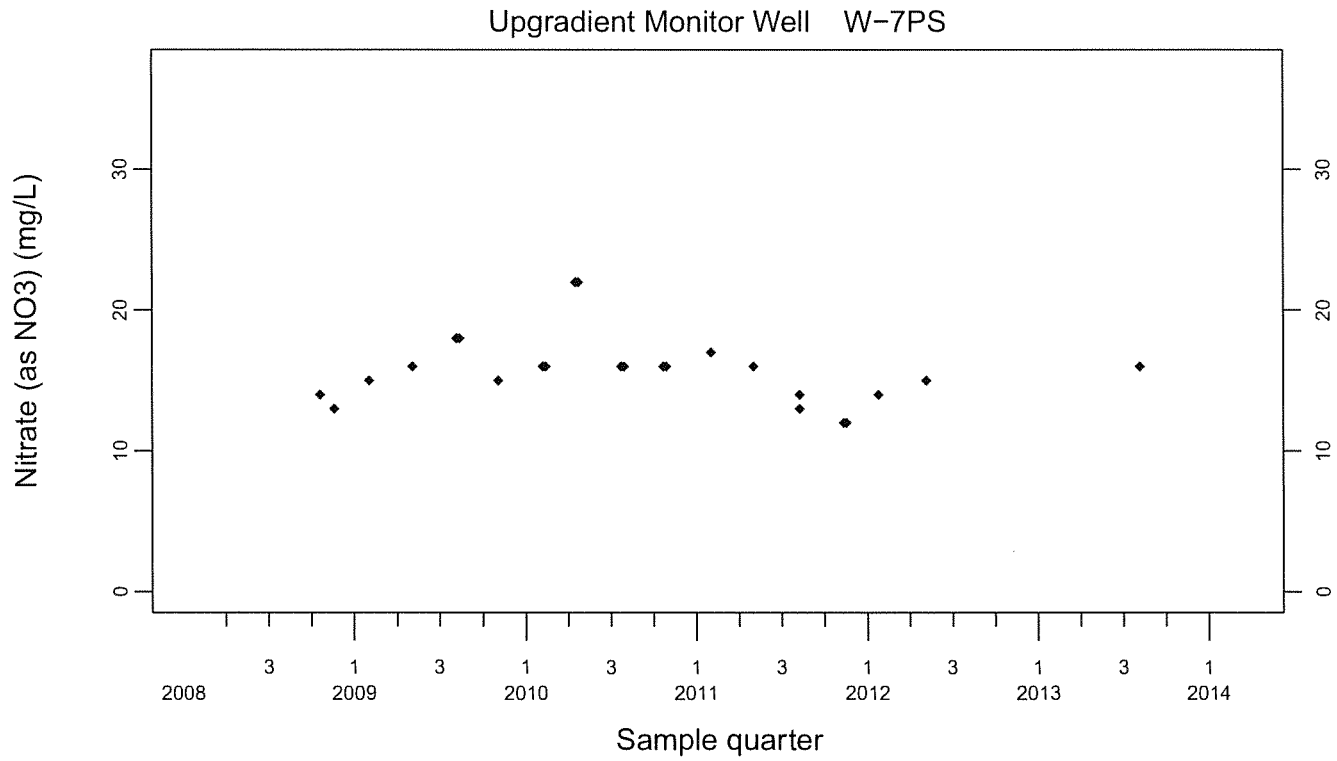

Downgradient Monitor Well W-26R-01
Chloride (mg/L)
0
50
100
150
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

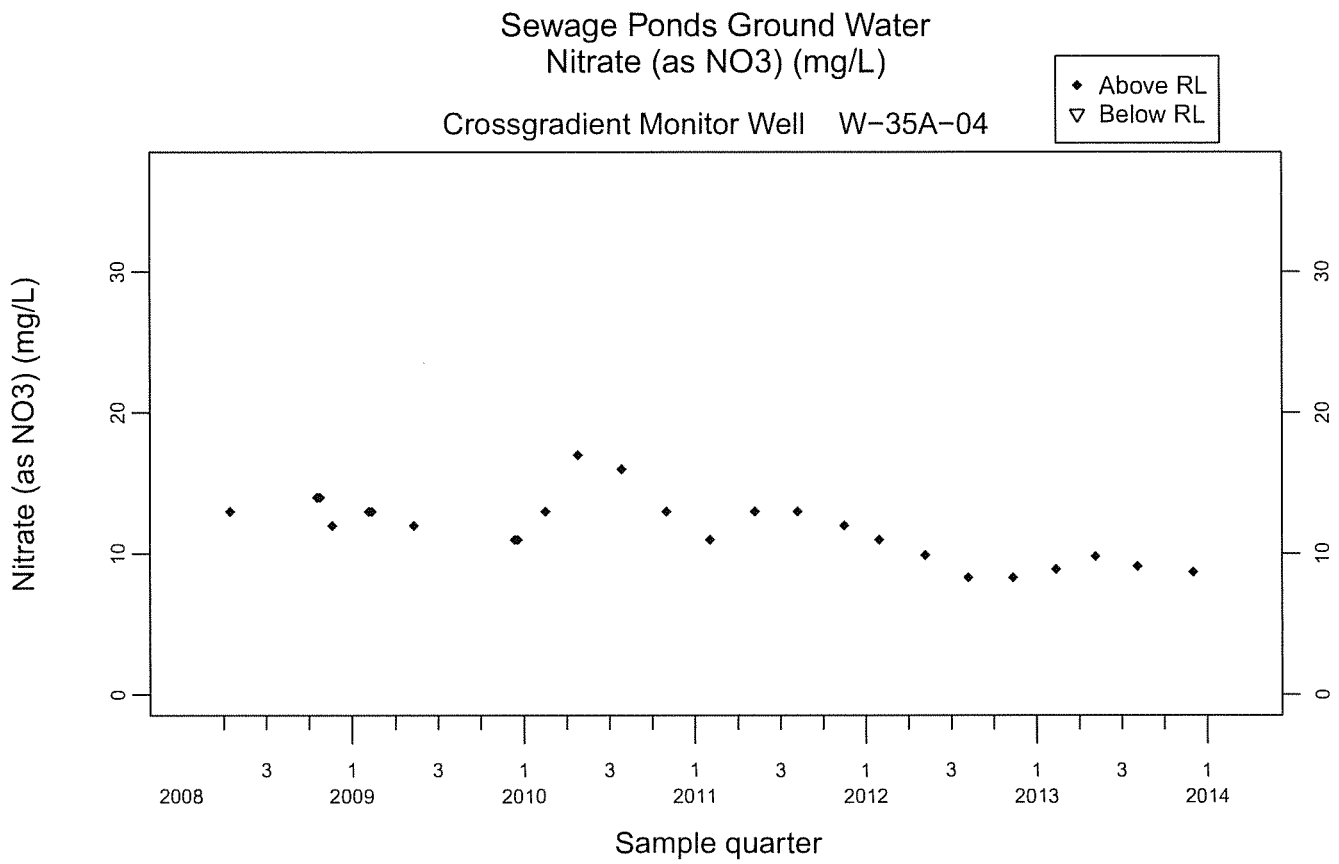

Sewage Ponds Ground Water
Chloride (mg/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Chloride (mg/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

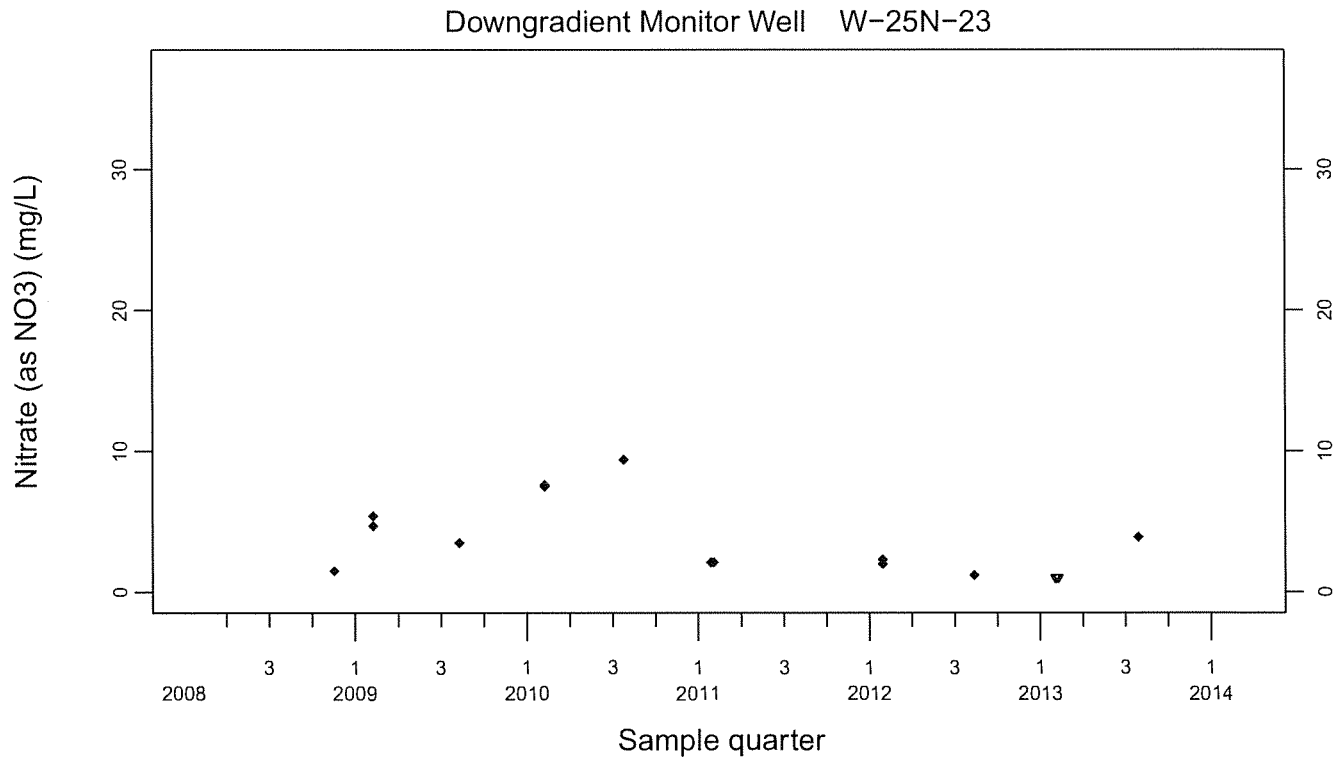

Downgradient Monitor Well W-26R-11
Chloride (mg/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

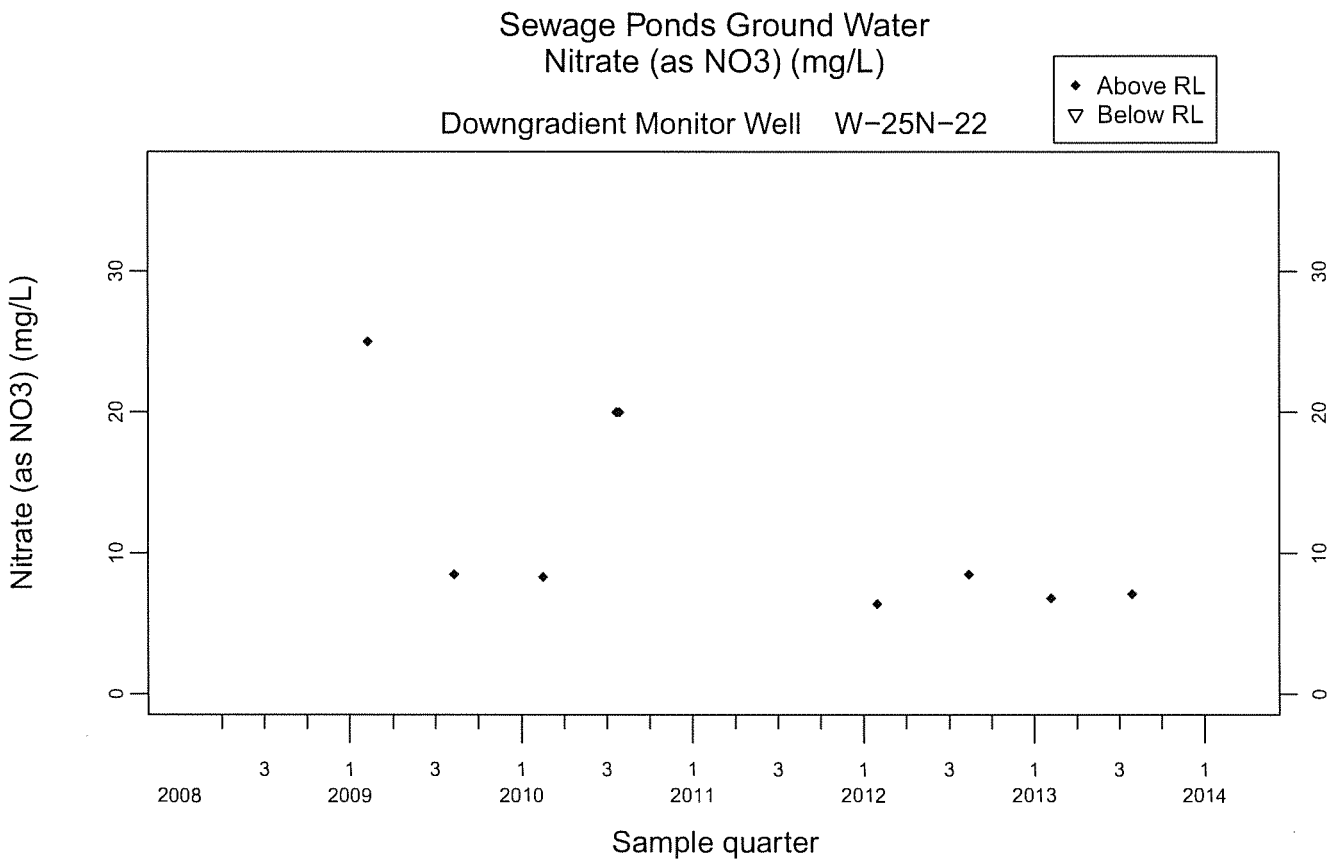

Sewage Ponds Ground Water
Chloride (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Chloride (mg/L)
0
50
100
150
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

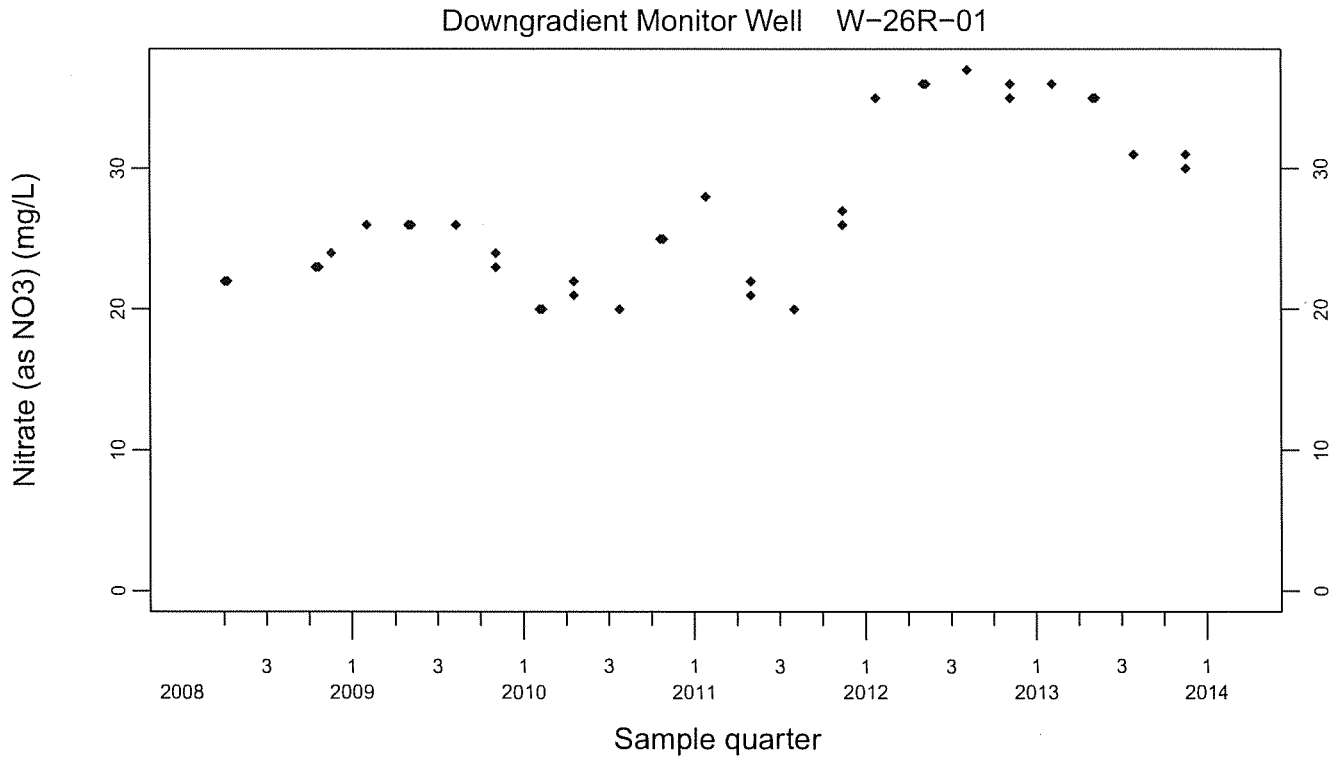

Sewage Ponds Ground Water
Nitrate (as NO3) (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

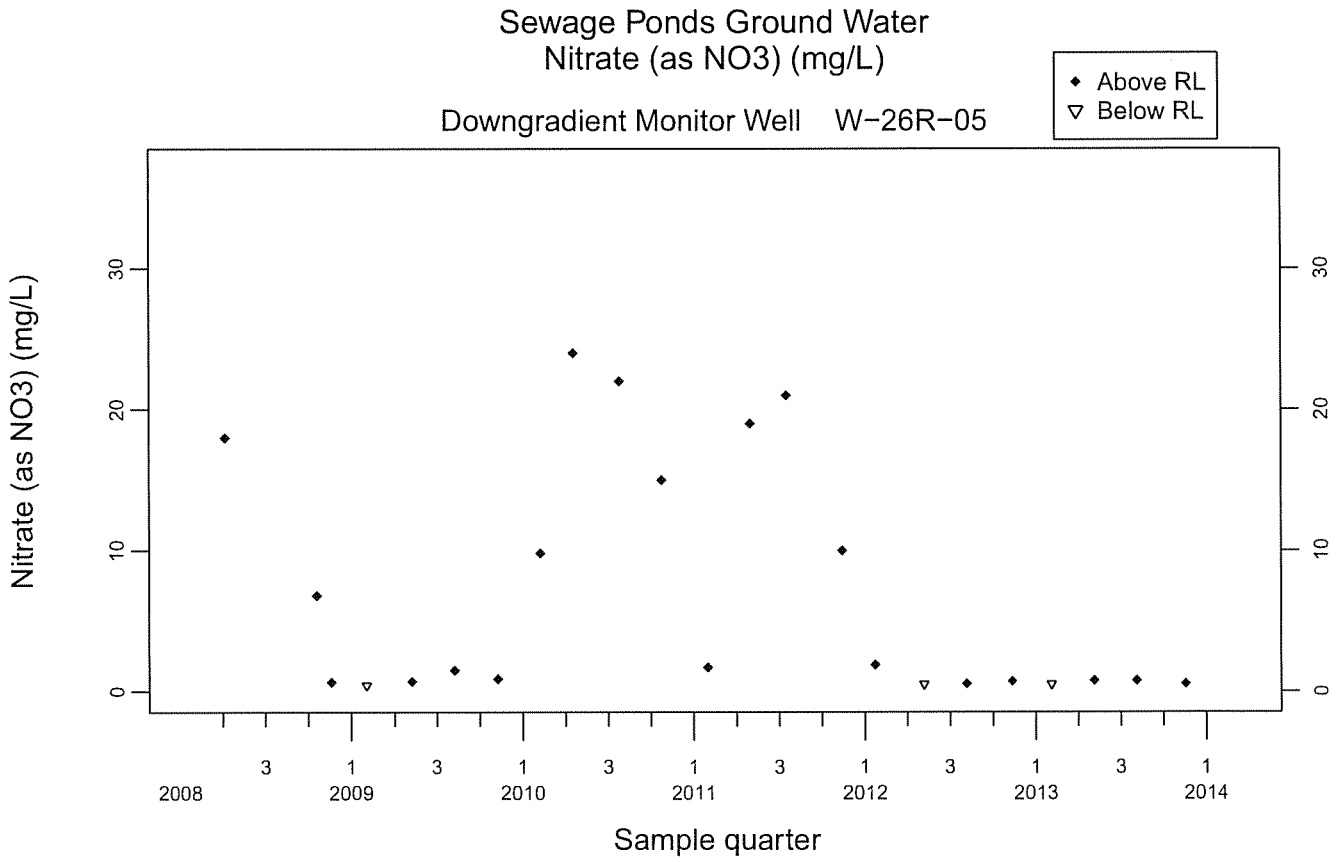

Upgradient Monitor Well W-7PS
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

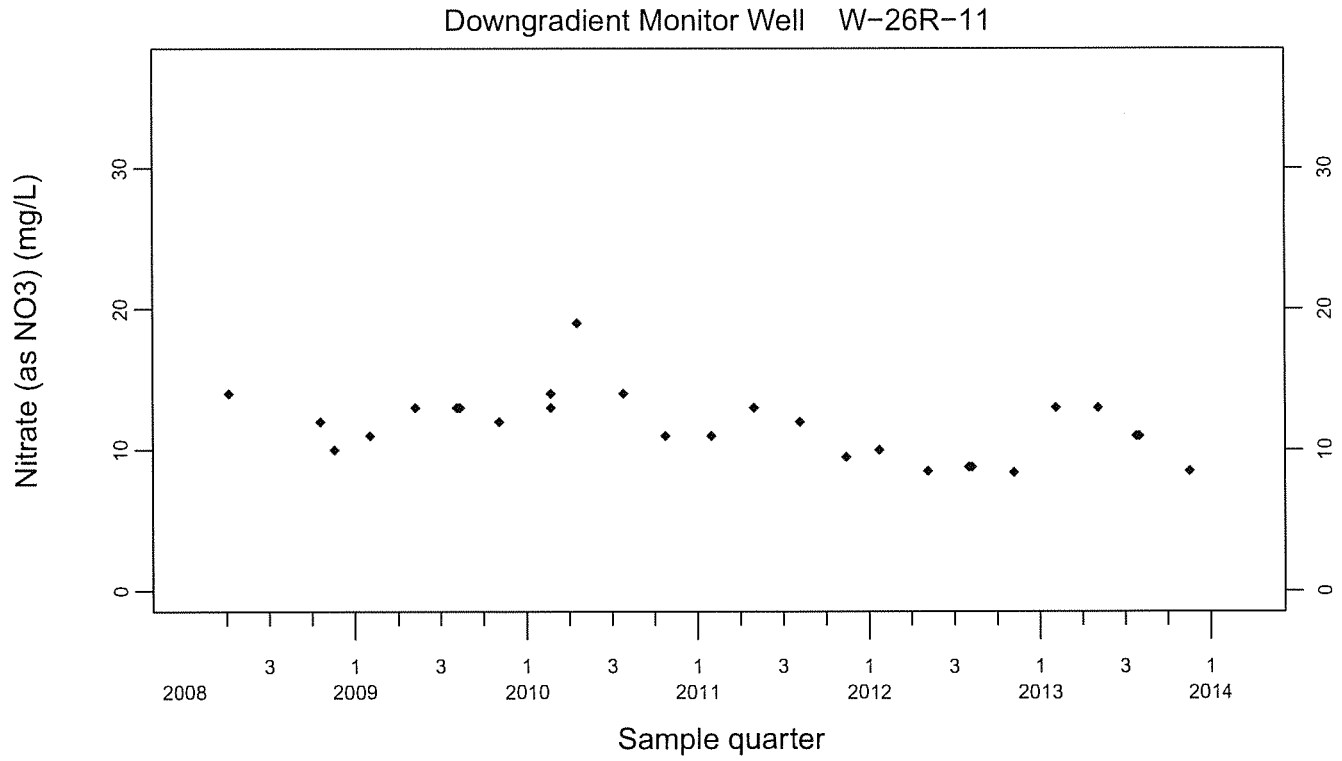

Sewage Ponds Ground Water
Nitrate (as NO3) (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

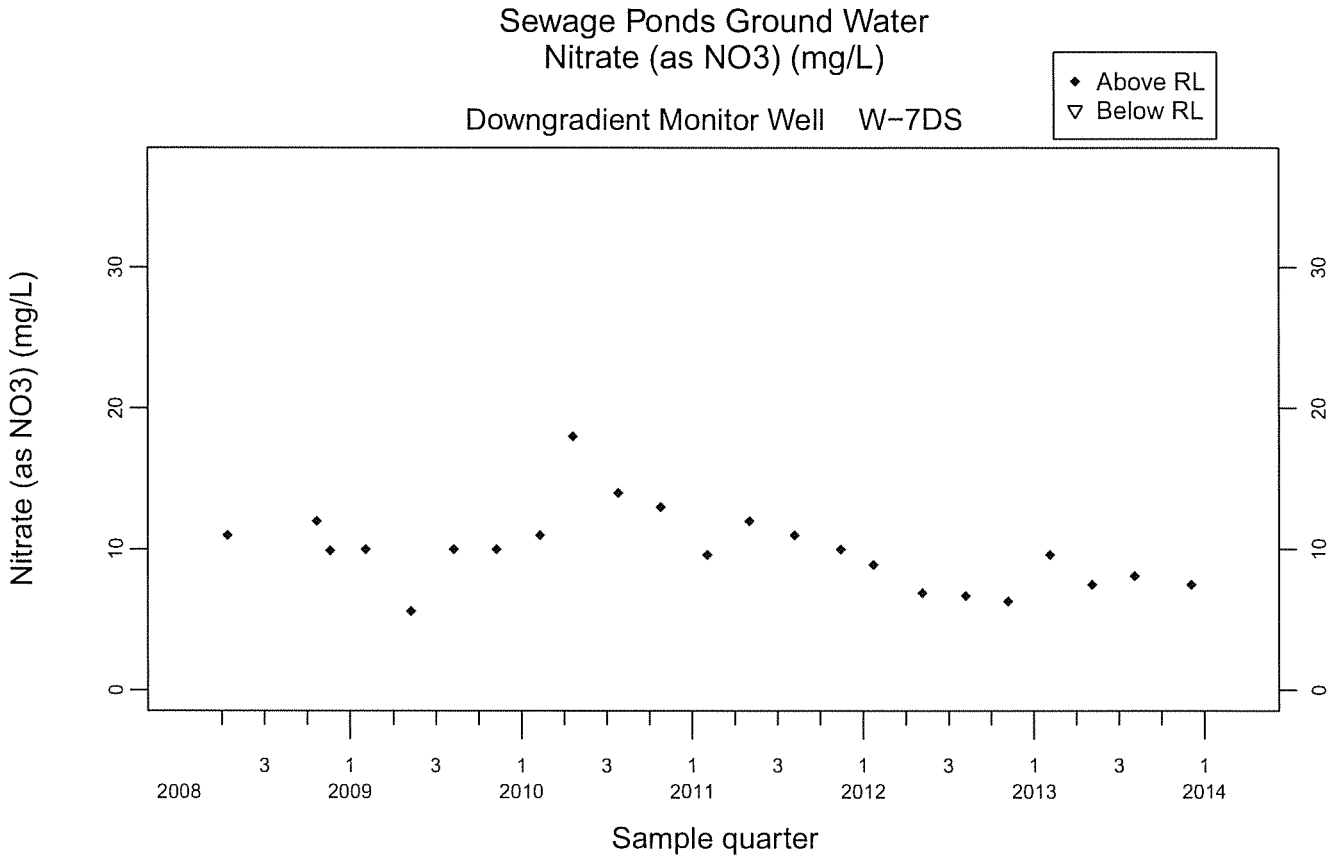

Downgradient Monitor Well W-25N-23
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

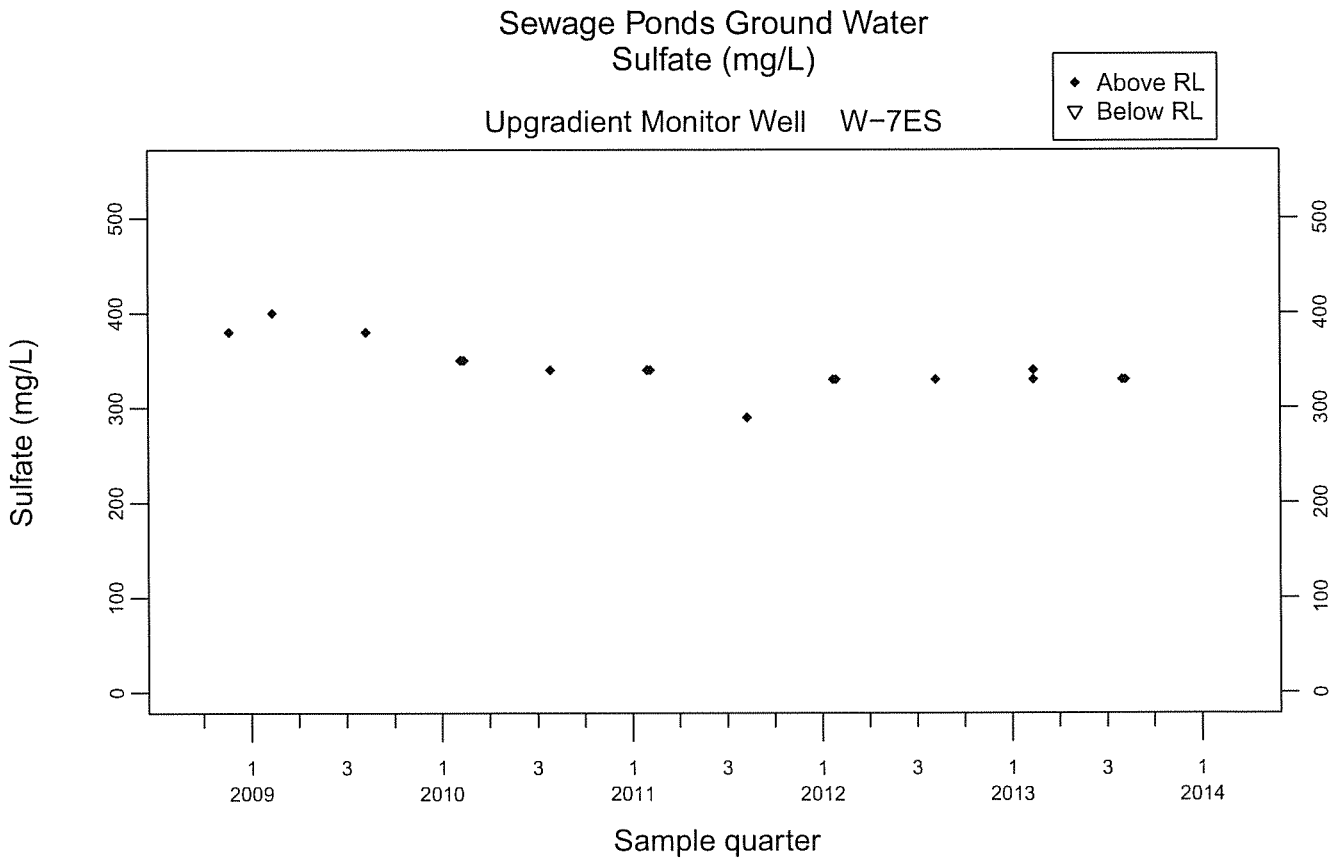

Sewage Ponds Ground Water
Nitrate (as NO3) (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

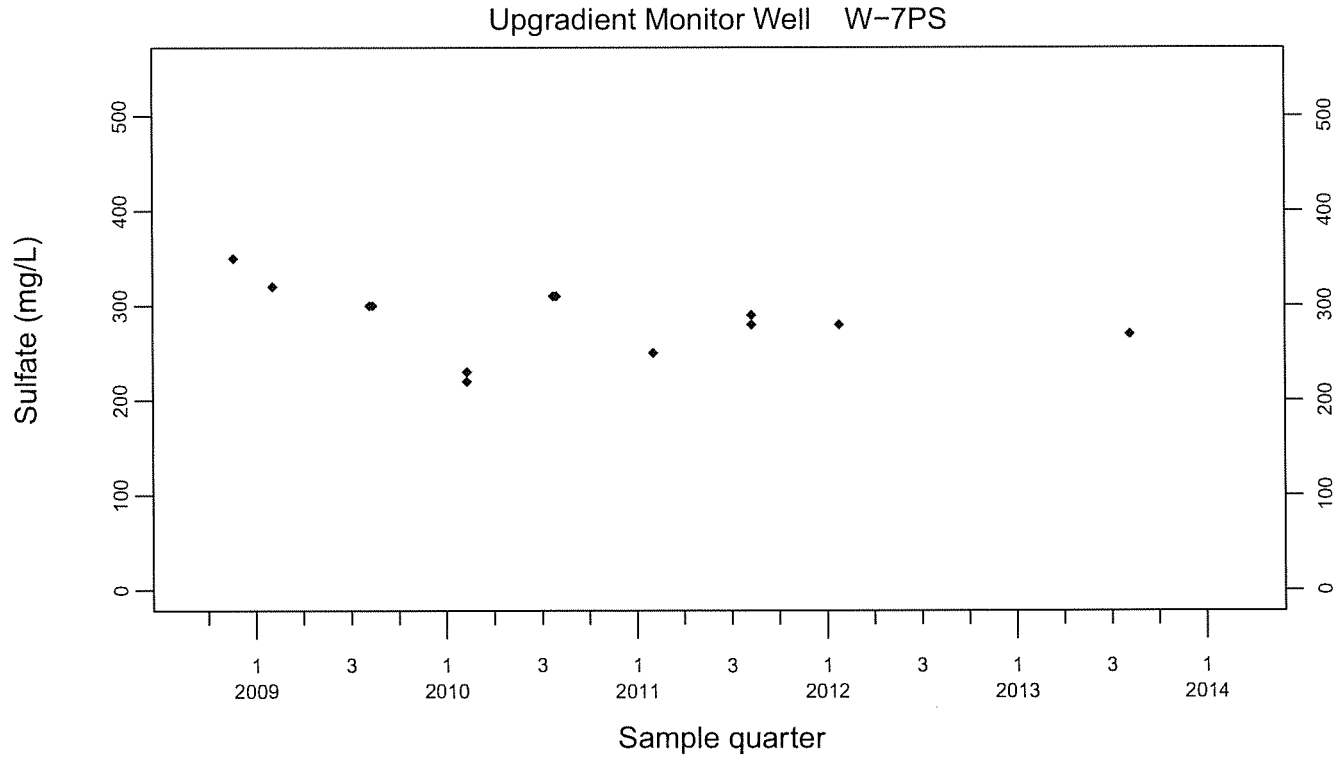

Downgradient Monitor Well W-26R-01
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

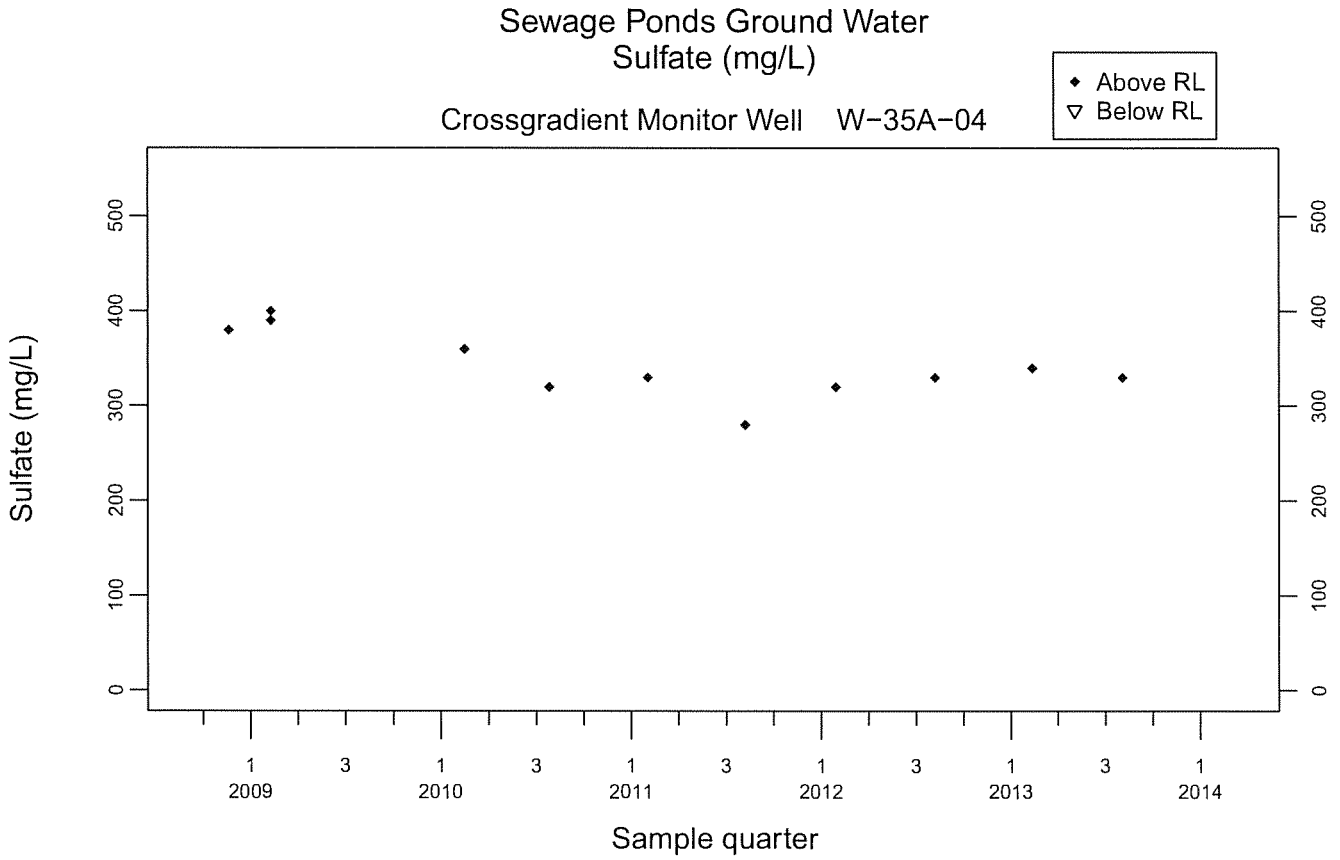

Sewage Ponds Ground Water
Nitrate (as NO3) (mg/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

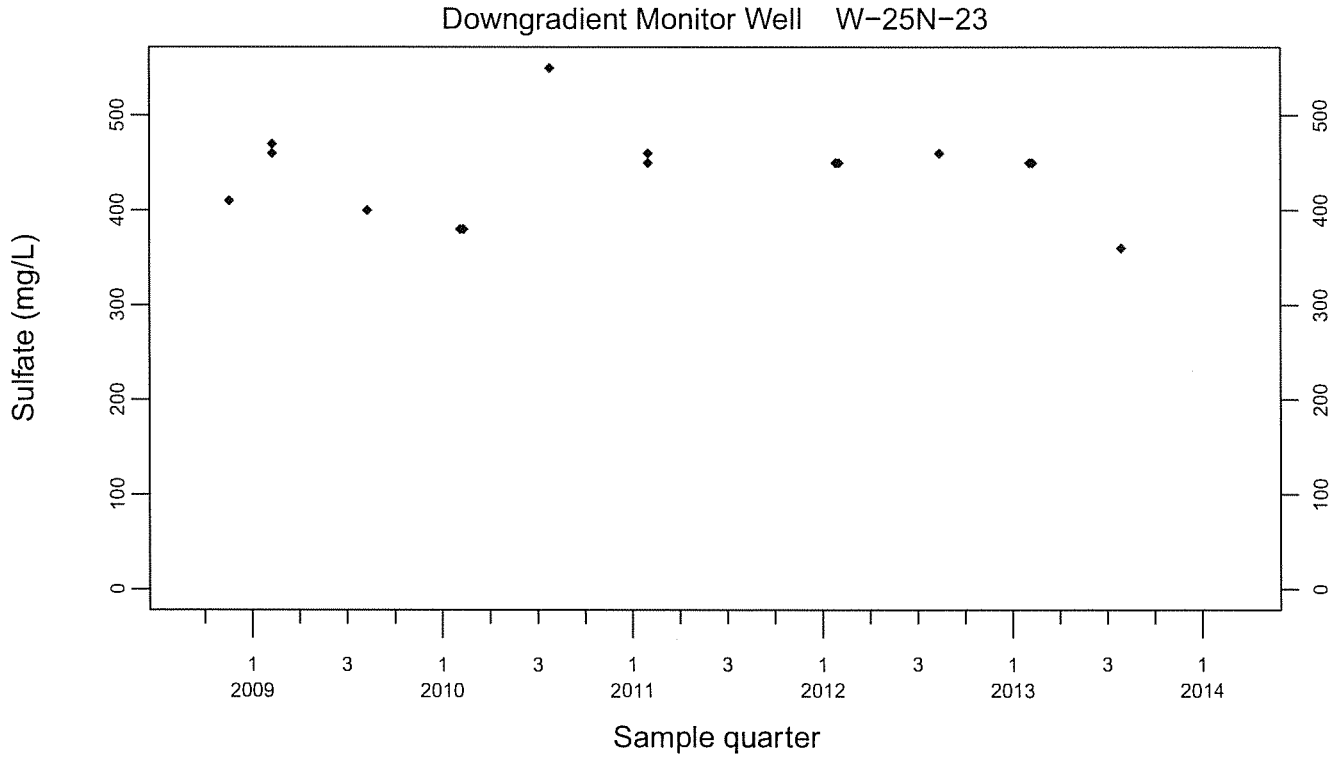

Downgradient Monitor Well W-26R-11
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

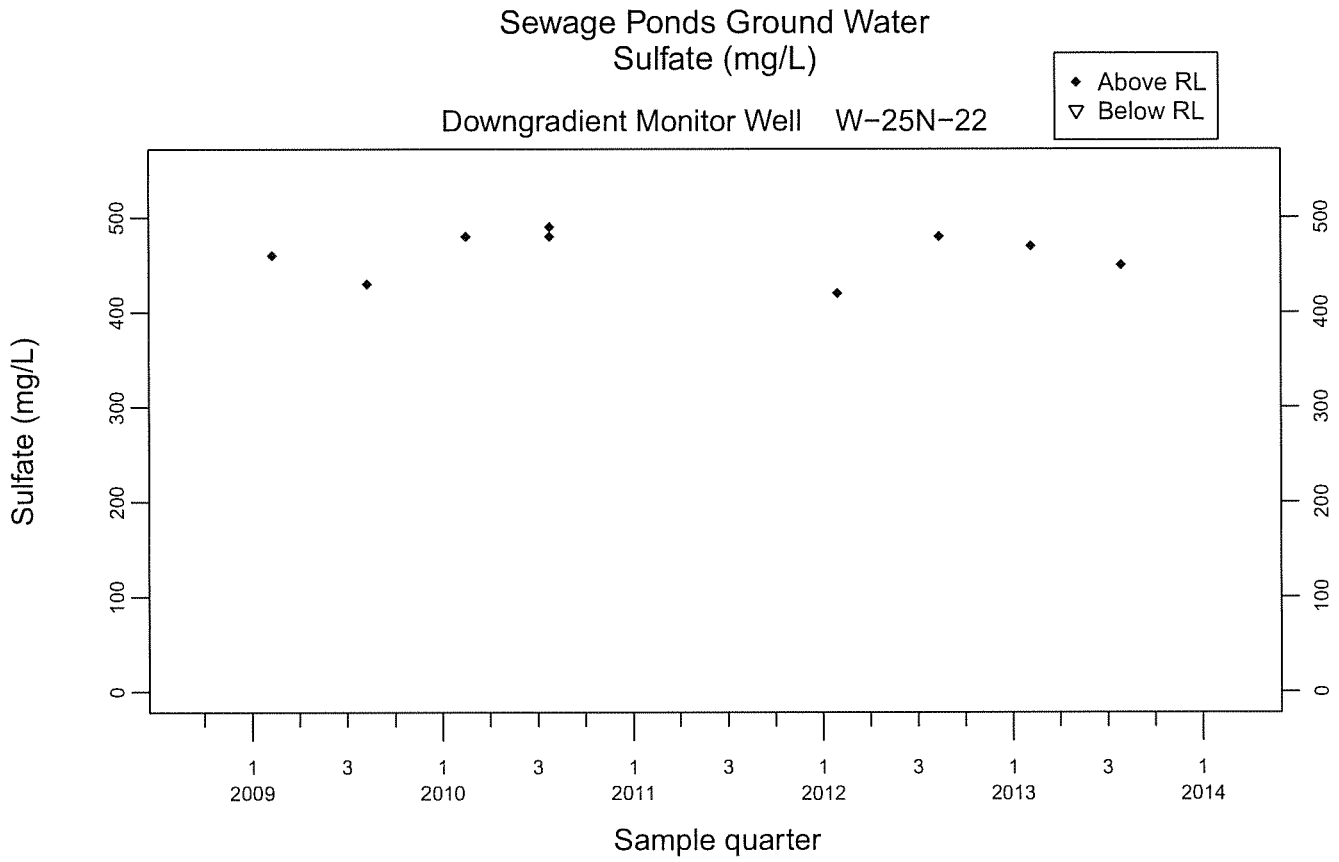

Sewage Ponds Ground Water
Nitrate (as NO3) (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Nitrate (as NO3) (mg/L)
0
10
20
30
3
1
2008
2009
2010
2011
2012
2013
2014
Sample quarter

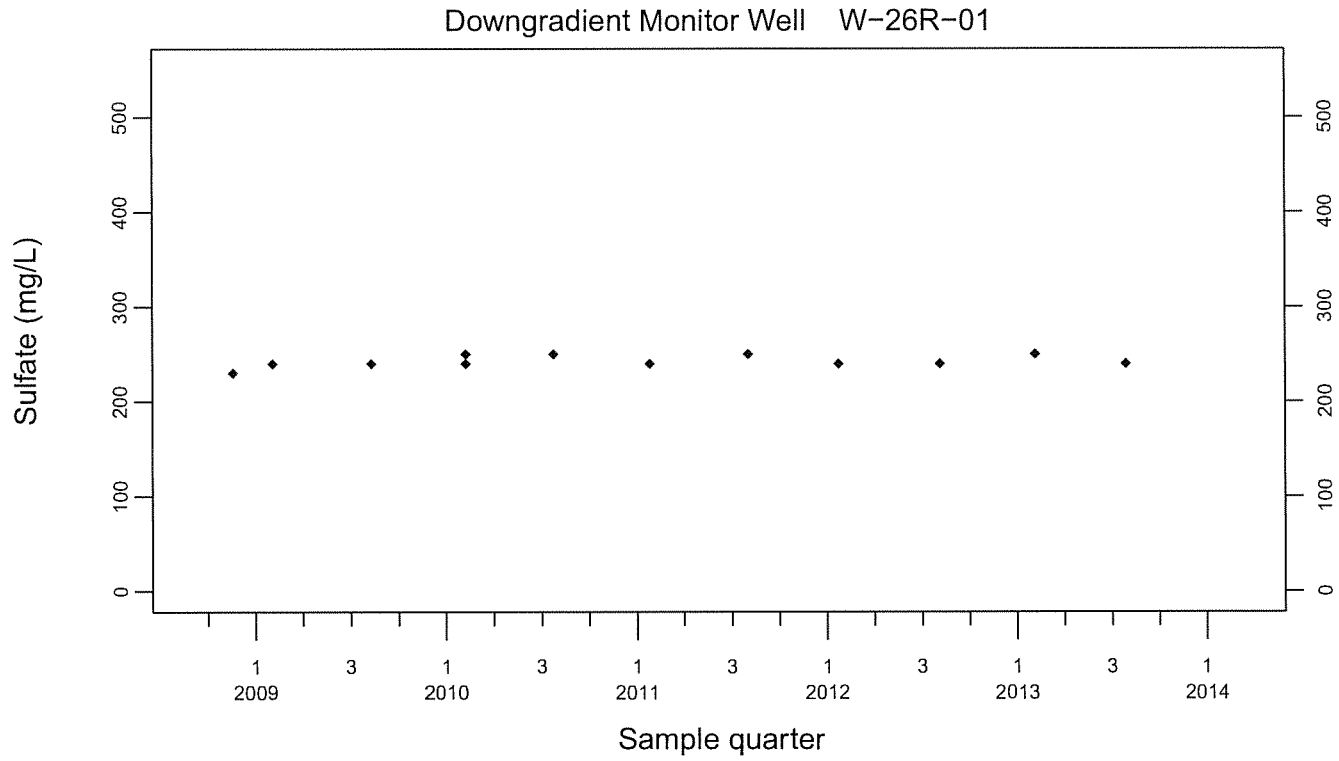

Sewage Ponds Ground Water
Sulfate (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Sulfate (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

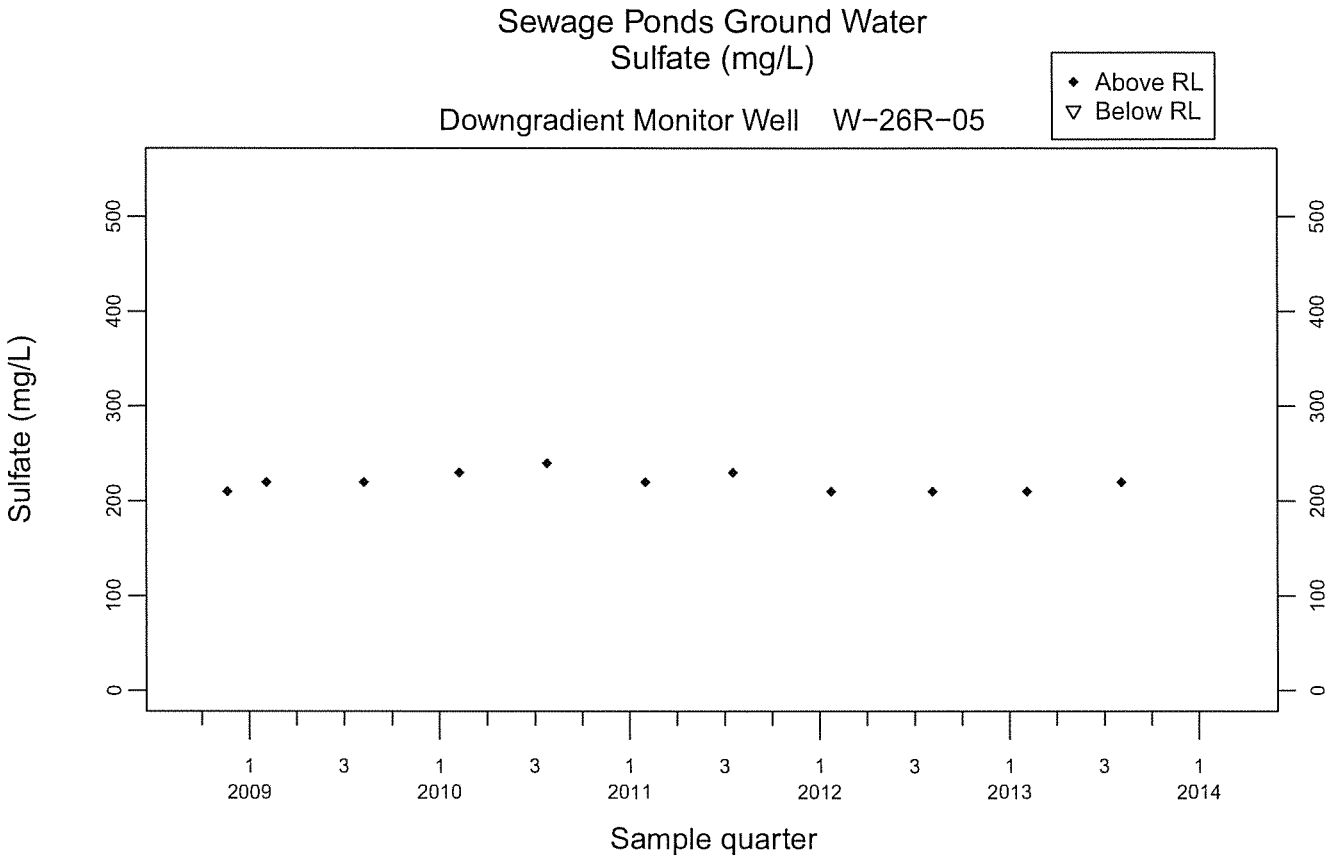

Upgradient Monitor Well W-7PS
Sulfate (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

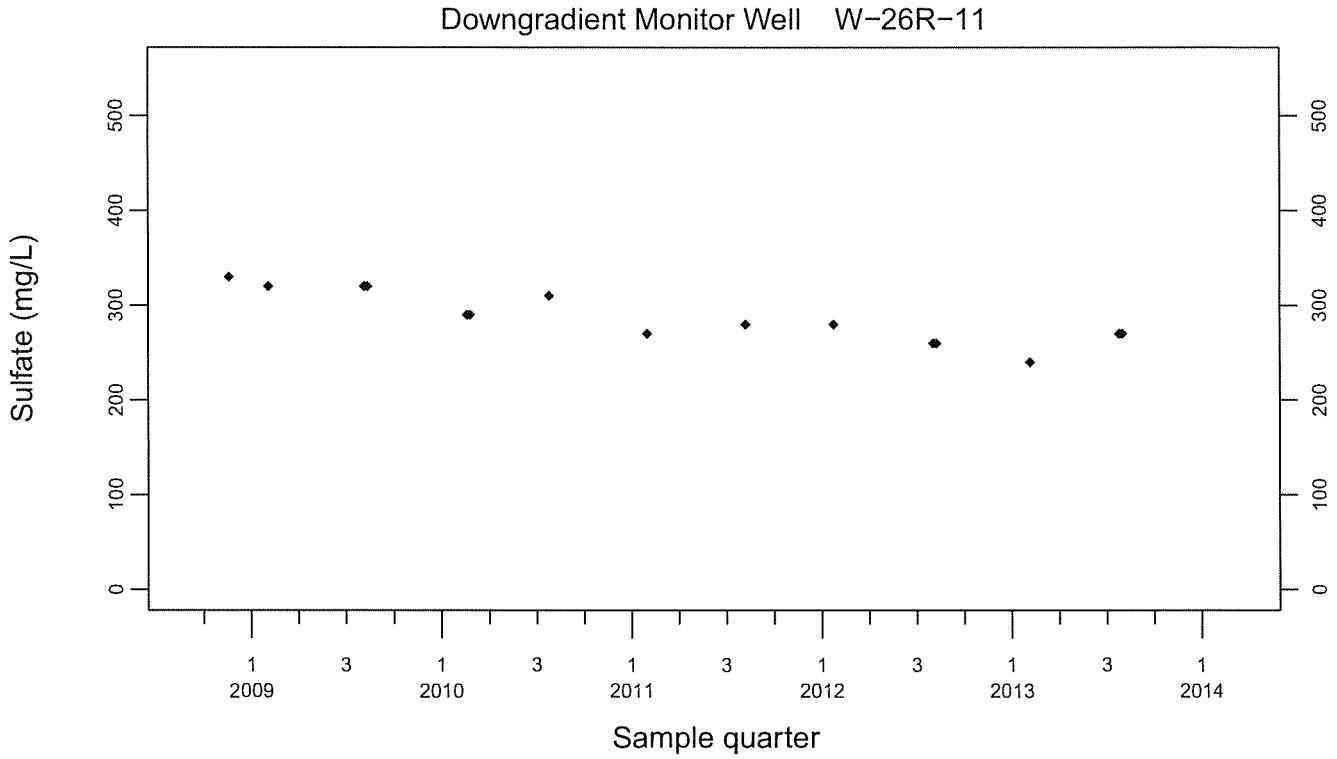

Sewage Ponds Ground Water
Sulfate (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Sulfate (mg/L)
0
100
200
300
400
500
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

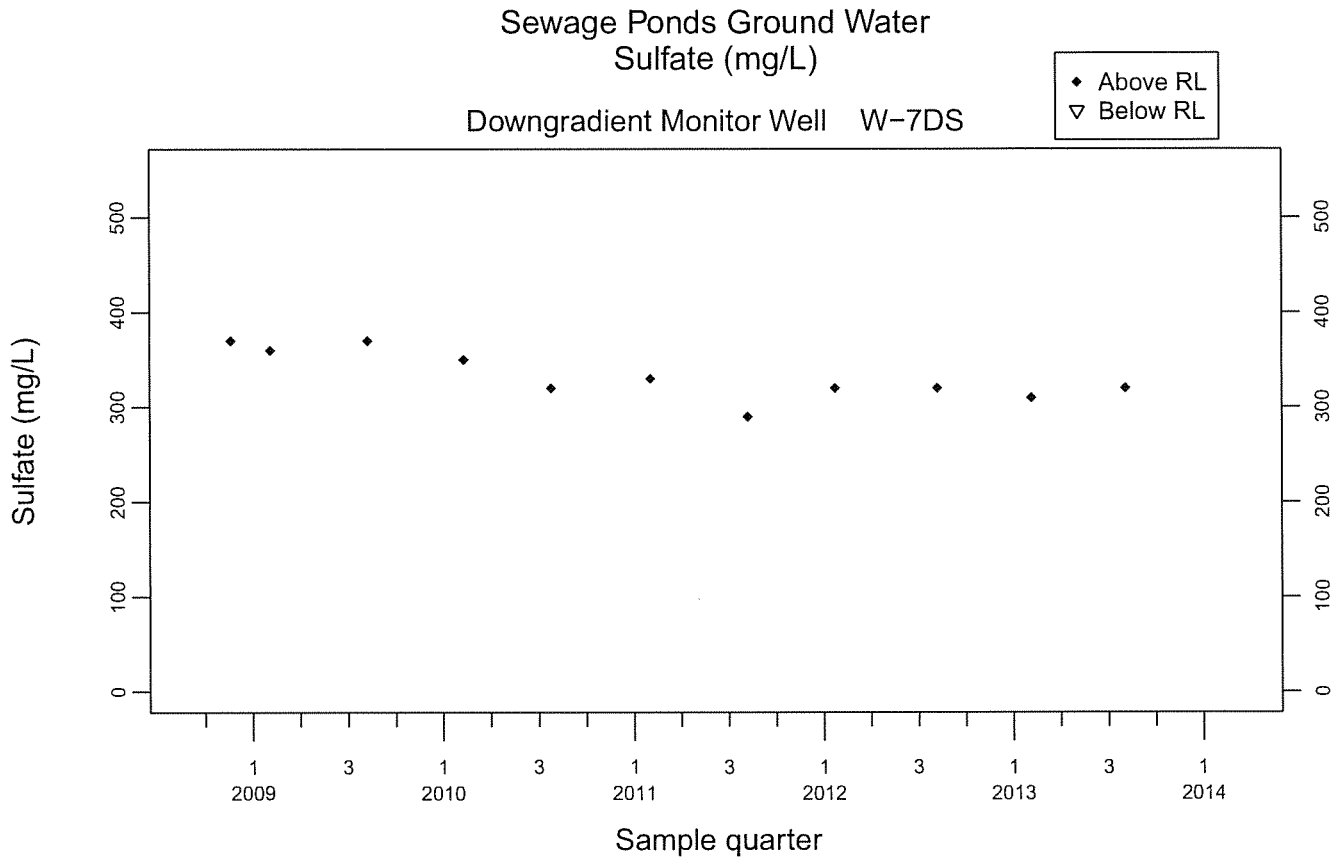

Downgradient Monitor Well W-25N-23
Sulfate (mg/L)
0
100
200
300
400
500
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

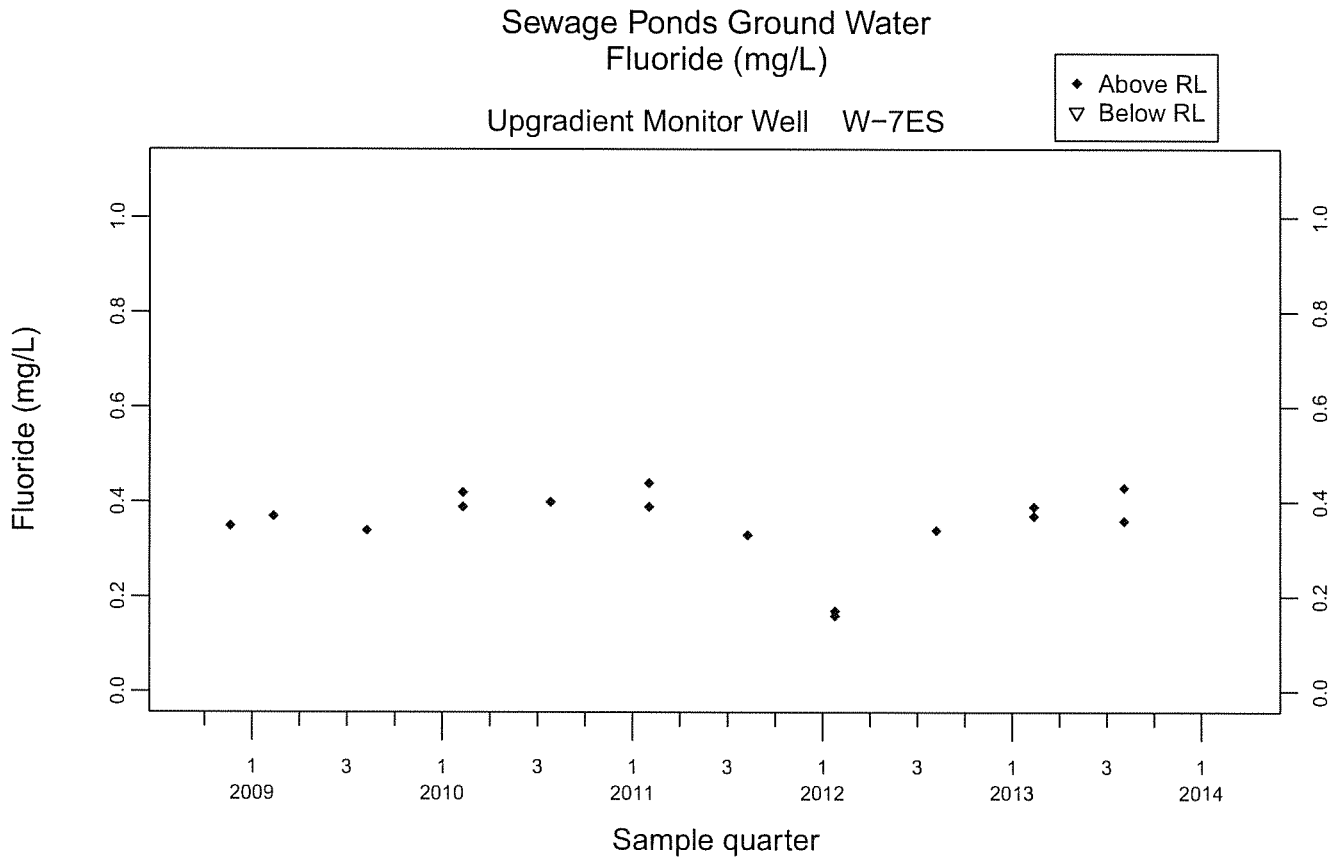

Sewage Ponds Ground Water
Sulfate (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Sulfate (mg/L)
0
100
200
300
400
500
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

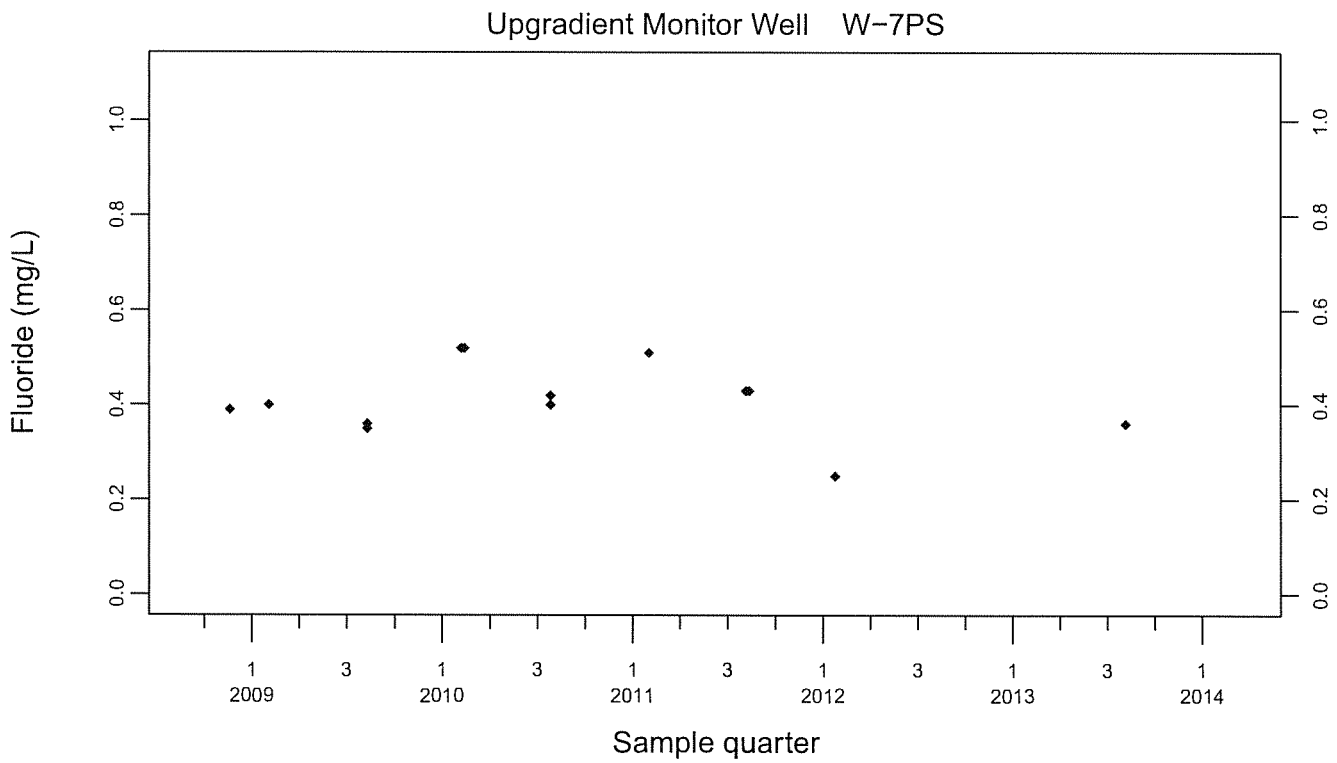

Downgradient Monitor Well W-26R-01
Sulfate (mg/L)
0
100
200
300
400
500
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

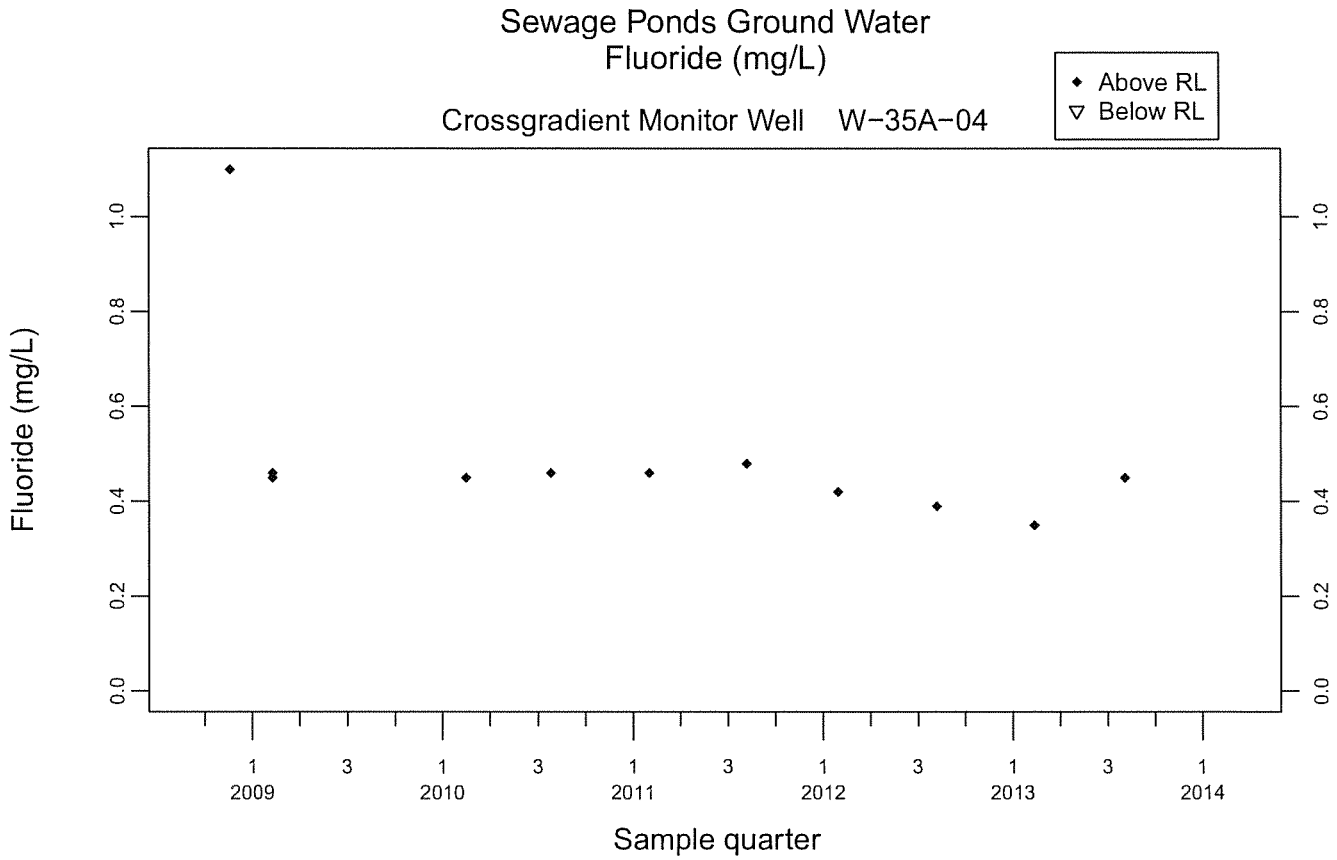

Sewage Ponds Ground Water
Sulfate (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Sulfate (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

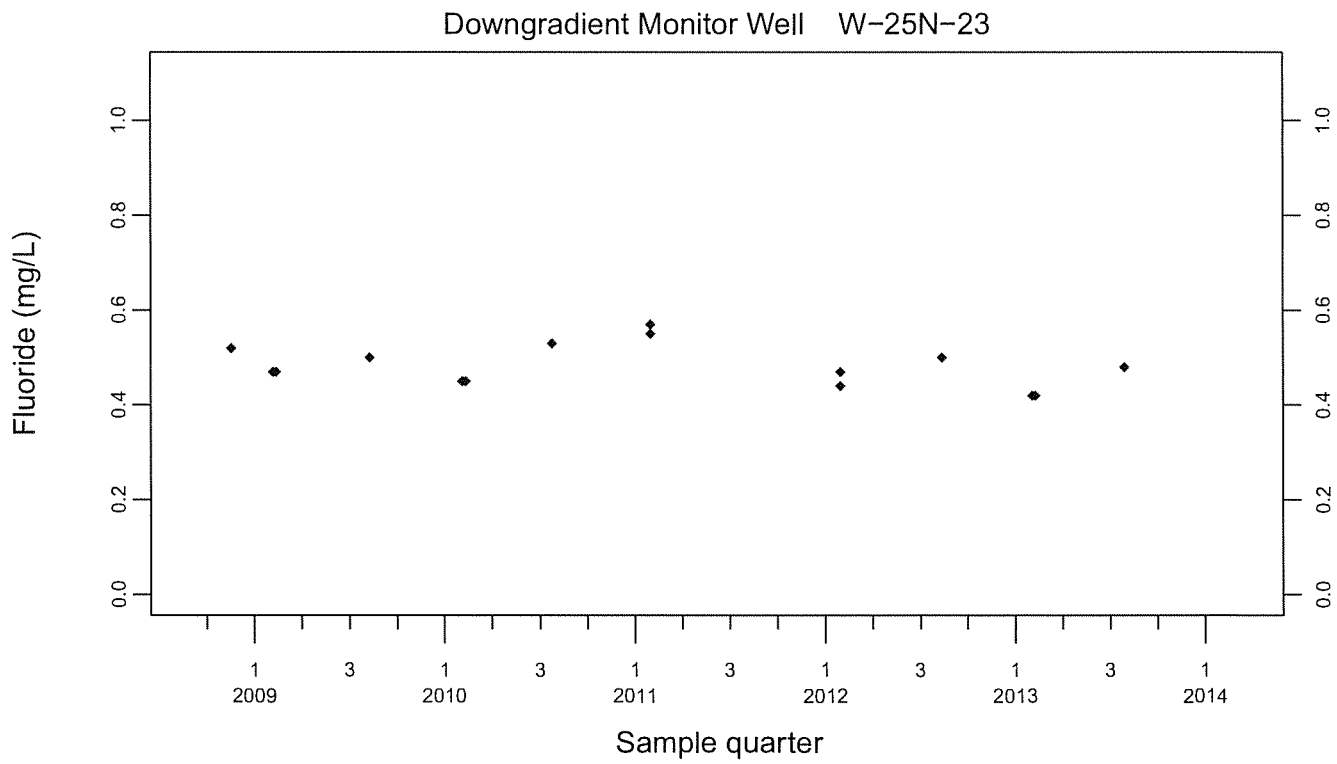

Downgradient Monitor Well W-26R-11
Sulfate (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

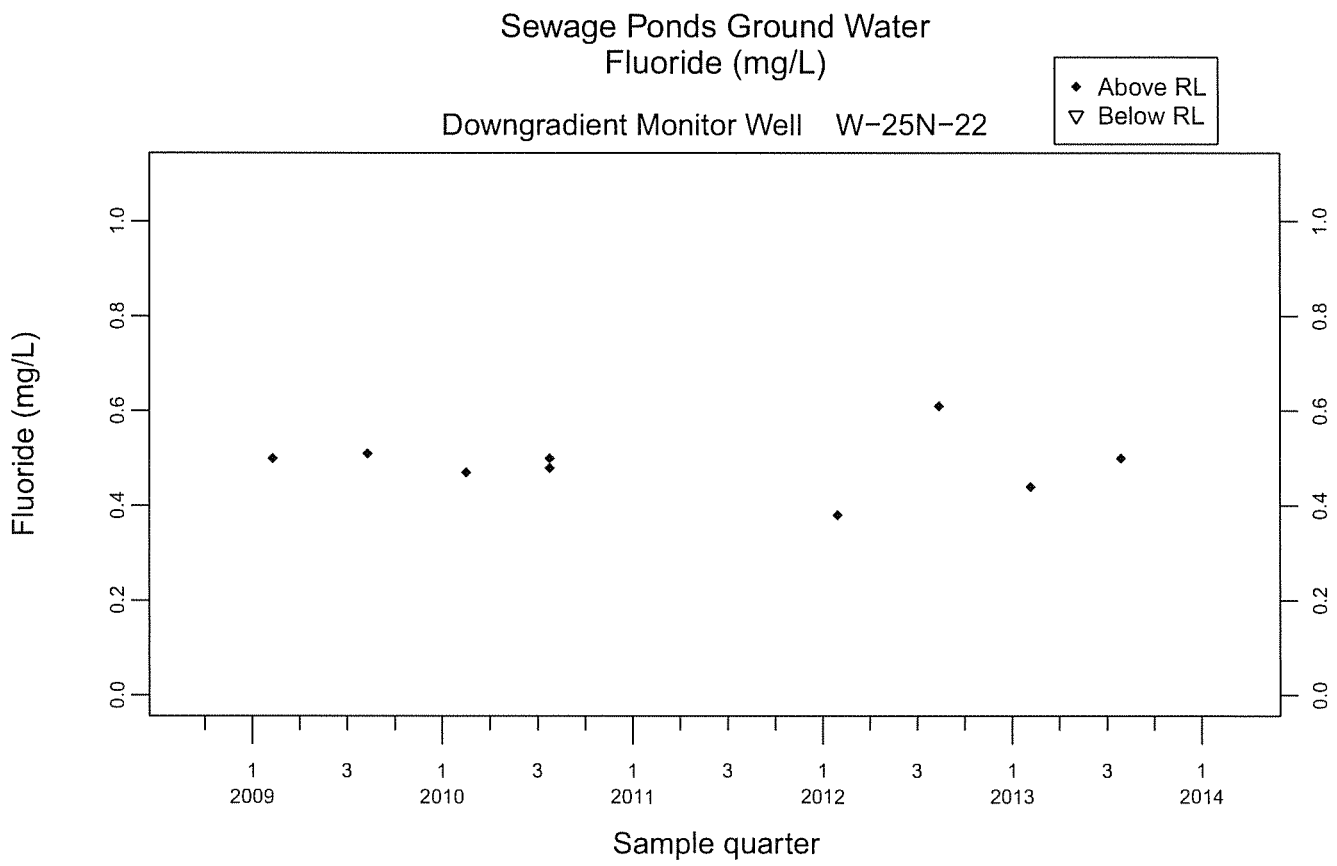

Sewage Ponds Ground Water
Sulfate (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Sulfate (mg/L)
0
100
200
300
400
500
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

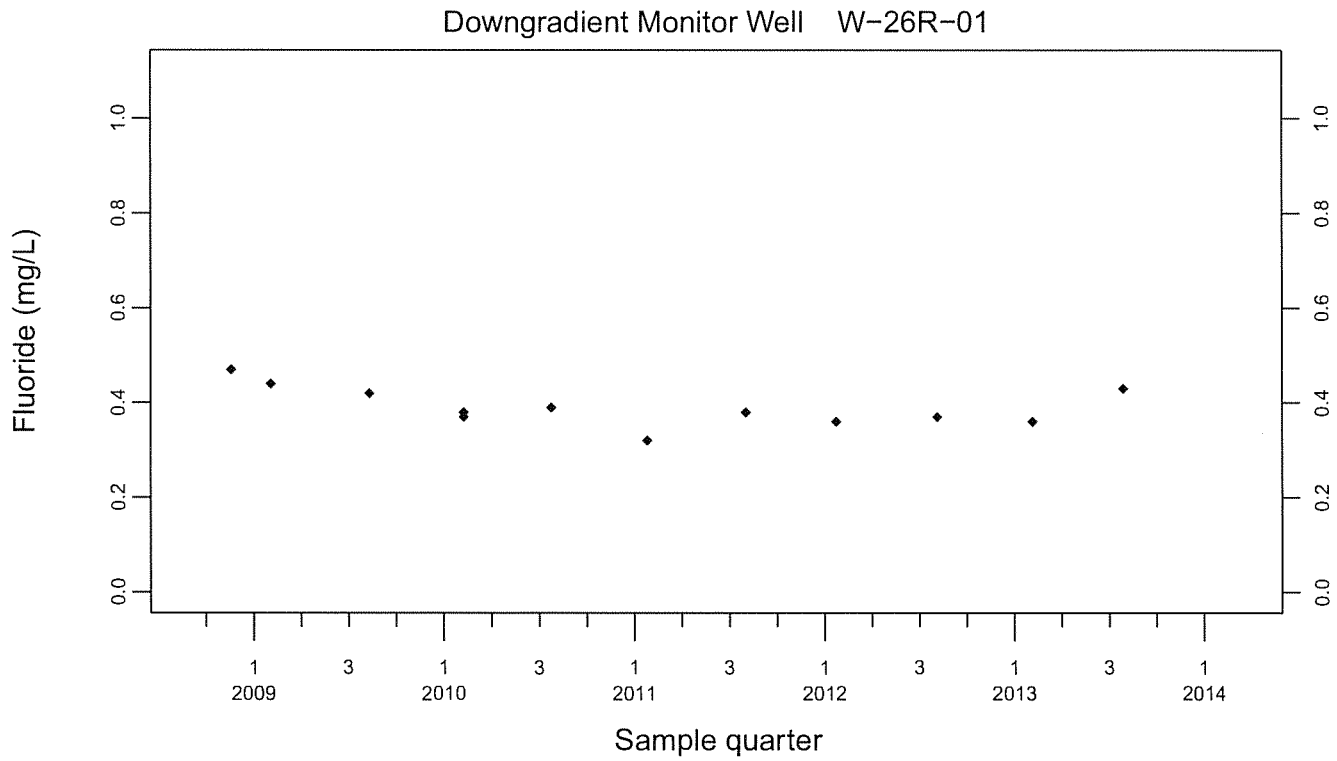

Sewage Ponds Ground Water
Fluoride (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

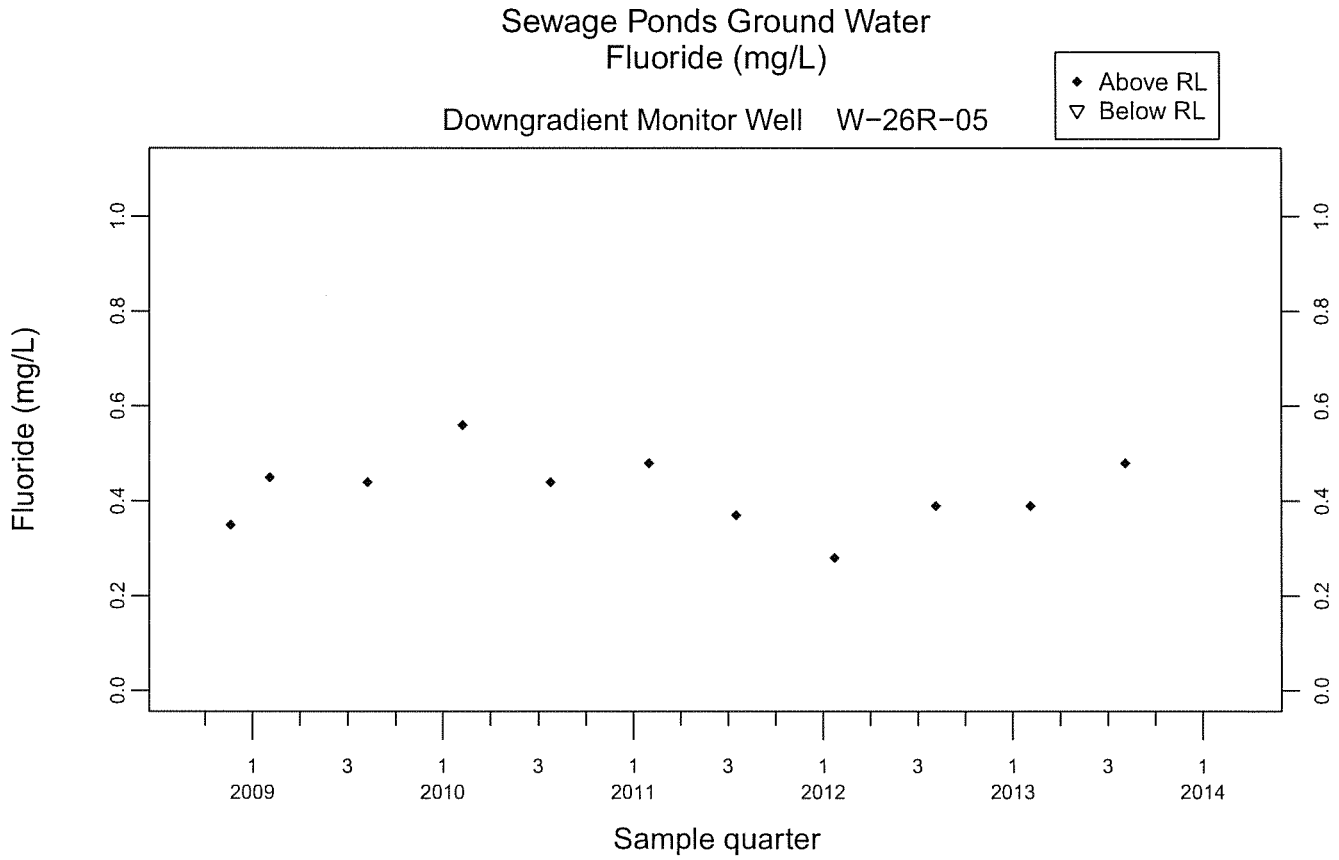

Upgradient Monitor Well W-7PS
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

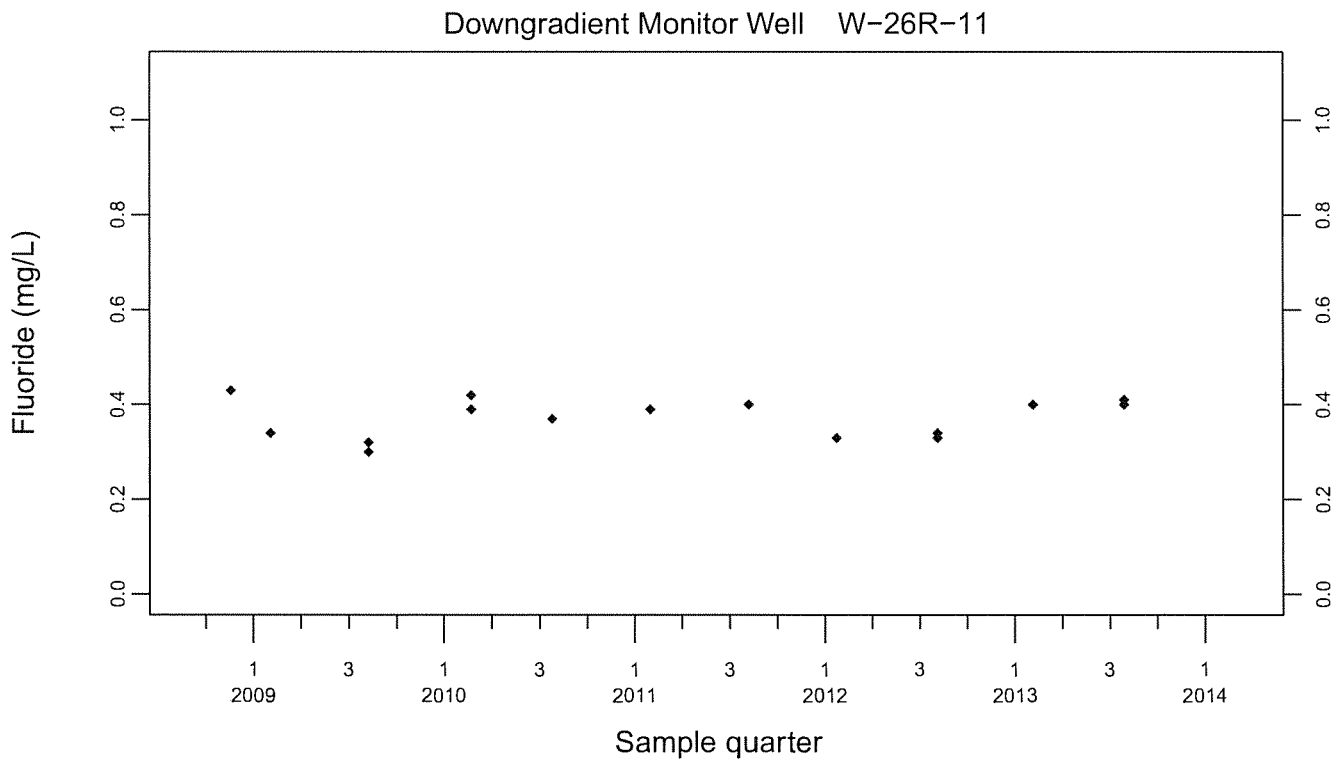

Sewage Ponds Ground Water
Fluoride (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

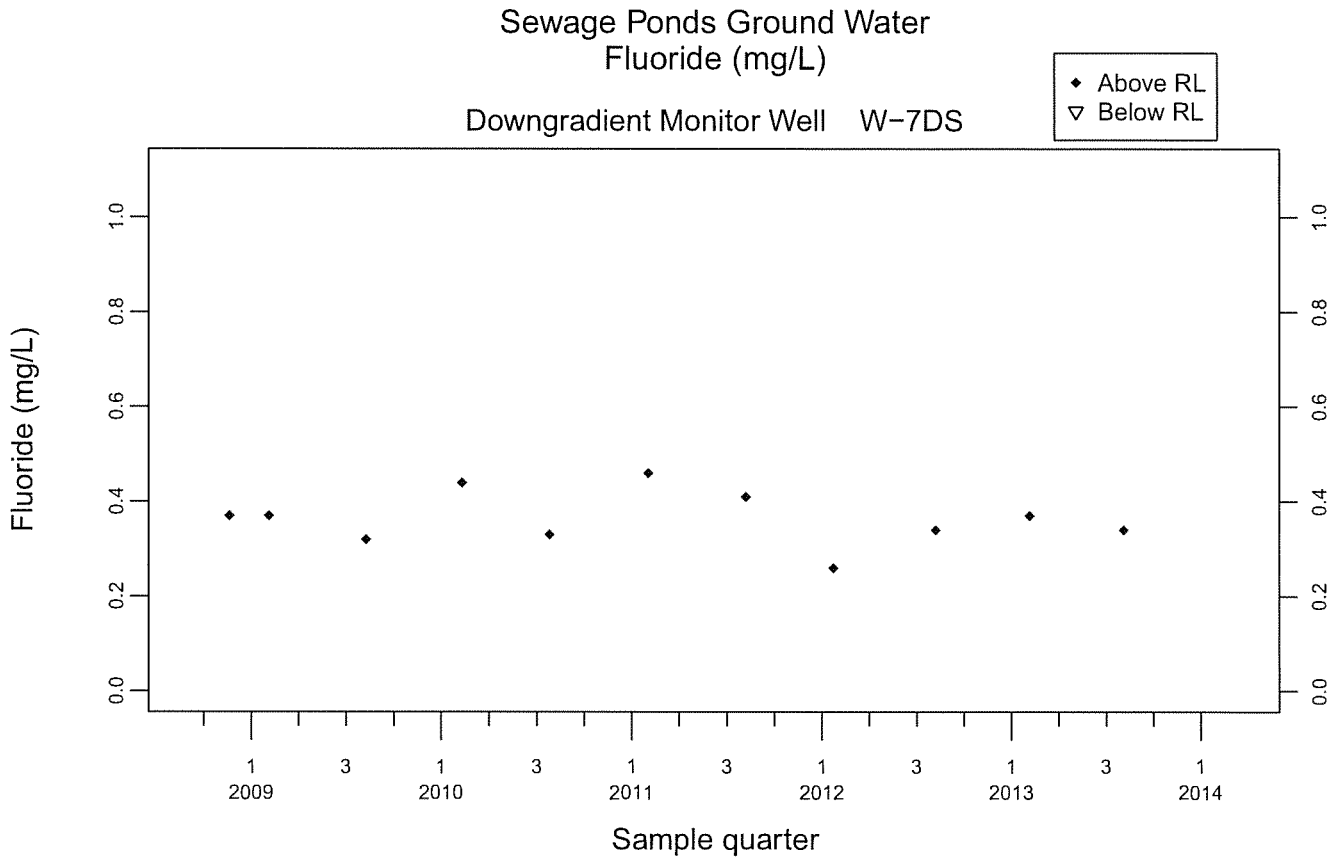

Downgradient Monitor Well W-25N-23
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

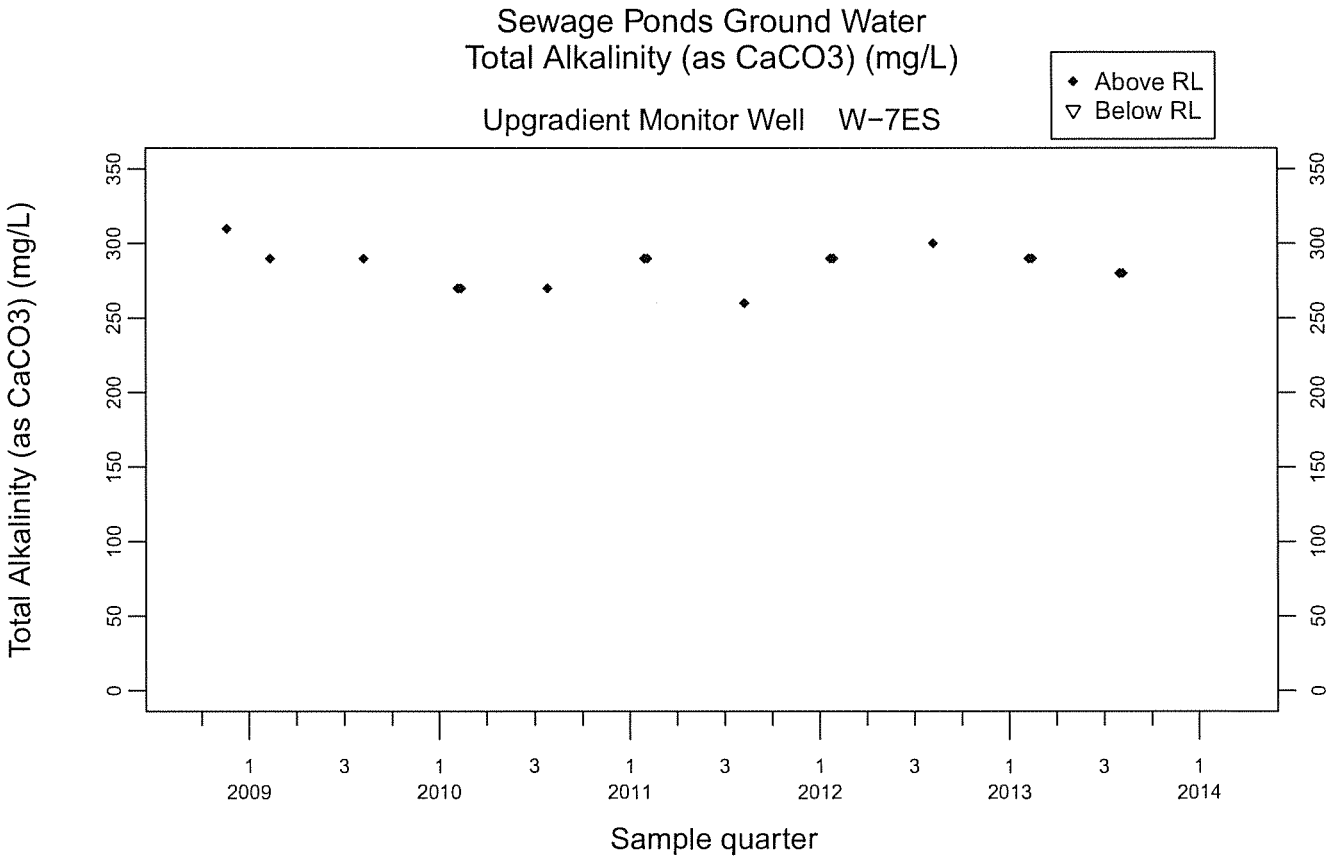

Sewage Ponds Ground Water
Fluoride (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

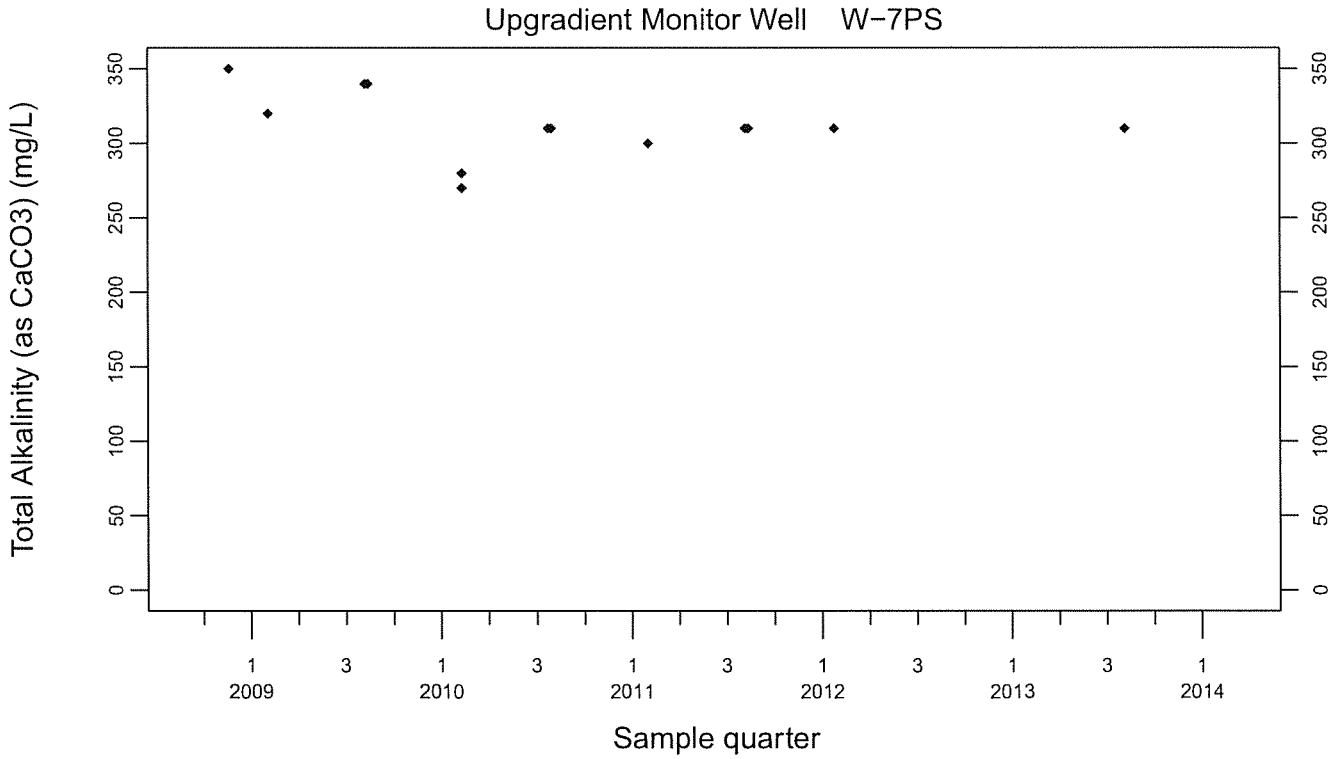

Downgradient Monitor Well W-26R-01
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

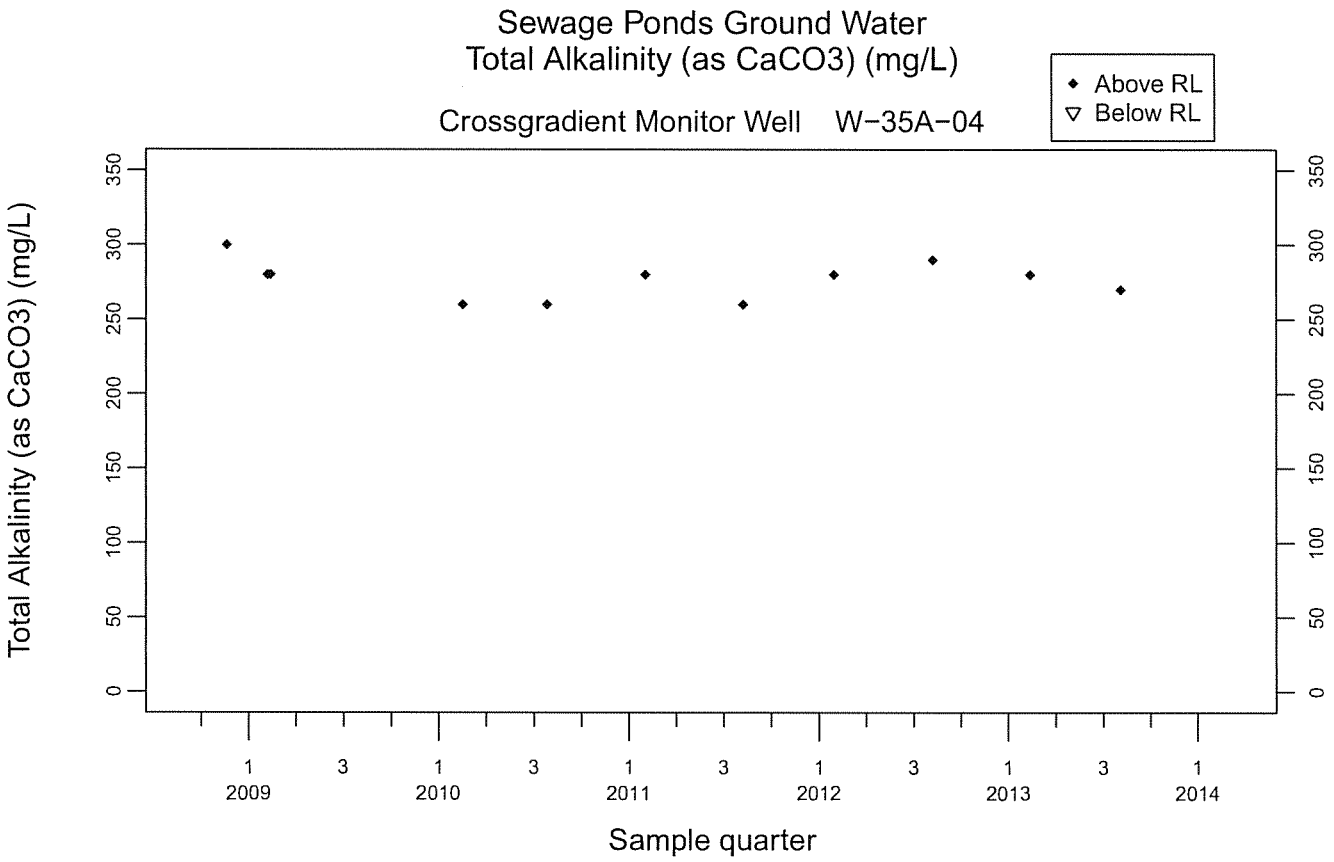

Sewage Ponds Ground Water
Fluoride (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

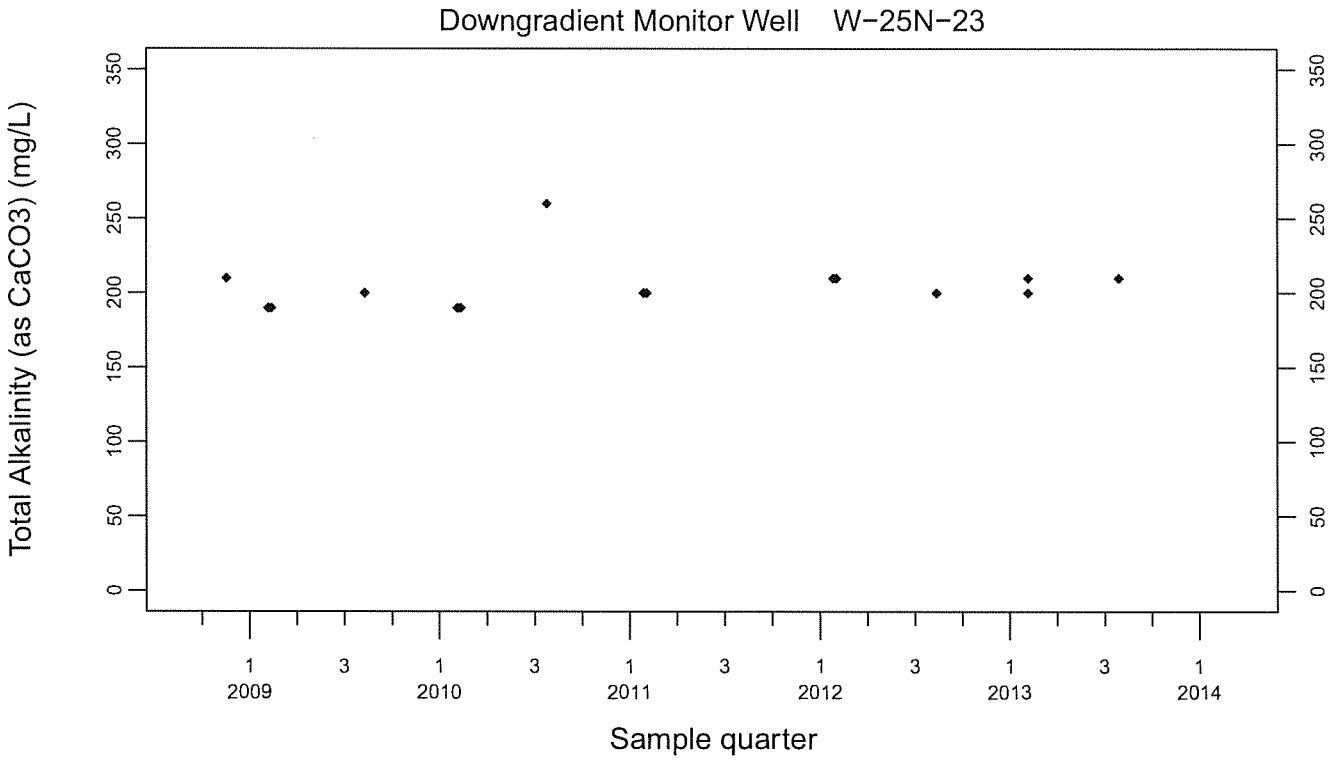

Downgradient Monitor Well W-26R-11
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

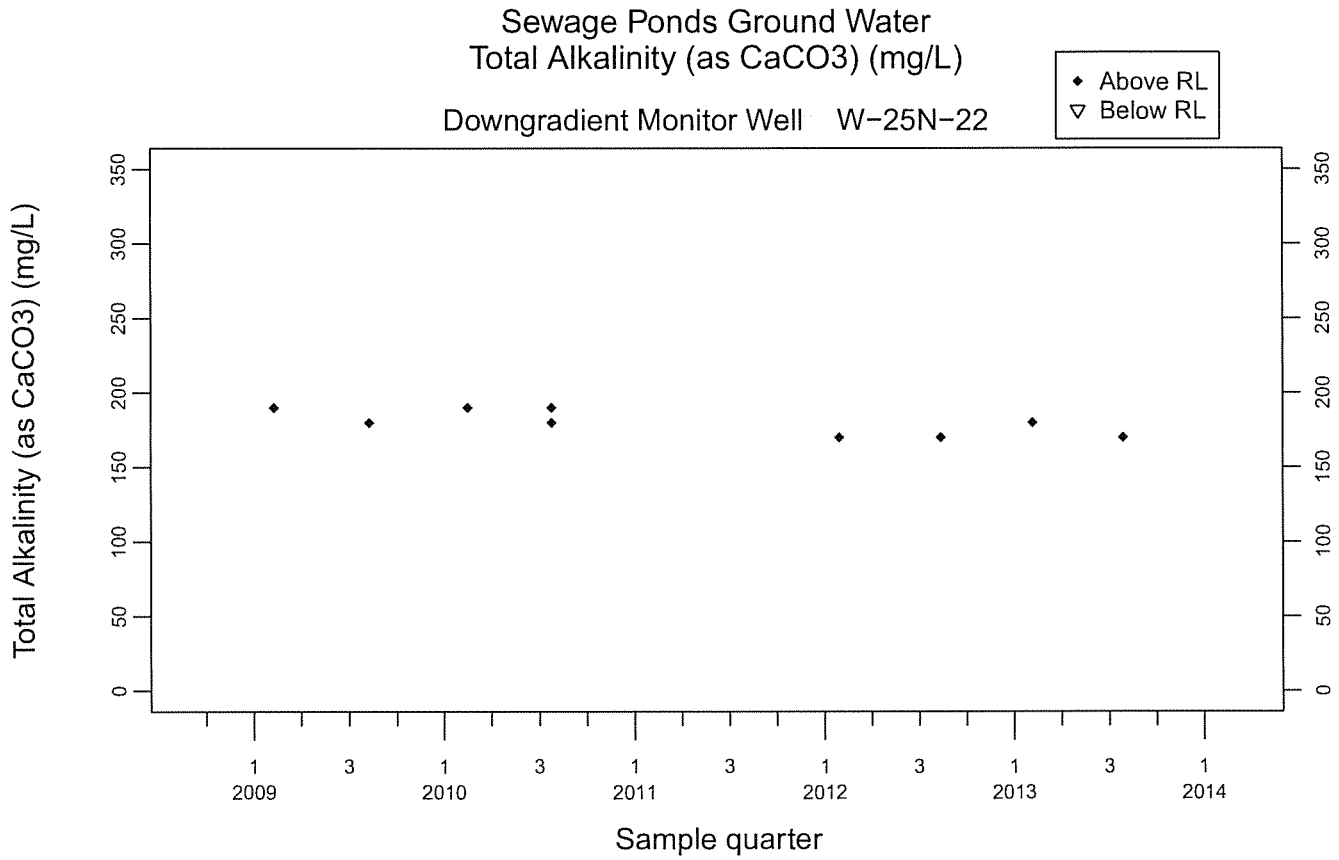

Sewage Ponds Ground Water
Fluoride (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Fluoride (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1
2009
3
1
2010
3
1
2011
3
1
2012
3
1
2013
3
1
2014
Sample quarter

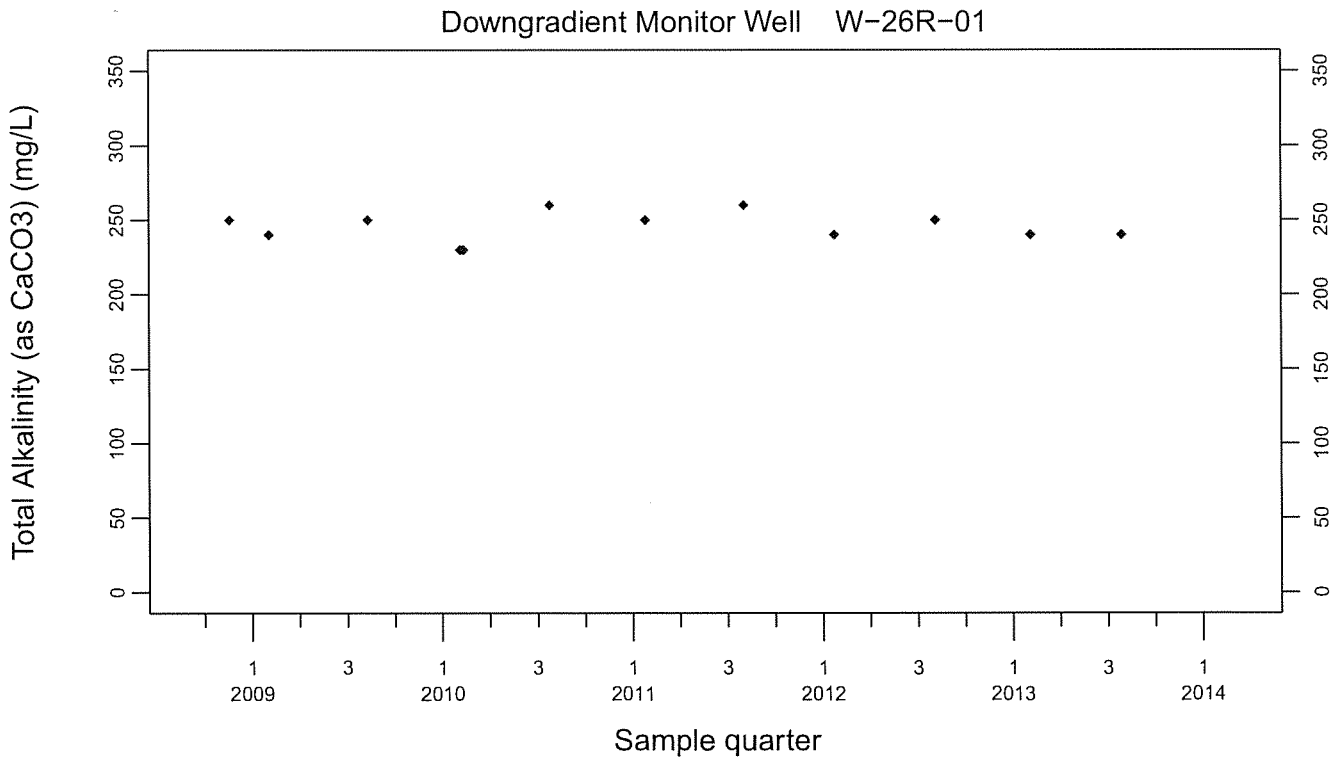

Sewage Ponds Ground Water
Total Alkalinity (as CaCO3) (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

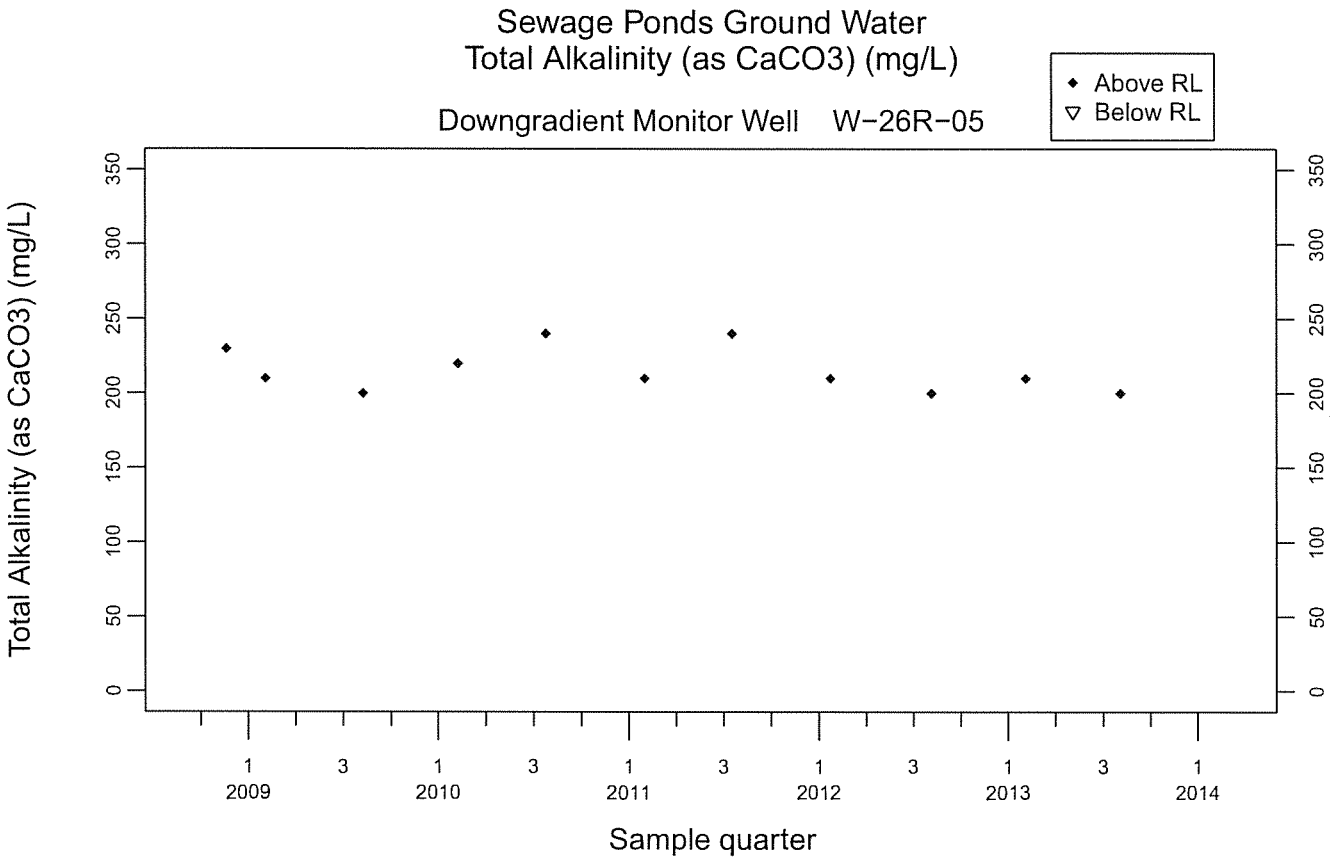

Upgradient Monitor Well W-7PS
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

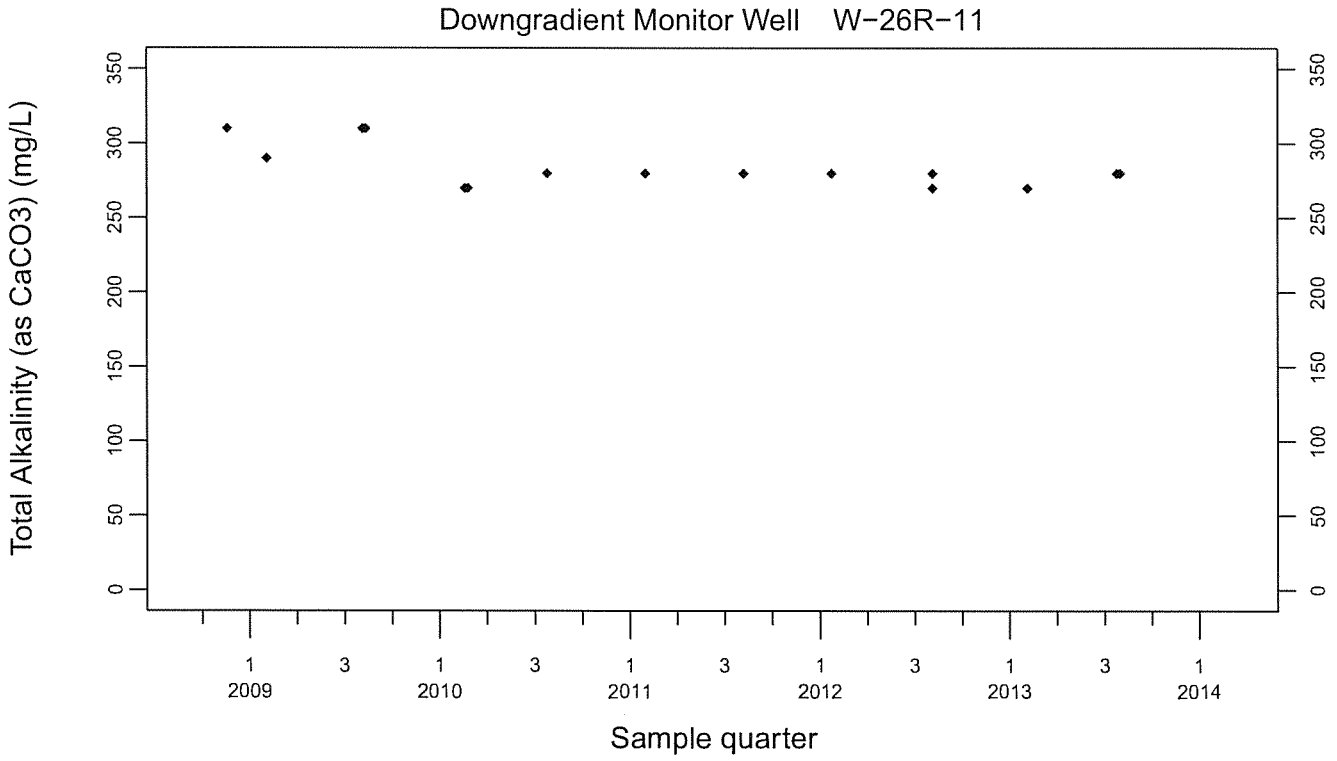

Sewage Ponds Ground Water
Total Alkalinity (as CaCO3) (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

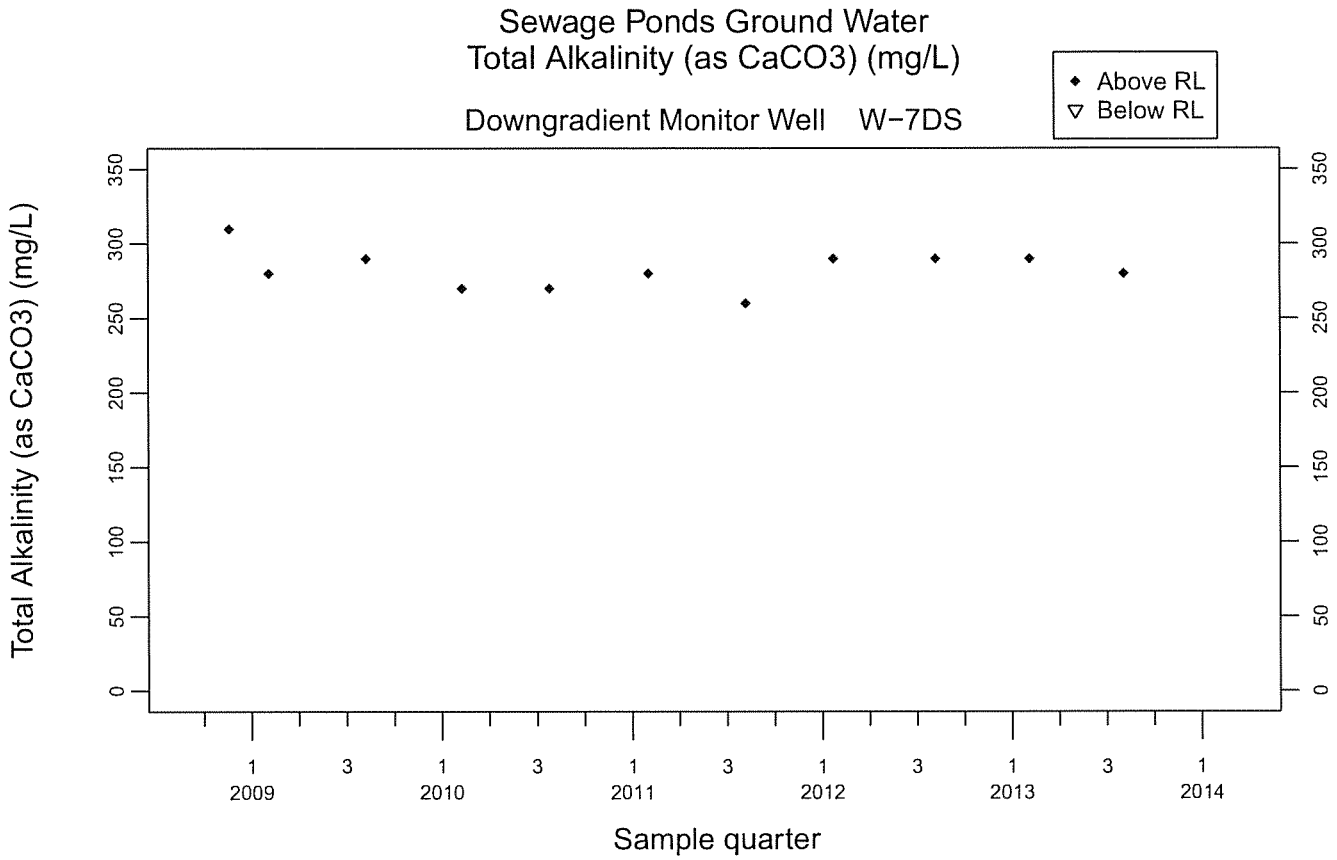

Downgradient Monitor Well W-25N-23
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

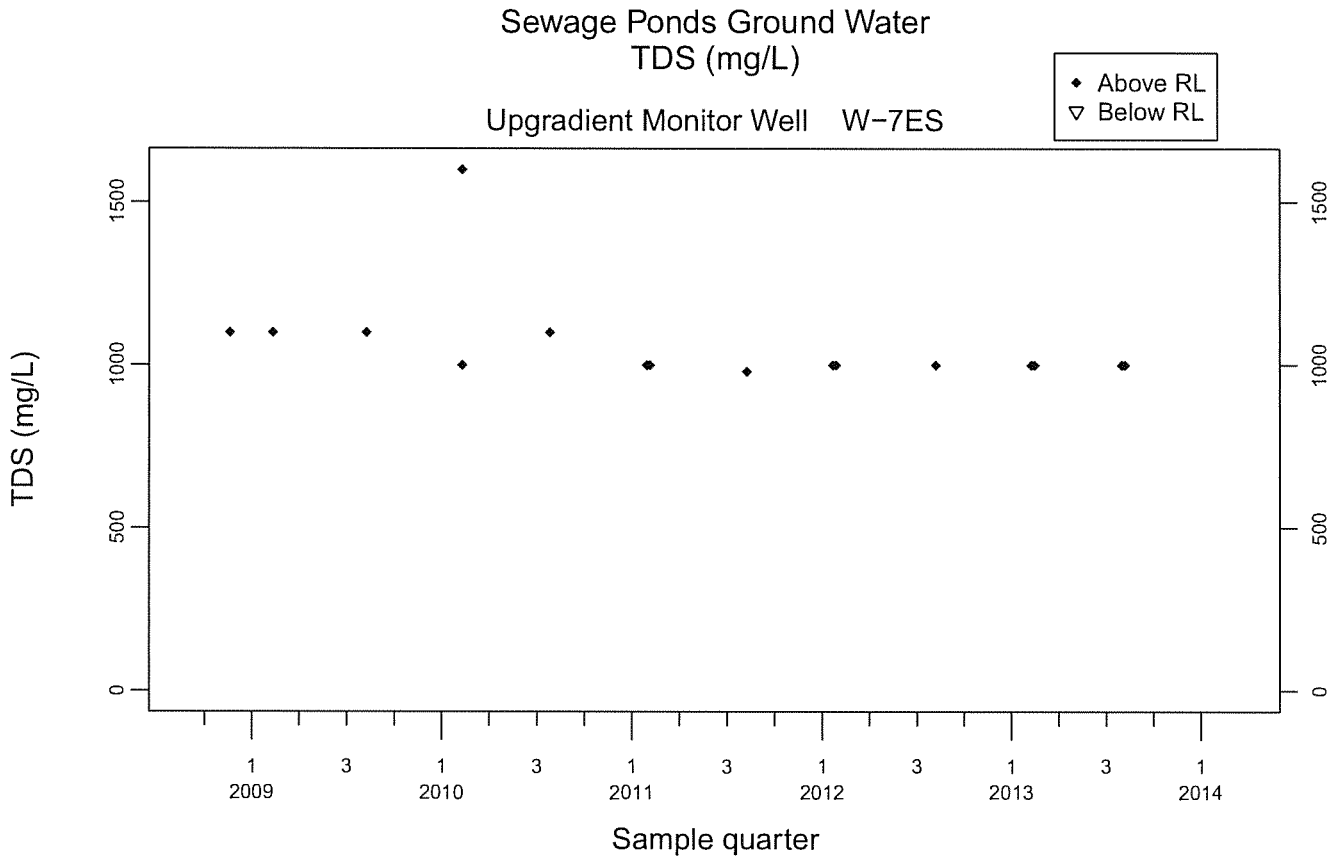

Sewage Ponds Ground Water
Total Alkalinity (as CaCO3) (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

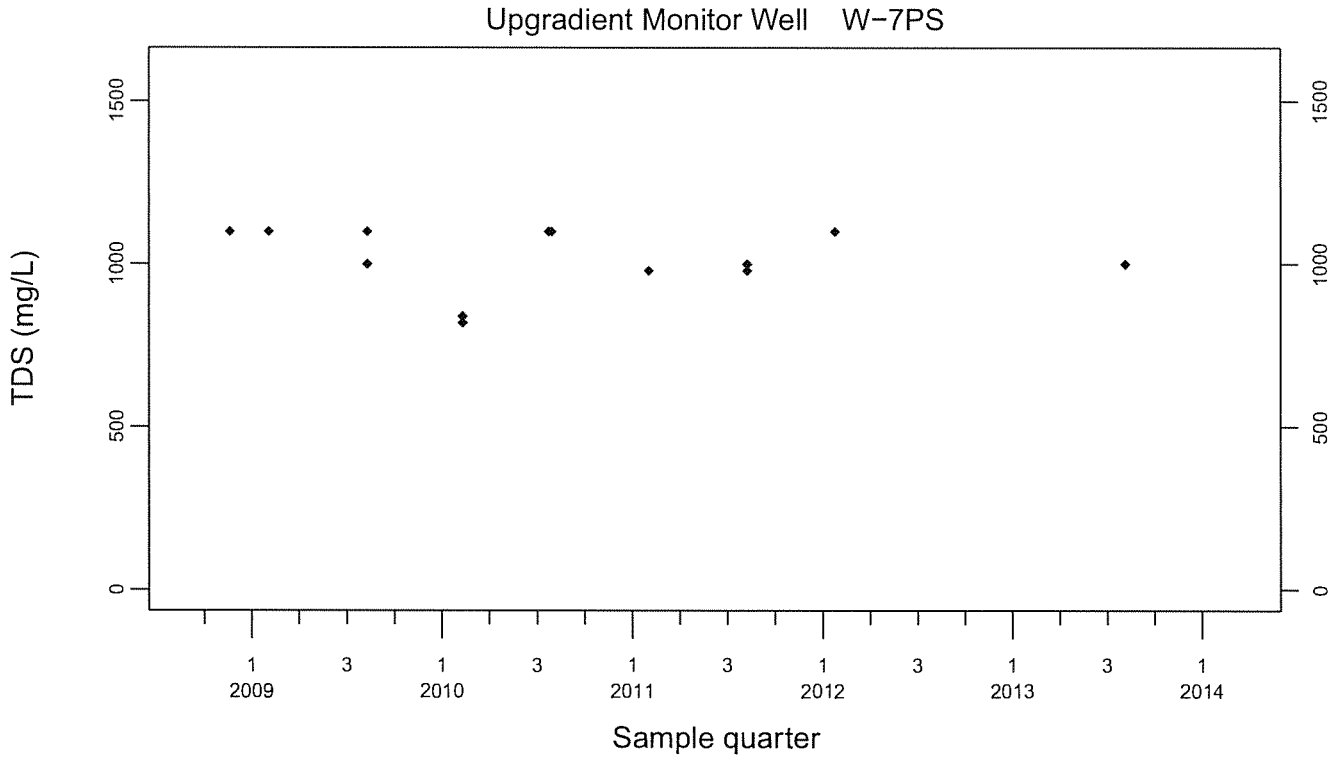

Downgradient Monitor Well W-26R-01
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

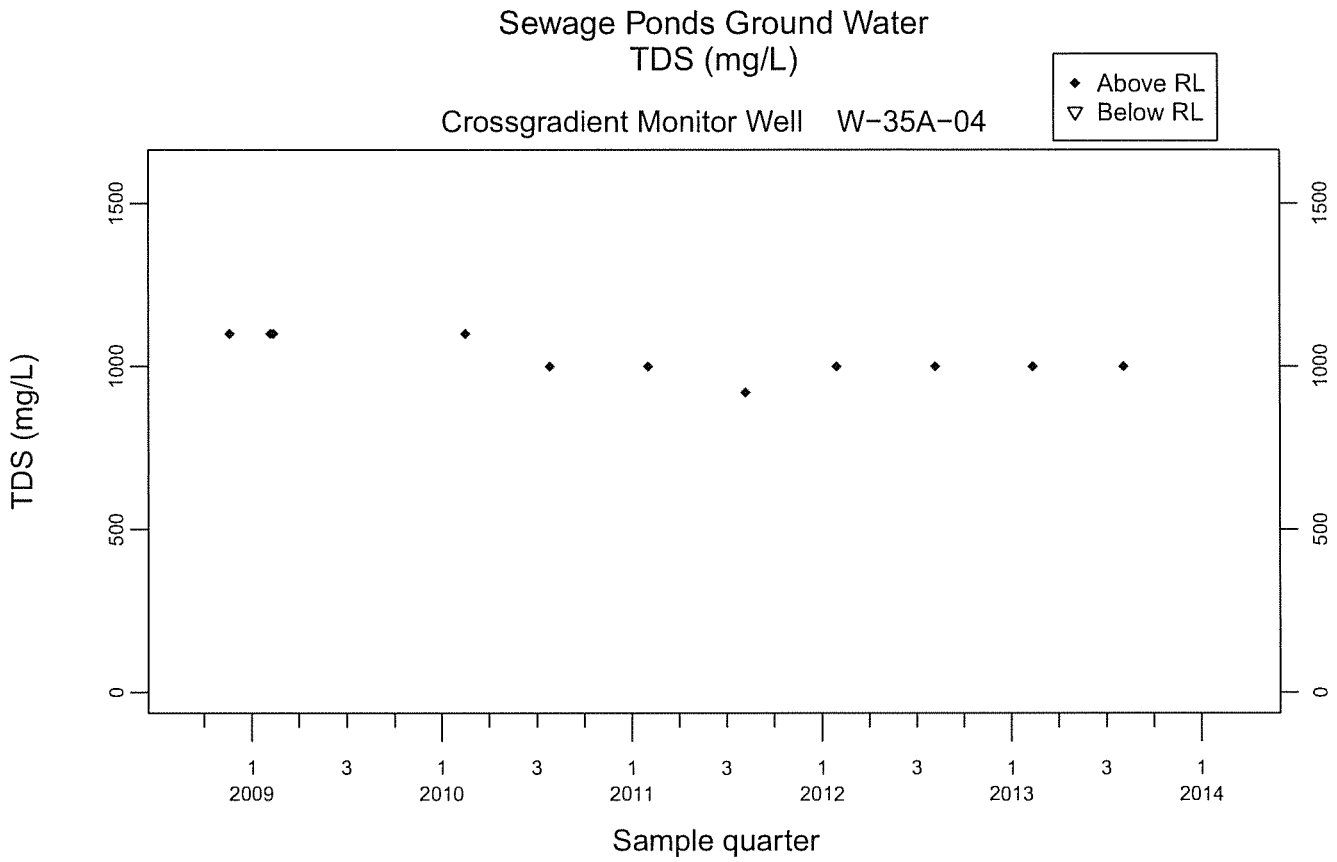

Sewage Ponds Ground Water
Total Alkalinity (as CaCO3) (mg/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

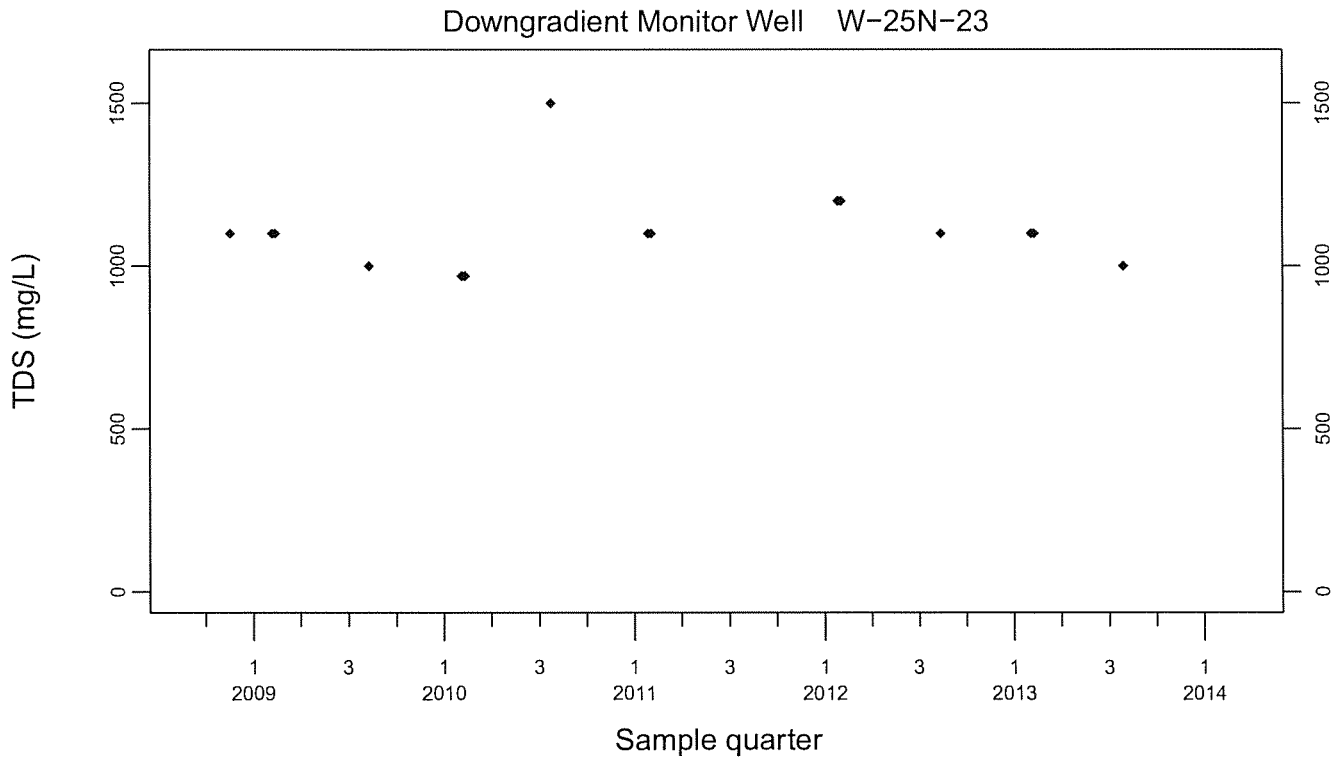

Downgradient Monitor Well W-26R-11
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

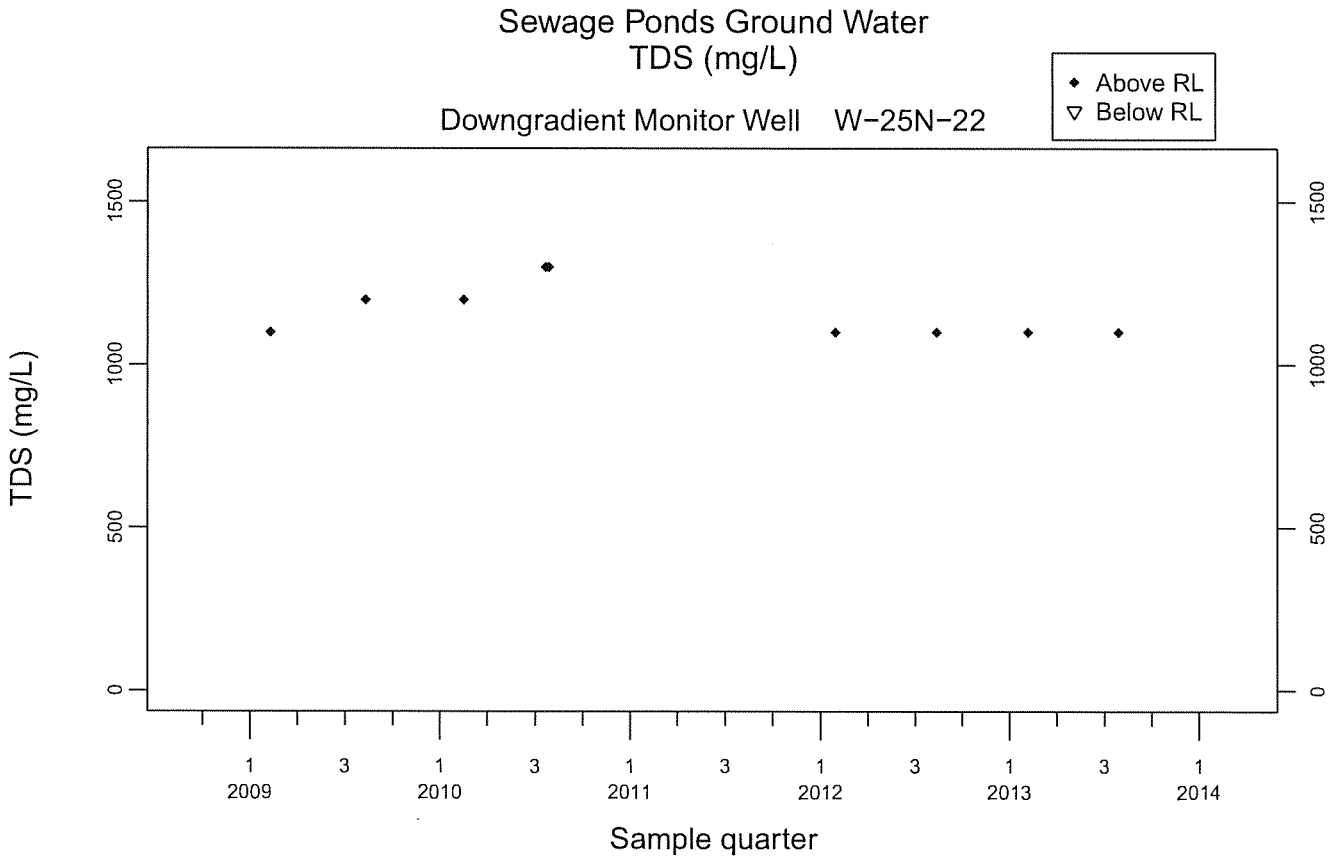

Sewage Ponds Ground Water
Total Alkalinity (as CaCO3) (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Total Alkalinity (as CaCO3) (mg/L)
0
50
100
150
200
250
300
350
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

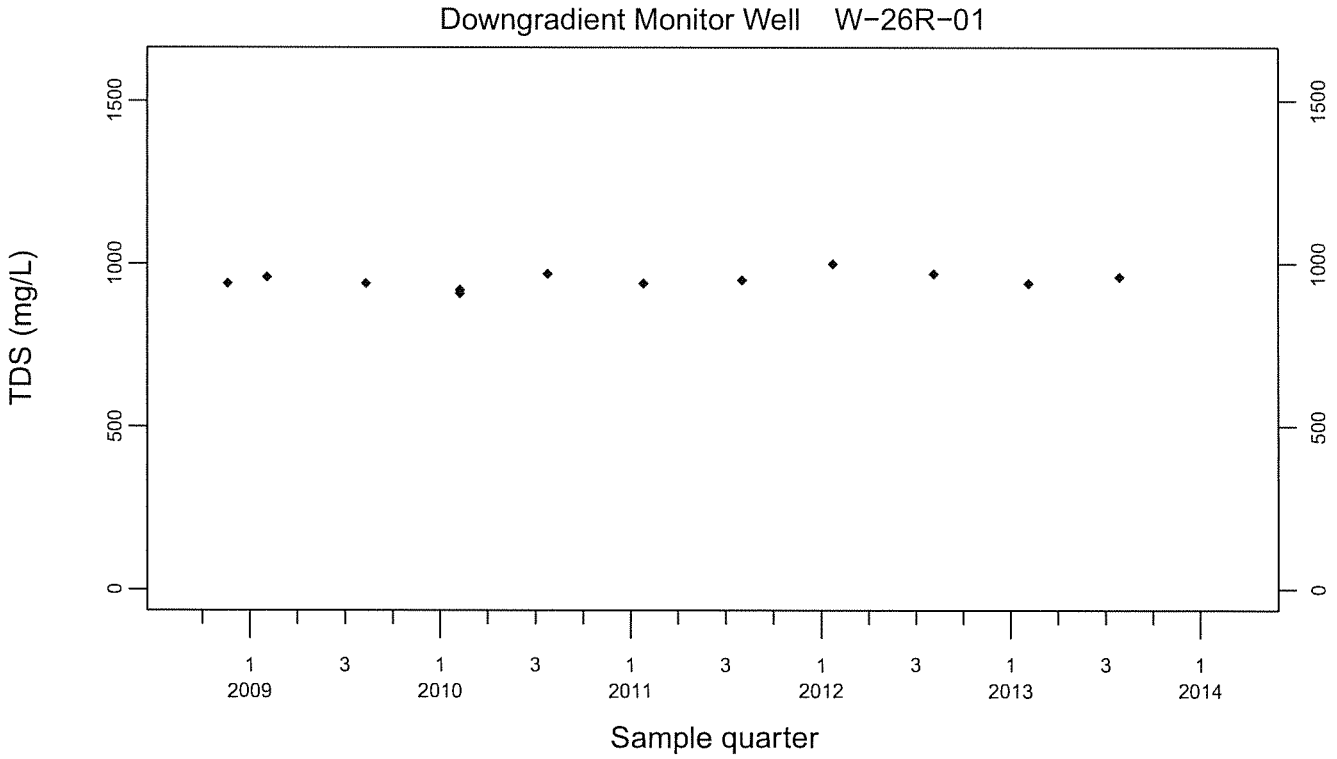

Sewage Ponds Ground Water
TDS (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
TDS (mg/L)
0
500
1000
1500
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

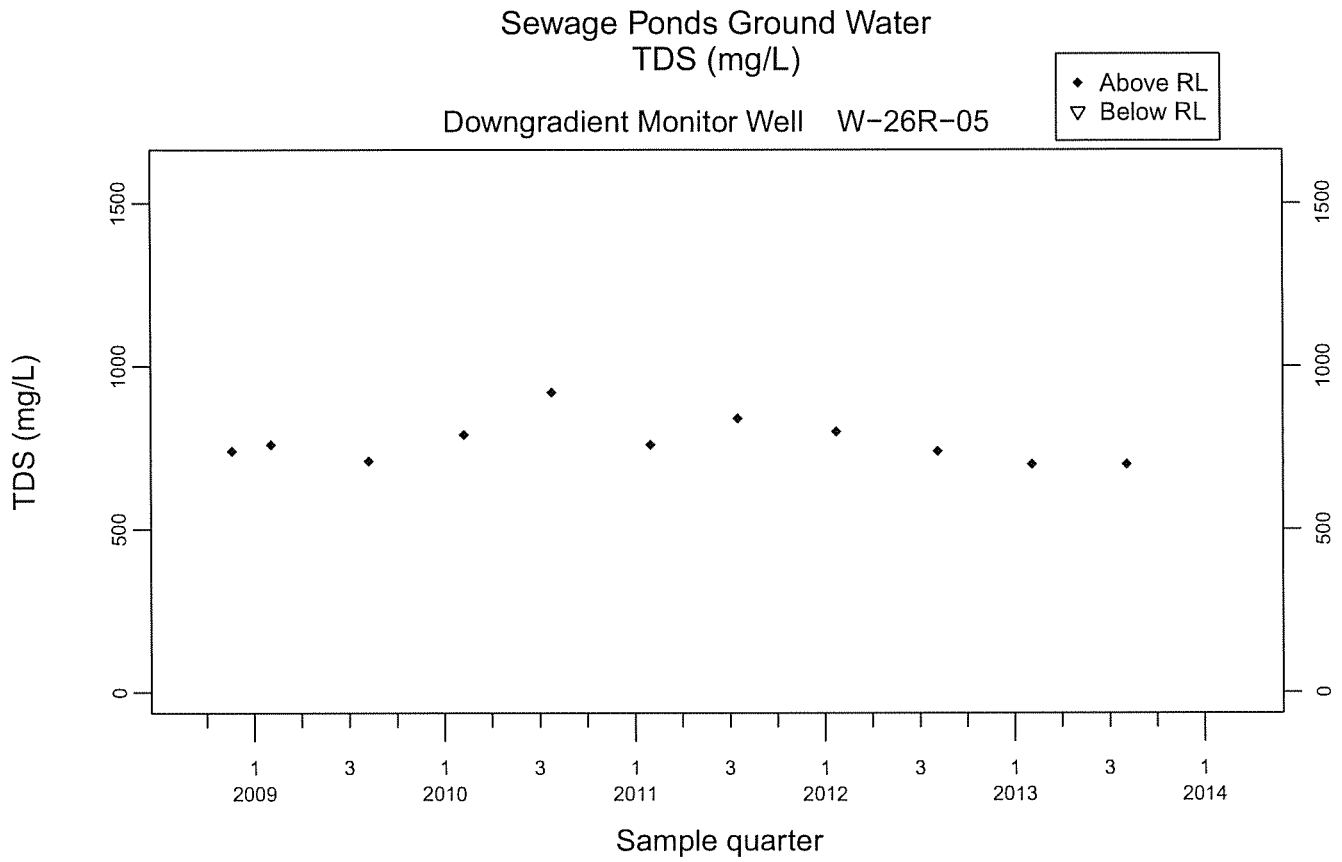

Upgradient Monitor Well W-7PS
TDS (mg/L)
0
500
1000
1500
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

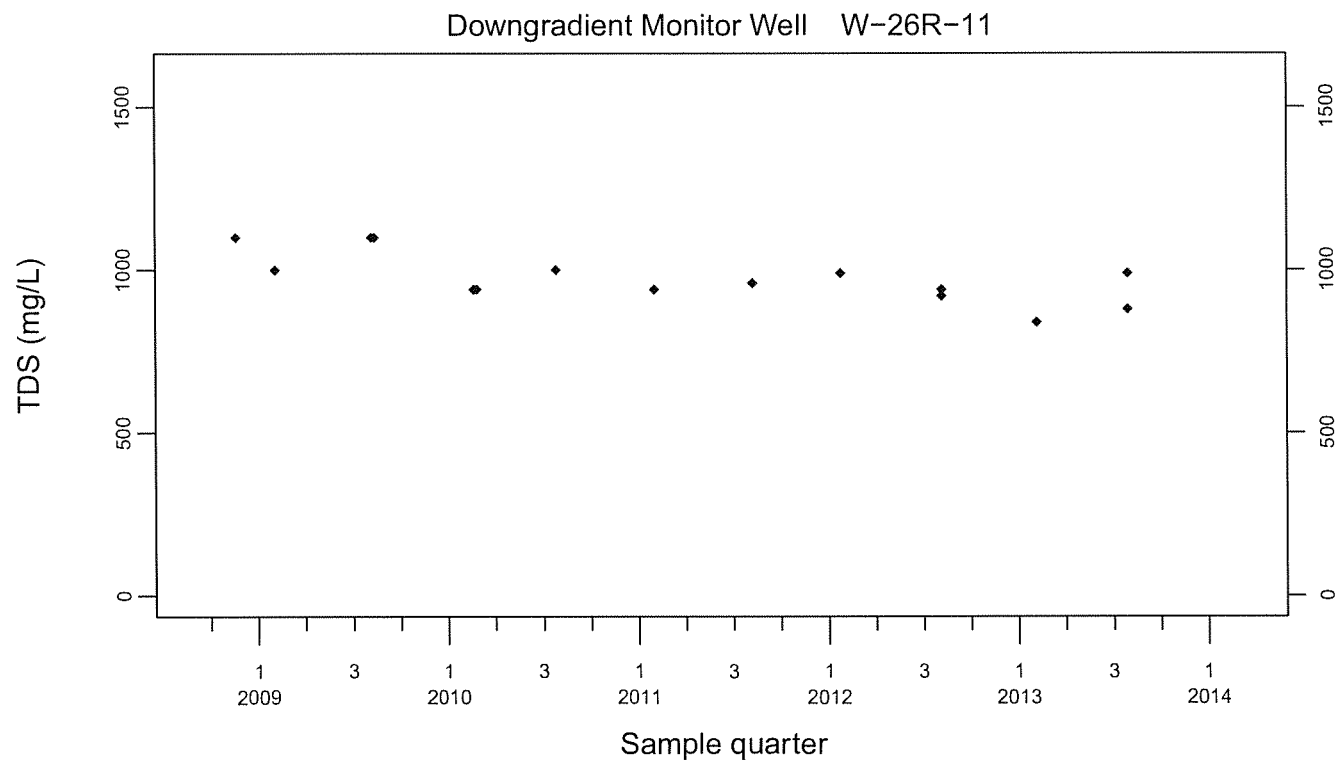

Sewage Ponds Ground Water
TDS (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
TDS (mg/L)
0
500
1000
1500
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

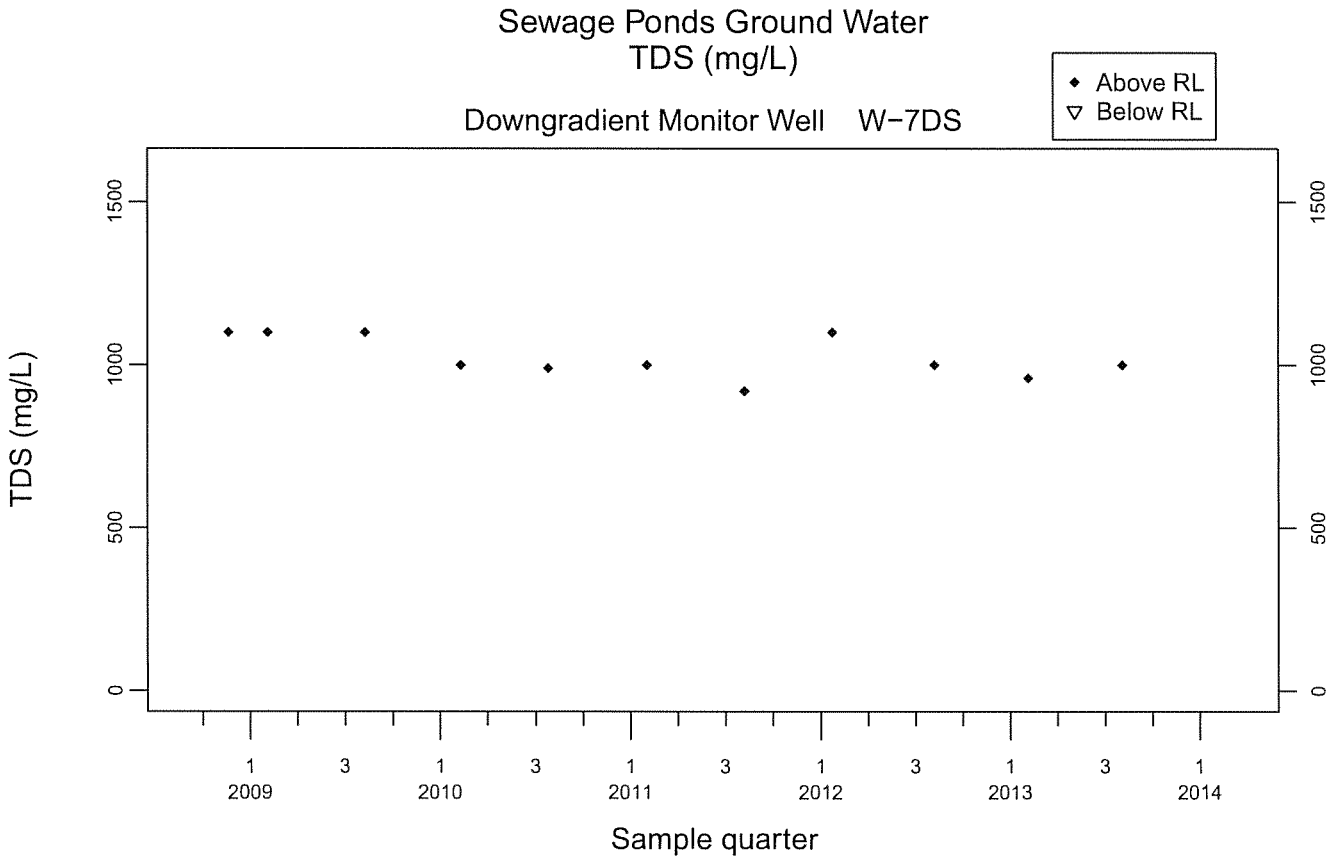

Downgradient Monitor Well W-25N-23
TDS (mg/L)
0
500
1000
1500
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

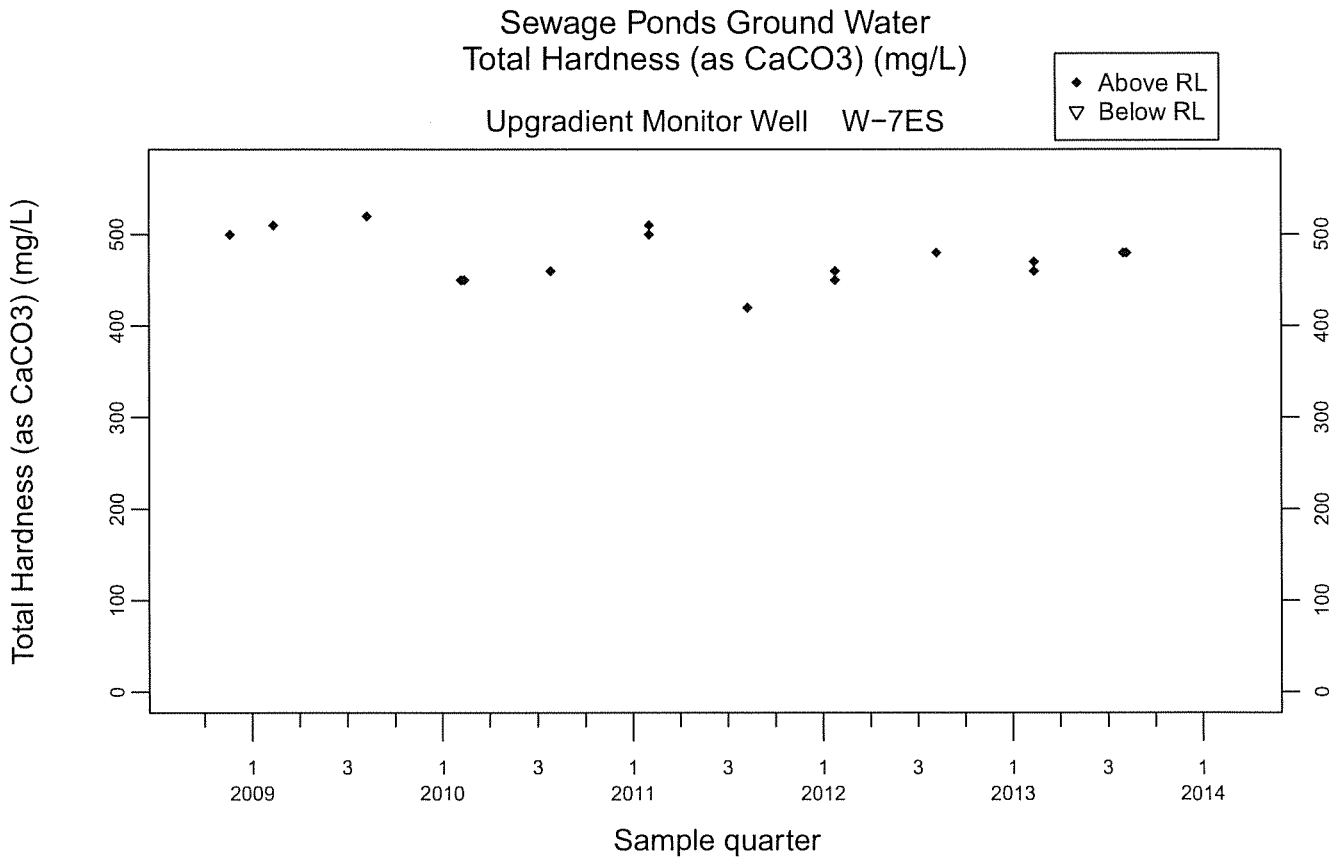

Sewage Ponds Ground Water
TDS (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-25N-22
TDS (mg/L)
0
500
1000
1500
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

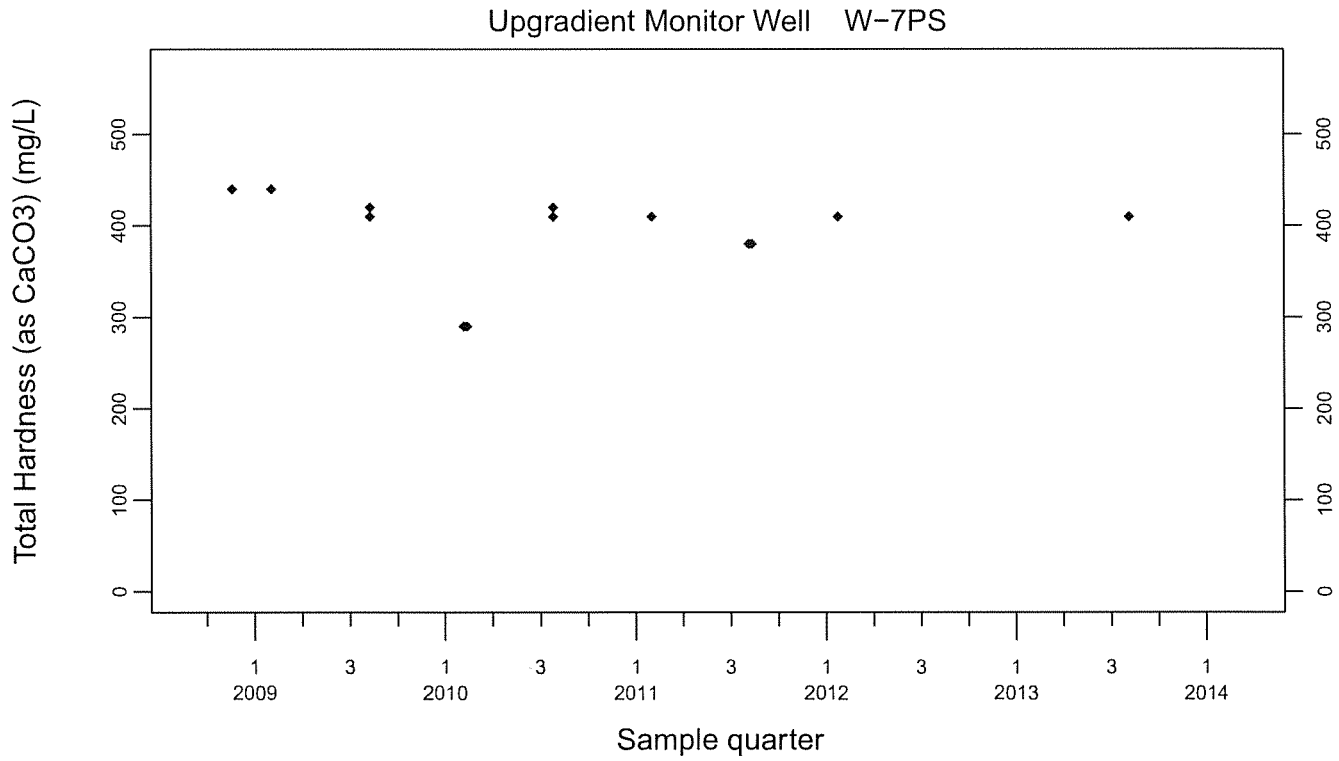

Downgradient Monitor Well W-26R-01
TDS (mg/L)
0
500
1000
1500
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

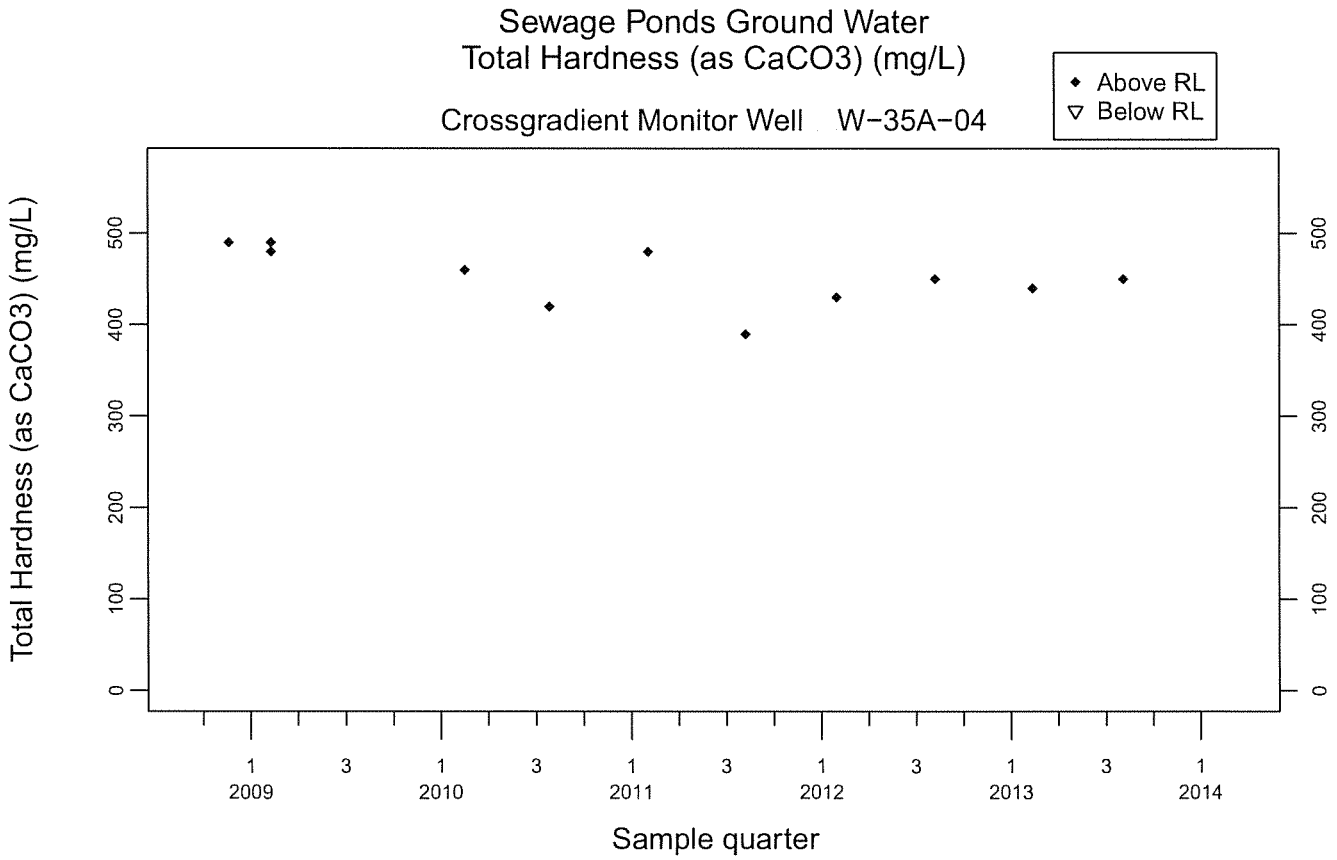

Sewage Ponds Ground Water
TDS (mg/L)
Above RL
Below RL
Downgradient Monitor Well W-26R-05
TDS (mg/L)
0
500
1000
1500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

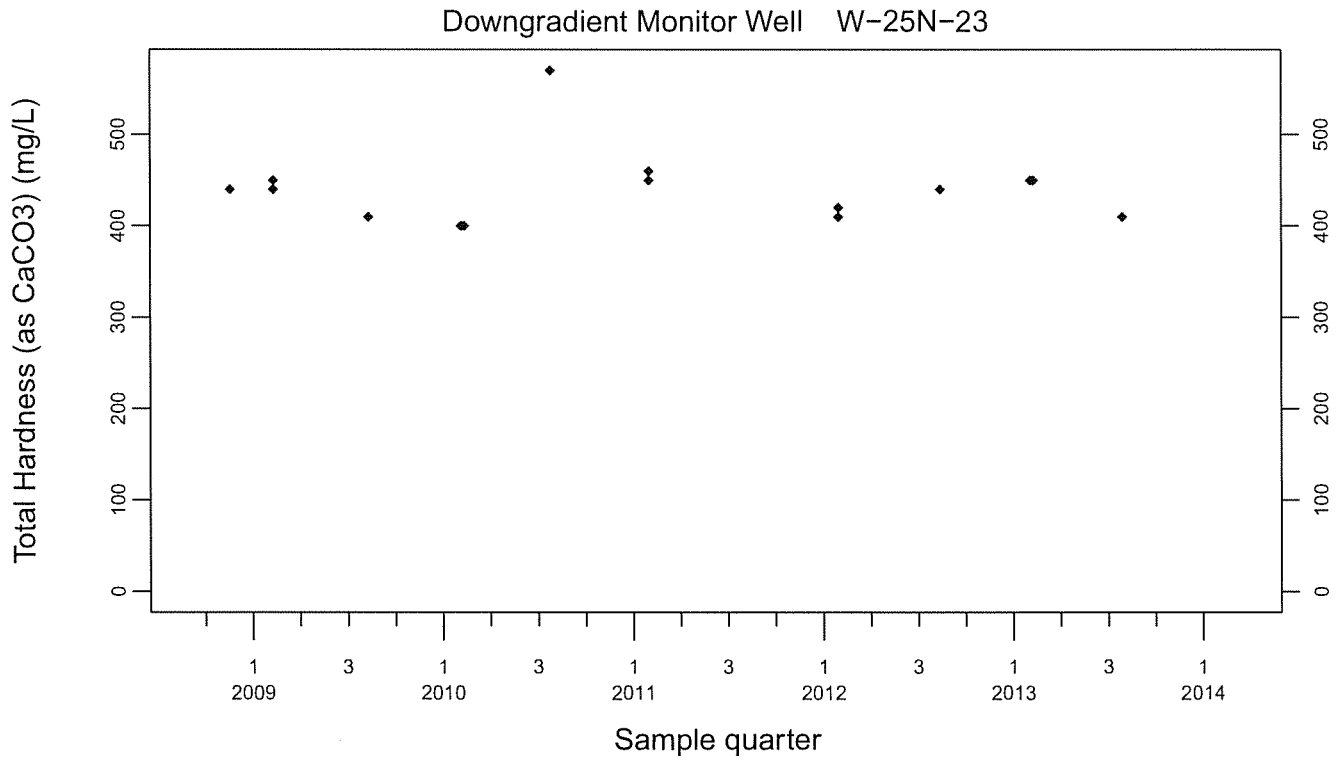

Downgradient Monitor Well W-26R-11
TDS (mg/L)
0
500
1000
1500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

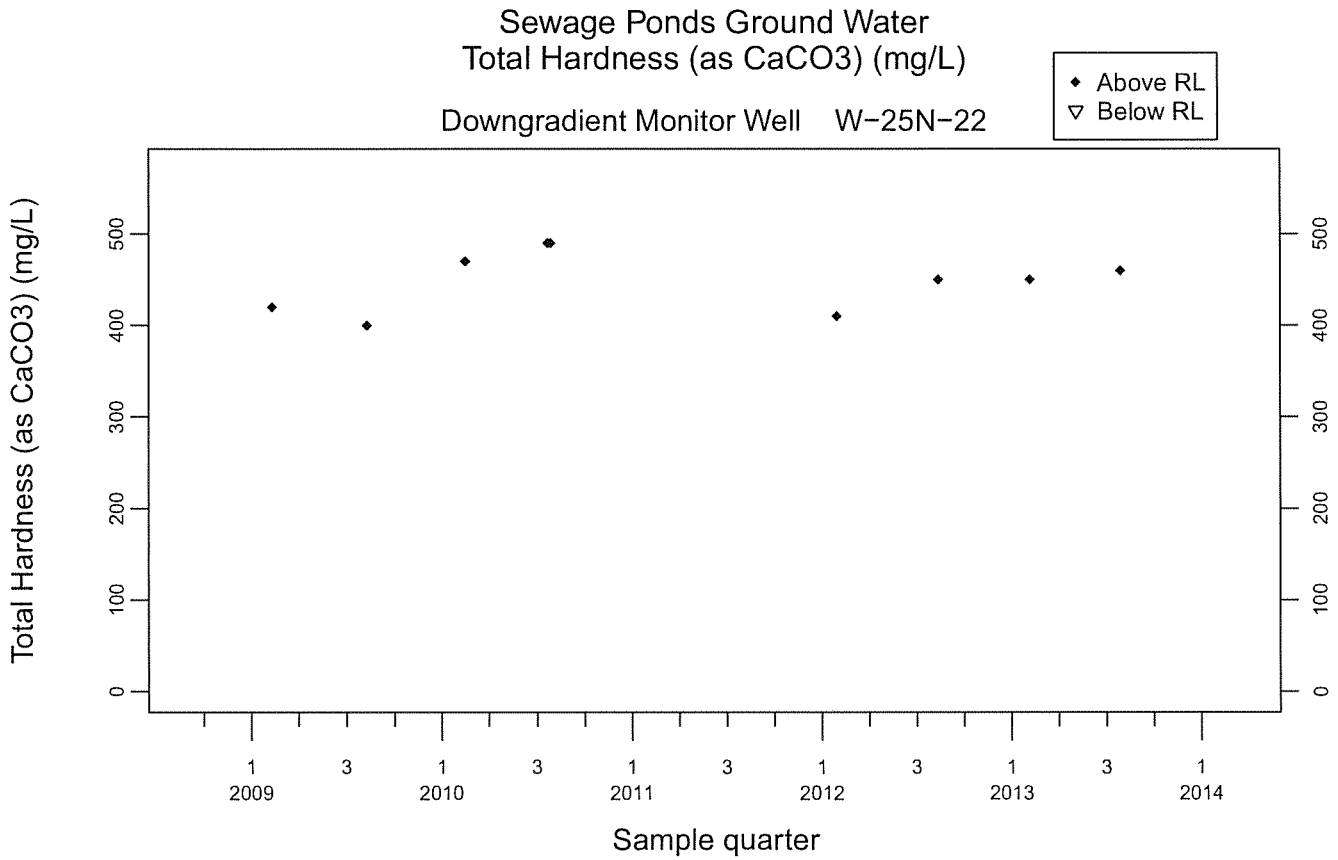

Sewage Ponds Ground Water
TDS (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
TDS (mg/L)
0
500
1000
1500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

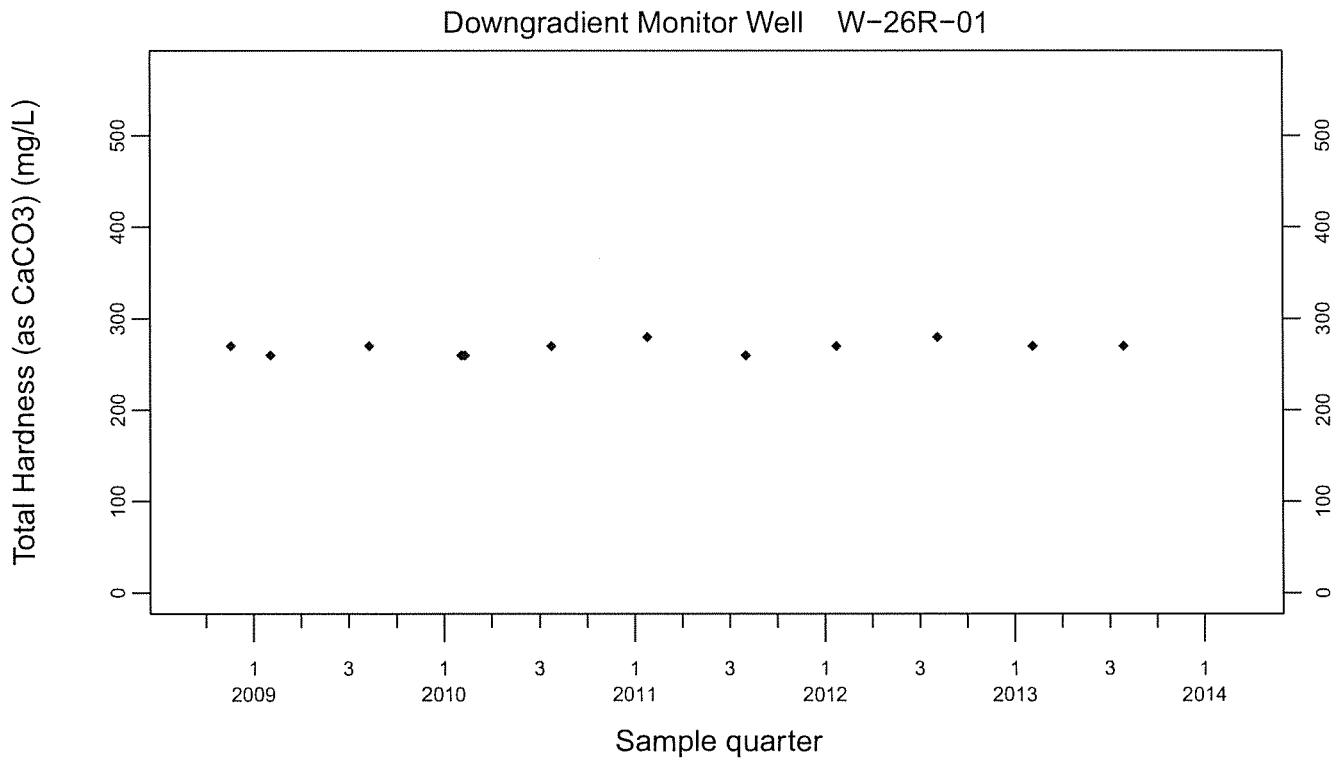

Sewage Ponds Ground Water
Total Hardness (as CaCO3) (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

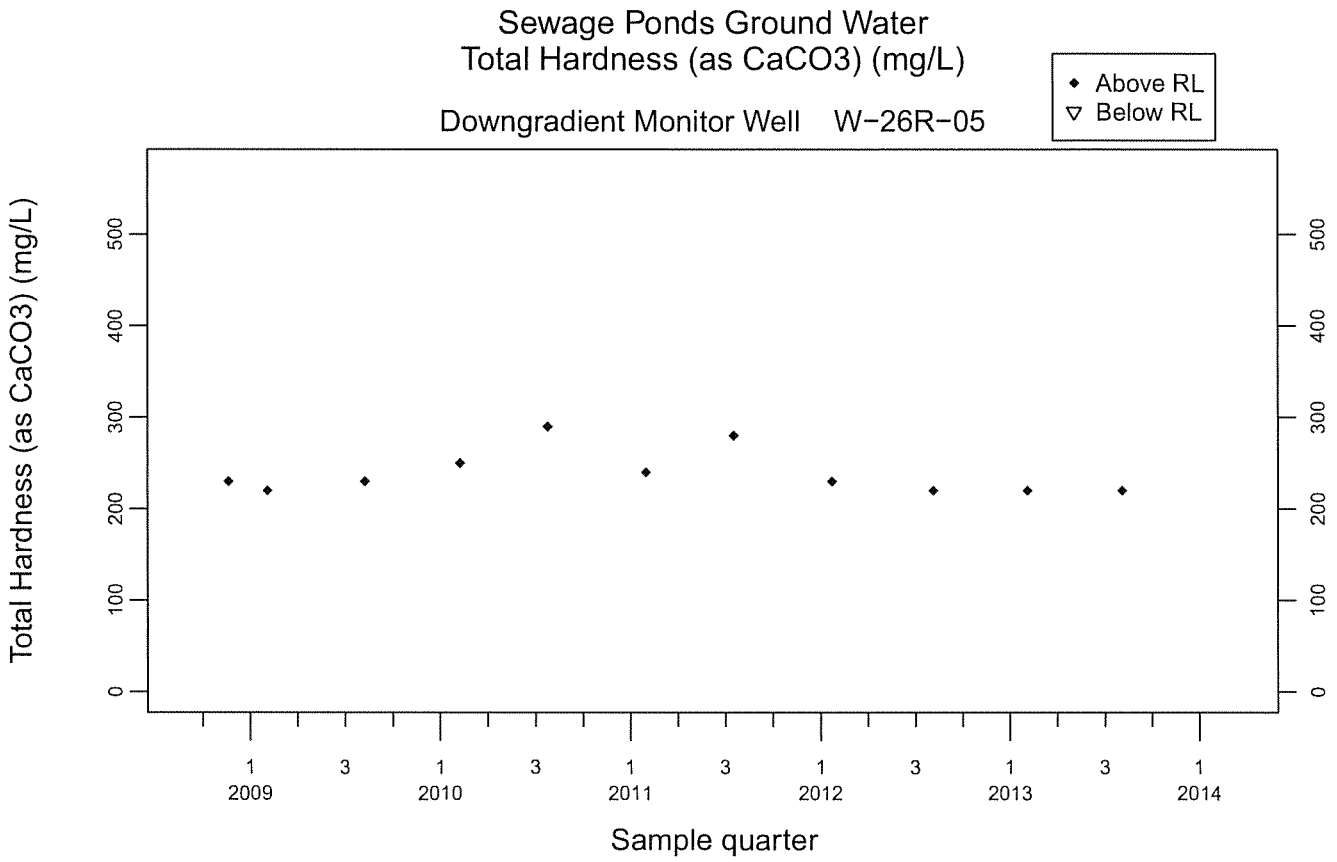

Upgradient Monitor Well W-7PS
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

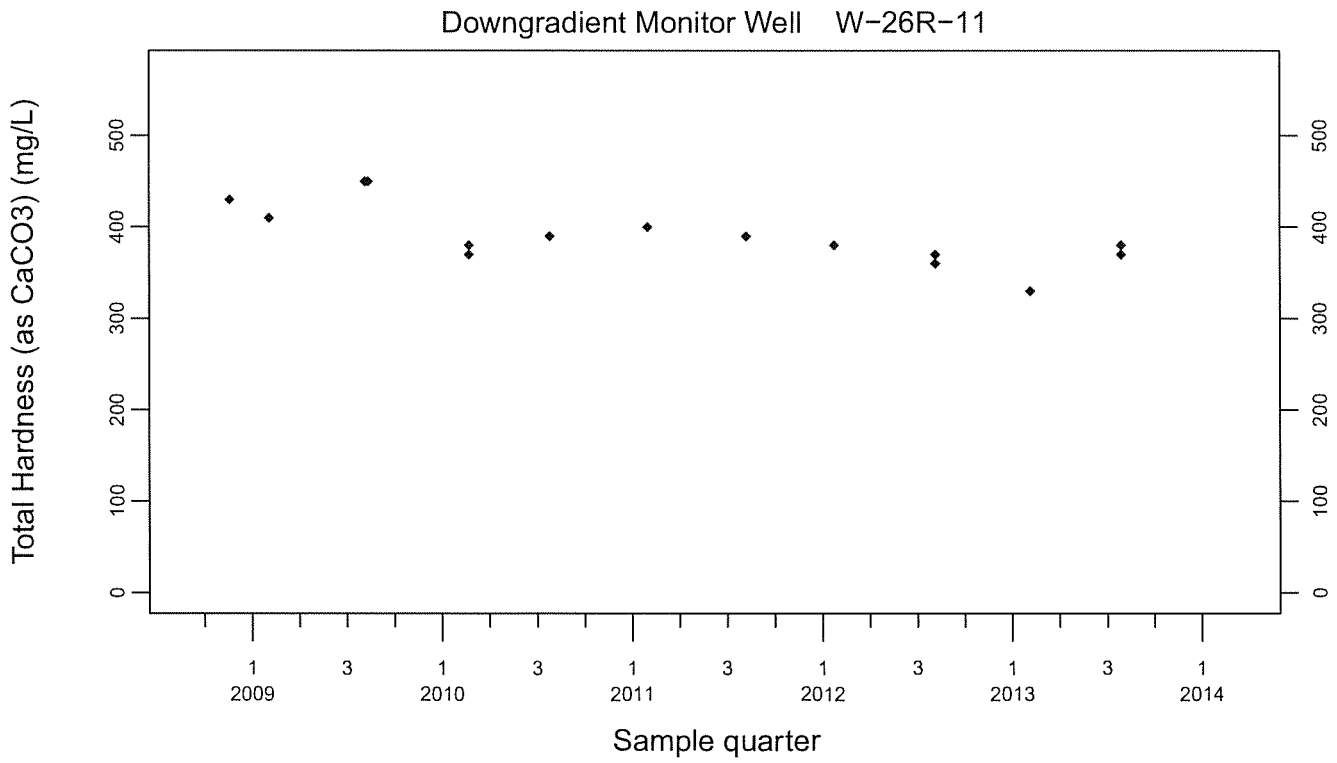

Sewage Ponds Ground Water
Total Hardness (as CaCO3) (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

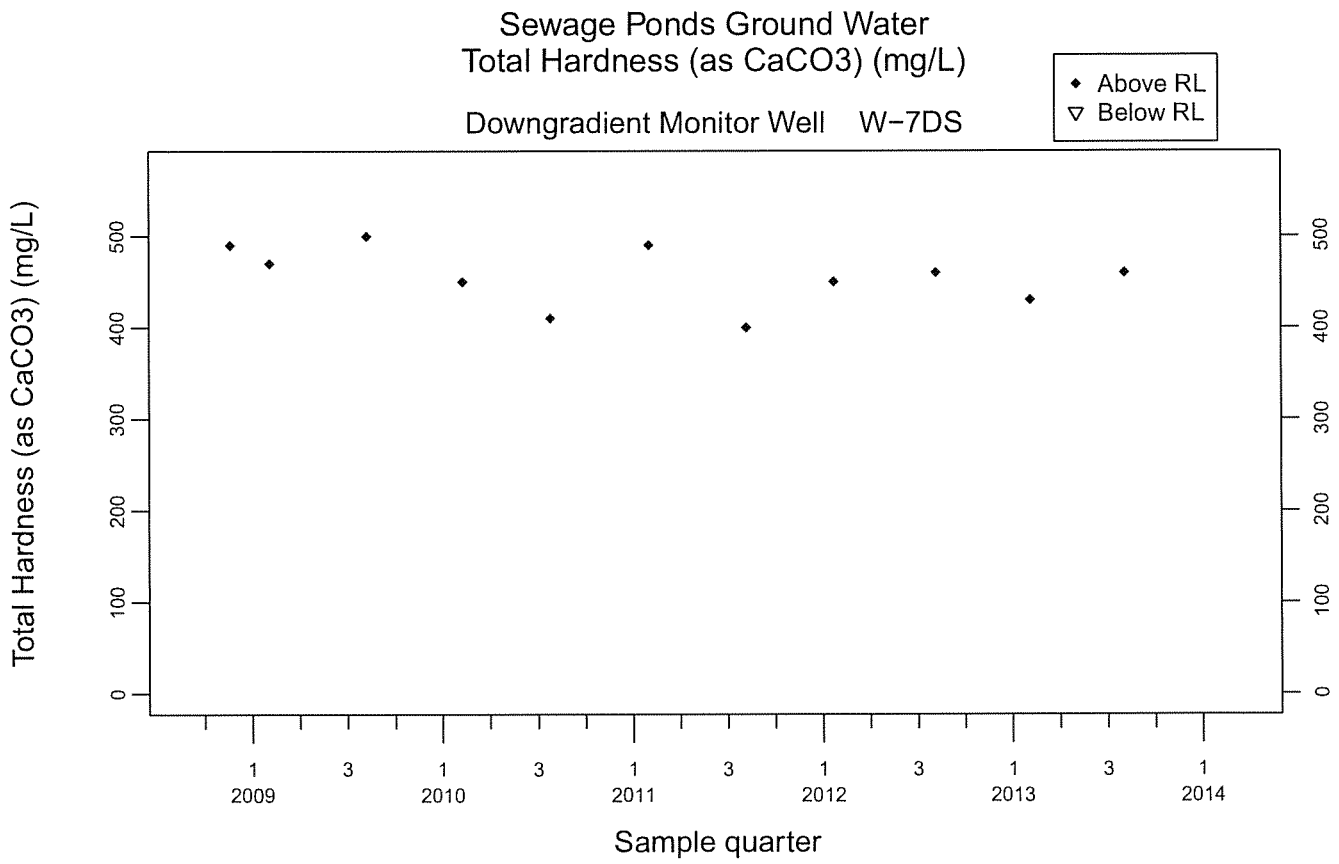

Downgradient Monitor Well W-25N-23
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

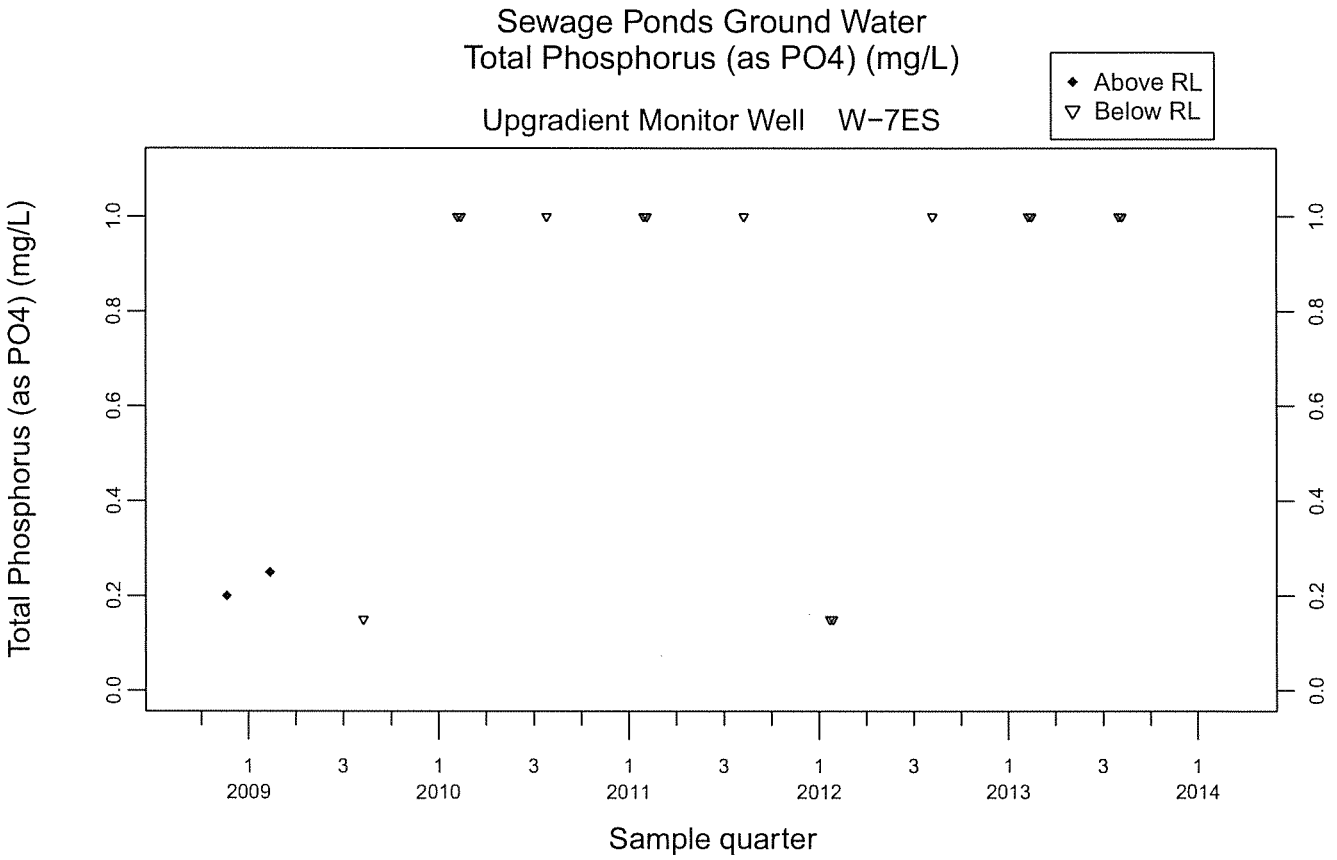

Sewage Ponds Ground Water
Total Hardness (as CaCO3) (mg/L)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

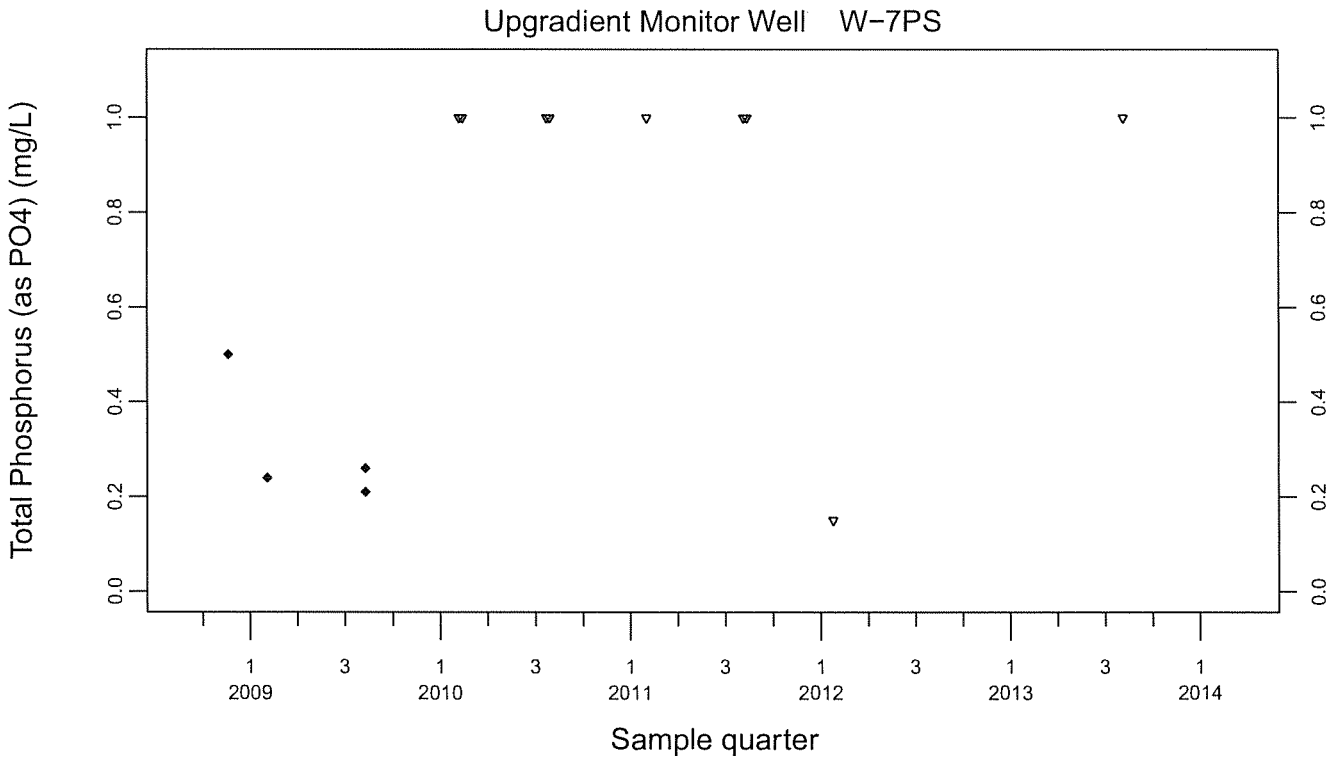

Downgradient Monitor Well W-26R-01
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

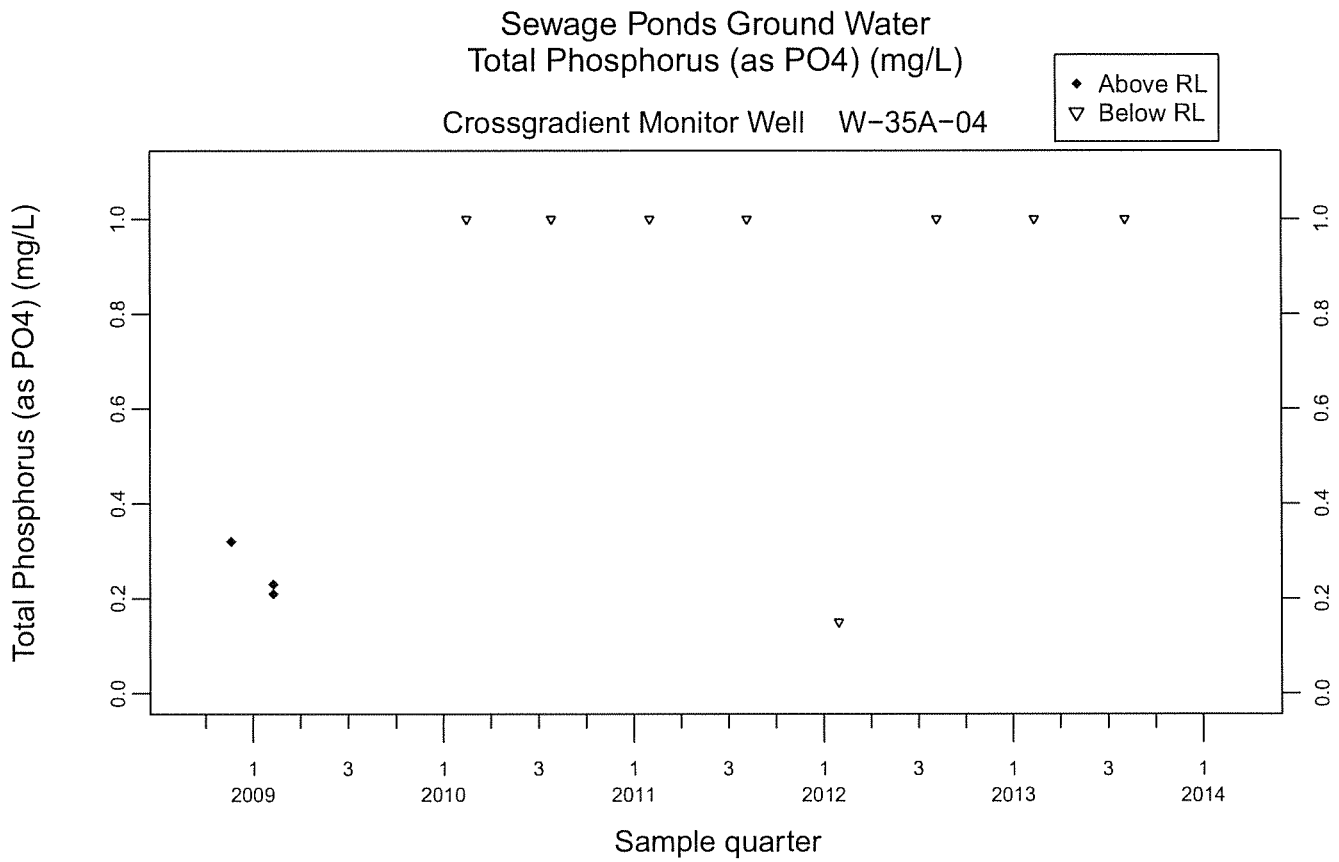

Sewage Ponds Ground Water
Total Hardness (as CaCO3) (mg/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

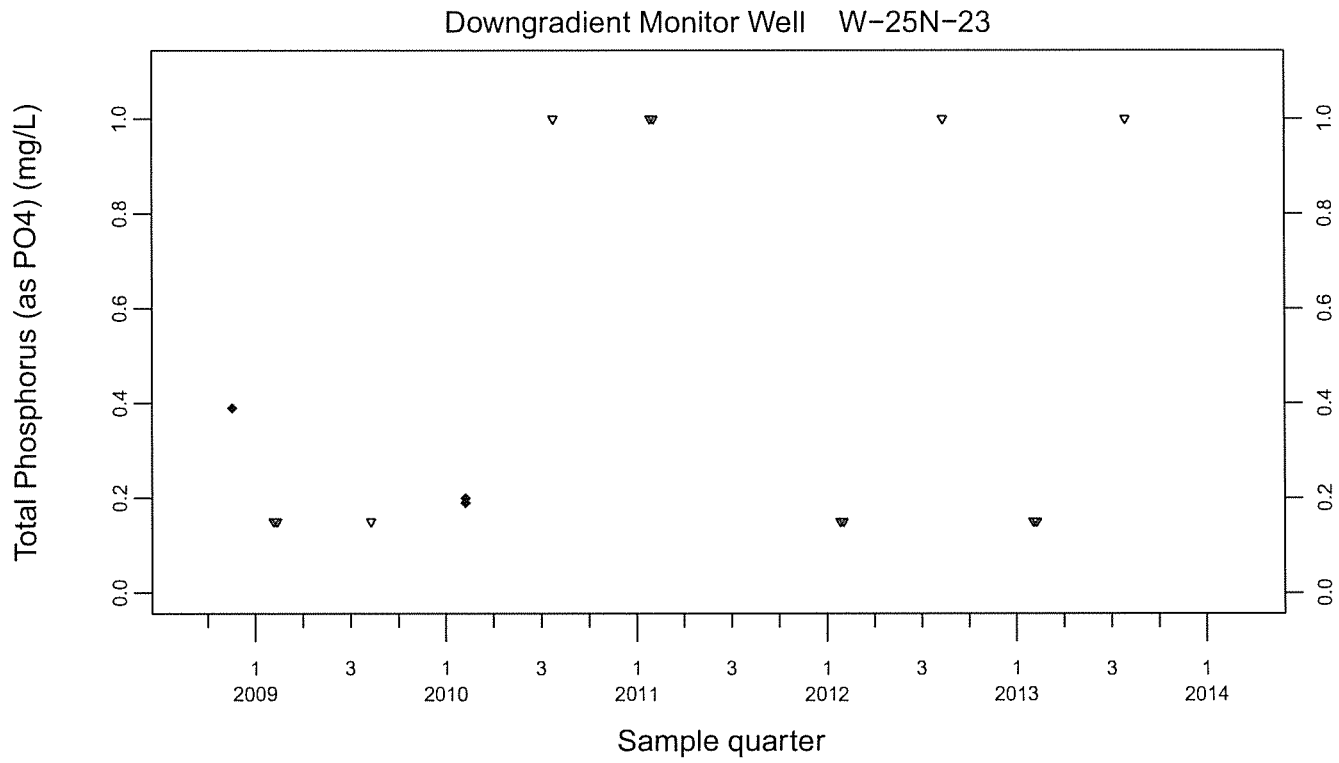

Downgradient Monitor Well W-26R-11
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

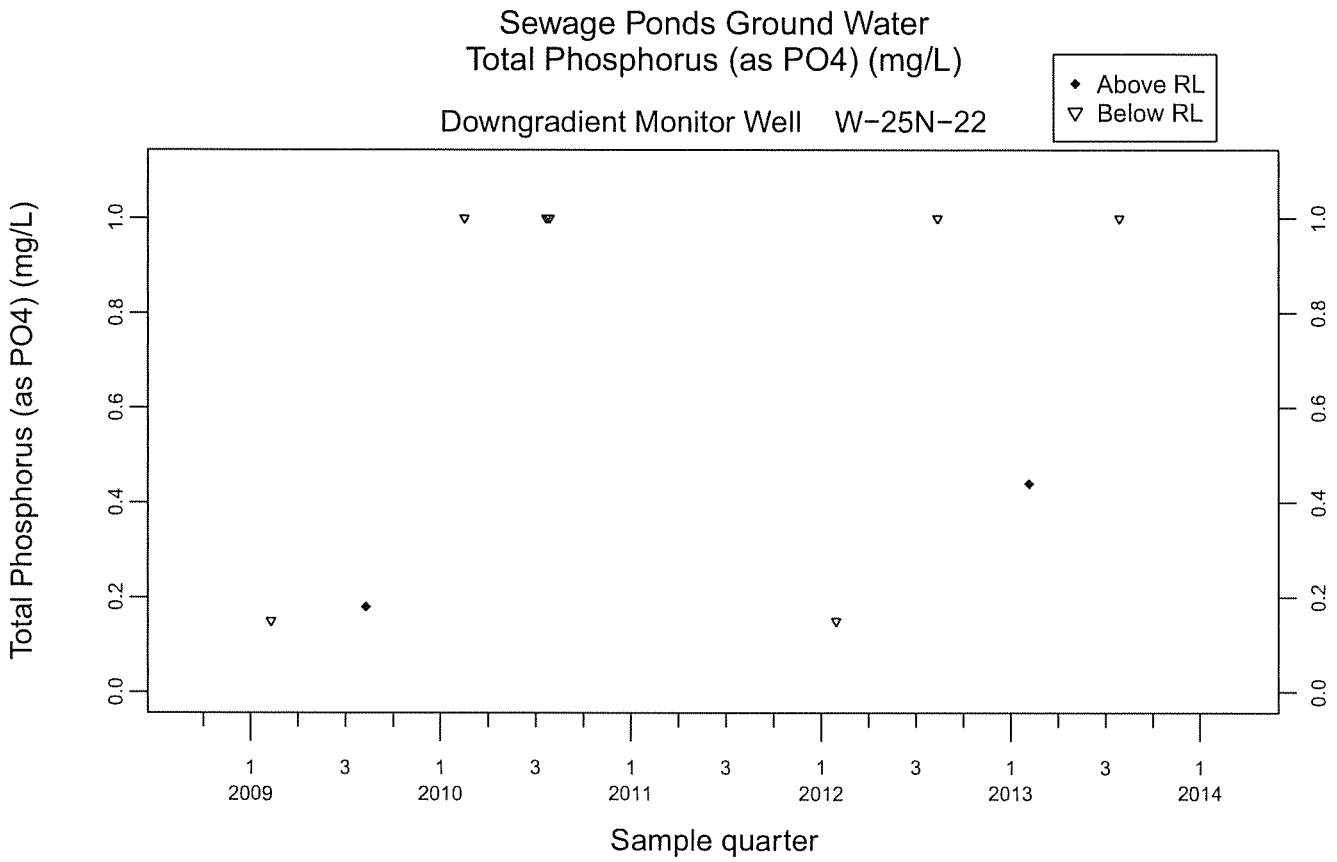

Sewage Ponds Ground Water
Total Hardness (as CaCO3) (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Total Hardness (as CaCO3) (mg/L)
0
100
200
300
400
500
1
3
2009
2010
2011
2012
2013
2014
Sample quarter

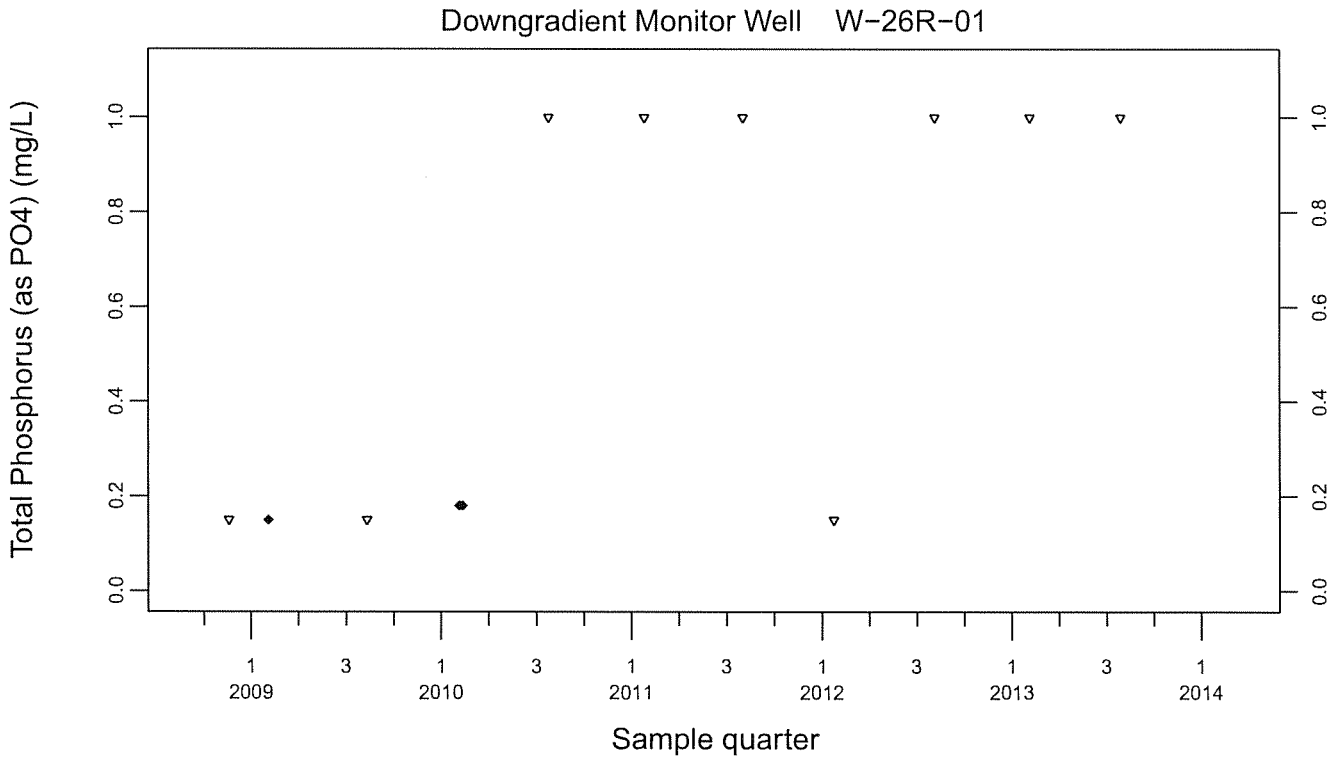

Sewage Ponds Ground Water
Total Phosphorus (as PO4) (mg/L)
Upgradient Monitor Well W-7ES
Above RL
Below RL
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

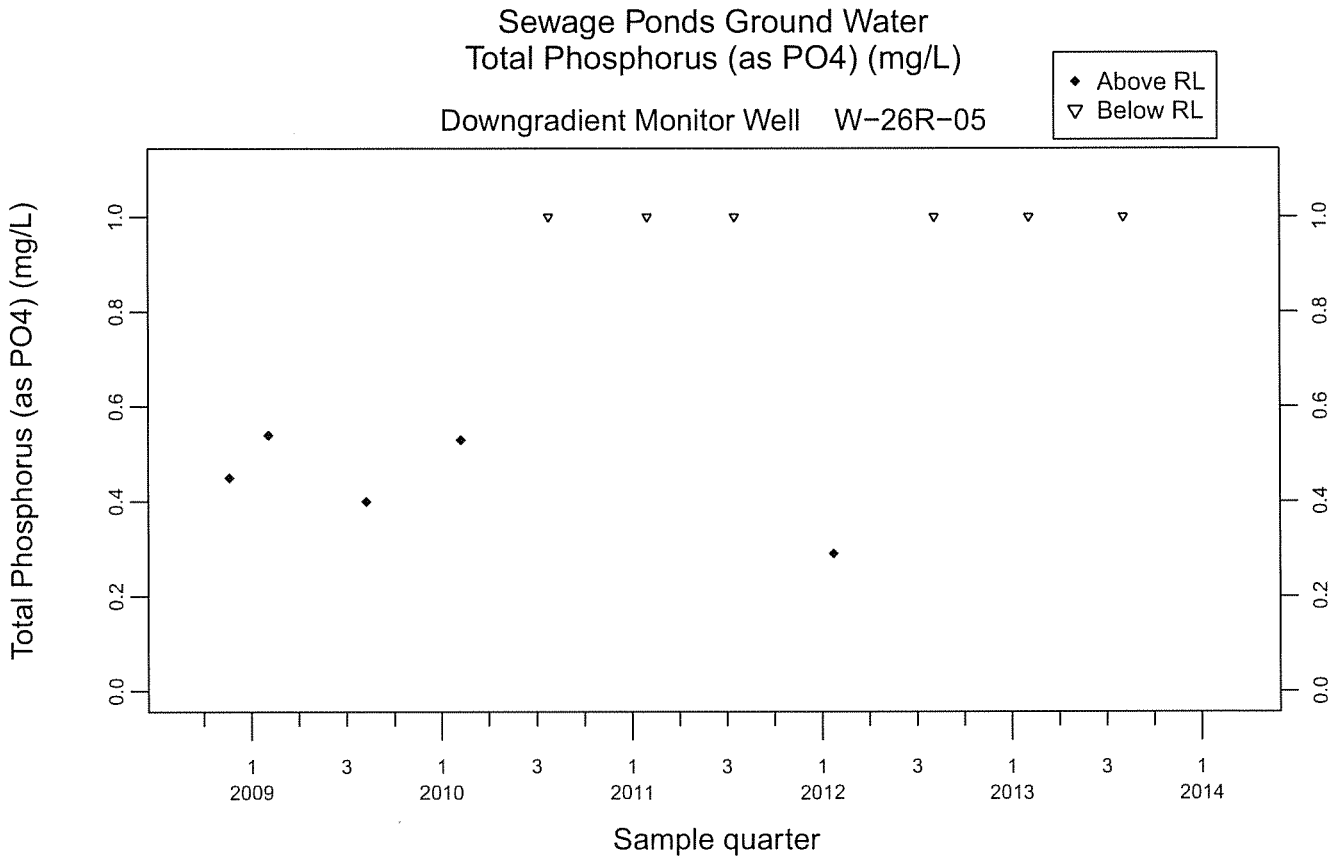

Upgradient Monitor Well W-7PS
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

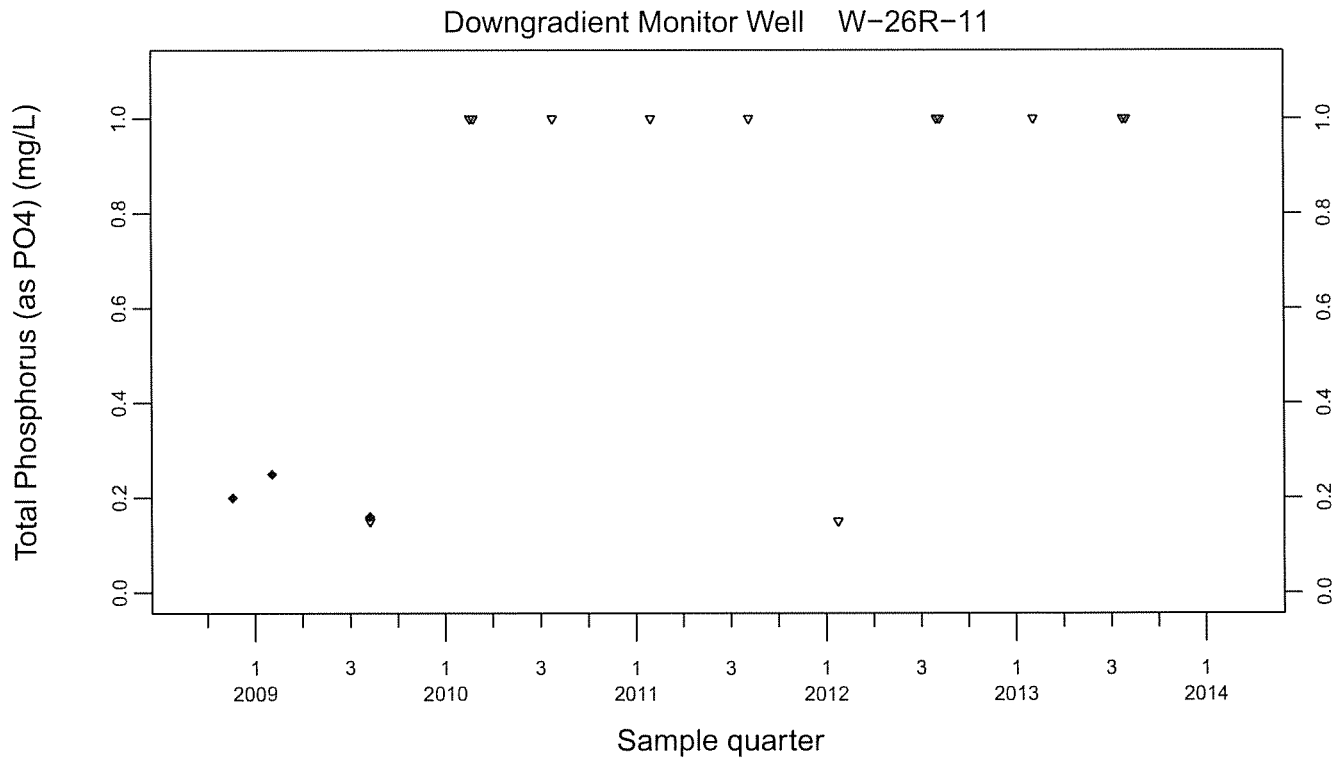

Sewage Ponds Ground Water
Total Phosphorus (as PO4) (mg/L)
Crossgradient Monitor Well W-35A-04
Above RL
Below RL
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter

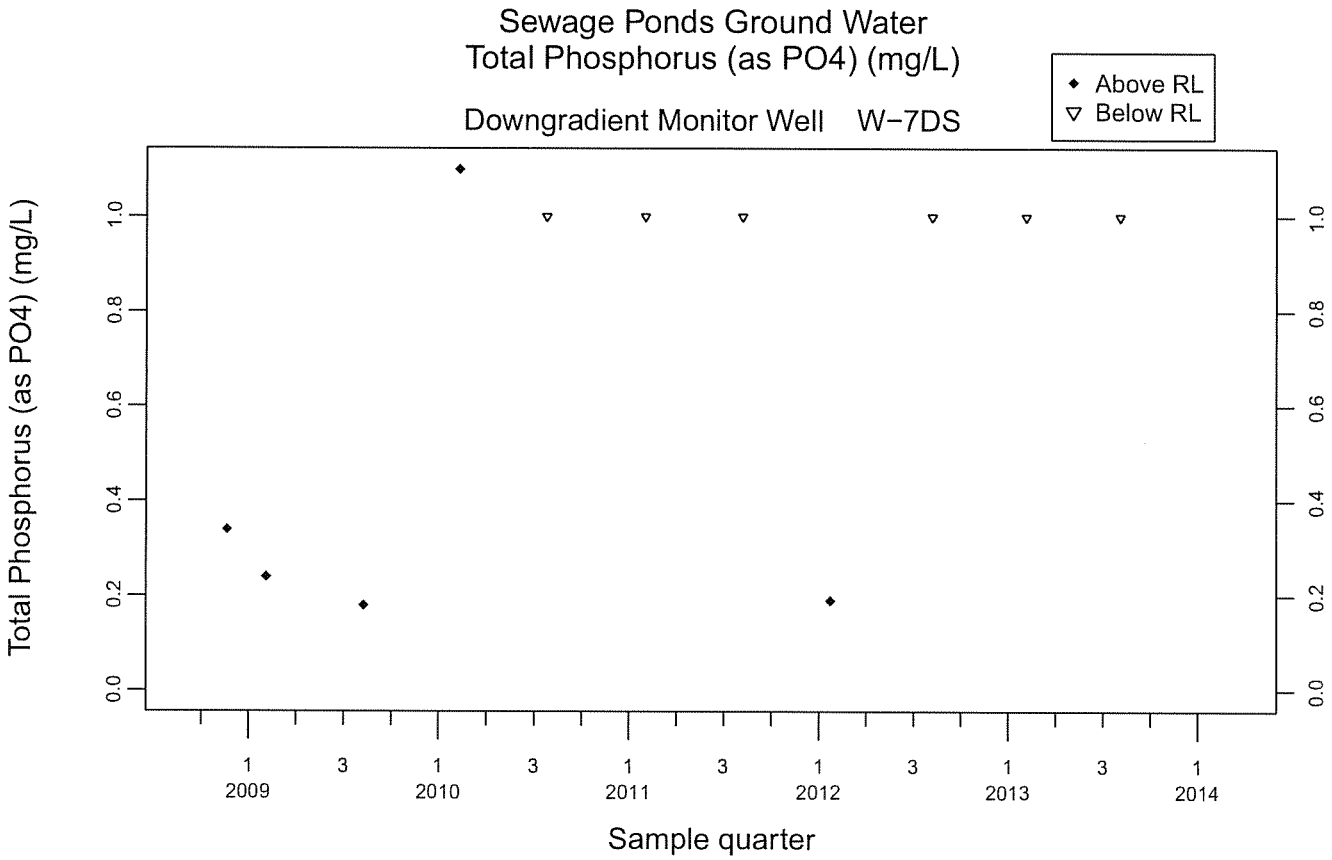

Downgradient Monitor Well W-25N-23
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter


Sewage Ponds Ground Water
Total Phosphorus (as PO4) (mg/L)
Downgradient Monitor Well W-25N-22
Above RL
Below RL
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter


Downgradient Monitor Well W-26R-01
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1 2009
3
1 2010
3
1 2011
3
1 2012
3
1 2013
3
1 2014
Sample quarter


Sewage Ponds Ground Water
Total Phosphorus (as PO4) (mg/L)
Downgradient Monitor Well W-26R-05
Above RL
Below RL
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1
3
2009
2010
2011
2012
2013
2014
Sample quarter


Downgradient Monitor Well W-26R-11
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1
3
2009
2010
2011
2012
2013
2014
Sample quarter


Sewage Ponds Ground Water
Total Phosphorus (as PO4) (mg/L)
Downgradient Monitor Well W-7DS
Above RL
Below RL
Total Phosphorus (as PO4) (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1
3
1
3
1
3
1
3
1
3
1
2009
2010
2011
2012
2013
2014
Sample quarter

All Ground Water Sampling Data

Target Sample Date: 05-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-7ES AREA INFO: S300/GSA/CGSA

DATE: 05-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25107

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: NO3-11

SCREENED INTERVAL (ft-bmp): 18.30 - 28.30 PUMP INTAKE DEPTH: 26.30

CASING DEPTH(installed/sounded)(ft-bmp): 26.80 / 30.10 on 21-JAN-87 CASING VOL (Gal/Time): 9.06 10.4x3w= 31.2 Gal

DEPTH TO WATER(ft-bmp): 18.84 on 28-MAY-13 17.49 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 10.96 12.61 CASING DIAMETER/TCASING HT(in): 4.5 / 3.00

TIME PUMP ON: 1057 INITIAL FLOW RATE (Q=GPM): 2.0 Q

TIME PUMP OFF: 1124 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1103	2.0	10.4	1	7.38	23.4	1509	103	1	17.55
1108	2.0	20.8	2	7.38	23.6	1582	81	1	17.61
1113	2.0	31.2	3	7.39	23.0	1588	-32	1	
1115	2.0			7.40	23.0	1584	-43		
1117	2.0			7.40	23.1	1580	-40		

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90
PROJECT: 3MRP
SAMPLE PRESERVATION/AMT of REAGENT: n/a
PURGE VOL/EXCESS H2O DEST: 27.17 / S300-DRUM
TF LOCATION: S300

QC SAMPLE ID: CGSAFB W-75Y QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME: 1224

SAMPLE ID (VERIFY): W-7ES / 3VES TIME COLLECTED: 1124

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
No Sample ~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	1	250 ml Sterilized Polyethylene

Added 2.3 oz of CC

All Ground Water Sampling Data

Target Sample Date: 06-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-7ES AREA INFO: S300/GSA/CGSA

DATE: 06-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA251078

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: NO3-11

SCREENED INTERVAL (ft-bmp): 18.30 - 28.30 PUMP INTAKE DEPTH: 26.30

CASING DEPTH(installed/sounded)(ft-bmp): 26.80 / 30.10 on 21-JAN-87 CASING VOL (Gal/Time): 9.06 10.4 x3=31.2

DEPTH TO WATER(ft-bmp): 18.84 on 28-MAY-13 17.52 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 10.96 12.58 CASING DIAMETER/TCASING HT(in): 4.5 / 3.00

TIME PUMP ON: 0947 INITIAL FLOW RATE (Q=GPM): 2.0

TIME PUMP OFF: 1011 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
0953		10.4	1	7.39	22.8	1594	137	1	17.58
0958		20.8	2	7.34	22.8	1592	116	1	17.62
1003		31.2	3	7.31	22.7	1589	111	1	17.62
1005				7.31	22.7	1591	109	1	
1007				7.30	22.6	1587	105	1	

METER	SERIAL #	CALIBRATED
pH :	610 4863	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90
PROJECT: 3MRP
SAMPLE PRESERVATION/AMT of REAGENT: NA
PURGE VOL/EXCESS H2O DEST: 27.17 / S300-DRUM
TF LOCATION: S300

QC SAMPLE ID: CGSAFB W-75Y QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME: 1050

SAMPLE ID (VERIFY): W-7ES / 3WE3 TIME COLLECTED: 1011

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

no sample

Evacuated all CL

All Ground Water Sampling Data

Target Sample Date: 08-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-7PS AREA INFO: S300/GSA/CGSA

DATE: 08-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25~~109~~ 10

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-3/NO3-17

SCREENED INTERVAL (ft-bmp): 19.48 - 22.48 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 19.50 / 22.48 on 12-APR-94 CASING VOL (Gal/Time): 18.33 4.4x3=13.2 Gal

DEPTH TO WATER(ft-bmp): 0.00 on 28-MAY-13 17.13 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 22.18 5.35 CASING DIAMETER/TCASING HT(in): 4.5 / 2.68

TIME PUMP ON: 1200 INITIAL FLOW RATE (Q=GPM): 1.0

TIME PUMP OFF: 1222 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1205	1.0	4.4	1	7.43	22.3	1595	159	1	17.80
1209	1.0	8.8	2	7.41	22.5	1584	144	1	17.85
1214	1.0	13.2	3	7.42	23.1	1579	113	1	17.85
1216				7.41	23.0	1580	111		
1218				7.41	23.0	1582	109		

METER	SERIAL #	CALIBRATED
pH :	610863	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 54.98 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-7PS 3VES TIME COLLECTED: 1222

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

NO Sample

Evacuated all CL

NOTE:
Purge rate/time: N/A since est_sus_flow = 0
Purge Volume: 23.7900009 gal.
Revision: 01/18/2013

All Ground Water Sampling Data

Target Sample Date: 07-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-7PS AREA INFO: S300/GSA/CGSA

DATE: 07-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25109

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-3/NO3-17

SCREENED INTERVAL (ft-bmp): 19.48 - 22.48 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 19.50 / 22.48 on 12-APR-94 CASING VOL (Gal/Time): 18.33 4.5x3=13.5

DEPTH TO WATER(ft-bmp): 0.00 on 28-MAY-13 17.10 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 22.18 5.38 CASING DIAMETER/TCASING HT(in): 4.5 / 2.68

TIME PUMP ON: 0906 INITIAL FLOW RATE (Q=GPM): 1.0 Q

TIME PUMP OFF: 0928 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
0911	1.0	4.5	1	7.44	22.3	1588	127	1	17.40
0916	1.0	9	2	7.42	22.5	1587	77	1	17.74
0920	1.0	13.5	3	7.42	22.5	1590	74	1	17.83
0922				7.41	22.5	1579	70		
0924				7.41	22.5	1583	72		

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90
PROJECT: 3MRP
SAMPLE PRESERVATION/AMT of REAGENT: NA
PURGE VOL/EXCESS H2O DEST: 54.98 / S300-DRUM
TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-7PS / 3VES TIME COLLECTED: 0928

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
NO Sample → 3MRP	~~ALPHAANAL~~	~~SM9221~~	~~1~~	~~250 ml Sterilized Polyethylene~~

~~Executed all CL mgs~~

Added 1.0 oz of CL

NOTE:
Purge rate/time: N/A since est_sus_flow = 0
Purge Volume: 23.7900009 gal.
Revision: 01/18/2013

All Ground Water Sampling Data 1st Retest

Target Sample Date: 17-SEP-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-7PS AREA INFO: S300/GSA/CGSA

DATE: 17-Sep-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25125

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-3/NO3-17

SCREENED INTERVAL (ft-bmp): 19.48 - 22.48 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 19.50 / 22.48 on 12-APR-94 CASING VOL (Gal/Time): 18.33 4.0 x 3 = 12 Gal

DEPTH TO WATER(ft-bmp): 0.00 on 28-MAY-13 17.61 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 22.18 4.87 CASING DIAMETER/TCASING HT(in): 4.5 / 2.68

TIME PUMP ON: 1120 INITIAL FLOW RATE (Q=GPM): 1.2

TIME PUMP OFF: MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1124		4.00	1	7.72	24.0	1623	144	1	Top of Pump
1127		8.00	2	7.46	24.2	1609	140	1	Top of Pump
1131		12.00	3	7.43	24.3	1607	141	1	Top of Pump
1133				7.42	24.3	1607	136	1	
1135				7.42	24.3	1600	133	1	

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90
PROJECT: 3MRP
SAMPLE PRESERVATION/AMT of REAGENT: NA
PURGE VOL/EXCESS H2O DEST: 54.98 / S300-DRUM
TF LOCATION: S300

QC SAMPLE ID: W-7PS QC LAB(S): ALPHAANAL QC SAMPLE TIME: 1138

SAMPLE ID (VERIFY): W-7PS / 3VES TIME COLLECTED: 1138

PROJECT	ANALYTICAL LAB	REQUESTED ANALYSIS	QUANTITY	TYPE OF CONTAINERS
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

Retest sample

* Added 1oz of CL on 9/16/13

* Evacuated all CL today 9/17/13

NOTE:
Purge rate/time: N/A since est_sus_flow = 0
Purge Volume: 23.7900009 gal.
Revision: 01/18/2013

All Ground Water Sampling Data

Target Sample Date: 05-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-35A-04 AREA INFO: S300/GSA/CGSA

DATE: 05-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25107

PURGE METHOD/SAMPLE METHOD: Grunfos / 3VES CONTAMINANT PRESENT: ND

SCREENED INTERVAL (ft-bmp): 19.30 - 29.30 PUMP INTAKE DEPTH: 26.28

CASING DEPTH(installed/sounded)(ft-bmp): 29.00 / 28.57 on 14-DEC-09 CASING VOL (Gal/Time): 12.48 13 x 3.00 = 39 Gal

DEPTH TO WATER(ft-bmp): 13.90 on 03-JUN-13 12.78 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 15.10 15.79 CASING DIAMETER/TCASING HT(in): 4.5 / 0.00

TIME PUMP ON: 1339 INITIAL FLOW RATE (Q=GPM): 3.0 a

TIME PUMP OFF: 1403 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1344	3.0	13	1	7.44	22.5	1539	141	1	13.19
1349	3.0	26	2	7.46	22.6	1566	121	1	13.84
1353	3.0	39	3	7.43	22.3	1572	115	1	13.98
1355				7.43	22.4	1570	113	1	
1357				7.42	22.4	1567	111	1	

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90
PROJECT: 3MRP
SAMPLE PRESERVATION/AMT of REAGENT: NA
PURGE VOL/EXCESS H2O DEST: 37.43 / None
TF LOCATION: Ground

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-35A-04 / 3VES TIME COLLECTED: 1403

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	~~1~~	~~250 ml Sterilized Polyethylene~~

NO Sample

Actual 3.0 oz of CL

All Ground Water Sampling Data

Target Sample Date: 06-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-35A-04 AREA INFO: S300/GSA/CGSA

DATE: 06-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25107-6

PURGE METHOD/SAMPLE METHOD: Grunfos / 3VES CONTAMINANT PRESENT: ND

SCREENED INTERVAL (ft-bmp): 19.30 - 29.30 PUMP INTAKE DEPTH: 26.28

CASING DEPTH(installed/sounded)(ft-bmp): 29.00 / 28.57 on 14-DEC-09 CASING VOL (Gal/Time): 12.48 13.

DEPTH TO WATER(ft-bmp): 13.90 on 03-JUN-13 12.84 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 15.10 15.73 CASING DIAMETER/TCASING HT(in): 4.5 / 0.00

TIME PUMP ON: 1136 INITIAL FLOW RATE (Q=GPM): 3.0

TIME PUMP OFF: 1158 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1141	3.0	13	1	7.54	21.1	1590	297	1	13.19
1145	3.0	26	2	7.47	21.7	1584	189	1	13.90
1149	3.0	39	3	7.47	21.9	1576	140	1	14.01
1151				7.47	21.9	1574	138	1	
1153				7.49	21.9	1571	136	1	

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 37.43 / None

TF LOCATION: Ground

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-35A-04 | 3VES TIME COLLECTED: 1158

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

No Samples

Evacuated all CL

All Ground Water Sampling Data

Target Sample Date: 30-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-26R-01 AREA INFO: S300/GSA/EGSA

DATE: 30-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25104

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: *TCE-15/NO3-40

SCREENED INTERVAL (ft-bmp): 22.72 - 27.72 PUMP INTAKE DEPTH: 29.00

CASING DEPTH(installed/sounded)(ft-bmp): 29.80 / 30.00 on 16-NOV-88 CASING VOL (Gal/Time): 9.57 8.6x3=25.8

DEPTH TO WATER(ft-bmp): 20.89 on 28-MAY-13 19.60 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 11.58 10.4 CASING DIAMETER/TCASING HT(in): 4.5 / 2.67

TIME PUMP ON: 1109 INITIAL FLOW RATE (Q=GPM): 1.0

TIME PUMP OFF: 1147 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1118	1.0	8.6	1	7.48	22.7	1457	288	1	22.80
1127	1.0	17.2	2	7.49	22.7	1456	270	1	23.39
1136	1.0	25.8	3	7.48	22.8	1457	245	1	23.44
1138				7.48	22.7	1451	218		
1140				7.47	22.7	1445	230		

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 28.70 / TF-834

TF LOCATION: 834

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-26R-01 / 3V45 TIME COLLECTED: 1147

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	1	~~250 ml Sterilized Polyethylene~~

added 1.5 oz of CL

All Ground Water Sampling Data

Target Sample Date: 31-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-26R-01 AREA INFO: S300/GSA/EGSA

DATE: 31-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA251045

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: *TCE-15/NO3-40

SCREENED INTERVAL (ft-bmp): 22.72 - 27.72 PUMP INTAKE DEPTH: 29.00

CASING DEPTH(installed/sounded)(ft-bmp): 29.80 / 30.00 on 16-NOV-88 CASING VOL (Gal/Time): 9.57 8.6 x 5cu = 23.8

DEPTH TO WATER(ft-bmp): 20.89 on 28-MAY-13 19.58 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 11.58 10.42 CASING DIAMETER/TCASING HT(in): 4.5 / 2.67

TIME PUMP ON: 1115 INITIAL FLOW RATE (Q=GPM): 1.0

TIME PUMP OFF: 1159 MEASURED BY (FLOW METER) GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1124	1.0	8.6	1	7.63	24.0	1457	489	1	22.89
1134	1.0	17.2	2	7.65	24.0	1462	404	1	22.93
1144	1.0	25.8	3	7.59	23.9	1458	356	1	23.39
1146				7.49	22.8	1456	370	1	
1148				7.48	22.8	1459	397	1	
1158		39.30		7.52	22.9	1453	250	1	

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 28.70 / TF-834

TF LOCATION: 834

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-26R-01 / 3VES TIME COLLECTED: 1159

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

NO Sample

Evacuated all cl

All Ground Water Sampling Data

Target Sample Date: 30-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-26R-11 AREA INFO: S300/GSA/EGSA

DATE: 30-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25104

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-1.6/NO3-14

SCREENED INTERVAL (ft-bmp): 18.08 - 28.08 PUMP INTAKE DEPTH: 31.08

CASING DEPTH(installed/sounded)(ft-bmp): 27.00 / 29.28 on 17-MAR-92 CASING VOL (Gal/Time): 8.99 (03/18/2013 30962)

DEPTH TO WATER(ft-bmp): 18.10 on 28-MAY-13 16.78 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 10.88 12.5 CASING DIAMETER/TCASING HT(in): 4.5 / 1.98

TIME PUMP ON: 1311 INITIAL FLOW RATE (Q=GPM): 1.0 Q

TIME PUMP OFF: 1355 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1321	1.0	10.3	1 ~~10.3~~	7.36	23.1	1483	15	1	16.80
1332	1.0	20.6	2 ~~20~~	7.36	22.3	1485	0	1	16.81
1342	1.0	30.9	3	7.37	23.1	1484	1	1	16.83
1344				7.34	22.8	1488	1	1	
1346				7.34	22.6	1480	9	1	

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90
PROJECT: 3MRP
SAMPLE PRESERVATION/AMT of REAGENT: NA
PURGE VOL/EXCESS H2O DEST: 26.97 / S300-DRUM
TF LOCATION: S300

QC SAMPLE ID: W-26R-48Y QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-26R-11 | 3U&S TIME COLLECTED: 1355

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	1	~~250 ml Sterilized Polyethylene~~

Added 2.0 oz of CL

All Ground Water Sampling Data

Target Sample Date: 31-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-26R-11 AREA INFO: S300/GSA/EGSA

DATE: 31-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA251045

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-1.6/NO3-14

SCREENED INTERVAL (ft-bmp): 18.08 - 28.08 PUMP INTAKE DEPTH: 31.08

CASING DEPTH(installed/sounded)(ft-bmp): 27.00 / 29.28 on 17-MAR-92 CASING VOL (Gal/Time): 8.99 (0.48 x 3 = 31.24)

DEPTH TO WATER(ft-bmp): 18.10 on 28-MAY-13 16.76 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 10.88 12.52 CASING DIAMETER/TCASING HT(in): 4.5 / 1.98

TIME PUMP ON: 1215 INITIAL FLOW RATE (Q=GPM): 1.0 Q

TIME PUMP OFF: 1255 MEASURED BY: FLOW METER / GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1226	1.0	10.4	1	7.39	23.2	1490	237	1	16.80
1236	1.0	20.8	2	7.35	22.8	1485	210	1	16.84
1247	1.0	31.2	3	7.35	22.9	1489	184	1	16.84
1249				7.32	22.7	1488	178	1	
1251				7.32	22.8	1490	175	1	

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 26.97 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: W-26R-48Y QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME: 1329

SAMPLE ID (VERIFY): W-26R-11 / 3VES TIME COLLECTED: 1255

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

NO Samples

Evacuated all CL

All Ground Water Sampling Data

Target Sample Date: 05-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-26R-05 AREA INFO: S300/GSA/EGSA

DATE: 05-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25107

PURGE METHOD/SAMPLE METHOD: PB / 90BA CONTAMINANT PRESENT: TCE-3.3/NO3-53

SCREENED INTERVAL (ft-bmp): 22.05 - 27.05 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 25.50 / 26.68 on 10-FEB-91 CASING VOL (Gal/Time): 2.11 2.8 x 90% = 2.52

DEPTH TO WATER(ft-bmp): 24.45 on 28-MAY-13 23.25 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 2.55 3.43 CASING DIAMETER/TCASING HT(in): 4.5 / 1.50

TIME PUMP ON: — INITIAL FLOW RATE (Q=GPM): —

TIME PUMP OFF: — MEASURED BY:FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	~~VOLUMES~~ 90%	pH	TEMP C	SC	mV	OG	DTW
0917		2.5	90%	7.84	20.8	1085	185	1	—

METER	SERIAL #	CALIBRATED
pH :	G10883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: N/A

PURGE VOL/EXCESS H2O DEST: 1.90 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-26R-05 / 90BA TIME COLLECTED: 0924

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
W Sample ~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	1	~~250 ml Sterilized Polyethylene~~

Added .5 oz of CL

NOTE:
Purge rate/time: N/A since est_sus_flow = 0
Purge Volume: 10 gal.
Revision: 01/18/2013

All Ground Water Sampling Data

Target Sample Date: 08-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-26R-05 AREA INFO: S300/GSA/EGSA

DATE: 08-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25~~107~~ 10

PURGE METHOD/SAMPLE METHOD: PB / 90BA CONTAMINANT PRESENT: TCE-3.3/NO3-53

SCREENED INTERVAL (ft-bmp): 22.05 - 27.05 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 25.50 / 26.68 on 10-FEB-91 CASING VOL (Gal/Time): 2.11 (63+90) = 35

DEPTH TO WATER(ft-bmp): 24.45 on 28-MAY-13 25.91 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 2.55 1.77 CASING DIAMETER/TCASING HT(in): 4.5 / 1.50

TIME PUMP ON: — INITIAL FLOW RATE (Q=GPM):

TIME PUMP OFF: — MEASURED BY:FLOW METER/ GRAD CYL / BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1135		1.35	90%	7.76	21.3	1077	172	1	26.20

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 1.90 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-26R-05 TIME COLLECTED: 1145

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

no Samples

Evacuated all CL

NOTE:
Purge rate/time: N/A since est_sus_flow = 0
Purge Volume: 10 gal.
Revision: 01/18/2013

All Ground Water Sampling Data

Target Sample Date: 05-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-7DS AREA INFO: S300/GSA/EGSA

DATE: 05-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25107

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: ND

SCREENED INTERVAL (ft-bmp): 18.80 - 28.80 PUMP INTAKE DEPTH: 27.80

CASING DEPTH(installed/sounded)(ft-bmp): 27.00 / 30.30 on 14-JAN-87 CASING VOL (Gal/Time): 10.42 11.8 x 3 = 35.4

DEPTH TO WATER(ft-bmp): 17.39 on 28-MAY-13 16.05 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 12.61 14.25 CASING DIAMETER/TCASING HT(in): 4.5 / 3.00

TIME PUMP ON: 1014 INITIAL FLOW RATE (Q=GPM): 3.0

TIME PUMP OFF: 1039 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1018	3.0	11.8	1	7.42	21.3	1541	176	1	16.18
1023	3.0	23.6	2	7.43	20.9	1550	169	1	16.19
1027	3.0	35.4	3	7.41	21.0	1555	135	1	16.21
1029	3.0			7.40	20.9	1553	132	1	
1031	3.0			7.40	20.9	1551	132	1	

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 31.26 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: EGSAFB QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-7DS/3VES TIME COLLECTED: 1039

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
No Sample ~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	~~1~~	~~250 ml Sterilized Polyethylene~~

Added 3.0 oz of CL

All Ground Water Sampling Data

Target Sample Date: 06-AUG-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-7DS AREA INFO: S300/GSA/EGSA

DATE: 06-Aug-2013 LOG BOOK (DOCUMENT CONTROL) #: AA251078

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: ND

SCREENED INTERVAL (ft-bmp): 18.80 - 28.80 PUMP INTAKE DEPTH: 27.80

CASING DEPTH(installed/sounded)(ft-bmp): 27.00 / 30.30 on 14-JAN-87 CASING VOL (Gal/Time): 10.42 11.7 x 3 = 35.1

DEPTH TO WATER(ft-bmp): 17.39 on 28-MAY-13 1611 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 12.61 1419 CASING DIAMETER/TCASING HT(in): 4.5 / 3.00

TIME PUMP ON: 0843 INITIAL FLOW RATE (Q=GPM): 3.0

TIME PUMP OFF: 0903 MEASURED BY: FLOW METER / GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
0847	3.0	11.7	1	7.49	21.1	1545	212	1	16.12
0851	3.0	23.4	2	7.39	20.8	1556	173	1	16.15
0855	3.0	35.1	3	7.38	20.7	1556	163	1	16.20
0857				7.39	20.7	1557	160	1	
0859				7.39	20.6	1561	158		

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: na

PURGE VOL/EXCESS H2O DEST: 31.26 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: EGSAFB QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME: 0903

SAMPLE ID (VERIFY): W-7DS / 3VES TIME COLLECTED: 0903

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	E245.2	1	1 L Polyethylene
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

NO sample

Evacuated all CL

All Ground Water Sampling Data

Target Sample Date: 30-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-25N-22 AREA INFO: S300/GSA/EGSA

DATE: 30-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25104

PURGE METHOD/SAMPLE METHOD: Grundfos / 3VES CONTAMINANT PRESENT: TCE-1.2

SCREENED INTERVAL (ft-bmp): 20.80 - 30.80 PUMP INTAKE DEPTH: 31.05

CASING DEPTH(installed/sounded)(ft-bmp): 28.50 / 32.50 on 09-JAN-12 CASING VOL (Gal/Time): 4.79 5.8x3=17.4

DEPTH TO WATER(ft-bmp): 25.20 on 28-MAY-13 ~~25.54~~ 25.51 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 5.80 6.99 ~~7.99~~ CASING DIAMETER/TCASING HT(in): 4.5 / 2.50

TIME PUMP ON: 0927 INITIAL FLOW RATE (Q=GPM):

TIME PUMP OFF: 0954 MEASURED BY:FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
0933	1.0	5.8	1	7.47	21.9	1581	38	1	27.39
0939	1.0	11.6	2	7.49	22.1	1585	41	1	28.50
0945	1.0	17.4	3	7.47	22.2	1589	20	1	29.55
0947				7.48	22.1	1592	28	1	
0949				7.48	22.1	1589	26	1	

METER SERIAL # CALIBRATED

pH : 610843 ~~610844~~ YES/NO

SC : YES/NO

mV : YES/NO

H2O: YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 14.38 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: - QC LAB(S): - QC SAMPLE TIME: -

SAMPLE ID (VERIFY): W-25N-22 / 3VES TIME COLLECTED: 0954

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
No Sample ~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	1	~~250 ml Sterilized Polyethylene~~

Beginning purge water was very turbid. Cleared up after a gallon or so

Added 1.5 oz of CL

Revision: 01/18/2013

All Ground Water Sampling Data

Target Sample Date: 31-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-25N-22 AREA INFO: S300/GSA/EGSA

DATE: 31-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA251045

PURGE METHOD/SAMPLE METHOD: Grundfos / 3VES CONTAMINANT PRESENT: TCE-1.2

SCREENED INTERVAL (ft-bmp): 20.80 - 30.80 PUMP INTAKE DEPTH: 31.05

CASING DEPTH(installed/sounded)(ft-bmp): 28.50 / 32.50 on 09-JAN-12 CASING VOL (Gal/Time): 4.79 6 x 3 = 18 Gal

DEPTH TO WATER(ft-bmp): 25.20 on 28-MAY-13 25.45 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 5.80 7.05 CASING DIAMETER/TCASING HT(in): 4.5 / 2.50

TIME PUMP ON: 0930 INITIAL FLOW RATE (Q=GPM): 1.0 Q

TIME PUMP OFF: 0957 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
0936	1.0	6	1	7.59	21.7	1593	107	1	27.00
0942	1.0	12	2	7.52	22.3	1581	68	1	29.64
0948	1.0	18	3	7.49	22.4	1594	80	1	* NM
0950				7.51	22.5	1593	84		
0952				7.51	22.5	1589	80		

METER	SERIAL #	CALIBRATED
pH :	610463	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 14.38 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-25N-22 / 2443 TIME COLLECTED: 0957

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

No Sample

* Hitting top of pump

Evacuated all CL

All Ground Water Sampling Data

Target Sample Date: 30-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-25N-23 AREA INFO: S300/GSA/EGSA

DATE: 30-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA25104

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: *TCE-6.0

SCREENED INTERVAL (ft-bmp): 21.80 - 36.80 PUMP INTAKE DEPTH: 35.70

CASING DEPTH(installed/sounded)(ft-bmp): 35.30 / 37.15 on 09-JAN-12 CASING VOL (Gal/Time): 12.18 (2.6 x 3 = 37.8

DEPTH TO WATER(ft-bmp): 23.06 on 28-MAY-13 21.88 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 14.74 15.27 CASING DIAMETER/TCASING HT(in): 4.5 / 2.50

TIME PUMP ON: 1004 INITIAL FLOW RATE (Q=GPM): 1.0

TIME PUMP OFF: 1053 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1017	1.0	12.6	1	7.32	23.0	1425	65	1	23.13
1030	1.0	25.2	2	7.27	22.8	1430	61	1	23.29
1043	1.0	37.8	3	7.24	22.6	1434	60	1	23.33
1045				7.22	22.5	1436	55		
1047									

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90
PROJECT: 3MRP
SAMPLE PRESERVATION/AMT of REAGENT: NA
PURGE VOL/EXCESS H2O DEST: 36.53 / S300-DRUM
TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-25N-23/3VES TIME COLLECTED: 1053

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
~~3MRP~~	~~ALPHAANAL~~	~~SM9221~~	1	~~250 ml Sterilized Polyethylene~~

Added 1.5 oz of CL

All Ground Water Sampling Data

Target Sample Date: 31-JUL-2013 Month: Norm Qtr: 3 Norm Year: 2013

WELL ID: W-25N-23 AREA INFO: S300/GSA/EGSA

DATE: 31-Jul-2013 LOG BOOK (DOCUMENT CONTROL) #: AA2510~~4~~5

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: *TCE-6.0

SCREENED INTERVAL (ft-bmp): 21.80 - 36.80 PUMP INTAKE DEPTH: 35.70

CASING DEPTH(installed/sounded)(ft-bmp): 35.30 / 37.15 on 09-JAN-12 CASING VOL (Gal/Time): 12.18 12.613.5 37.8

DEPTH TO WATER(ft-bmp): 23.06 on 28-MAY-13 21.84 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 14.74 15.31 CASING DIAMETER/TCASING HT(in): 4.5 / 2.50

TIME PUMP ON: 1010 INITIAL FLOW RATE (Q=GPM): 1.0

TIME PUMP OFF: 1057 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

TIME	Q	GAL PURGED	VOLUMES	pH	TEMP C	SC	mV	OG	DTW
1023		12.6	1	7.28	22.4	1445	38	1	23.12
1035		25.2	2	7.30	22.5	1439	69	1	23.33
1048		37.8	3	7.32	22.6	1438	65	1	23.40
1050				7.33	22.5	1430	63	1	
1052				7.33	22.5	1427	66		

METER	SERIAL #	CALIBRATED
pH :	610883	YES/NO
SC :		YES/NO
mV :		YES/NO
H2O:		YES/NO

SAMPLER/EMPLOYER: silva90

PROJECT: 3MRP

SAMPLE PRESERVATION/AMT of REAGENT: NA

PURGE VOL/EXCESS H2O DEST: 36.53 / S300-DRUM

TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —

SAMPLE ID (VERIFY): W-25N-23/3VES TIME COLLECTED: 1057

PROJECT	/ ANALYTICAL LAB	/ REQUESTED ANALYSIS	/ QUANTITY	/ TYPE OF CONTAINERS
3MRP	BCLABS-BAK	S3ANIONS	1	250 ml Polyethylene
3MRP	BCLABS-BAK	S3METALS	1	500ml Polyethylene
3MRP	BCLABS-BAK	S3METALS:FILTER	0	500ml Polyethylene
3MRP	BCLABS-BAK	S3WETCHEM	2	500ml Polyethylene
3MRP	ALPHAANAL	SM9221	1	250 ml Sterilized Polyethylene

NO Sample

Evacuated all CL

Appendix B

Cooling Tower Network

Cooling Tower Blow Down Effluent Monitoring Network with Discharges to Percolation Pits (Bldgs. 801, 812, 817A, 825, 826, 827A, and 851) and Cooling Tower Percolation Pit Inspection Forms

Table B-1. Site 300 cooling tower wastewater monitoring network second semester 2013 anions data summary.

Building/Location	Date	Sodium (mg/L)	Chloride (mg/L)	Nitrate (as NO3) (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)
3-801ACT01-TW	May 15	1,200	530	2.7	1,000	2.5
3-817ACT01-TW	May 15	240	91	<0.5	180	0.32
3-817ACT01-TW	Oct 10	210	88	<0.5	180	0.34
3-825ACT01-TW	May 15	240	88	<0.5	170	0.33
3-825ACT01-TW	Oct 10	210	85	<0.5	170	0.33
3-826FCT01-TW	May 15	240	91	<0.5	180	0.34
3-826FCT01-TW	Oct 10	210	86	<0.5	170	0.35
3-827ACT01-TW	May 15	300	120	<1	240	0.46
3-827ACT01-TW	Oct 10	250	99	<0.5	200	0.40
3-851BFCT03-TW	May 15	840	340	<2.5	670	1.2

Table B–2. Site 300 cooling tower wastewater monitoring network second semester/annual 2013 metals analysis data summary.

Analyte (μg/L)	Month	3-801ACT01-TW	3-817ACT01-TW	3-825ACT01-TW	3-826FCT01-TW	3-827ACT01-TW	3-851BFCT03-TW
Aluminum	Q2	<100	<50	<50	<50	<50	<50
	Q4	–	<50	<50	<50	<50	–
Arsenic	Q2	<2	<2	<2	<2	<2	<2
	Q4	–	<2	<2	<2	<2	–
Barium	Q2	53	<25	<25	<25	<25	<25
	Q4	–	<25	<25	<25	<25	–
Boron	Q2	5,600	980	950	1,000	1,200	3,600
	Q4	–	910	890	880	1000	–
Cadmium	Q2	<50	<50	<50	<50	<50	<50
	Q4	–	<50	<50	<50	<50	–
Calcium	Q2	46,000	8,800	8,300	8,600	11,000	14,000
	Q4	–	8,800	11,000	11,000	14,000	–
Chromium	Q2	1.9	<1	<1	<1	<1	2.0
	Q4	–	<1	<1	1.0	<1	–
Hexavalent Chromium	Q2	<1	<1	<1	<1	<1	1.4
	Q4	–	<1	<1	<1	<1	–
Copper	Q2	11	8.5	5.3	2.2	8.4	6.2
	Q4	–	18	3.2	1.2	4.0	–
Iron	Q2	310	110	<100	<100	<100	360
	Q4	–	330	<100	100	150	–
Lead	Q2	<5	<5	<5	<5	<5	<5
	Q4	–	<5	<5	<5	<5	–
Magnesium	Q2	<1,000	<500	<500	<500	<500	<500
	Q4	–	<500	<500	<500	<500	–
Manganese	Q2	<60	<30	<30	<30	<30	<30
	Q4	–	<30	<30	<30	<30	–
Mercury	Q2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Q4	–	<0.2	<0.2	<0.2	<0.2	–
Molybdenum	Q2	120	<25	<25	<25	26	75
	Q4	–	<25	<25	<25	<25	–
Nickel	Q2	<2	<2	<2	<2	<2	<2
	Q4	–	<2	<2	<2	<2	–
Potassium	Q2	55,000	9,200	8,800	9,100	11,000	33,000
	Q4	–	10,000	9,900	10,000	12,000	–
Selenium	Q2	2.0	<2	<2	<2	<2	<2
	Q4	–	<2	<2	<2	<2	–
Silver	Q2	<2	<1	<1	<1	<1	<1
	Q4	–	<1	<1	<1	<1	–
Vanadium	Q2	<20	<20	<20	<20	<20	<20
	Q4	–	<20	<20	<20	<20	–
Zinc	Q2	34	46	40	22	<20	21
	Q4	–	320	<20	<20	20	–

Table B-3. Site 300 cooling tower wastewater monitoring network second semester/annual 2013 physical characteristics data summary.

Building Location	Well	Date	pH	Specific Conductance (µmhos/cm)	Total Alkalinity (as CaCO3) (mg/L)	Total dissolved solids (mg/L)	Total Hardness (as CaCO3) (mg/L)	Total Phosphorus (as PO4) (mg/L)
801	3-801ACT01-TW	May 15	9.4	5,320	1,200	3,900	120	9.4
817	3-817ACT01-TW	May 15	8.6	1,100	220	730	23	0.20
817	3-817ACT01-TW	Oct 10	8.6	1,100	220	790	24	<0.15
825	3-825ACT01-TW	May 15	8.5	1,060	210	710	22	0.16
825	3-825ACT01-TW	Oct 10	8.6	1,070	210	750	28	<0.15
826	3-826FCT01-TW	May 15	9.0	1,100	210	740	23	0.24
826	3-826FCT01-TW	Oct 10	8.7	1,070	220	710	28	<0.15
827	3-827ACT01-TW	May 15	8.9	1,450	290	990	29	0.51
827	3-827ACT01-TW	Oct 10	8.8	1,240	260	850	37	0.15
851	3-851BFCT03-TW	May 15	9.3	3,740	740	2,700	35	0.44

FIELD TRACKING FORM

Semi-Annual SITE 300 Cooling Towers

Special Instructions:
Should be sampled in early April and October.
See back of form for additional access information

LAB	CoC#	Ship It #
BC Labs	61373	178619

pH meter calibrated on: 10/10
Specific Conductance meter calibrated on: 10/10

Sample Date: 10/10/13

Location Indentifier	Location DUP taken -year/quarter	Sample Time	Initials	Field Measurments		BC Labs				Comments
				pH	Specific Conductance	S3METALS 500mL Poly	S3ANIONS 500mL Poly	S3WETCHEM 1000mL Poly		
3-801ACT01-TW	2012/2nd									801 offline due to perc pit flooding problem.
~~3-809ACT01-TW~~	~~2012/4th~~									GONE
3-812AFCT01-TW	2008/4th	Not in use								851 - no flow at sample point
3-817ACT01-TW	2010/2nd	9:10	KB, CR	8.98	1001 µS	1	1	1		
3-825ACT01-TW	2013/2nd	9:20	KB, CR	8.82	929 µS	1	1	1		
3-826FCT01-TW	2013/4th	9:30	KB, CR	8.84	929 µS	1	1	1		
3-827ACT01-TW	2011/2nd	9:40	KB, CR	8.85	1065 µS	1	1	1		
3-851BFCT03-TW	2011/4th	~~9:50~~ 10:05								
Duplicate of 3-826FCT01-TW										
3-B9900-01-TW		9:30								

☑ Copy to Analyst, Rick Blake.

Rev. 7-10-13

Chain of Custody

EFA: EMAD/PRAD/ESPD
Lawrence Livermore National Laboratory
P.O. Box 808 L-629
Livermore, CA 94551

Work Authorized By: EFA
TRR Approver: Della Burruss
Project Info:

Access/COC #: 61373
Document Control #: 61373
Requester/LLNL Analyst: R. Blake
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 39355
PCI Task #: 1.03.02.07.02.05
Fax/Email #1: swanson15@llnl.gov
DMT Additional Copies:

Analytical Lab : BCLABS-BAK
TAT: 20d
Analytical Lab Log #:
Project/Network: COOLTOWER
LLNL Acct #: 3297-47
Release #: UNICARD
Fax/Email #2:

Additional Instructions:

Sample ID	Sampled Date/Time	Matrix	Cont. Type	Cont. Count	Study Area	Req. Analysis	Analysis Detail	Lab Instructions
3-817ACT01-01-TW	10/10/2013 09:10	TW	P	1	COOLTOWER	S3ANIONS	ALL	
3-817ACT01-01-TW	10/10/2013 09:10	TW	P	0	COOLTOWER	S3METALS	ALL	
3-817ACT01-01-TW	10/10/2013 09:10	TW	P	1	COOLTOWER	S3METALS	TOTAL	
3-817ACT01-01-TW	10/10/2013 09:10	TW	P	1	COOLTOWER	S3WETCHEM	ALL	
3-825ACT01-01-TW	10/10/2013 09:20	TW	P	1	COOLTOWER	S3ANIONS	ALL	
3-825ACT01-01-TW	10/10/2013 09:20	TW	P	0	COOLTOWER	S3METALS	ALL	
3-825ACT01-01-TW	10/10/2013 09:20	TW	P	1	COOLTOWER	S3METALS	TOTAL	
3-825ACT01-01-TW	10/10/2013 09:20	TW	P	1	COOLTOWER	S3WETCHEM	ALL	
3-826FCT01-01-TW	10/10/2013 09:30	TW	P	1	COOLTOWER	S3ANIONS	ALL	
3-826FCT01-01-TW	10/10/2013 09:30	TW	P	0	COOLTOWER	S3METALS	ALL	
3-826FCT01-01-TW	10/10/2013 09:30	TW	P	1	COOLTOWER	S3METALS	TOTAL	
3-826FCT01-01-TW	10/10/2013 09:30	TW	P	1	COOLTOWER	S3WETCHEM	ALL	
3-827ACT01-01-TW	10/10/2013 09:40	TW	P	1	COOLTOWER	S3ANIONS	ALL	
3-827ACT01-01-TW	10/10/2013 09:40	TW	P	0	COOLTOWER	S3METALS	ALL	
3-827ACT01-01-TW	10/10/2013 09:40	TW	P	1	COOLTOWER	S3METALS	TOTAL	
3-827ACT01-01-TW	10/10/2013 09:40	TW	P	1	COOLTOWER	S3WETCHEM	ALL	
3-B9900-01-TW	10/10/2013 09:30	TW	P	1	COOLTOWER	S3ANIONS	ALL	
3-B9900-01-TW	10/10/2013 09:30	TW	P	0	COOLTOWER	S3METALS	ALL	
3-B9900-01-TW	10/10/2013 09:30	TW	P	1	COOLTOWER	S3METALS	TOTAL	
3-B9900-01-TW	10/10/2013 09:30	TW	P	1	COOLTOWER	S3WETCHEM	ALL	

Relinquished Signature	Company	Date	Time	Received Signature	Company	Date	Time
1	LLNL/EFA	10/10/2013		2			
2				3			
3				4			
4				5			

Revision Printed: 04/23/2013/15/28/13

Signature Order - 1: Sampler, 2: Courier, 3: Lab, 4: Analyst, 5: DMT

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-4-13 Inspector D. Larsson Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-4-13 Inspector D. Larsen Building Number 817-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-5-13 Inspector D. Lanorum Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8-21-13 Inspector D. Lauritsen Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8-21-13 Inspector D. LAVORUM Building Number 809

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8-21-13 Inspector D. LANDRUM Building Number 817-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8-22-13 Inspector D. Landrum Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8-22-13 Inspector D. LANDRUM Building Number 827-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8-22-13 Inspector D. LaNorum Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-10-13 Inspector D. Lausam Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	~~Yes~~/No	OVER FLOW AT SOME TIME (WK)
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	~~Yes~~/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	~~Yes~~/No	DIRT, SCALE
If yes to any of the above, note date, actions taken, and type of repairs when made.		DATE UNKNOWN, I WAS GONE ON TWO WEEKS VACATION

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-10-13 Inspector D. LaNorem Building Number 809

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-10-13 Inspector D Hansen Building Number 817-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made!		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-13-13 Inspector D. Lawson Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-13-17 Inspector D. Hassan Building Number 827-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made:		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-13-17 Inspector D. Hanora Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-8-13 Inspector D. Lauzrum Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	~~Yes~~/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	~~Yes~~/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		About 1"
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	~~Yes~~/No	Scale, Dirt
If yes to any of the above, note date, actions taken, and type of repairs when made.		10-8-13

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-5-13 Inspector D. Lavorna Building Number 809

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-8-13 Inspector D. Lanham Building Number 817-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made!		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-9-13 Inspector D. Hansen Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-5-12 Inspector D. LANDRUM Building Number 827-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-9-13 Inspector D. LAUBRUM Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made:		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-6-13 Inspector D. LANDRUM Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-6-13 Inspector D. LANDRUM Building Number 809

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-6-13 Inspector D. LAUGRAN Building Number 817-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-13-13 Inspector D. LANDRUM Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-13-13 Inspector D. Lindram Building Number 827-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made!		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-13-13 Inspector D. Laubrum Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-3-13 Inspector D. LAUDRUM Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	~~Yes~~/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		APPROX. 3"
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-3-13 Inspector D. LANDRUM Building Number 809

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-3-13 Inspector D. LANDAUM Building Number 817-A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-4-13 Inspector D. Lawson Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	~~Yes~~/No	Approx. 1"
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-4-13 Inspector D. LANDMAN Building Number 827-A

Instructions: Circle the appropriate response for each Item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	~~Yes~~/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		APPROX. 2"
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

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For Buildings 801, 809, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-4-13 Inspector D. LANDRUM Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), EPD.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/~~No~~	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/~~No~~	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/~~No~~	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/~~No~~	
If yes to any of the above, note date, actions taken, and type of repairs when made:		

Supervisor's Signature _____ Date _____

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Appendix C

Mechanical Room Network

Mechanical Equipment Discharge Effluent Monitoring for Buildings 806B and 827A, 827C, 827D, and 827E Mechanical Equipment Room Percolation Pit Inspection Forms

Table C-1. Site 300 mechanical equipment discharge effluent monitoring second semester 2013 anions data summary.

Well	Date	Sodium mg/L	Chloride mg/L	Nitrate (as NO3) mg/L	Sulfate mg/L	Fluoride mg/L
3-B806B-OW	May 7	220	89	<0.5	170	0.34
3-B806B-OW	Oct 8	210	89	<0.5	180	0.34
3-B827A-OW	May 8	230	92	<0.5	190	0.34
3-B827C-OW	May 8	250	91	<0.5	190	0.32
3-B827C-OW	May 8 DUP	270	91	<0.5	190	0.33
3-B827C-OW	Oct 3	1,000	410	<2.5	690	1.6
3-B827D-OW	May 9	220	93	0.65	180	0.32
3-B827D-OW	Oct 2	280	130	0.86	230	0.37
3-B827E-OW	May 7	210	88	<0.5	170	0.32
3-B827E-OW	Oct 2	270	110	<0.5	240	0.42
3-B827E-OW	Oct 2 DUP	270	110	<0.5	240	0.42

Table C–2. Site 300 mechanical equipment discharge effluent monitoring second semester/annual 2013 metals data summary.

Analyte	Date	3-B806B-OW	3-B827A-OW	3-B827C-OW	3-B827C-OW DUP	3-B827D-OW	3-B827E-OW	3-B827E-OW DUP
Aluminum (µg/L)	May 7	<50	–	–	–	–	<50	–
	May 8	–	<50	<50	<50	–	–	–
	May 9	–	–	–	–	<50	–	–
	Oct 2	–	–	–	–	<50	<50	<50
	Oct 3	–	–	<100	–	–	–	–
	Oct 8	<50	–	–	–	–	–	–
Arsenic (µg/L)	May 7	<2	–	–	–	–	<2	–
	May 8	–	<2	<2	<2	–	–	–
	May 9	–	–	–	–	<2	–	–
	Oct 2	–	–	–	–	<2	<2	<2
	Oct 3	–	–	<2	–	–	–	–
	Oct 8	<2	–	–	–	–	–	–
Barium (µg/L)	May 7	<25	–	–	–	–	<25	–
	May 8	–	<25	<25	<25	–	–	–
	May 9	–	–	–	–	<25	–	–
	Oct 2	–	–	–	–	<25	<25	<25
	Oct 3	–	–	<25	–	–	–	–
	Oct 8	<25	–	–	–	–	–	–
Boron (µg/L)	May 7	920	–	–	–	–	930	–
	May 8	–	980	1,000	990	–	–	–
	May 9	–	–	–	–	950	–	–
	Oct 2	–	–	–	–	1,200	1,100	1,100
	Oct 3	–	–	4,200	–	–	–	–
	Oct 8	890	–	–	–	–	–	–
Cadmium (µg/L)	May 7	<50	–	–	–	–	<50	–
	May 8	–	<50	<50	<50	–	–	–

Table C–2. Site 300 mechanical equipment discharge effluent monitoring second semester/annual 2013 metals data summary.

Analyte	Date	3-B806B-OW	3-B827A-OW	3-B827C-OW	3-B827C-OW DUP	3-B827D-OW	3-B827E-OW	3-B827E-OW DUP
	May 9	–	–	–	–	<50	–	–
	Oct 2	–	–	–	–	<50	<50	<50
	Oct 3	–	–	<50	–	–	–	–
	Oct 8	<50	–	–	–	–	–	–
Calcium (µg/L)	May 7	7,800	–	–	–	–	11,000	–
	May 8	–	9,200	1,100	1,100	–	–	–
	May 9	–	–	–	–	11,000	–	–
	Oct 2	–	–	–	–	7,300	19,000	19,000
	Oct 3	–	–	1,500	–	–	–	–
	Oct 8	8,500	–	–	–	–	–	–
Chromium (µg/L)	May 7	<1	–	–	–	–	<1	–
	May 8	–	<1	<1	<1	–	–	–
	May 9	–	–	–	–	<1	–	–
	Oct 2	–	–	–	–	<1	<1	<1
	Oct 3	–	–	<1	–	–	–	–
	Oct 8	<1	–	–	–	–	–	–
Chromium (VI) (µg/L)	May 7	<1	–	–	–	–	<1	–
	May 8	–	<1	<1	<1	–	–	–
	May 9	–	–	–	–	<1	–	–
	Oct 2	–	–	–	–	<2	<2	<2
	Oct 3	–	–	<2	–	–	–	–
	Oct 8	<1	–	–	–	–	–	–
Copper (µg/L)	May 7	52	–	–	–	–	15	–
	May 8	–	8.4	37	36	–	–	–
	May 9	–	–	–	–	23	–	–
	Oct 2	–	–	–	–	53	17	17

Table C–2. Site 300 mechanical equipment discharge effluent monitoring second semester/annual 2013 metals data summary.

Analyte	Date	3-B806B-OW	3-B827A-OW	3-B827C-OW	3-B827C-OW DUP	3-B827D-OW	3-B827E-OW	3-B827E-OW DUP
	Oct 3	–	–	44	–	–	–	–
	Oct 8	26	–	–	–	–	–	–
Iron (µg/L)	May 7	<100	–	–	–	–	160	–
	May 8	–	260	1,700	1,800	–	–	–
	May 9	–	–	–	–	480	–	–
	Oct 2	–	–	–	–	680	260	270
	Oct 3	–	–	1,100	–	–	–	–
	Oct 8	<100	–	–	–	–	–	–
Lead (µg/L)	May 7	<5	–	–	–	–	<5	–
	May 8	–	<5	<5	<5	–	–	–
	May 9	–	–	–	–	<5	–	–
	Oct 2	–	–	–	–	<5	<5	<5
	Oct 3	–	–	<5	–	–	–	–
	Oct 8	<5	–	–	–	–	–	–
Magnesium (µg/L)	May 7	<500	–	–	–	–	<500	–
	May 8	–	<500	<500	<500	–	–	–
	May 9	–	–	–	–	<500	–	–
	Oct 2	–	–	–	–	<500	510	510
	Oct 3	–	–	<1,000	–	–	–	–
	Oct 8	<500	–	–	–	–	–	–
Manganese (µg/L)	May 7	<30	–	–	–	–	<30	–
	May 8	–	<30	<30	<30	–	–	–
	May 9	–	–	–	–	<30	–	–
	Oct 2	–	–	–	–	<30	<30	<30
	Oct 3	–	–	<60	–	–	–	–

Table C–2. Site 300 mechanical equipment discharge effluent monitoring second semester/annual 2013 metals data summary.

Analyte	Date	3-B806B-OW	3-B827A-OW	3-B827C-OW	3-B827C-OW DUP	3-B827D-OW	3-B827E-OW	3-B827E-OW DUP
	Oct 8	<30	–	–	–	–	–	–
Mercury (µg/L)	May 7	<0.2	–	–	–	–	<0.2	–
	May 8	–	<0.2	<0.2	<0.2	–	–	–
	May 9	–	–	–	–	<0.2	–	–
	Oct 2	–	–	–	–	<0.2	<0.2	<0.2
	Oct 3	–	–	<0.2	–	–	–	–
	Oct 8	<0.2	–	–	–	–	–	–
Molybdenum (µg/L)	May 7	<25	–	–	–	–	<25	–
	May 8	–	<25	<25	<25	–	–	–
	May 9	–	–	–	–	<25	–	–
	Oct 2	–	–	–	–	<25	<25	<25
	Oct 3	–	–	87	–	–	–	–
	Oct 8	<25	–	–	–	–	–	–
Nickel (µg/L)	May 7	<2	–	–	–	–	<2	–
	May 8	–	<2	<2	<2	–	–	–
	May 9	–	–	–	–	<2	–	–
	Oct 2	–	–	–	–	<2	<2	<2
	Oct 3	–	–	<10	–	–	–	–
	Oct 8	<2	–	–	–	–	–	–
Potassium (µg/L)	May 7	8,400	–	–	–	–	8,700	–
	May 8	–	8,900	12,000	12,000	–	–	–
	May 9	–	–	–	–	9,600	–	–
	Oct 2	–	–	–	–	17,000	21,000	21,000
	Oct 3	–	–	51,000	–	–	–	–
	Oct 8	9,700	–	–	–	–	–	–
Selenium (µg/L)	May 7	<2	–	–	–	–	<2	–

Table C–2. Site 300 mechanical equipment discharge effluent monitoring second semester/annual 2013 metals data summary.

Analyte	Date	3-B806B-OW	3-B827A-OW	3-B827C-OW	3-B827C-OW DUP	3-B827D-OW	3-B827E-OW	3-B827E-OW DUP
	May 8	–	<2	<2	<2	–	–	–
	May 9	–	–	–	–	<2	–	–
	Oct 2	–	–	–	–	<2	<2	<2
	Oct 3	–	–	<2	–	–	–	–
	Oct 8	<2	–	–	–	–	–	–
Silver (µg/L)	May 7	<1	–	–	–	–	<1	–
	May 8	–	<10	<10	<10	–	–	–
	May 9	–	–	–	–	<10	–	–
	Oct 2	–	–	–	–	<10	<10	<10
	Oct 3	–	–	<1	–	–	–	–
	Oct 8	<1	–	–	–	–	–	–
Vanadium (µg/L)	May 7	<20	–	–	–	–	<20	–
	May 8	–	<20	<20	<20	–	–	–
	May 9	–	–	–	–	<20	–	–
	Oct 2	–	–	–	–	<20	<20	<20
	Oct 3	–	–	<100	–	–	–	–
	Oct 8	<20	–	–	–	–	–	–
Zinc (µg/L)	May 7	<20	–	–	–	–	<20	–
	May 8	–	33	<20	<20	–	–	–
	May 9	–	–	–	–	<20	–	–
	Oct 2	–	–	–	–	26	<20	<20
	Oct 3	–	–	<20	–	–	–	–
	Oct 8	<20	–	–	–	–	–	–

Note:
– = Sampling not required, sampling was performed for that analyte on a different date.

Table C-3. Site 300 mechanical equipment discharge effluent monitoring second semester/annual 2013 physical data.

Well	Date	pH (Units)	Specific Conductance (μmhos/cm)	Total Alkalinity (as CaCO3) (mg/L)	Total dissolved solids (TDS) (mg/L)	Total Hardness (as CaCO3) (mg/L)	Total Phosphorus (as PO4) (mg/L)
3-B806B-OW	May 7	8.5	994	210	720	21	<0.15
3-B806B-OW	Oct 8	8.6	1,050	230	700	23	<0.15
3-B806B-OW	May 7	8.5	994	210	720	21	<0.15
3-B806B-OW	Oct 8	8.6	1,050	230	700	23	<0.15
3-B827A-OW	May 8	8.3	1,050	220	760	24	0.24
3-B827C-OW	May 8	9.0	1,120	250	780	3.2	0.78
3-B827C-OW	May 8 DUP	9.0	1,130	250	800	3.2	0.76
3-B827C-OW	Oct 3	10.1	4,370	950	3,100	3.7	1.5
3-B827D-OW	May 9	8.8	1,060	220	750	28	0.26
3-B827D-OW	Oct 2	8.8	1,350	260	900	20	0.48
3-B827E-OW	May 7	8.6	1,040	210	720	28	0.15
3-B827E-OW	Oct 2	9.1	1,370	280	940	49	5.3
3-B827E-OW	Oct 2 DUP	9.1	1,370	280	940	49	5.3

FIELD TRACKING FORM

Semi-Annual Site 300 Mechanical Equipment Room/Percolation Pit Discharge

Special Instructions: Should be sampled in early April and October.
See back of form for additional access information
** For 3-CT-PERC-01-OW Contact FPOC; Off-road travel

LAB	CoC#	Ship It #
BC Labs	61429	178387

pH meter calibrated on: 10/2/13
Specific Conductance meter calibrated on: 10/2/13

Sample Date: 10/2/13

			Field Meas		BC Labs				Comments
Location Indentifier	Sample Time	Initials	pH	Specific Conductance	S3METALS 500mL Poly	S3ANIONS 1 x 500ml Poly	S3WETCHEM 1000mL Poly		827E STARTED at 7:43 81, 150ml Samples collected over a 6 1/2 Hour time frame Approx 9 Liters collected Enough Sample to Duplicate AT 827E 827D STARTED at 8:00 74, 150ml Samples Collected over a 6 hour time frame Approx 3 Liters Collected NOT Enough for DUP.
3-CT-PERC-01-OW**									
3-B827C-01-OW									
3-B827D-01-OW	1400	KS	9.06	1184 uS	1	1	1		
3-B827E-01-OW	1420	KS	9.36	1199 uS	1	1	1		
3-B806B-01-OW									
Duplicate of 3-B827~~D~~E-01-OW									
3-B9900-OW	1420	KS			1	1	1		

☑ Copy to Analyst, Rick Blake.

Revised 9/12/13

Chain of Custody

EFA: EMAD/PRAD/ESPD
Lawrence Livermore National Laboratory
P.O. Box 808 L-629
Livermore, CA 94551

Work Authorized By: EFA
TRR Approver: Della Burruss
Project Info:

Access/COC #: 61429
Document Control #: 61429
Requester/LLNL Analyst: R. Blake
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 39355
PCI Task #: 1.03.02.07.05.04
Fax/Email #1: swanson15@llnl.gov
DMT Additional Copies:

Analytical Lab : BCLABS-BAK
TAT: 20d
Analytical Lab Log #:
Project/Network: MECHEQUIPMNTRMS
LLNL Acct #: 3297-47
Release #: UNICARD
Fax/Email #2:

Additional Instructions:

Sample ID	Sampled Date/Time	Matrix	Cont. Type	Cont. Count	Study Area	Req. Analysis	Analysis Detail	Lab Instructions
3-B827D-01-OW	10/01/2013 14:00	AQ	P	1	SPECIAL	S3ANIONS	ALL	
3-B827D-01-OW	10/01/2013 14:00	AQ	P	1	SPECIAL	S3METALS	ALL	
3-B827D-01-OW	10/01/2013 14:00	AQ	P	1	SPECIAL	S3METALS	TOTAL	
3-B827D-01-OW	10/01/2013 14:00	AQ	P	21	SPECIAL	S3WETCHEM	ALL	
3-B827E-01-OW	10/02/2013 14:20	AQ	P	1	SPECIAL	S3ANIONS	ALL	
3-B827E-01-OW	10/02/2013 14:20	AQ	P	1	SPECIAL	S3METALS	ALL	
3-B827E-01-OW	10/02/2013 14:20	AQ	P	1	SPECIAL	S3METALS	TOTAL	
3-B827E-01-OW	10/02/2013 14:20	AQ	P	21	SPECIAL	S3WETCHEM	ALL	
3-B9900-01-OW	10/02/2013 14:20	AQ	P	1	SPECIAL	S3ANIONS	ALL	
3-B9900-01-OW	10/02/2013 14:20	AQ	P	1	SPECIAL	S3METALS	ALL	
3-B9900-01-OW	10/02/2013 14:20	AQ	P	1	SPECIAL	S3METALS	TOTAL	
3-B9900-01-OW	10/02/2013 14:20	AQ	P	21	SPECIAL	S3WETCHEM	ALL	

Relinquished Signature	Company	Date	Time	Received Signature	Company	Date	Time
1 [signature]	LLNL/EFA	10/2/2013	15:30	2			
2				3			
3				4			
4				5			

Revision Printed: 04/23/2013/15/28/13

Signature Order - 1: Sampler, 2: Courier, 3: Lab, 4: Analyst, 5: DMT

FIELD TRACKING FORM

Semi-Annual Site 300 Mechanical Equipment Room/Percolation Pit Discharge

Special Instructions: Should be sampled in early April and October.
See back of form for additional access information
** For 3-CT-PERC-01-OW Contact FPOC; Off-road travel

LAB	CoC#	Ship It #
BC Labs	61439	178407

pH meter calibrated on: 10/3

Specific Conductance meter calibrated on: 10/3

Sample Date: 10/3/13

			Field Meas		BC Labs				Comments
Location Indentifier	Sample Time	Initials	pH	Specific Conductance	S3METALS 500mL Poly	S3ANIONS 1 x 500ml Poly	S3WETCHEM 1000mL Poly		
3-CT-PERC-01-OW**	14:10	KB	8.85	1026µS	1	1	1		827C Started at 07:40 76, 150 ml Samples collected over a 6 hour time frame Approx 10 Liters collected
3-B827C-01-OW	13:50	KB	9.87	4.13ms	1	1	1		CT-perc Started at 08:00 76, 150 ml Samples collected over a 6 hour time frame Approx 9 Liters collected
3-B827D-01-OW									
3-B827E-01-OW									
3-B806B-01-OW									
Duplicate of 3-B827D-01-OW									
3-B9900-OW									

☑ Copy to Analyst, Rick Blake.

Revised 9/12/13

Chain of Custody

EFA: EMAD/PRAD/ESPD
Lawrence Livermore National Laboratory
P.O. Box 808 L-629
Livermore, CA 94551

Work Authorized By: EFA
TRR Approver: Della Burruss
Project Info:

Access/COC #: 61439
Document Control #: 61439
Requester/LLNL Analyst: R. Blake
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 39355
PCI Task #: 1.03.02.07.05.04
Fax/Email #1: swanson15@llnl.gov
DMT Additional Copies:

Analytical Lab : BCLABS-BAK
TAT: 20d
Analytical Lab Log #:
Project/Network: MECHEQUIPMNTRMS
LLNL Acct #: 3297-47
Release #: UNICARD
Fax/Email #2:

Additional Instructions:

Sample ID	Sampled Date/Time	Matrix	Cont. Type	Cont. Count	Study Area	Req. Analysis	Analysis Detail	Lab Instructions
3-B827C-01-OW	10/03/2013 13:50	AQ	P	1	SPECIAL	S3ANIONS	ALL	
3-B827C-01-OW	10/03/2013 00:00	AQ	P	0	SPECIAL	S3METALS	ALL	
3-B827C-01-OW	10/03/2013 13:50	AQ	P	1	SPECIAL	S3METALS	TOTAL	
3-B827C-01-OW	10/03/2013 13:50	AQ	P	1	SPECIAL	S3WETCHEM	ALL	
3-CT-PERC-01-OW	10/03/2013 14:10	AQ	P	1	MECHEQUIPM	S3ANIONS	ALL	
3-CT-PERC-01-OW	10/03/2013 00:00	AQ	P	0	MECHEQUIPM	S3METALS	ALL	
3-CT-PERC-01-OW	10/03/2013 14:10	AQ	P	1	MECHEQUIPM	S3METALS	TOTAL	
3-CT-PERC-01-OW	10/03/2013 14:10	AQ	P	1	MECHEQUIPM	S3WETCHEM	ALL	

Relinquished Signature	Company	Date	Time	Received Signature	Company	Date	Time
1 [signature]	LLNL/EFA	10/3/2013	15:20	2			
2				3			
3				4			
4				5			

Revision Printed: 04/23/2013/15/28/13

Signature Order - 1: Sampler, 2: Courier, 3: Lab, 4: Analyst, 5: DMT

FIELD TRACKING FORM

Semi-Annual Site 300 Mechanical Equipment Room/Percolation Pit Discharge

Special Instructions: Should be sampled in early April and October.
See back of form for additional access information
** For 3-CT-PERC-01-OW Contact FPOC; Off-road travel

LAB	CoC#	Ship It #
BC Labs	61470	178526

pH meter calibrated on: 10/8
Specific Conductance meter calibrated on: 10/8

Sample Date: 10/8/13

			Field Meas		BC Labs				Comments
Location Indentifier	Sample Time	Initials	pH	Specific Conductance	S3METALS 500mL Poly	S3ANIONS 1 x 500ml Poly	S3WETCHEM 1000mL Poly		806B STARTED AT 7:45 76,150 ml Samples Collected over a 6 hour time frame Approx 8 Liters Collected
3-CT-PERC-01-OW**									
3-B827C-01-OW									
3-B827D-01-OW									
3-B827E-01-OW									
3-B806B-01-OW	13:50	KB	8.87	926 µS	1	1	1		
Duplicate of 3-B827D-01-OW									
3-B9900-OW									

☑ Copy to Analyst, Rick Blake.

Revised 9/12/13

Chain of Custody

EFA: EMAD/PRAD/ESPD
Lawrence Livermore National Laboratory
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Work Authorized By: EFA
TRR Approver: Della Burruss
Project Info:

Access/COC #: 61470
Document Control #: 61470
Requester/LLNL Analyst: R. Blake
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 39355
PCI Task #: 1.03.02.07.05.04
Fax/Email #1: swanson15@llnl.gov
DMT Additional Copies:

Analytical Lab : BCLABS-BAK
TAT: 20d
Analytical Lab Log #:
Project/Network: MECHEQUIPMNTRMS
LLNL Acct #: 3297-47
Release #: UNICARD
Fax/Email #2:

Additional Instructions:

Sample ID	Sampled Date/Time	Matrix	Cont. Type	Cont. Count	Study Area	Req. Analysis	Analysis Detail	Lab Instructions
3-B806B-01-OW	10/08/2013 13:50	AQ	P	1	MECHEQUIPM	S3ANIONS	ALL	
3-B806B-01-OW	10/08/2013 00:00	AQ	P	0	MECHEQUIPM	S3METALS	ALL	
3-B806B-01-OW	10/08/2013 13:50	AQ	P	1	MECHEQUIPM	S3METALS	TOTAL	
3-B806B-01-OW	10/08/2013 13:50	AQ	P	1	MECHEQUIPM	S3WETCHEM	ALL	

Relinquished Signature	Company	Date	Time	Received Signature	Company	Date	Time
1 [signature]	LLNL/EFA	10/8/2013	1450	2			
2				3			
3				4			
4				5			

Revision Printed: 04/23/2013/15/28/13

Signature Order - 1: Sampler, 2: Courier, 3: Lab, 4: Analyst, 5: DMT

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7·18·13 Inspector Patrick J. Gallagher Building Number 827A-CT

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 7·18·13

J. E. Scott 7/23/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7·18·13 Inspector Patrick J. Gallagher Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 7·18·13

7/23/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7·18·13 Inspector Patrick J. Gallagher Building Number 827D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 7·18·13

7/23/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7/18/13 Inspector Patrick J. Gallagher Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 7/18/13

7/23/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8·15·13 Inspector Patrick J. Gallagher Building Number 827A - CT

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 8·15·13

8/20/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8·15·13 Inspector Patrick J. Gallagher Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 8·15·13

8/20/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8·15·13 Inspector Patrick J. Gallagher Building Number 827D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 8·15·13 8/20/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8·15·13 Inspector Patrick J. Gallagher Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 8·15·13 8/20/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9·17·13 Inspector Patrick J. Gallagher Building Number 827A-CT

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 9·17·13

JS 9/19/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9·17·13 Inspector Patrick J. Gallagher Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 9·17·13 9/19/13

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Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9/17/13 Inspector Patrick J. Gallagher Building Number 827 D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 9/17/13 9/19/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9.17.13 Inspector Patrick J. Gallagher Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature Patrick J. Gallagher Date 9.17.13 9/19/13

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Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/9/13 Inspector Nicole Grimsley Building Number 827A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] for Patrick Gallagher Date 10/9/13 [signature] 10/23/13

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Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/9/13 Inspector Nicole Grimsley Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] for Patrick Gallagher Date 10/9/13 10/23/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/9/13 Inspector Nicole Grimsley Building Number 827D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] for Patrick Gallagher Date 10/9/13 10/23/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/9/13 Inspector Nicole Grimsley Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] for Patrick Gallagher Date 10/9/13 [signature] 10/23/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11/18/13 Inspector Nicole Grimsley Building Number 827A-CT

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] Date 11/21/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11/18/13 Inspector Nicole Grimsley Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] Date 11/21/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11/18/13 Inspector Nicole Grimsley Building Number 827D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11/18/13 Inspector Nicole Grimsley Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature John E Scott Date 11/21/13

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12/9/13 Inspector Nicole Grimsley Building Number 827A-CT

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] Date 12/11/13

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Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12/9/13 Inspector Nicole Grimsley Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature John Scott Date 12/11/13

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Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12/9/13 Inspector Nicole Grimsley Building Number 827 D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

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Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] Date 12/11/13

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Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12/9/13 Inspector Nicole Grimsley Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Allen Grayson, WAMA (L-627), Environmental Functional Area.

Check Items	Response	Description and Comments:
1. Is water flowing from the Christy box?	Yes/No	
2. Are there any signs of recent overflow (damp dirt around Christy box)?	Yes/No	
If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.		
3. Is there standing water in the Christy box?	Yes/No	
If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted		
4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris).	Yes/No	
If yes to any of the above, note date, actions taken, and type of repairs when made.		

Supervisor's Signature [signature] Date 12/11/13

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Environmental Functional Area, Lawrence Livermore National Laboratory
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