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Walla Walla Basin Watershed Council
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2009-2013

Washington Walla Walla Basin Aquifer Recharge Report

FINAL VERISION

August 2013

2009-2013 Washington Walla Walla Basin Aquifer Recharge Report

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Walla Walla Basin Watershed Council

2013

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EXECUTIVE SUMMARY

This document describes operations of the two aquifer recharge (AR) sites in the Washington portion of the Walla Walla Basin. These include the Locher Road Aquifer Recharge (Locher Road) site for the 2009-2010 through 2012-2013 recharge seasons and the Stiller Pond Aquifer Recharge (Stiller Pond) site for the 2011-2012 and 2012-2013 recharge seasons. This annual report covers operations at the Locher Road site since the Walla Walla Basin Watershed Council became the lead entity for the project. Operation of the Stiller Pond site was overseen by the Walla Walla County Conservation District (WWCCD).

The Locher Road site was active during the 2010-2011, 2011-2012 and 2012-2013 recharge seasons, the site did not operate during the 2009-2010 season. Total annual recharge volumes at the Locher Road site were 93 acre-feet during the 53 day long 2010-2011 recharge season, 334 acre-feet during the 67 day long 2011-2012 recharge season and 104 acre-feet during the 15 day long 2012-2013 recharge season. Before the start of the 2011-2012 recharge season the size of the recharge basin was increased from approximately .5 acres to approximately 2.5 acres. Source water and groundwater monitoring during the 2009-2010 through 2011-2012 recharge seasons was conducted under a sampling and monitoring plan developed for the site when it originally went into operation in 2007. For the 2012-2013 recharge season monitoring was done under a new plan which includes expanded monitoring requirements for PCB's and chlorinated pesticides.

The Locher Road site operates under a temporary water use authorization granted by Washington Department of Ecology (WADOE) to Gardena Farms Irrigation District #13 (GFID) or the site can be operated under an approved Local Water Plan (LWP-10-01) through the Walla Walla Watershed Management Partnership (WWWMP, 2010). This LWP allows GFID to utilize up to 5 cfs of their water right for the purpose of aquifer recharge.

Stiller Pond site infrastructure was completed late in 2011 and early 2012. For the 2011-2012 recharge season the site operated under a Local Water Plan. During the 2011-2012 recharge season the Stiller Pond site recharged 32 acre-feet. The site did not operate during the 2012-2013 season. Site monitoring during the 2011-2012 recharge season was conducted under a sampling and monitoring plan developed for the site's local water plan. For the 2012-2013 recharge season no monitoring was done because the site did not operate, in part pending the development of a new monitoring plan.

Currently the Stiller Pond site is operating under the approved Local Water Plan (LWP-10-02) through the Walla Walla Watershed Management Partnership (WWWMP, 2010a). This LWP limits the volume of water for recharge to 32 acre-feet each water year. An Environmental Enhance Project permit (EEP) for the Stiller Pond site is currently being reviewed by WADOE. The EEP would allow the Stiller Pond site to increase the volume of water that could be used for recharge each season, potentially up to 500-1000 acre-feet per year.

Due to low flows during the beginning of the recharge season and not enough time to justify the cost of conducting water quality sampling, the Locher Road site did not operate during the 2009-201 recharge season.

The 2010-2011 recharge season saw the Locher Road site operate for 51 days and recharge the alluvial aquifer with over 90 acre-feet of water.

The Stiller Pond site's first year of operations was during the 2011-2012 recharge season. The site was turned on in early March and ran until late March 2012. The site recharged 32 acre-feet of water to the alluvial aquifer. The Locher Road site was expanded during late 2011. The expanded site ran for 68 days and recharge approximately 334 acre-feet to the alluvial aquifer.

In part because of groundwater quality concerns expressed by WADOE staff, including the need for a revised and approved water quality sampling Quality Assurance Project Plan, the 2012-2013 season was very short. The Locher Road site operated for a total of 15 days and the Stiller Pond site did not operate at all.

INTRODUCTION

The Walla Walla Basin Aquifer Recharge program has been in existence since 2004. The first pilot project, the Hulette Johnson site, was started in Oregon in the spring of 2004. The program expanded in 2006 with the addition of the Hall-Wentland site just south of the Oregon-Washington state line. The first site in Washington, Locher Road, started in 2007. For a more in-depth background to the aquifer recharge program and the Walla Walla basin's hydrology and geology, please see the Walla Walla Basin Aquifer Recharge Strategic Plan (available at www.wwbwc.org).

The goal of this report is to describe operations at the two aquifer recharge (AR) sites in the Washington portion of the Walla Walla Basin, the Locher Road Aquifer Recharge (Locher Road) site for the 2009-2010 through 2012-2013 recharge seasons and the Stiller Pond Aquifer Recharge (Stiller Pond) site for the 2011-2012 and 2012-2013 recharge seasons. The Locher Road site was active during the 2010-2011, 2011-2012 and 2012-2013 recharge seasons, the site did not operate during the 2009-2010 season. When operated total recharge at the Locher Road site was 93 acre-feet during the 2010-2011 recharge season, 334 acre-feet during the 2011-2012 recharge season and 104 acre-feet during the 2012-2013 recharge season. Site monitoring during the 2009-2010 through 2011-2012 recharge seasons was conducted under a sampling and monitoring plan developed for the site when it originally went into operation in 2007. For the 2012-2013 recharge season monitoring was done under a Quality Assurance Project Plan developed in the spring of 2013.

The Stiller Pond site was developed during the 2011-2012 recharge season and operated under a Local Water Plan in the spring of 2012. Under this Local Water Plan 32 acre-feet of AR water was delivered to the Stiller Pond site. The site did not operate during the 2012-2013 season. Site monitoring during the 2011-2012 recharge season was conducted under a sampling and monitoring plan developed for the site local water plan. For the 2012-2013 recharge season no monitoring was done because the site was not operated, in part pending the development of a new monitoring plan.

HYDROLOGIC SETTING

The Walla Walla River (River) system is a bi-state watershed located in northeast Oregon and southeast Washington (Figure 1). The River's headwaters are located in the Blue Mountains, the crest of which defines the eastern extent of the watershed. The mainstem Walla Walla River and its primary tributaries, Mill Creek and the Touchet River, are the three primary surface channels of the system. They coalesce within the Walla Walla Valley from which the Walla Walla River then flows draining to the Columbia River (Figure 2). This report focuses on the portion of the River system that comprises the Walla Walla River mainstem and Mill Creek, especially where they flow onto and across the area referred to in the balance of this report as the Walla Walla Valley (Figure 4).

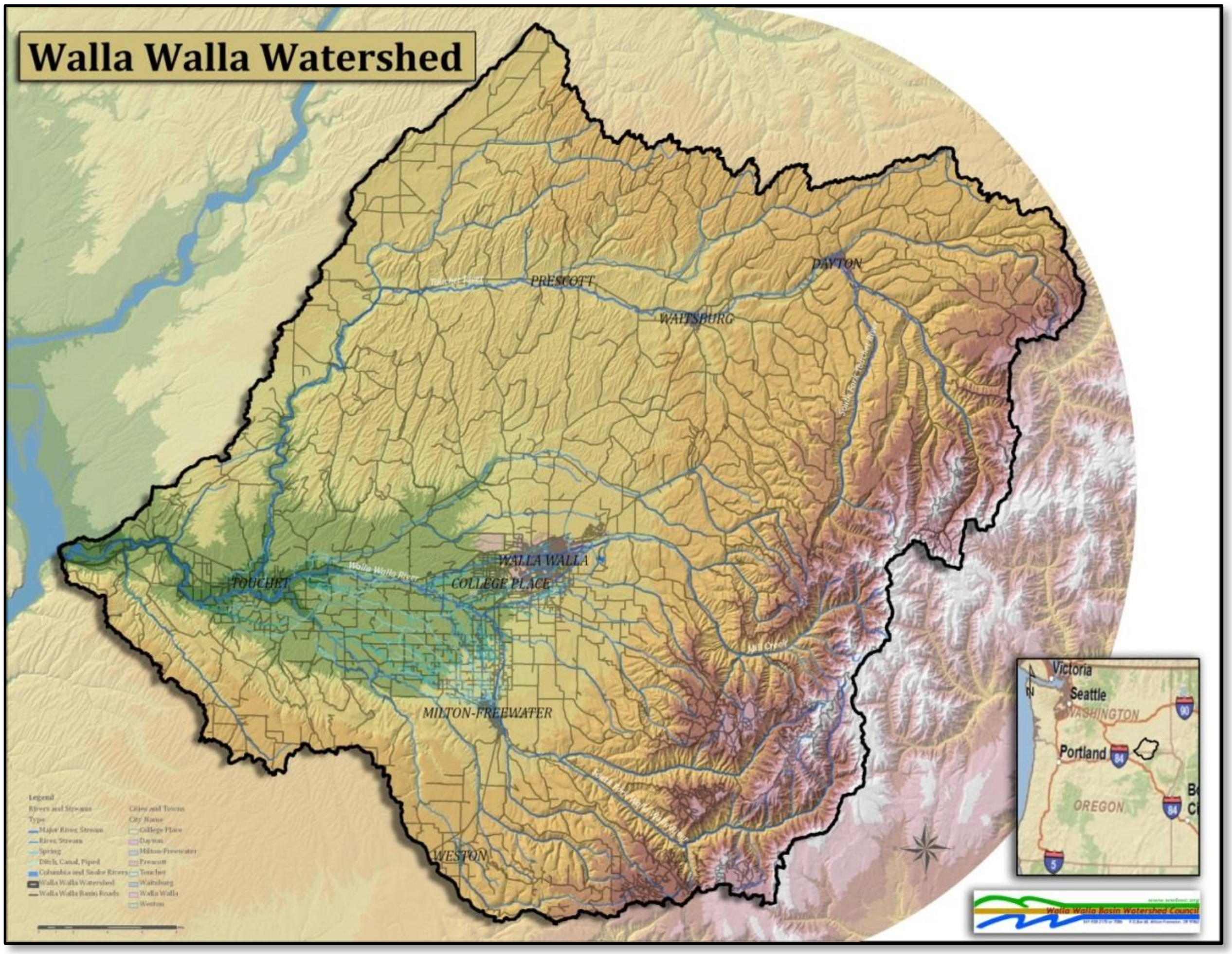


Figure 1 - The Walla Walla Watershed in Northeast Oregon and Southeast Washington.

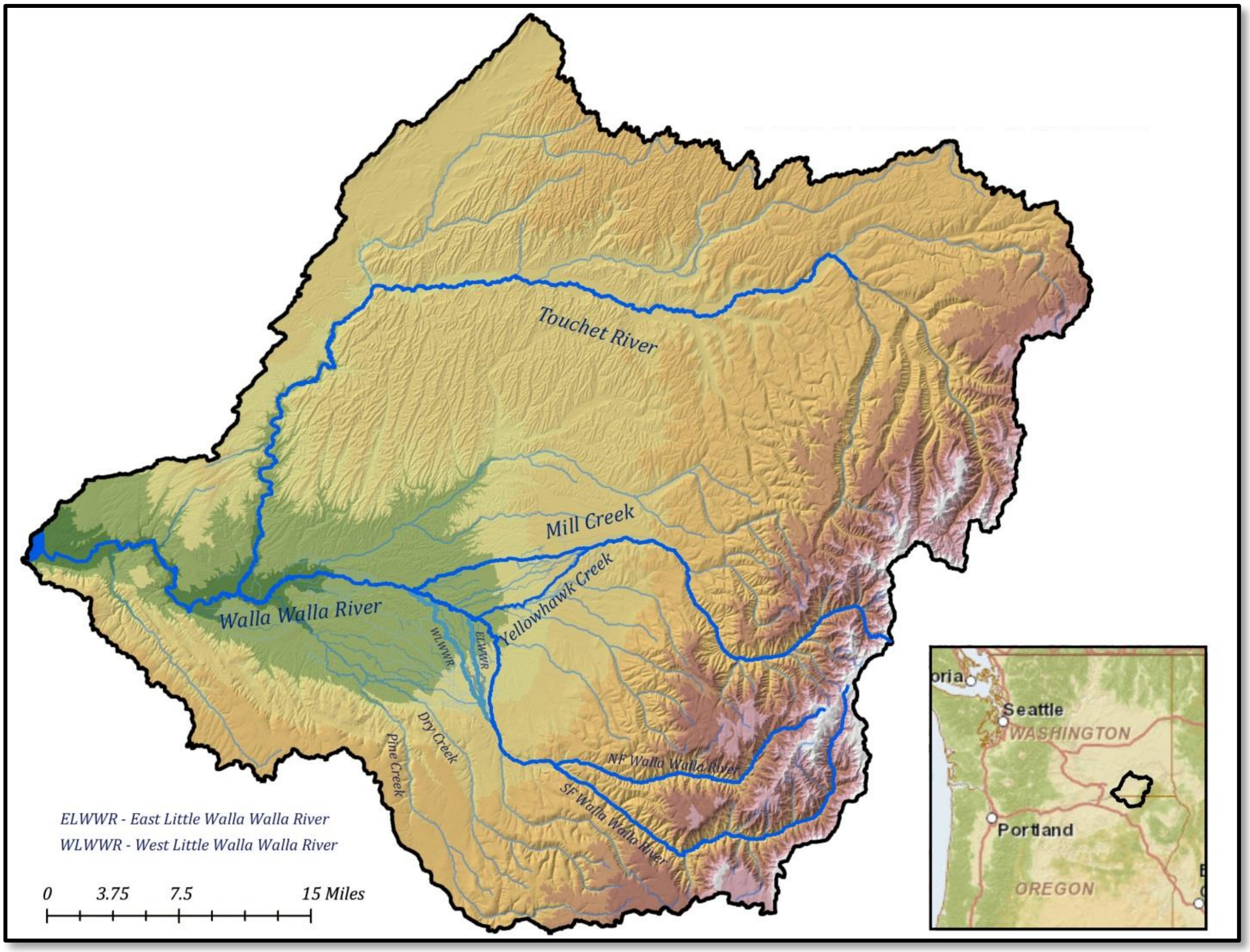


Figure 2 - The Walla Walla River and its major tributaries and distributaries.

Walla Walla Basin hydrology is largely defined by a distributary river system and an underlying alluvial aquifer system hosted by the sediments overlying basalt. Surface waters entering the Walla Walla Valley effectively change regime from steep sided canyons in the headwaters portion of the watershed to a system of distributary and coalescing streams on the valley floor. With this, shallow groundwater systems see a regime change from localized, saturated valley deposits and confined basalt aquifers controlled by the geologic structure of the Columbia River basalt to the more widespread, thick alluvial aquifer system immediately underlying the valley floor. Depth to basalt beneath the base of the canyon floors in the highland areas upstream of the cities of Walla Walla and Milton-Freewater is typically less than 60 feet, with 30 feet more commonly observed. Beneath the valley floor the top of basalt often is hundreds of feet deep below overlying alluvial sediments.

Groundwater in the Walla Walla Basin occurs in two principal aquifer systems: (1) the unconfined to confined suprabasalt sediment (alluvial) aquifer system and (2) the underlying confined basalt aquifer system (Newcomb, 1965). The basalt aquifer system is regional in character, having limited hydraulic connection to the Walla Walla River, primarily in the canyons of the Blue Mountains. The alluvial aquifer system is the focus of the aquifer recharge program because of its high degree of hydraulic connection with streams on the valley floor.

The alluvial aquifer system, or alluvial aquifer, is found within a sequence of continental clastic sediments overlying the top of basalt (the Mio-Pliocene strata (upper coarse, fine and lower coarse units) and the Quaternary coarse unit). Beneath the Walla Walla Valley floor these sediments, and the alluvial aquifer system is up to 800 feet thick. The majority of the productive portions of the alluvial aquifer system are hosted by the Mio-Pliocene coarse unit although, at least locally, it is hosted in the overlying Quaternary coarse unit. The alluvial aquifer is generally characterized as unconfined, but it does, at least locally, display evidence of confined conditions. Preferential groundwater flow within the gravel aquifer is inferred to largely reflect the distribution of coarse sedimentary strata. General groundwater flow direction can be inferred from the alluvial aquifer water table map (Figure 3).

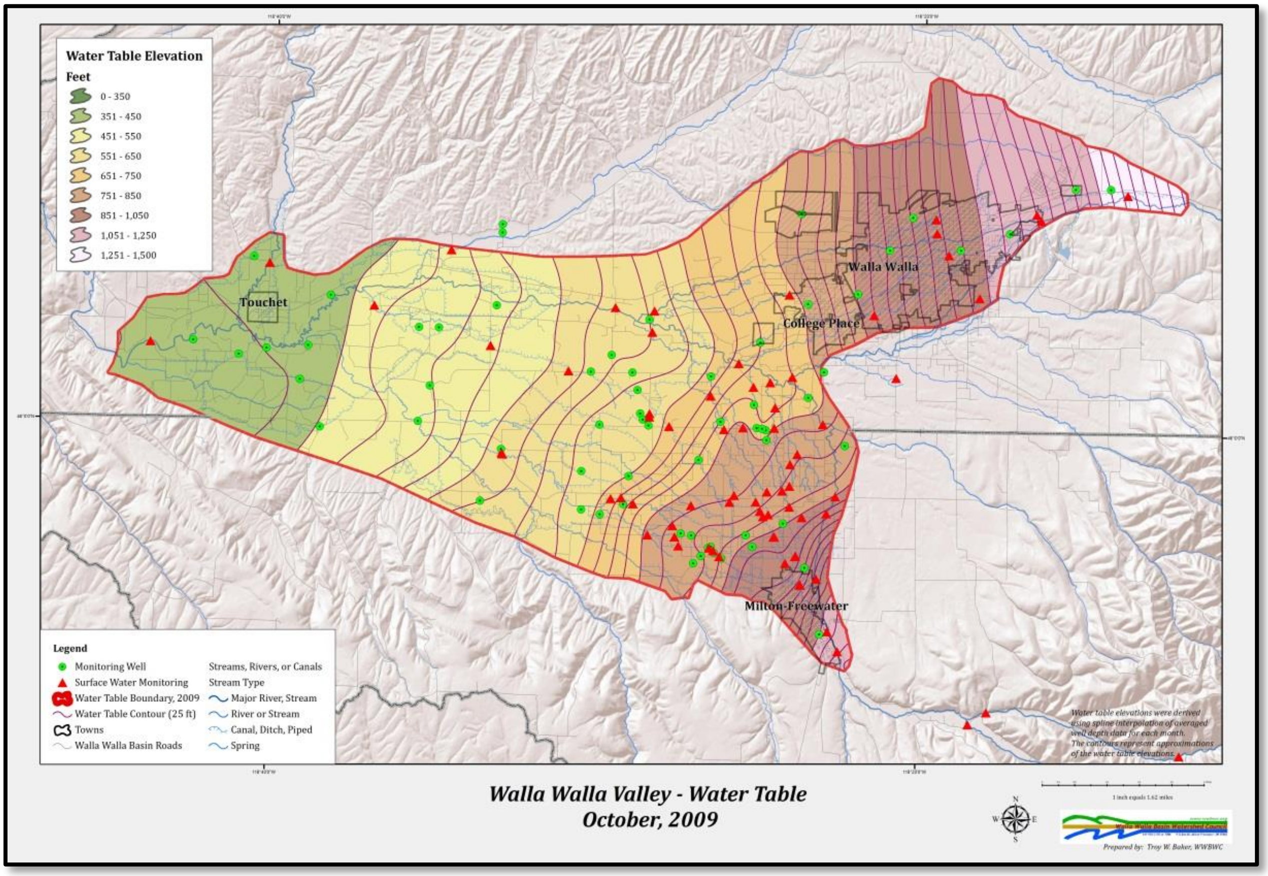


Figure 3 - Water table contours for the alluvial aquifer system in October 2009.

The surficial hydrology of the Walla Walla Basin generally is defined by streams confined to steep-walled canyons in the foothills surrounding the valley, a distributary stream system as these streams exit the highlands and flow out onto the valley floor, and then, as the streams flow west, they coalesce into the main Walla Walla River channel. The distributary system formed as streams leaving the highlands entered the valley, went from higher to lower gradient and, as a consequence, deposited coarse sediment loads and formed a series of low angle, coalescing alluvial fans. Upon the alluvial fans in and around the cities of Walla Walla and Milton-Freewater these natural distributary channels still exist in part or in whole to this day. These channels are known today as the East Little Walla Walla River, West Little Walla Walla River, Mud Creek, Yellowhawk Creek, and Garrison Creek. Prior to the development of water resources in the valley, these distributary channels, with other (un-named) channels, served as high water channels that conveyed high amounts of energy and water across the alluvial fan and away from the mainstem Walla Walla River and Mill Creek. The channels run for several miles, accumulating spring flow, before returning back to the River further down the valley (Figure 4).

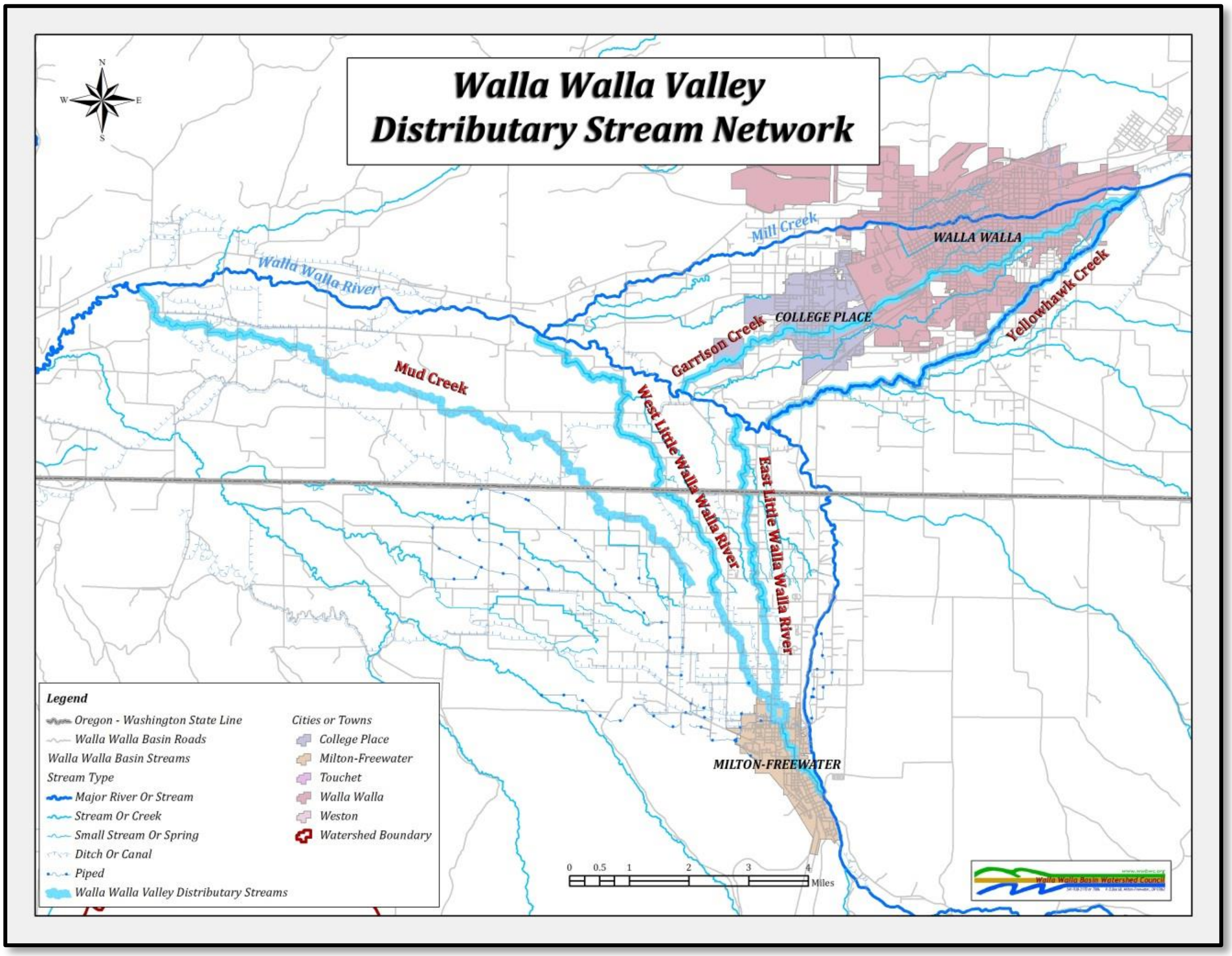


Figure 4 - Map of the distributary stream networks of the Walla Walla River and Mill Creek. Historically these stream networks conveyed winter and spring high flows across the valley's alluvial fans allowing for reduced flood pressure on the mainstem rivers, provided off-channel habitat and provided recharge to the alluvial aquifer system.

In recent decades the management and development of surface water resources has led to installation of flow control devices (irrigation head gates) at the head of the distributary channels. Over time, the management of the distributary network has become less natural. High flows during the winter and spring no longer have free access to the distributary network and the adjacent floodplains. This, along with the development of groundwater resources and the channelization of the valley's rivers and creeks, has created a declining alluvial aquifer condition.

Generally, the 'spreading out' of water across the alluvial fans via distributary channels and adjacent floodplains, coupled with the high hydraulic conductivity of the underlying coarse sediment, function as a primary groundwater recharge mechanism for the entire alluvial aquifer. This seasonally recharged aquifer system in-turn feeds the valley's springs, spring creeks and larger streams. This cycling of surface water to groundwater recharge, followed by later discharge in springs and as stream base flow creates a delay in discharge of these waters from the valley. Depending on local conditions, this delay can range from days to months, and even years (Jiménez, 2012).

The declining alluvial aquifer, coupled with high connectivity between surface water and alluvial groundwater, has created stream reaches where high seepage loss occurs and significant volumes of surface water drain to the aquifer (Figure 5 & 6). In recent years, the listing of steelhead and bull trout as threatened under the Endangered Species Act and the reintroduction of spring chinook salmon within the watershed, has led to out-of-court agreements between irrigators and Federal fishery agencies. As a result of these agreements, local irrigators are leaving a portion of their legal water rights instream as bypass water year round. For example, per civil agreement, Gardena Farm Irrigation District #13 (GFID) irrigators leave 18 cfs instream (bypass) throughout the year. However, depending on the water-year and a number of other factors, it is not unusual to have a significant portion (40-50%) of the bypass water seep into the underlying aquifer.

Spring fed creeks across the valley, sourced by springs discharging from the alluvial aquifer, have seen declining discharge since the earliest hydrogeologic studies were conducted by Piper (acting on behalf of the US Supreme Court) in the 1930s, Newcomb in the 1960s and Barker and MacNish in the 1970s. Water level declines in the alluvial aquifer since the 1930s and 1940s (Figures 7 & 8) are consistent with the general decline of the related springs (Figure 9). These trends lead one to conclude that there has generally been decreasing groundwater-sourced baseflow over the past several decades contributing to the Walla Walla River and other surface bodies during critical low-flow periods. This loss of groundwater baseflow to streams affects not only the amount of flow in the river but also leads to increased surface water temperature as the cold groundwater derived baseflow is lost.

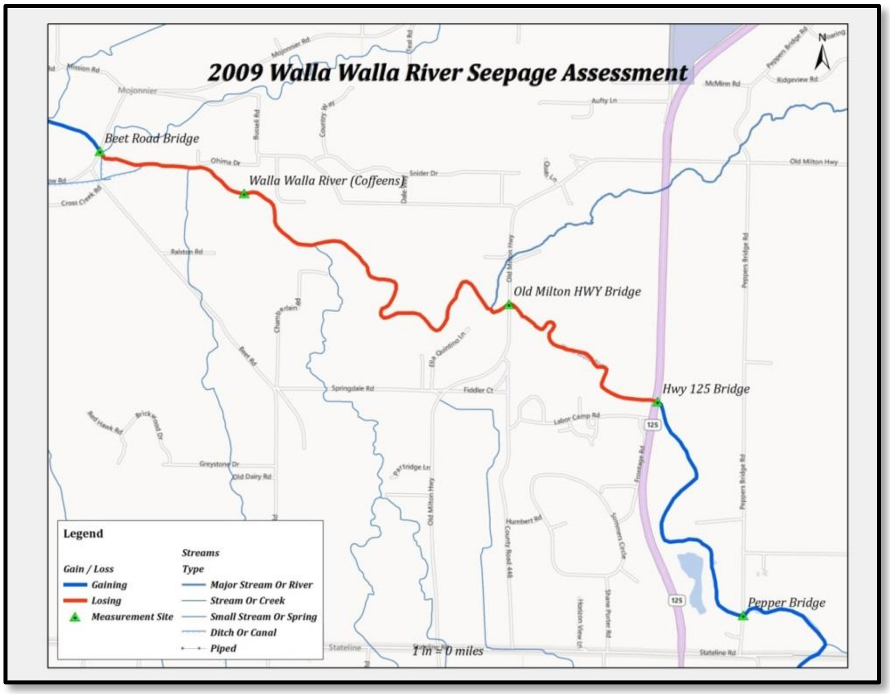


Figure 5 - Results from the water budget analysis of the Walla Walla River in August 2009. Color indicates a given reach as either gaining or losing. Gains indicate groundwater discharging to the river and losses indicate surface water seeping into the ground (see WWBWC, 2012 for details).

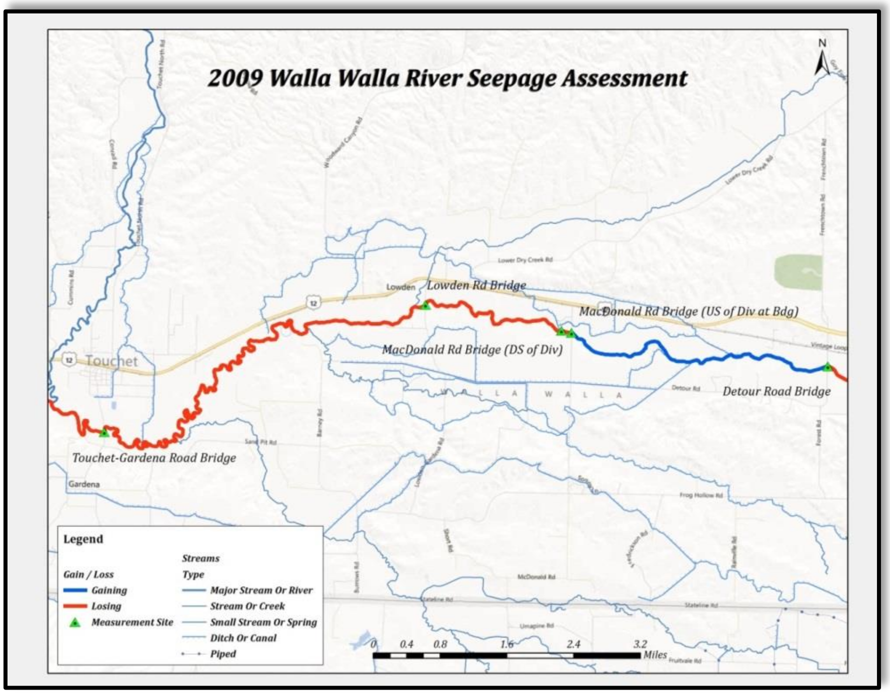


Figure 6 - Results from the water budget analysis of the Walla Walla River in August 2009. Color indicates a given reach as either gaining or losing. Gains indicate groundwater discharging to the river and losses indicate surface water seeping into the ground (see WWBWC, 2012 for details).

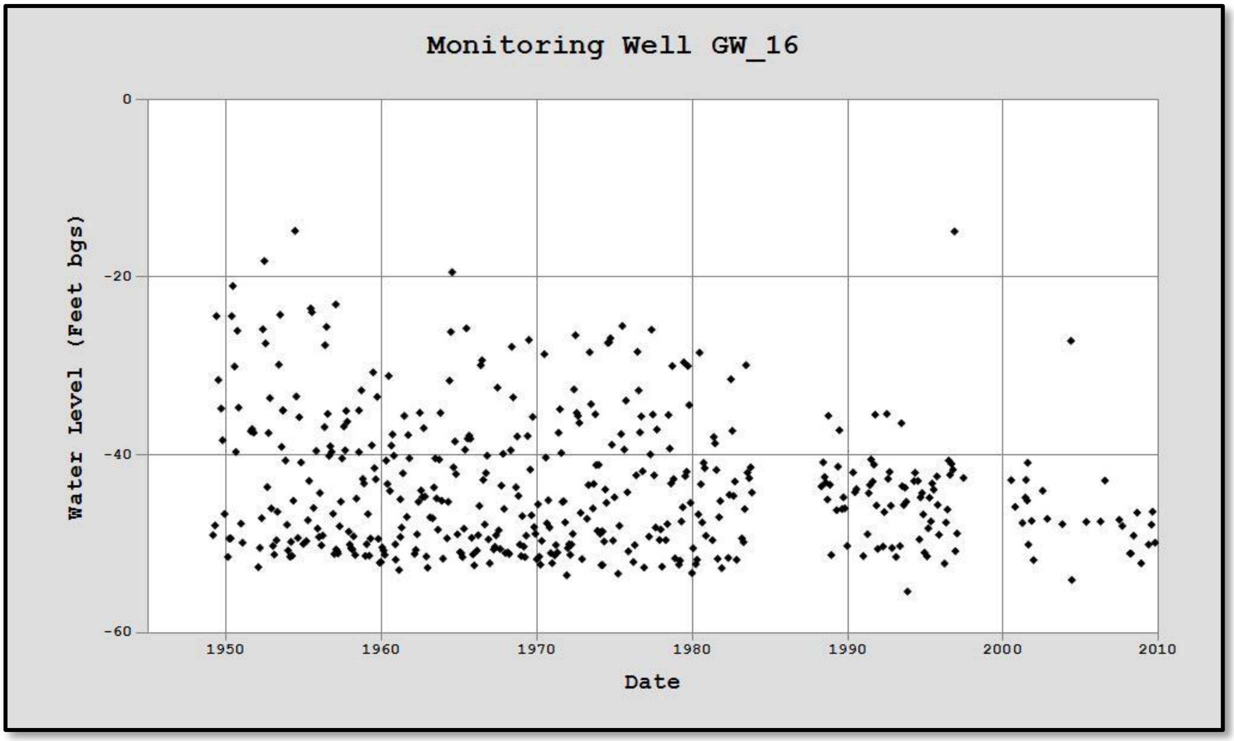


Figure 7 - Hydrograph for Monitoring Well GW_16 showing the long-term decline in the alluvial aquifer system in the Walla Walla Basin.

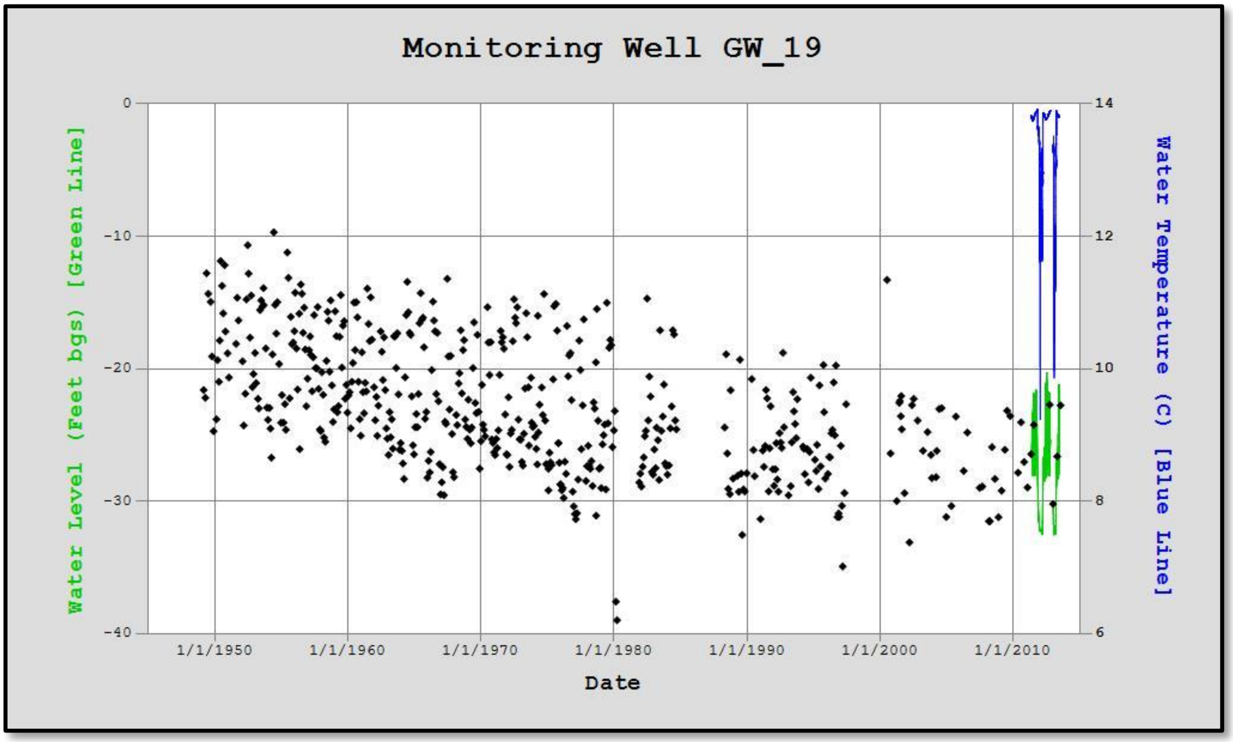


Figure 8- Hydrograph for Monitoring Well GW_19 showing the long-term decline in the alluvial aquifer system in the Walla Walla Basin.

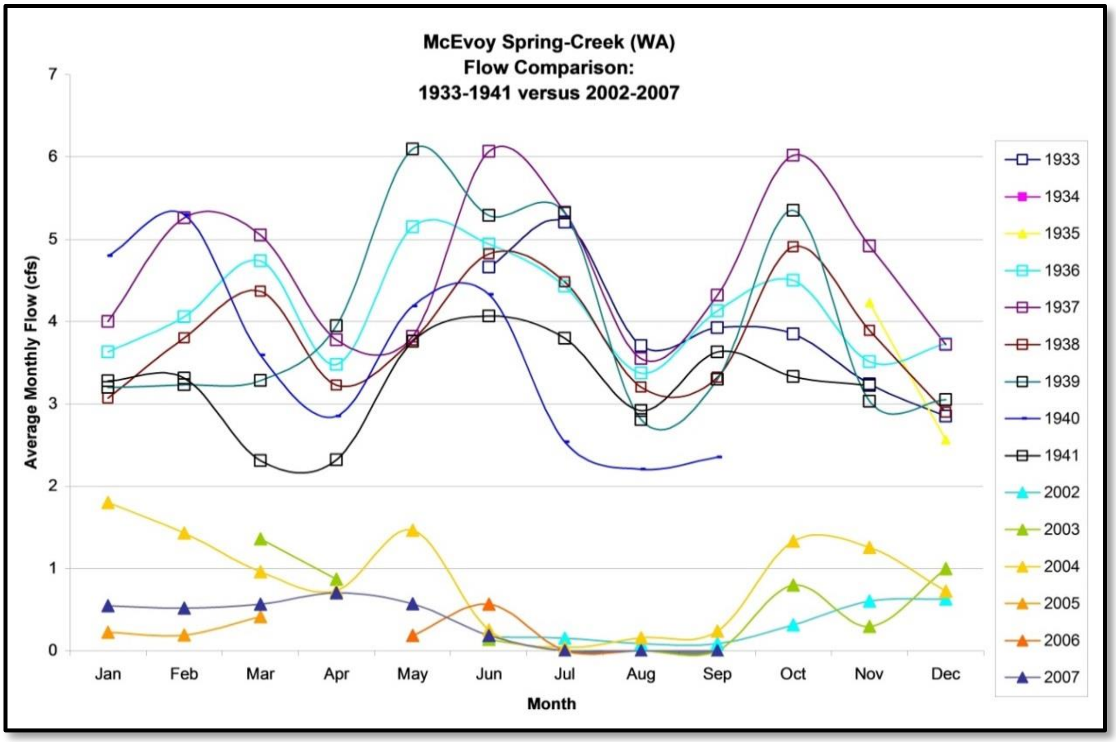


Figure 9 - Hydrograph for McEvoy Spring Creek located just north of the WA-OR state line. Hydrograph shows the decline in spring performance over the last 80 years.

AQUIFER RECHARGE SITES

LOCHER ROAD

The Locher Road site (Figure 10), located at the intersection of Stateline Road and Locher Road, is a former gravel quarry that has been operated by GFID as an aquifer recharge (AR) site since 2007. From 2006-2007 through the end of the 2010-2011 season, approximately 1/3 acre of the 4+ acre site was utilized for recharge. In late 2011, the site was reconstructed to allow infiltration over a 2.5 acre portion of the site (Figures 11-15). Inflow volume rates at the site increased from approximately 1.3 cfs to 3.5 cfs. Total recharge volumes for each season are described below in the results section.

The Locher Road site has operated under successive one and two-year temporary use authorizations issued by WADOE. In addition to the temporary use authorizations, in 2010 the Walla Walla Watershed Management Partnership (WWWMP), a locally led organization that co-manages Walla Walla Basin water resources with the State of Washington, passed a Local Water Plan (LWP) that allows GFID to utilize up to 5 cfs of its existing water right for AR (WWWMP, 2010). This authorization, like the temporary use authorization, is governed by the maintenance of minimum instream flows in the river (measured at the Detour Road gauging station), water quality testing, and hydrologic monitoring in local wells and surface water points.

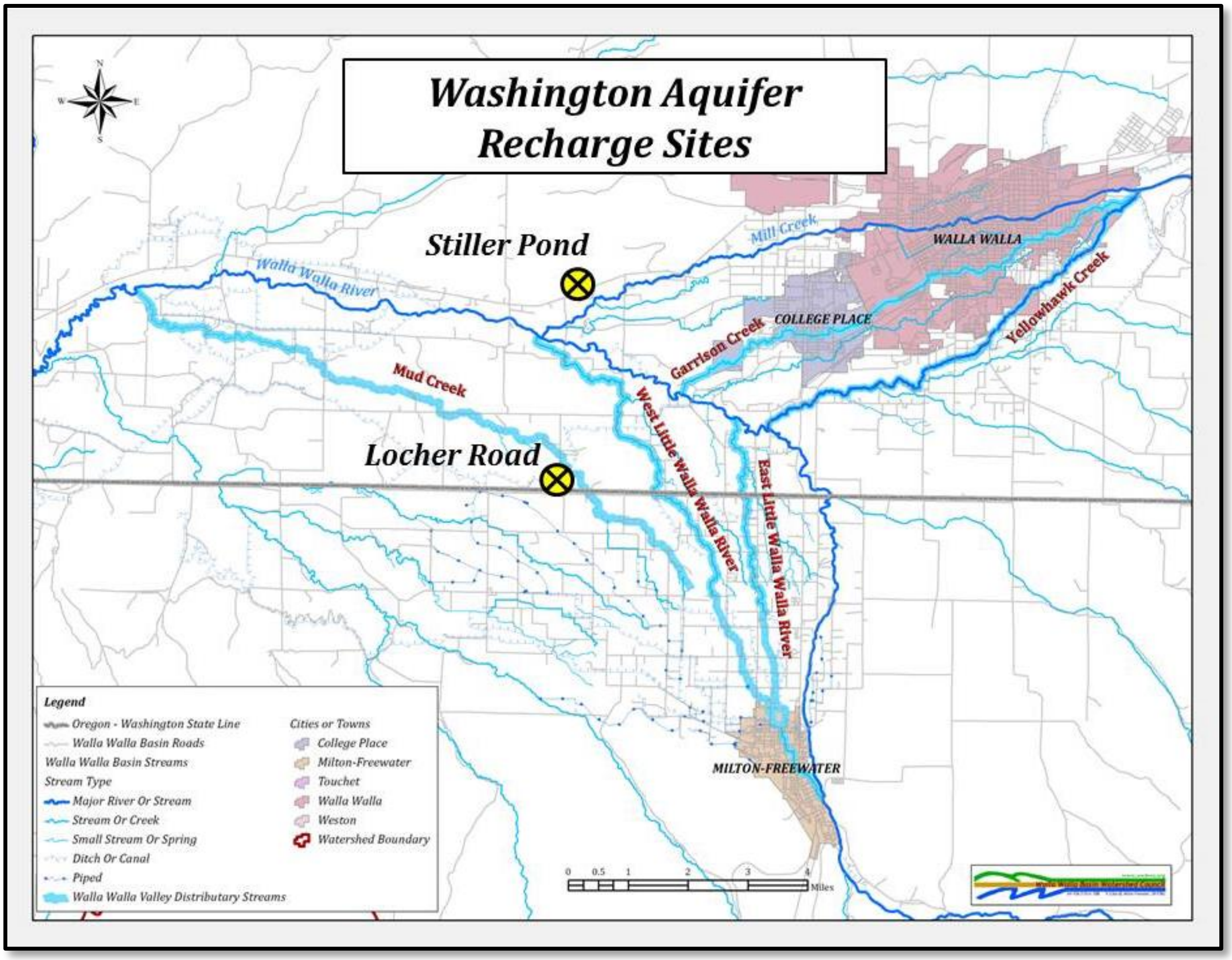
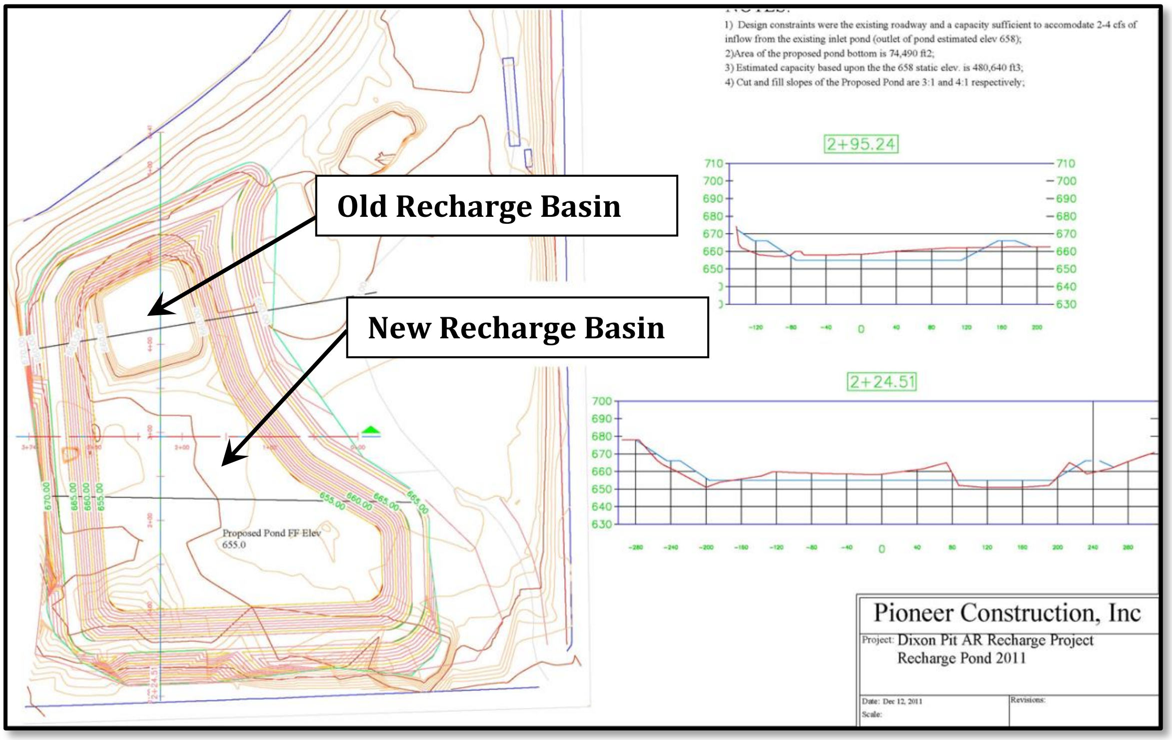


Figure 10 - Washington Aquifer Recharge Sites active between 2009 and 2013.

2011 SITE EXPANSION



1) Design constraints were the existing roadway and a capacity sufficient to accomodate 2-4 cfs of inflow from the existing inlet pond (outlet of pond estimated elev 658);

2)Area of the proposed pond bottom is 74,490 ft2;

3) Estimated capacity based upon the the 658 static elev. is 480,640 ft3;

4) Cut and fill slopes of the Proposed Pond are 3:1 and 4:1 respectively;

Pioneer Construction, Inc

Project: Dixon Pit AR Recharge Project
Recharge Pond 2011

Date: Dec 12, 2011
Scale:
Revisions:

Figure 11 - Preliminary design for expansion of the Locher Road site's main recharge basin in late 2011.

Figure 12 - Photo during expansion of the Locher Road site's main recharge basin, December 2011.

Figure 13 - Photo of the completed expansion of the Locher Road site's main recharge basin, December 2011.

Figure 14 - Photo of the Locher Road site operating during the 2011-2012 recharge season.

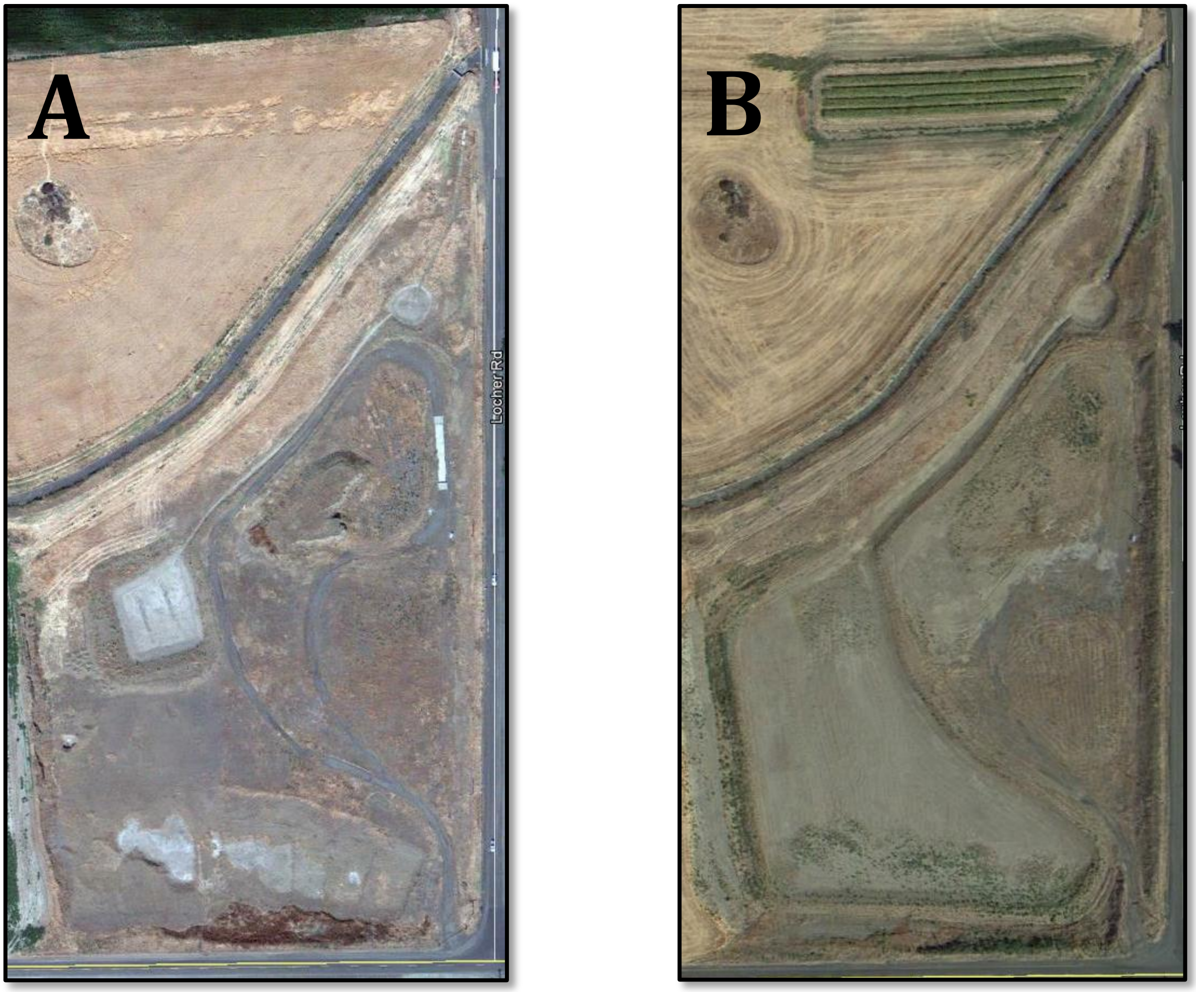


Figure 15 - Aerial photographs showing the Locher Road site before (A) and after (B) the expansion that occurred in December 2011. The diversion and settling pond were not changed. During the expansion work, the ditch from the diversion flume to the settling pond was reinforced with additional rock and the main recharge basin was expanded from approximately 1/3 of an acre to approximately 2.5 acres.

STILLER POND

The most recent AR site added on the Washington portion of the Walla Walla Basin is the Stiller Pond site (Figure 10). In 2012 the WWBWC and the Walla Walla County Conservation District (WWCCD) partnered to develop this AR site. This site is currently operated under a Local Water Plan with the Walla Walla Watershed Management Partnership (WWWMP) to recharge up to 32 acre-feet of the landowners existing water right via a dry pond located on the Schwenke property, within the lower Mill Creek drainage. Additional authorization for an Environmental Enhancement Project (EEP) currently is being reviewed by WADOE. If approved, this additional authorization would allow approximately 500-1000 acre-feet of water to be diverted from Mill Creek to the Stiller Pond for AR.

In its current configuration the Stiller Pond site can recharge approximately 1-2 cfs depending upon other demands from the diversion system. Future plans include a new diversion structure and larger pump to allow the delivery of up to approximately 4 cfs to the site. Final build-out of the recharge pond and construction of a new diversion structure is awaiting issuance of the EEP. Like the Locher Road site, this authorization will require minimum instream flow to be met at two gages on Mill Creek and at the WADOE Walla Walla River gauging station at Detour Road and additional hydrologic monitoring and water quality analysis (GSI, 2012).

QUALITY ASSURANCE PROJECT PLAN DEVELOPMENT – 2012-2013

Prior to the 2012-2013 recharge season source water and groundwater monitoring at the Locher Road site was done under a monitoring plan originally develop for the site when it began operations in 2007. In November 2012, WWBWC staff contacted WADOE staff to discuss potential reductions in the water quality requirements for the Locher Road site. This request was based upon a report by GSI for the WWBWC analyzing the results of water quality data gathered from four aquifer recharge sites in the Walla Walla Basin over 8 recharge seasons (GSI, 2012a). Below is a summary taken from the GSI report that captures the rationale behind the WWBWC suggestion to reduce water quality requirements at the Locher Road site.

> *Groundwater quality monitoring data collected to date at three active AR sites, Hulette Johnson, Locher Road, and Stiller Pond and at the inactive Hall-Wentland site support the notion that water quality in the basin is generally good. Observations drawn from these data include the following:*
>
> - *With respect to nutrient type constituents, including nitrate-N, total Kjehldahl nitrogen, phosphate, and ortho-phosphate the groundwater changes we see generally show down gradient declines in constituent concentrations, which we interpret to reflect dilution of groundwater concentrations by AR water.*
>
> - *Other parameters, such as total dissolved solid), chloride, and electrical conductivity also commonly show evidence of down gradient reductions through AR sites that we again interpret as evidence of dilution of these parameters in groundwater by AR water.*
>
> - *The SOC (Synthetic Organic Compounds) data available for these sites is interpreted to show that AR operations have essentially no influence on SOCs present in groundwater. Based on what we reviewed SOC detections are sporadic, not systematic, and at very low concentrations. With that observation, we interpret the few detections to result from background conditions reflective of activities other than AR operations.*
>
> - *In addition to these observations, the Hall-Wentland data is instructive as it shows the importance of natural leakage from surface waters (which typically are the same waters these AR sites use for source water) influencing local groundwater chemistry.*

> *The water quality data collected over several AR seasons from four different sites are interpreted to have not resulted in alluvial aquifer water quality degradation. Field parameters and major ion hydrochemical trends seen in monitoring well data commonly show reduced concentrations, indicating dilution of groundwater concentrations by AR operations. A few anomalies did occur in these trends, but low source water concentrations versus high monitoring well concentrations strongly suggest that AR operations were not the cause of these anomalies. There were no significant SOC detections from any site. Of the SOC detections seen in the data sets, SOC concentrations are low enough to be considered background levels and/or these detections were instances of localized transient introduction to the water table from an unaltered ground surface AR site (specifically HW).*

After initial discussions with Ecology staff, an in-depth review was started within Ecology to look at water quality requirements for the Stiller Pond EEP. Early in this process, it was decided to create one water quality requirement that would cover all Washington AR sites. Because of the existing TMDL documents for PCBs and chlorinated pesticides, the Ecology review ended up increasing the water quality requirements for Washington AR sites rather than reducing them. For details regarding the water and soil quality requirements please see the Walla Walla Basin Aquifer Recharge Water Quality and Water Level Monitoring Quality Assurance Project Plan – version 1.2 (WWBWC, 2013). The new QAPP document was approved in early-mid May. Data gathered under this new QAPP during the 2012-2013 recharge season are discussed below in the Results section in addition to the older data collected prior to the finalization of the new QAPP.

RECHARGE SEASON RESULTS

LOCHER ROAD – 2009-2010

OVERVIEW

During the 2009-2010 recharge season, the Locher Road site was only able to operate under the Temporary Use Authorizations because the Local Water Plan had not been approved yet. Minimum in-stream bypass flows of 250 cfs were only met for a few days during March and April (Figure 16). Based upon the low flows in March and April, pre-operation water quality sampling did not occur. Therefore, even though flows came up in late April and May the site did not operate.

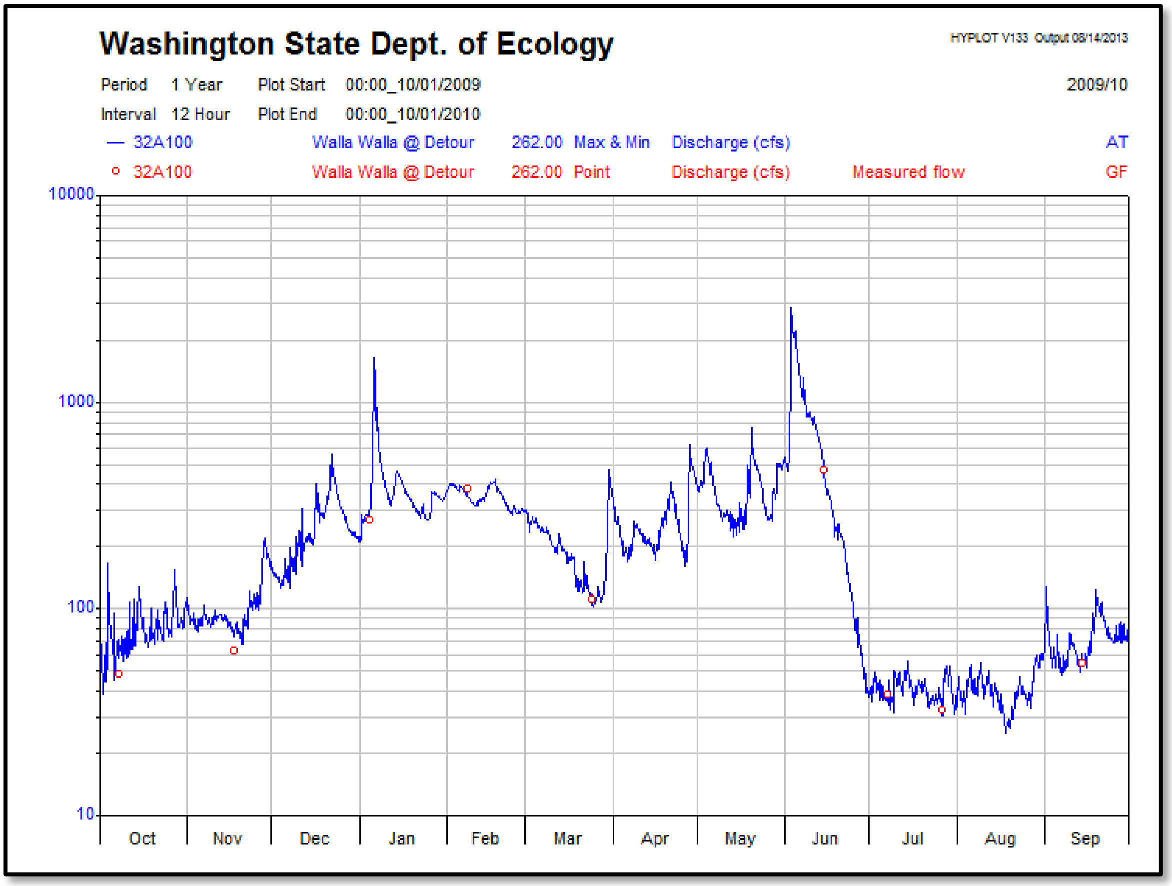


Figure 16 – 2009-2010 water year hydrograph for Washington Department of Ecology's Walla Walla River at Detour Road (32A100) gage.

ALLUVIAL WELL RESPONSES

Groundwater monitoring (Figure 17) at the Locher Road site includes four “on-site” monitoring wells (GW_57, GW_70, GW_71 and GW_72) and three down-gradient wells (GW_108, GW_110 and GW_122). The four on-site wells surround the site with GW_70 up-gradient, GW_72 and GW_57 just down-gradient of the site and GW_71 farther down-gradient. Wells 70, 71 and 72 are shallow alluvial aquifer monitoring wells that were drilled in 2005 to monitoring site operations and aquifer response while well 57 was drilled in 1972-73 to be fully open to the entire gravel sequence. 2009-2010 monitoring well data give an indication of what "no recharge" conditions for the Locher Road area are (Figures 18-24). See Appendix A for well hydrographs that include all available data for each well. Based upon these data, the alluvial aquifer does respond to canal operations in the absence of AR site operations. The alluvial aquifer rises when the canal is on, and falls when the canal is off. One of the offsite, distal, monitoring wells, GW_108, also show the influence of nearby groundwater pumping on alluvial aquifer water levels.

Figure 17 – Map showing groundwater monitoring sites for the Locher Road Aquifer Recharge Site.

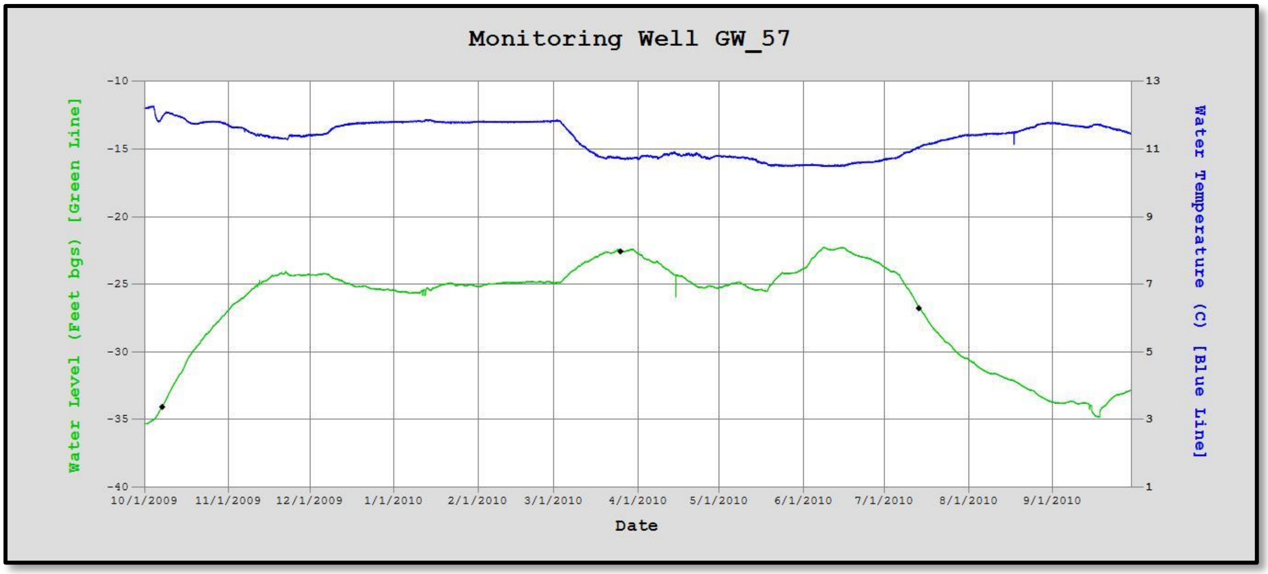


Figure 18 - Hydrograph for GW_57 during the 2009-2010 recharge season.

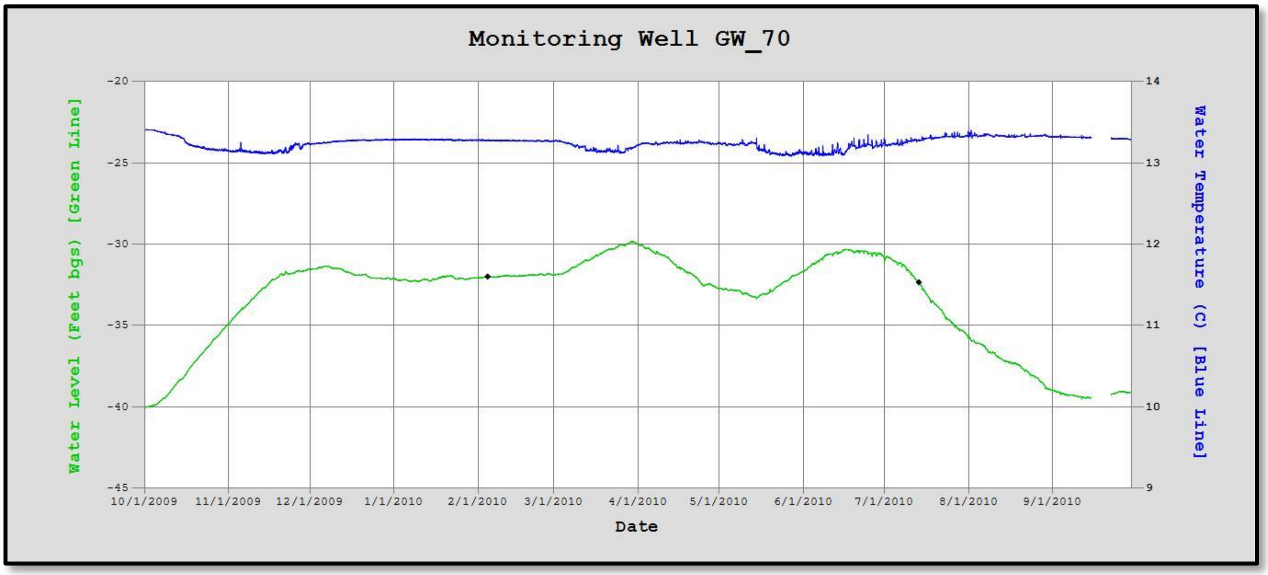


Figure 19 - Hydrograph for GW_70 during the 2009-2010 recharge season.

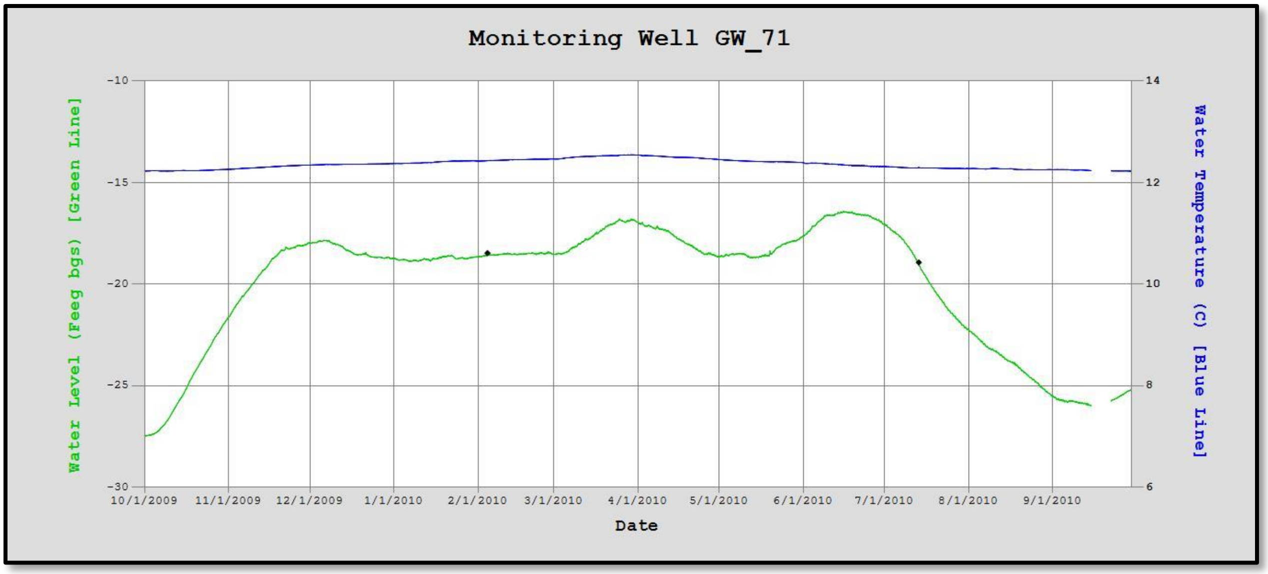


Figure 20 - Hydrograph for GW_71 during the 2009-2010 recharge season.

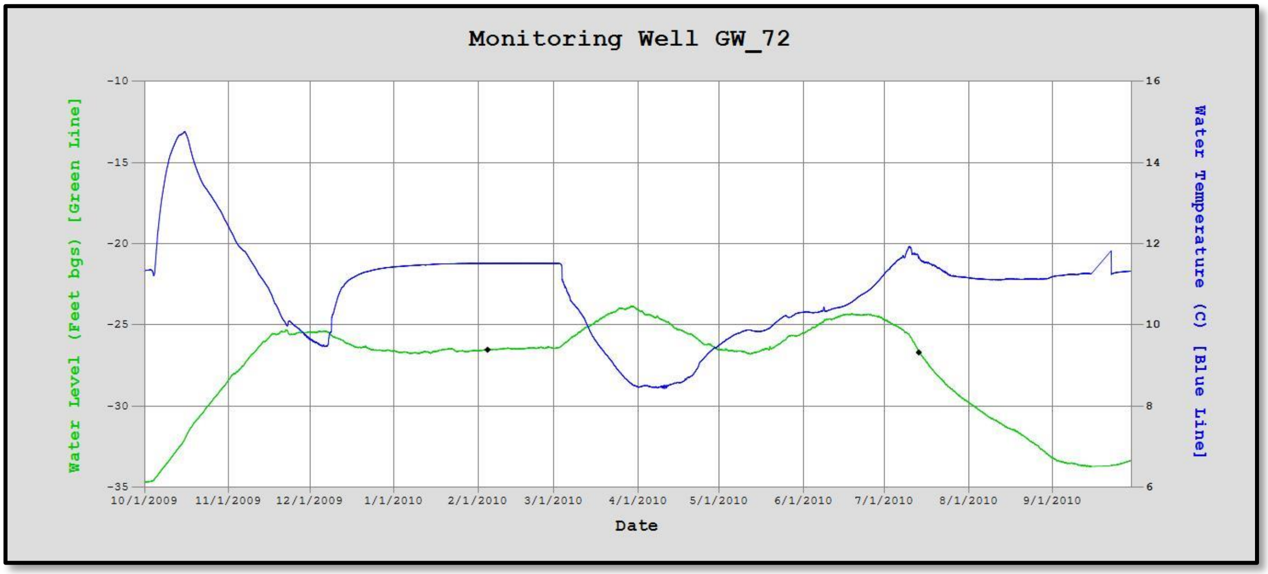


Figure 21 - Hydrograph for GW_72 during the 2009-2010 recharge season.

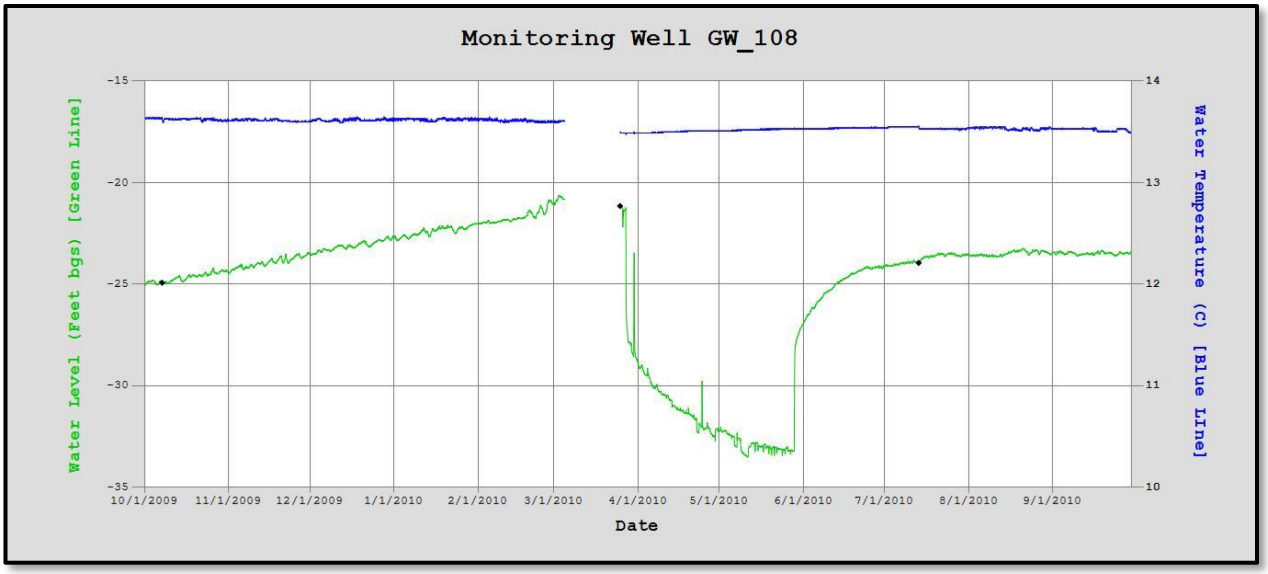


Figure 22 - Hydrograph for GW_108 during the 2009-2010 recharge season. Note drawdowns during April, and May from potential influence of pumping of nearby well(s).

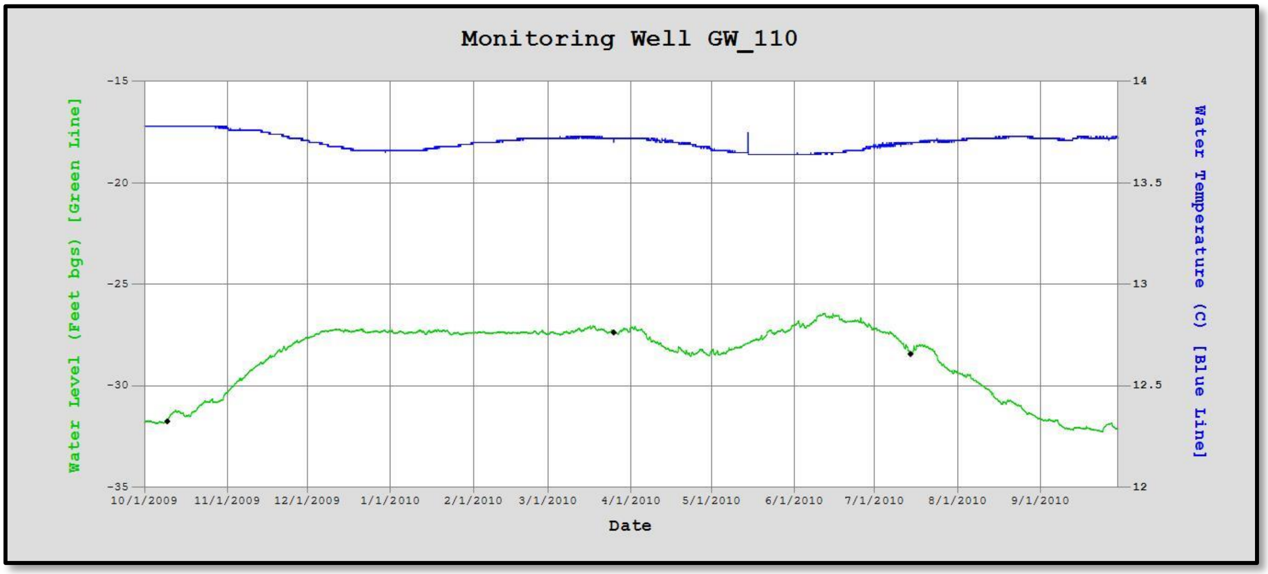


Figure 23 - Hydrograph for GW_110 during the 2009-2010 recharge season.

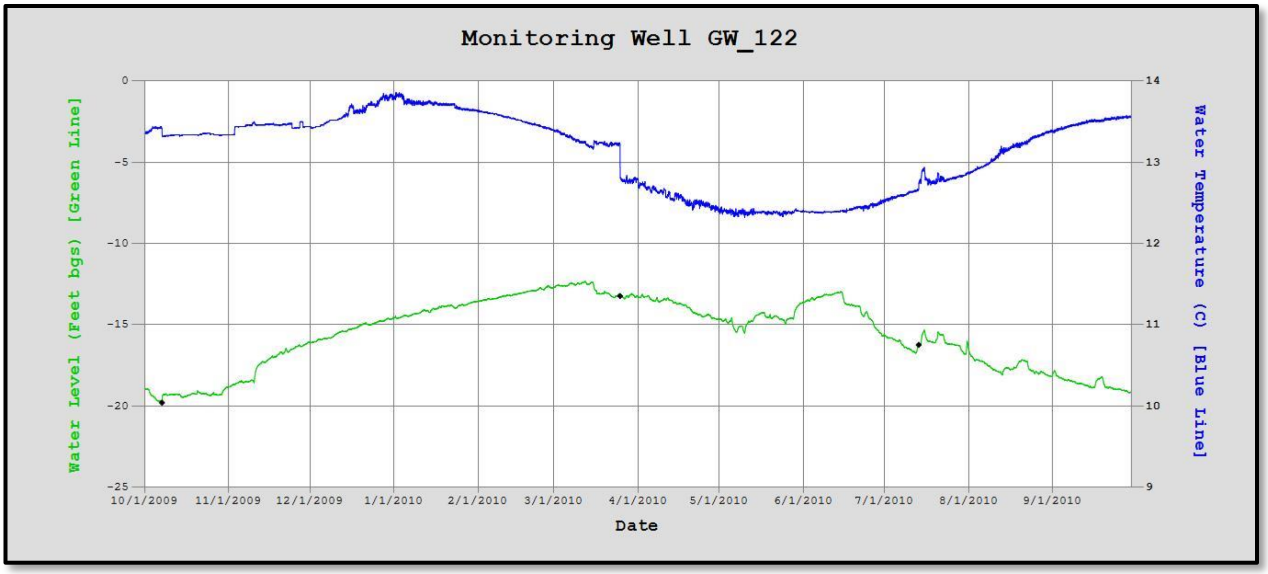


Figure 24 - Hydrograph for GW_122 during the 2009-2010 recharge season.

WATER QUALITY

Because the Locher Road site did not operate, no water quality data were collected for the 2009-2010 recharge season.

LOCHER ROAD – 2010-2011

OVERVIEW

The Locher Road site operated for a total of 51 days during the 2010-2011 recharge season. The season started on April 8th and ended on May 31st. The site averaged 0.87 cfs of inflow during operations. Walla Walla River flows during this recharge season were never a limiting factor – flows never dipped below ~400 cfs during the March-May season. A total of 92.83 acre-feet were recharged during this recharge season (Figures 25 & 26).

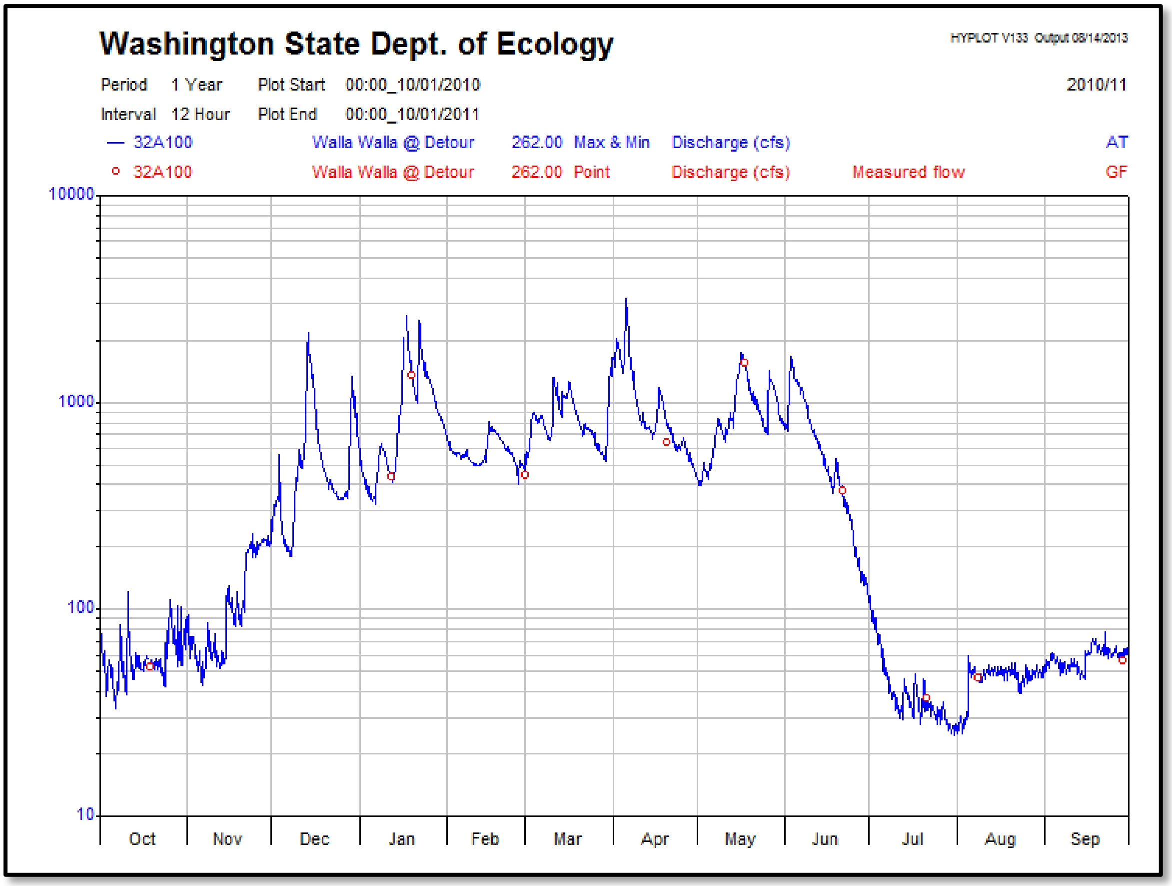


Figure 25 - 2010-2011 water year hydrograph for Washington Department of Ecology's Walla Walla River at Detour Road (32A100) gage.

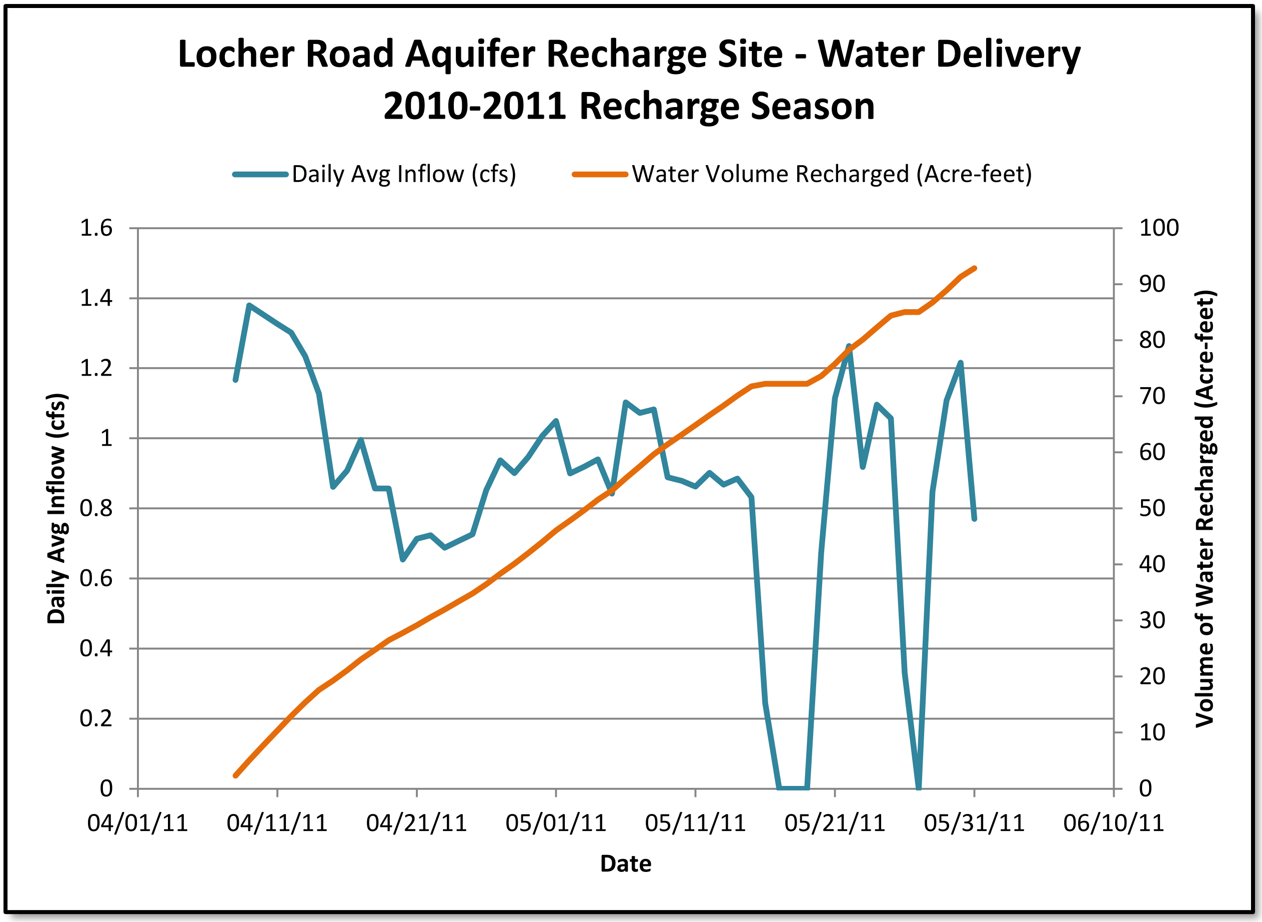


Figure 26 - Hydrograph showing daily average inflow and volume of water recharged at the Locher Road Aquifer Recharge Site during the 2010-2011 Recharge Season.

ALLUVIAL WELL RESPONSES

See Figure 17 for groundwater monitoring locations.

On-site monitoring wells show an increase in water levels shortly after the start-up of the Gardena Farms Canal in early March followed by a further increase in water levels in early April from the start of recharge operations. Water levels decrease almost immediately after recharge operations stop in late May; especially in the up-gradient well, GW_70. Distant down-gradient wells do not show the same clear water level response seen in the on-site wells. However, there are still positive gains in the down-gradient wells from the previous year (Figures 27-33). See Appendix A for well hydrographs that include all available data for each well.

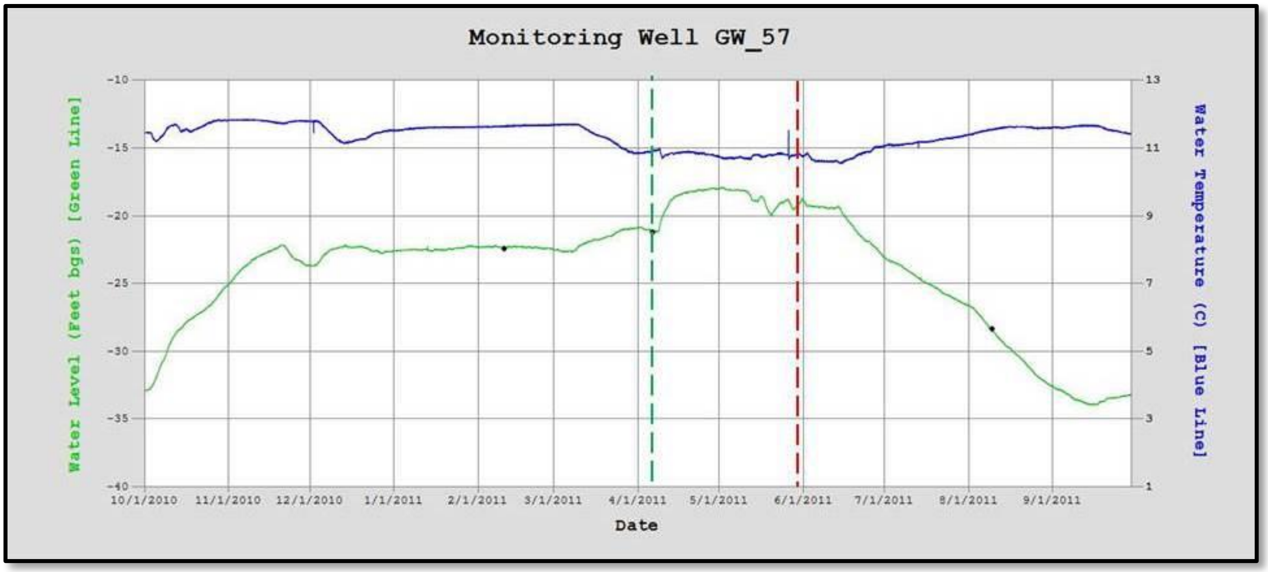


Figure 27 - Hydrograph for GW_57 during the 2010-2011 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

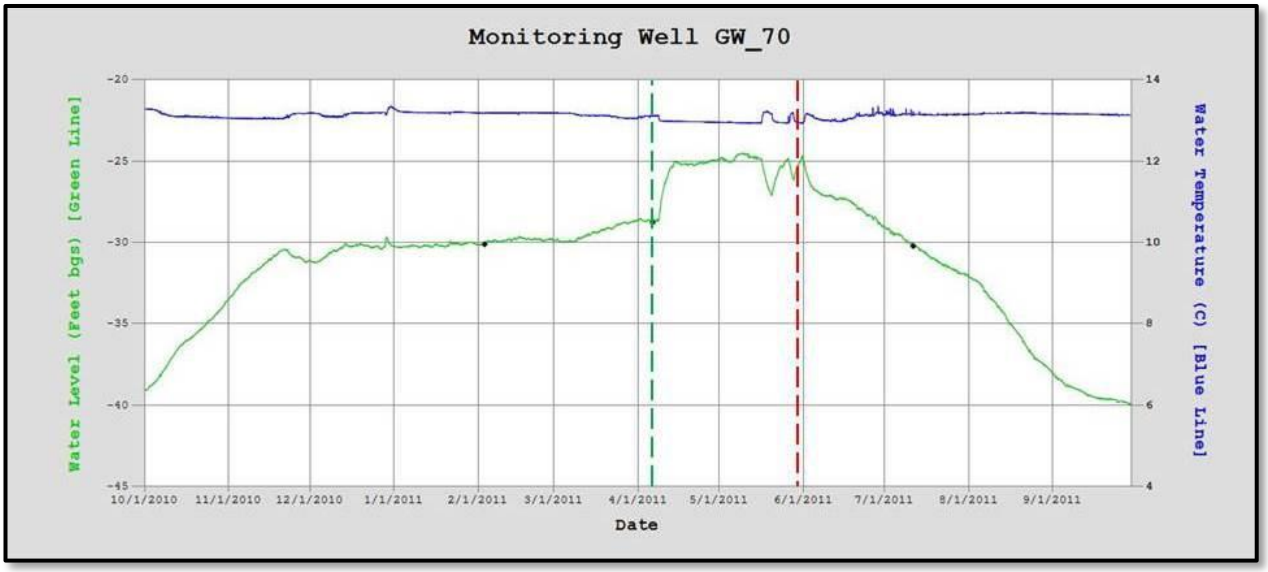


Figure 28 - Hydrograph for GW_70 during the 2010-2011 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

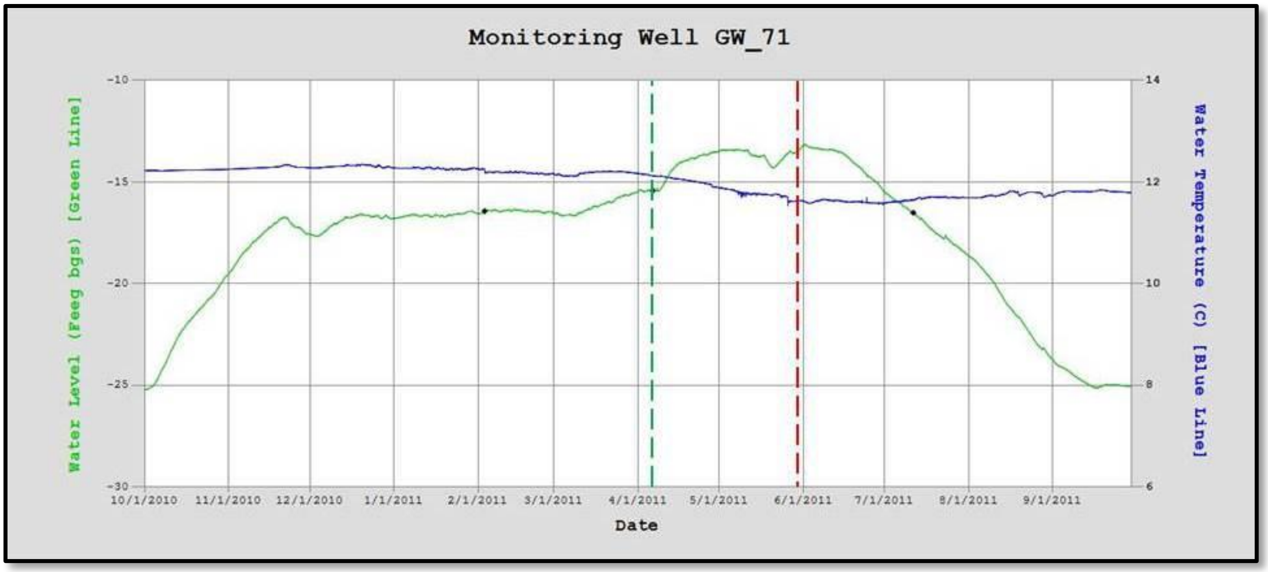


Figure 29 - Hydrograph for GW_71 during the 2010-2011 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

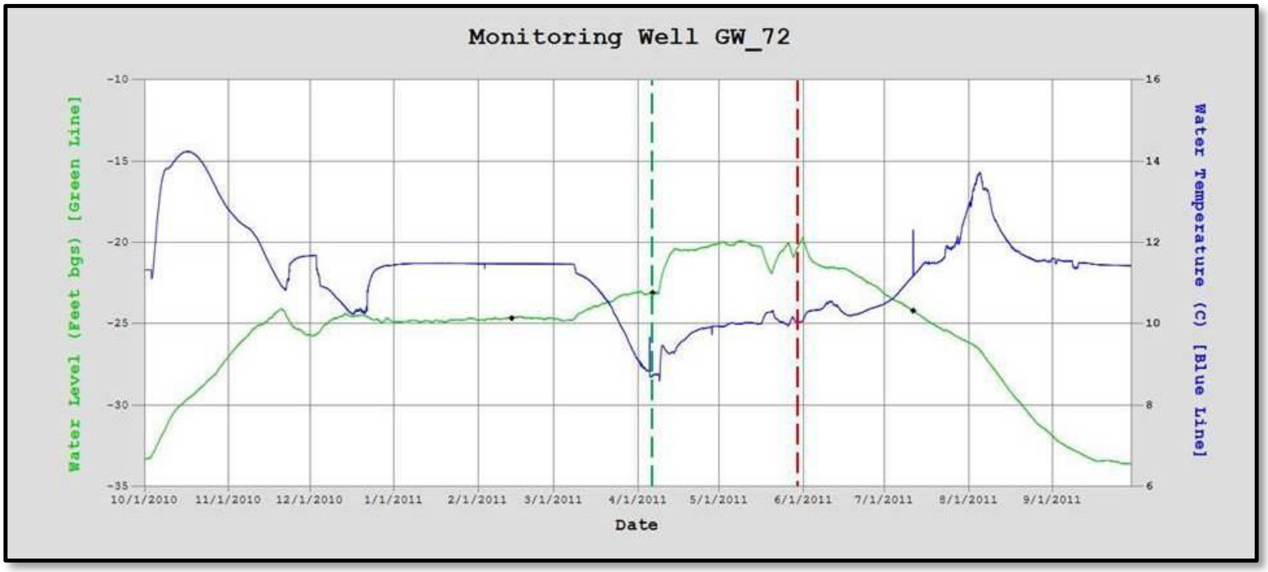


Figure 30 - Hydrograph for GW_72 during the 2010-2011 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

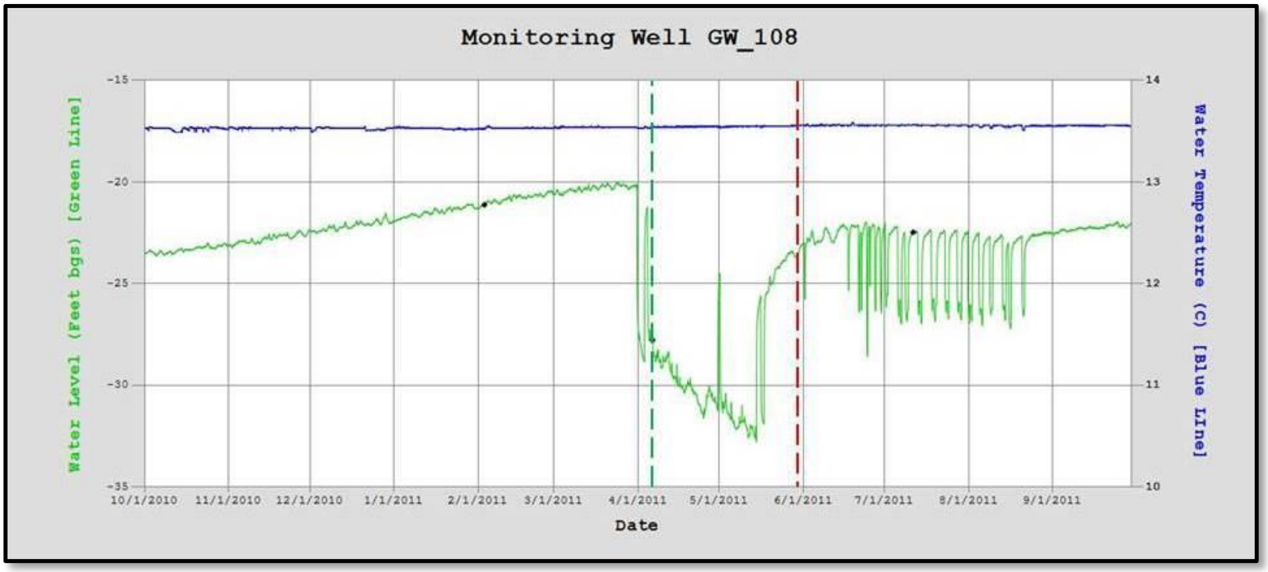


Figure 31 - Hydrograph for GW_108 during the 2010-2011 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

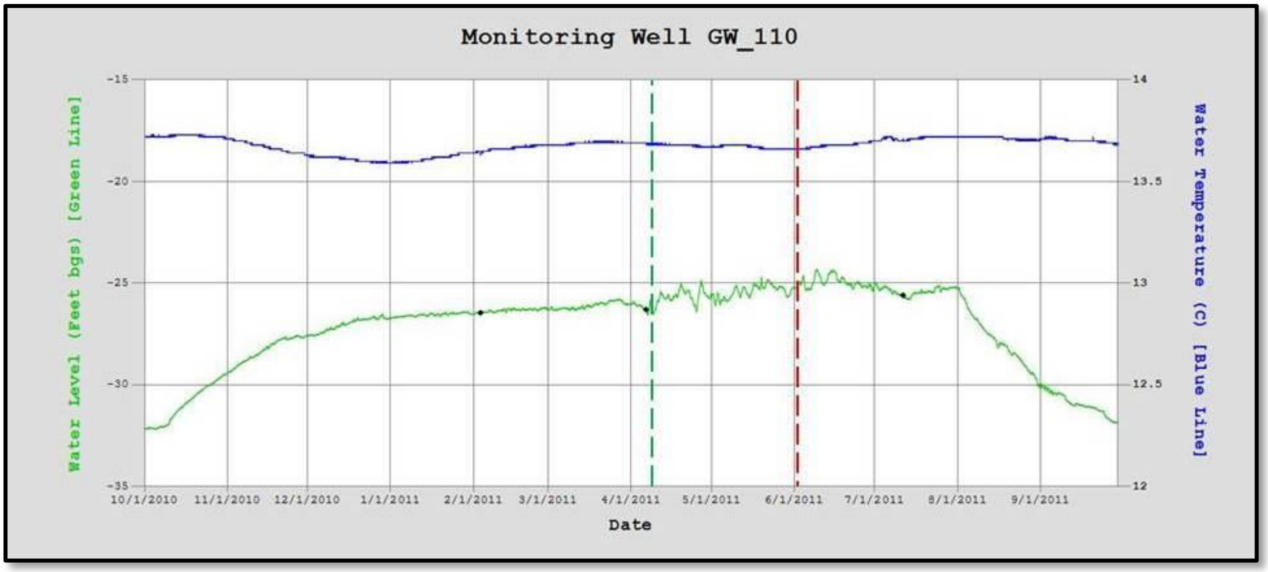


Figure 32 - Hydrograph for GW_110 during the 2010-2011 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

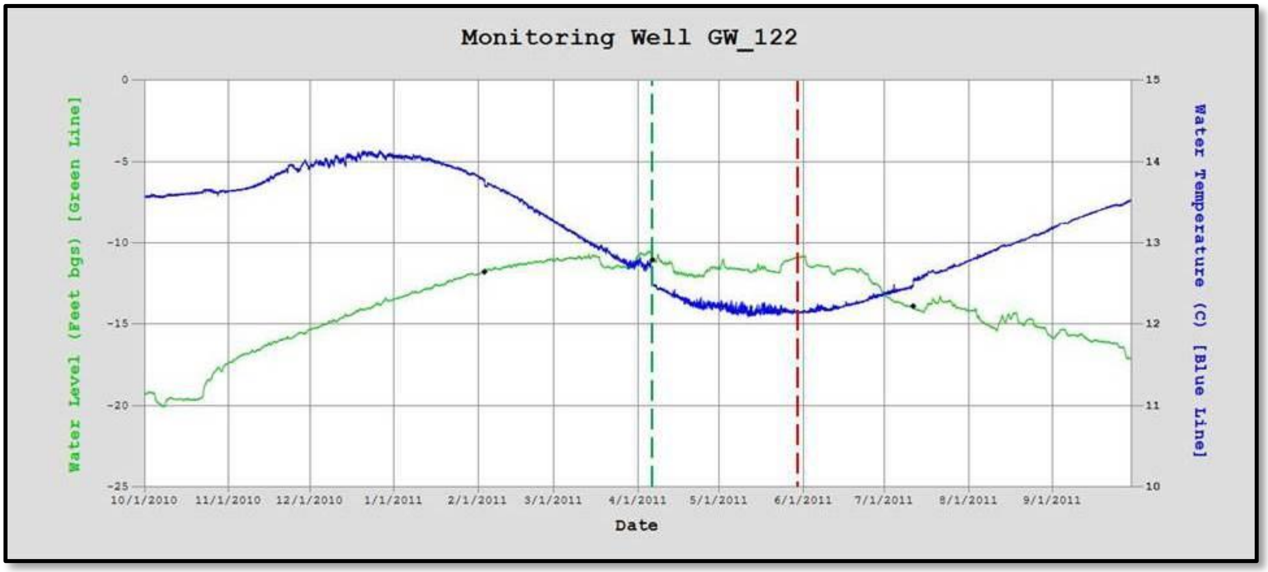


Figure 33 - Hydrograph for GW_122 during the 2010-2011 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

WATER QUALITY

Full water quality data and laboratory QA records can be found in Appendix B.

SOURCE WATER

Sample Parameter	April 5th, 2011	April 14th, 2011	April 28th, 2011	May 26th, 2011	June 30th, 2011
pH	7.31	6.93	7.03	6.74	n/a
Nitrates (mg/L)	0.35	0.58	0.49	0.31	n/a
Electrical Conducivity (µs/cm)	65.5	86.7	90.5	72.5	n/a
Hardness (as Calcium Carbonate) (mg/L)	33.1	30.1	34.9	29.2	n/a
Total Dissolved Solids (TDS) (mg/L)	86	94	87	76	n/a
Chloride (mg/L)	0.8	1.4	1.4	0.9	n/a
DCPA (Dacthal) (µg/L)	ND	0.22	ND	n/a	n/a

UP-GRADIENT WELL (GW_70 – L1)

Sample Parameter	April 5th, 2011	April 14th, 2011	April 28th, 2011	May 26th, 2011	June 30th, 2011
pH	6.94	6.78	6.88	6.74	6.73
Nitrates (mg/L)	7.07	6.18	7.23	7.63	10.7
Electrical Conducivity (µs/cm)	390	378	397	415	485
Hardness (as Calcium Carbonate) (mg/L)	177	145.6	171	178	161.1
Total Dissolved Solids (TDS) (mg/L)	274	269	262	287	329
Chloride (mg/L)	7.2	6.5	7.7	8	11
Atrazine (µg/L)	0.02	ND	ND	n/a	n/a
Bromacil (µg/L)	0.04	ND	ND	n/a	n/a

MID-GRADIENT WELL (GW_72 – L3)

Sample Parameter	**April 5th, 2011**	**April 14th, 2011**	**April 28th, 2011**	**May 26th, 2011**	**June 30th, 2011**
pH	6.86	6.70	6.74	6.62	6.67
Nitrates (mg/L)	2.82	5.19	5.34	3.6	3.29
Electrical Conducivity (µs/cm)	149	177	178	148	159
Hardness (as Calcium Carbonate) (mg/L)	64.1	72.3	70.5	57.6	60.4
Total Dissolved Solids (TDS) (mg/L)	128	147	115	131	121
Chloride (mg/L)	2.6	2.8	2.9	1.9	2

DOWN-GRADIENT WELL (GW_71 – L2)

Sample Parameter	**April 5th, 2011**	**April 14th, 2011**	**April 28th, 2011**	**May 26th, 2011**	**June 30th, 2011**
pH	6.79	6.7	6.69	6.64	6.63
Nitrates (mg/L)	10.4	11.6	10.1	14.8	9.92
Electrical Conducivity (µs/cm)	346	358	341	385	353
Hardness (as Calcium Carbonate) (mg/L)	143	149.5	140	165	140.5
Total Dissolved Solids (TDS) (mg/L)	250	277	218	289	253
Chloride (mg/L)	7	7.1	6.8	8.7	7.3

LOCHER ROAD – 2011-2012

OVERVIEW

The 2011-2012 recharge season was after the expansion of the Locher Road site's main recharge basin from ~1/3 of an acre to ~2.5 acres. During the 2011-2012 recharge season the Locher Road site operated for a total of 68 days between March 12th and May 26th. Walla Walla River flows during this recharge season did limited recharge operations, with the site shut down for 8 days during late March and mid-May because of insufficient instream flows. A total of 334 acre-feet were recharged during this recharge season (Figures 34 & 35).

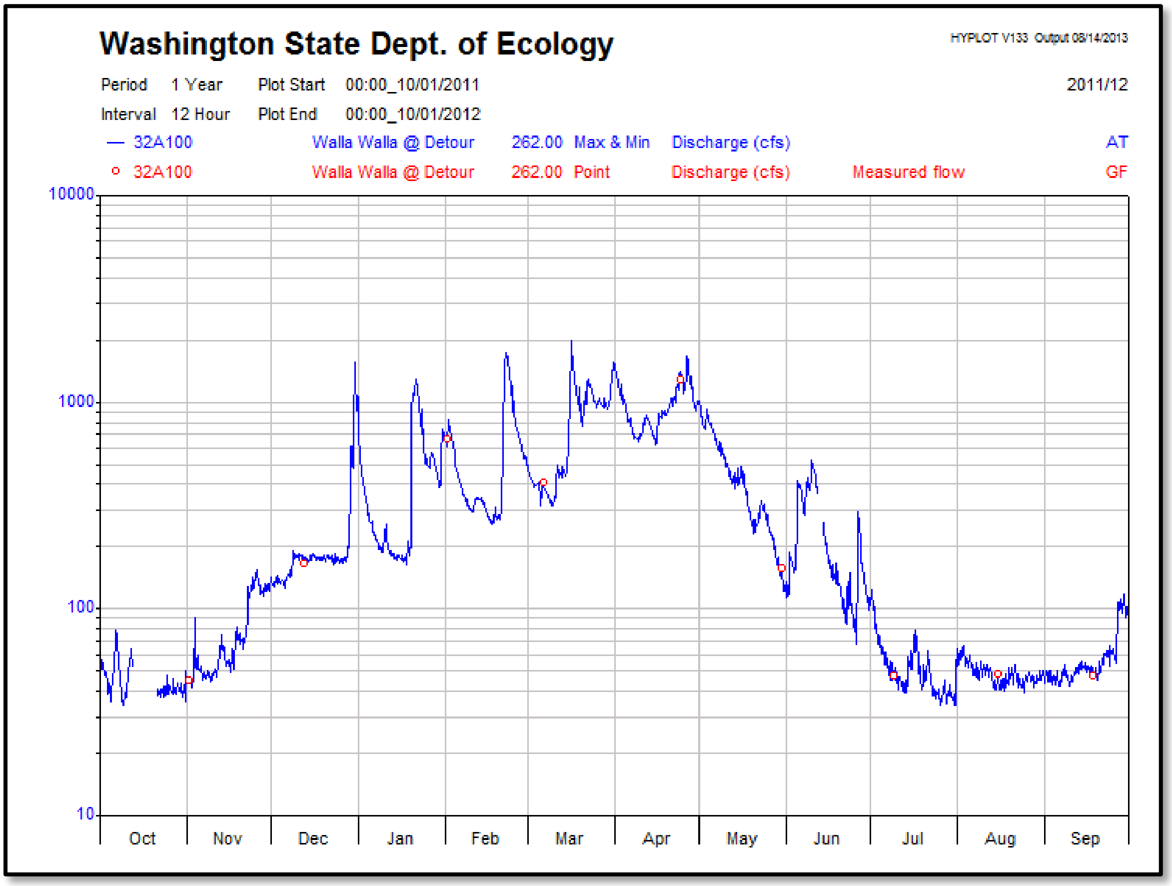


Figure 34 - 2011-2012 water year hydrograph for Washington Department of Ecology's Walla Walla River at Detour Road (32A100) gage.

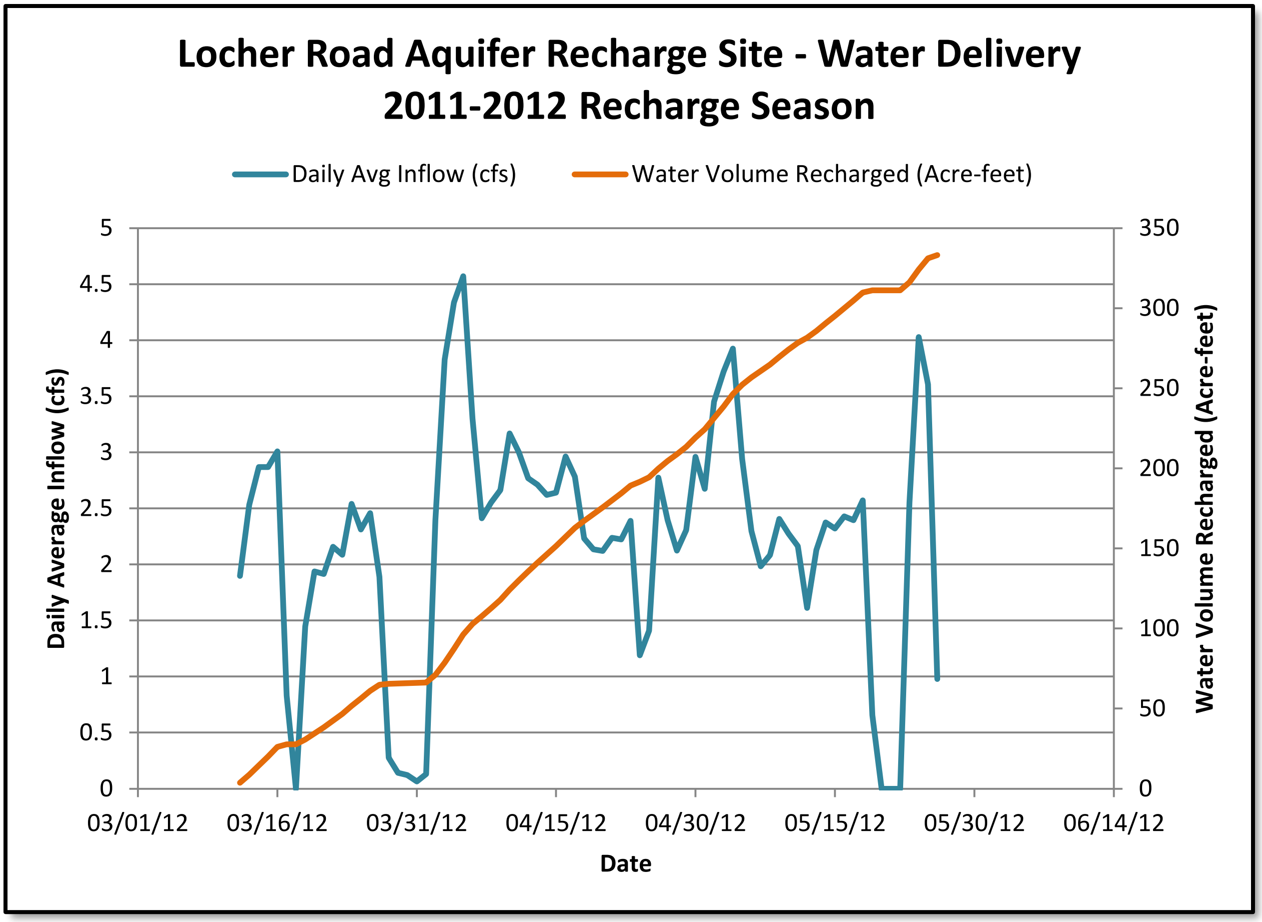


Figure 35 - Hydrograph showing daily average inflow and volume of water recharged at the Locher Road Aquifer Recharge Site during the 2011-2012 Recharge Season.

ALLUVIAL WELL RESPONSES

See Figure 17 for groundwater monitoring locations.

On-site monitoring wells show an increase in water levels shortly after the start-up of the Gardena Farms Canal in early March followed by a further increase in water levels from the start of recharge operations a few days later. Higher recharge site inflow volumes made possible by the late 2011 site expansion created larger increases in on-site water levels compared to previous years. Prior to the site expansion, on-site water levels rose approximately 5 feet during operations. After the site expansion, on-site water levels rose approximately 10-15 feet during operations. Water levels decrease almost immediately after recharge operations stop in late May; especially in the up-gradient well, GW_70. However, the water levels do not start dropping drastically until the Gardena Farms Canal turns off in early July. Distant down-gradient wells do not show the same clear water level response seen in the on-site wells. However, there are positive gains in the down-gradient wells from the previous year (Figures 36-42). See Appendix A for well hydrographs that include all available data for each well.

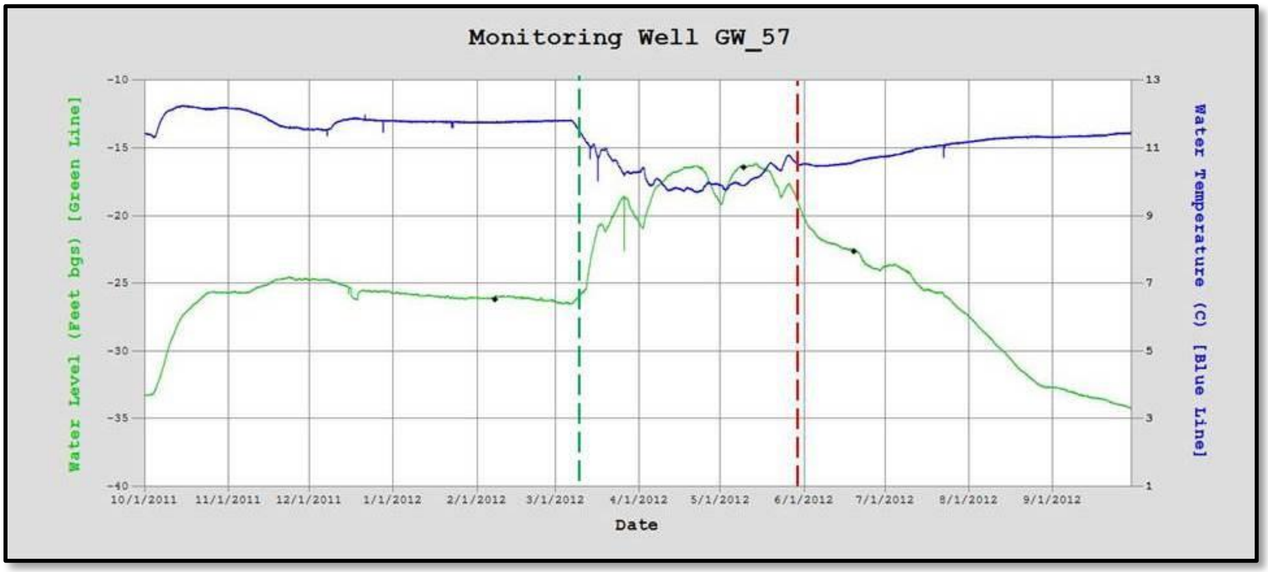


Figure 36 - Hydrograph for GW_57 during the 2011-2012 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

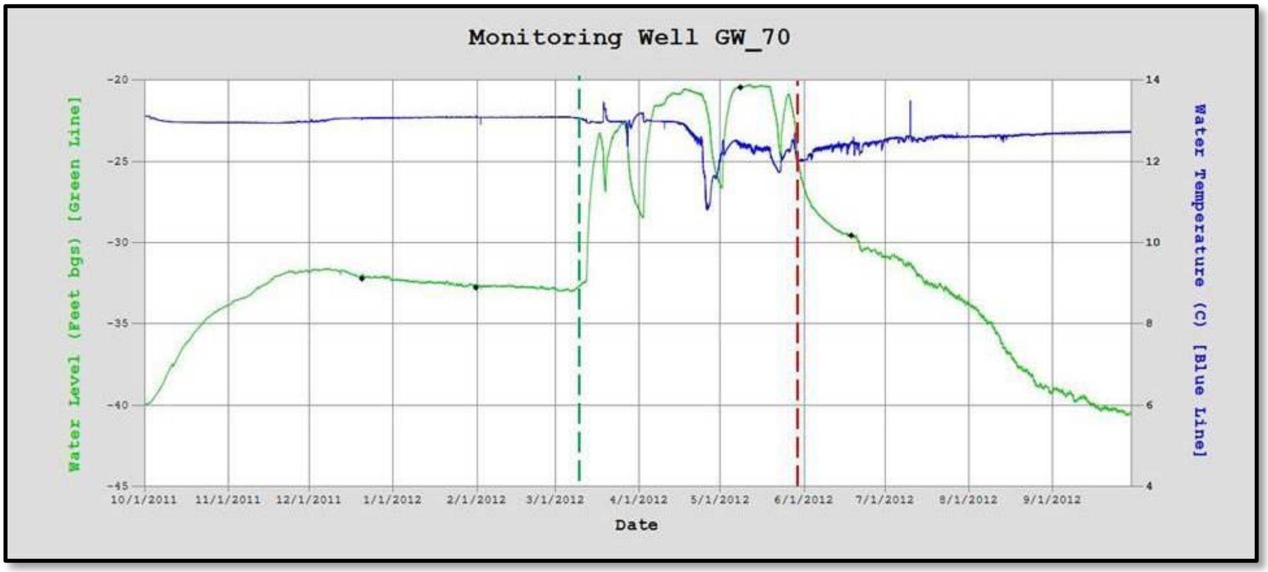


Figure 37 - Hydrograph for GW_70 during the 2011-2012 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

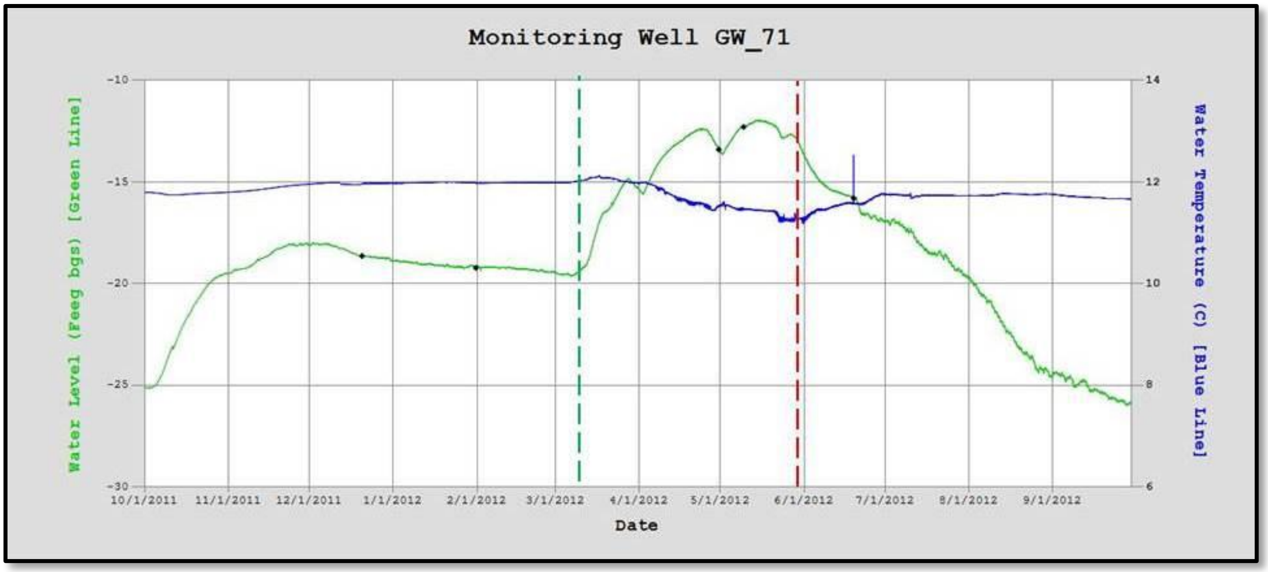


Figure 38 - Hydrograph for GW_71 during the 2011-2012 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

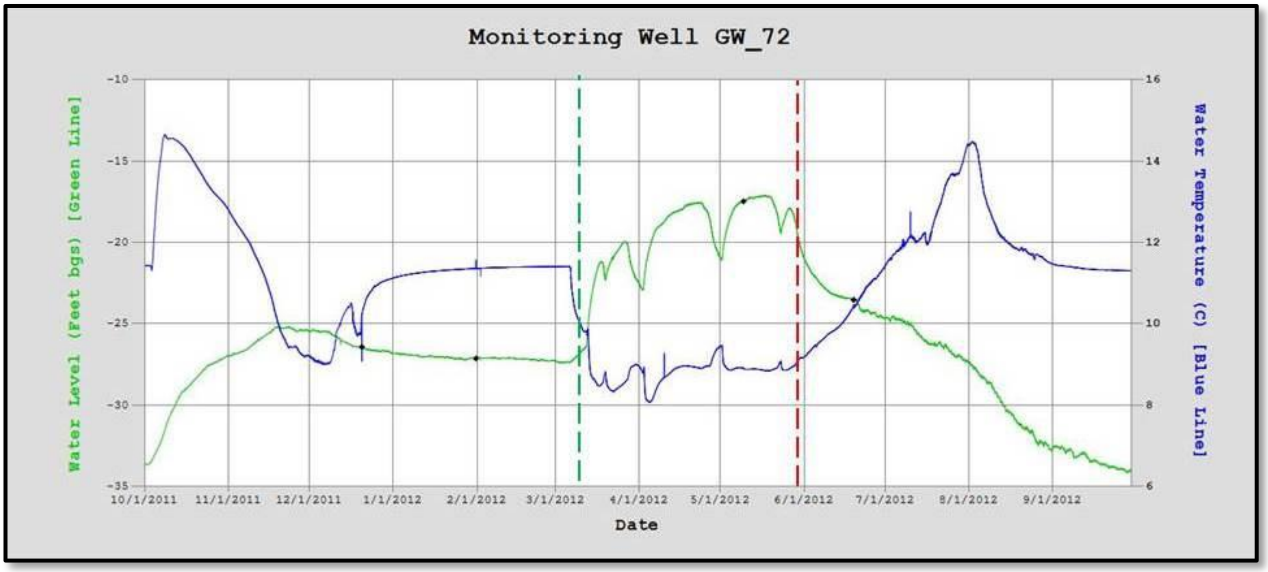


Figure 39 - Hydrograph for GW_72 during the 2011-2012 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

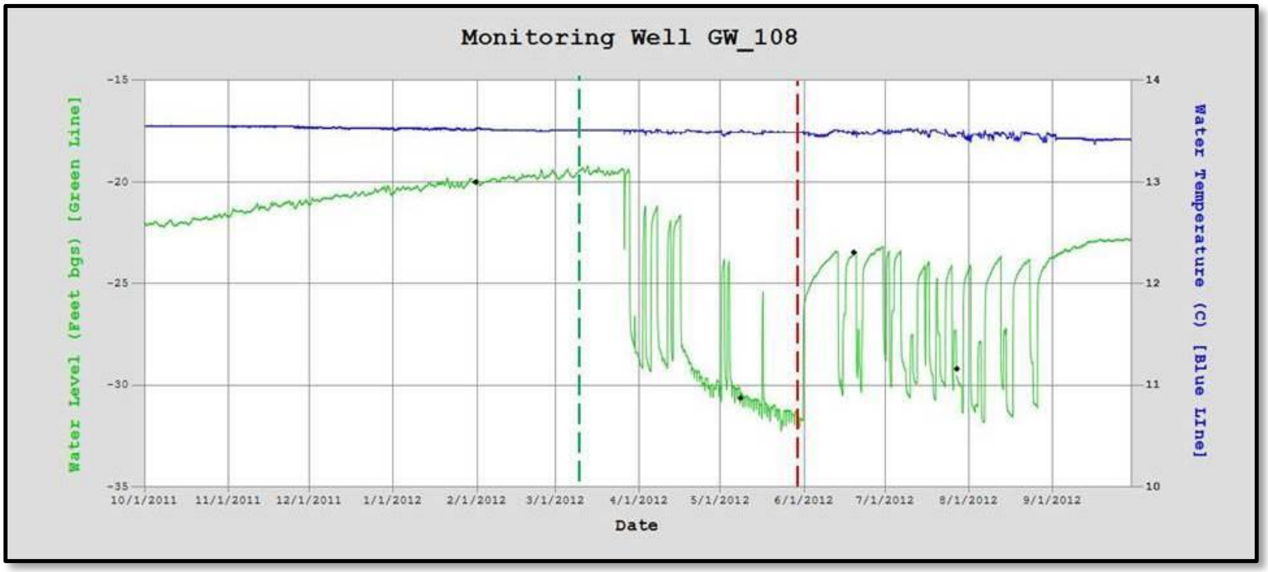


Figure 40 - Hydrograph for GW_108 during the 2011-2012 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

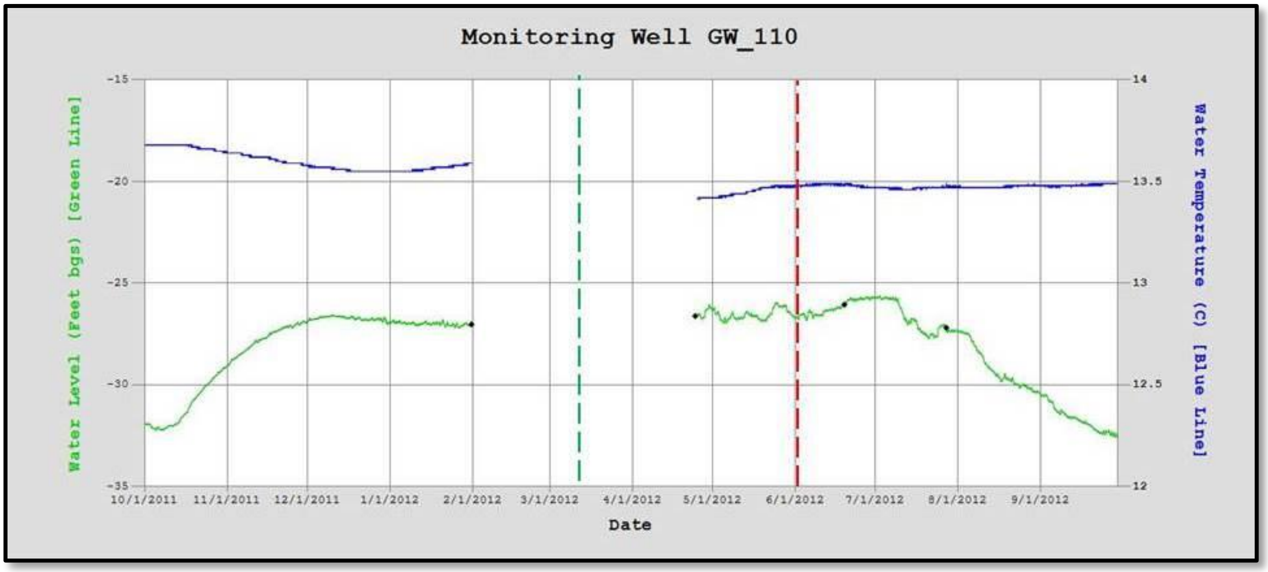


Figure 41 - Hydrograph for GW_110 during the 2011-2012 recharge season. The pressure transducer in this well stopped working between the February 2012 and April 2012 downloads. Green line is approximately when operations started and the red line is approximately when operations stopped.

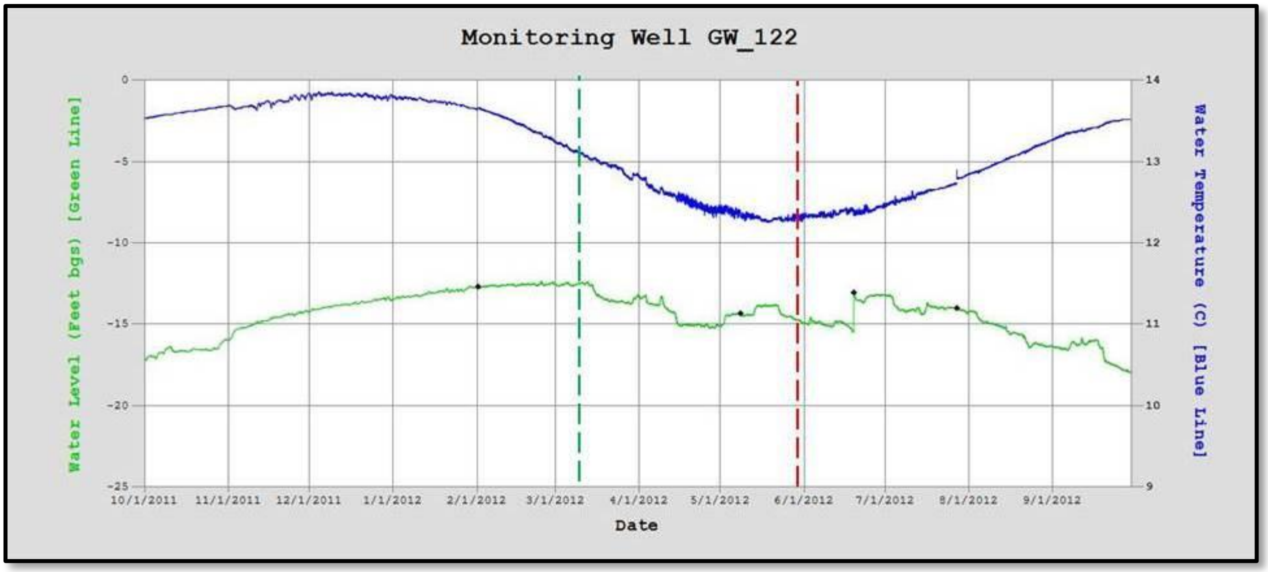


Figure 42 - Hydrograph for GW_122 during the 2011-2012 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

Water Quality

Full water quality data and laboratory QA records can be found in Appendix B.

Source Water

Sample Parameter	February 2nd, 2012	March 22nd, 2012	July 10th, 2012
pH	n/a	7.40	n/a
Nitrates (mg/L)	n/a	0.43	n/a
Electrical Conducivity (µs/cm)	n/a	75.5	n/a
Hardness (as Calcium Carbonate) (mg/L)	n/a	34.1	n/a
Total Dissolved Solids (TDS) (mg/L)	n/a	95	n/a
Chloride (mg/L)	n/a	0.8	n/a

Up-gradient Well (GW_70 – L1)

Sample Parameter	February 2nd, 2012	March 22nd, 2012	July 10th, 2012
pH	6.79	7.10	7.28
Nitrates (mg/L)	7.14	5.66	7.30
Electrical Conducivity (µs/cm)	412	302	361
Hardness (as Calcium Carbonate) (mg/L)	175.6	124.3	125
Total Dissolved Solids (TDS) (mg/L)	277	219	306
Chloride (mg/L)	7	4.1	8.43
Bromacil (µg/L)	0.06	ND	n/a
DCPA (Dacthal) (µg/L)	ND	0.21	n/a

MID-GRADIENT WELL (GW_72 – L3)

Sample Parameter	**February 2nd, 2012**	**March 22nd, 2012**	**July 10th, 2012**
pH	6.47	7.09	7.25
Nitrates (mg/L)	4.2	1.6	1.70
Electrical Conducivity (µs/cm)	206	122	143.5
Hardness (as Calcium Carbonate) (mg/L)	84.4	48.7	45
Total Dissolved Solids (TDS) (mg/L)	160	100	138
Chloride (mg/L)	2.9	1.4	3.11

DOWN-GRADIENT WELL (GW_71 – L2)

Sample Parameter	**February 2nd, 2012**	**March 22nd, 2012**	**July 10th, 2012**
pH	6.59	6.84	7.22
Nitrates (mg/L)	3.99	17.67	9.60
Electrical Conducivity (µs/cm)	278	445	333
Hardness (as Calcium Carbonate) (mg/L)	115.6	183.2	123
Total Dissolved Solids (TDS) (mg/L)	198	318	260
Chloride (mg/L)	5.1	6.9	7.20
DICAMBA	ND	0.22	n/a

LOCHER ROAD – 2012-2013

OVERVIEW

The 2012-2013 recharge season was only 18 days long. The development of a new QAPP document for the aquifer recharge site to operate under prevented the site from operating until May 14th, 2013. The site was turned off for 3 days because of insufficient flows in the Walla Walla River. A total of 104.38 acre-feet were recharged during the 2012-2013 season (Figures 43 & 44).

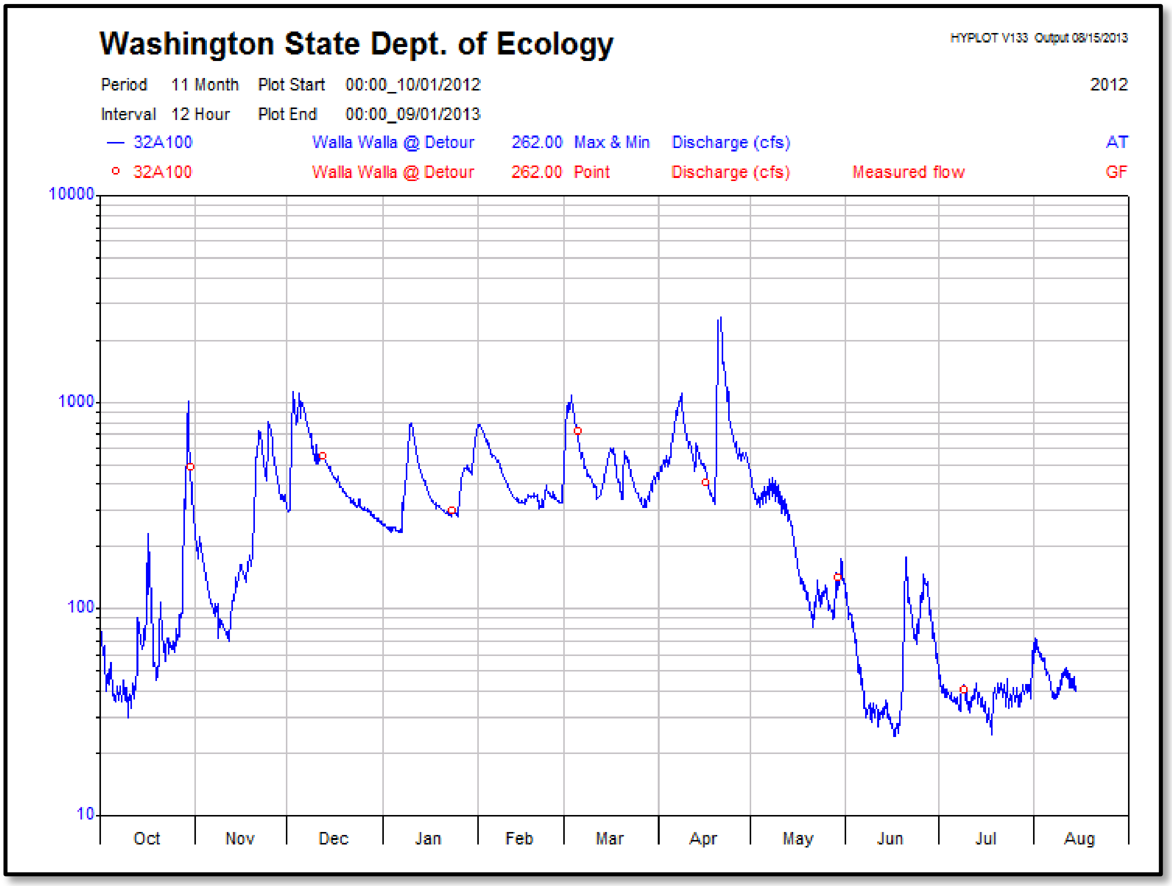


Figure 43 - 2012-2013 water year hydrograph for Washington Department of Ecology's Walla Walla River at Detour Road (32A100) gage.

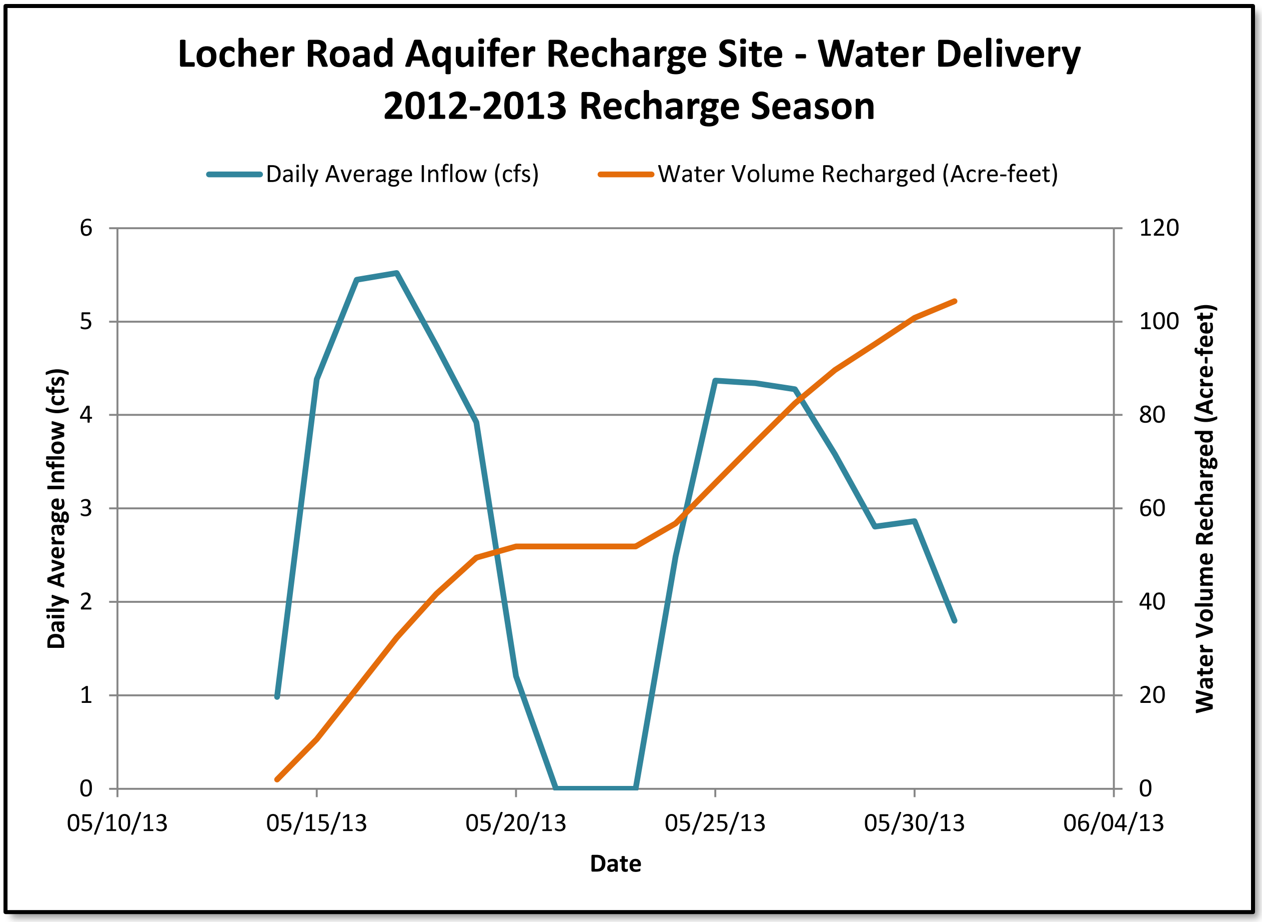


Figure 44 - Hydrograph showing daily average inflow and volume of water recharged at the Locher Road Aquifer Recharge Site during the 2012-2013 Recharge Season.

ALLUVIAL WELL RESPONSES

See Figure 17 for groundwater monitoring locations.

On-site monitoring wells show an increase in water levels shortly after the start-up of the Gardena Farms Canal in early March followed by a further increase in water levels from the start of recharge operations in the middle of May. Water levels decrease almost immediately after recharge operations stop in late May; especially in the up-gradient well, GW_70. Distant down-gradient wells do not show the same clear water level response seen in the on-site wells. However, there are positive gains in the down-gradient wells from the previous year (Figures 45-51). See Appendix A for well hydrographs that include all available data for each well.

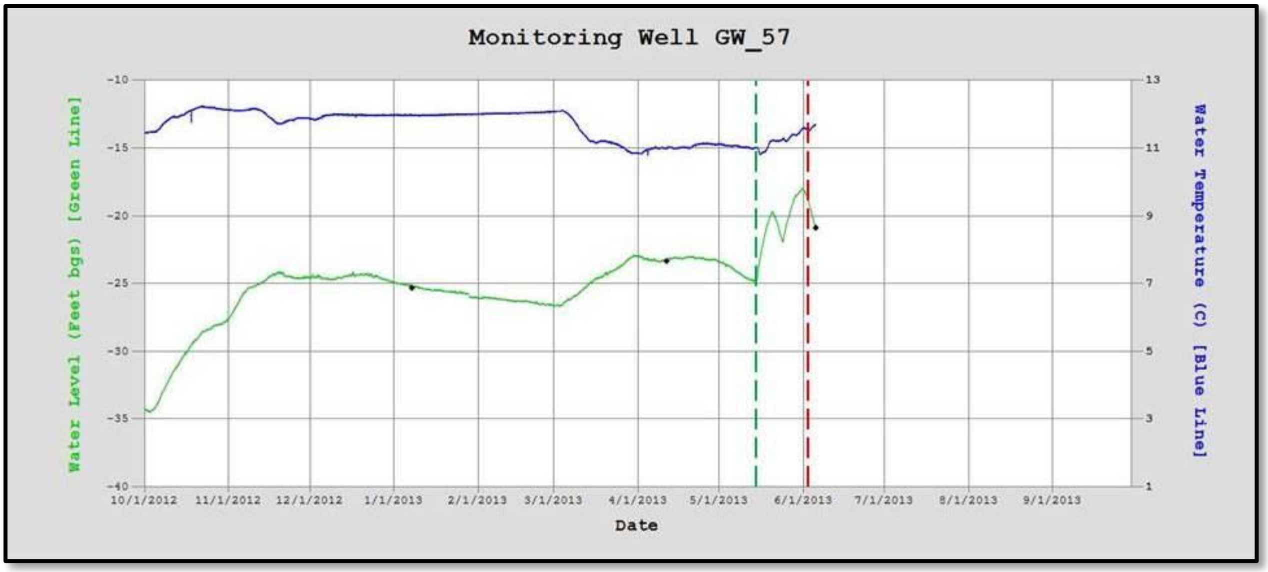


Figure 45 - Hydrograph for GW_57 during the 2012-2013 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

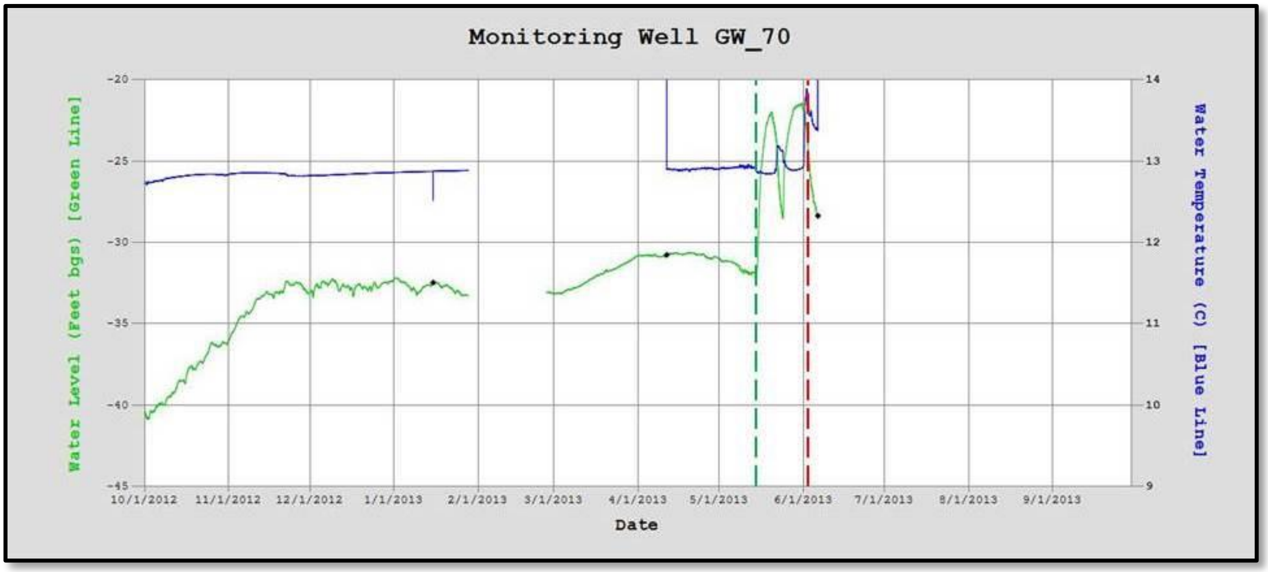


Figure 46 - Hydrograph for GW_70 during the 2012-2013 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

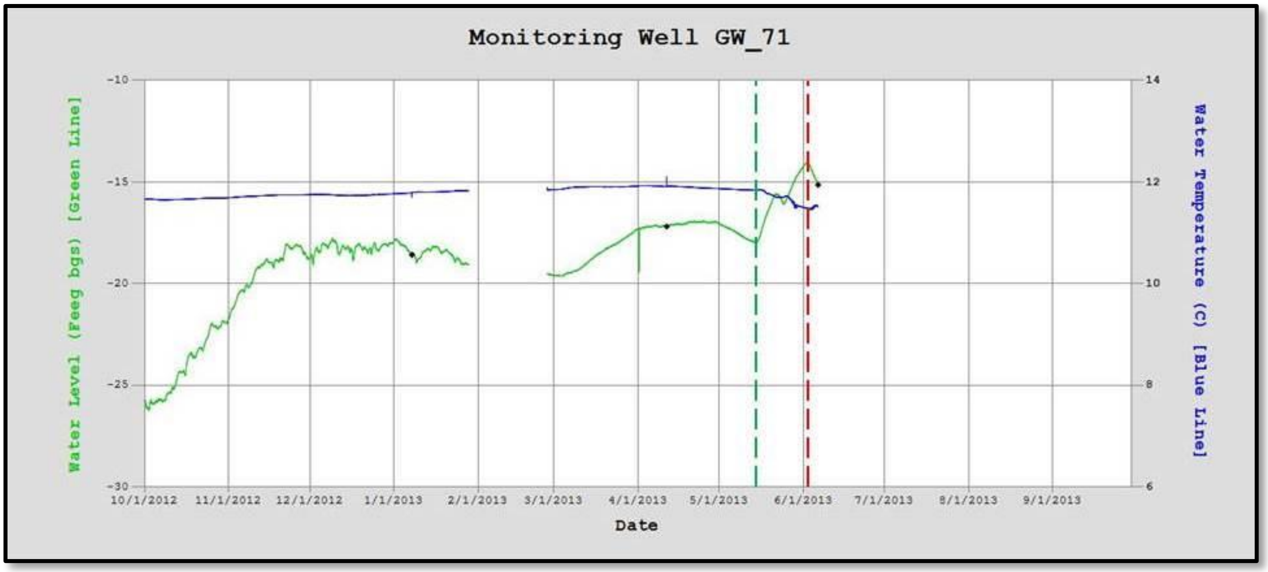


Figure 47 - Hydrograph for GW_71 during the 2012-2013 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

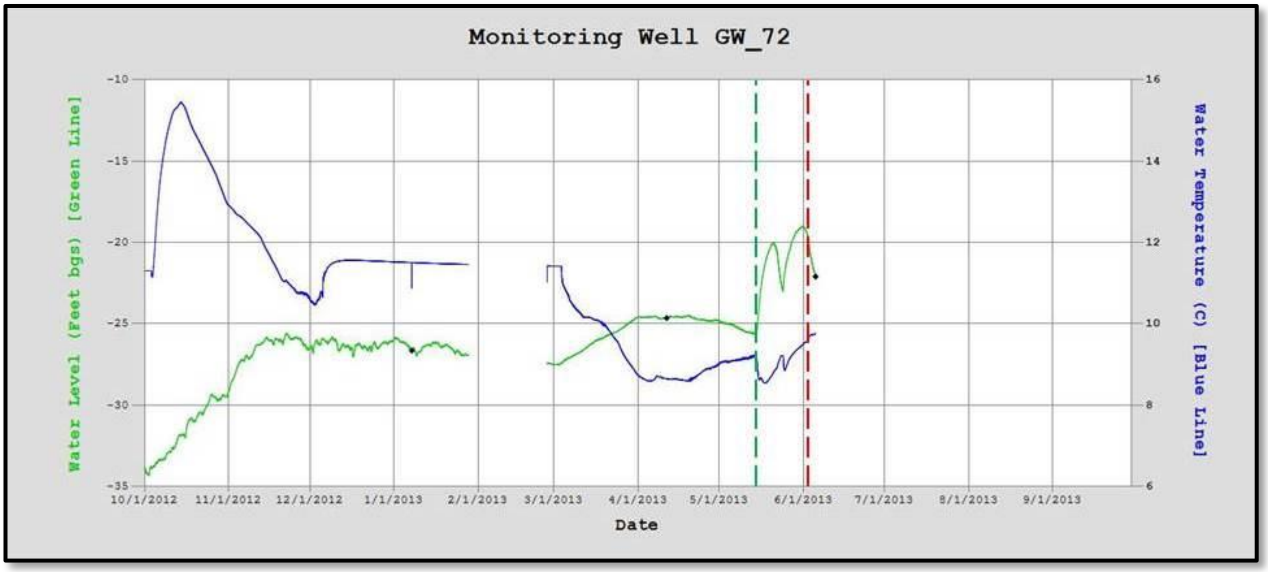


Figure 48 - Hydrograph for GW_72 during the 2012-2013 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

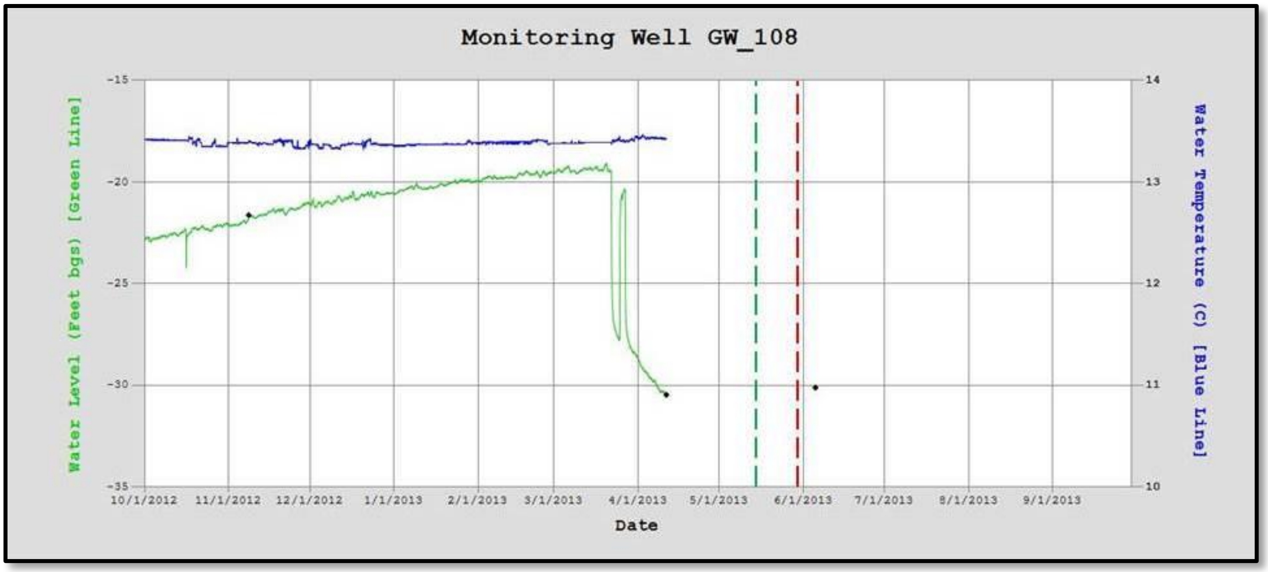


Figure 49 - Hydrograph for GW_108 during the 2012-2013 recharge season. Note – The pressure transducer in this well stopped working between the April 2013 and June 2013 downloads. Green line is approximately when operations started and the red line is approximately when operations stopped.

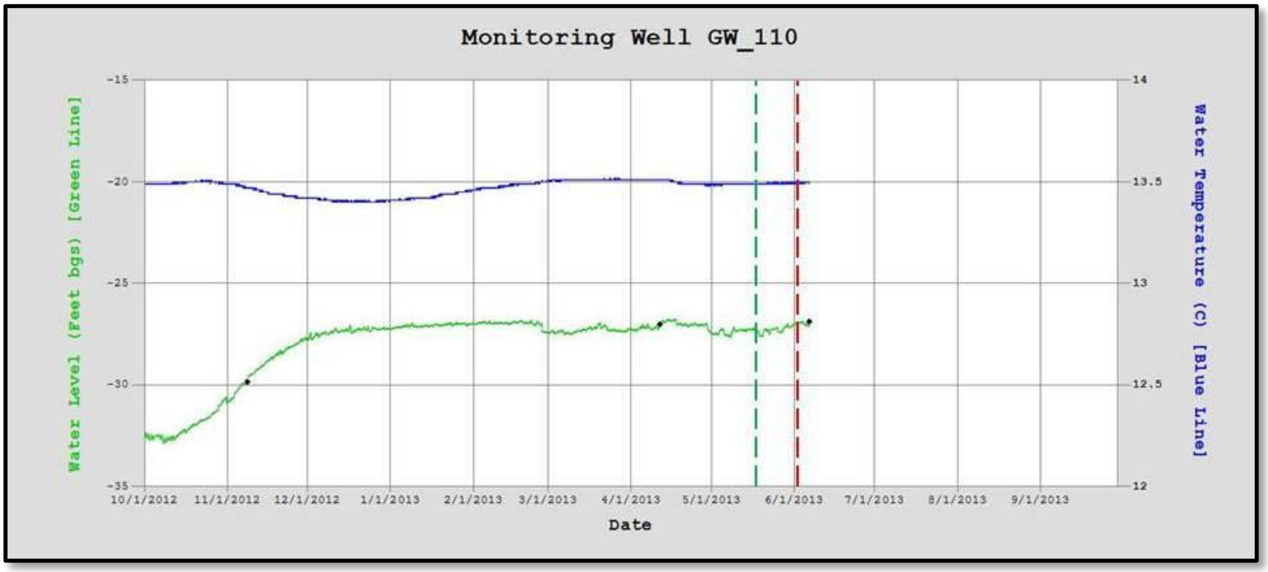


Figure 50 - Hydrograph for GW_110 during the 2012-2013 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

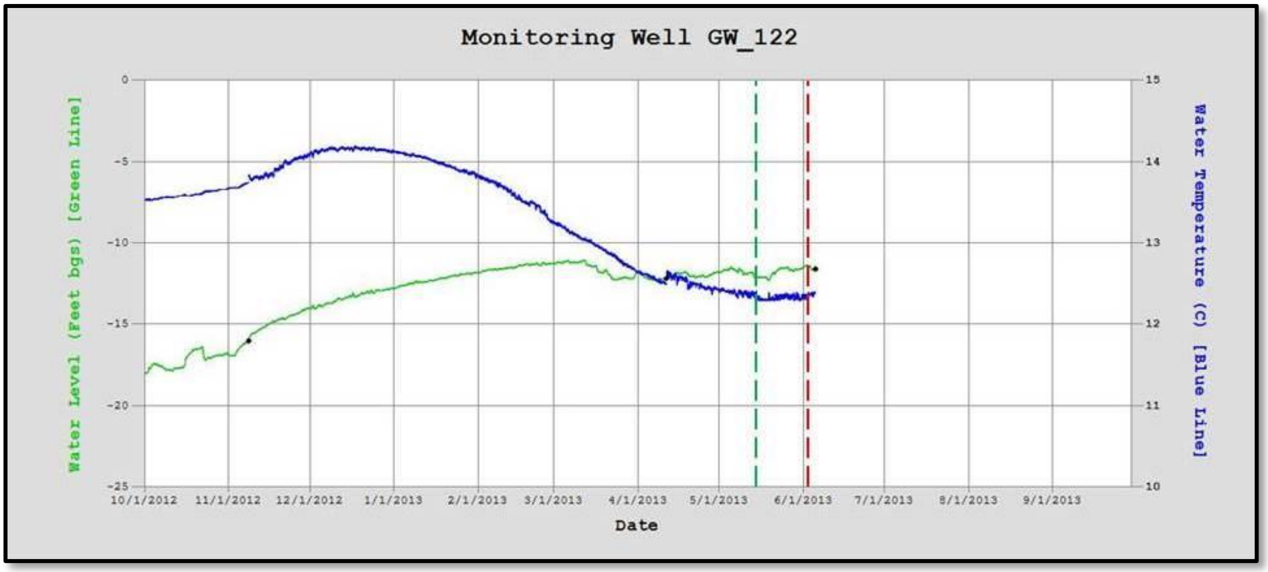


Figure 51 - Hydrograph for GW_122 during the 2012-2013 recharge season. Green line is approximately when operations started and the red line is approximately when operations stopped.

WATER QUALITY

Full water quality data and laboratory QA records can be found in Appendix B. With the new QAPP additional water and soil quality testing focusing on PCBs and chlorinated pesticides was conducted for the 2012-2013 recharge season. PCBs (polychlorinated biphenyls) and chlorinated pesticides were analyzed at picograms/liter (parts per quadrillion) for water samples and picograms/gram for soil samples. Prior to site operations, 10 soil samples were taken from the Locher Road recharge basin as well as source water and groundwater quality samples. Also, given the shortness of this recharge season, water sampling was conducted just before and just after the season. No sampling was done during the recharge season.

SOURCE WATER

Sample Parameter	May 14th, 2013	June 6th, 2013
pH	7.59	
Nitrates (mg/L)	0.26	
Hardness (as Bicarbonate) (mg/L)	33	
Total Dissolved Solids (TDS) (mg/L)	70	
Chloride (mg/L)	0.9	
PCBs (pg/L)	830	1080
DCPA (Dacthal) (µg/L)	0.25	0.70 (0.40 Duplicate)

SOIL QUALITY

Soil PCB levels before site operations started ranged from 2.05 pg/g to 1320 pg/g. A few soil samples also found trace amounts of 4,4’ DDE and 4,4’ DDD.

UP-GRADIENT WELL (GW_70 – L1)

Sample Parameter	May 14th, 2013	June 6th, 2013
pH	6.84	6.91
Nitrates (mg/L)	7.78	4.75
Hardness (as Bicarbonate) (mg/L)	161	96.4
Total Dissolved Solids (TDS) (mg/L)	279	173
Chloride (mg/L)	7	2.6
PCBs (pg/L)	385	996
DCPA (Dacthal) (µg/L)	0.25	0.2

MID-GRADIENT WELL (GW_72 – L3)

Sample Parameter	May 14th, 2013	June 6th, 2013
pH	6.93	6.82
Nitrates (mg/L)	1.52	2.91
Hardness (as Bicarbonate) (mg/L)	44.7	57.3
Total Dissolved Solids (TDS) (mg/L)	102	118
Chloride (mg/L)	1	1.5
PCBs (pg/L)	781	831

DOWN-GRADIENT WELL (GW_71 – L2)

Sample Parameter	May 14th, 2013	June 6th, 2013
pH	6.86	6.69
Nitrates (mg/L)	4.24	17.36
Hardness (as Bicarbonate) (mg/L)	103	120
Total Dissolved Solids (TDS) (mg/L)	205	312
Chloride (mg/L)	5.4	6.1
PCBs (pg/L)	856	807

STILLER POND – 2011-2012

OVERVIEW

The WWCCD operated the Stiller Pond Aquifer Recharge site during the 2011-2012 recharge season. GSI collected monitoring data, including water quality samples. Full details for this season can be found in GSI's report found in Appendix D. The Stiller Pond site operated under the WWWMP Local Water Plan LW-10-02 which allows 32 acre-feet to be recharged to the shallow alluvial aquifer (GSI, 2012). The 2011-2012 recharge season saw 32 acre-feet of water delivered to the site during three events between March 7th, 2012 and March 29th, 2012 (Figures 52 & 53).

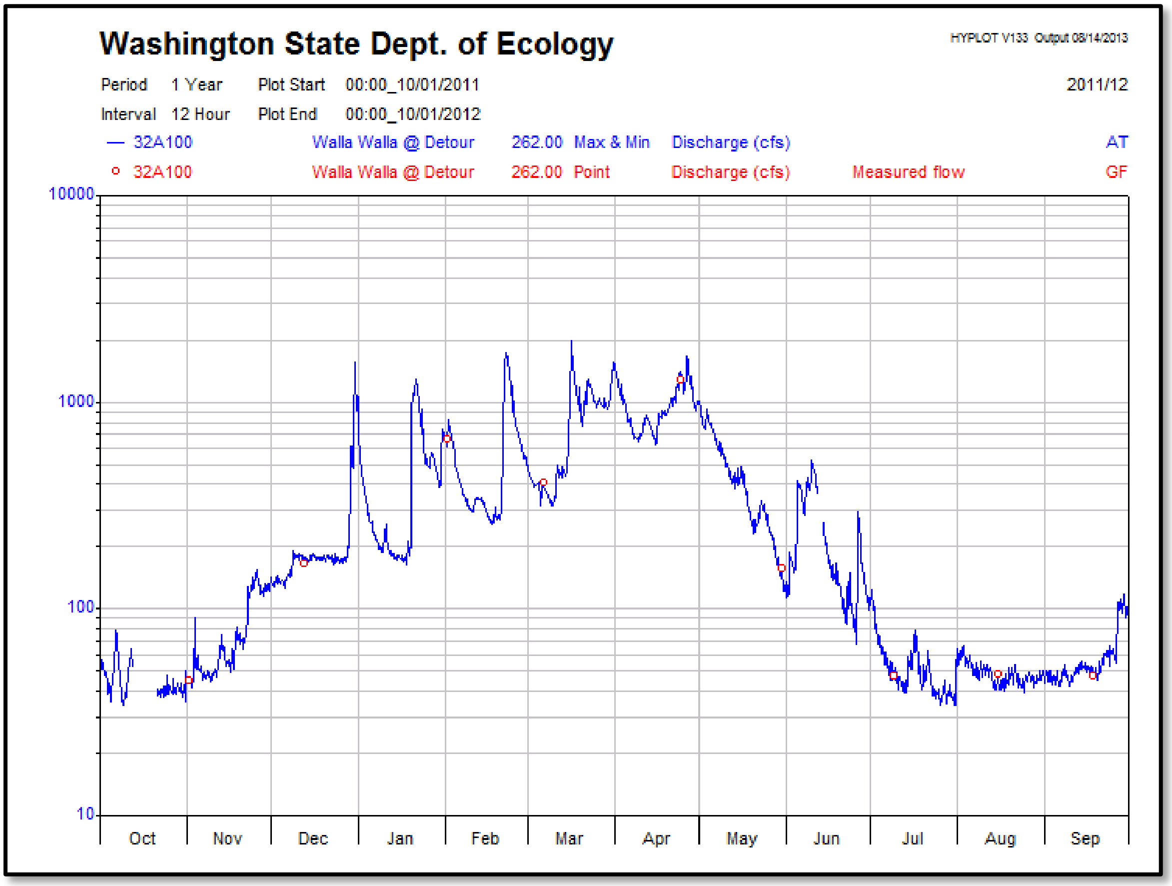


Figure 52 - 2011-2012 water year hydrograph for Washington Department of Ecology's Walla Walla River at Detour Road (32A100) gage.

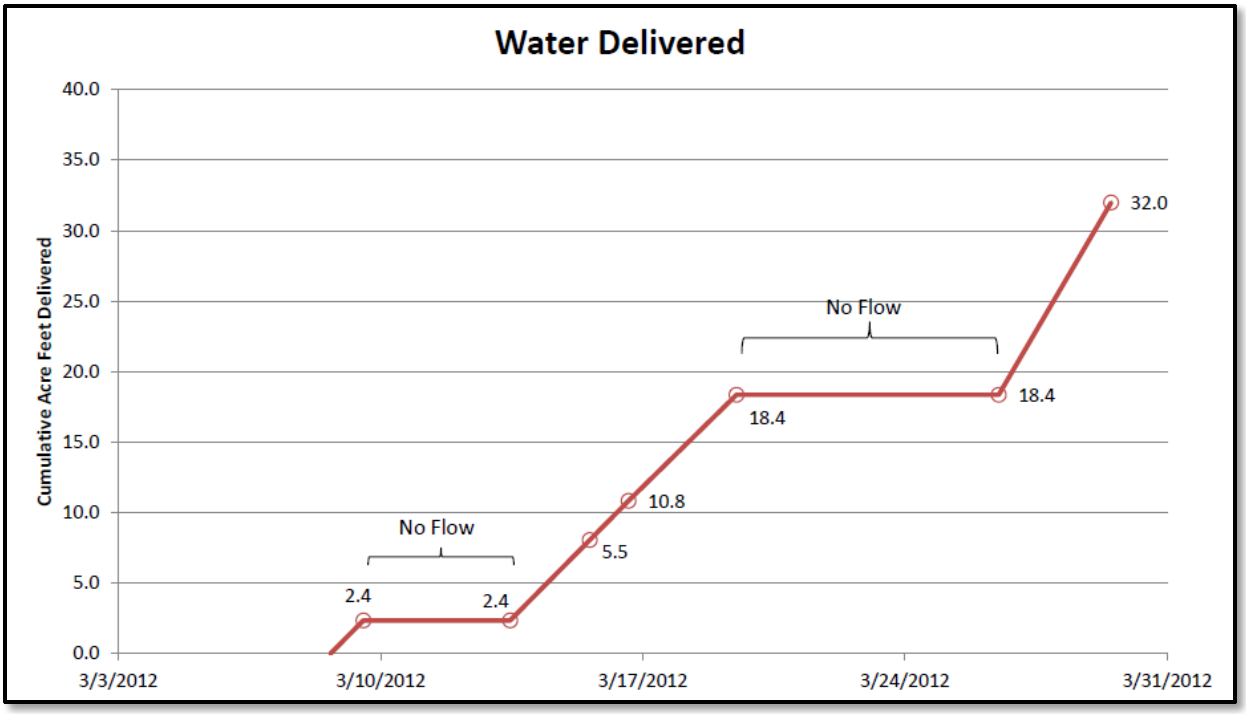


Figure 53 - Water volume delivered to the Stiller Pond Aquifer Recharge site during the 2011-2012 recharge season. Figure taken from GSI, 2012.

ALLUVIAL WELL RESPONSES

See Figure 54 for groundwater monitoring locations.

The down-gradient monitoring well and piezometers show almost immediate response to aquifer recharge operations with water levels increasing during operations (Figure 55 and 56). Water levels decreased when recharge operations were stopped except at the end of the season when irrigation use continued (after March 29th). The on-site irrigation wells did not show the same water level response as the shallow monitoring well and piezometers (Figure 57). The irrigation wells are significantly deeper than the monitoring well or piezometers and as such are open to the entire alluvial aquifer, potentially muting their apparent response to AR activity. In addition, water levels in the irrigation wells could only be measured manually via airlines. This potentially limited the ability to track aquifer response to AR as water levels could only be collected when someone was physically on-site.

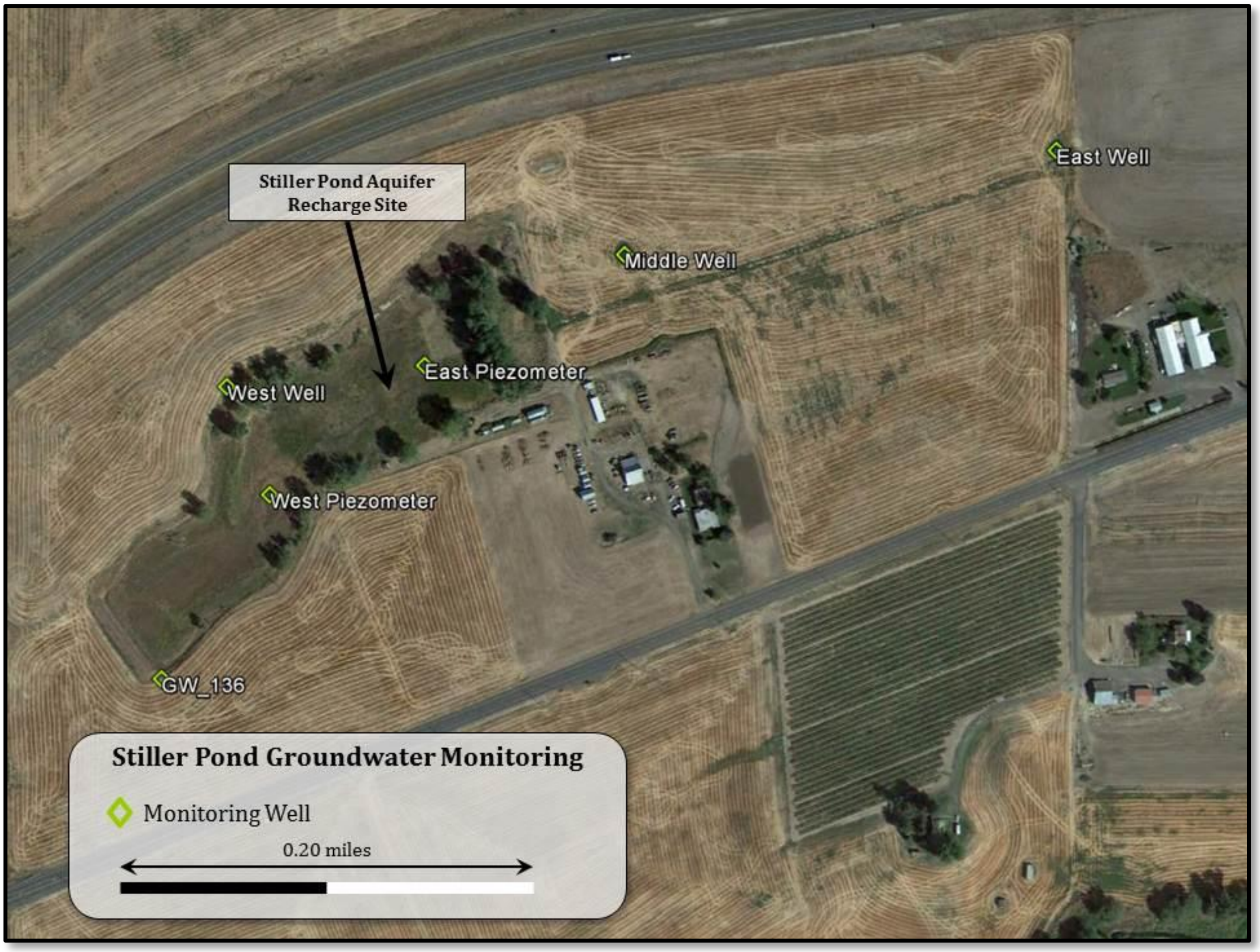


Figure 54 - Map showing groundwater monitoring sites for the Stiller Pond Aquifer Recharge Site.

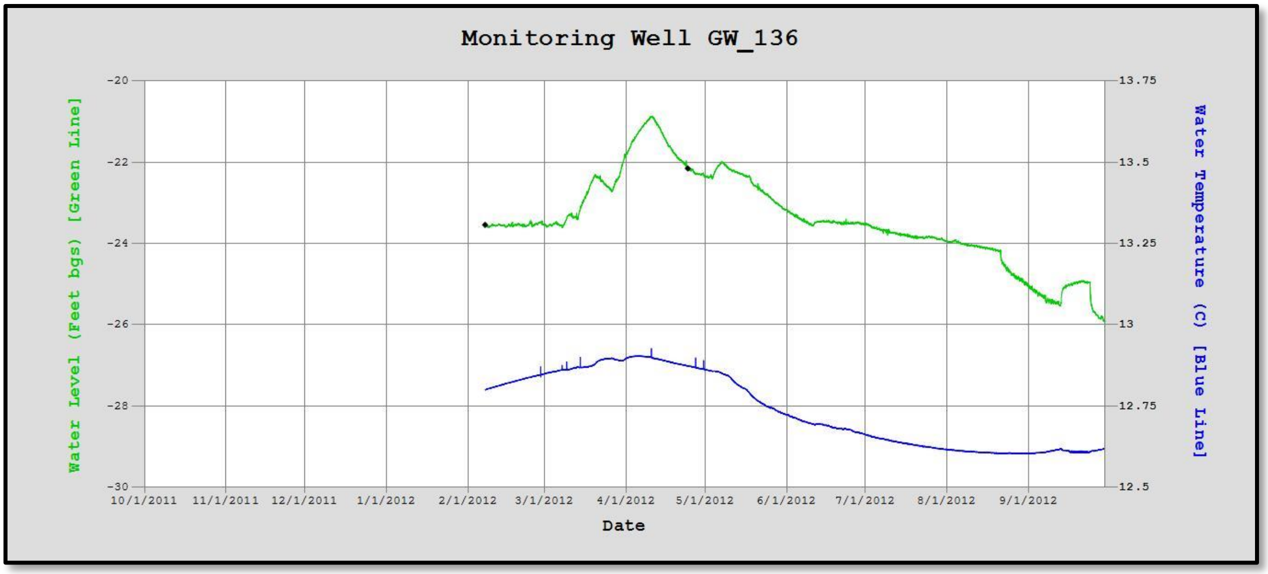


Figure 55 - Hydrograph for GW_136 during the 2011-2012 water year.

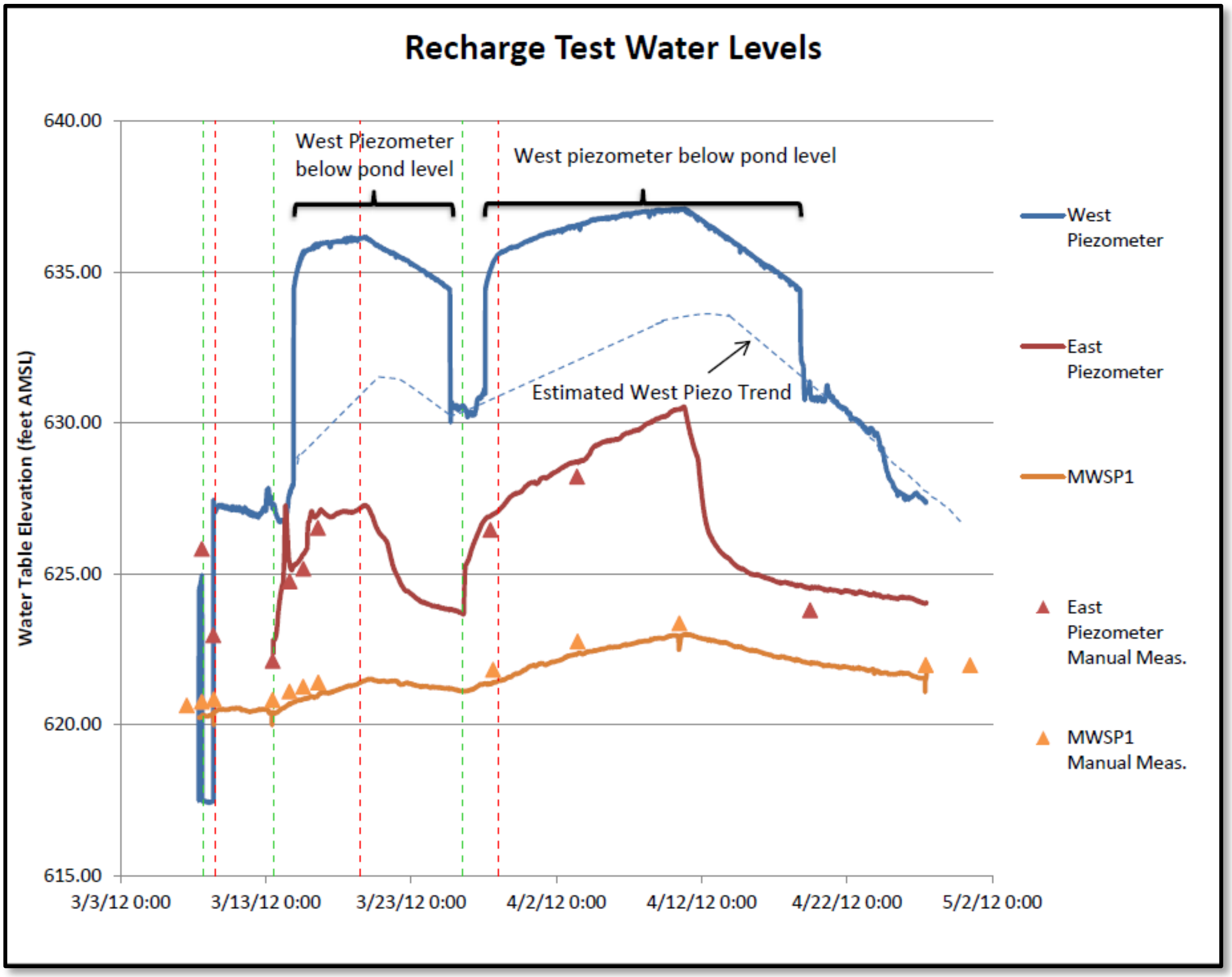


Figure 56 - Hydrographs for the on-site monitoring well and two piezometers in the recharge pond. Note: Water level data are shown in elevation, not feet below ground surface. Green lines indicate start of recharge operations and red lines indicate shutdown of recharge operations. Figure taken from GSI, 2012.

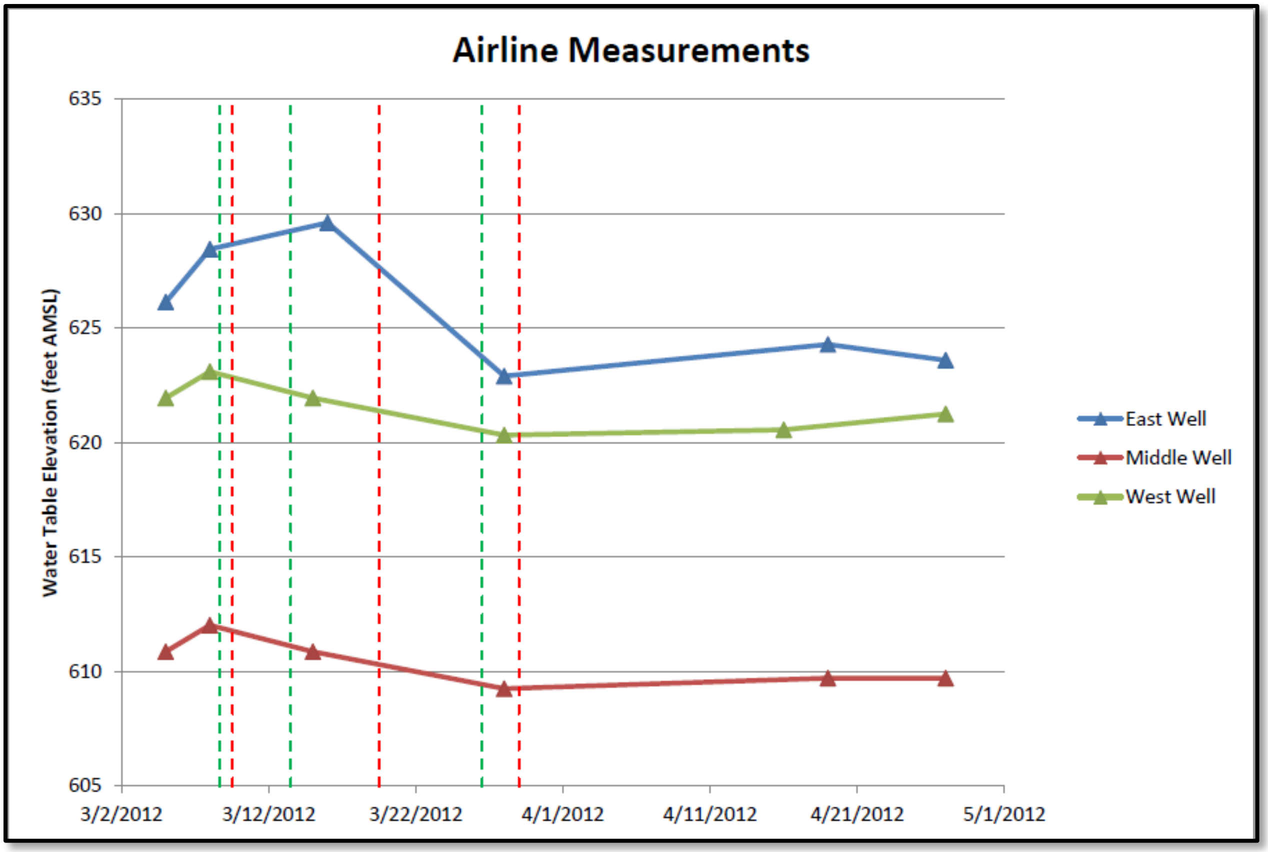


Figure 57 - Hydrographs for the on-site irrigation wells with airlines installed. Note: Water level data are shown in elevation, not feet below ground surface. Green lines indicate start of recharge operations and red lines indicate shutdown of recharge operations. Figure taken from GSI, 2012.

WATER QUALITY

Full water quality data and laboratory QA records can be found in Appendix B.

SOURCE WATER

Sample Parameter	March 13th, 2012
Nitrate (mg/L)	0.406
Hardness (mg/L)	32.6
Total Dissolved Solids (mg/L)	161
Chloride (mg/L)	2.98

DOWN-GRADIENT WELL (GW_136 – MWSP-1)

Sample Parameter	March 7th, 2012	April 10th, 2012
Nitrate	6.24	2.78
Hardness (mg/L)	212	164
Total Dissolved Solids (mg/L)	345	282
Chloride (mg/L)	30.6	17.7

STILLER POND – 2012-2013

OVERVIEW

The Stiller Pond site did not operate during the 2012-2013 season. For details on circumstances that prevented the site from operating please see the draft report attached as Appendix C.

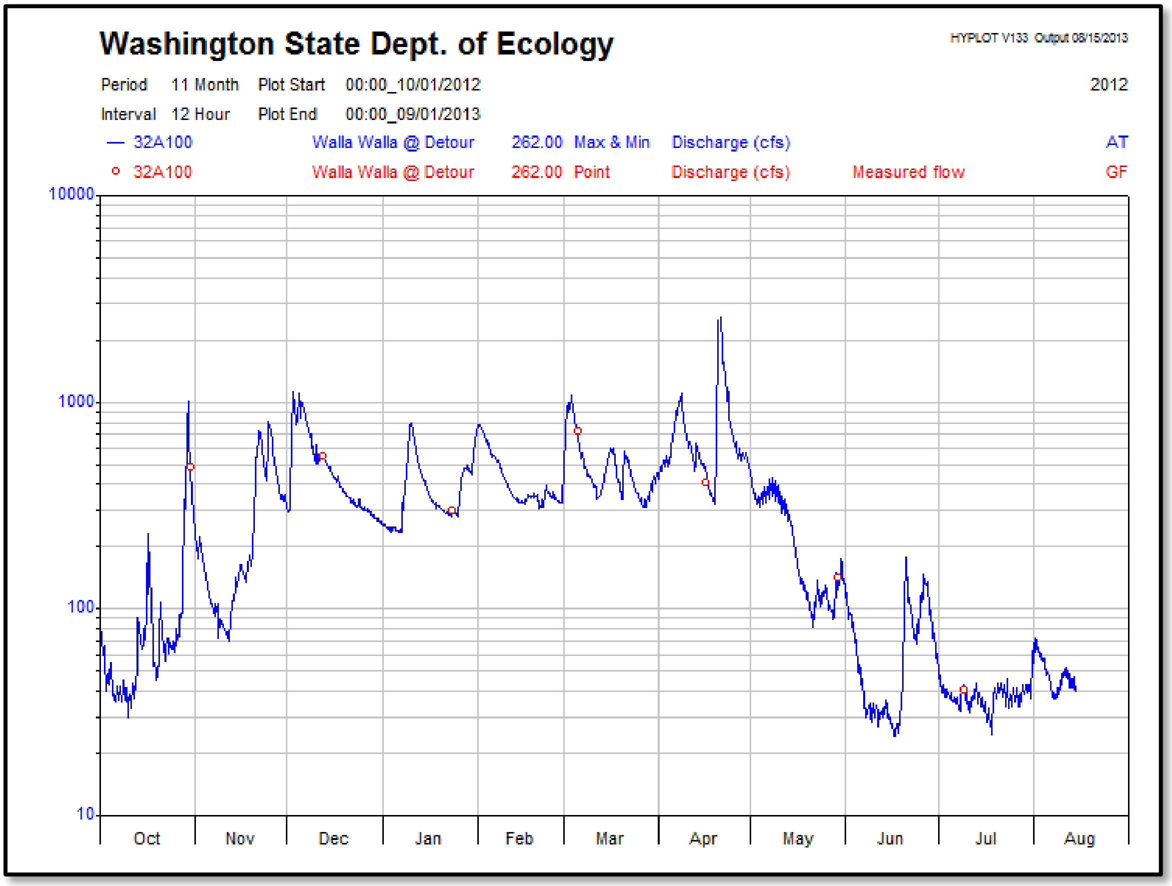


Figure 58 - 2012-2013 water year hydrograph for Washington Department of Ecology's Walla Walla River at Detour Road (32A100) gage.

ALLUVIAL WELL RESPONSES

The hydrograph for GW_136 (Figure 59) depicts water level responses to "no recharge" conditions.

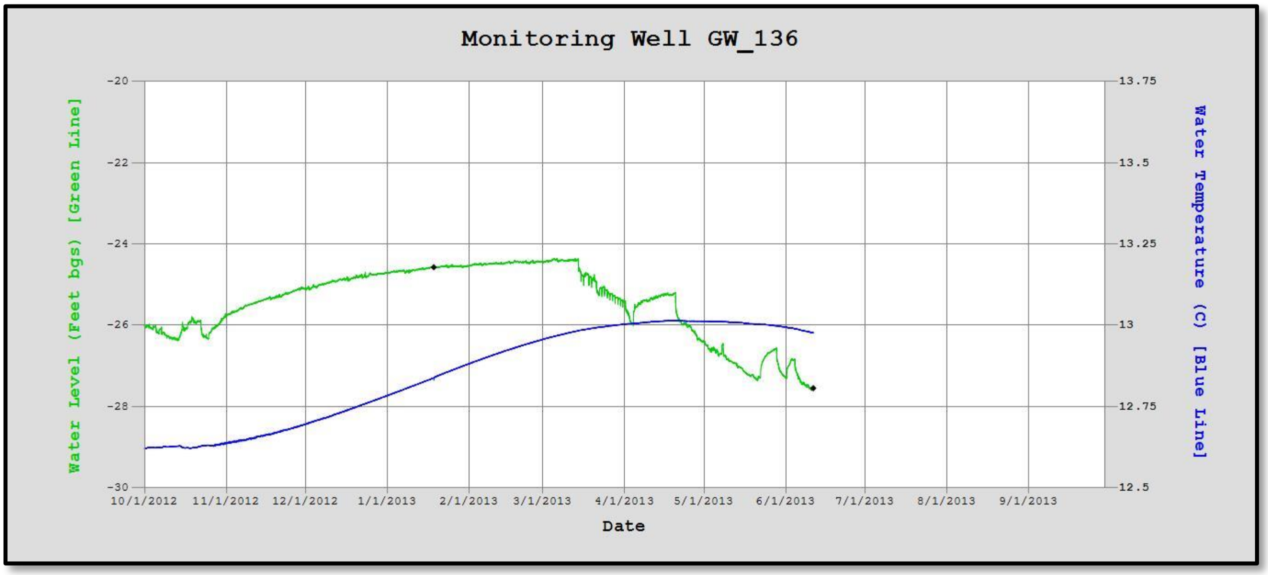


Figure 59 - Hydrograph for GW_136 during the 2012-2013 water year.

WATER QUALITY

Because the Stiller Pond site did not operate, no water quality data were collected for the 2012-2013 recharge season.

SUMMARY AND DISCUSSION

WATER LEVEL AND QUANTITY

The AR program summarized here simulates floodplain function and processes that have been lost due to irrigation development and channelization of the river and stream channels for flood control and other uses. With continued AR activities at the Locher Road and Stiller Pond sites we anticipate that increased alluvial aquifer water levels could lead to the types of spring flow increases that have been observed in recent years resulting from nearby Oregon AR activities.

Over the course of 4 recharge seasons (2009-2010 thru 2012-2013) the aquifer recharge program in the Washington portion of the Walla Walla Basin put ~563 acre-feet (~183,454,113 gallons) of winter/spring run-off water into the shallow alluvial aquifer at the Locher Road site (531 acre-feet) and Stiller Pond (32 acre-feet) AR sites. Water levels in the alluvial aquifer at both sites rose in response to AR activities. In addition, at the Locher Road site progressively higher water levels in successive years in down-gradient wells suggest that the alluvial aquifer in the vicinity of the site has experienced an increase in groundwater storage.

With recent acceptance of a new QAPP to guide Locher Road AR activites it is anticipated that recharge volumes will increase in subsequent recharge seasons as the site is fully utilized throughout the recharge season. The Walla Walla Basin Aquifer Recharge QAPP also provides guidance in future Stiller Pond operations and with the potential issuance of a Stiller Pond EEP increased recharge volumes at this site also are anticipated.

WATER QUALITY

As mentioned previously in this report and in GSI, 2012a, aquifer recharge program operations have not degraded groundwater quality (Appendix B and D).

> *The water quality data collected over several AR seasons from four different sites are interpreted to have not resulted in alluvial aquifer water quality degradation. Field parameters and major ion hydrochemical trends seen in monitoring well data commonly show reduced concentrations, indicating dilution of groundwater concentrations by AR operations. A few anomalies did occur in these trends, but low source water concentrations versus high monitoring well concentrations strongly suggest that AR operations were not the cause of these anomalies. There were no significant SOC detections from any site. Of the SOC detections seen in the data sets, SOC concentrations are low enough to be considered background levels and/or these detections were instances of localized transient introduction to the water table from an unaltered ground surface AR site (specifically HW).*

One of the major limiting factors in developing additional aquifer recharge projects in the Washington portion of the Walla Walla Basin is the cost of water quality testing. Water quality costs averaged around $10,000-$12,000 per year per site between the 2009-2010 and 2011-2012 recharge seasons. This sampling included 4-6 sampling events costing ~$2,000 each for laboratory testing. For the 2012-2013 recharge season, water quality sampling costs increased to $30,629 for the Locher Road site. PCB and chlorinated pesticide sampling at the parts per trillion (ppt) level and the addition of soil sampling caused the cost of sampling to go up.

To address the on-going cost of water quality sampling, below is a brief overview of the current system and a proposed alternative system to help reduce on-going water quality costs and to increase the potential to prevent contaminants from enter the alluvial aquifer via aquifer recharge sites.

THE CURRENT WASHINGTON SYSTEM

Under the current approved Quality Assurance Project Plan (QAPP), each Walla Walla Basin aquifer recharge site in Washington has its own sampling protocol and schedule. Each site operates under a traditional method including sampling groundwater and source water before, during and after recharge operations. Each site typically has one up-gradient, 0-1 mid-gradient, and 1-2 down-gradient monitoring wells.

The traditional system, as designed, detects a problem after it has already happened. Because sampling events are spread out and lab results typically take 2-4 weeks to be processed, any problems detected from the sampling have already occurred and cannot be stopped through a traditional monitoring methodology. The traditional monitoring methodology is slow (waiting for lab results), expensive (you have to pay for the lab tests every year) and does not provide for adaptive management to prevent any potential contamination from entering the alluvial aquifer.

THE PROPOSED WASHINGTON SYSTEM

A new programmatic near real-time approach to water quality monitoring could reduce ongoing water quality costs, provide important water quality data and potentially prevent contaminants from entering aquifer recharge sites.

The new proposed water monitoring plan would be based around a programmatic system of near real-time water quality stations what would alert project staff and recharge operators of potential contaminants in the source water. The plan would address three short-falls of the traditional monitoring system: (1) Slow – waiting for lab results, (2) Expensive – after initial purchase there are limited on-going costs, and (3) Adaptive Management – by monitoring source water in near real-time actions could be taken to prevent contaminants from ever entering a recharge site.

The proposed system would be connected to the WWBWC's radio telemetry network. This system could be configured to transmit source water quality data back to the WWBWC office every 15 minutes. This data would be incorporated into the WWBWC's database every 15 minutes and if water quality parameters exceed a "pre-determined threshold", emails would be sent to project staff and site operators to shut down the site. Eventually, sites could be equipped and setup to receive commands through the telemetry system allowing the sites to be remotely shut down almost immediately after a water quality threshold has been exceeded.

The proposed water quality stations would cost ~$10,000-$20,000 to purchase and install (depending upon sensors and location of installation). Once the equipment has been purchase and installed, there would be very little cost to maintaining the site. Yearly calibration of sensors and routine site maintenance (vegetation control, batteries, etc.) would be significantly cheaper than even the $10,000 spent on lab samples before the expense of sampling for PCBs at parts per trillion was added.

The proposed system would also allow for adaptive management of the aquifer recharge sites during operations. Collecting the appropriate data and being able to access it and act on it is critical for adaptive management. The proposed system, with near real-time water quality stations, would provide the data and accessibility for adaptive management of the aquifer recharge sites. This would allow project staff and site operators the ability to detect potential contamination in the source water and prevent it from entering a aquifer recharge site.

REFERENCES

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GSI, 2012. Results of the 2012 Alluvial Aquifer Recharge Season at the Stiller Pond Site, Walla Walla County, Washington. Consulting Report for the Walla Walla Basin Watershed Council and Walla Walla County Conservation District, 67 p.

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WWBWC, 2012. 2012 Walla Walla Basin Seasonal Seepage Assessments Report – Walla Walla River, Mill Creek, Touchet River, and Yellowhawk Creek.

WWBWC, 2013. Walla Walla Basin Aquifer Recharge Water Quality and Water Level Monitoring Quality Assurance Project Plan, May 2013 – Version 1.2.

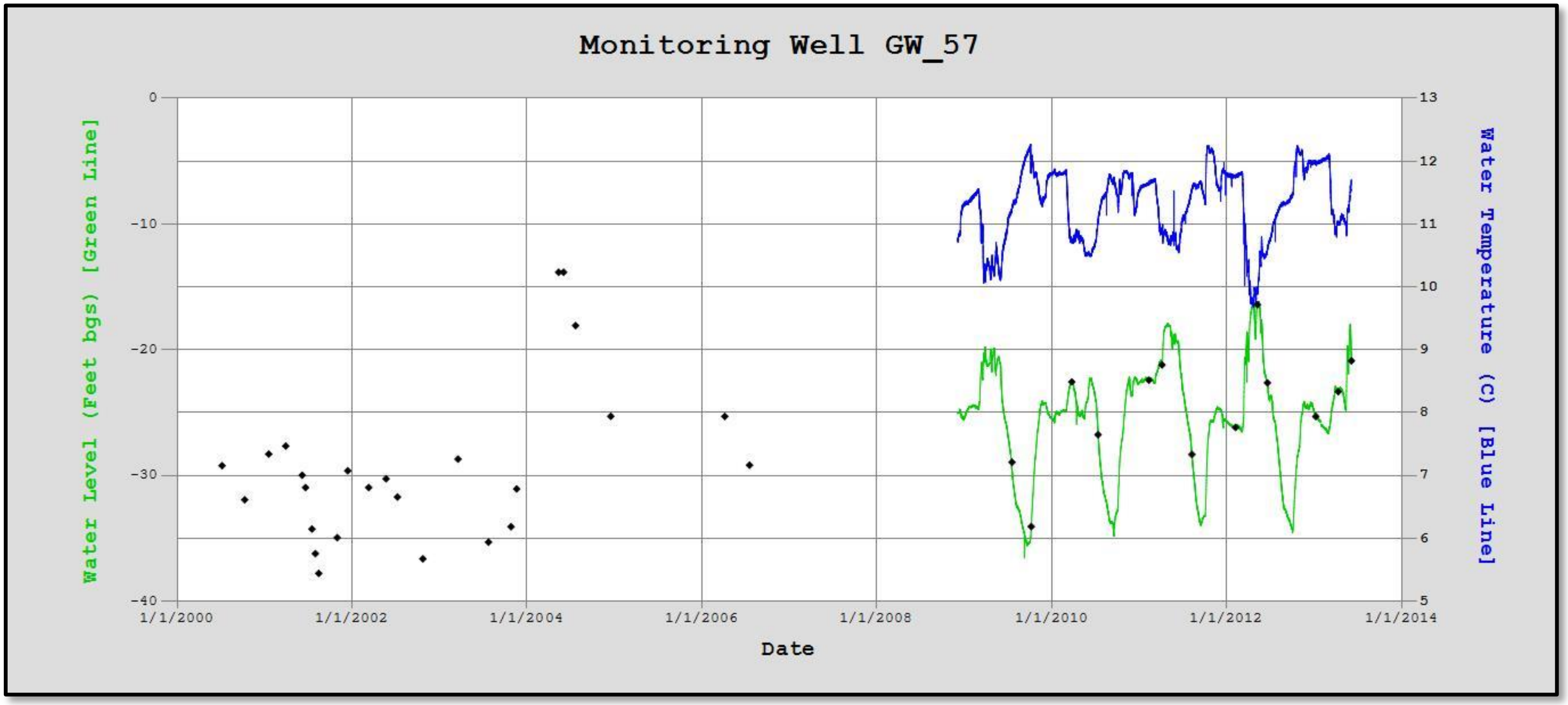
WWBWC, 2013a. Walla Walla Basin Aquifer Recharge Strategic Plan, January 2013.

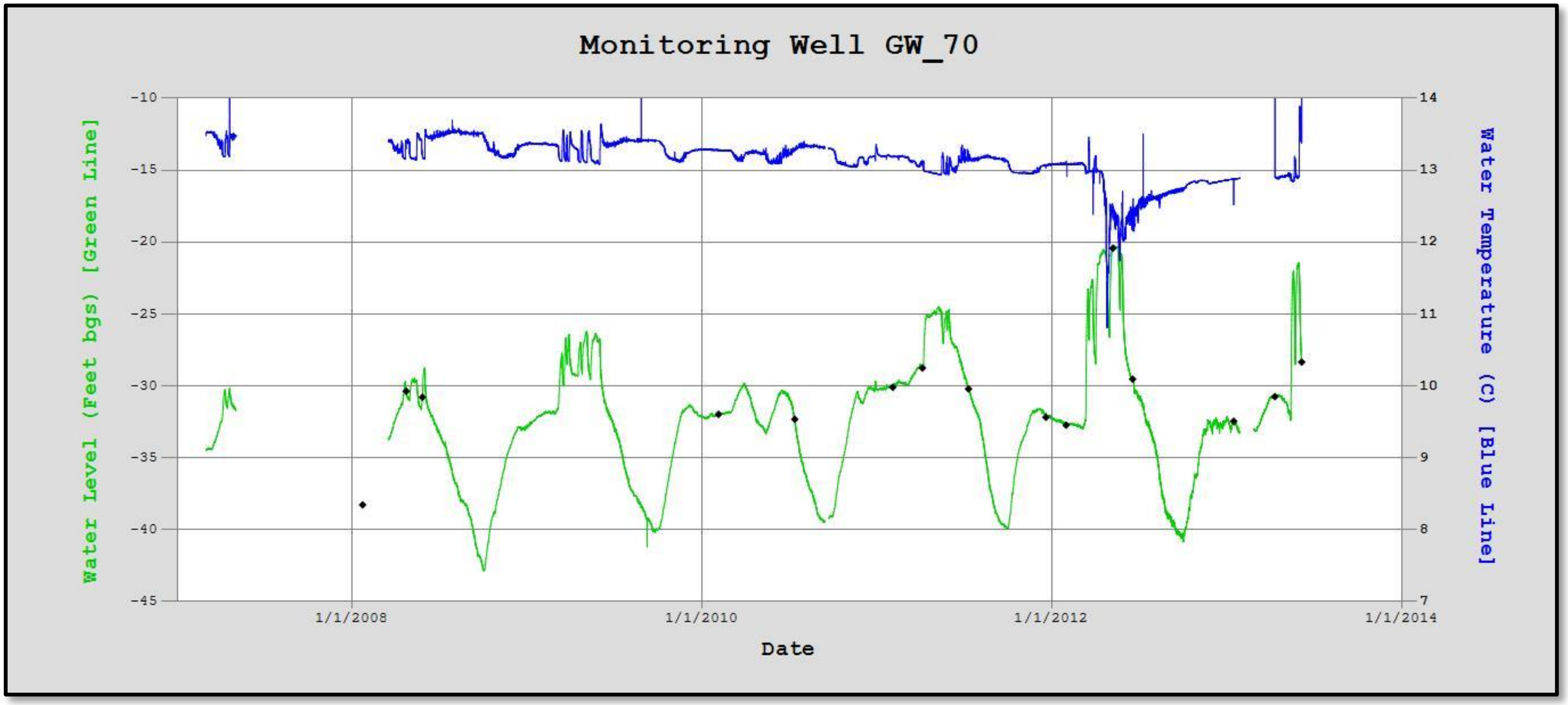
WWWMP, 2010. Gardena Farms Irrigation District #13 Local Water Plan Agreement. Walla Walla Watershed Management Partnership Local Water Plan LWP-10-01.

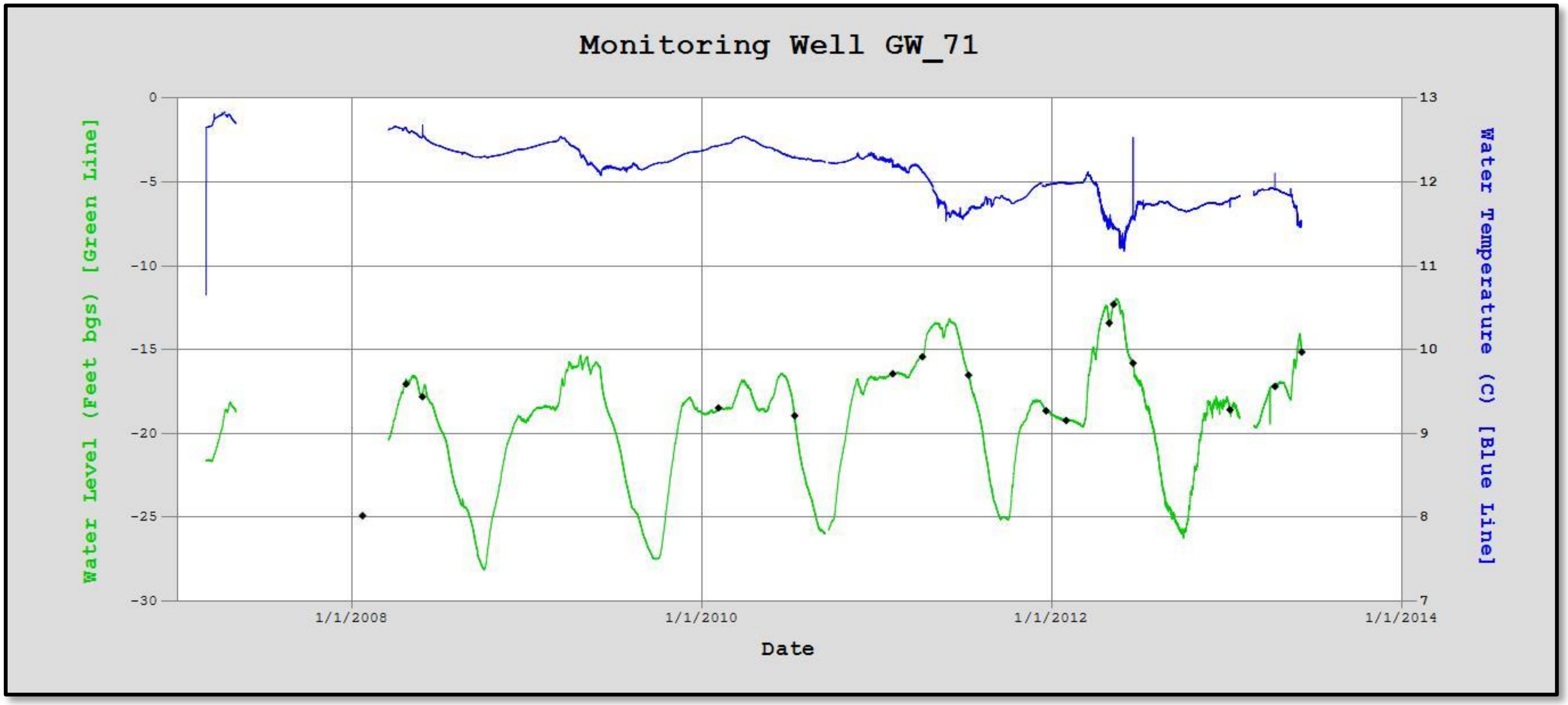
WWWMP, 2010a. Stiller Pond Site Local Water Plan Agreement. Walla Walla Watershed Management Partnership Local Water Plan LWP-10-02.

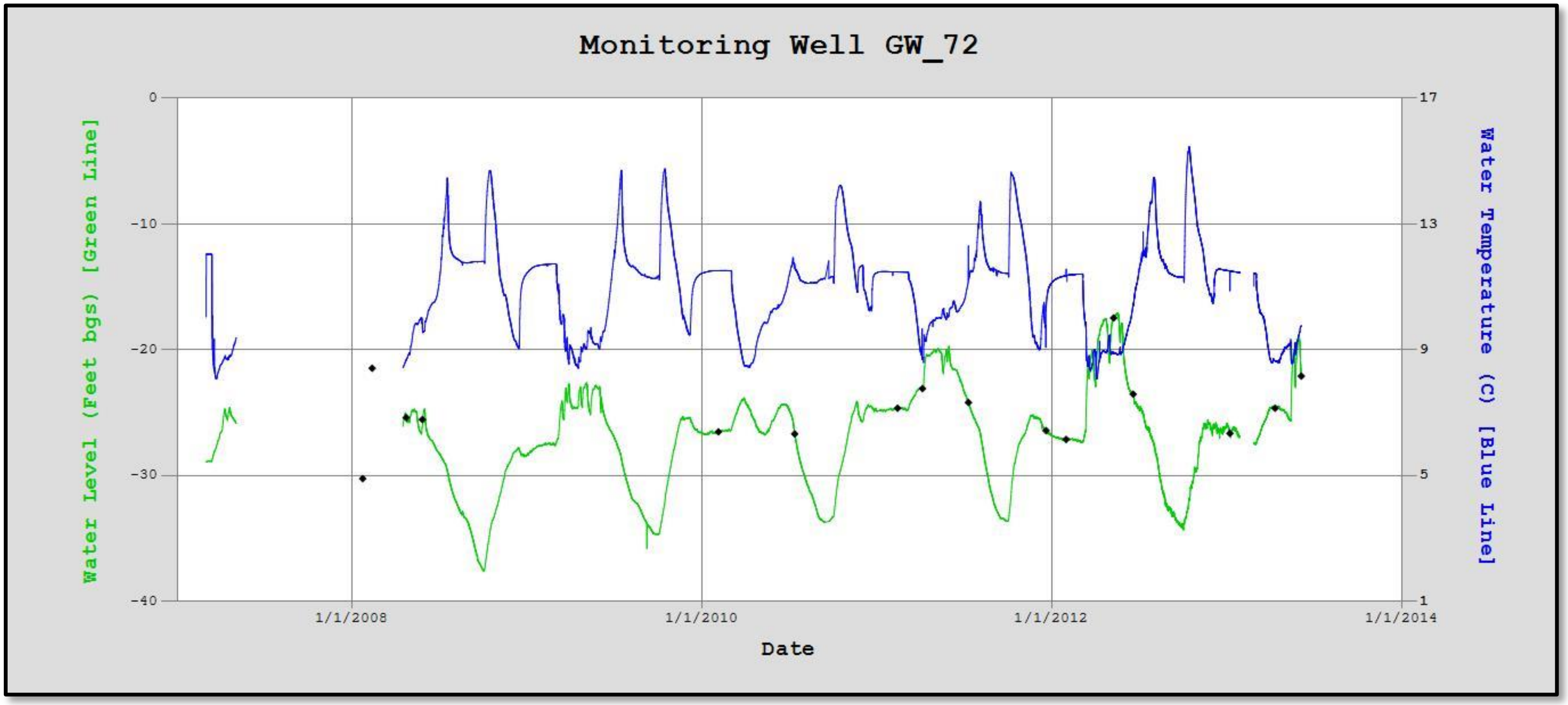
APPENDIX A

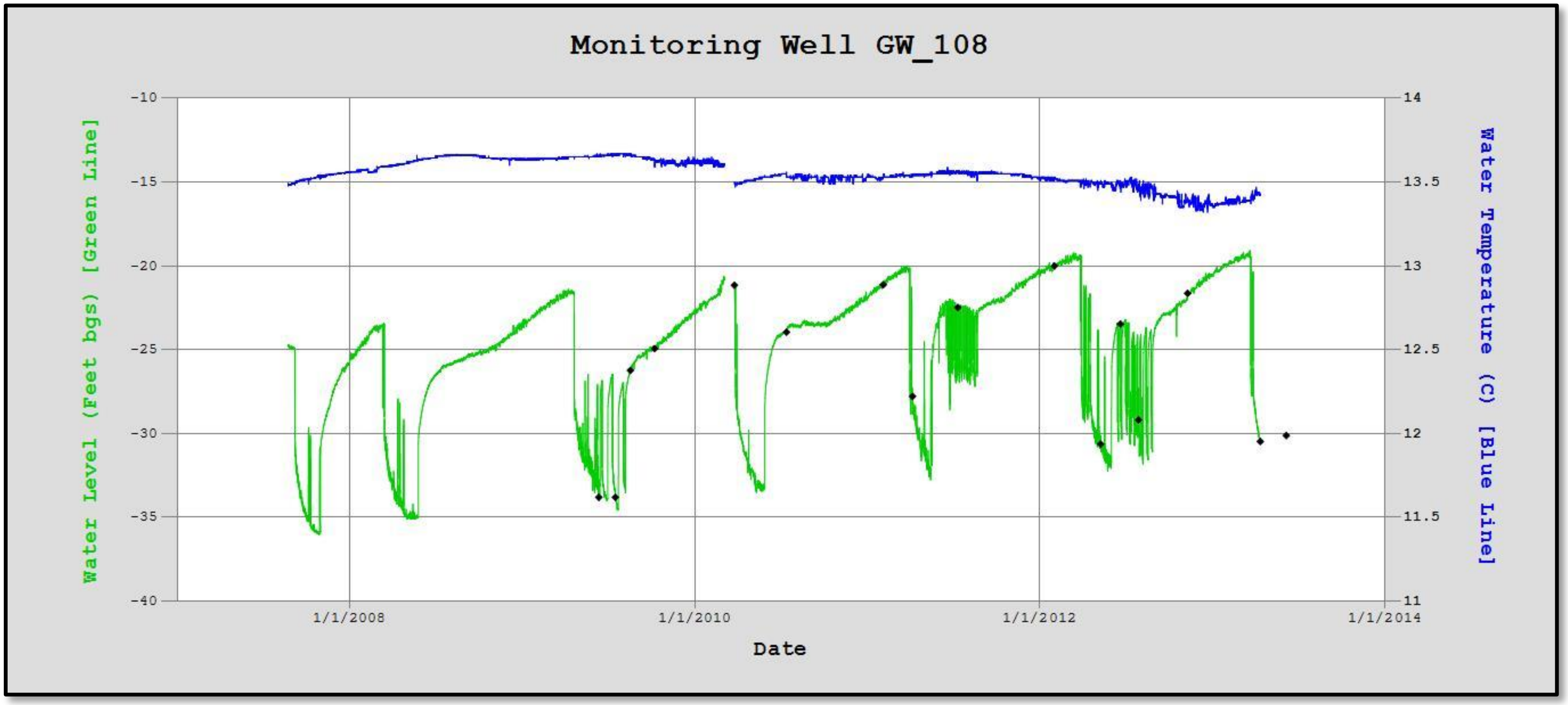
Monitoring well hydrographs, including all available data, for the Locher Road and Stiller Pond Aquifer Recharge sites.

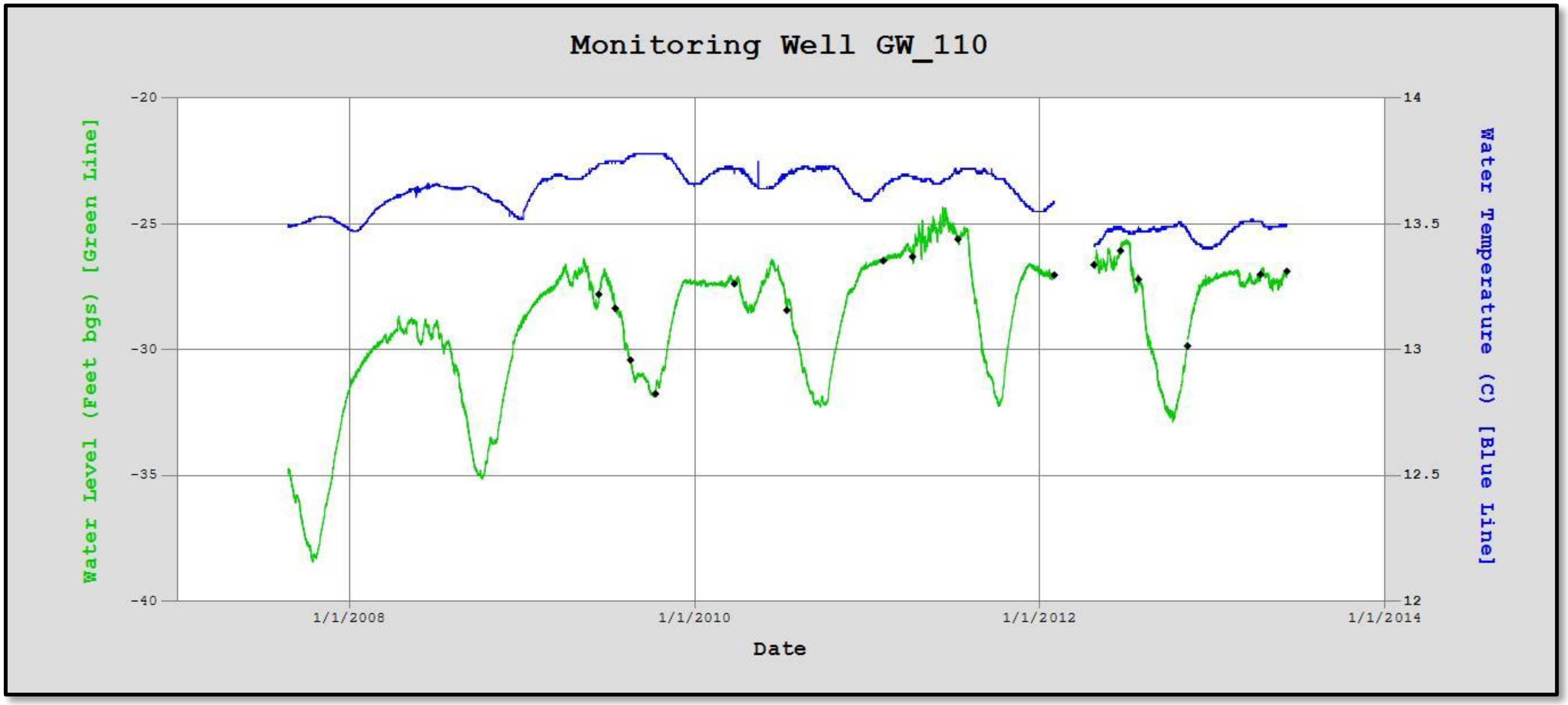

Monitoring Well GW_57
Water Level (Feet bgs) [Green Line]
0
-10
-20
-30
-40
Water Temperature (C) [Blue Line]
13
12
11
10
9
8
7
6
5
1/1/2000
1/1/2002
1/1/2004
1/1/2006
1/1/2008
1/1/2010
1/1/2012
1/1/2014
Date


Monitoring Well GW_70
Water Level (Feet bgs) [Green Line]
-10
-15
-20
-25
-30
-35
-40
-45
Water Temperature (C) [Blue Line]
14
13
12
11
10
9
8
7
1/1/2008
1/1/2010
1/1/2012
1/1/2014
Date

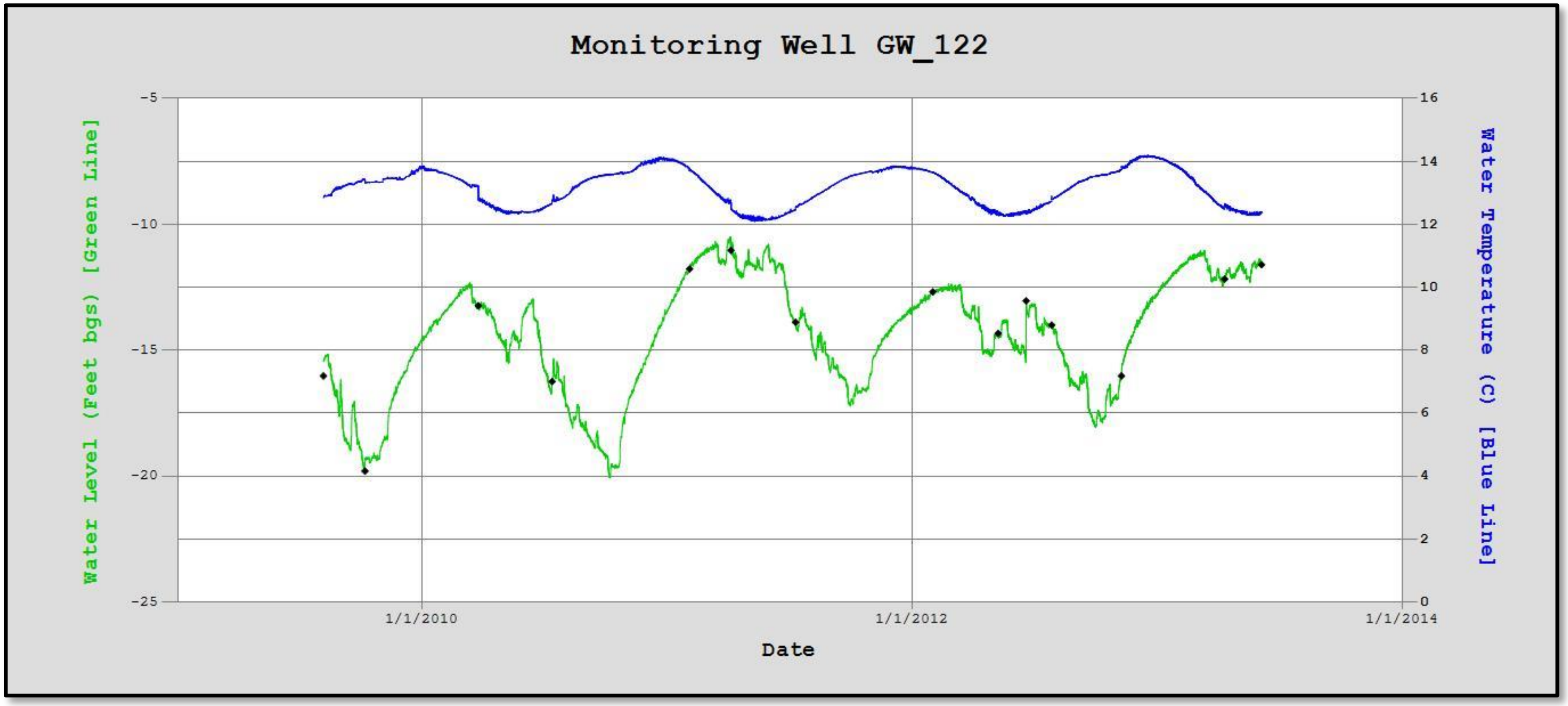

Monitoring Well GW_71
Water Level (Feet bgs) [Green Line]
0
-5
-10
-15
-20
-25
-30
Water Temperature (C) [Blue Line]
13
12
11
10
9
8
7
1/1/2008
1/1/2010
1/1/2012
1/1/2014
Date


Monitoring Well GW_72
Water Level (Feet bgs) [Green Line]
0
-10
-20
-30
-40
Water Temperature (C) [Blue Line]
17
13
9
5
1
1/1/2008
1/1/2010
1/1/2012
1/1/2014
Date


Monitoring Well GW_108
Water Level (Feet bgs) [Green Line]
-10
-15
-20
-25
-30
-35
-40
Water Temperature (C) [Blue Line]
14
13.5
13
12.5
12
11.5
11
1/1/2008
1/1/2010
1/1/2012
1/1/2014
Date



Monitoring Well GW_110


Monitoring Well GW_122
Water Level (Feet bgs) [Green Line]
-5
-10
-15
-20
-25
Water Temperature (C) [Blue Line]
16
14
12
10
8
6
4
2
0
1/1/2010
1/1/2012
1/1/2014
Date

APPENDIX B

Water Quality results for the 2009-2010 through 2012-2013 recharge seasons at the Locher Road site and 2011-2012 recharge season at the Stiller Pond site.

LOCHER ROAD – 2009-2010

No water quality results for this recharge season.

LOCHER ROAD – 2010-2011

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Microbiology/Chemistry
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503.682.7802

May 2, 2011

Troy Baker
Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

RE: 11-04791 - Locher Road

Dear Troy Baker,

Your project: Locher Road, was received on Wednesday April 06, 2011.
The following comments are reported for your project:

EPA Method 525.2 - BisPhenol-A was detected in each of the samples, the field duplicate was analyzed to confirm the detection. The estimated amount for each sample is 10624 (6 ug/L), 10625 (0.4 ug/L), 10626 (0.9 ug/L) and 10629 (0.2 ug/L).

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report

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503.682.7802

WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10629
Field ID: SW-1
Sample Description: SW-1
Matrix: Surface Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3535

Report Date: 4/20/11
Date Analyzed: 4/13/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**ND**		ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

If you have any questions concerning this report contact us at the above phone number.

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503.682.7802

WSDOE Lab C1251

DATA REPORT

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10626
Field ID: L-3
Sample Description: Locher Rd L-3
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3535

Report Date: 4/20/11
Date Analyzed: 4/13/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110413

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**ND**		ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
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Portland OR
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503.682.7802

WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10625
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3535

Report Date: 4/20/11
Date Analyzed: 4/13/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**ND**		ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10624
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3535

Report Date: 4/20/11
Date Analyzed: 4/13/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110413

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**0.04**	J	ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**0.02**	J	ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10629
Field ID: SW-1
Sample Description: SW-1
Matrix: Surface Water
Sample Date: 4/5/11
Extraction Date: 4/18/11
Extraction Method: FILTER0.2

Report Date: 4/27/11
Date Analyzed: 4/18/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110418

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.4	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	0.3	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.3	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.3	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.3	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.3	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.2	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.3	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.2	1.00	

Notes:

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Form: c608.rpt

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WSDOE Lab C1251

DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10626
Field ID: L-3
Sample Description: Locher Rd L-3
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/18/11
Extraction Method: FILTER0.2

Report Date: 4/27/11
Date Analyzed: 4/18/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110418

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.4	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	0.3	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.3	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.3	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.3	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.3	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.2	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.3	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.2	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10625
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/18/11
Extraction Method: FILTER0.2

Report Date: 4/27/11
Date Analyzed: 4/18/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110418

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.4	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	0.3	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.3	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.3	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.3	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.3	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.2	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.3	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.2	1.00	

Notes:

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10624
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/18/11
Extraction Method: FILTER0.2

Report Date: 4/27/11
Date Analyzed: 4/18/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110418

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.4	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	0.3	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.3	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.3	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.3	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.3	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.2	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.3	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.2	1.00	

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10629
Field ID: SW-1
Sample Description: SW-1
Matrix: Surface Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3511

Report Date: 4/28/11
Date Analyzed: 4/15/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**ND**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

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WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10626
Field ID: L-3
Sample Description: Locher Rd L-3
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3511

Report Date: 4/28/11
Date Analyzed: 4/15/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**ND**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.13	0.5	0.25	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

Notes:

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WSDOE Lab C1251

DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10625
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3511

Report Date: 4/28/11
Date Analyzed: 4/15/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**ND**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.13	0.5	0.25	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

Notes:

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Form: c608.rpt

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10624
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3511

Report Date: 4/28/11
Date Analyzed: 4/15/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**ND**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.13	0.5	0.25	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

Notes:

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DATA REPORT

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Client Name:	Walla Walla Basin Watershed Council 810 S. Main Street Milton-Freewater, OR 97862	Reference Number:	**11-04791**
		Project:	Locher Road
Lab Number:	10629	Report Date:	4/18/11
Field ID:	SW-1	Date Analyzed:	4/14/11
Sample Description:	SW-1	Analyst:	CO
Matrix:	Surface Water	Peer Review:	
Sample Date:	4/5/11	Analytical Method:	508.1
Extraction Date:	4/13/11	Batch:	508_110413
Extraction Method:	3535		

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2	0.5	1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.5	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.1	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.8	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.2	1.00	

Notes:

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DATA REPORT

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Client Name:	Walla Walla Basin Watershed Council 810 S. Main Street Milton-Freewater, OR 97862	Reference Number:	**11-04791**
		Project:	Locher Road
Lab Number:	10626	Report Date:	4/18/11
Field ID:	L-3	Date Analyzed:	4/14/11
Sample Description:	Locher Rd L-3	Analyst:	CO
Matrix:	Water	Peer Review:	
Sample Date:	4/5/11	Analytical Method:	508.1
Extraction Date:	4/13/11	Batch:	508_110413
Extraction Method:	3535		

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2	0.5	1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.5	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.1	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.8	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.2	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10625
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3535

Report Date: 4/18/11
Date Analyzed: 4/14/11
Analyst: CO
Peer Review:
Analytical Method: 508.1
Batch: 508_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2	0.5	1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.5	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.1	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.8	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.2	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Lab Number: 10624
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/5/11
Extraction Date: 4/13/11
Extraction Method: 3535

Report Date: 4/18/11
Date Analyzed: 4/14/11
Analyst: CO
Peer Review:
Analytical Method: 508.1
Batch: 508_110413

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2	0.5	1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.5	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.1	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.8	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.2	1.00	

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Client Name: Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Reference Number: **11-04791**
Project: Locher Road

Report Date: 4/28/11
Date Received: 4/6/11
Reviewed by:

Sample Description: L-1 - Locher Rd L-1
Lab Number: 10624
Sample Date: 4/5/11
Collected By:

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.94				pH Units	1.00	SM4500-H+ B	4/6/11	SRF	PH_110406	
E-10617	**TURBIDITY**	13.2	0.10	0.10		NTU	1.00	180.1	4/6/11	KDW	TURB_110406	
14797-55-8	**NITRATE-N**	7.07	0.100	0.100	0.009	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
16887-00-6	**CHLORIDE**	7.2	0.1	20	0.015	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
E-10173	**TOTAL DISSOLVED SOLIDS**	274	10	10		mg/L	1.00	SM2540 C	4/11/11	srf	TDS_110411	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/6/11	SPL	OPHOS-110406	
E-10184	**ELECTRICAL CONDUCTIVITY**	390	10	10		uS/cm	1.00	SM2510 B	4/8/11	SRF	EC_110408	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/19/11	MVP	D110419A	
E-11778	**HARDNESS as Calcium Carbonate**	177	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/8/11	BJ	200.7-110408B	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8	8	3	mg/L	1.00	SM5220 D	4/14/11	KDW	COD_110414	

Sample Description: L-2 - Locher Rd L-2
Lab Number: 10625
Sample Date: 4/5/11
Collected By:

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.79				pH Units	1.00	SM4500-H+ B	4/6/11	SRF	PH_110406	
E-10617	**TURBIDITY**	2.40	0.10	0.10		NTU	1.00	180.1	4/6/11	KDW	TURB_110406	
14797-55-8	**NITRATE-N**	10.4	0.100	0.100	0.009	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
16887-00-6	**CHLORIDE**	7	0.1	20	0.015	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
E-10173	**TOTAL DISSOLVED SOLIDS**	250	10	10		mg/L	1.00	SM2540 C	4/11/11	srf	TDS_110411	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/6/11	SPL	OPHOS-110406	
E-10184	**ELECTRICAL CONDUCTIVITY**	346	10	10		uS/cm	1.00	SM2510 B	4/8/11	SRF	EC_110408	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/19/11	MVP	D110419A	
E-11778	**HARDNESS as Calcium Carbonate**	143	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/8/11	BJ	200.7-110408B	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8	8	3	mg/L	1.00	SM5220 D	4/14/11	KDW	COD_110414	

Sample Description: L-3 - Locher Rd L-3
Lab Number: 10626
Sample Date: 4/5/11
Collected By:

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.86				pH Units	1.00	SM4500-H+ B	4/6/11	SRF	PH_110406	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Data Report

E-10617	**TURBIDITY**	1.82	0.10	0.10		NTU	1.00	180.1	4/6/11	KDW	TURB_110406	
14797-55-8	**NITRATE-N**	2.82	0.100	0.100	0.009	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
16887-00-6	**CHLORIDE**	2.6	0.1	20	0.015	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
E-10173	**TOTAL DISSOLVED SOLIDS**	128	10	10		mg/L	1.00	SM2540 C	4/11/11	srf	TDS_110411	
14265-44-2	**ORTHO-PHOSPHATE**	0.07	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/6/11	SPL	OPHOS-110406	
E-10184	**ELECTRICAL CONDUCTIVITY**	149	10	10		uS/cm	1.00	SM2510 B	4/8/11	SRF	EC_110408	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/19/11	MVP	D110419A	
E-11778	**HARDNESS as Calcium Carbonate**	64.1	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/8/11	BJ	200.7-110408B	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8	8	3	mg/L	1.00	SM5220 D	4/14/11	KDW	COD_110414	

Sample Description: MC-1
Lab Number: 10627
Sample Date: 4/5/11
Collected By:

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	7.54				pH Units	1.00	SM4500-H+ B	4/6/11	SRF	PH_110406	
E-10617	**TURBIDITY**	1.40	0.10	0.10		NTU	1.00	180.1	4/6/11	KDW	TURB_110406	
14797-55-8	**NITRATE-N**	1.47	0.100	0.100	0.009	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
16887-00-6	**CHLORIDE**	4.5	0.1	20	0.015	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
E-10173	**TOTAL DISSOLVED SOLIDS**	165	10	10		mg/L	1.00	SM2540 C	4/11/11	srf	TDS_110411	
14265-44-2	**ORTHO-PHOSPHATE**	0.05	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/6/11	SPL	OPHOS-110406	
E-10184	**ELECTRICAL CONDUCTIVITY**	215	10	10		uS/cm	1.00	SM2510 B	4/8/11	SRF	EC_110408	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/19/11	MVP	D110419A	
E-11778	**HARDNESS as Calcium Carbonate**	99.4	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/8/11	BJ	200.7-110408B	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8	8	3	mg/L	1.00	SM5220 D	4/14/11	KDW	COD_110414	

Sample Description: MC-2
Lab Number: 10628
Sample Date: 4/5/11
Collected By:

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	7.70				pH Units	1.00	SM4500-H+ B	4/6/11	SRF	PH_110406	
E-10617	**TURBIDITY**	1.22	0.10	0.10		NTU	1.00	180.1	4/6/11	KDW	TURB_110406	
14797-55-8	**NITRATE-N**	3.38	0.100	0.100	0.009	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
16887-00-6	**CHLORIDE**	9.7	0.1	20	0.015	mg/L	1.00	300.0	4/6/11	BJ	I110406A	
E-10173	**TOTAL DISSOLVED SOLIDS**	280	10	10		mg/L	1.00	SM2540 C	4/11/11	srf	TDS_110411	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/6/11	SPL	OPHOS-110406	
E-10184	**ELECTRICAL CONDUCTIVITY**	413	10	10		uS/cm	1.00	SM2510 B	4/8/11	SRF	EC_110408	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/19/11	MVP	D110419A	
E-11778	**HARDNESS as Calcium Carbonate**	172	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/8/11	BJ	200.7-110408B	
E-10117	**CHEMICAL OXYGEN DEMAND**	10	8	8	3	mg/L	1.00	SM5220 D	4/14/11	KDW	COD_110414	

Sample Description: SW-1
Lab Number: 10629
Sample Date: 4/5/11
Collected By:

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

Data Report

E-10139	**HYDROGEN ION (pH)**	7.31				**pH Units**	1.00	SM4500-H+ B	4/6/11	SRF	PH_110406
E-10617	**TURBIDITY**	167	5	0.10		**NTU**	50.00	180.1	4/6/11	KDW	TURB_110406
14797-55-8	**NITRATE-N**	0.35	0.100	0.100	0.009	**mg/L**	1.00	300.0	4/6/11	BJ	I110406A
16887-00-6	**CHLORIDE**	0.8	0.1	20	0.015	**mg/L**	1.00	300.0	4/6/11	BJ	I110406A
E-10173	**TOTAL DISSOLVED SOLIDS**	86	10	10		**mg/L**	1.00	SM2540 C	4/11/11	srf	TDS_110411
14265-44-2	**ORTHO-PHOSPHATE**	0.05	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	4/6/11	SPL	OPHOS-110406
E-10184	**ELECTRICAL CONDUCTIVITY**	65.5	10	10		**uS/cm**	1.00	SM2510 B	4/8/11	SRF	EC_110408
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	4/21/11	MVP	D110421A
E-11778	**HARDNESS as Calcium Carbonate**	33.1	3.30	3.30	0.055	**mg CaCO3/L**	1.00	200.7	4/8/11	BJ	200.7-110408B
E-10117	**CHEMICAL OXYGEN DEMAND**	37	8	8	3	**mg/L**	1.00	SM5220 D	4/14/11	KDW	COD_110414

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D.F. - Dilution Factor

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110408B	HARDNESS as Calcium Carbonate	71.4	69.5	mg/L	200.7	103	85-115		LFB	
508_110413	AROCLOR 1221	0.81	1	ug/L	508.1	81	70-130		LFB	
	TETRACHLORO-M-XYLENE (SURR)	99		%	508.1		70-130			
515.4_110413	2,4 - D	0.53	0.5	ug/L	515.4	106	70-130		LFB	
	2,4 - DCAA (SURR)	93		%	515.4		70-130			
	2,4 DB	0.51	0.5	ug/L	515.4	102	70-130			
	2,4,5 - TP (SILVEX)	0.40	0.5	ug/L	515.4	80	70-130			
	2,4,5 T	0.43	0.5	ug/L	515.4	86	70-130			
	ACIFLUORFEN	0.49	0.5	ug/L	515.4	98	70-130			
	BENTAZON	0.54	0.5	ug/L	515.4	108	70-130			
	DALAPON	0.45	0.5	ug/L	515.4	90	70-130			
	DCPA (ACID METABOLITES)	0.57	0.5	ug/L	515.4	114	70-130			
	DICAMBA	0.41	0.5	ug/L	515.4	82	70-130			
	DICHLORPROP	0.42	0.5	ug/L	515.4	84	70-130			
	DINOSEB	0.46	0.5	ug/L	515.4	92	70-130			
	PENTACHLOROPHENOL	0.40	0.5	ug/L	515.4	80	70-130			
	PICLORAM	0.38	0.5	ug/L	515.4	76	70-130			
515.4_110413	2,4 - D	2.39	2.5	ug/L	515.4	96	70-130		LFB	
	2,4 - DCAA (SURR)	96		%	515.4		70-130			
	2,4 DB	2.27	2.5	ug/L	515.4	91	70-130			
	2,4,5 - TP (SILVEX)	2.11	2.5	ug/L	515.4	84	70-130			
	2,4,5 T	2.19	2.5	ug/L	515.4	88	70-130			
	ACIFLUORFEN	2.16	2.5	ug/L	515.4	86	70-130			
	BENTAZON	2.17	2.5	ug/L	515.4	87	70-130			
	DALAPON	2.79	2.5	ug/L	515.4	112	70-130			
	DCPA (ACID METABOLITES)	2.51	2.5	ug/L	515.4	100	70-130			
	DICAMBA	2.03	2.5	ug/L	515.4	81	70-130			
	DICHLORPROP	2.12	2.5	ug/L	515.4	85	70-130			
	DINOSEB	2.19	2.5	ug/L	515.4	88	70-130			
	PENTACHLOROPHENOL	2.00	2.5	ug/L	515.4	80	70-130			
	PICLORAM	2.22	2.5	ug/L	515.4	89	70-130			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
525_110413	1,3-DIMETHYL-2-NITROBENZENE (Surr)	103		%	525.2		70-130		LFB	
	4,4-DDE	0.93	1	ug/L	525.2	93	70-130			
	ACETOCHLOR	0.93	1	ug/L	525.2	93	70-130			
	ALACHLOR	1.9	2	ug/L	525.2	95	70-130			
	ALDRIN	0.9	1	ug/L	525.2	90	70-130			
	ATRAZINE	1.86	2	ug/L	525.2	93	70-130			
	BENZO(A)PYRENE	0.84	1	ug/L	525.2	84	70-130			
	BROMACIL	0.98	1	ug/L	525.2	98	70-130			
	BUTACHLOR	0.95	1	ug/L	525.2	95	70-130			
	DI(ETHYLHEXYL)-ADIPATE	1	1	ug/L	525.2	100	70-130			
	DI(ETHYLHEXYL)-PHTHALATE	1.06	1	ug/L	525.2	106	70-130			
	DIELDRIN	0.91	1	ug/L	525.2	91	70-130			
	ENDRIN	0.95	1	ug/L	525.2	95	70-130			
	EPTC	0.96	1	ug/L	525.2	96	70-130			
	FLUORENE	0.97	1	ug/L	525.2	97	70-130			
	HEPTACHLOR	0.97	1	ug/L	525.2	97	70-130			
	HEPTACHLOR EPOXIDE	0.94	1	ug/L	525.2	94	70-130			
	HEXACHLOROBENZENE	0.92	1	ug/L	525.2	92	70-130			
	HEXACHLOROCYCLO-PENTADIENE	1.04	1	ug/L	525.2	104	70-130			
	LINDANE (BHC - GAMMA)	0.93	1	ug/L	525.2	93	70-130			
	METHOXYCHLOR	1.05	1	ug/L	525.2	105	70-130			
	METOLACHLOR	0.95	1	ug/L	525.2	95	70-130			
	METRIBUZIN	0.91	1	ug/L	525.2	91	70-130			
	MOLINATE	1.01	1	ug/L	525.2	101	70-130			
	PENTACHLOROPHENOL	4.3	4	ug/L	525.2	108	70-130			
	PERYLENE-D12 (Surr)	96		%	525.2		70-130			
	PROPACHLOR	1	1	ug/L	525.2	100	70-130			
	PYRENE-D10 (Surr)	101		%	525.2		70-130			
	SIMAZINE	0.91	1	ug/L	525.2	91	70-130			
	TERBACIL	1.01	1	ug/L	525.2	101	70-130			
	TRIPHENYLPHOSPHATE (Surr)	109		%	525.2		70-130			
531_110418	3-HYDROXYCARBOFURAN	18.7	20	ug/L	531.2	94	70-130		LFB	
	ALDICARB	20.7	20	ug/L	531.2	104	70-130			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
531_110418	ALDICARB SULFONE	16.7	20	ug/L	531.2	84	70-130		LFB	
	ALDICARB SULFOXIDE	16.8	20	ug/L	531.2	84	70-130			
	BDMC (SURR)	101		%	531.2		70-130			
	CARBARYL	18.3	20	ug/L	531.2	92	70-130			
	CARBOFURAN	17.1	20	ug/L	531.2	86	70-130			
	METHIOCARB	20.6	20	ug/L	531.2	103	70-130			
	METHOMYL	17.6	20	ug/L	531.2	88	70-130			
	OXYMAL	16.7	20	ug/L	531.2	84	70-130			
	PROPOXUR (BAYGON)	17.7	20	ug/L	531.2	89	70-130			
COD_110414	CHEMICAL OXYGEN DEMAND	47	50	mg/L	SM5220 D	94	80-120		LFB	
	CHEMICAL OXYGEN DEMAND	48	50	mg/L	SM5220 D	96	80-120			
OPHOS-110406	ORTHO-PHOSPHATE	1.00	1.00	mg/L	SM4500-P F	100	80-120		LFB	

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Low Level Laboratory Fortified Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
515.4_110413	2,4 - D	0.17	0.125	ug/L	515.4	136	50-150		LFBD	
	2,4 - DCAA (SURR)	96		%	515.4		70-130			
	2,4 DB	0.10	0.125	ug/L	515.4	80	50-150			
	2,4,5 - TP (SILVEX)	0.12	0.125	ug/L	515.4	96	50-150			
	2,4,5 T	0.12	0.125	ug/L	515.4	96	50-150			
	ACIFLUORFEN	0.13	0.125	ug/L	515.4	104	50-150			
	BENTAZON	0.11	0.125	ug/L	515.4	88	50-150			
	DALAPON	0.11	0.125	ug/L	515.4	88	50-150			
	DCPA (ACID METABOLITES)	0.15	0.125	ug/L	515.4	120	50-150			
	DICAMBA	0.10	0.125	ug/L	515.4	80	50-150			
	DICHLORPROP	0.15	0.125	ug/L	515.4	120	50-150			
	DINOSEB	0.10	0.125	ug/L	515.4	80	50-150			
	PENTACHLOROPHENOL	0.10	0.125	ug/L	515.4	80	50-150			
	PICLORAM	0.12	0.125	ug/L	515.4	96	50-150			
531_110418	3-HYDROXYCARBOFURAN	1.1	1	ug/L	531.2	110	50-150		LFBD	
	ALDICARB	1.1	1	ug/L	531.2	110	50-150			
	ALDICARB SULFONE	0.78	1	ug/L	531.2	78	50-150			
	ALDICARB SULFOXIDE	0.59	1	ug/L	531.2	59	50-150			
	BDMC (SURR)	92		%	531.2		70-130			
	CARBARYL	0.91	1	ug/L	531.2	91	50-150			
	CARBOFURAN	0.89	1	ug/L	531.2	89	50-150			
	METHIOCARB	3.5	4	ug/L	531.2	88	50-150			
	METHOMYL	0.72	1	ug/L	531.2	72	50-150			
	OXYMAL	0.51	1	ug/L	531.2	51	50-150			
	PROPOXUR (BAYGON)	0.72	1	ug/L	531.2	72	50-150			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110408B	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		10.0000		LRB	
D110419A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
D110421A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
I110406A	CHLORIDE	ND		mg/L	300.0		0.10000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
OPHOS-110406	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		LRB	

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110408B	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		0.82000		MB	
508_110413	AROCLOR 1016	ND		ug/L	508.1		0.03000		MB	
	AROCLOR 1221	ND		ug/L	508.1		0.03000			
	AROCLOR 1232	ND		ug/L	508.1		0.03000			
	AROCLOR 1242	ND		ug/L	508.1		0.03000			
	AROCLOR 1248	ND		ug/L	508.1		0.03000			
	AROCLOR 1254	ND		ug/L	508.1		0.03000			
	AROCLOR 1260	ND		ug/L	508.1		0.03000			
515.4_110413	2,4 - D	ND		ug/L	515.4		0.03000		MB	
	2,4 - DCAA (SURR)	92		%	515.4					
	2,4 DB	ND		ug/L	515.4		0.03000			
	2,4,5 - TP (SILVEX)	ND		ug/L	515.4		0.03000			
	2,4,5 T	ND		ug/L	515.4		0.03000			
	ACIFLUORFEN	ND		ug/L	515.4		0.03000			
	BENTAZON	ND		ug/L	515.4		0.06000			
	DALAPON	ND		ug/L	515.4		0.50000			
	DCPA (ACID METABOLITES)	ND		ug/L	515.4		0.03000			
	DICAMBA	ND		ug/L	515.4		0.03000			
	DICHLORPROP	ND		ug/L	515.4		0.10000			
	DINOSEB	ND		ug/L	515.4		0.06000			
	PENTACHLOROPHENOL	ND		ug/L	515.4		0.03000			
	PICLORAM	ND		ug/L	515.4		0.03000			
525_110413	1,3-DIMETHYL-2-NITROBENZENE (Surr)	106		%	525.2				MB	
	4,4-DDE	ND		ug/L	525.2		0.03000			
	ACETOCHLOR	ND		ug/L	525.2		0.03000			
	ALACHLOR	ND		ug/L	525.2		0.03000			
	ALDRIN	ND		ug/L	525.2		0.03000			
	ATRAZINE	ND		ug/L	525.2		0.03000			
	BENZO(A)PYRENE	ND		ug/L	525.2		0.03000			
	BROMACIL	ND		ug/L	525.2		0.03000			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
525_110413	BUTACHLOR	ND		ug/L	525.2		0.03000		MB	
	DI(ETHYLHEXYL)-ADIPATE	ND		ug/L	525.2		0.03000			
	DI(ETHYLHEXYL)-PHTHALATE	ND		ug/L	525.2		0.40000			
	DIELDRIN	ND		ug/L	525.2		0.03000			
	ENDRIN	ND		ug/L	525.2		0.03000			
	EPTC	ND		ug/L	525.2		0.03000			
	FLUORENE	ND		ug/L	525.2		0.03000			
	HEPTACHLOR	ND		ug/L	525.2		0.03000			
	HEPTACHLOR EPOXIDE	ND		ug/L	525.2		0.03000			
	HEXACHLOROBENZENE	ND		ug/L	525.2		0.03000			
	HEXACHLOROCYCLO-PENTADIENE	ND		ug/L	525.2		0.03000			
	LINDANE (BHC - GAMMA)	ND		ug/L	525.2		0.03000			
	METHOXYCHLOR	ND		ug/L	525.2		0.03000			
	METOLACHLOR	ND		ug/L	525.2		0.03000			
	METRIBUZIN	ND		ug/L	525.2		0.03000			
	MOLINATE	ND		ug/L	525.2		0.03000			
	PENTACHLOROPHENOL	ND		ug/L	525.2		0.03000			
	PERYLENE-D12 (Surr)	93		%	525.2					
	PROPACHLOR	ND		ug/L	525.2		0.03000			
	PYRENE-D10 (Surr)	105		%	525.2					
	SIMAZINE	ND		ug/L	525.2		0.03000			
	TERBACIL	ND		ug/L	525.2		0.03000			
	TRIPHENYLPHOSPHATE (Surr)	111		%	525.2					
531_110418	3-HYDROXYCARBOFURAN	ND		ug/L	531.2		0.50000		MB	
	ALDICARB	ND		ug/L	531.2		0.25000			
	ALDICARB SULFONE	ND		ug/L	531.2		0.40000			
	ALDICARB SULFOXIDE	ND		ug/L	531.2		0.25000			
	BDMC (SURR)	114		%	531.2		0.00000			
	CARBARYL	ND		ug/L	531.2		0.50000			
	CARBOFURAN	ND		ug/L	531.2		0.45000			
	METHIOCARB	ND		ug/L	531.2		1.00000			
	METHOMYL	ND		ug/L	531.2		0.25000			
	OXYMAL	ND		ug/L	531.2		1.00000			
	PROPOXUR (BAYGON)	ND		ug/L	531.2		0.25000			

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
COD_110414	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		MB	
ec_110408	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110408	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110408	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
OPHOS-110406	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		MB	
tds_110411	TOTAL DISSOLVED SOLIDS	ND		mg/L	SM2540 C		2.50000		MB	
TURB_110406	TURBIDITY	ND		NTU	180.1		0.02000		MB	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 11-04791
Report Date: 05/02/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110408B	HARDNESS as Calcium Carbonate	133	132.3	mg/L	200.7	101	85-115		QCS	
COD_110414	CHEMICAL OXYGEN DEMAND	84	86	mg/L	SM5220 D	98	80-120		QCS	
D110419A	BROMATE	0.027	0.029	mg/L	300.1	93	75-125		QCS	
D110421A	BROMATE	0.030	0.029	mg/L	300.1	103	75-125		QCS	
ec_110408	ELECTRICAL CONDUCTIVITY	147.1	146.9	uS/cm	SM2510 B	100	80-120		QCS	
ec_110408	ELECTRICAL CONDUCTIVITY	146.0	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110408	ELECTRICAL CONDUCTIVITY	145.9	146.9	uS/cm	SM2510 B	99	80-120		QCS	
I110406A	CHLORIDE	29.7	30.0	mg/L	300.0	99	80-120		QCS	
	NITRATE-N	2.43	2.50	mg/L	300.0	97	80-120			
OPHOS-110406	ORTHO-PHOSPHATE	0.48	0.49	mg/L	SM4500-P F	98	80-120		QCS	
ph_110406	HYDROGEN ION (pH)	8.10	8.00	pH Units	SM4500-H+ B	101	80-120		QCS	
tds_110411	TOTAL DISSOLVED SOLIDS	504	500	mg/L	SM2540 C	101	80-120		QCS	
	TOTAL DISSOLVED SOLIDS	516	500	mg/L	SM2540 C	103	80-120			
TURB_110406	TURBIDITY	1.05	1.00	NTU	180.1	105	70-130		QCS	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

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SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 11-04791
Report Date: 5/2/2011

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
525_110413										
	10624	ATRAZINE	0.02J	0.01J	ug/L	**66.7**	0-45	EV	DUP	
	10624	BROMACIL	0.04J	0.03J	ug/L	**28.6**	0-45		DUP	
	10624	PYRENE-D10 (Surr)	102	104	%	**1.9**	0-45		DUP	
	10624	PERYLENE-D12 (Surr)	99	94	%	**5.2**	0-45		DUP	
	10624	TRIPHENYLPHOSPHATE (Surr)	106	103	%	**2.9**	0-45		DUP	
COD_110414										
D110419A										
OPHOS-110406										
	10629	ORTHO-PHOSPHATE	0.05	0.05	mg/L	**0.0**	0-50		DUP	
TURB_110406										
	10627	TURBIDITY	1.40	1.39	NTU	**0.7**	0-50		DUP	
	10629	TURBIDITY	167	161	NTU	**3.7**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits	%RPD	Limits	QC Qualifier	Type	Comments
COD_110414															
	10624	CHEMICAL OXYGEN DEMAND	ND	54	54	50	mg/L	**108**	**108**	80-120	**0.0**	0-60		LFM	
D110419A															
	10624	BROMATE	ND	0.0096		0.010	mg/L	**96**	**NA**	75-125	**NA**	0-20		LFM	
OPHOS-110406															
	10629	ORTHO-PHOSPHATE	0.05	1.04	1.05	1.00	mg/L	**99**	**100**	70-130	**1.0**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

QUALITY CONTROL REPORT
SURROGATE REPORT

Reference Number: 11-04791
Report Date: 04/28/11

Lab No	Analyte	Result	Qualifier	Units	Method	Limit
508_110413						
10624	TETRACHLORO-M-XYLENE (SURR)	90		%	508.1	Acceptance Limits 70%-130%
515.4_110413						
10624	2,4 - DCAA (SURR)	92		%	515.4	Acceptance Range is 70 - 130%
525_110413						
10624	1,3-DIMETHYL-2-NITROBENZENE (Surr)	106		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	102		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	99		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	106		%		Acceptance Range is 70% to 130%
531_110418						
10624	BDMC (SURR)	112		%	531.2	
508_110413						
10625	TETRACHLORO-M-XYLENE (SURR)	94		%	508.1	Acceptance Limits 70%-130%
515.4_110413						
10625	2,4 - DCAA (SURR)	91		%	515.4	Acceptance Range is 70 - 130%
525_110413						
10625	1,3-DIMETHYL-2-NITROBENZENE (Surr)	106		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	102		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	99		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	102		%		Acceptance Range is 70% to 130%
531_110418						
10625	BDMC (SURR)	98		%	531.2	
508_110413						
10626	TETRACHLORO-M-XYLENE (SURR)	94		%	508.1	Acceptance Limits 70%-130%
515.4_110413						
10626	2,4 - DCAA (SURR)	93		%	515.4	Acceptance Range is 70 - 130%
525_110413						
10626	1,3-DIMETHYL-2-NITROBENZENE (Surr)	101		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	102		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	102		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	109		%		Acceptance Range is 70% to 130%
531_110418						
10626	BDMC (SURR)	116		%	531.2	
508_110413						
10629	TETRACHLORO-M-XYLENE (SURR)	70		%	508.1	Acceptance Limits 70%-130%
515.4_110413						
10629	2,4 - DCAA (SURR)	71		%	515.4	Acceptance Range is 70 - 130%
525_110413						
10629	1,3-DIMETHYL-2-NITROBENZENE (Surr)	107		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	70		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	99		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	125		%		Acceptance Range is 70% to 130%
531_110418						
10629	BDMC (SURR)	102		%	531.2	

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*Notation:

A surrogate is a pure compound added to a sample in the laboratory just before processing so that the overall efficiency of a method can be determined.

The Acceptance Limits (or Control Limits) approximate a 99% confidence interval around the mean recovery.

Qualifier Definitions

Reference Number: 11-04791
Report Date: 04/28/11

Qualifier	Definition
EV	One or more of the results are estimated values, therefore acceptance criteria may not apply.
J	Indicates an estimated concentration. This occurs when an analyte concentration is below the calibration curve but is above the method detection limit.

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

11-04791
10624 - 10629

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

Page_____ of_____

12966

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to: Walla Walla Basin Watershed Cour
Ship Address: 810 S Main Street
City: Milton-Freewa St: OR Zip: 97862
Attn: ~~Bob Bower~~ Troy Baker
Phone: 541.938-2170 FAX:
Email: troy.baker@wwbwc.org
Project: Locher Road

Bill to: Walla Walla Basin Watershed Council
Address: 810 S main st
City: Milton-Freewater St: OR Zip: 97862
Phone: 541-938-2170 FAX:
P.O.#: Attn:
☐ Visa ☐ M/C ☐ A/E Expires /
Card#:

For Lab Use Only
Ref # 11-04791

Check Regulatory Program
☐ Safe Drinking Water Act
☐ Clean Water Act
☐ RCRA / CERCLA
☒ Other

Instructions
1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req
☐ Emergency (Phone Call Req.)

CO012966

Analyses Requested

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	515.4	525/full WA reg	531	Bro3,Cl,Ec,NO3,O-Phos,pH,TDS,Turb	COD	Hardness			Number of Containers	Special Instructions Conditions on Receipt
1	L-1	Locher Rd L-1	-	GW	4/5/11	8:30	☒	☒	☒	☒	☒	☒	☐	☐	7	
2	L-2	Locher Rd L-2	-	GW	4/5/11	9:30	☒	☒	☒	☒	☒	☒	☐	☐	7	
3	L-3	Locher Rd L-3	-	GW	4/5/11	9:00	☒	☒	☒	☒	☒	☒	☐	☐	7	
4	MC-1	MC-1	-	SW	4/5/11	9:45	☐	☐	☐	☒	☒	☒	☐	☐	3	
5	MC-2	MC-2	-	SW	4/5/11	10:00	☐	☐	☐	☒	☒	☒	☐	☐	3	
6	SW-1	SW-1	-	SW	4/5/11	10:15	☒	☒	☒	☒	☒	☒	☐	☐	7	
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: Troy Baker Phone: 541-938-2170 FAX: Email: troy.baker@wwbwc.org 34 Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* W - water
DW - drinking water
SW - surface water
GW - Ground water
WW - waste water
S - soil
OL - oil
Other________

Relinquished by	Date	Time	Received by	Date	Time
Troy Baker	4/5/11	12:00			
			Ofelia	4-6-11	900

	Yes	No	N/A
Custody seals intact ups	☐	☐	☒
Sample temp 5 C satisfactory	☑	☐	☐
Samples received intact	☑	☐	
Chain of custody & labels agree	☑	☐	

FORM: COC 01-06-2009

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503.682.7802

May 6, 2011

Mr. Troy Baker
Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

RE: 11-05430 - Locher Road

Dear Mr. Troy Baker,

Your project: Locher Road, was received on Friday April 15, 2011.
The following comments are reported for your project:

EPA Method 525.2; BisPhenol-A was detected in the analysis and estimated at the following amounts 12011 (2.1 ug/L), 12012 (0.6 ug/L) and 12013 (0.2ug/L).

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report

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WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12013
Field ID: SW-1
Sample Description: Locher Rd SW-1
Matrix: Surface Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110425

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**ND**		ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

If you have any questions concerning this report contact us at the above phone number.

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WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12012
Field ID: L-3
Sample Description: Locher Rd L-3
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110425

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**ND**		ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

Notes:

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WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12011
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110425

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**ND**		ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12010
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 525.2
Batch: 525_110425

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
314-40-9	BROMACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
86-73-7	FLUORENE	**ND**		ug/L	0.1	0.2	0.02	1.00	
	EPA Unregulated								
309-00-2	ALDRIN	**ND**		ug/L	0.1	0.2	0.03	1.00	
23184-66-	BUTACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.1	0.2	0.05	1.00	
51218-45-	METOLACHLOR	**ND**		ug/L	0.1	1.0	0.1	1.00	
21087-64-	METRIBUZIN	**ND**		ug/L	0.1	0.2	0.04	1.00	
1918-16-7	PROPACHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
72-55-9	4,4-DDE	**ND**		ug/L	0.1	0.2	0.03	1.00	
34256-82-	ACETOCHLOR	**ND**		ug/L	0.1	0.1	0.05	1.00	
759-94-4	EPTC	**ND**		ug/L	0.1	0.3	0.04	1.00	
2212-67-1	MOLINATE	**ND**		ug/L	0.1	0.1	0.03	1.00	
5902-51-2	TERBACIL	**ND**		ug/L	0.1	0.2	0.1	1.00	
	EPA Regulated								
72-20-8	ENDRIN	**ND**		ug/L	0.1	0.02	0.02	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.1	0.04	0.02	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.1	0.2	0.04	1.00	
15972-60-	ALACHLOR	**ND**		ug/L	0.1	0.4	0.04	1.00	
1912-24-9	ATRAZINE	**ND**		ug/L	0.1	0.2	0.07	1.00	
50-32-8	BENZO(A)PYRENE	**ND**		ug/L	0.1	0.04	0.05	1.00	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**		ug/L	0.1	1.3	0.3	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.1	0.08	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**		ug/L	0.1	0.04	0.03	1.00	
118-74-1	HEXACHLOROBENZENE	**ND**		ug/L	0.1	0.2	0.03	1.00	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**		ug/L	0.1	0.2	0.07	1.00	
122-34-9	SIMAZINE	**ND**		ug/L	0.1	0.15	0.05	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.4	0.4	0.27	1.00	screening only / compliance by 515.4

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WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12013
Field ID: SW-1
Sample Description: Locher Rd SW-1
Matrix: Surface Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 508.1
Batch: 508_110425

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2		1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.1^	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1^	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1^	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1^	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1^	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.08	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.5	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.3	1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12012
Field ID: L-3
Sample Description: Locher Rd L-3
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 508.1
Batch: 508_110425

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2		1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.1^	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1^	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1^	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1^	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1^	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.08	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.5	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.3	1.00	

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12011
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 508.1
Batch: 508_110425

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2		1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.1^	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1^	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1^	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1^	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1^	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.08	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.5	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.3	1.00	

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12010
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/25/11
Extraction Method: 3535

Report Date: 4/27/11
Date Analyzed: 4/25/11
Analyst: CO
Peer Review:
Analytical Method: 508.1
Batch: 508_110425

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	PCBs/Toxaphene								
1336-36-3	PCBS (Total Aroclors)	**ND**		ug/L		0.2		1.00	
11104-28-	AROCLOR 1221	**ND**		ug/L		100	0.1^	1.00	
11141-16-	AROCLOR 1232	**ND**		ug/L		2.5	0.1^	1.00	
53469-21-	AROCLOR 1242	**ND**		ug/L		1.5	0.1^	1.00	
12672-29-	AROCLOR 1248	**ND**		ug/L		0.5	0.1^	1.00	
11097-69-	AROCLOR 1254	**ND**		ug/L		0.5	0.1^	1.00	
11096-82-	AROCLOR 1260	**ND**		ug/L		1	0.08	1.00	
12674-11-	AROCLOR 1016	**ND**		ug/L		0.4	0.1	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L		1	0.5	1.00	
	EPA Regulated								
57-74-9	CHLORDANE, TECHNICAL	**ND**		ug/L	0.1	0.4	0.3	1.00	

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12013
Field ID: SW-1
Sample Description: Locher Rd SW-1
Matrix: Surface Water
Sample Date: 4/14/11
Extraction Date: 4/27/11
Extraction Method: FILTER0.2

Report Date: 4/29/11
Date Analyzed: 4/27/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110427

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.7	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	2.	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.4	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.4	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.5	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.6	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.4	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.6	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.7	1.00	

Notes:

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WSDOE Lab C1251

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12012
Field ID: L-3
Sample Description: Locher Rd L-3
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/27/11
Extraction Method: FILTER0.2

Report Date: 4/29/11
Date Analyzed: 4/27/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110427

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.7	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	2.	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.4	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.4	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.5	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.6	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.4	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.6	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.7	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12011
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/27/11
Extraction Method: FILTER0.2

Report Date: 4/29/11
Date Analyzed: 4/27/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110427

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.7	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	2.	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.4	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.4	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.5	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.6	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.4	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.6	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.7	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12010
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/27/11
Extraction Method: FILTER0.2

Report Date: 4/29/11
Date Analyzed: 4/27/11
Analyst: HY
Peer Review:
Analytical Method: 531.2
Batch: 531_110427

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	State Unregulated - Other								
114-26-1	PROPOXUR (BAYGON)	**ND**		ug/L	1.0	1.0	0.7	1.00	
2032-65-7	METHIOCARB	**ND**		ug/L	1.0	4.0	2.	1.00	
	EPA Unregulated								
1646-87-3	ALDICARB SULFOXIDE	**ND**		ug/L	1.0	1.0	0.3	1.00	
1646-88-4	ALDICARB SULFONE	**ND**		ug/L	1.0	1.6	0.4	1.00	
16752-77-	METHOMYL	**ND**		ug/L	1.0	1.0	0.4	1.00	
16655-82-	3-HYDROXYCARBOFURAN	**ND**		ug/L	1.0	2.0	0.5	1.00	
116-06-3	ALDICARB	**ND**		ug/L	1.0	1.0	0.6	1.00	
63-25-2	CARBARYL	**ND**		ug/L	1.0	2.0	0.4	1.00	
	EPA Regulated								
23135-22-	OXYMAL	**ND**		ug/L	1.0	4.0	0.6	1.00	
1563-66-2	CARBOFURAN	**ND**		ug/L	1.0	1.8	0.7	1.00	

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12013
Field ID: SW-1
Sample Description: Locher Rd SW-1
Matrix: Surface Water
Sample Date: 4/14/11
Extraction Date:
Extraction Method: 3511

Report Date: 5/5/11
Date Analyzed: 4/22/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110421

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**0.22**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.13	0.5	0.25	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12012
Field ID: L-3
Sample Description: Locher Rd L-3
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/21/11
Extraction Method: 3511

Report Date: 5/5/11
Date Analyzed: 4/22/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110421

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**ND**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.13	0.5	0.25	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12011
Field ID: L-2
Sample Description: Locher Rd L-2
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/21/11
Extraction Method: 3511

Report Date: 5/5/11
Date Analyzed: 4/22/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110421

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**ND**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.13	0.5	0.25	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Lab Number: 12010
Field ID: L-1
Sample Description: Locher Rd L-1
Matrix: Water
Sample Date: 4/14/11
Extraction Date: 4/21/11
Extraction Method: 3511

Report Date: 5/5/11
Date Analyzed: 4/22/11
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Batch: 515.4_110421

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	Other								
E-14028	DCPA (ACID METABOLITES)	**ND**		ug/L	0.13	0.1	0.08	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.13	0.2	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.5	1.0	0.19	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.13	0.4	0.15	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.27	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.13	0.5	0.38	1.00	
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.13	2.0	0.07	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.13	0.5	0.25	1.00	
	EPA Regulated								
94-75-7	2,4 - D	**ND**		ug/L	0.13	0.5	0.12	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.13	1.0	0.06	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.13	0.2	0.04	1.00	
75-99-0	DALAPON	**ND**		ug/L	0.5	5	0.1	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.13	1.0	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.13	0.5	0.1	1.00	

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Form: c608.rpt

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Data Report

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-05430**
Project: Locher Road

Report Date: 5/6/11
Date Received: 4/15/11
Reviewed by:

Sample Description: L-1 - Locher Rd L-1
Lab Number: 12010
Sample Date: 4/14/11
Collected By: T. Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.78				**pH Units**	1.00	SM4500-H+ B	4/15/11	KDW	PH_110415	
E-10617	**TURBIDITY**	4.03	0.10	0.10		**NTU**	1.00	180.1	4/15/11	KDW	TURB_110415A	
14797-55-8	**NITRATE-N**	6.18	0.100	0.100	0.009	**mg/L**	1.00	300.0	4/15/11	MVP	I110415A	
16887-00-6	**CHLORIDE**	6.5	20	20	0.015	**mg/L**	1.00	300.0	4/15/11	MVP	I110415A	
E-10173	**TOTAL DISSOLVED SOLIDS**	269	10	10		**mg/L**	1.00	SM2540 C	4/20/11	srf	TDS_110420	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	4/15/11	SPL	OPHOS-110415	
E-10184	**ELECTRICAL CONDUCTIVITY**	378	10	10		**uS/cm**	1.00	SM2510 B	4/19/11	SRF	EC_110419	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	4/21/11	MVP	D110421A	
E-11778	**HARDNESS as Calcium Carbonate**	145.6	3.30	3.30	0.055	**mg CaCO3/L**	1.00	200.7	4/21/11	BJ	200.7-110421C	
E-10117	**CHEMICAL OXYGEN DEMAND**	8	8	8	3	**mg/L**	1.00	SM5220 D	4/21/11	KDW	COD_110421	

Sample Description: L-2 - Locher Rd L-2
Lab Number: 12011
Sample Date: 4/14/11
Collected By: T. Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.70				**pH Units**	1.00	SM4500-H+ B	4/15/11	KDW	PH_110415	
E-10617	**TURBIDITY**	2.22	0.10	0.10		**NTU**	1.00	180.1	4/15/11	KDW	TURB_110415A	
14797-55-8	**NITRATE-N**	11.6	0.100	0.100	0.009	**mg/L**	1.00	300.0	4/15/11	MVP	I110415A	
16887-00-6	**CHLORIDE**	7.1	20	20	0.015	**mg/L**	1.00	300.0	4/15/11	MVP	I110415A	
E-10173	**TOTAL DISSOLVED SOLIDS**	277	10	10		**mg/L**	1.00	SM2540 C	4/20/11	srf	TDS_110420	
14265-44-2	**ORTHO-PHOSPHATE**	0.07	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	4/15/11	SPL	OPHOS-110415	
E-10184	**ELECTRICAL CONDUCTIVITY**	358	10	10		**uS/cm**	1.00	SM2510 B	4/19/11	SRF	EC_110419	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	4/21/11	MVP	D110421A	
E-11778	**HARDNESS as Calcium Carbonate**	149.5	3.30	3.30	0.055	**mg CaCO3/L**	1.00	200.7	4/21/11	BJ	200.7-110421C	
E-10117	**CHEMICAL OXYGEN DEMAND**	22	8	8	3	**mg/L**	1.00	SM5220 D	4/21/11	KDW	COD_110421	

Sample Description: L-3 - Locher Rd L-3
Lab Number: 12012
Sample Date: 4/14/11
Collected By: T. Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.70				**pH Units**	1.00	SM4500-H+ B	4/15/11	KDW	PH_110415	

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D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

E-10617	**TURBIDITY**	3.44	0.10	0.10		NTU	1.00	180.1	4/15/11	KDW	TURB_110415A	
14797-55-8	**NITRATE-N**	5.19	0.100	0.100	0.009	mg/L	1.00	300.0	4/15/11	MVP	I110415A	
16887-00-6	**CHLORIDE**	2.8	20	20	0.015	mg/L	1.00	300.0	4/15/11	MVP	I110415A	
E-10173	**TOTAL DISSOLVED SOLIDS**	147	10	10		mg/L	1.00	SM2540 C	4/20/11	srf	TDS_110420	
14265-44-2	**ORTHO-PHOSPHATE**	0.07	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/15/11	SPL	OPHOS-110415	
E-10184	**ELECTRICAL CONDUCTIVITY**	177	10	10		uS/cm	1.00	SM2510 B	4/19/11	SRF	EC_110419	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/21/11	MVP	D110421A	
E-11778	**HARDNESS as Calcium Carbonate**	72.3	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/21/11	BJ	200.7-110421C	
E-10117	**CHEMICAL OXYGEN DEMAND**	14	8	8	3	mg/L	1.00	SM5220 D	4/21/11	KDW	COD_110421	

Sample Description: SW-1 - Locher Rd SW-1
Lab Number: 12013
Sample Date: 4/14/11
Collected By: T. Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.93				pH Units	1.00	SM4500-H+ B	4/15/11	KDW	PH_110415	
E-10617	**TURBIDITY**	14.1	0.10	0.10		NTU	1.00	180.1	4/15/11	KDW	TURB_110415A	
14797-55-8	**NITRATE-N**	0.58	0.100	0.100	0.009	mg/L	1.00	300.0	4/16/11	MVP	I110415A	
16887-00-6	**CHLORIDE**	1.4	20	20	0.015	mg/L	1.00	300.0	4/16/11	MVP	I110415A	
E-10173	**TOTAL DISSOLVED SOLIDS**	94	10	10		mg/L	1.00	SM2540 C	4/20/11	srf	TDS_110420	
14265-44-2	**ORTHO-PHOSPHATE**	0.04	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/15/11	SPL	OPHOS-110415	
E-10184	**ELECTRICAL CONDUCTIVITY**	86.7	10	10		uS/cm	1.00	SM2510 B	4/19/11	SRF	EC_110419	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/27/11	MVP	D110427A	
E-11778	**HARDNESS as Calcium Carbonate**	30.1	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/21/11	BJ	200.7-110421C	
E-10117	**CHEMICAL OXYGEN DEMAND**	15	8	8	3	mg/L	1.00	SM5220 D	4/21/11	KDW	COD_110421	

Sample Description: MC-1 - Locher Rd MC-1
Lab Number: 12014
Sample Date: 4/14/11
Collected By: T. Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	7.21				pH Units	1.00	SM4500-H+ B	4/15/11	KDW	PH_110415	
E-10617	**TURBIDITY**	3.97	0.10	0.10		NTU	1.00	180.1	4/15/11	KDW	TURB_110415A	
14797-55-8	**NITRATE-N**	1.11	0.100	0.100	0.009	mg/L	1.00	300.0	4/16/11	MVP	I110415A	
16887-00-6	**CHLORIDE**	3.6	20	20	0.015	mg/L	1.00	300.0	4/16/11	MVP	I110415A	
E-10173	**TOTAL DISSOLVED SOLIDS**	148	10	10		mg/L	1.00	SM2540 C	4/20/11	srf	TDS_110420	
14265-44-2	**ORTHO-PHOSPHATE**	0.04	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/15/11	SPL	OPHOS-110415	
E-10184	**ELECTRICAL CONDUCTIVITY**	193	10	10		uS/cm	1.00	SM2510 B	4/19/11	SRF	EC_110419	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	4/27/11	MVP	D110427A	
E-11778	**HARDNESS as Calcium Carbonate**	76.9	3.30	3.30	0.055	mg CaCO3/L	1.00	200.7	4/21/11	BJ	200.7-110421C	
E-10117	**CHEMICAL OXYGEN DEMAND**	19	8	8	3	mg/L	1.00	SM5220 D	4/21/11	KDW	COD_110421	

Sample Description: MC-2 - Locher Rd MC-2
Lab Number: 12015
Sample Date: 4/14/11
Collected By: T. Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

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D.F. - Dilution Factor

Data Report

E-10139	**HYDROGEN ION (pH)**	7.49				**pH Units**	1.00	SM4500-H+ B	4/15/11	KDW	PH_110415
E-10617	**TURBIDITY**	1.90	0.10	0.10		**NTU**	1.00	180.1	4/15/11	KDW	TURB_110415A
14797-55-8	**NITRATE-N**	3.26	0.100	0.100	0.009	**mg/L**	1.00	300.0	4/16/11	MVP	I110415A
16887-00-6	**CHLORIDE**	8.7	20	20	0.015	**mg/L**	1.00	300.0	4/16/11	MVP	I110415A
E-10173	**TOTAL DISSOLVED SOLIDS**	259	10	10		**mg/L**	1.00	SM2540 C	4/20/11	srf	TDS_110420
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	4/15/11	SPL	OPHOS-110415
E-10184	**ELECTRICAL CONDUCTIVITY**	384	10	10		**uS/cm**	1.00	SM2510 B	4/19/11	SRF	EC_110419
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	4/27/11	MVP	D110427A
E-11778	**HARDNESS as Calcium Carbonate**	126.0	3.30	3.30	0.055	**mg CaCO3/L**	1.00	200.7	4/21/11	BJ	200.7-110421C
E-10117	**CHEMICAL OXYGEN DEMAND**	15	8	8	3	**mg/L**	1.00	SM5220 D	4/21/11	KDW	COD_110421

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	Qualifier	QC Type*	Comment
200.7-110421C	HARDNESS as Calcium Carbonate	69.9	69.5	mg/L	200.7	101	85-115		LFB	
508_110425	AROCLOR 1221	0.77	1	ug/L	508.1	77	70-130		LFB	
	AROCLOR 1254	0.47	0.5	ug/L	508.1	94	70-130			
	TETRACHLORO-M-XYLENE (SURR)	89		%	508.1		70-130			
515.4_110421	2,4 - D	2.4	2.5	ug/L	515.4	96	70-130		LFB	
	2,4 - DCAA (SURR)	95		%	515.4		70-130			
	2,4 DB	2.57	2.5	ug/L	515.4	103	70-130			
	2,4,5 - TP (SILVEX)	2.18	2.5	ug/L	515.4	87	70-130			
	2,4,5 T	2.24	2.5	ug/L	515.4	90	70-130			
	ACIFLUORFEN	1.85	2.5	ug/L	515.4	74	70-130			
	BENTAZON	2.05	2.5	ug/L	515.4	82	70-130			
	DALAPON	3.06	2.5	ug/L	515.4	122	70-130			
	DCPA (ACID METABOLITES)	2.60	2.5	ug/L	515.4	104	70-130			
	DICAMBA	2.38	2.5	ug/L	515.4	95	70-130			
	DICHLORPROP	2.18	2.5	ug/L	515.4	87	70-130			
	DINOSEB	2.13	2.5	ug/L	515.4	85	70-130			
	PENTACHLOROPHENOL	2.07	2.5	ug/L	515.4	83	70-130			
	PICLORAM	2.06	2.5	ug/L	515.4	82	70-130			
525_110425	1,3-DIMETHYL-2-NITROBENZENE (Surr)	112		%	525.2		70-130		LFB	
	4,4-DDE	0.97	1	ug/L	525.2	97	70-130			
	ACETOCHLOR	1.14	1	ug/L	525.2	114	70-130			
	ALACHLOR	1.86	2	ug/L	525.2	93	70-130			
	ALDRIN	1.01	1	ug/L	525.2	101	70-130			
	ATRAZINE	1.92	2	ug/L	525.2	96	70-130			
	BENZO(A)PYRENE	0.85	1	ug/L	525.2	85	70-130			
	BROMACIL	0.97	1	ug/L	525.2	97	70-130			
	BUTACHLOR	1.01	1	ug/L	525.2	101	70-130			
	DI(ETHYLHEXYL)-ADIPATE	1.04	1	ug/L	525.2	104	70-130			
	DI(ETHYLHEXYL)-PHTHALATE	1.06	1	ug/L	525.2	106	70-130			
	DIELDRIN	1.05	1	ug/L	525.2	105	70-130			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-05430
Report Date: 05/06/11

			True			%		QC		
Batch	Analyte	Result	Value	Units	Method	Recovery	Limits	Qualifier	Type*	Comment
525_110425	ENDRIN	1.21	1	ug/L	525.2	121	70-130		LFB	
	EPTC	1.07	1	ug/L	525.2	107	70-130			
	FLUORENE	0.94	1	ug/L	525.2	94	70-130			
	HEPTACHLOR	1.02	1	ug/L	525.2	102	70-130			
	HEPTACHLOR EPOXIDE	1.19	1	ug/L	525.2	119	70-130			
	HEXACHLOROBENZENE	0.94	1	ug/L	525.2	94	70-130			
	HEXACHLOROCYCLO-PENTADIENE	0.8	1	ug/L	525.2	80	70-130			
	LINDANE (BHC - GAMMA)	0.99	1	ug/L	525.2	99	70-130			
	METHOXYCHLOR	1.17	1	ug/L	525.2	117	70-130			
	METOLACHLOR	1.01	1	ug/L	525.2	101	70-130			
	METRIBUZIN	1.03	1	ug/L	525.2	103	70-130			
	MOLINATE	1.07	1	ug/L	525.2	107	70-130			
	PENTACHLOROPHENOL	3.25	4	ug/L	525.2	81	70-130			
	PERYLENE-D12 (Surr)	103		%	525.2		70-130			
	PROPACHLOR	1	1	ug/L	525.2	100	70-130			
	PYRENE-D10 (Surr)	101		%	525.2		70-130			
	SIMAZINE	0.95	1	ug/L	525.2	95	70-130			
	TERBACIL	1.11	1	ug/L	525.2	111	70-130			
	TRIPHENYLPHOSPHATE (Surr)	107		%	525.2		70-130			
531_110427	3-HYDROXYCARBOFURAN	44.4	40	ug/L	531.2	111	70-130		LFB	
	ALDICARB	44.6	40	ug/L	531.2	112	70-130			
	ALDICARB SULFONE	40.0	40	ug/L	531.2	100	70-130			
	ALDICARB SULFOXIDE	40.1	40	ug/L	531.2	100	70-130			
	BDMC (SURR)	104		%	531.2		70-130			
	CARBARYL	38.3	40	ug/L	531.2	96	70-130			
	CARBOFURAN	39.7	40	ug/L	531.2	99	70-130			
	METHIOCARB	40.7	40	ug/L	531.2	102	70-130			
	METHOMYL	41.2	40	ug/L	531.2	103	70-130			
	OXYMAL	39.9	40	ug/L	531.2	100	70-130			
	PROPOXUR (BAYGON)	40.2	40	ug/L	531.2	101	70-130			
531_110427	3-HYDROXYCARBOFURAN	21.2	20	ug/L	531.2	106	70-130		LFB	
	ALDICARB	20.7	20	ug/L	531.2	104	70-130			
	ALDICARB SULFONE	19.2	20	ug/L	531.2	96	70-130			
	ALDICARB SULFOXIDE	18.9	20	ug/L	531.2	95	70-130			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
531_110427	BDMC (SURR)	105		%	531.2		70-130		LFB	
	CARBARYL	19.1	20	ug/L	531.2	96	70-130			
	CARBOFURAN	19.4	20	ug/L	531.2	97	70-130			
	METHIOCARB	19.2	20	ug/L	531.2	96	70-130			
	METHOMYL	19.8	20	ug/L	531.2	99	70-130			
	OXYMAL	18.9	20	ug/L	531.2	95	70-130			
	PROPOXUR (BAYGON)	19.6	20	ug/L	531.2	98	70-130			
COD_110421	CHEMICAL OXYGEN DEMAND	53	50	mg/L	SM5220 D	106	80-120		LFB	
	CHEMICAL OXYGEN DEMAND	54	50	mg/L	SM5220 D	108	80-120			
OPHOS-110415	ORTHO-PHOSPHATE	1.00	1.00	mg/L	SM4500-P F	100	80-120		LFB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Low Level Laboratory Fortified Blank

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	Qualifier	QC Type*	Comment
515.4_110421	2,4 - D	0.16	0.125	ug/L	515.4	128	50-150		LFBD	
	2,4 - DCAA (SURR)	95		%	515.4		70-130			
	2,4 DB	0.50	0.5	ug/L	515.4	100	50-150			
	2,4,5 - TP (SILVEX)	0.12	0.125	ug/L	515.4	96	50-150			
	2,4,5 T	0.13	0.125	ug/L	515.4	104	50-150			
	ACIFLUORFEN	0.12	0.125	ug/L	515.4	96	50-150			
	BENTAZON	0.59	0.5	ug/L	515.4	118	50-150			
	DALAPON	0.43	0.5	ug/L	515.4	86	50-150			
	DCPA (ACID METABOLITES)	0.10	0.125	ug/L	515.4	80	50-150			
	DICAMBA	0.12	0.125	ug/L	515.4	96	50-150			
	DICHLORPROP	0.16	0.125	ug/L	515.4	128	50-150			
	DINOSEB	0.14	0.125	ug/L	515.4	112	50-150			
	PENTACHLOROPHENOL	0.11	0.125	ug/L	515.4	88	50-150			
	PICLORAM	0.11	0.125	ug/L	515.4	88	50-150			
531_110427	3-HYDROXYCARBOFURAN	1.0	1	ug/L	531.2	100	50-150		LFBD	
	ALDICARB	0.92	1	ug/L	531.2	92	50-150			
	ALDICARB SULFONE	1.0	1	ug/L	531.2	100	50-150			
	ALDICARB SULFOXIDE	0.95	1	ug/L	531.2	95	50-150			
	BDMC (SURR)	111		%	531.2		70-130			
	CARBARYL	1.2	1	ug/L	531.2	120	50-150			
	CARBOFURAN	1.1	1	ug/L	531.2	110	50-150			
	METHIOCARB	5.2	4	ug/L	531.2	130	50-150			
	METHOMYL	1.1	1	ug/L	531.2	110	50-150			
	OXYMAL	1.1	1	ug/L	531.2	110	50-150			
	PROPOXUR (BAYGON)	1.3	1	ug/L	531.2	130	50-150			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110421C	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		10.00000		LRB	
COD_110421	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		LRB	
D110421A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
D110427A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
I110415A	CHLORIDE	ND		mg/L	300.0		0.10000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
OPHOS-110415	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		LRB	

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110421C	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		0.82000		MB	
508_110425	AROCLOR 1016	ND		ug/L	508.1		0.03000		MB	
	AROCLOR 1221	ND		ug/L	508.1		0.03000			
	AROCLOR 1232	ND		ug/L	508.1		0.03000			
	AROCLOR 1242	ND		ug/L	508.1		0.03000			
	AROCLOR 1248	ND		ug/L	508.1		0.03000			
	AROCLOR 1254	ND		ug/L	508.1		0.03000			
	AROCLOR 1260	ND		ug/L	508.1		0.03000			
	TETRACHLORO-M-XYLENE (SURR)	100		%	508.1		0.00000			
515.4_110421	2,4 - D	ND		ug/L	515.4		0.03000		MB	
	2,4 - DCAA (SURR)	94		%	515.4					
	2,4 DB	ND		ug/L	515.4		0.03000			
	2,4,5 - TP (SILVEX)	ND		ug/L	515.4		0.03000			
	2,4,5 T	ND		ug/L	515.4		0.03000			
	ACIFLUORFEN	ND		ug/L	515.4		0.03000			
	BENTAZON	ND		ug/L	515.4		0.06000			
	DALAPON	ND		ug/L	515.4		0.50000			
	DCPA (ACID METABOLITES)	ND		ug/L	515.4		0.03000			
	DICAMBA	ND		ug/L	515.4		0.03000			
	DICHLORPROP	ND		ug/L	515.4		0.10000			
	DINOSEB	ND		ug/L	515.4		0.06000			
	PENTACHLOROPHENOL	ND		ug/L	515.4		0.03000			
	PICLORAM	ND		ug/L	515.4		0.03000			
525_110425	1,3-DIMETHYL-2-NITROBENZENE (Surr)	116		%	525.2				MB	
	4,4-DDE	ND		ug/L	525.2		0.03000			
	ACETOCHLOR	ND		ug/L	525.2		0.03000			
	ALACHLOR	ND		ug/L	525.2		0.03000			
	ALDRIN	ND		ug/L	525.2		0.03000			
	ATRAZINE	ND		ug/L	525.2		0.03000			
	BENZO(A)PYRENE	ND		ug/L	525.2		0.03000			

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
525_110425	BROMACIL	ND		ug/L	525.2		0.03000		MB	
	BUTACHLOR	ND		ug/L	525.2		0.03000			
	DI(ETHYLHEXYL)-ADIPATE	ND		ug/L	525.2		0.03000			
	DI(ETHYLHEXYL)-PHTHALATE	ND		ug/L	525.2		0.40000			
	DIELDRIN	ND		ug/L	525.2		0.03000			
	ENDRIN	ND		ug/L	525.2		0.03000			
	EPTC	ND		ug/L	525.2		0.03000			
	FLUORENE	ND		ug/L	525.2		0.03000			
	HEPTACHLOR	ND		ug/L	525.2		0.03000			
	HEPTACHLOR EPOXIDE	ND		ug/L	525.2		0.03000			
	HEXACHLOROBENZENE	ND		ug/L	525.2		0.03000			
	HEXACHLOROCYCLO-PENTADIENE	ND		ug/L	525.2		0.03000			
	LINDANE (BHC - GAMMA)	ND		ug/L	525.2		0.03000			
	METHOXYCHLOR	ND		ug/L	525.2		0.03000			
	METOLACHLOR	ND		ug/L	525.2		0.03000			
	METRIBUZIN	ND		ug/L	525.2		0.03000			
	MOLINATE	ND		ug/L	525.2		0.03000			
	PENTACHLOROPHENOL	ND		ug/L	525.2		0.03000			
	PERYLENE-D12 (Surr)	97		%	525.2					
	PROPACHLOR	ND		ug/L	525.2		0.03000			
	PYRENE-D10 (Surr)	100		%	525.2					
	SIMAZINE	ND		ug/L	525.2		0.03000			
	TERBACIL	ND		ug/L	525.2		0.03000			
	TRIPHENYLPHOSPHATE (Surr)	97		%	525.2					
531_110427	3-HYDROXYCARBOFURAN	ND		ug/L	531.2		0.50000		MB	
	ALDICARB	ND		ug/L	531.2		0.25000			
	ALDICARB SULFONE	ND		ug/L	531.2		0.40000			
	ALDICARB SULFOXIDE	ND		ug/L	531.2		0.25000			
	BDMC (SURR)	107		%	531.2		0.00000			
	CARBARYL	ND		ug/L	531.2		0.50000			
	CARBOFURAN	ND		ug/L	531.2		0.45000			
	METHIOCARB	ND		ug/L	531.2		1.00000			
	METHOMYL	ND		ug/L	531.2		0.25000			
	OXYMAL	ND		ug/L	531.2		1.00000			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
531_110427	PROPOXUR (BAYGON)	ND		ug/L	531.2		0.25000		MB	
ec_110419	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110419	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110419	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110419	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110419	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
OPHOS-110415	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		MB	
tds_110420	TOTAL DISSOLVED SOLIDS	ND		mg/L	SM2540 C		2.50000		MB	
TURB_110415A	TURBIDITY	ND		NTU	180.1		0.02000		MB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110421C	HARDNESS as Calcium Carbonate	133	132.3	mg/L	200.7	101	85-115		QCS	
COD_110421	CHEMICAL OXYGEN DEMAND	89	86	mg/L	SM5220 D	103	80-120		QCS	
D110421A	BROMATE	0.030	0.029	mg/L	300.1	103	75-125		QCS	
D110427A	BROMATE	0.031	0.029	mg/L	300.1	107	75-125		QCS	
ec_110419	ELECTRICAL CONDUCTIVITY	146.2	146.9	uS/cm	SM2510 B	100	80-120		QCS	
ec_110419	ELECTRICAL CONDUCTIVITY	145.3	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110419	ELECTRICAL CONDUCTIVITY	145.2	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110419	ELECTRICAL CONDUCTIVITY	144.8	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110419	ELECTRICAL CONDUCTIVITY	145.3	146.9	uS/cm	SM2510 B	99	80-120		QCS	
I110415A	CHLORIDE	29	30	mg/L	300.0	97	80-120		QCS	
	NITRATE-N	2.42	2.5	mg/L	300.0	97	80-120			
OPHOS-110415	ORTHO-PHOSPHATE	0.47	0.49	mg/L	SM4500-P F	96	80-120		QCS	
PH_110415	HYDROGEN ION (pH)	7.96	8.00	pH Units	SM4500-H+ B	100	80-120		QCS	
	HYDROGEN ION (pH)	8.00	8.00	pH Units	SM4500-H+ B	100	80-120			
tds_110420	TOTAL DISSOLVED SOLIDS	504	500	mg/L	SM2540 C	101	80-120		QCS	
TURB_110415A	TURBIDITY	1.07	1.00	NTU	180.1	107	70-130		QCS	

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 11-05430
Report Date: 05/06/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

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SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 11-05430
Report Date: 5/6/2011

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110421C										
508_110425										
515.4_110421										
	12013	DCPA (ACID METABOLITES)	0.22	0.18	ug/L	**20.0**	0-30		DUP	
	12013	2,4 - DCAA (SURR)	96	86	%	**11.0**	0-45		DUP	
525_110425										
	12010	PYRENE-D10 (Surr)	98	98	%	**0.0**	0-45		DUP	
	12010	PERYLENE-D12 (Surr)	93	96	%	**3.2**	0-45		DUP	
	12010	TRIPHENYLPHOSPHATE (Surr)	96	99	%	**3.1**	0-45		DUP	
COD_110421										
	11912	CHEMICAL OXYGEN DEMAND	19	18	mg/L	**5.4**	0-45		DUP	
	12012	CHEMICAL OXYGEN DEMAND	14	13	mg/L	**7.4**	0-45		DUP	
	12538	CHEMICAL OXYGEN DEMAND	6500	6550	mg/L	**0.8**	0-45		DUP	
D110421A										
D110427A										
EC_110419										
	12036	ELECTRICAL CONDUCTIVITY	396	400	uS/cm	**1.0**	0-45		DUP	
	12085	ELECTRICAL CONDUCTIVITY	293	295	uS/cm	**0.7**	0-45		DUP	
	12270	ELECTRICAL CONDUCTIVITY	555	555	uS/cm	**0.0**	0-45		DUP	
	12320	ELECTRICAL CONDUCTIVITY	206	208	uS/cm	**1.0**	0-45		DUP	
I110415A										
	11862	NITRATE-N	4.67	4.68	mg/L	**0.2**	0-45		DUP	
	12032	NITRATE-N	0.12	0.13	mg/L	**8.0**	0-45		DUP	
	12032	CHLORIDE	101	101	mg/L	**0.0**	0-45		DUP	
	12039	CHLORIDE	18	18	mg/L	**0.0**	0-45		DUP	
OPHOS-110415										
	12015	ORTHO-PHOSPHATE	0.06	0.06	mg/L	**0.0**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
PH_110415										
	12075	HYDROGEN ION (pH)	6.82	6.74	pH Units	**1.2**	0-45		DUP	
TDS_110420										
	12010	TOTAL DISSOLVED SOLIDS	269	265	mg/L	**1.5**	0-45		DUP	
	12043	TOTAL DISSOLVED SOLIDS	131	134	mg/L	**2.3**	0-45		DUP	
TURB_110415A										
	11917	TURBIDITY	0.17	0.18	NTU	**5.7**	0-50		DUP	
	12015	TURBIDITY	1.90	1.92	NTU	**1.0**	0-50		DUP	
	12076	TURBIDITY	1.66	1.54	NTU	**7.5**	0-50		DUP	

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Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	MSD	Limits	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110421C															
	11762	HARDNESS as Calcium Carbonate	ND	69.9	70.1	69.5	mg/L	**101**	**101**	70-130	**0.3**	0-60		LFM	
515.4_110421															
	9352	2,4 - D	ND	2.59	3.13	2.5	ug/L	**104**	**125**	65-135	**18.9**	0-30		LFM	
	9352	2,4,5 - TP (SILVEX)	ND	2.37	2.77	2.5	ug/L	**95**	**111**	65-135	**15.6**	0-30		LFM	
	9352	PENTACHLOROPHENOL	ND	2.20	2.62	2.5	ug/L	**88**	**105**	65-135	**17.4**	0-30		LFM	
	9352	DALAPON	ND	2.82	3.15	2.5	ug/L	**113**	**126**	65-135	**11.1**	0-30		LFM	
	9352	DINOSEB	ND	2.45	2.92	2.5	ug/L	**98**	**117**	65-135	**17.5**	0-30		LFM	
	9352	PICLORAM	ND	2.44	2.88	2.5	ug/L	**98**	**115**	65-135	**16.5**	0-30		LFM	
	9352	DICAMBA	ND	2.28	2.76	2.5	ug/L	**91**	**110**	65-135	**19.0**	0-30		LFM	
	9352	DCPA (ACID METABOLITES)	ND	2.81	3.29	2.5	ug/L	**112**	**132**	65-135	**15.7**	0-30		LFM	
	9352	2,4 DB	ND	2.64	2.73	2.5	ug/L	**106**	**109**	65-135	**3.4**	0-30		LFM	
	9352	2,4,5 T	ND	2.41	2.80	2.5	ug/L	**96**	**112**	65-135	**15.0**	0-30		LFM	
	9352	BENTAZON	ND	2.26	2.59	2.5	ug/L	**90**	**104**	65-135	**13.6**	0-30		LFM	
	9352	DICHLORPROP	ND	2.37	2.84	2.5	ug/L	**95**	**114**	65-135	**18.0**	0-30		LFM	
	9352	ACIFLUORFEN	ND	2.57	2.97	2.5	ug/L	**103**	**119**	65-135	**14.4**	0-30		LFM	
	9352	2,4 - DCAA (SURR)	94	90	98		%		**NA**	70-130	**NA**	0-30		LFM	
525_110425															
	12266	ENDRIN	ND	1.13		1	ug/L	**113**	**NA**	70-130	**NA**	0-60		LFM	
	12266	LINDANE (BHC - GAMMA)	ND	1.03		1	ug/L	**103**	**NA**	70-130	**NA**	0-60		LFM	
	12266	METHOXYCHLOR	ND	1.15		1	ug/L	**115**	**NA**	70-130	**NA**	0-60		LFM	
	12266	ALACHLOR	ND	1.91		2	ug/L	**96**	**NA**	70-130	**NA**	0-60		LFM	
	12266	ATRAZINE	ND	1.97		2	ug/L	**99**	**NA**	70-130	**NA**	0-60		LFM	
	12266	BENZO(A)PYRENE	ND	0.86		1	ug/L	**86**	**NA**	70-130	**NA**	0-60		LFM	
	12266	DI(ETHYLHEXYL)-ADIPATE	ND	1.04		1	ug/L	**104**	**NA**	70-130	**NA**	0-60		LFM	
	12266	DI(ETHYLHEXYL)-PHTHALATE	ND	1.12		1	ug/L	**112**	**NA**	70-130	**NA**	0-60		LFM	
	12266	HEPTACHLOR	ND	1.03		1	ug/L	**103**	**NA**	70-130	**NA**	0-60		LFM	
	12266	HEPTACHLOR EPOXIDE	ND	1.21		1	ug/L	**121**	**NA**	70-130	**NA**	0-50		LFM	
	12266	HEXACHLOROBENZENE	ND	0.96		1	ug/L	**96**	**NA**	70-130	**NA**	0-60		LFM	
	12266	HEXACHLOROCYCLO-PENTADIENE	ND	0.87		1	ug/L	**87**	**NA**	70-130	**NA**	0-60		LFM	
	12266	SIMAZINE	ND	1.03		1	ug/L	**103**	**NA**	70-130	**NA**	0-60		LFM	
	12266	PENTACHLOROPHENOL	ND	3.55		4	ug/L	**89**	**NA**	70-130	**NA**	0-50		LFM	
	12266	ALDRIN	ND	1.09		1	ug/L	**109**	**NA**	70-130	**NA**	0-60		LFM	
	12266	BUTACHLOR	ND	0.98		1	ug/L	**98**	**NA**	70-130	**NA**	0-60		LFM	
	12266	DIELDRIN	ND	1.08		1	ug/L	**108**	**NA**	70-130	**NA**	0-60		LFM	
	12266	METOLACHLOR	ND	1.02		1	ug/L	**102**	**NA**	70-130	**NA**	0-60		LFM	

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Matrix Spike

					Duplicate										
				Spike	Spike	Spike		Percent Recovery					QC		
Batch	Sample	Analyte	Result	Result	Result	Conc	Units	MS	MSD	Limits	%RPD	Limits	Qualifier	Type	Comments
	12266	METRIBUZIN	ND	1.01		1	ug/L	**101**	**NA**	70-130	**NA**	0-60		LFM	
	12266	PROPACHLOR	ND	1.05		1	ug/L	**105**	**NA**	70-130	**NA**	0-60		LFM	
	12266	4,4-DDE	ND	1.04		1	ug/L	**104**	**NA**	70-130	**NA**	0-60		LFM	
	12266	ACETOCHLOR	ND	1.17		1	ug/L	**117**	**NA**	70-130	**NA**	0-60		LFM	
	12266	EPTC	ND	1.08		1	ug/L	**108**	**NA**	70-130	**NA**	0-60		LFM	
	12266	MOLINATE	ND	1.11		1	ug/L	**111**	**NA**	70-130	**NA**	0-60		LFM	
	12266	TERBACIL	ND	1.1		1	ug/L	**110**	**NA**	70-130	**NA**	0-60		LFM	
	12266	BROMACIL	ND	0.97		1	ug/L	**97**	**NA**	70-130	**NA**	0-60		LFM	
	12266	FLUORENE	ND	0.99		1	ug/L	**99**	**NA**	70-130	**NA**	0-60		LFM	
	12266	1,3-DIMETHYL-2-NITROBENZENE (Surr	114	116			%		**NA**	70-130	**NA**	0-60		LFM	
	12266	PYRENE-D10 (Surr)	104	103			%		**NA**	70-130	**NA**	0-60		LFM	
	12266	PERYLENE-D12 (Surr)	98	102			%		**NA**	70-130	**NA**	0-60		LFM	
	12266	TRIPHENYLPHOSPHATE (Surr)	107	106			%		**NA**	70-130	**NA**	0-60		LFM	
531_110427															
	11099	OXYMAL	ND	19.6	19.9	20	mg/L	**98**	**100**	70-130	**1.5**	0-50		LFM	
	11099	CARBOFURAN	ND	19.2	18.7	20	mg/L	**96**	**94**	70-130	**2.6**	0-50		LFM	
	11099	ALDICARB SULFOXIDE	ND	19.9	19.7	20	ug/L	**100**	**99**	70-130	**1.0**	0-50		LFM	
	11099	ALDICARB SULFONE	ND	19.7	19.9	20	ug/L	**99**	**100**	70-130	**1.0**	0-50		LFM	
	11099	METHOMYL	ND	20.4	20.1	20	ug/L	**102**	**101**	70-130	**1.5**	0-50		LFM	
	11099	3-HYDROXYCARBOFURAN	ND	21.5	21.3	20	ug/L	**108**	**107**	70-130	**0.9**	0-50		LFM	
	11099	ALDICARB	ND	22.3	22.3	20	ug/L	**112**	**112**	70-130	**0.0**	0-50		LFM	
	11099	CARBARYL	ND	19.3	19.1	20	ug/L	**97**	**96**	70-130	**1.0**	0-50		LFM	
	11099	PROPOXUR (BAYGON)	ND	19.7	19.6	20	ug/L	**99**	**98**	70-130	**0.5**	0-50		LFM	
	11099	METHIOCARB	ND	17.8	19.7	20	ug/L	**89**	**99**	70-130	**10.1**	0-50		LFM	
	11099	BDMC (SURR)	97	100	105		%		**NA**	70-130	**NA**	0-50		LFM	
COD_110421															
	11912	CHEMICAL OXYGEN DEMAND	19	73	72	50	mg/L	**108**	**106**	80-120	**1.9**	0-60		LFM	
	12012	CHEMICAL OXYGEN DEMAND	14	65	64	50	mg/L	**102**	**100**	80-120	**2.0**	0-60		LFM	
	12538	CHEMICAL OXYGEN DEMAND	6500	9000	8950	2500	mg/L	**100**	**98**	80-120	**2.0**	0-60		LFM	
D110421A															
	11490	BROMATE	ND	0.0093		0.010	mg/L	**93**	**NA**	75-125	**NA**	0-20		LFM	
	11721	BROMATE	ND	0.010		0.010	mg/L	**100**	**NA**	75-125	**NA**	0-20		LFM	
	12012	BROMATE	ND	0.009		0.010	mg/L	**90**	**NA**	75-125	**NA**	0-20		LFM	
D110427A															
	12013	BROMATE	ND	0.0092		0.010	mg/L	**92**	**NA**	75-125	**NA**	0-20		LFM	
	12567	BROMATE	ND	0.0096		0.010	mg/L	**96**	**NA**	75-125	**NA**	0-20		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits	%RPD	Limits	QC Qualifier	Type	Comments
	12801	BROMATE	ND	0.0091		0.010	mg/L	**91**	**NA**	75-125	**NA**	0-20		LFM	
I110415A															
	11862	NITRATE-N	4.67	5.66		1	mg/L	**99**	**NA**	80-120	**NA**	0-60		LFM	
	12032	NITRATE-N	0.12	1.06		1	mg/L	**94**	**NA**	80-120	**NA**	0-60		LFM	
	12039	CHLORIDE	18	37		20	mg/L	**95**	**NA**	80-120	**NA**	0-60		LFM	
OPHOS-110415															
	12015	ORTHO-PHOSPHATE	0.06	1.08	1.07	1.00	mg/L	**102**	**101**	70-130	**1.0**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

QUALITY CONTROL REPORT
SURROGATE REPORT

Reference Number: 11-05430
Report Date: 05/06/11

Lab No	Analyte	Result	Qualifier	Units	Method	Limit
508_110425						
12010	TETRACHLORO-M-XYLENE (SURR)	99		%	508.1	Acceptance Limits 70%-130%
515.4_110421						
12010	2,4 - DCAA (SURR)	94		%	515.4	Acceptance Range is 70 - 130%
525_110425						
12010	1,3-DIMETHYL-2-NITROBENZENE (Surr)	109		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	98		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	93		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	96		%		Acceptance Range is 70% to 130%
531_110427						
12010	BDMC (SURR)	101		%	531.2	
508_110425						
12011	TETRACHLORO-M-XYLENE (SURR)	100		%	508.1	Acceptance Limits 70%-130%
515.4_110421						
12011	2,4 - DCAA (SURR)	96		%	515.4	Acceptance Range is 70 - 130%
525_110425						
12011	1,3-DIMETHYL-2-NITROBENZENE (Surr)	112		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	103		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	99		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	106		%		Acceptance Range is 70% to 130%
531_110427						
12011	BDMC (SURR)	109		%	531.2	
508_110425						
12012	TETRACHLORO-M-XYLENE (SURR)	99		%	508.1	Acceptance Limits 70%-130%
515.4_110421						
12012	2,4 - DCAA (SURR)	92		%	515.4	Acceptance Range is 70 - 130%
525_110425						
12012	1,3-DIMETHYL-2-NITROBENZENE (Surr)	115		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	102		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	98		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	104		%		Acceptance Range is 70% to 130%
531_110427						
12012	BDMC (SURR)	85		%	531.2	
508_110425						
12013	TETRACHLORO-M-XYLENE (SURR)	104		%	508.1	Acceptance Limits 70%-130%
515.4_110421						
12013	2,4 - DCAA (SURR)	96		%	515.4	Acceptance Range is 70 - 130%
525_110425						
12013	1,3-DIMETHYL-2-NITROBENZENE (Surr)	113		%	525.2	Acceptance Range is 70% to 130%
	PYRENE-D10 (Surr)	100		%		Acceptance Range is 70% to 130%
	PERYLENE-D12 (Surr)	102		%		Acceptance Range is 70% to 130%
	TRIPHENYLPHOSPHATE (Surr)	107		%		Acceptance Range is 70% to 130%
531_110427						
12013	BDMC (SURR)	101		%	531.2	

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*Notation:

A surrogate is a pure compound added to a sample in the laboratory just before processing so that the overall efficiency of a method can be determined.

The Acceptance Limits (or Control Limits) approximate a 99% confidence interval around the mean recovery.

Qualifier Definitions

Reference Number: 11-05430
Report Date: 05/06/11

Qualifier	Definition
IS	The ratio of the spike concentration to sample background was too low to meet performance criteria

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Page______ of______

Chain of Custody / Analysis Request (Please c 11-05430 ctions)

12010 - 12015

13186

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to: Walla Walla Basin Watershed Cour
Ship Address: 810 S Main Street
City: Milton-Freewa St: OR Zip: 97862
Attn: ~~Bob Bower~~ Troy Baker
Phone: 541.938-2170 FAX:
Email: troy.baker@wwbwc.org
Project Locher Road

Bill to:
Address:
City: St: Zip:
Phone: FAX:
P.O.#: Attn:
☐ Visa ☐ M/C ☐ A/E Expires /
Card#:

For Lab Use Only
Ref # 11-05430

Check Regulatory Program
☐ Safe Drinking Water Act
☐ Clean Water Act
☐ RCRA / CERCLA
☐ Other

CO013186

Instructions
1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	515.4	525/full WA reg	531	Bro3,Cl,Ec,NO3,O-Phos,pH,TDS,Turb	COD	Hardness			Number of Containers	Special Instructions Conditions on Receipt
1	L-1	Locher Rd L-1		GW	4/14/11	8:15	☒	☒	☒	☒	☒	☒	☐	☐	7	
2	L-2	Locher Rd L-2		GW		9:00	☒	☒	☒	☒	☒	☒	☐	☐	7	
3	L-3	Locher Rd L-3		GW		8:45	☒	☒	☒	☒	☒	☒	☐	☐	7	
4	SW-1	Locher Rd SW-1		SW		9:30	☒	☒	☒	☒	☒	☒	☐	☐	7	
5	MC-1	Locher Rd MC-1		SW		9:00	☐	☐	☐	☒	☒	☒	☐	☐	3	
6	MC-2	Locher RD MC-2		SW		10:00	☐	☐	☐	☒	☒	☒	☐	☐	3	
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: T. Baker Phone: 541-938-2170 FAX: Email: troy.baker@wwbwc.org Total Containers 30

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **SW** - surface water **WW** - waste water **OL** - oil
DW - drinking water **GW** - Ground water **S** - soil Other____________

Relinquished by	Date	Time	Received by	Date	Time
T. Baker	4/14/11	11:30			
			Ofelia	4/15/11	0900

	Yes	No	N/A
Custody seals intact ups	☐	☐	☑
Sample temp 1 C satisfactory	☑	☐	☐
Samples received intact	☑	☐	
Chain of custody & labels agree	☑	☐	

FORM: COC 01-06-2009

EDGE ANALYTICAL LABORATORIES

Burlington WA	Bellingham WA	Portland OR
Corporate Office	*Microbiology*	*Microbiology/Chemistry*
1620 S Walnut St - 98233	805 Orchard Dr Ste 4 - 98225	9150 SW Pioneer Ct Ste W- 97070
800.755.9295 • 360.757.1400	360.671.0688	503.682.7802

May 13, 2011

Page 1 of 1

Mr. Troy Baker
Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

RE: 11-06345 - Locher Road

Dear Mr. Troy Baker,

Your project: Locher Road, was received on Thursday April 28, 2011.
All samples were analyzed within the accepted holding times, were appropriately preserved and were analyzed according to approved analytical protocols. The quality control data was within laboratory acceptance limits, unless specified in the QA reports.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Data Report

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-06345**
Project: Locher Road

Report Date: 5/13/11
Date Received: 4/28/11
Reviewed by:

Sample Description: L-1 - Locher Rd L-1
Lab Number: 13836
Sample Date: 4/28/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.88				pH Units	1.00	SM4500-H+ B	4/29/11	SRF	ph_110429	
E-10617	**TURBIDITY**	4.02	0.10	0.10		NTU	1.00	180.1	4/29/11	SRF	turb_110429	
14797-55-8	**NITRATE-N**	7.23	0.100	0.100	0.009	mg/L	1.00	300.0	4/30/11	BJ	I110429A	
16887-00-6	**CHLORIDE**	7.7	0.1	20	0.015	mg/L	1.00	300.0	4/30/11	BJ	I110429A	
E-10173	**TOTAL DISSOLVED SOLIDS**	262	10	10		mg/L	1.00	SM2540 C	5/4/11	srf	TDS_110504	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/29/11	SPL	OPHOS-110429B	
E-10184	**ELECTRICAL CONDUCTIVITY**	397	10	10		uS/cm	1.00	SM2510 B	5/2/11	SRF	EC_110502	
E-11778	**HARDNESS as Calcium Carbonate**	171	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	5/2/11	BJ	200.7-110502A	
E-10117	**CHEMICAL OXYGEN DEMAND**	13	8.0	8.0	3	mg/L	1.00	SM5220 D	4/29/11	SRF	COD_110429	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	5/3/11	MVP	D110503A	

Sample Description: L-2 - Locher Rd L-2
Lab Number: 13837
Sample Date: 4/28/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.69				pH Units	1.00	SM4500-H+ B	4/29/11	SRF	ph_110429	
E-10617	**TURBIDITY**	0.97	0.10	0.10		NTU	1.00	180.1	4/29/11	SRF	turb_110429	
14797-55-8	**NITRATE-N**	10.1	0.100	0.100	0.009	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
16887-00-6	**CHLORIDE**	6.8	0.1	20	0.015	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
E-10173	**TOTAL DISSOLVED SOLIDS**	218	10	10		mg/L	1.00	SM2540 C	5/4/11	srf	TDS_110504	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/29/11	SPL	OPHOS-110429B	
E-10184	**ELECTRICAL CONDUCTIVITY**	341	10	10		uS/cm	1.00	SM2510 B	5/2/11	SRF	EC_110502	
E-11778	**HARDNESS as Calcium Carbonate**	140	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	5/2/11	BJ	200.7-110502A	
E-10117	**CHEMICAL OXYGEN DEMAND**	11	8.0	8.0	3	mg/L	1.00	SM5220 D	4/29/11	SRF	COD_110429	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	5/3/11	MVP	D110503A	

Sample Description: L-3 - Locher Rd L-3
Lab Number: 13838
Sample Date: 4/28/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.74				pH Units	1.00	SM4500-H+ B	4/29/11	SRF	ph_110429	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

E-10617	**TURBIDITY**	2.86	0.10	0.10		NTU	1.00	180.1	4/29/11	SRF	turb_110429	
14797-55-8	**NITRATE-N**	5.34	0.100	0.100	0.009	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
16887-00-6	**CHLORIDE**	2.9	0.1	20	0.015	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
E-10173	**TOTAL DISSOLVED SOLIDS**	115	10	10		mg/L	1.00	SM2540 C	5/4/11	srf	TDS_110504	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/29/11	SPL	OPHOS-110429B	
E-10184	**ELECTRICAL CONDUCTIVITY**	178	10	10		uS/cm	1.00	SM2510 B	5/2/11	SRF	EC_110502	
E-11778	**HARDNESS as Calcium Carbonate**	70.5	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	5/2/11	BJ	200.7-110502A	
E-10117	**CHEMICAL OXYGEN DEMAND**	14	8.0	8.0	3	mg/L	1.00	SM5220 D	4/29/11	SRF	COD_110429	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	5/3/11	MVP	D110503A	

Sample Description: SW-1 - Locher Rd SW-1
Lab Number: 13839
Sample Date: 4/28/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	7.03				pH Units	1.00	SM4500-H+ B	4/29/11	SRF	ph_110429	
E-10617	**TURBIDITY**	3.87	0.10	0.10		NTU	1.00	180.1	4/29/11	SRF	turb_110429	
14797-55-8	**NITRATE-N**	0.49	0.100	0.100	0.009	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
16887-00-6	**CHLORIDE**	1.4	0.1	20	0.015	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
E-10173	**TOTAL DISSOLVED SOLIDS**	87	10	10		mg/L	1.00	SM2540 C	5/4/11	srf	TDS_110504	
14265-44-2	**ORTHO-PHOSPHATE**	0.04	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/29/11	SPL	OPHOS-110429B	
E-10184	**ELECTRICAL CONDUCTIVITY**	90.5	10	10		uS/cm	1.00	SM2510 B	5/2/11	SRF	EC_110502	
E-11778	**HARDNESS as Calcium Carbonate**	34.9	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	5/2/11	BJ	200.7-110502A	
E-10117	**CHEMICAL OXYGEN DEMAND**	8	8.0	8.0	3	mg/L	1.00	SM5220 D	5/2/11	SRF	COD_110502	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	5/3/11	MVP	D110503A	

Sample Description: MC-1 - Locher Rd MC-1
Lab Number: 13840
Sample Date: 4/28/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	7.19				pH Units	1.00	SM4500-H+ B	4/29/11	SRF	ph_110429	
E-10617	**TURBIDITY**	1.34	0.10	0.10		NTU	1.00	180.1	4/29/11	SRF	turb_110429	
14797-55-8	**NITRATE-N**	0.96	0.100	0.100	0.009	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
16887-00-6	**CHLORIDE**	3.5	0.1	20	0.015	mg/L	1.00	300.0	4/29/11	BJ	I110429A	
E-10173	**TOTAL DISSOLVED SOLIDS**	133	10	10		mg/L	1.00	SM2540 C	5/4/11	srf	TDS_110504	
14265-44-2	**ORTHO-PHOSPHATE**	0.04	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	4/29/11	SPL	OPHOS-110429B	
E-10184	**ELECTRICAL CONDUCTIVITY**	172	10	10		uS/cm	1.00	SM2510 B	5/2/11	SRF	EC_110502	
E-11778	**HARDNESS as Calcium Carbonate**	77.5	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	5/2/11	BJ	200.7-110502A	
E-10117	**CHEMICAL OXYGEN DEMAND**	8	8.0	8.0	3	mg/L	1.00	SM5220 D	5/2/11	SRF	COD_110502	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	5/3/11	MVP	D110503A	

Sample Description: MC-2 - Locher Rd MC-2
Lab Number: 13841
Sample Date: 4/28/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

Data Report

E-10139	**HYDROGEN ION (pH)**	7.48				**pH Units**	1.00	SM4500-H+ B	4/29/11	SRF	ph_110429
E-10617	**TURBIDITY**	1.08	0.10	0.10		**NTU**	1.00	180.1	4/29/11	SRF	turb_110429
14797-55-8	**NITRATE-N**	2.85	0.100	0.100	0.009	**mg/L**	1.00	300.0	4/29/11	BJ	I110429A
16887-00-6	**CHLORIDE**	8	0.1	20	0.015	**mg/L**	1.00	300.0	4/29/11	BJ	I110429A
E-10173	**TOTAL DISSOLVED SOLIDS**	236	10	10		**mg/L**	1.00	SM2540 C	5/4/11	srf	TDS_110504
14265-44-2	**ORTHO-PHOSPHATE**	0.05	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	4/29/11	SPL	OPHOS-110429B
E-10184	**ELECTRICAL CONDUCTIVITY**	358	10	10		**uS/cm**	1.00	SM2510 B	5/2/11	SRF	EC_110502
E-11778	**HARDNESS as Calcium Carbonate**	148	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	5/2/11	BJ	200.7-110502A
E-10117	**CHEMICAL OXYGEN DEMAND**	9	8.0	8.0	3	**mg/L**	1.00	SM5220 D	5/2/11	SRF	COD_110502
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	5/3/11	MVP	D110503A

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

D.F. - Dilution Factor

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-06345
Report Date: 05/13/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110502A	HARDNESS as Calcium Carbonate	71	69.5	mg/L	200.7	102	85-115		LFB	
cod_110429	CHEMICAL OXYGEN DEMAND	54	50	mg/L	SM5220 D	108	80-120		LFB	
cod_110502	CHEMICAL OXYGEN DEMAND	54	50	mg/L	SM5220 D	108	80-120		LFB	
OPHOS-110429E	ORTHO-PHOSPHATE	1.01	1.00	mg/L	SM4500-P F	101	80-120		LFB	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 11-06345
Report Date: 05/13/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110502A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		10.0000(		LRB	
D110503A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
I110429A	CHLORIDE	ND		mg/L	300.0		0.10000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
OPHOS-110429E	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		LRB	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-06345
Report Date: 05/13/11

			True			%		QC		
Batch	Analyte	Result	Value	Units	Method	Recovery	Limits	Qualifier	Type*	Comment
200.7-110502A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		0.82000		MB	
cod_110429	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		MB	
cod_110502	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		MB	
ec_110502	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110502	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110502	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110502	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
OPHOS-110429E	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		MB	
tds_110504	TOTAL DISSOLVED SOLIDS	ND		mg/L	SM2540 C		2.50000		MB	
turb_110429	TURBIDITY	ND		NTU	180.1		0.02000		MB	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 11-06345
Report Date: 05/13/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110502A	HARDNESS as Calcium Carbonate	134	132.3	mg/L	200.7	101	85-115		QCS	
cod_110429	CHEMICAL OXYGEN DEMAND	86	86	mg/L	SM5220 D	100	80-120		QCS	
cod_110502	CHEMICAL OXYGEN DEMAND	84	86	mg/L	SM5220 D	98	80-120		QCS	
D110503A	BROMATE	0.030	0.029	mg/L	300.1	103	75-125		QCS	
ec_110502	ELECTRICAL CONDUCTIVITY	144.8	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110502	ELECTRICAL CONDUCTIVITY	146.0	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110502	ELECTRICAL CONDUCTIVITY	144.8	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110502	ELECTRICAL CONDUCTIVITY	145.5	146.96	uS/cm	SM2510 B	99	80-120		QCS	
I110429A	CHLORIDE	28.8	30.0	mg/L	300.0	96	80-120		QCS	
	NITRATE-N	2.44	2.50	mg/L	300.0	98	80-120			
OPHOS-110429E	ORTHO-PHOSPHATE	0.46	0.49	mg/L	SM4500-P F	94	80-120		QCS	
ph_110429	HYDROGEN ION (pH)	7.93	8.00	pH Units	SM4500-H+ B	99	80-120		QCS	
	HYDROGEN ION (pH)	7.97	8.00	pH Units	SM4500-H+ B	100	80-120			
	HYDROGEN ION (pH)	8.04	8.00	pH Units	SM4500-H+ B	101	80-120			
tds_110504	TOTAL DISSOLVED SOLIDS	466	500	mg/L	SM2540 C	93	80-120		QCS	
	TOTAL DISSOLVED SOLIDS	496	500	mg/L	SM2540 C	99	80-120			
turb_110429	TURBIDITY	10.8	10.0	NTU	180.1	108	70-130		QCS	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 11-06345
Report Date: 05/13/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
turb_110429	TURBIDITY	10.6	10.0	NTU	180.1	106	70-130		QCS	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 11-06345
Report Date: 5/13/2011

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110502A										
	13538	HARDNESS as Calcium Carbonate	74.2	73.5	mg/L	**0.9**	0-20		DUP	
	13611	HARDNESS as Calcium Carbonate	74.3	75.2	mg/L	**1.2**	0-20		DUP	
	13709	HARDNESS as Calcium Carbonate	174	175	mg/L	**0.6**	0-20		DUP	
COD_110429										
	13588	CHEMICAL OXYGEN DEMAND	20	18	mg/L	**10.5**	0-45		DUP	
	13744	CHEMICAL OXYGEN DEMAND	15	13	mg/L	**14.3**	0-45		DUP	
	13838	CHEMICAL OXYGEN DEMAND	14	12	mg/L	**15.4**	0-45		DUP	
cod_110502										
	13855	CHEMICAL OXYGEN DEMAND	7	10	mg/L	**35.3**	0-45	INH	DUP	
	13879	CHEMICAL OXYGEN DEMAND	9	7IJ	mg/L	**25.0**	0-45	INH	DUP	
D110503A										
	13355	BROMATE	0.005	0.005	mg/L	**0.0**	0-20		DUP	
EC_110502										
	13742	ELECTRICAL CONDUCTIVITY	1415	1413	uS/cm	**0.1**	0-45		DUP	
	13841	ELECTRICAL CONDUCTIVITY	358	359	uS/cm	**0.3**	0-45		DUP	
	13890	ELECTRICAL CONDUCTIVITY	142	143	uS/cm	**0.7**	0-45		DUP	
I110429A										
	13822	CHLORIDE	2.1	2.1	mg/L	**0.0**	0-45		DUP	
	13824	CHLORIDE	2.8	2.8	mg/L	**0.0**	0-45		DUP	
	13836	NITRATE-N	7.23	7.21	mg/L	**0.3**	0-45		DUP	
	13836	CHLORIDE	7.7	7.7	mg/L	**0.0**	0-45		DUP	
	13857	CHLORIDE	48	48	mg/L	**0.0**	0-45		DUP	
	13890	NITRATE-N	1.36	1.39	mg/L	**2.2**	0-45		DUP	
	13890	CHLORIDE	4	4	mg/L	**0.0**	0-45		DUP	
OPHOS-110429B										
	13841	ORTHO-PHOSPHATE	0.05	0.05	mg/L	**0.0**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
ph_110429										
	13841	HYDROGEN ION (pH)	7.48	7.53	pH Units	**0.7**	0-45		DUP	
	13931	HYDROGEN ION (pH)	7.82	7.85	pH Units	**0.4**	0-45		DUP	
tds_110504										
	14167	TOTAL DISSOLVED SOLIDS	906	908	mg/L	**0.2**	0-45		DUP	
TDS_110504										
	13849	TOTAL DISSOLVED SOLIDS	431	432	mg/L	**0.2**	0-45		DUP	
	13901	TOTAL DISSOLVED SOLIDS	258	261	mg/L	**1.2**	0-45		DUP	
	14165	TOTAL DISSOLVED SOLIDS	795	804	mg/L	**1.1**	0-45		DUP	
turb_110429										
	13860	TURBIDITY	8.03	8.05	NTU	**0.2**	0-50		DUP	
	13887	TURBIDITY	10.3	10.6	NTU	**2.9**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110502A															
	13538	HARDNESS as Calcium Carbonate	74.2	140	141	69.5	mg/L	**95**	**96**	70-130	**1.5**	0-60		LFM	
	13611	HARDNESS as Calcium Carbonate	74.3	144	142	69.5	mg/L	**100**	**97**	70-130	**2.9**	0-60		LFM	
	13709	HARDNESS as Calcium Carbonate	174	241	240	69.5	mg/L	**96**	**95**	70-130	**1.5**	0-60		LFM	
COD_110429															
	13588	CHEMICAL OXYGEN DEMAND	20	73	69	50	mg/L	**106**	**98**	80-120	**7.8**	0-60		LFM	
	13744	CHEMICAL OXYGEN DEMAND	15	66	68	50	mg/L	**102**	**106**	80-120	**3.8**	0-60		LFM	
	13838	CHEMICAL OXYGEN DEMAND	14	67	69	50	mg/L	**106**	**110**	80-120	**3.7**	0-60		LFM	
cod_110502															
	13855	CHEMICAL OXYGEN DEMAND	7	57	61	50	mg/L	**100**	**108**	80-120	**7.7**	0-60		LFM	
	13879	CHEMICAL OXYGEN DEMAND	9	58	56	50	mg/L	**98**	**94**	80-120	**4.2**	0-60		LFM	
D110503A															
	13355	BROMATE	0.005	0.015		0.010	mg/L	**100**	**NA**	75-125	**NA**	0-20		LFM	
	14079	BROMATE	ND	0.009		0.010	mg/L	**90**	**NA**	75-125	**NA**	0-20		LFM	
I110429A															
	13822	NITRATE-N	ND	1.41		1.00	mg/L	**141**	**NA**	80-120	**NA**	0-60	IM	LFM	
	13822	CHLORIDE	2.1	3.2		1.00	mg/L	**110**	**NA**	80-120	**NA**	0-60		LFM	
	13824	NITRATE-N	ND	1.73		1.00	mg/L	**173**	**NA**	80-120	**NA**	0-60	IM	LFM	
	13824	CHLORIDE	2.8	3.9		1.00	mg/L	**110**	**NA**	80-120	**NA**	0-60		LFM	
	13836	NITRATE-N	7.23	8.14		1.00	mg/L	**91**	**NA**	80-120	**NA**	0-60		LFM	
	13836	CHLORIDE	7.7	8.8		1.00	mg/L	**110**	**NA**	80-120	**NA**	0-60		LFM	
	13857	CHLORIDE	48	67		20.00	mg/L	**95**	**NA**	80-120	**NA**	0-60		LFM	
	13890	NITRATE-N	1.36	2.32		1.00	mg/L	**96**	**NA**	80-120	**NA**	0-60		LFM	
	13890	CHLORIDE	4	4.9		1.00	mg/L	**90**	**NA**	80-120	**NA**	0-60		LFM	
OPHOS-110429B															
	13841	ORTHO-PHOSPHATE	0.05	1.08	1.07	1.00	mg/L	**103**	**102**	70-130	**1.0**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

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EDGE ANALYTICAL LABORATORIES

Qualifier Definitions

Reference Number: 11-06345
Report Date: 05/13/11

Qualifier	Definition
IJ	An estimated concentration, below calibration curve but above method detection limit.
IM	Matrix induced bias assumed
INH	The sample was non-homogeneous
IS	The ratio of the spike concentration to sample background was too low to meet performance criteria

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Page_____ of_____

13292

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to: Walla Walla Basin Watershed Cour
Ship Address: 810 S Main Street
City: Milton-Freewa St: OR Zip: 97862
Attn: Troy Baker
Phone: 541.938-2170 FAX:
Email: troy.baker@wwbwc.org
Project Locher Road

Bill to:
Address:
City: St: Zip:
Phone: FAX:
P.O.#: Attn:
☐ Visa ☐ M/C ☐ A/E Expires /
Card#:

For Lab Use Only
Ref # 11-06345

Check Regulatory Program
☐ Safe Drinking Water Act
☐ Clean Water Act
☐ RCRA / CERCLA
☐ Other

Instructions
1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

11-06345
13836 - 13841

CO013292

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	Bro3,Cl,Ec,NO3,O-Phos,pH,TDS,Turb	COD	Hardness						Number of Containers	Special Instructions Conditions on Receipt
1	L-1	Locher Rd L-1		GW	4/28/11	8:30	☒	☒	☒	☐	☐	☐	☐	☐	3	
2	L-2	Locher Rd L-2		GW	↓	9:00	☒	☒	☒	☐	☐	☐	☐	☐	3	
3	L-3	Locher Rd L-3		GW		9:30	☒	☒	☒	☐	☐	☐	☐	☐	3	
4	SW-1	Locher Rd SW-1		SW		10:00	☒	☒	☒	☐	☐	☐	☐	☐	3	
5	MC-1	Locher Rd MC-1		SW		10:00	☒	☒	☒	☐	☐	☐	☐	☐	3	
6	MC-2	Locher Rd MC-2		SW		10:30	☒	☒	☒	☐	☐	☐	☐	☐	3	
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: T. Baker Phone: 541-938-2170 FAX: Email: troy.baker@wwbwc.org 18 Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **DW** - drinking water **SW** - surface water **GW** - Ground water **WW** - waste water **S** - soil **OL** - oil Other________

Relinquished by	Date	Time	Received by	Date	Time
T. Baker	4/28/11	11:00	ZH	4-28-11	9:45

	Yes	No	N/A
Custody seals intact	☐	☐	☒
Sample temp 3 C satisfactory	☒	☐	☐
Samples received intact	☒	☐	
Chain of custody & labels agree	☒	☐	

UPS / ON ICE

FORM: COC 01-06-2009

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

June 8, 2011

Mr. Troy Baker
Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

RE: 11-08033 - Locher Road Recharge Sites

Dear Mr. Troy Baker,

Your project: Locher Road Recharge Sites, was received on Thursday May 26, 2011.
All samples were analyzed within the accepted holding times, were appropriately preserved and were analyzed according to approved analytical protocols. The quality control data was within laboratory acceptance limits, unless specified in the QA reports.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report

EDGE ANALYTICAL LABORATORIES

Burlington WA
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1620 S Walnut St - 98233
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360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Data Report

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-08033**
Project: Locher Road Recharge Sites

Report Date: 6/8/11
Date Received: 5/26/11
Reviewed by:

Sample Description: L-1 - Locher Rd
Lab Number: 17492
Sample Date: 5/26/11
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.74				pH Units	1.00	SM4500-H+ B	5/27/11	KDW	PH_110527	
14797-55-8	**NITRATE-N**	7.63	0.100	0.100	0.009	mg/L	1.00	300.0	5/27/11	BJ	I110527A	
16887-00-6	**CHLORIDE**	8	0.1	20	0.015	mg/L	1.00	300.0	5/27/11	BJ	I110527A	
E-10173	**TOTAL DISSOLVED SOLIDS**	287	10	10		mg/L	1.00	SM2540 C	5/31/11	srf	TDS_110531	
14265-44-2	**ORTHO-PHOSPHATE**	0.07	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	5/30/11	SPL	OPHOS-110527	
E-10184	**ELECTRICAL CONDUCTIVITY**	415	10	10		uS/cm	1.00	SM2510 B	5/31/11	SRF	ec_110531	
E-10617	**TURBIDITY**	1.03	0.10	0.10		NTU	1.00	180.1	5/27/11	KDW	TURB_110527	
E-11778	**HARDNESS as Calcium Carbonate**	178	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	6/1/11	BJ	200.7-110601A	
E-10117	**CHEMICAL OXYGEN DEMAND**	9	8.0	8.0	3	mg/L	1.00	SM5220 D	6/3/11	SRF	COD_110603	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	6/7/11	MVP	D110607A	

Sample Description: L-2 - Locher Rd
Lab Number: 17493
Sample Date: 5/26/11
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.64				pH Units	1.00	SM4500-H+ B	5/27/11	KDW	PH_110527	
14797-55-8	**NITRATE-N**	14.8	0.100	0.100	0.009	mg/L	1.00	300.0	5/27/11	BJ	I110527A	
16887-00-6	**CHLORIDE**	8.7	0.1	20	0.015	mg/L	1.00	300.0	5/27/11	BJ	I110527A	
E-10173	**TOTAL DISSOLVED SOLIDS**	289	10	10		mg/L	1.00	SM2540 C	5/31/11	srf	TDS_110531	
14265-44-2	**ORTHO-PHOSPHATE**	0.07	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	5/30/11	SPL	OPHOS-110527	
E-10184	**ELECTRICAL CONDUCTIVITY**	385	10	10		uS/cm	1.00	SM2510 B	5/31/11	SRF	ec_110531	
E-10617	**TURBIDITY**	3.63	0.10	0.10		NTU	1.00	180.1	5/27/11	KDW	TURB_110527	
E-11778	**HARDNESS as Calcium Carbonate**	165	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	6/1/11	BJ	200.7-110601A	
E-10117	**CHEMICAL OXYGEN DEMAND**	10	8.0	8.0	3	mg/L	1.00	SM5220 D	6/3/11	SRF	COD_110603	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	6/7/11	MVP	D110607A	

Sample Description: L-3 - Locher Rd
Lab Number: 17494
Sample Date: 5/26/11
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.62				pH Units	1.00	SM4500-H+ B	5/27/11	KDW	PH_110527	

Notes:

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D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

14797-55-8	**NITRATE-N**	3.6	0.100	0.100	0.009	**mg/L**	1.00	300.0	5/27/11	BJ	I110527A	
16887-00-6	**CHLORIDE**	1.9	0.1	20	0.015	**mg/L**	1.00	300.0	5/27/11	BJ	I110527A	
E-10173	**TOTAL DISSOLVED SOLIDS**	131	10	10		**mg/L**	1.00	SM2540 C	5/31/11	srf	TDS_110531	
14265-44-2	**ORTHO-PHOSPHATE**	0.09	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	5/30/11	SPL	OPHOS-110527	
E-10184	**ELECTRICAL CONDUCTIVITY**	148	10	10		**uS/cm**	1.00	SM2510 B	5/31/11	SRF	ec_110531	
E-10617	**TURBIDITY**	3.38	0.10	0.10		**NTU**	1.00	180.1	5/27/11	KDW	TURB_110527	
E-11778	**HARDNESS as Calcium Carbonate**	57.6	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	6/1/11	BJ	200.7-110601A	
E-10117	**CHEMICAL OXYGEN DEMAND**	14	8.0	8.0	3	**mg/L**	1.00	SM5220 D	6/3/11	SRF	COD_110603	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	6/7/11	MVP	D110607A	

Sample Description: SW-1 - Locher Rd
Lab Number: 17495
Sample Date: 5/26/11
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	6.74				**pH Units**	1.00	SM4500-H+ B	5/27/11	KDW	PH_110527	
14797-55-8	**NITRATE-N**	0.31	0.100	0.100	0.009	**mg/L**	1.00	300.0	5/27/11	BJ	I110527A	
16887-00-6	**CHLORIDE**	0.9	0.1	20	0.015	**mg/L**	1.00	300.0	5/27/11	BJ	I110527A	
E-10173	**TOTAL DISSOLVED SOLIDS**	76	10	10		**mg/L**	1.00	SM2540 C	5/31/11	srf	TDS_110531	
14265-44-2	**ORTHO-PHOSPHATE**	0.05	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	5/30/11	SPL	OPHOS-110527	
E-10184	**ELECTRICAL CONDUCTIVITY**	72.5	10	10		**uS/cm**	1.00	SM2510 B	5/31/11	SRF	ec_110531	
E-10617	**TURBIDITY**	65.9	1.0	0.10		**NTU**	10.00	180.1	5/27/11	KDW	TURB_110527	
E-11778	**HARDNESS as Calcium Carbonate**	29.2	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	6/1/11	BJ	200.7-110601A	
E-10117	**CHEMICAL OXYGEN DEMAND**	19	8.0	8.0	3	**mg/L**	1.00	SM5220 D	6/3/11	SRF	COD_110603	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	6/7/11	MVP	D110607A	

Sample Description: MC-1 - Locher Rd
Lab Number: 17496
Sample Date: 5/26/11
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10139	**HYDROGEN ION (pH)**	7.33				**pH Units**	1.00	SM4500-H+ B	5/27/11	KDW	PH_110527	
14797-55-8	**NITRATE-N**	1.19	0.100	0.100	0.009	**mg/L**	1.00	300.0	5/27/11	BJ	I110527A	
16887-00-6	**CHLORIDE**	4.1	0.1	20	0.015	**mg/L**	1.00	300.0	5/27/11	BJ	I110527A	
E-10173	**TOTAL DISSOLVED SOLIDS**	146	10	10		**mg/L**	1.00	SM2540 C	5/31/11	srf	TDS_110531	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	5/30/11	SPL	OPHOS-110527	
E-10184	**ELECTRICAL CONDUCTIVITY**	197	10	10		**uS/cm**	1.00	SM2510 B	5/31/11	SRF	ec_110531	
E-10617	**TURBIDITY**	13.8	0.10	0.10		**NTU**	1.00	180.1	5/27/11	KDW	TURB_110527	
E-11778	**HARDNESS as Calcium Carbonate**	80.3	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	6/1/11	BJ	200.7-110601A	
E-10117	**CHEMICAL OXYGEN DEMAND**	24	8.0	8.0	3	**mg/L**	1.00	SM5220 D	6/3/11	SRF	COD_110603	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	**mg/L**	1.00	300.1	6/7/11	MVP	D110607A	

Sample Description: MC-2 - Locher Rd
Lab Number: 17497
Sample Date: 5/26/11
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

Notes:

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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

Data Report

E-10139	**HYDROGEN ION (pH)**	7.49				pH Units	1.00	SM4500-H+ B	5/27/11	KDW	PH_110527
14797-55-8	**NITRATE-N**	2.68	0.100	0.100	0.009	mg/L	1.00	300.0	5/28/11	BJ	I110527A
16887-00-6	**CHLORIDE**	10	0.1	20	0.015	mg/L	1.00	300.0	5/28/11	BJ	I110527A
E-10173	**TOTAL DISSOLVED SOLIDS**	312	10	10		mg/L	1.00	SM2540 C	5/31/11	srf	TDS_110531
14265-44-2	**ORTHO-PHOSPHATE**	0.23	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	5/30/11	SPL	OPHOS-110527
E-10184	**ELECTRICAL CONDUCTIVITY**	452	10	10		uS/cm	1.00	SM2510 B	5/31/11	SRF	ec_110531
E-10617	**TURBIDITY**	7.96	0.10	0.10		NTU	1.00	180.1	5/27/11	KDW	TURB_110527
E-11778	**HARDNESS as Calcium Carbonate**	167	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	6/1/11	BJ	200.7-110601A
E-10117	**CHEMICAL OXYGEN DEMAND**	39	8.0	8.0	3	mg/L	1.00	SM5220 D	6/3/11	SRF	COD_110603
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	6/7/11	MVP	D110607A

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D.F. - Dilution Factor

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Portland OR
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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-08033
Report Date: 06/08/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110601A	HARDNESS as Calcium Carbonate	75.1	69.5	mg/L	200.7	108	85-115		LFB	
COD_110603	CHEMICAL OXYGEN DEMAND	54	50	mg/L	SM5220 D	108	80-120		LFB	
OPHOS-110527	ORTHO-PHOSPHATE	1.00	1.00	mg/L	SM4500-P F	100	80-120		LFB	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 11-08033
Report Date: 06/08/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110601A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		10.0000		LRB	
D110607A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
I110527A	CHLORIDE	ND		mg/L	300.0		0.10000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
OPHOS-110527	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		LRB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-08033
Report Date: 06/08/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110601A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		0.82000		MB	
COD_110603	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		MB	
ec_110531	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110531	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110531	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
OPHOS-110527	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		MB	
tds_110531	TOTAL DISSOLVED SOLIDS	ND		mg/L	SM2540 C		2.50000		MB	
TURB_110527	TURBIDITY	ND		NTU	180.1		0.02000		MB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 11-08033
Report Date: 06/08/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110601A	HARDNESS as Calcium Carbonate	133	132.3	mg/L	200.7	101	85-115		QCS	
COD_110603	CHEMICAL OXYGEN DEMAND	79	86	mg/L	SM5220 D	92	80-120		QCS	
D110607A	BROMATE	0.026	0.029	mg/L	300.1	90	75-125		QCS	
ec_110531	ELECTRICAL CONDUCTIVITY	149.5	146.9	uS/cm	SM2510 B	102	80-120		QCS	
ec_110531	ELECTRICAL CONDUCTIVITY	145.5	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110531	ELECTRICAL CONDUCTIVITY	146.2	146.9	uS/cm	SM2510 B	100	80-120		QCS	
I110527A	CHLORIDE	31	30.0	mg/L	300.0	103	80-120		QCS	
	NITRATE-N	2.49	2.50	mg/L	300.0	100	80-120			
OPHOS-110527	ORTHO-PHOSPHATE	0.48	0.49	mg/L	SM4500-P F	98	80-120		QCS	
PH_110527	HYDROGEN ION (pH)	7.94	8.00	pH Units	SM4500-H+ B	99	80-120		QCS	
PH_110527	HYDROGEN ION (pH)	7.99	8.00	pH Units	SM4500-H+ B	100	80-120		QCS	
	HYDROGEN ION (pH)	8.01	8.00	pH Units	SM4500-H+ B	100	80-120			
tds_110531	TOTAL DISSOLVED SOLIDS	502	500	mg/L	SM2540 C	100	80-120		QCS	
TURB_110527	TURBIDITY	0.98	1.00	NTU	180.1	98	70-130		QCS	

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SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 11-08033
Report Date: 6/8/2011

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110601A										
	17190	HARDNESS as Calcium Carbonate	121	121	mg/L	**0.0**	0-20		DUP	
	17447	HARDNESS as Calcium Carbonate	66.3	65.4	mg/L	**1.4**	0-20		DUP	
	17499	HARDNESS as Calcium Carbonate	92.9	93.2	mg/L	**0.3**	0-20		DUP	
COD_110603										
	17699	CHEMICAL OXYGEN DEMAND	2615	2555	mg/L	**2.3**	0-45		DUP	
	17829	CHEMICAL OXYGEN DEMAND	182	185	mg/L	**1.6**	0-45		DUP	
D110607A										
ec_110531										
	17493	ELECTRICAL CONDUCTIVITY	385	387	uS/cm	**0.5**	0-45		DUP	
	17543	ELECTRICAL CONDUCTIVITY	82.6	82.3	uS/cm	**0.4**	0-45		DUP	
I110527A										
	17500	NITRATE-N	5.61	5.65	mg/L	**0.7**	0-45		DUP	
	17500	CHLORIDE	14	14	mg/L	**0.0**	0-45		DUP	
	17518	NITRATE-N	0.33	0.34	mg/L	**3.0**	0-45		DUP	
	17518	CHLORIDE	18	18	mg/L	**0.0**	0-45		DUP	
	17543	NITRATE-N	0.22	0.23	mg/L	**4.4**	0-45		DUP	
	17543	CHLORIDE	2.5	2.6	mg/L	**3.9**	0-45		DUP	
OPHOS-110527										
	17497	ORTHO-PHOSPHATE	0.23	0.23	mg/L	**0.0**	0-50		DUP	
PH_110527										
	17499	HYDROGEN ION (pH)	7.44	7.46	pH Units	**0.3**	0-45		DUP	
	17542	HYDROGEN ION (pH)	6.29	6.21	pH Units	**1.3**	0-45		DUP	
TDS_110531										
	17493	TOTAL DISSOLVED SOLIDS	289	291	mg/L	**0.7**	0-45		DUP	
	17540	TOTAL DISSOLVED SOLIDS	168	163	mg/L	**3.0**	0-45		DUP	
TURB_110527										

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
	17497	TURBIDITY	7.96	8.35	NTU	**4.8**	0-50		DUP	
	17533	TURBIDITY	0.90	0.91	NTU	**1.1**	0-50		DUP	
	17543	TURBIDITY	2.96	2.88	NTU	**2.7**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110601A															
	17190	HARDNESS as Calcium Carbonate	121	190	192	69.5	mg/L	**99**	**102**	70-130	**2.9**	0-60		LFM	
	17447	HARDNESS as Calcium Carbonate	66.3	138	139	69.5	mg/L	**103**	**105**	70-130	**1.4**	0-60		LFM	
	17499	HARDNESS as Calcium Carbonate	92.9	165	169	69.5	mg/L	**104**	**109**	70-130	**5.4**	0-60		LFM	
COD_110603															
	17699	CHEMICAL OXYGEN DEMAND	2615	2695	2660	250	mg/L	**32**	**18**	80-120	**56.0**	0-60	IM	LFM	
	17829	CHEMICAL OXYGEN DEMAND	182	228	223	50	mg/L	**92**	**82**	80-120	**11.5**	0-60		LFM	
D110607A															
	16762	BROMATE	ND	0.0093		0.010	mg/L	**93**	**NA**	75-125	**NA**	0-20		LFM	
	17609	BROMATE	ND	0.0091		0.010	mg/L	**91**	**NA**	75-125	**NA**	0-20		LFM	
I110527A															
	17500	NITRATE-N	5.61	6.63		1.00	mg/L	**102**	**NA**	80-120	**NA**	0-60		LFM	
	17500	CHLORIDE	14	15		1.00	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	
	17518	NITRATE-N	0.33	1.32		1.00	mg/L	**99**	**NA**	80-120	**NA**	0-60		LFM	
	17518	CHLORIDE	18	19		1.00	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	
	17543	NITRATE-N	0.22	1.21		1.00	mg/L	**99**	**NA**	80-120	**NA**	0-60		LFM	
	17543	CHLORIDE	2.5	3.5		1.00	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	
OPHOS-110527															
	17497	ORTHO-PHOSPHATE	0.23	1.27	1.27	1.00	mg/L	**104**	**104**	70-130	**0.0**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Qualifier Definitions

Reference Number: 11-08033
Report Date: 06/08/11

Qualifier	Definition
IM	Matrix induced bias assumed

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

EDGE ANALYTICAL LABORATORIES

Burlington WA	Bellingham WA	Portland OR
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1620 S Walnut St - 98233	805 Orchard Dr Ste 4 - 98225	9150 SW Pioneer Ct Ste W- 97070
800.755.9295 • 360.757.1400	360.671.0688	503.682.7802

July 25, 2011

Mr. Troy Baker
Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

RE: 11-10081 - Locher Road

Dear Mr. Troy Baker,

Your project: Locher Road, was received on Friday July 01, 2011.
All samples were analyzed within the accepted holding times, were appropriately preserved and were analyzed according to approved analytical protocols. The quality control data was within laboratory acceptance limits, unless specified in the QA reports.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report

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Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Data Report

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **11-10081**
Project: Locher Road

Report Date: 7/25/11
Date Received: 7/1/11
Reviewed by:

Sample Description: L-1
Lab Number: 22054
Sample Date: 6/30/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14265-44-2	**ORTHO-PHOSPHATE**	0.1	0.10	0.01	0.015	mg/L	1.00	300.0	7/1/11	BJ	I110701A	
E-10139	**HYDROGEN ION (pH)**	6.73				pH Units	1.00	SM4500-H+ B	7/1/11	SRF	ph_110701	
14797-55-8	**NITRATE-N**	10.7	0.100	0.100	0.009	mg/L	1.00	300.0	7/1/11	BJ	I110701A	
16887-00-6	**CHLORIDE**	11	0.1	20	0.015	mg/L	1.00	300.0	7/1/11	BJ	I110701A	
E-10173	**TOTAL DISSOLVED SOLIDS**	329	10	10		mg/L	1.00	SM2540 C	7/5/11	MVP	TDS_110705	
E-10184	**ELECTRICAL CONDUCTIVITY**	485	10	10		uS/cm	1.00	SM2510 B	7/1/11	SRF	ec_110701	
E-10617	**TURBIDITY**	3.52	0.10	0.10		NTU	1.00	180.1	7/1/11	SRF	turb_110701	
E-11778	**HARDNESS as Calcium Carbonate**	161.1	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	7/5/11	BJ	200.7-110705A	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	3	mg/L	1.00	SM5220 D	7/13/11	SRF	cod_110713	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	7/6/11	MVP	D110706A	

Sample Description: L-2
Lab Number: 22055
Sample Date: 6/30/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14265-44-2	**ORTHO-PHOSPHATE**	0.1	0.10	0.01	0.015	mg/L	1.00	300.0	7/1/11	BJ	I110701A	
E-10139	**HYDROGEN ION (pH)**	6.63				pH Units	1.00	SM4500-H+ B	7/1/11	SRF	ph_110701	
14797-55-8	**NITRATE-N**	9.92	0.100	0.100	0.009	mg/L	1.00	300.0	7/1/11	BJ	I110701A	
16887-00-6	**CHLORIDE**	7.3	0.1	20	0.015	mg/L	1.00	300.0	7/1/11	BJ	I110701A	
E-10173	**TOTAL DISSOLVED SOLIDS**	253	10	10		mg/L	1.00	SM2540 C	7/5/11	MVP	TDS_110705	
E-10184	**ELECTRICAL CONDUCTIVITY**	353	10	10		uS/cm	1.00	SM2510 B	7/1/11	SRF	ec_110701	
E-10617	**TURBIDITY**	2.70	0.10	0.10		NTU	1.00	180.1	7/1/11	SRF	turb_110701	
E-11778	**HARDNESS as Calcium Carbonate**	140.5	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	7/5/11	BJ	200.7-110705A	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	3	mg/L	1.00	SM5220 D	7/13/11	SRF	cod_110713	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	7/6/11	MVP	D110706A	

Sample Description: L-3
Lab Number: 22056
Sample Date: 6/30/11
Collected By: Mr. Troy Baker

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14265-44-2	**ORTHO-PHOSPHATE**	0.1	0.10	0.01	0.015	mg/L	1.00	300.0	7/1/11	BJ	I110701A	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

E-10139	**HYDROGEN ION (pH)**	6.67				pH Units	1.00	SM4500-H+ B	7/1/11	SRF	ph_110701
14797-55-8	**NITRATE-N**	3.29	0.100	0.100	0.009	mg/L	1.00	300.0	7/1/11	BJ	I110701A
16887-00-6	**CHLORIDE**	2	0.1	20	0.015	mg/L	1.00	300.0	7/1/11	BJ	I110701A
E-10173	**TOTAL DISSOLVED SOLIDS**	121	10	10		mg/L	1.00	SM2540 C	7/5/11	MVP	TDS_110705
E-10184	**ELECTRICAL CONDUCTIVITY**	159	10	10		uS/cm	1.00	SM2510 B	7/1/11	SRF	ec_110701
E-10617	**TURBIDITY**	3.62	0.10	0.10		NTU	1.00	180.1	7/1/11	SRF	turb_110701
E-11778	**HARDNESS as Calcium Carbonate**	60.4	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	7/5/11	BJ	200.7-110705A
E-10117	**CHEMICAL OXYGEN DEMAND**	10	8.0	8.0	3	mg/L	1.00	SM5220 D	7/13/11	SRF	cod_110713
15541-45-4	**BROMATE**	ND	0.005	0.005	0.00108	mg/L	1.00	300.1	7/6/11	MVP	D110706A

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

D.F. - Dilution Factor

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 11-10081
Report Date: 07/25/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110705A	HARDNESS as Calcium Carbonate	71.8	69.5	mg/L	200.7	103	85-115		LFB	
cod_110713	CHEMICAL OXYGEN DEMAND	47	50	mg/L	SM5220 D	94	80-120		LFB	
cod_110713	CHEMICAL OXYGEN DEMAND	45	50	mg/L	SM5220 D	90	80-120		LFB	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 11-10081
Report Date: 07/25/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110705A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		10.00000		LRB	
cod_110713	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		LRB	
D110706A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
I110701A	CHLORIDE	ND		mg/L	300.0		0.10000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
	ORTHO-PHOSPHATE	ND		mg/L	300.0		0.10000			

---

*Notation:

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 11-10081
Report Date: 07/25/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110705A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		0.82000		MB	
ec_110701	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110701	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_110701	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
tds_110705	TOTAL DISSOLVED SOLIDS	ND		mg/L	SM2540 C		2.50000		MB	
turb_110701	TURBIDITY	ND		NTU	180.1		0.02000		MB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 11-10081
Report Date: 07/25/11

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits	QC Qualifier	Type*	Comment
200.7-110705A	HARDNESS as Calcium Carbonate	132	132.3	mg/L	200.7	100	85-115		QCS	
cod_110713	CHEMICAL OXYGEN DEMAND	83	88.1	mg/L	SM5220 D	94	80-120		QCS	
D110706A	BROMATE	0.0138	0.013	mg/L	300.1	106	75-125		QCS	
ec_110701	ELECTRICAL CONDUCTIVITY	147.2	146.9	uS/cm	SM2510 B	100	80-120		QCS	
ec_110701	ELECTRICAL CONDUCTIVITY	145.1	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_110701	ELECTRICAL CONDUCTIVITY	146.7	146.9	uS/cm	SM2510 B	100	80-120		QCS	
I110701A	CHLORIDE	28.9	30.0	mg/L	300.0	96	80-120		QCS	
	NITRATE-N	2.5	2.50	mg/L	300.0	100	80-120			
	ORTHO-PHOSPHATE	2.52	2.50	mg/L	300.0	101	80-120			
ph_110701	HYDROGEN ION (pH)	7.93	8.00	pH Units	SM4500-H+ B	99	80-120		QCS	
	HYDROGEN ION (pH)	8.00	8.00	pH Units	SM4500-H+ B	100	80-120			
tds_110705	TOTAL DISSOLVED SOLIDS	494	500	mg/L	SM2540 C	99	80-120		QCS	
	TOTAL DISSOLVED SOLIDS	502	500	mg/L	SM2540 C	100	80-120			
turb_110701	TURBIDITY	1.06	1.00	NTU	180.1	106	70-130		QCS	

---

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SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 11-10081
Report Date: 7/25/2011

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110705A										
	21525	HARDNESS as Calcium Carbonate	102.3	104	mg/L	**1.6**	0-20		DUP	
	21935	HARDNESS as Calcium Carbonate	36.3	34.5	mg/L	**5.1**	0-20		DUP	
cod_110713										
	23236	CHEMICAL OXYGEN DEMAND	9700	9650	mg/L	**0.5**	0-45		DUP	
D110706A										
	21354	BROMATE	0.0132	0.014	mg/L	**5.9**	0-20		DUP	
	21859	BROMATE	0.025	0.023	mg/L	**8.3**	0-20		DUP	
ec_110701										
	21956	ELECTRICAL CONDUCTIVITY	466	469	uS/cm	**0.6**	0-45		DUP	
	22058	ELECTRICAL CONDUCTIVITY	544	557	uS/cm	**2.4**	0-45		DUP	
I110701A										
	22102	NITRATE-N	6.31	6.33	mg/L	**0.3**	0-45		DUP	
	22102	CHLORIDE	1.4	1.4	mg/L	**0.0**	0-45		DUP	
ph_110701										
	22070	HYDROGEN ION (pH)	5.86	5.84	pH Units	**0.3**	0-45		DUP	
TDS_110705										
	21926	TOTAL DISSOLVED SOLIDS	438	436	mg/L	**0.5**	0-45		DUP	
	22058	TOTAL DISSOLVED SOLIDS	337	339	mg/L	**0.6**	0-45		DUP	
	22102	TOTAL DISSOLVED SOLIDS	565	575	mg/L	**1.8**	0-45		DUP	
turb_110701										
	22067	TURBIDITY	21.0	21.4	NTU	**1.9**	0-50		DUP	

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NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits	%RPD	Limits	QC Qualifier	Type	Comments
200.7-110705A															
	21525	HARDNESS as Calcium Carbonate	102.3	175	176	69.5	mg/L	**105**	**106**	70-130	**1.4**	0-60		LFM	
	21935	HARDNESS as Calcium Carbonate	36.3	109	109	69.5	mg/L	**105**	**105**	70-130	**0.0**	0-60		LFM	
cod_110713															
	23236	CHEMICAL OXYGEN DEMAND	9700	11550	11650	2500	mg/L	**74**	**78**	80-120	**5.3**	0-60		LFM	
D110706A															
	21859	BROMATE	0.025	0.033		0.010	mg/L	**80**	**NA**	75-125	**NA**	0-20		LFM	
I110701A															
	22064	NITRATE-N	ND	1.06		1.00	mg/L	**106**	**NA**	80-120	**NA**	0-60		LFM	
	22102	NITRATE-N	6.31	7.23		1.00	mg/L	**92**	**NA**	80-120	**NA**	0-60		LFM	
	22102	CHLORIDE	1.4	2.4		1.00	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Page 1 of 1

13833

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

Report to:	Walla Walla Basin Watershed Cour	Bill to:	
Ship Address:	810 S Main Street	Address:	
City:	Milton-Freewa St: OR Zip: 97862	City:	St: Zip:
Attn:	Troy Baker	Phone:	FAX:
Phone:	541.938-2170 FAX:	P.O.#:	Attn:
Email:	troy.baker@wwbwc.org	☐ Visa ☐ M/C ☐ A/E	Expires /
Project	Locher Road	Card#:	

For Lab Use Only

Ref # 11-10081

Check Regulatory Program

☐ Safe Drinking Water Act
☐ Clean Water Act
☐ RCRA / CERCLA
☐ Other

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required

☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

11-10081
22054 - 22056

CO013833

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	Bro3,Cl,Ec,NO3,O-Phos,pH,TDS,Turb	COD	Hardness						Number of Containers	Special Instructions Conditions on Receipt
1	L-1	L-1		GW	6/30/11	9:35	☒	☒	☒	☐	☐	☐	☐	☐	3	
2	L-2	L-2		GW	"	10:30	☒	☒	☒	☐	☐	☐	☐	☐	3	
3	L-3	L-3		GW	"	10:10	☒	☒	☒	☐	☐	☐	☐	☐	3	
4							☐	☐	☐	☐	☐	☐	☐	☐		
5							☐	☐	☐	☐	☐	☐	☐	☐		
6							☐	☐	☐	☐	☐	☐	☐	☐		
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: T. Baker Phone: 541-938-2170 FAX: Email: troy.baker@wwbwc.org 9 Total Containers

Sample Receipt Request (Must include FAX or Email) ☒

* **W** - water **SW** - surface water **WW** - waste water **OL** - oil
DW - drinking water **GW** - Ground water **S** - soil Other______

Relinquished by	Date	Time	Received by	Date	Time
T. Baker	6/30/11	11:30	ZH	7.1.11	9:15

	Yes	No	N/A
Custody seals intact	☐	☐	☒
Sample temp 4 C satisfactory	☒	☐	☐
Samples received intact	☒	☐	
Chain of custody & labels agree	☒	☐	

FORM: COC 01-06-2009

LOCHER ROAD – 2011-2012

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February 20, 2012

Mr. Troy Baker
Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

RE: 12-01645 - Locher Road

Dear Mr. Troy Baker,

Your project: Locher Road, was received on Friday February 03, 2012.
All samples were analyzed within the accepted holding times, were appropriately preserved and were analyzed according to approved analytical protocols. The quality control data was within laboratory acceptance limits, unless specified in the QA reports.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report

EDGE ANALYTICAL LABORATORIES

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503.682.7802

SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L1
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03881
Report Date: 2/16/12
Date Analyzed: 02/15/12
Date Extracted: 508_120213
Analyst: CO
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.3	2	
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L			0.5	
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.1^		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1^		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.1^		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.1^		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.1^		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.08		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.1		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.5	3	

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L2
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03882
Report Date: 2/16/12
Date Analyzed: 02/15/12
Date Extracted: 508_120213
Analyst: CO
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.3	2	
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L			0.5	
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.1^		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1^		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.1^		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.1^		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.1^		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.08		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.1		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.5	3	

NOTES:
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L3
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03883
Report Date: 2/16/12
Date Analyzed: 02/15/12
Date Extracted: 508_120213
Analyst: CO
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.3	2	
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L			0.5	
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.1^		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1^		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.1^		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.1^		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.1^		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.08		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.1		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.5	3	

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC1
Sample Description: Mud Creek 1
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03884
Report Date: 2/16/12
Date Analyzed: 02/15/12
Date Extracted: 508_120213
Analyst: CO
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
	EPA Regulated						
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.3	2	
	PCBs/Toxaphene						
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L			0.5	
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.1^		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1^		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.1^		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.1^		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.1^		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.08		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.1		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.5	3	

NOTES:
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC2
Sample Description: Mud Creek 2
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03885
Report Date: 2/16/12
Date Analyzed: 02/15/12
Date Extracted: 508_120213
Analyst: CO
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.3	2	
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L			0.5	
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.1^		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1^		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.1^		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.1^		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.1^		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.08		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.1		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.5	3	

NOTES:
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L1
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03881
Report Date: 2/17/12
Date Analyzed: 02/14/12
Date Extracted: 525_120214
Analyst: CO
Peer Review:
Analytical Method: 525.2
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
72-20-8	ENDRIN	**ND**	ug/L	0.1	0.03	2	
58-89-9	LINDANE (BHC - GAMMA)	**ND**	ug/L	0.1	0.08	0.2	
72-43-5	METHOXYCHLOR	**ND**	ug/L	0.1	0.04	40	
15972-60-8	ALACHLOR	**ND**	ug/L	0.1	0.08	2	
1912-24-9	ATRAZINE	**0.02 J**	ug/L	0.1	0.1	3	Field dup 0.02 ug/L
50-32-8	BENZO(A)PYRENE	**ND**	ug/L	0.1	0.04	0.2	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**	ug/L	0.1	0.2	400	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**	ug/L	0.1	0.2	6	
76-44-8	HEPTACHLOR	**ND**	ug/L	0.1	0.03	0.4	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**	ug/L	0.1	0.04	0.2	
118-74-1	HEXACHLOROBENZENE	**ND**	ug/L	0.1	0.08	1	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**	ug/L	0.1	0.08	50	
122-34-9	SIMAZINE	**ND**	ug/L	0.1	0.03	4	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.4	0.27	1	screening only / compliance by 515.4
EPA Unregulated							
309-00-2	ALDRIN	**ND**	ug/L	0.1	0.04		
23184-66-9	BUTACHLOR	**ND**	ug/L	0.1	0.04		
60-57-1	DIELDRIN	**ND**	ug/L	0.1	0.05		
51218-45-2	METOLACHLOR	**ND**	ug/L	0.1	0.1		
21087-64-9	METRIBUZIN	**ND**	ug/L	0.1	0.07		
1918-16-7	PROPACHLOR	**ND**	ug/L	0.1	0.05		
72-55-9	4,4-DDE	**ND**	ug/L	0.1	0.05		
34256-82-1	ACETOCHLOR	**ND**	ug/L	0.1	0.08		
759-94-4	EPTC	**ND**	ug/L	0.1	0.04		
2212-67-1	MOLINATE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
5902-51-2	TERBACIL	**ND**	ug/L	0.1	0.1		
	State Unregulated - Other						
314-40-9	BROMACIL	**0.05 J**	ug/L	0.1	0.09		Field dup 0.07 ug/L
86-73-7	FLUORENE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L2
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03882
Report Date: 2/17/12
Date Analyzed: 02/14/12
Date Extracted: 525_120214
Analyst: CO
Peer Review:
Analytical Method: 525.2
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
72-20-8	ENDRIN	**ND**	ug/L	0.1	0.03	2	
58-89-9	LINDANE (BHC - GAMMA)	**ND**	ug/L	0.1	0.08	0.2	
72-43-5	METHOXYCHLOR	**ND**	ug/L	0.1	0.04	40	
15972-60-8	ALACHLOR	**ND**	ug/L	0.1	0.08	2	
1912-24-9	ATRAZINE	**ND**	ug/L	0.1	0.1	3	
50-32-8	BENZO(A)PYRENE	**ND**	ug/L	0.1	0.04	0.2	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**	ug/L	0.1	0.2	400	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**	ug/L	0.1	0.2	6	
76-44-8	HEPTACHLOR	**ND**	ug/L	0.1	0.03	0.4	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**	ug/L	0.1	0.04	0.2	
118-74-1	HEXACHLOROBENZENE	**ND**	ug/L	0.1	0.08	1	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**	ug/L	0.1	0.08	50	
122-34-9	SIMAZINE	**ND**	ug/L	0.1	0.03	4	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.4	0.27	1	screening only / compliance by 515.4
EPA Unregulated							
309-00-2	ALDRIN	**ND**	ug/L	0.1	0.04		
23184-66-9	BUTACHLOR	**ND**	ug/L	0.1	0.04		
60-57-1	DIELDRIN	**ND**	ug/L	0.1	0.05		
51218-45-2	METOLACHLOR	**ND**	ug/L	0.1	0.1		
21087-64-9	METRIBUZIN	**ND**	ug/L	0.1	0.07		
1918-16-7	PROPACHLOR	**ND**	ug/L	0.1	0.05		
72-55-9	4,4-DDE	**ND**	ug/L	0.1	0.05		
34256-82-1	ACETOCHLOR	**ND**	ug/L	0.1	0.08		
759-94-4	EPTC	**ND**	ug/L	0.1	0.04		
2212-67-1	MOLINATE	**ND**	ug/L	0.1	0.06		

NOTES:
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
5902-51-2	TERBACIL	**ND**	ug/L	0.1	0.1		
State Unregulated - Other							
314-40-9	BROMACIL	**ND**	ug/L	0.1	0.09		
86-73-7	FLUORENE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L3
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03883
Report Date: 2/17/12
Date Analyzed: 02/14/12
Date Extracted: 525_120214
Analyst: CO
Peer Review:
Analytical Method: 525.2
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
72-20-8	ENDRIN	**ND**	ug/L	0.1	0.03	2	
58-89-9	LINDANE (BHC - GAMMA)	**ND**	ug/L	0.1	0.08	0.2	
72-43-5	METHOXYCHLOR	**ND**	ug/L	0.1	0.04	40	
15972-60-8	ALACHLOR	**ND**	ug/L	0.1	0.08	2	
1912-24-9	ATRAZINE	**ND**	ug/L	0.1	0.1	3	
50-32-8	BENZO(A)PYRENE	**ND**	ug/L	0.1	0.04	0.2	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**	ug/L	0.1	0.2	400	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**	ug/L	0.1	0.2	6	
76-44-8	HEPTACHLOR	**ND**	ug/L	0.1	0.03	0.4	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**	ug/L	0.1	0.04	0.2	
118-74-1	HEXACHLOROBENZENE	**ND**	ug/L	0.1	0.08	1	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**	ug/L	0.1	0.08	50	
122-34-9	SIMAZINE	**ND**	ug/L	0.1	0.03	4	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.4	0.27	1	screening only / compliance by 515.4
EPA Unregulated							
309-00-2	ALDRIN	**ND**	ug/L	0.1	0.04		
23184-66-9	BUTACHLOR	**ND**	ug/L	0.1	0.04		
60-57-1	DIELDRIN	**ND**	ug/L	0.1	0.05		
51218-45-2	METOLACHLOR	**ND**	ug/L	0.1	0.1		
21087-64-9	METRIBUZIN	**ND**	ug/L	0.1	0.07		
1918-16-7	PROPACHLOR	**ND**	ug/L	0.1	0.05		
72-55-9	4,4-DDE	**ND**	ug/L	0.1	0.05		
34256-82-1	ACETOCHLOR	**ND**	ug/L	0.1	0.08		
759-94-4	EPTC	**ND**	ug/L	0.1	0.04		
2212-67-1	MOLINATE	**ND**	ug/L	0.1	0.06		

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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
5902-51-2	TERBACIL	**ND**	ug/L	0.1	0.1		
	State Unregulated - Other						
314-40-9	BROMACIL	**ND**	ug/L	0.1	0.09		
86-73-7	FLUORENE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC1
Sample Description: Mud Creek 1
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03884
Report Date: 2/17/12
Date Analyzed: 02/14/12
Date Extracted: 525_120214
Analyst: CO
Peer Review:
Analytical Method: 525.2
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
72-20-8	ENDRIN	**ND**	ug/L	0.1	0.03	2	
58-89-9	LINDANE (BHC - GAMMA)	**ND**	ug/L	0.1	0.08	0.2	
72-43-5	METHOXYCHLOR	**ND**	ug/L	0.1	0.04	40	
15972-60-8	ALACHLOR	**ND**	ug/L	0.1	0.08	2	
1912-24-9	ATRAZINE	**ND**	ug/L	0.1	0.1	3	
50-32-8	BENZO(A)PYRENE	**ND**	ug/L	0.1	0.04	0.2	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**	ug/L	0.1	0.2	400	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**	ug/L	0.1	0.2	6	
76-44-8	HEPTACHLOR	**ND**	ug/L	0.1	0.03	0.4	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**	ug/L	0.1	0.04	0.2	
118-74-1	HEXACHLOROBENZENE	**ND**	ug/L	0.1	0.08	1	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**	ug/L	0.1	0.08	50	
122-34-9	SIMAZINE	**ND**	ug/L	0.1	0.03	4	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.4	0.27	1	screening only / compliance by 515.4
EPA Unregulated							
309-00-2	ALDRIN	**ND**	ug/L	0.1	0.04		
23184-66-9	BUTACHLOR	**ND**	ug/L	0.1	0.04		
60-57-1	DIELDRIN	**ND**	ug/L	0.1	0.05		
51218-45-2	METOLACHLOR	**ND**	ug/L	0.1	0.1		
21087-64-9	METRIBUZIN	**ND**	ug/L	0.1	0.07		
1918-16-7	PROPACHLOR	**ND**	ug/L	0.1	0.05		
72-55-9	4,4-DDE	**ND**	ug/L	0.1	0.05		
34256-82-1	ACETOCHLOR	**ND**	ug/L	0.1	0.08		
759-94-4	EPTC	**ND**	ug/L	0.1	0.04		
2212-67-1	MOLINATE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

If you have any questions concerning this report contact at the above phone number.

SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
5902-51-2	TERBACIL	**ND**	ug/L	0.1	0.1		
	State Unregulated - Other						
314-40-9	BROMACIL	**ND**	ug/L	0.1	0.09		
86-73-7	FLUORENE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC2
Sample Description: Mud Creek 2
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03885
Report Date: 2/17/12
Date Analyzed: 02/14/12
Date Extracted: 525_120214
Analyst: CO
Peer Review:
Analytical Method: 525.2
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
72-20-8	ENDRIN	**ND**	ug/L	0.1	0.03	2	
58-89-9	LINDANE (BHC - GAMMA)	**ND**	ug/L	0.1	0.08	0.2	
72-43-5	METHOXYCHLOR	**ND**	ug/L	0.1	0.04	40	
15972-60-8	ALACHLOR	**ND**	ug/L	0.1	0.08	2	
1912-24-9	ATRAZINE	**ND**	ug/L	0.1	0.1	3	
50-32-8	BENZO(A)PYRENE	**ND**	ug/L	0.1	0.04	0.2	
103-23-1	DI(ETHYLHEXYL)-ADIPATE	**ND**	ug/L	0.1	0.2	400	
117-81-7	DI(ETHYLHEXYL)-PHTHALATE	**ND**	ug/L	0.1	0.2	6	
76-44-8	HEPTACHLOR	**ND**	ug/L	0.1	0.03	0.4	
1024-57-3	HEPTACHLOR EPOXIDE	**ND**	ug/L	0.1	0.04	0.2	
118-74-1	HEXACHLOROBENZENE	**ND**	ug/L	0.1	0.08	1	
77-47-4	HEXACHLOROCYCLO-PENTADIENE	**ND**	ug/L	0.1	0.08	50	
122-34-9	SIMAZINE	**ND**	ug/L	0.1	0.03	4	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.4	0.27	1	screening only / compliance by 515.4
EPA Unregulated							
309-00-2	ALDRIN	**ND**	ug/L	0.1	0.04		
23184-66-9	BUTACHLOR	**ND**	ug/L	0.1	0.04		
60-57-1	DIELDRIN	**ND**	ug/L	0.1	0.05		
51218-45-2	METOLACHLOR	**ND**	ug/L	0.1	0.1		
21087-64-9	METRIBUZIN	**ND**	ug/L	0.1	0.07		
1918-16-7	PROPACHLOR	**ND**	ug/L	0.1	0.05		
72-55-9	4,4-DDE	**ND**	ug/L	0.1	0.05		
34256-82-1	ACETOCHLOR	**ND**	ug/L	0.1	0.08		
759-94-4	EPTC	**ND**	ug/L	0.1	0.04		
2212-67-1	MOLINATE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
5902-51-2	TERBACIL	**ND**	ug/L	0.1	0.1		
	State Unregulated - Other						
314-40-9	BROMACIL	**ND**	ug/L	0.1	0.09		
86-73-7	FLUORENE	**ND**	ug/L	0.1	0.06		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Project::
Field ID: L1
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Reference Number: 12-01645
Project: Locher Road

Lab Number: 03881
Report Date: 2/20/12
Date Analyzed: 02/10/12
Date Extracted: 515.4_120208
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.2	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.04	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.13	0.05	1	
75-99-0	DALAPON	**ND**	ug/L	0.5	0.9	200	
88-85-7	DINOSEB	**ND**	ug/L	0.13	0.2	7	
1918-02-1	PICLORAM	**ND**	ug/L	0.13	0.07	500	
Other							
E-14028	DCPA (ACID METABOLITES)	**ND**	ug/L	0.13	0.1		
1918-00-9	DICAMBA	**ND**	ug/L	0.13	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.5	2		
93-76-5	2,4,5 T	**ND**	ug/L	0.13	0.04		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.2		
120-36-5	DICHLORPROP	**ND**	ug/L	0.13	0.5		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.1		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.13	0.2		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L2
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03882
Report Date: 2/20/12
Date Analyzed: 02/10/12
Date Extracted: 515.4_120208
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.2	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.04	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.13	0.05	1	
75-99-0	DALAPON	**ND**	ug/L	0.5	0.9	200	
88-85-7	DINOSEB	**ND**	ug/L	0.13	0.2	7	
1918-02-1	PICLORAM	**ND**	ug/L	0.13	0.07	500	
Other							
E-14028	DCPA (ACID METABOLITES)	**ND**	ug/L	0.13	0.1		
1918-00-9	DICAMBA	**ND**	ug/L	0.13	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.5	2		
93-76-5	2,4,5 T	**ND**	ug/L	0.13	0.04		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.2		
120-36-5	DICHLORPROP	**ND**	ug/L	0.13	0.5		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.1		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.13	0.2		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Project::
Field ID: L3
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Reference Number: 12-01645
Project: Locher Road

Lab Number: 03883
Report Date: 2/20/12
Date Analyzed: 02/10/12
Date Extracted: 515.4_120208
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.2	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.04	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.13	0.05	1	
75-99-0	DALAPON	**ND**	ug/L	0.5	0.9	200	
88-85-7	DINOSEB	**ND**	ug/L	0.13	0.2	7	
1918-02-1	PICLORAM	**ND**	ug/L	0.13	0.07	500	
Other							
E-14028	DCPA (ACID METABOLITES)	**ND**	ug/L	0.13	0.1		
1918-00-9	DICAMBA	**ND**	ug/L	0.13	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.5	2		
93-76-5	2,4,5 T	**ND**	ug/L	0.13	0.04		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.2		
120-36-5	DICHLORPROP	**ND**	ug/L	0.13	0.5		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.1		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.13	0.2		

NOTES:
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MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC1
Sample Description: Mud Creek 1
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03884
Report Date: 2/20/12
Date Analyzed: 02/10/12
Date Extracted: 515.4_120208
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.2	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.04	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.13	0.05	1	
75-99-0	DALAPON	**ND**	ug/L	0.5	0.9	200	
88-85-7	DINOSEB	**ND**	ug/L	0.13	0.2	7	
1918-02-1	PICLORAM	**ND**	ug/L	0.13	0.07	500	
Other							
E-14028	DCPA (ACID METABOLITES)	**ND**	ug/L	0.13	0.1		
1918-00-9	DICAMBA	**ND**	ug/L	0.13	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.5	2		
93-76-5	2,4,5 T	**ND**	ug/L	0.13	0.04		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.2		
120-36-5	DICHLORPROP	**ND**	ug/L	0.13	0.5		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.1		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.13	0.2		

NOTES:
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MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC2
Sample Description: Mud Creek 2
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03885
Report Date: 2/20/12
Date Analyzed: 02/10/12
Date Extracted: 515.4_120208
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.2	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.04	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.13	0.05	1	
75-99-0	DALAPON	**ND**	ug/L	0.5	0.9	200	
88-85-7	DINOSEB	**ND**	ug/L	0.13	0.2	7	
1918-02-1	PICLORAM	**ND**	ug/L	0.13	0.07	500	
Other							
E-14028	DCPA (ACID METABOLITES)	**0.35**	ug/L	0.13	0.1		Lab Dup: 0.29 ug/L
1918-00-9	DICAMBA	**ND**	ug/L	0.13	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.5	2		
93-76-5	2,4,5 T	**ND**	ug/L	0.13	0.04		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.2		
120-36-5	DICHLORPROP	**ND**	ug/L	0.13	0.5		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.1		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.13	0.2		

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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L1
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03881
Report Date: 2/20/12
Date Analyzed: 02/07/12
Date Extracted: 531_120207
Analyst: CO
Peer Review:
Analytical Method: 531.2
Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXYMAL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L2
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03882
Report Date: 2/20/12
Date Analyzed: 02/07/12
Date Extracted: 531_120207
Analyst: CO
Peer Review:
Analytical Method: 531.2 Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXYMAL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: L3
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03883
Report Date: 2/20/12
Date Analyzed: 02/07/12
Date Extracted: 531_120207
Analyst: CO
Peer Review:
Analytical Method: 531.2 Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXYMAL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC1
Sample Description: Mud Creek 1
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03884
Report Date: 2/20/12
Date Analyzed: 02/07/12
Date Extracted: 531_120207
Analyst: CO
Peer Review:
Analytical Method: 531.2 Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXYMAL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-01645
Project: Locher Road

Project::
Field ID: MC2
Sample Description: Mud Creek 2
Sampled By: Unknown
Sample Date: 2/2/12
Source Type:
Sampler Phone:

Lab Number: 03885
Report Date: 2/20/12
Date Analyzed: 02/07/12
Date Extracted: 531_120207
Analyst: CO
Peer Review:
Analytical Method: 531.2
Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXYMAL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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Data Report

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **12-01645**
Project: Locher Road

Report Date: 2/20/12
Date Received: 2/3/12
Reviewed by:

Sample Description: L1 - Locher Rd
Lab Number: 3881
Sample Date: 2/2/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	3.61	0.10	0.10		NTU	1.00	180.1	2/3/12	SRF	turb_120203	
E-11778	**HARDNESS as Calcium Carbonate**	175.6	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	2/6/12	BJ	200.7-120206A	
16887-00-6	**CHLORIDE**	7	0.1	20	0.015	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
14797-55-8	**NITRATE-N**	7.14	0.100	0.100	0.009	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	2/14/12	MVP	D120214A	
E-10184	**ELECTRICAL CONDUCTIVITY**	412	10	10		uS/cm	1.00	SM2510 B	2/6/12	SRF	ec_120206	
E-10173	**TOTAL DISSOLVED SOLIDS**	277	10	10		mg/L	1.00	SM2540 C	2/6/12	srf	tds_120206	
E-10139	**HYDROGEN ION (pH)**	6.79				pH Units	1.00	SM4500-H+ B	2/3/12	SRF	ph_120203	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	2/3/12	SPL	OPHOS-120203	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	3	mg/L	1.00	SM5220 D	2/13/12	SRF	cod_120213	

Sample Description: L2 - Locher Rd
Lab Number: 3882
Sample Date: 2/2/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	1.31	0.10	0.10		NTU	1.00	180.1	2/3/12	SRF	turb_120203	
E-11778	**HARDNESS as Calcium Carbonate**	115.6	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	2/6/12	BJ	200.7-120206A	
16887-00-6	**CHLORIDE**	5.1	0.1	20	0.015	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
14797-55-8	**NITRATE-N**	3.99	0.100	0.100	0.009	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	2/14/12	MVP	D120214A	
E-10184	**ELECTRICAL CONDUCTIVITY**	278	10	10		uS/cm	1.00	SM2510 B	2/6/12	SRF	ec_120206	
E-10173	**TOTAL DISSOLVED SOLIDS**	198	10	10		mg/L	1.00	SM2540 C	2/6/12	srf	tds_120206	
E-10139	**HYDROGEN ION (pH)**	6.59				pH Units	1.00	SM4500-H+ B	2/3/12	SRF	ph_120203	
14265-44-2	**ORTHO-PHOSPHATE**	0.09	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	2/3/12	SPL	OPHOS-120203	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	3	mg/L	1.00	SM5220 D	2/13/12	SRF	cod_120213	

Sample Description: L3 - Locher Rd
Lab Number: 3883
Sample Date: 2/2/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	18.9	0.10	0.10		NTU	1.00	180.1	2/3/12	SRF	turb_120203	

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D.F. - Dilution Factor

Data Report

E-11778	**HARDNESS as Calcium Carbonate**	84.4	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	2/6/12	BJ	200.7-120206A	
16887-00-6	**CHLORIDE**	2.9	0.1	20	0.015	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
14797-55-8	**NITRATE-N**	4.2	0.100	0.100	0.009	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	2/14/12	MVP	D120214A	
E-10184	**ELECTRICAL CONDUCTIVITY**	206	10	10		uS/cm	1.00	SM2510 B	2/6/12	SRF	ec_120206	
E-10173	**TOTAL DISSOLVED SOLIDS**	160	10	10		mg/L	1.00	SM2540 C	2/6/12	srf	tds_120206	
E-10139	**HYDROGEN ION (pH)**	6.47				pH Units	1.00	SM4500-H+ B	2/3/12	SRF	ph_120203	
14265-44-2	**ORTHO-PHOSPHATE**	0.09	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	2/3/12	SPL	OPHOS-120203	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	3	mg/L	1.00	SM5220 D	2/13/12	SRF	cod_120213	

Sample Description: MC1 - Mud Creek 1
Lab Number: 3884
Sample Date: 2/2/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	1.32	0.10	0.10		NTU	1.00	180.1	2/3/12	SRF	turb_120203	
E-11778	**HARDNESS as Calcium Carbonate**	122.5	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	2/6/12	BJ	200.7-120206A	
16887-00-6	**CHLORIDE**	5.2	0.1	20	0.015	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
14797-55-8	**NITRATE-N**	1.84	0.100	0.100	0.009	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	2/14/12	MVP	D120214A	
E-10184	**ELECTRICAL CONDUCTIVITY**	281	10	10		uS/cm	1.00	SM2510 B	2/6/12	SRF	ec_120206	
E-10173	**TOTAL DISSOLVED SOLIDS**	189	10	10		mg/L	1.00	SM2540 C	2/6/12	srf	tds_120206	
E-10139	**HYDROGEN ION (pH)**	7.27				pH Units	1.00	SM4500-H+ B	2/3/12	SRF	ph_120203	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	2/3/12	SPL	OPHOS-120203	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	3	mg/L	1.00	SM5220 D	2/13/12	SRF	cod_120213	

Sample Description: MC2 - Mud Creek 2
Lab Number: 3885
Sample Date: 2/2/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	1.02	0.10	0.10		NTU	1.00	180.1	2/3/12	SRF	turb_120203	
E-11778	**HARDNESS as Calcium Carbonate**	161.3	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	2/6/12	BJ	200.7-120206A	
16887-00-6	**CHLORIDE**	7.5	0.1	20	0.015	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
14797-55-8	**NITRATE-N**	4.54	0.100	0.100	0.009	mg/L	1.00	300.0	2/3/12	BJ	I120203A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	2/14/12	MVP	D120214A	
E-10184	**ELECTRICAL CONDUCTIVITY**	398	10	10		uS/cm	1.00	SM2510 B	2/6/12	SRF	ec_120206	
E-10173	**TOTAL DISSOLVED SOLIDS**	253	10	10		mg/L	1.00	SM2540 C	2/6/12	srf	tds_120206	
E-10139	**HYDROGEN ION (pH)**	7.36				pH Units	1.00	SM4500-H+ B	2/3/12	SRF	ph_120203	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	2/3/12	SPL	OPHOS-120203	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	3	mg/L	1.00	SM5220 D	2/13/12	SRF	cod_120213	

Notes:

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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-120206A	HARDNESS as Calcium Carbonate	73.6	69.5	mg/L	200.7	106	85-115		LFB	
515.4_120208	2,4 - D	0.5	0.5	ug/L	515.4	100	70-130		LFB	
	2,4,5 - TP (SILVEX)	0.48	0.5	ug/L	515.4	96	70-130			
	2,4,5 T	0.48	0.5	ug/L	515.4	96	70-130			
	ACIFLUORFEN	0.57	0.5	ug/L	515.4	114	70-130			
	DCPA (ACID METABOLITES)	0.46	0.5	ug/L	515.4	92	70-130			
	DICAMBA	0.49	0.5	ug/L	515.4	98	70-130			
	DICHLORPROP	0.48	0.5	ug/L	515.4	96	70-130			
	DINOSEB	0.64	0.5	ug/L	515.4	128	70-130			
	PENTACHLOROPHENOL	0.5	0.5	ug/L	515.4	100	70-130			
	PICLORAM	0.44	0.5	ug/L	515.4	88	70-130			
515.4_120208	2,4 - D	2.89	2.5	ug/L	515.4	116	70-130		LFB	
	2,4 DB	3.13	2.5	ug/L	515.4	125	70-130			
	2,4,5 - TP (SILVEX)	2.92	2.5	ug/L	515.4	117	70-130			
	2,4,5 T	2.97	2.5	ug/L	515.4	119	70-130			
	ACIFLUORFEN	3.89	2.5	ug/L	515.4	156	70-130	HR		
	BENTAZON	3.15	2.5	ug/L	515.4	126	70-130			
	DALAPON	2.69	2.5	ug/L	515.4	108	70-130			
	DCPA (ACID METABOLITES)	2.98	2.5	ug/L	515.4	119	70-130			
	DICAMBA	3.1	2.5	ug/L	515.4	124	70-130			
	DICHLORPROP	3.01	2.5	ug/L	515.4	120	70-130			
	DINOSEB	3.6	2.5	ug/L	515.4	144	70-130	HR		
	PENTACHLOROPHENOL	2.79	2.5	ug/L	515.4	112	70-130			
	PICLORAM	2.83	2.5	ug/L	515.4	113	70-130			
525_120214	4,4-DDE	0.56	0.5	ug/L	525.2	112	70-130		LFB	
	ACETOCHLOR	0.47	0.5	ug/L	525.2	94	70-130			
	ALACHLOR	0.55	0.5	ug/L	525.2	110	70-130			
	ALDRIN	0.42	0.5	ug/L	525.2	84	70-130			
	ATRAZINE	0.56	0.5	ug/L	525.2	112	70-130			
	BENZO(A)PYRENE	0.5	0.5	ug/L	525.2	100	70-130			
	BROMACIL	0.49	0.5	ug/L	525.2	98	70-130			

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
525_120214	BUTACHLOR	0.47	0.5	ug/L	525.2	94	70-130		LFB	
	DI(ETHYLHEXYL)-ADIPATE	0.48	0.5	ug/L	525.2	96	70-130			
	DI(ETHYLHEXYL)-PHTHALATE	0.58	0.5	ug/L	525.2	116	70-130			
	DIELDRIN	0.5	0.5	ug/L	525.2	100	70-130			
	ENDRIN	0.56	0.5	ug/L	525.2	112	70-130			
	EPTC	0.55	0.5	ug/L	525.2	110	70-130			
	FLUORENE	0.55	0.5	ug/L	525.2	110	70-130			
	HEPTACHLOR	0.55	0.5	ug/L	525.2	110	70-130			
	HEPTACHLOR EPOXIDE	0.48	0.5	ug/L	525.2	96	70-130			
	HEXACHLOROBENZENE	0.56	0.5	ug/L	525.2	112	70-130			
	HEXACHLOROCYCLO-PENTADIENE	0.54	0.5	ug/L	525.2	108	70-130			
	LINDANE (BHC - GAMMA)	0.49	0.5	ug/L	525.2	98	70-130			
	METHOXYCHLOR	0.48	0.5	ug/L	525.2	96	70-130			
	METOLACHLOR	0.49	0.5	ug/L	525.2	98	70-130			
	METRIBUZIN	0.43	0.5	ug/L	525.2	86	70-130			
	MOLINATE	0.53	0.5	ug/L	525.2	106	70-130			
	PROPACHLOR	0.48	0.5	ug/L	525.2	96	70-130			
	SIMAZINE	0.57	0.5	ug/L	525.2	114	70-130			
	TERBACIL	0.49	0.5	ug/L	525.2	98	70-130			
531_120207	3-HYDROXYCARBOFURAN	7.9	10	ug/L	531.2	79	70-130		LFB	
	ALDICARB	7.7	10	ug/L	531.2	77	70-130			
	ALDICARB SULFONE	8	10	ug/L	531.2	80	70-130			
	ALDICARB SULFOXIDE	7.7	10	ug/L	531.2	77	70-130			
	CARBARYL	8.3	10	ug/L	531.2	83	70-130			
	CARBOFURAN	9	10	ug/L	531.2	90	70-130			
	METHIOCARB	8.4	10	ug/L	531.2	84	70-130			
	METHOMYL	7.7	10	ug/L	531.2	77	70-130			
	OXYMAL	8.1	10	ug/L	531.2	81	70-130			
	PROPOXUR (BAYGON)	7.5	10	ug/L	531.2	75	70-130			
cod_120213	CHEMICAL OXYGEN DEMAND	51	50	mg/L	SM5220 D	102	80-120		LFB	
	CHEMICAL OXYGEN DEMAND	52	50	mg/L	SM5220 D	104	80-120			

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
OPHOS-120203	ORTHO-PHOSPHATE	0.99	1.00	mg/L	SM4500-P F	99	80-120		LFB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Low Level Laboratory Fortified Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
508_120213	AROCLOR 1248	0.45	0.5	ug/L	508.1	90	50-150		LFBD	
515.4_120208	2,4 - D	0.09	0.125	ug/L	515.4	72	50-150		LFBD	
	2,4,5 - TP (SILVEX)	0.12	0.125	ug/L	515.4	96	50-150			
	2,4,5 T	0.12	0.125	ug/L	515.4	96	50-150			
	ACIFLUORFEN	0.15	0.125	ug/L	515.4	120	50-150			
	DCPA (ACID METABOLITES)	0.14	0.125	ug/L	515.4	112	50-150			
	DICAMBA	0.16	0.125	ug/L	515.4	128	50-150			
	DICHLORPROP	0.15	0.125	ug/L	515.4	120	50-150			
	DINOSEB	0.16	0.125	ug/L	515.4	128	50-150			
	PENTACHLOROPHENOL	0.15	0.125	ug/L	515.4	120	50-150			
	PICLORAM	0.14	0.125	ug/L	515.4	112	50-150			
515.4_120208	2,4 DB	0.6	0.5	ug/L	515.4	120	50-150		LFBD	
	BENTAZON	0.69	0.5	ug/L	515.4	138	50-150			
	DALAPON	0.42	0.5	ug/L	515.4	84	50-150			
525_120214	4,4-DDE	0.1	0.1	ug/L	525.2	100	50-150		LFBD	
	ACETOCHLOR	0.08	0.1	ug/L	525.2	80	50-150			
	ALACHLOR	0.1	0.1	ug/L	525.2	100	50-150			
	ALDRIN	0.09	0.1	ug/L	525.2	90	50-150			
	ATRAZINE	0.1	0.1	ug/L	525.2	100	50-150			
	BENZO(A)PYRENE	0.1	0.1	ug/L	525.2	100	50-150			
	BROMACIL	0.07	0.1	ug/L	525.2	70	50-150			
	BUTACHLOR	0.08	0.1	ug/L	525.2	80	50-150			
	DI(ETHYLHEXYL)-ADIPATE	0.07	0.1	ug/L	525.2	70	50-150			
	DI(ETHYLHEXYL)-PHTHALATE	0.16	0.1	ug/L	525.2	160	50-150	b5		
	DIELDRIN	0.1	0.1	ug/L	525.2	100	50-150			
	ENDRIN	0.09	0.1	ug/L	525.2	90	50-150			
	EPTC	0.12	0.1	ug/L	525.2	120	50-150			
	FLUORENE	0.11	0.1	ug/L	525.2	110	50-150			
	HEPTACHLOR	0.09	0.1	ug/L	525.2	90	50-150			
	HEPTACHLOR EPOXIDE	0.08	0.1	ug/L	525.2	80	50-150			
	HEXACHLOROBENZENE	0.12	0.1	ug/L	525.2	120	50-150			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Low Level Laboratory Fortified Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
525_120214	HEXACHLOROCYCLO-PENTADIENE	0.07	0.1	ug/L	525.2	70	50-150		LFBD	
	LINDANE (BHC - GAMMA)	0.12	0.1	ug/L	525.2	120	50-150			
	METHOXYCHLOR	0.07	0.1	ug/L	525.2	70	50-150			
	METOLACHLOR	0.08	0.1	ug/L	525.2	80	50-150			
	METRIBUZIN	0.06	0.1	ug/L	525.2	60	50-150			
	MOLINATE	0.1	0.1	ug/L	525.2	100	50-150			
	PENTACHLOROPHENOL	0.3	0.4	ug/L	525.2	75	50-150			
	PROPACHLOR	0.09	0.1	ug/L	525.2	90	50-150			
	SIMAZINE	0.12	0.1	ug/L	525.2	120	50-150			
	TERBACIL	0.1	0.1	ug/L	525.2	100	50-150			
531_120207	3-HYDROXYCARBOFURAN	1.1	1	ug/L	531.2	110	50-150		LFBD	
	ALDICARB	0.6	1	ug/L	531.2	60	50-150			
	ALDICARB SULFONE	0.85	1	ug/L	531.2	85	50-150			
	ALDICARB SULFOXIDE	0.6	1	ug/L	531.2	60	50-150			
	CARBARYL	0.8	1	ug/L	531.2	80	50-150			
	CARBOFURAN	0.8	1	ug/L	531.2	80	50-150			
	METHIOCARB	0.8	1	ug/L	531.2	80	50-150			
	METHOMYL	0.8	1	ug/L	531.2	80	50-150			
	OXYMAL	1.1	1	ug/L	531.2	110	50-150			
	PROPOXUR (BAYGON)	0.8	1	ug/L	531.2	80	50-150			

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*Notation:

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-120206A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		10.0000		LRB	
D120214A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
I120203A	CHLORIDE	ND		mg/L	300.0		0.10000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
OPHOS-120203	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		LRB	

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-120206A	HARDNESS as Calcium Carbonate	ND		mg/L	200.7		0.82000		MB	
508_120213	AROCLOR 1016	ND		ug/L	508.1		0.03000		MB	
	AROCLOR 1221	ND		ug/L	508.1		0.03000			
	AROCLOR 1232	ND		ug/L	508.1		0.03000			
	AROCLOR 1242	ND		ug/L	508.1		0.03000			
	AROCLOR 1248	ND		ug/L	508.1		0.03000			
	AROCLOR 1254	ND		ug/L	508.1		0.03000			
	AROCLOR 1260	ND		ug/L	508.1		0.03000			
515.4_120208	2,4 - D	ND		ug/L	515.4		0.03000		MB	
	2,4 DB	ND		ug/L	515.4		0.03000			
	2,4,5 - TP (SILVEX)	ND		ug/L	515.4		0.03000			
	2,4,5 T	ND		ug/L	515.4		0.03000			
	ACIFLUORFEN	ND		ug/L	515.4		0.03000			
	BENTAZON	ND		ug/L	515.4		0.06000			
	DALAPON	ND		ug/L	515.4		0.50000			
	DCPA (ACID METABOLITES)	ND		ug/L	515.4		0.03000			
	DICAMBA	ND		ug/L	515.4		0.03000			
	DICHLORPROP	ND		ug/L	515.4		0.10000			
	DINOSEB	ND		ug/L	515.4		0.06000			
	PENTACHLOROPHENOL	ND		ug/L	515.4		0.03000			
	PICLORAM	ND		ug/L	515.4		0.03000			
525_120214	4,4-DDE	ND		ug/L	525.2		0.03000		MB	
	ACETOCHLOR	ND		ug/L	525.2		0.03000			
	ALACHLOR	ND		ug/L	525.2		0.03000			
	ALDRIN	ND		ug/L	525.2		0.03000			
	ATRAZINE	ND		ug/L	525.2		0.03000			
	BENZO(A)PYRENE	ND		ug/L	525.2		0.03000			
	BROMACIL	ND		ug/L	525.2		0.03000			
	BUTACHLOR	ND		ug/L	525.2		0.03000			
	DI(ETHYLHEXYL)-ADIPATE	ND		ug/L	525.2		0.03000			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
525_120214	DI(ETHYLHEXYL)-PHTHALATE	ND		ug/L	525.2		0.40000		MB	
	DIELDRIN	ND		ug/L	525.2		0.03000			
	ENDRIN	ND		ug/L	525.2		0.03000			
	EPTC	ND		ug/L	525.2		0.03000			
	FLUORENE	ND		ug/L	525.2		0.03000			
	HEPTACHLOR	ND		ug/L	525.2		0.03000			
	HEPTACHLOR EPOXIDE	ND		ug/L	525.2		0.03000			
	HEXACHLOROBENZENE	ND		ug/L	525.2		0.03000			
	HEXACHLOROCYCLO-PENTADIENE	ND		ug/L	525.2		0.03000			
	LINDANE (BHC - GAMMA)	ND		ug/L	525.2		0.03000			
	METHOXYCHLOR	ND		ug/L	525.2		0.03000			
	METOLACHLOR	ND		ug/L	525.2		0.03000			
	METRIBUZIN	ND		ug/L	525.2		0.03000			
	MOLINATE	ND		ug/L	525.2		0.03000			
	PENTACHLOROPHENOL	ND		ug/L	525.2		0.03000			
	PROPACHLOR	ND		ug/L	525.2		0.03000			
	SIMAZINE	ND		ug/L	525.2		0.03000			
	TERBACIL	ND		ug/L	525.2		0.03000			
531_120207	3-HYDROXYCARBOFURAN	ND		ug/L	531.2		0.50000		MB	
	ALDICARB	ND		ug/L	531.2		0.25000			
	ALDICARB SULFONE	ND		ug/L	531.2		0.40000			
	ALDICARB SULFOXIDE	ND		ug/L	531.2		0.25000			
	CARBARYL	ND		ug/L	531.2		0.50000			
	CARBOFURAN	ND		ug/L	531.2		0.45000			
	METHIOCARB	ND		ug/L	531.2		1.00000			
	METHOMYL	ND		ug/L	531.2		0.25000			
	OXYMAL	ND		ug/L	531.2		1.00000			
	PROPOXUR (BAYGON)	ND		ug/L	531.2		0.25000			
cod_120213	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		MB	
ec_120206	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	

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FORM: QC Independent

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
ec_120206	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_120206	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
OPHOS-120203	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		MB	
tds_120206	TOTAL DISSOLVED SOLIDS	ND		mg/L	SM2540 C		2.50000		MB	
turb_120203	TURBIDITY	ND		NTU	180.1		0.02000		MB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-120206A	HARDNESS as Calcium Carbonate	136	132.3	mg/L	200.7	103	85-115		QCS	
531_120207	3-HYDROXYCARBOFURAN	19.8	20.1	ug/L	531.2	99	70-130		QCS	
	ALDICARB	19.2	21	ug/L	531.2	91	70-130			
	ALDICARB SULFONE	15	16.7	ug/L	531.2	90	70-130			
	ALDICARB SULFOXIDE	11.3	13.1	ug/L	531.2	86	70-130			
	CARBARYL	15.3	15.6	ug/L	531.2	98	70-130			
	CARBOFURAN	61.6	65	ug/L	531.2	95	70-130			
	METHIOCARB	52.1	50	ug/L	531.2	104	70-130			
	METHOMYL	29.4	31.2	ug/L	531.2	94	70-130			
	OXYMAL	30.7	33	ug/L	531.2	93	70-130			
	PROPOXUR (BAYGON)	39.8	41.9	ug/L	531.2	95	70-130			
cod_120213	CHEMICAL OXYGEN DEMAND	96	88	mg/L	SM5220 D	109	80-120		QCS	
D120214A	BROMATE	0.040	0.0403	mg/L	300.1	99	75-125		QCS	
ec_120206	ELECTRICAL CONDUCTIVITY	144.8	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_120206	ELECTRICAL CONDUCTIVITY	144.9	146.9	uS/cm	SM2510 B	99	80-120		QCS	
ec_120206	ELECTRICAL CONDUCTIVITY	145.2	146.9	uS/cm	SM2510 B	99	80-120		QCS	
I120203A	CHLORIDE	30.2	30.0	mg/L	300.0	101	80-120		QCS	
	NITRATE-N	2.48	2.50	mg/L	300.0	99	80-120			
OPHOS-120203	ORTHO-PHOSPHATE	0.51	0.49	mg/L	SM4500-P F	104	80-120		QCS	
ph_120203	HYDROGEN ION (pH)	8.00	8.00	pH Units	SM4500-H+ B	100	80-120		QCS	
	HYDROGEN ION (pH)	8.04	8.00	pH Units	SM4500-H+ B	101	80-120			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 12-01645
Report Date: 02/20/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
ph_120203	HYDROGEN ION (pH)	8.07	8.00	pH Units	SM4500-H+ B	101	80-120		QCS	
tds_120206	TOTAL DISSOLVED SOLIDS	484	500	mg/L	SM2540 C	97	80-120		QCS	
turb_120203	TURBIDITY	0.97	1.00	NTU	180.1	97	70-130		QCS	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

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805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 12-01645
Report Date: 2/20/2012

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-120206A										
	3964	HARDNESS as Calcium Carbonate	120.4	118.6	mg/L	**1.5**	0-20		DUP	
515.4_120208										
	3885	DCPA (ACID METABOLITES)	0.35	0.29	ug/L	**18.8**	0-30		DUP	
525_120214										
	3881	ATRAZINE	0.02J	0.02J	ug/L	**0.0**	0-45		DUP	
	3881	BROMACIL	0.05J	0.07J	ug/L	**33.3**	0-45		DUP	
D120214A										
ec_120206										
	3884	ELECTRICAL CONDUCTIVITY	281	281	uS/cm	**0.0**	0-45		DUP	
	3964	ELECTRICAL CONDUCTIVITY	257	256	uS/cm	**0.4**	0-45		DUP	
I120203A										
	3878	NITRATE-N	0.16	0.15	mg/L	**6.5**	0-45		DUP	
OPHOS-120203										
	3881	ORTHO-PHOSPHATE	0.08	0.08	mg/L	**0.0**	0-50		DUP	
	3885	ORTHO-PHOSPHATE	0.08	0.08	mg/L	**0.0**	0-50		DUP	
ph_120203										
	3885	HYDROGEN ION (pH)	7.36	7.38	pH Units	**0.3**	0-45		DUP	
tds_120206										
	3883	TOTAL DISSOLVED SOLIDS	160	155	mg/L	**3.2**	0-45		DUP	
	3964	TOTAL DISSOLVED SOLIDS	145	146	mg/L	**0.7**	0-45		DUP	
turb_120203										
	3950	TURBIDITY	9.65	9.66	NTU	**0.1**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
200.7-120206A															
	3964	HARDNESS as Calcium Carbonate	120.4	191.1	189.6	69.5	mg/L	102	100	70-130	2.1	0-60		LFM	
515.4_120208															
	3141	2,4 - D	ND	2.56	2.76	2.5	ug/L	102	110	70-130	7.5	0-30		LFM	
	3141	2,4,5 - TP (SILVEX)	ND	2.62	2.88	2.5	ug/L	105	115	70-130	9.5	0-30		LFM	
	3141	PENTACHLOROPHENOL	ND	2.6	2.94	2.5	ug/L	104	118	70-130	12.3	0-30		LFM	
	3141	DALAPON	ND	2.2	2	2.5	ug/L	88	80	70-130	9.5	0-30		LFM	
	3141	DINOSEB	ND	3.15	3.47	2.5	ug/L	126	139	70-130	9.7	0-30		LFM	
	3141	PICLORAM	ND	2.6	2.73	2.5	ug/L	104	109	70-130	4.9	0-30		LFM	
	3141	DICAMBA	ND	2.96	2.92	2.5	ug/L	118	117	70-130	1.4	0-30		LFM	
	3141	DCPA (ACID METABOLITES)	ND	3.48	3.05	2.5	ug/L	139	122	70-130	13.2	0-30		LFM	
	3141	2,4 DB	ND	2.72	3.15	2.5	ug/L	109	126	70-130	14.7	0-30		LFM	
	3141	2,4,5 T	ND	2.59	2.8	2.5	ug/L	104	112	70-130	7.8	0-30		LFM	
	3141	BENTAZON	ND	1.71	2.24	2.5	ug/L	68	90	70-130	26.8	0-30		LFM	
	3141	DICHLORPROP	ND	2.3	2.62	2.5	ug/L	92	105	70-130	13.0	0-30		LFM	
	3141	ACIFLUORFEN	ND	3.35	3.65	2.5	ug/L	134	146	70-130	8.6	0-30		LFM	
525_120214															
	3882	ENDRIN	ND	0.5		0.5	ug/L	100	NA	70-130	NA	0-60		LFM	
	3882	LINDANE (BHC - GAMMA)	ND	0.48		0.5	ug/L	96	NA	70-130	NA	0-60		LFM	
	3882	METHOXYCHLOR	ND	0.39		0.5	ug/L	78	NA	70-130	NA	0-60		LFM	
	3882	ALACHLOR	ND	0.51		0.5	ug/L	102	NA	70-130	NA	0-60		LFM	
	3882	ATRAZINE	ND	0.51		0.5	ug/L	102	NA	70-130	NA	0-60		LFM	
	3882	BENZO(A)PYRENE	ND	0.41		0.5	ug/L	82	NA	70-130	NA	0-60		LFM	
	3882	DI(ETHYLHEXYL)-ADIPATE	ND	0.4		0.5	ug/L	80	NA	70-130	NA	0-60		LFM	
	3882	DI(ETHYLHEXYL)-PHTHALATE	ND	0.46		0.5	ug/L	92	NA	70-130	NA	0-60		LFM	
	3882	HEPTACHLOR	ND	0.45		0.5	ug/L	90	NA	70-130	NA	0-60		LFM	
	3882	HEPTACHLOR EPOXIDE	ND	0.46		0.5	ug/L	92	NA	70-130	NA	0-50		LFM	
	3882	HEXACHLOROBENZENE	ND	0.53		0.5	ug/L	106	NA	70-130	NA	0-60		LFM	
	3882	HEXACHLOROCYCLO-PENTADIENE	ND	0.41		0.5	ug/L	82	NA	70-130	NA	0-60		LFM	
	3882	SIMAZINE	ND	0.47		0.5	ug/L	94	NA	70-130	NA	0-60		LFM	
	3882	PENTACHLOROPHENOL	ND	1.5		2	ug/L	75	NA	70-130	NA	0-50		LFM	
	3882	ALDRIN	ND	0.46		0.5	ug/L	92	NA	70-130	NA	0-60		LFM	
	3882	BUTACHLOR	ND	0.34		0.5	ug/L	68	NA	70-130	NA	0-60	M2	LFM	
	3882	DIELDRIN	ND	0.46		0.5	ug/L	92	NA	70-130	NA	0-60		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
	3882	METOLACHLOR	ND	0.39		0.5	ug/L	**78**	**NA**	70-130	**NA**	0-60		LFM	
	3882	METRIBUZIN	ND	0.32		0.5	ug/L	**64**	**NA**	70-130	**NA**	0-60		LFM	
	3882	PROPACHLOR	ND	0.43		0.5	ug/L	**86**	**NA**	70-130	**NA**	0-60		LFM	
	3882	4,4-DDE	ND	0.46		0.5	ug/L	**92**	**NA**	70-130	**NA**	0-60		LFM	
	3882	ACETOCHLOR	ND	0.43		0.5	ug/L	**86**	**NA**	70-130	**NA**	0-60		LFM	
	3882	EPTC	ND	0.5		0.5	ug/L	**100**	**NA**	70-130	**NA**	0-60		LFM	
	3882	MOLINATE	ND	0.48		0.5	ug/L	**96**	**NA**	70-130	**NA**	0-60		LFM	
	3882	TERBACIL	ND	0.38		0.5	ug/L	**76**	**NA**	70-130	**NA**	0-60		LFM	
	3882	BROMACIL	ND	0.32		0.5	ug/L	**64**	**NA**	70-130	**NA**	0-60	M2	LFM	
	3882	FLUORENE	ND	0.48		0.5	ug/L	**96**	**NA**	70-130	**NA**	0-60		LFM	
531_120207															
	4054	OXYMAL	ND	7.1	8.2	10	mg/L	**71**	**82**	70-130	**14.4**	0-50		LFM	
	4054	CARBOFURAN	ND	8.3	8.5	10	mg/L	**83**	**85**	70-130	**2.4**	0-50		LFM	
	4054	ALDICARB SULFOXIDE	ND	7.6	7.3	10	mg/L	**76**	**73**	70-130	**4.0**	0-50		LFM	
	4054	ALDICARB SULFONE	ND	8.2	7.2	10	mg/L	**82**	**72**	70-130	**13.0**	0-50		LFM	
	4054	METHOMYL	ND	7.1	7	10	mg/L	**71**	**70**	70-130	**1.4**	0-50		LFM	
	4054	3-HYDROXYCARBOFURAN	ND	7	7.1	10	mg/L	**70**	**71**	70-130	**1.4**	0-50		LFM	
	4054	ALDICARB	ND	7.2	9.2	10	mg/L	**72**	**92**	70-130	**24.4**	0-50		LFM	
	4054	CARBARYL	ND	7.8	7.7	10	mg/L	**78**	**77**	70-130	**1.3**	0-50		LFM	
	4054	PROPOXUR (BAYGON)	ND	7.5	7.1	10	ug/L	**75**	**71**	70-130	**5.5**	0-50		LFM	
	4054	METHIOCARB	ND	8.1	8	10	ug/L	**81**	**80**	70-130	**1.2**	0-50		LFM	
D120214A															
	3750	BROMATE	ND	0.0102		0.010	mg/L	**102**	**NA**	75-125	**NA**	0-20		LFM	
	3881	BROMATE	ND	0.0107		0.010	mg/L	**107**	**NA**	75-125	**NA**	0-20		LFM	
I120203A															
	3878	NITRATE-N	0.16	1.12		1.00	mg/L	**96**	**NA**	80-120	**NA**	0-60		LFM	
OPHOS-120203															
	3881	ORTHO-PHOSPHATE	0.08	1.09	1.08	1.00	mg/L	**101**	**100**	70-130	**1.0**	0-50		LFM	
	3885	ORTHO-PHOSPHATE	0.08	1.09	1.10	1.00	mg/L	**101**	**102**	70-130	**1.0**	0-50		LFM	

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NA = Indicates %RPD could not be calculated

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Qualifier Definitions

Reference Number: 12-01645
Report Date: 02/20/12

Qualifier	Definition
b5	Target analyte detected in method blank at or above the method reporting limit, but below trigger level or MCL.
HR	High QCS recovery due to increased detector response No sample dectections, therefore, no further action taken for this analysis set.
IJ	An estimated concentration, below calibration curve but above method detection limit.
IS	The ratio of the spike concentration to sample background was too low to meet performance criteria
J	Indicates an estimated concentration. This occurs when an analyte concentration is below the calibration curve but is above the method detection limit.
M2	Matrix bias indicated, the LFB is within acceptance limits.

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Page_____ of_____

Chain of Custody / Analysis Reque 12-01645 cable shaded sections)

3881 - 3885

15366

EDGE ANALYTICAL LABORATORIES

1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to: Walla Walla Basin Watershed Cour
Ship Address: 810 S Main Street
City: Milton-Freewa St: OR Zip: 97862
Attn: Troy Baker
Phone: 541.938-2170 FAX:
Email: troy.baker@wwbwc.org
Project Locher Road

Bill to:
Address: 810 S MAIN
City: Milton-Freewater St: OR Zip: 97862
Phone: 541-938-2170 FAX:
P.O.#: Attn:
☐ Visa ☐ M/C ☐ A/E Expires /
Card#:

For Lab Use Only
Ref # 12-01645

Check Regulatory Program
- ☐ Safe Drinking Water Act
- ☐ Clean Water Act
- ☐ RCRA / CERCLA
- ☐ Other

Analyses Requested

Instructions
1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
- ☒ Standard
- ☐ Half-time (50% surcharge)
- ☐ Quickest (100% surcharge) Phone Call Req.
- ☐ Emergency (Phone Call Req.)

CO015366

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	515.4	525/full WA reg	531	Bro3,Cl,Ec,NO3,O-Phos,pH,TDS,Turb	COD	Hardness			Number of Containers	Special Instructions Conditions on Receipt
1	L1	Locher Rd		GW	2/2/12	8:15	☒	☒	☒	☒	☒	☒	☐	☐	7	
2	L2	Locher Rd		GW	2/2/12	8.55	☒	☒	☒	☒	☒	☒	☐	☐	7	
3	L3	Locher Rd		GW	2/2/12	8:35	☒	☒	☒	☒	☒	☒	☐	☐	7	
4	MC1	Mud Creek 1		SW	2/2/12	9:10	☒	☒	☒	☒	☒	☒	☐	☐	7	
5	MC2	Mud Creek 2		SW	2/2/12	9:25	☒	☒	☒	☒	☒	☒	☐	☐	7	
6							☐	☐	☐	☐	☐	☐	☐	☐		
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: Phone: FAX: Email: 35 Total Containers

Sample Receipt Request (Must include FAX or Email) ☒

* **W** - water **SW** - surface water **WW** - waste water **OL** - oil
DW - drinking water **GW** - Ground water **S** - soil Other________

Relinquished by	Date	Time	Received by	Date	Time
T. Baker	2/2/12	10:00			
			Ofelia	2/3/12	0900

	Yes	No	N/A
Custody seals intact UPS	☐	☐	☑
Sample temp 2 C satisfactory	☑	☐	☐
Samples received intact	☑	☐	
Chain of custody & labels agree	☑	☐	

FORM: COC 01-06-2009

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April 13, 2012

Mr. Troy Baker
Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

RE: 12-04373 - Locher Road

Dear Mr. Troy Baker,

Your project: Locher Road, was received on Friday March 23, 2012.
All samples were analyzed within the accepted holding times, were appropriately preserved and were analyzed according to approved analytical protocols. The quality control data was within laboratory acceptance limits, unless specified in the QA reports.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report

SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L1
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10254
Report Date: 4/4/12
Date Analyzed: 03/30/12
Date Extracted: 508_120329
Analyst: BCV
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.29		
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L		0.5		
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.2		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.3		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.15		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.2		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.1		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.06		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.85		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

If you have any questions concerning this report contact at the above phone number.

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503.682.7802

SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L2
Sample Description: L-2
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10255
Report Date: 4/4/12
Date Analyzed: 03/30/12
Date Extracted: 508_120329
Analyst: BCV
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.29		
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L		0.5		
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.2		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.3		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.15		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.2		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.1		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.06		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.85		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L3
Sample Description: L-3
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10256
Report Date: 4/4/12
Date Analyzed: 03/30/12
Date Extracted: 508_120329
Analyst: BCV
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.29		
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L		0.5		
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.2		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.3		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.15		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.2		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.1		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.06		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.85		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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503.682.7802

SYNTHETIC ORGANIC COMPOUNDS (SOC) REPORT

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: SW1
Sample Description: SW-1
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10257
Report Date: 4/4/12
Date Analyzed: 03/30/12
Date Extracted: 508_120329
Analyst: BCV
Peer Review:
Analytical Method: 508.1
Pesticides by 525 - Washington Stat

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
57-74-9	CHLORDANE, TECHNICAL	**ND**	ug/L	0.1	0.29		
PCBs/Toxaphene							
1336-36-3	PCBS (Total Aroclors)	**ND**	ug/L		0.5		
11104-28-2	AROCLOR 1221	**ND**	ug/L		0.2		
11141-16-5	AROCLOR 1232	**ND**	ug/L		0.1		
53469-21-9	AROCLOR 1242	**ND**	ug/L		0.3		
12672-29-6	AROCLOR 1248	**ND**	ug/L		0.15		
11097-69-1	AROCLOR 1254	**ND**	ug/L		0.2		
11096-82-5	AROCLOR 1260	**ND**	ug/L		0.1		
12674-11-2	AROCLOR 1016	**ND**	ug/L		0.06		
8001-35-2	TOXAPHENE	**ND**	ug/L		0.85		

NOTES:
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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L1
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10254
Report Date: 4/5/12
Date Analyzed: 04/03/12
Date Extracted: 531_120403
Analyst: CO
Peer Review:
Analytical Method: 531.2
Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXAMYL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L2
Sample Description: L-2
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10255
Report Date: 4/5/12
Date Analyzed: 04/03/12
Date Extracted: 531_120403
Analyst: CO
Peer Review:
Analytical Method: 531.2
Carbamates

CAS	COMPOUND	RESULTS	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXAMYL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L3
Sample Description: L-3
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10256
Report Date: 4/5/12
Date Analyzed: 04/03/12
Date Extracted: 531_120403
Analyst: CO
Peer Review:
Analytical Method: 531.2
Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXAMYL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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CARBAMATES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: SW1
Sample Description: SW-1
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10257
Report Date: 4/5/12
Date Analyzed: 04/03/12
Date Extracted: 531_120403
Analyst: CO
Peer Review:
Analytical Method: 531.2 Carbamates

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
23135-22-0	OXAMYL	**ND**	ug/L	1.0	0.6		
1563-66-2	CARBOFURAN	**ND**	ug/L	1.0	0.7		
EPA Unregulated							
1646-87-3	ALDICARB SULFOXIDE	**ND**	ug/L	1.0	0.3		
1646-88-4	ALDICARB SULFONE	**ND**	ug/L	1.0	0.4		
16752-77-5	METHOMYL	**ND**	ug/L	1.0	0.4		
16655-82-6	3-HYDROXYCARBOFURAN	**ND**	ug/L	1.0	0.5		
116-06-3	ALDICARB	**ND**	ug/L	1.0	0.6		
63-25-2	CARBARYL	**ND**	ug/L	1.0	0.4		
State Unregulated - Other							
114-26-1	PROPOXUR (BAYGON)	**ND**	ug/L	1.0	0.7		
2032-65-7	METHIOCARB	**ND**	ug/L	1.0	2.		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L1
Sample Description: Locher Rd
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10254
Report Date: 4/13/12
Date Analyzed: 03/29/12
Date Extracted: 515.4_120328
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.06	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.1	0.07		
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.1	0.04		
75-99-0	DALAPON	**ND**	ug/L	0.5	0.29	200	
88-85-7	DINOSEB	**ND**	ug/L	0.2	0.09		
1918-02-1	PICLORAM	**ND**	ug/L	0.1	0.1		
Other							
E-14028	DCPA (ACID METABOLITES)	**0.21**	ug/L	0.1	0.05		Lab Dup: 0.24 ug/L
1918-00-9	DICAMBA	**ND**	ug/L	0.13	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.8	0.28		
93-76-5	2,4,5 T	**ND**	ug/L	0.1	0.08		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.35		
120-36-5	DICHLORPROP	**ND**	ug/L	0.3	0.11		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.08		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.1	0.12		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L2
Sample Description: L-2
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10255
Report Date: 4/13/12
Date Analyzed: 03/29/12
Date Extracted: 515.4_120328
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.06	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.07	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.13	0.04	1	
75-99-0	DALAPON	**ND**	ug/L	0.5	0.29	200	
88-85-7	DINOSEB	**ND**	ug/L	0.13	0.09	7	
1918-02-1	PICLORAM	**ND**	ug/L	0.13	0.1	500	
Other							
E-14028	DCPA (ACID METABOLITES)	**ND**	ug/L	0.13	0.05		
1918-00-9	DICAMBA	**0.22**	ug/L	0.13	0.05		Lab Dup: 0.19 ug/L
94-82-6	2,4 DB	**ND**	ug/L	0.5	0.28		
93-76-5	2,4,5 T	**ND**	ug/L	0.13	0.08		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.35		
120-36-5	DICHLORPROP	**ND**	ug/L	0.13	0.11		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.08		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.13	0.12		

NOTES:
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: 12-04373
Project: Locher Road

Project::
Field ID: L3
Sample Description: L-3
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Lab Number: 10256
Report Date: 4/13/12
Date Analyzed: 03/29/12
Date Extracted: 515.4_120328
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.06	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.07	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.13	0.04	1	
75-99-0	DALAPON	**ND**	ug/L	0.5	0.29	200	
88-85-7	DINOSEB	**ND**	ug/L	0.13	0.09	7	
1918-02-1	PICLORAM	**ND**	ug/L	0.13	0.1	500	
Other							
E-14028	DCPA (ACID METABOLITES)	**ND**	ug/L	0.13	0.05		
1918-00-9	DICAMBA	**ND**	ug/L	0.13	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.5	0.28		
93-76-5	2,4,5 T	**ND**	ug/L	0.13	0.08		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.35		
120-36-5	DICHLORPROP	**ND**	ug/L	0.13	0.11		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.13	0.08		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.13	0.12		

NOTES:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
MCL (Maximum Contaminant Level) maximum permissible level of a contaminant in water established by EPA; a blank MCL value indicates a level is not currently established.
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HERBICIDES IN DRINKING WATER

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Project::
Field ID: SW1
Sample Description: SW-1
Sampled By: Unknown
Sample Date: 3/22/12
Source Type:
Sampler Phone:

Reference Number: 12-04373
Project: Locher Road

Lab Number: 10257
Report Date: 4/13/12
Date Analyzed: 03/29/12
Date Extracted: 515.4_120328
Analyst: BCV
Peer Review:
Analytical Method: 515.4
Herbicides in Drinking Water

CAS	COMPOUND	**RESULTS**	UNITS	PQL	MDL	MCL	COMMENT
EPA Regulated							
94-75-7	2,4 - D	**ND**	ug/L	0.13	0.06	70	
93-72-1	2,4,5 - TP (SILVEX)	**ND**	ug/L	0.13	0.07	50	
87-86-5	PENTACHLOROPHENOL	**ND**	ug/L	0.1	0.04		
75-99-0	DALAPON	**ND**	ug/L	1.3	0.29		
88-85-7	DINOSEB	**ND**	ug/L	0.2	0.09		
1918-02-1	PICLORAM	**ND**	ug/L	0.1	0.1		
Other							
E-14028	DCPA (ACID METABOLITES)	**ND**	ug/L	0.1	0.05		
1918-00-9	DICAMBA	**ND**	ug/L	0.1	0.05		
94-82-6	2,4 DB	**ND**	ug/L	0.8	0.28		
93-76-5	2,4,5 T	**ND**	ug/L	0.1	0.08		
25057-89-0	BENTAZON	**ND**	ug/L	0.5	0.35		
120-36-5	DICHLORPROP	**ND**	ug/L	0.3	0.11		
50594-66-6	ACIFLUORFEN	**ND**	ug/L	0.1	0.08		
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**	ug/L	0.1	0.12		

NOTES:
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Data Report

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **12-04373**
Project: Locher Road

Report Date: 4/13/12
Date Received: 3/23/12
Reviewed by:

Sample Description: L1 - Locher Rd
Lab Number: 10254
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	2.11	0.10	0.10		NTU	1.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	124.3	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	4.1	0.1	20	0.015	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	5.66	0.100	0.100	0.009	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	3/27/12	MVP	D120327A	
E-10184	**ELECTRICAL CONDUCTIVITY**	302	10	10		uS/cm	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	219	10	10		mg/L	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.10				pH Units	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	13	8.0	8.0	1.00	mg/L	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: L2 - L-2
Lab Number: 10255
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	4.61	0.10	0.10		NTU	1.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	183.2	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	6.9	0.1	20	0.015	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	17.67	0.100	0.100	0.009	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	445	10	10		uS/cm	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	318	10	10		mg/L	1.00	SM2540 C	3/30/12	mvp	tds_120327	
E-10139	**HYDROGEN ION (pH)**	6.84				pH Units	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	1.00	mg/L	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: L3 - L-3
Lab Number: 10256
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	4.34	0.10	0.10		NTU	1.00	180.1	3/23/12	KDW	TURB_120323B	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

E-11778	**HARDNESS as Calcium Carbonate**	48.7	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	1.4	0.1	20	0.015	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	1.6	0.100	0.100	0.009	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	**mg/L**	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	122	10	10		**uS/cm**	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	100	10	10		**mg/L**	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.09				**pH Units**	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	1.00	**mg/L**	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: SW1 - SW-1
Lab Number: 10257
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	66.0	1	0.10		**NTU**	10.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	34.1	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	0.8	0.1	20	0.015	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	0.43	0.100	0.100	0.009	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	**mg/L**	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	75.5	10	10		**uS/cm**	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	95	10	10		**mg/L**	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.40				**pH Units**	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.04	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	21	8.0	8.0	1.00	**mg/L**	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: MC-1
Lab Number: 10258
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	4.46	0.10	0.10		**NTU**	1.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	78.4	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	3.4	0.1	20	0.015	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	0.96	0.100	0.100	0.009	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	**mg/L**	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	187	10	10		**uS/cm**	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	136	10	10		**mg/L**	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.67				**pH Units**	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	9	8.0	8.0	1.00	**mg/L**	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: MC-2
Lab Number: 10259
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

Notes:

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D.F. - Dilution Factor

Data Report

E-10617	**TURBIDITY**	4.43	0.10	0.10		**NTU**	1.00	180.1	3/23/12	KDW	TURB_120323B
E-11778	**HARDNESS as Calcium Carbonate**	165.3	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	3/27/12	BJ	200.7-120327A
16887-00-6	**CHLORIDE**	10	0.1	20	0.015	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A
14797-55-8	**NITRATE-N**	3.61	0.100	0.100	0.009	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	**mg/L**	1.00	300.1	4/9/12	MVP	D120409A
E-10184	**ELECTRICAL CONDUCTIVITY**	476	10	10		**uS/cm**	1.00	SM2510 B	3/27/12	SRF	ec_120327
E-10173	**TOTAL DISSOLVED SOLIDS**	319	10	10		**mg/L**	1.00	SM2540 C	3/30/12		tds_120327
E-10139	**HYDROGEN ION (pH)**	7.90				**pH Units**	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323
14265-44-2	**ORTHO-PHOSPHATE**	0.24	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323
E-10117	**CHEMICAL OXYGEN DEMAND**	46	8.0	8.0	1.00	**mg/L**	1.00	SM5220 D	3/26/12	SRF	cod_120326

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D.F. - Dilution Factor

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Data Report

Client Name: Walla Walla Basin Watershed Council
810 S Main Street
Milton-Freewater, OR 97862

Reference Number: **12-04373**
Project: Locher Road

Report Date: 4/13/12
Date Received: 3/23/12
Reviewed by:

Sample Description: L1 - Locher Rd
Lab Number: 10254
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	2.11	0.10	0.10		**NTU**	1.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	124.3	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	4.1	0.1	20	0.015	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	5.66	0.100	0.100	0.009	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	**mg/L**	1.00	300.1	3/27/12	MVP	D120327A	
E-10184	**ELECTRICAL CONDUCTIVITY**	302	10	10		**uS/cm**	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	219	10	10		**mg/L**	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.10				**pH Units**	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.08	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	13	8.0	8.0	1.00	**mg/L**	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: L2 - L-2
Lab Number: 10255
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	4.61	0.10	0.10		**NTU**	1.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	183.2	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	6.9	0.1	20	0.015	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	17.67	0.100	0.100	0.009	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	**mg/L**	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	445	10	10		**uS/cm**	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	318	10	10		**mg/L**	1.00	SM2540 C	3/30/12	mvp	tds_120327	
E-10139	**HYDROGEN ION (pH)**	6.84				**pH Units**	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	1.00	**mg/L**	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: L3 - L-3
Lab Number: 10256
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	4.34	0.10	0.10		**NTU**	1.00	180.1	3/23/12	KDW	TURB_120323B	

Notes:

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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

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Data Report

E-11778	**HARDNESS as Calcium Carbonate**	48.7	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	1.4	0.1	20	0.015	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	1.6	0.100	0.100	0.009	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	122	10	10		uS/cm	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	100	10	10		mg/L	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.09				pH Units	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	ND	8.0	8.0	1.00	mg/L	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: SW1 - SW-1
Lab Number: 10257
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	66.0	1	0.10		NTU	10.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	34.1	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	0.8	0.1	20	0.015	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	0.43	0.100	0.100	0.009	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	75.5	10	10		uS/cm	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	95	10	10		mg/L	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.40				pH Units	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.04	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	21	8.0	8.0	1.00	mg/L	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: MC-1
Lab Number: 10258
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-10617	**TURBIDITY**	4.46	0.10	0.10		NTU	1.00	180.1	3/23/12	KDW	TURB_120323B	
E-11778	**HARDNESS as Calcium Carbonate**	78.4	3.30	3.30	0.034	mg CaCO3/L	1.00	200.7	3/27/12	BJ	200.7-120327A	
16887-00-6	**CHLORIDE**	3.4	0.1	20	0.015	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
14797-55-8	**NITRATE-N**	0.96	0.100	0.100	0.009	mg/L	1.00	300.0	3/23/12	BJ	I120323A	
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	mg/L	1.00	300.1	4/9/12	MVP	D120409A	
E-10184	**ELECTRICAL CONDUCTIVITY**	187	10	10		uS/cm	1.00	SM2510 B	3/27/12	SRF	ec_120327	
E-10173	**TOTAL DISSOLVED SOLIDS**	136	10	10		mg/L	1.00	SM2540 C	3/30/12		tds_120327	
E-10139	**HYDROGEN ION (pH)**	7.67				pH Units	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323	
14265-44-2	**ORTHO-PHOSPHATE**	0.06	0.01	0.01	0.0009	mg/L	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323	
E-10117	**CHEMICAL OXYGEN DEMAND**	9	8.0	8.0	1.00	mg/L	1.00	SM5220 D	3/26/12	SRF	cod_120326	

Sample Description: MC-2
Lab Number: 10259
Sample Date: 3/22/12
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

D.F. - Dilution Factor

Data Report

E-10617	**TURBIDITY**	4.43	0.10	0.10		**NTU**	1.00	180.1	3/23/12	KDW	TURB_120323B
E-11778	**HARDNESS as Calcium Carbonate**	165.3	3.30	3.30	0.034	**mg CaCO3/L**	1.00	200.7	3/27/12	BJ	200.7-120327A
16887-00-6	**CHLORIDE**	10	0.1	20	0.015	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A
14797-55-8	**NITRATE-N**	3.61	0.100	0.100	0.009	**mg/L**	1.00	300.0	3/23/12	BJ	I120323A
15541-45-4	**BROMATE**	ND	0.005	0.005	0.0019	**mg/L**	1.00	300.1	4/9/12	MVP	D120409A
E-10184	**ELECTRICAL CONDUCTIVITY**	476	10	10		**uS/cm**	1.00	SM2510 B	3/27/12	SRF	ec_120327
E-10173	**TOTAL DISSOLVED SOLIDS**	322	10	10		**mg/L**	1.00	SM2540 C	3/30/12	SRF	tds_120327
E-10139	**HYDROGEN ION (pH)**	7.90				**pH Units**	1.00	SM4500-H+ B	3/23/12	KDW	pH_120323
14265-44-2	**ORTHO-PHOSPHATE**	0.24	0.01	0.01	0.0009	**mg/L**	1.00	SM4500-P F	3/23/12	SPL	OPHOS-120323
E-10117	**CHEMICAL OXYGEN DEMAND**	46	8.0	8.0	1.00	**mg/L**	1.00	SM5220 D	3/26/12	SRF	cod_120326

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

D.F. - Dilution Factor

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 12-04373
Report Date: 04/13/12

			True			%		QC		
Batch	Analyte	Result	Value	Units	Method	Recovery	Limits*	Qualifier	Type*	Comment
200.7-120327A	HARDNESS as Calcium Carbonate	72.8	69.5	mg CaCO3/L	200.7	105	85-115		LFB	
515.4_120328	2,4 - D	0.44	0.5	ug/L	515.4	88	70-130		LFB	
	2,4,5 - TP (SILVEX)	0.51	0.5	ug/L	515.4	102	70-130			
	2,4,5 T	0.53	0.5	ug/L	515.4	106	70-130			
	ACIFLUORFEN	0.48	0.5	ug/L	515.4	96	70-130			
	DCPA (ACID METABOLITES)	0.39	0.5	ug/L	515.4	78	70-130			
	DICAMBA	0.5	0.5	ug/L	515.4	100	70-130			
	DICHLORPROP	0.6	0.5	ug/L	515.4	120	70-130			
	DINOSEB	0.6	0.5	ug/L	515.4	120	70-130			
	PENTACHLOROPHENOL	0.49	0.5	ug/L	515.4	98	70-130			
	PICLORAM	0.46	0.5	ug/L	515.4	92	70-130			
515.4_120328	2,4 - D	0.23	0.25	ug/L	515.4	92	70-130		LFB	
	2,4,5 - TP (SILVEX)	0.26	0.25	ug/L	515.4	104	70-130			
	2,4,5 T	0.27	0.25	ug/L	515.4	108	70-130			
	ACIFLUORFEN	0.24	0.25	ug/L	515.4	96	70-130			
	DCPA (ACID METABOLITES)	0.2	0.25	ug/L	515.4	80	70-130			
	DICAMBA	0.21	0.25	ug/L	515.4	84	70-130			
	DICHLORPROP	0.34	0.25	ug/L	515.4	136	70-130	HR		
	DINOSEB	0.31	0.25	ug/L	515.4	124	70-130			
	PENTACHLOROPHENOL	0.25	0.25	ug/L	515.4	100	70-130			
	PICLORAM	0.2	0.25	ug/L	515.4	80	70-130			
515.4_120328	2,4 - D	2.21	2.5	ug/L	515.4	88	70-130		LFB	
	2,4 DB	3.1	2.5	ug/L	515.4	124	70-130			
	2,4,5 - TP (SILVEX)	2.91	2.5	ug/L	515.4	116	70-130			
	2,4,5 T	2.74	2.5	ug/L	515.4	110	70-130			
	ACIFLUORFEN	2.73	2.5	ug/L	515.4	109	70-130			
	BENTAZON	2.89	2.5	ug/L	515.4	116	70-130			
	DALAPON	2.78	2.5	ug/L	515.4	111	70-130			
	DCPA (ACID METABOLITES)	2.72	2.5	ug/L	515.4	109	70-130			
	DICAMBA	2.62	2.5	ug/L	515.4	105	70-130			
	DICHLORPROP	2.89	2.5	ug/L	515.4	116	70-130			
	DINOSEB	3.19	2.5	ug/L	515.4	128	70-130			
	PENTACHLOROPHENOL	2.73	2.5	ug/L	515.4	109	70-130			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	Qualifier	QC Type*	Comment
515.4_120328	PICLORAM	3.06	2.5	ug/L	515.4	122	70-130		LFB	
525_120329	4,4-DDE	0.95	1	ug/L	525.2	95	70-130		LFB	
	ACETOCHLOR	0.92	1	ug/L	525.2	92	70-130			
	ALACHLOR	0.93	1	ug/L	525.2	93	70-130			
	ALDRIN	0.87	1	ug/L	525.2	87	70-130			
	ATRAZINE	0.98	1	ug/L	525.2	98	70-130			
	BENZO(A)PYRENE	0.85	1	ug/L	525.2	85	70-130			
	BROMACIL	0.83	1	ug/L	525.2	83	70-130			
	BUTACHLOR	0.86	1	ug/L	525.2	86	70-130			
	DI(ETHYLHEXYL)-ADIPATE	0.9	1	ug/L	525.2	90	70-130			
	DI(ETHYLHEXYL)-PHTHALATE	0.92	1	ug/L	525.2	92	70-130			
	DIELDRIN	0.94	1	ug/L	525.2	94	70-130			
	ENDRIN	0.97	1	ug/L	525.2	97	70-130			
	EPTC	0.97	1	ug/L	525.2	97	70-130			
	FLUORENE	0.99	1	ug/L	525.2	99	70-130			
	HEPTACHLOR	0.83	1	ug/L	525.2	83	70-130			
	HEPTACHLOR EPOXIDE	1.06	1	ug/L	525.2	106	70-130			
	HEXACHLOROBENZENE	1.02	1	ug/L	525.2	102	70-130			
	HEXACHLOROCYCLO-PENTADIENE	0.78	1	ug/L	525.2	78	70-130			
	LINDANE (BHC - GAMMA)	0.98	1	ug/L	525.2	98	70-130			
	METHOXYCHLOR	0.8	1	ug/L	525.2	80	70-130			
	METOLACHLOR	0.96	1	ug/L	525.2	96	70-130			
	METRIBUZIN	0.85	1	ug/L	525.2	85	70-130			
	MOLINATE	1.01	1	ug/L	525.2	101	70-130			
	PROPACHLOR	0.96	1	ug/L	525.2	96	70-130			
	SIMAZINE	0.99	1	ug/L	525.2	99	70-130			
	TERBACIL	0.87	1	ug/L	525.2	87	70-130			
531_120403	3-HYDROXYCARBOFURAN	11	10	ug/L	531.2	110	70-130		LFB	
	ALDICARB	11	10	ug/L	531.2	110	70-130			
	ALDICARB SULFONE	10	10	ug/L	531.2	100	70-130			
	ALDICARB SULFOXIDE	10	10	ug/L	531.2	100	70-130			
	CARBARYL	12	10	ug/L	531.2	120	70-130			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 12-04373
Report Date: 04/13/12

			True			%		QC		
Batch	Analyte	Result	Value	Units	Method	Recovery	Limits*	Qualifier	Type*	Comment
531_120403	CARBOFURAN	12	10	ug/L	531.2	120	70-130		LFB	
	METHIOCARB	11	10	ug/L	531.2	110	70-130			
	METHOMYL	11	10	ug/L	531.2	110	70-130			
	OXAMYL	10	10	ug/L	531.2	100	70-130			
	PROPOXUR (BAYGON)	12	10	ug/L	531.2	120	70-130			
531_120403	3-HYDROXYCARBOFURAN	4	4	ug/L	531.2	100	70-130		LFB	
	ALDICARB	4.2	4	ug/L	531.2	105	70-130			
	ALDICARB SULFONE	4	4	ug/L	531.2	100	70-130			
	ALDICARB SULFOXIDE	4.6	4	ug/L	531.2	115	70-130			
	CARBARYL	4.3	4	ug/L	531.2	108	70-130			
	CARBOFURAN	4.6	4	ug/L	531.2	115	70-130			
	METHIOCARB	3.7	4	ug/L	531.2	93	70-130			
	METHOMYL	3.9	4	ug/L	531.2	98	70-130			
	OXAMYL	4.3	4	ug/L	531.2	108	70-130			
	PROPOXUR (BAYGON)	4.2	4	ug/L	531.2	105	70-130			
cod_120326	CHEMICAL OXYGEN DEMAND	48	50	mg/L	SM5220 D	96	80-120		LFB	
	CHEMICAL OXYGEN DEMAND	51	50	mg/L	SM5220 D	102	80-120			
OPHOS-120323	ORTHO-PHOSPHATE	0.96	1.00	mg/L	SM4500-P F	96	80-120		LFB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Low Level Laboratory Fortified Blank

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	Qualifier	QC Type*	Comment
515.4_120328	2,4 - D	0.115	0.125	ug/L	515.4	92	50-150		LFBD	
	2,4,5 - TP (SILVEX)	0.143	0.125	ug/L	515.4	114	50-150			
	2,4,5 T	0.149	0.125	ug/L	515.4	119	50-150			
	ACIFLUORFEN	0.118	0.125	ug/L	515.4	94	50-150			
	DCPA (ACID METABOLITES)	0.112	0.125	ug/L	515.4	90	50-150			
	DICAMBA	0.164	0.125	ug/L	515.4	131	50-150			
	DICHLORPROP	0.155	0.125	ug/L	515.4	124	50-150			
	DINOSEB	0.154	0.125	ug/L	515.4	123	50-150			
	PENTACHLOROPHENOL	0.127	0.125	ug/L	515.4	102	50-150			
	PICLORAM	0.101	0.125	ug/L	515.4	81	50-150			
515.4_120328	2,4 DB	0.58	0.5	ug/L	515.4	116	50-150		LFBD	
	BENTAZON	0.43	0.5	ug/L	515.4	86	50-150			
	DALAPON	0.65	0.5	ug/L	515.4	130	50-150			
525_120329	4,4-DDE	0.09	0.1	ug/L	525.2	90	50-150		LFBD	
	ACETOCHLOR	0.06	0.1	ug/L	525.2	60	50-150			
	ALACHLOR	0.08	0.1	ug/L	525.2	80	50-150			
	ALDRIN	0.09	0.1	ug/L	525.2	90	50-150			
	ATRAZINE	0.11	0.1	ug/L	525.2	110	50-150			
	BENZO(A)PYRENE	0.07	0.1	ug/L	525.2	70	50-150			
	BROMACIL	0.06	0.1	ug/L	525.2	60	50-150			
	BUTACHLOR	0.08	0.1	ug/L	525.2	80	50-150			
	DI(ETHYLHEXYL)-ADIPATE	0.1	0.1	ug/L	525.2	100	50-150			
	DI(ETHYLHEXYL)-PHTHALATE	0.1	0.1	ug/L	525.2	100	50-150			
	DIELDRIN	0.09	0.1	ug/L	525.2	90	50-150			
	ENDRIN	0.12	0.1	ug/L	525.2	120	50-150			
	EPTC	0.09	0.1	ug/L	525.2	90	50-150			
	FLUORENE	0.1	0.1	ug/L	525.2	100	50-150			
	HEPTACHLOR	0.08	0.1	ug/L	525.2	80	50-150			
	HEPTACHLOR EPOXIDE	0.09	0.1	ug/L	525.2	90	50-150			
	HEXACHLOROBENZENE	0.11	0.1	ug/L	525.2	110	50-150			
	HEXACHLOROCYCLO-PENTADIENE	0.08	0.1	ug/L	525.2	80	50-150			
	LINDANE (BHC - GAMMA)	0.09	0.1	ug/L	525.2	90	50-150			
	METHOXYCHLOR	0.09	0.1	ug/L	525.2	90	50-150			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Low Level Laboratory Fortified Blank

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
525_120329	METOLACHLOR	0.07	0.1	ug/L	525.2	70	50-150		LFBD	
	METRIBUZIN	0.11	0.1	ug/L	525.2	110	50-150			
	MOLINATE	0.11	0.1	ug/L	525.2	110	50-150			
	PROPACHLOR	0.1	0.1	ug/L	525.2	100	50-150			
	SIMAZINE	0.1	0.1	ug/L	525.2	100	50-150			
	TERBACIL	0.09	0.1	ug/L	525.2	90	50-150			
531_120403	3-HYDROXYCARBOFURAN	0.9	1	ug/L	531.2	90	50-150		LFBD	
	ALDICARB	0.8	1	ug/L	531.2	80	50-150			
	ALDICARB SULFONE	1	1	ug/L	531.2	100	50-150			
	ALDICARB SULFOXIDE	0.9	1	ug/L	531.2	90	50-150			
	CARBARYL	1	1	ug/L	531.2	100	50-150			
	CARBOFURAN	1	1	ug/L	531.2	100	50-150			
	METHIOCARB	0.8	1	ug/L	531.2	80	50-150			
	METHOMYL	0.8	1	ug/L	531.2	80	50-150			
	OXAMYL	1	1	ug/L	531.2	100	50-150			
	PROPOXUR (BAYGON)	1	1	ug/L	531.2	100	50-150			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-120327A	HARDNESS as Calcium Carbonate	ND		mg CaCO3/L	200.7		10.0000		LRB	
D120327A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
D120409A	BROMATE	ND		mg/L	300.1		0.00500		LRB	
I120323A	CHLORIDE	ND		mg/L	300.0		0.10000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
OPHOS-120323	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		LRB	

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-120327A	HARDNESS as Calcium Carbonate	ND		mg CaCO3/L	200.7		0.82000		MB	
508_120329	AROCLOR 1016	ND		ug/L	508.1		0.03000		MB	
	AROCLOR 1221	ND		ug/L	508.1		0.03000			
	AROCLOR 1232	ND		ug/L	508.1		0.03000			
	AROCLOR 1242	ND		ug/L	508.1		0.03000			
	AROCLOR 1248	ND		ug/L	508.1		0.03000			
	AROCLOR 1254	ND		ug/L	508.1		0.03000			
	AROCLOR 1260	ND		ug/L	508.1		0.03000			
	PCBS (Total Aroclors)	ND		ug/L	508.1		0.03000			
515.4_120328	2,4 - D	ND		ug/L	515.4		0.03000		MB	
	2,4 DB	ND		ug/L	515.4		0.03000			
	2,4,5 - TP (SILVEX)	ND		ug/L	515.4		0.03000			
	2,4,5 T	ND		ug/L	515.4		0.03000			
	ACIFLUORFEN	ND		ug/L	515.4		0.03000			
	BENTAZON	ND		ug/L	515.4		0.06000			
	DALAPON	ND		ug/L	515.4		0.50000			
	DCPA (ACID METABOLITES)	ND		ug/L	515.4		0.03000			
	DICAMBA	ND		ug/L	515.4		0.03000			
	DICHLORPROP	ND		ug/L	515.4		0.10000			
	DINOSEB	ND		ug/L	515.4		0.06000			
	PENTACHLOROPHENOL	ND		ug/L	515.4		0.03000			
	PICLORAM	ND		ug/L	515.4		0.03000			
525_120329	4,4-DDE	ND		ug/L	525.2		0.03000		MB	
	ACETOCHLOR	ND		ug/L	525.2		0.03000			
	ALACHLOR	ND		ug/L	525.2		0.03000			
	ALDRIN	ND		ug/L	525.2		0.03000			
	ATRAZINE	ND		ug/L	525.2		0.03000			
	BENZO(A)PYRENE	ND		ug/L	525.2		0.03000			
	BROMACIL	ND		ug/L	525.2		0.03000			
	BUTACHLOR	ND		ug/L	525.2		0.03000			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	Qualifier	QC Type*	Comment
525_120329	DI(ETHYLHEXYL)-ADIPATE	ND		ug/L	525.2		0.03000		MB	
	DI(ETHYLHEXYL)-PHTHALATE	ND		ug/L	525.2		0.40000			
	DIELDRIN	ND		ug/L	525.2		0.03000			
	ENDRIN	ND		ug/L	525.2		0.03000			
	EPTC	ND		ug/L	525.2		0.03000			
	FLUORENE	ND		ug/L	525.2		0.03000			
	HEPTACHLOR	ND		ug/L	525.2		0.03000			
	HEPTACHLOR EPOXIDE	ND		ug/L	525.2		0.03000			
	HEXACHLOROBENZENE	ND		ug/L	525.2		0.03000			
	HEXACHLOROCYCLO-PENTADIENE	ND		ug/L	525.2		0.03000			
	LINDANE (BHC - GAMMA)	ND		ug/L	525.2		0.03000			
	METHOXYCHLOR	ND		ug/L	525.2		0.03000			
	METOLACHLOR	ND		ug/L	525.2		0.03000			
	METRIBUZIN	ND		ug/L	525.2		0.03000			
	MOLINATE	ND		ug/L	525.2		0.03000			
	PENTACHLOROPHENOL	ND		ug/L	525.2		0.03000			
	PROPACHLOR	ND		ug/L	525.2		0.03000			
	SIMAZINE	ND		ug/L	525.2		0.03000			
	TERBACIL	ND		ug/L	525.2		0.03000			
531_120403	3-HYDROXYCARBOFURAN	ND		ug/L	531.2		0.50000		MB	
	ALDICARB	ND		ug/L	531.2		0.25000			
	ALDICARB SULFONE	ND		ug/L	531.2		0.40000			
	ALDICARB SULFOXIDE	ND		ug/L	531.2		0.25000			
	CARBARYL	ND		ug/L	531.2		0.50000			
	CARBOFURAN	ND		ug/L	531.2		0.45000			
	METHIOCARB	ND		ug/L	531.2		1.00000			
	METHOMYL	ND		ug/L	531.2		0.25000			
	OXAMYL	ND		ug/L	531.2		1.00000			
	PROPOXUR (BAYGON)	ND		ug/L	531.2		0.25000			
cod_120326	CHEMICAL OXYGEN DEMAND	ND		mg/L	SM5220 D		4.00000		MB	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
ec_120327	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_120327	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
ec_120327	ELECTRICAL CONDUCTIVITY	ND		uS/cm	SM2510 B		2.50000		MB	
OPHOS-120323	ORTHO-PHOSPHATE	ND		mg/L	SM4500-P F		0.01000		MB	
tds_120327	TOTAL DISSOLVED SOLIDS	ND		mg/L	SM2540 C		2.50000		MB	
TURB_120323B	TURBIDITY	ND		NTU	180.1		0.02000		MB	

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MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-120327A	HARDNESS as Calcium Carbonate	134.3	132.3	mg CaCO3/L	200.7	102	85-115		QCS	
cod_120326	CHEMICAL OXYGEN DEMAND	88	88	mg/L	SM5220 D	100	80-120		QCS	
D120327A	BROMATE	0.0425	0.0403	mg/L	300.1	105	75-125		QCS	
D120409A	BROMATE	0.0397	0.0403	mg/L	300.1	99	75-125		QCS	
ec_120327	ELECTRICAL CONDUCTIVITY	146.9	146.9	uS/cm	SM2510 B	100	80-120		QCS	
ec_120327	ELECTRICAL CONDUCTIVITY	146.9	146.9	uS/cm	SM2510 B	100	80-120		QCS	
ec_120327	ELECTRICAL CONDUCTIVITY	146.3	146.9	uS/cm	SM2510 B	100	80-120		QCS	
I120323A	CHLORIDE	29.4	30.0	mg/L	300.0	98	80-120		QCS	
	NITRATE-N	2.46	2.50	mg/L	300.0	98	80-120			
OPHOS-120323	ORTHO-PHOSPHATE	0.44	0.49	mg/L	SM4500-P F	90	80-120		QCS	
pH_120323	HYDROGEN ION (pH)	7.99	8.00	pH Units	SM4500-H+ B	100	80-120		QCS	
	HYDROGEN ION (pH)	8.03	8.00	pH Units	SM4500-H+ B	100	80-120			
tds_120327	TOTAL DISSOLVED SOLIDS	502	500	mg/L	SM2540 C	100	80-120		QCS	
	TOTAL DISSOLVED SOLIDS	508	500	mg/L	SM2540 C	102	80-120			
TURB_120323B	TURBIDITY	0.93	1.00	NTU	180.1	93	70-130		QCS	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 12-04373
Report Date: 04/13/12

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

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QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

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SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 12-04373
Report Date: 4/13/2012

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-120327A										
	10145	HARDNESS as Calcium Carbonate	117.5	114.9	mg/L	**2.2**	0-20		DUP	
	10295	HARDNESS as Calcium Carbonate	698.3	674.4	mg/L	**3.5**	0-20		DUP	
	10299	HARDNESS as Calcium Carbonate	71.1	71.1	mg/L	**0.0**	0-20		DUP	
515.4_120328										
	10254	DCPA (ACID METABOLITES)	0.21	0.24	ug/L	**13.3**	0-30		DUP	
	10255	DICAMBA	0.22	0.19	ug/L	**14.6**	0-30		DUP	
cod_120326										
	10283	CHEMICAL OXYGEN DEMAND	54	51	mg/L	**5.7**	0-45		DUP	
D120327A										
	8838	BROMATE	0.0056	0.0057	mg/L	**1.8**	0-20		DUP	
D120409A										
ec_120327										
	10300	ELECTRICAL CONDUCTIVITY	1245	1252	uS/cm	**0.6**	0-45		DUP	
	10461	ELECTRICAL CONDUCTIVITY	1220	1264	uS/cm	**3.5**	0-45		DUP	
I120323A										
	10241	NITRATE-N	0.17	0.2	mg/L	**16.2**	0-45		DUP	
	10241	CHLORIDE	98	98	mg/L	**0.0**	0-45		DUP	
	10258	NITRATE-N	0.96	0.93	mg/L	**3.2**	0-45		DUP	
	10258	CHLORIDE	3.4	3.5	mg/L	**2.9**	0-45		DUP	
	10299	NITRATE-N	0.68	0.69	mg/L	**1.5**	0-45		DUP	
	10299	CHLORIDE	22	22	mg/L	**0.0**	0-45		DUP	
OPHOS-120323										
	10259	ORTHO-PHOSPHATE	0.24	0.24	mg/L	**0.0**	0-50		DUP	
pH_120323										
	10295	HYDROGEN ION (pH)	7.32	7.33	pH Units	**0.1**	0-45		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

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Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
tds_120327										
	10254	TOTAL DISSOLVED SOLIDS	219	213	mg/L	**2.8**	0-45		DUP	
	10390	TOTAL DISSOLVED SOLIDS	125	123.	mg/L	**1.6**	0-45		DUP	
TURB_120323B										

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Matrix Spike

				Spike	Duplicate Spike	Spike		Percent Recovery					QC		
Batch	Sample	Analyte	Result	Result	Result	Conc	Units	MS	MSD	Limits*	%RPD	Limits*	Qualifier	Type	Comments
200.7-120327A															
	10145	HARDNESS as Calcium Carbonate	117.5	188.5	185.7	69.5	mg/L	**102**	**98**	70-130	**4.0**	0-60		LFM	
	10295	HARDNESS as Calcium Carbonate	698.3	732.4	735.6	69.5	mg/L	**49**	**54**	70-130	**9.0**	0-60	IS	LFM	
	10299	HARDNESS as Calcium Carbonate	71.1	144.9	144.4	69.5	mg/L	**106**	**105**	70-130	**0.7**	0-60		LFM	
515.4_120328															
	10092	2,4 - D	ND	2.15	2.26	2.5	ug/L	**86**	**90**	70-130	**5.0**	0-30		LFM	
	10092	2,4,5 - TP (SILVEX)	ND	2.93	2.98	2.5	ug/L	**117**	**119**	70-130	**1.7**	0-30		LFM	
	10092	PENTACHLOROPHENOL	ND	2.93	2.93	2.5	ug/L	**117**	**117**	70-130	**0.0**	0-30		LFM	
	10092	DALAPON	ND	2.62	2.29	2.5	ug/L	**105**	**92**	70-130	**13.4**	0-30		LFM	
	10092	DINOSEB	ND	3.27	3.32	2.5	ug/L	**131**	**133**	70-130	**1.5**	0-30	M2	LFM	
	10092	PICLORAM	ND	3.03	3.18	2.5	ug/L	**121**	**127**	70-130	**4.8**	0-30		LFM	
	10092	DICAMBA	ND	2.64	2.72	2.5	ug/L	**106**	**109**	70-130	**3.0**	0-30		LFM	
	10092	DCPA (ACID METABOLITES)	ND	3	2.77	2.5	ug/L	**120**	**111**	70-130	**8.0**	0-30		LFM	
	10092	2,4 DB	ND	3.10	3.11	2.5	ug/L	**124**	**124**	70-130	**0.3**	0-30		LFM	
	10092	2,4,5 T	ND	2.77	2.76	2.5	ug/L	**111**	**110**	70-130	**0.4**	0-30		LFM	
	10092	BENTAZON	ND	3.11	3.22	2.5	ug/L	**124**	**129**	70-130	**3.5**	0-30		LFM	
	10092	DICHLORPROP	ND	2.71	2.7	2.5	ug/L	**108**	**108**	70-130	**0.4**	0-30		LFM	
	10092	ACIFLUORFEN	ND	2.78	2.91	2.5	ug/L	**111**	**116**	70-130	**4.6**	0-30		LFM	
525_120329															
	10254	ENDRIN	ND	1.09		1	ug/L	**109**	**NA**	70-130	**NA**	0-60		LFM	
	10254	LINDANE (BHC - GAMMA)	ND	1.05		1	ug/L	**105**	**NA**	70-130	**NA**	0-60		LFM	
	10254	METHOXYCHLOR	ND	1.09		1	ug/L	**109**	**NA**	70-130	**NA**	0-60		LFM	
	10254	ALACHLOR	ND	1.02		1	ug/L	**102**	**NA**	70-130	**NA**	0-60		LFM	
	10254	ATRAZINE	ND	1.01		1	ug/L	**101**	**NA**	70-130	**NA**	0-60		LFM	
	10254	BENZO(A)PYRENE	ND	0.93		1	ug/L	**93**	**NA**	70-130	**NA**	0-60		LFM	
	10254	DI(ETHYLHEXYL)-ADIPATE	ND	1.07		1	ug/L	**107**	**NA**	70-130	**NA**	0-60		LFM	
	10254	DI(ETHYLHEXYL)-PHTHALATE	ND	1.18		1	ug/L	**118**	**NA**	70-130	**NA**	0-60		LFM	
	10254	HEPTACHLOR	ND	0.94		1	ug/L	**94**	**NA**	70-130	**NA**	0-60		LFM	
	10254	HEPTACHLOR EPOXIDE	ND	1.04		1	ug/L	**104**	**NA**	70-130	**NA**	0-50		LFM	
	10254	HEXACHLOROBENZENE	ND	1.06		1	ug/L	**106**	**NA**	70-130	**NA**	0-60		LFM	
	10254	HEXACHLOROCYCLO-PENTADIENE	ND	0.93		1	ug/L	**93**	**NA**	70-130	**NA**	0-60		LFM	
	10254	SIMAZINE	ND	0.99		1	ug/L	**99**	**NA**	70-130	**NA**	0-60		LFM	
	10254	PENTACHLOROPHENOL	ND	4.5		4	ug/L	**113**	**NA**	70-130	**NA**	0-50		LFM	
	10254	ALDRIN	ND	0.98		1	ug/L	**98**	**NA**	70-130	**NA**	0-60		LFM	

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Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
	10254	BUTACHLOR	ND	1.11		1	ug/L	**111**	**NA**	70-130	**NA**	0-60		LFM	
	10254	DIELDRIN	ND	1.09		1	ug/L	**109**	**NA**	70-130	**NA**	0-60		LFM	
	10254	METOLACHLOR	ND	1.05		1	ug/L	**105**	**NA**	70-130	**NA**	0-60		LFM	
	10254	METRIBUZIN	ND	1.04		1	ug/L	**104**	**NA**	70-130	**NA**	0-60		LFM	
	10254	PROPACHLOR	ND	1.06		1	ug/L	**106**	**NA**	70-130	**NA**	0-60		LFM	
	10254	4,4-DDE	ND	1.02		1	ug/L	**102**	**NA**	70-130	**NA**	0-60		LFM	
	10254	ACETOCHLOR	ND	1.02		1	ug/L	**102**	**NA**	70-130	**NA**	0-60		LFM	
	10254	EPTC	ND	1.03		1	ug/L	**103**	**NA**	70-130	**NA**	0-60		LFM	
	10254	MOLINATE	ND	1.08		1	ug/L	**108**	**NA**	70-130	**NA**	0-60		LFM	
	10254	TERBACIL	ND	1.06		1	ug/L	**106**	**NA**	70-130	**NA**	0-60		LFM	
	10254	BROMACIL	0.06	1.18		1	ug/L	**112**	**NA**	70-130	**NA**	0-60		LFM	
	10254	FLUORENE	ND	1.05		1	ug/L	**105**	**NA**	70-130	**NA**	0-60		LFM	
531_120403															
	9081	OXAMYL	ND	12	11	10	ug/L	**120**	**110**	70-130	**8.7**	0-50		LFM	
	9081	CARBOFURAN	ND	12	11	10	ug/L	**120**	**110**	70-130	**8.7**	0-50		LFM	
	9081	ALDICARB SULFOXIDE	ND	11	11	10	ug/L	**110**	**110**	70-130	**0.0**	0-50		LFM	
	9081	ALDICARB SULFONE	ND	11	11	10	ug/L	**110**	**110**	70-130	**0.0**	0-50		LFM	
	9081	METHOMYL	ND	11	10	10	ug/L	**110**	**100**	70-130	**9.5**	0-50		LFM	
	9081	3-HYDROXYCARBOFURAN	ND	11	11	10	ug/L	**110**	**110**	70-130	**0.0**	0-50		LFM	
	9081	ALDICARB	ND	10	10	10	ug/L	**100**	**100**	70-130	**0.0**	0-50		LFM	
	9081	CARBARYL	ND	12	11	10	ug/L	**120**	**110**	70-130	**8.7**	0-50		LFM	
	9081	PROPOXUR (BAYGON)	ND	11	11	10	ug/L	**110**	**110**	70-130	**0.0**	0-50		LFM	
	9081	METHIOCARB	ND	11	12	10	ug/L	**110**	**120**	70-130	**8.7**	0-50		LFM	
	10678	OXAMYL	ND	36	34	30	mg/L	**120**	**113**	70-130	**5.7**	0-50		LFM	
	10678	CARBOFURAN	ND	34	34	30	mg/L	**113**	**113**	70-130	**0.0**	0-50		LFM	
	10678	ALDICARB SULFOXIDE	ND	32	32	30	mg/L	**107**	**107**	70-130	**0.0**	0-50		LFM	
	10678	ALDICARB SULFONE	ND	32	33	30	mg/L	**107**	**110**	70-130	**3.1**	0-50		LFM	
	10678	METHOMYL	ND	32	32	30	ug/L	**107**	**107**	70-130	**0.0**	0-50		LFM	
	10678	3-HYDROXYCARBOFURAN	ND	32	33	30	ug/L	**107**	**110**	70-130	**3.1**	0-50		LFM	
	10678	ALDICARB	ND	31	31	30	mg/L	**103**	**103**	70-130	**0.0**	0-50		LFM	
	10678	CARBARYL	ND	33	34	30	ug/L	**110**	**113**	70-130	**3.0**	0-50		LFM	
	10678	PROPOXUR (BAYGON)	ND	33	33	30	ug/L	**110**	**110**	70-130	**0.0**	0-50		LFM	
	10678	METHIOCARB	ND	34	33	30	ug/L	**113**	**110**	70-130	**3.0**	0-50		LFM	
cod_120326															

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Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
	10283	CHEMICAL OXYGEN DEMAND	54	95	98	50	mg/L	**82**	**88**	80-120	**7.1**	0-60		LFM	
D120327A															
	8838	BROMATE	0.0056	0.014		0.010	mg/L	**84**	**NA**	75-125	**NA**	0-20		LFM	
	9504	BROMATE	ND	0.016		0.015	mg/L	**107**	**NA**	75-125	**NA**	0-20		LFM	
	10248	BROMATE	ND	0.0108		0.010	mg/L	**108**	**NA**	75-125	**NA**	0-20		LFM	
D120409A															
	10255	BROMATE	ND	0.0094		0.010	mg/L	**94**	**NA**	75-125	**NA**	0-20		LFM	
	10818	BROMATE	ND	0.011		0.010	mg/L	**110**	**NA**	75-125	**NA**	0-20		LFM	
	11713	BROMATE	ND	0.010		0.010	mg/L	**100**	**NA**	75-125	**NA**	0-20		LFM	
I120323A															
	10241	NITRATE-N	0.17	1.17		1.00	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	
	10258	CHLORIDE	3.4	22.3		20.00	mg/L	**95**	**NA**	80-120	**NA**	0-60		LFM	
	10299	NITRATE-N	0.68	2.03		1.00	mg/L	**135**	**NA**	80-120	**NA**	0-60	IM	LFM	Chlorinated
	10299	CHLORIDE	22	23		1.00	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	
OPHOS-120323															
	10259	ORTHO-PHOSPHATE	0.24	1.23	1.23	1.00	mg/L	**99**	**99**	70-130	**0.0**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Qualifier Definitions

Reference Number: 12-04373
Report Date: 04/13/12

Qualifier	Definition
HR	High QCS recovery due to increased detector response No sample dectections, therefore, no further action taken for this analysis set.
IM	Matrix induced bias assumed
IS	The ratio of the spike concentration to sample background was too low to meet performance criteria
J	Indicates an estimated concentration. This occurs when an analyte concentration is below the calibration curve but is above the method detection limit.
M2	Matrix bias indicated, the LFB is within acceptance limits.
S6	Due to high sample dilution the surrogate could not be detected.

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Page______ of______

15775

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

Report to: Walla Walla Basin Watershed Cour
Ship Address: 810 S Main Street
City: Milton-Freew St: OR Zip: 97862
Attn: Troy Baker
Phone: 541.938-2170 FAX:
Email: troy.baker@wwbwc.org
Project Locher Road

Bill to: ~~Wendy Harris~~ Walla Walla Basin Watershed Council
Address: 810 S Main
City: Milton-Freewater St: OR Zip: 97862
Phone: FAX:
P.O.#: Attn:
☐ Visa ☐ M/C ☐ A/E Expires /
Card#:

For Lab Use Only
Ref # 12-04373

Check Regulatory Program
☐ Safe Drinking Water Act
☐ Clean Water Act
☐ RCRA / CERCLA
☐ Other

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Instructions
1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

CO015775

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	515.4	525/full WA reg	531	Bro3,Cl,Ec,NO3,O-Phos,pH,TDS,Turb	COD	Hardness			Number of Containers	Special Instructions Conditions on Receipt
1	L-1	Locher Rd 1		GW	3/22/12	8:30	☒	☒	☒	☒	☒	☒	☐	☐	7	
2	L-2	L-2		GW	3/22/12	9:00	☒	☒	☒	☒	☒	☒	☐	☐	7	Notes
3	L-3	L-3		GW	3/22/12	9:45	☒	☒	☒	☒	☒	☒	☐	☐	7	
4	SW-1	SW-1		SW	3/22/12	10:00	☒ OV	☒ OV	☒ OV	☒	☒	☒	☐	☐	3	(Rec'd 515, 525 & 531)
5	MC-1	MC-1		SW	3/22/12	10:10	☐	☐	☐	☒	☒	☒	☐	☐	3	
6	MC-2	MC-2		SW	3/22/12	10:20	☐	☐	☐	☒	☒	☒	☐	☐	3	
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: T. Baker Phone: 541-938-2170 FAX: Email: troy.baker@wwbwc.org 30 Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **SW** - surface water **WW** - waste water **OL** - oil
DW - drinking water **GW** - Ground water **S** - soil Other______

Relinquished by	Date	Time	Received by	Date	Time
T. Baker	3/22/12	11:30			
			Josh Arrington	3.23.12	8:45

	Yes	No	N/A
Custody seals intact UPS	☐	☐	☒
Sample temp 1 C satisfactory	☒	☐	☐
Samples received intact	☒	☐	
Chain of custody & labels agree	☒	☐	

FORM: COC 01-06-2009

Water Analysis Report

Walla Walla Regional
Water Testing Services

714 So. College Avenue
College Place, WA 99324
Email : info@wallawatr.com

Phone: 509-526-9287
Fax: 509-526-5272

Customer Name: **Walla Walla Basin Water Shed Council**
Address: **810 S Main P.O.Box 68**
City: **Milton Freewater**
State: **OR** Zip: 97862

Sample Location: **City Well**
Date Sampled: 7/10/2012
Sampled By: **Troy Baker**
Lab #: 209-01250

Analytes	Results	Units	SRL	Trigger	MCL	Lab	Method	Analyzed
pH	7.58					dm	SM-4500 H	07/10/12
Conductivity	257.0	µohms/cm	10	700	700	dm	SM-2510	07/10/12
Turbidity **	194	FAU*	0.10	1.0	1.0	dm	SM-2130	07/10/12
Nitrites	0.70	mg/L	0.50	0.5	1.0	dm	SM-4500 B	07/10/12
Nitrates	4.40	mg/L	0.50	5	10	jl	SM-4500 D	07/11/12
Total Dissolved Solids	362.0	mg/L				dm	SM-2540 C	07/10/12
Total Hardness	116	mg/L	10			dm	SM-2340	07/10/12
Chloride	12.60	mg/L	20	250	250	dm	SM-4500 CI-D	07/10/12
Orthophosphate	2.66	mg/L				dm	SM-4500 P	07/10/12
COD (Total)	ND	mg/L				cl	SM-5200 D	07/13/12
Presence / Absence	TC					jl	SM-9221 D	07/10/12
MPN / ECOLI	< 1	CFU'S/100mL				jl	SM-9221 C	07/10/12

** FAU -Formazin Attenuation Units = NTU Nephelometric Turbidity Units (Screening test only NOT certified)

ND = Non Detect

mg/L= Milligrams per Liter

Jeanette E. Lightfoot, Laboratory Supervisor:

Date: Wednesday, July 18, 2012

Water Analysis Report

Walla Walla Regional
Water Testing Services

714 So. College Avenue
College Place, WA 99324
Email : info@wallawatr.com

Phone: 509-526-9287
Fax: 509-526-5272

Customer Name: **Walla Walla Basin Water Shed Council**
Address: **810 S Main P.O.Box 68**
City: **Milton Freewater**
State: **OR** Zip: **97862**

Sample Location: GW-117
Date Sampled: 7/10/2012
Sampled By: **Troy Baker**
Lab #: 209-01245

Analytes	Results	Units	SRL	Trigger	MCL	Lab	Method	Analyzed
pH	7.16					dm	SM-4500 H	07/10/12
Conductivity	113.7	µohms/cm	10	700	700	dm	SM-2510	07/10/12
Turbidity **	31	FAU*	0.10	1.0	1.0	dm	SM-2130	07/10/12
Nitrites	< 0.2	mg/L	0.50	0.5	1.0	dm	SM-4500 B	07/10/12
Nitrates	0.90	mg/L	0.50	5	10	jl	SM-4500 D	07/11/12
Total Dissolved Solids	118.0	mg/L				dm	SM-2540 C	07/10/12
Total Hardness	42	mg/L	10			dm	SM-2340	07/10/12
Chloride	1.61	mg/L	20	250	250	dm	SM-4500 CI-D	07/10/12
Orthophosphate	0.9	mg/L				dm	SM-4500 P	07/10/12
COD (Total)	3	mg/L				cl	SM-5200 D	07/13/12
Presence / Absence	TC					jl	SM-9221 D	07/10/12
MPN / ECOLI	< 1	CFU'S/100mL				jl	SM-9221 C	07/10/12

** FAU -Formazin Attenuation Units = NTU Nephelometric Turbidity Units (Screening test only NOT certified)

ND = Non Detect

mg/L= Milligrams per Liter

Jeanette E. Lightfoot, Laboratory Supervisor: Jeanette E. Lightfoot

Date: Wednesday, July 18, 2012

Water Analysis Report

Walla Walla Regional Water Testing Services

714 So. College Avenue
College Place, WA 99324
Email : info@wallawatr.com

Phone: 509-526-9287
Fax: 509-526-5272

Customer Name: **Walla Walla Basin Water Shed Council**
Address: **810 S Main P.O.Box 68**
City: **Milton Freewater**
State: **OR** Zip: **97862**

Sample Location: **GW-119**
Date Sampled: **7/10/2012**
Sampled By: **Troy Baker**
Lab #: **209-01246**

Analytes	Results	Units	SRL	Trigger	MCL	Lab	Method	Analyzed
pH	7.24					dm	SM-4500 H	07/10/12
Conductivity	391.0	µohms/cm	10	700	700	dm	SM-2510	07/10/12
Turbidity **	10	FAU*	0.10	1.0	1.0	dm	SM-2130	07/10/12
Nitrites	< 0.2	mg/L	0.50	0.5	1.0	dm	SM-4500 B	07/10/12
Nitrates	6.80	mg/L	0.50	5	10	jl	SM-4500 D	07/11/12
Total Dissolved Solids	266.0	mg/L				dm	SM-2540 C	07/10/12
Total Hardness	137	mg/L	10			dm	SM-2340	07/10/12
Chloride	5.61	mg/L	20	250	250	dm	SM-4500 CI-D	07/10/12
Orthophosphate	0.93	mg/L				dm	SM-4500 P	07/10/12
COD (Total)	ND	mg/L				cl	SM-5200 D	07/13/12
Presence / Absence	TC					jl	SM-9221 D	07/10/12
MPN / ECOLI	< 1	CFU'S/100mL				jl	SM-9221 C	07/10/12

** FAU -Formazin Attenuation Units = NTU Nephelometric Turbidity Units (Screening test only NOT certified)

ND = Non Detect

mg/L= Milligrams per Liter

Jeanette E. Lightfoot, Laboratory Supervisor:

Date: Wednesday, July 18, 2012

Water Analysis Report

Walla Walla Regional
Water Testing Services

714 So. College Avenue
College Place, WA 99324
Email : info@wallawatr.com

Phone: 509-526-9287
Fax: 509-526-5272

Customer Name: **Walla Walla Basin Water Shed Council**
Address: **810 S Main P.O.Box 68**
City: **Milton Freewater**
State: **OR** Zip: 97862

Sample Location: L-1
Date Sampled: 7/10/2012
Sampled By: **Troy Baker**
Lab #: 209-01249

Analytes	Results	Units	SRL	Trigger	MCL	Lab	Method	Analyzed
pH	7.28					dm	SM-4500 H	07/10/12
Conductivity	361.0	µohms/cm	10	700	700	dm	SM-2510	07/10/12
Turbidity **	1	FAU*	0.10	1.0	1.0	dm	SM-2130	07/10/12
Nitrites	< 0.2	mg/L	0.50	0.5	1.0	dm	SM-4500 B	07/10/12
Nitrates	7.30	mg/L	0.50	5	10	jl	SM-4500 D	07/11/12
Total Dissolved Solids	306.0	mg/L				dm	SM-2540 C	07/10/12
Total Hardness	125	mg/L	10			dm	SM-2340	07/10/12
Chloride	8.43	mg/L	20	250	250	dm	SM-4500 CI-D	07/10/12
Orthophosphate	0.82	mg/L				dm	SM-4500 P	07/10/12
COD (Total)	5	mg/L				cl	SM-5200 D	07/13/12
Presence / Absence	TC					jl	SM-9221 D	07/10/12
MPN / ECOLI	< 1	CFU'S/100mL				jl	SM-9221 C	07/10/12

** FAU -Formazin Attenuation Units = NTU Nephelometric Turbidity Units (Screening test only NOT certified)

ND = Non Detect

mg/L= Milligrams per Liter

Jeanette E. Lightfoot, Laboratory Supervisor:

Date: Wednesday, July 18, 2012

Water Analysis Report

Walla Walla Regional Water Testing Services

714 So. College Avenue
College Place, WA 99324
Email : info@wallawatr.com

Phone: 509-526-9287
Fax: 509-526-5272

Customer Name: **Walla Walla Basin Water Shed Council**
Address: **810 S Main P.O.Box 68**
City: **Milton Freewater**
State: **OR** Zip: **97862**

Sample Location: **L-2**
Date Sampled: **7/10/2012**
Sampled By: **Troy Baker**
Lab #: **209-01248**

Analytes	Results	Units	SRL	Trigger	MCL	Lab	Method	Analyzed
pH	7.22					dm	SM-4500 H	07/10/12
Conductivity	333.0	µohms/cm	10	700	700	dm	SM-2510	07/10/12
Turbidity **	3	FAU*	0.10	1.0	1.0	dm	SM-2130	07/10/12
Nitrites	< 0.2	mg/L	0.50	0.5	1.0	dm	SM-4500 B	07/10/12
Nitrates	9.60	mg/L	0.50	5	10	jl	SM-4500 D	07/11/12
Total Dissolved Solids	260.0	mg/L				dm	SM-2540 C	07/10/12
Total Hardness	123	mg/L	10			dm	SM-2340	07/10/12
Chloride	7.20	mg/L	20	250	250	dm	SM-4500 CI-D	07/10/12
Orthophosphate	0.9	mg/L				dm	SM-4500 P	07/10/12
COD (Total)	ND	mg/L				cl	SM-5200 D	07/13/12
Presence / Absence	TC					jl	SM-9221 D	07/10/12
MPN / ECOLI	< 1	CFU'S/100mL				jl	SM-9221 C	07/10/12

** FAU -Formazin Attenuation Units = NTU Nephelometric Turbidity Units (Screening test only NOT certified)

ND = Non Detect

mg/L= Milligrams per Liter

Jeanette E. Lightfoot, Laboratory Supervisor: Jeanette E. Lightfoot

Date: Wednesday, July 18, 2012

Water Analysis Report

Walla Walla Regional Water Testing Services

714 So. College Avenue
College Place, WA 99324
Email : info@wallawatr.com

Phone: 509-526-9287
Fax: 509-526-5272

Customer Name:	**Walla Walla Basin Water Shed Council**	Sample Location:	L-3
Address:	**810 S Main P.O.Box 68**	Date Sampled:	7/10/2012
City:	**Milton Freewater**	Sampled By:	**Troy Baker**
State:	**OR** Zip: 97862	Lab #:	209-01247

Analytes	Results	Units	SRL	Trigger	MCL	Lab	Method	Analyzed
pH	7.25					dm	SM-4500 H	07/10/12
Conductivity	143.5	μohms/cm	10	700	700	dm	SM-2510	07/10/12
Turbidity **	2	FAU*	0.10	1.0	1.0	dm	SM-2130	07/10/12
Nitrites	< 0.2	mg/L	0.50	0.5	1.0	dm	SM-4500 B	07/10/12
Nitrates	1.70	mg/L	0.50	5	10	jl	SM-4500 D	07/11/12
Total Dissolved Solids	138.0	mg/L				dm	SM-2540 C	07/10/12
Total Hardness	45	mg/L	10			dm	SM-2340	07/10/12
Chloride	3.11	mg/L	20	250	250	dm	SM-4500 CI-D	07/10/12
Orthophosphate	0.86	mg/L				dm	SM-4500 P	07/10/12
COD (Total)	2	mg/L				cl	SM-5200 D	07/13/12
Presence / Absence	TC					jl	SM-9221 D	07/10/12
MPN / ECOLI	< 1	CFU'S/100mL				jl	SM-9221 C	07/10/12

** FAU -Formazin Attenuation Units = NTU Nephelometric Turbidity Units (Screening test only NOT certified)

ND = Non Detect

mg/L= Milligrams per Liter

Jeanette E. Lightfoot, Laboratory Supervisor:

Date: Wednesday, July 18, 2012

LOCHER ROAD – 2012-2013

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

June 14, 2013

Mr. Steven Patten
Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

RE: 13-08278 - Water Quality

Dear Mr. Steven Patten,

Your project: Water Quality, was received on Wednesday May 15, 2013.
All samples were analyzed within the accepted holding times, were appropriately preserved and were analyzed according to approved analytical protocols. The quality control data was within laboratory acceptance limits, unless specified in the QA reports.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report
QC Reports
Chain of Custody

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Data Report

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Report Date: 6/14/13
Date Received: 5/15/13
Reviewed by:

Sample Description: GW-70 - Locher Road Recharge
Sample Date: 5/14/13
Lab Number: 19125
Sample Comment:
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
16887-00-6	**CHLORIDE**	7	0.1	0.1	0.012	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
14808-79-8	**SULFATE**	12	0.2	1	0.04	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	mg/L	1.00	245.1	5/24/13	MWK	245.1_130524	
NA	**BICARBONATE**	161	1.00	1.00		mg CaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
NA	**CARBONATE**	ND	1.00	1.00		mgCaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
E-10617	**TURBIDITY**	0.64	0.10	0.10		NTU	1.00	180.1	5/15/13	CNH	turb_130515	
14797-55-8	**NITRATE-N**	7.78	0.100	0.100	0.011	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
NA	**CORROSIVITY**	-1.11				SI	1.00	SM203	5/29/13	mvp	COR_130529	
E-11734	**ODOR**	2.825	1	1	1	TON	1.00	SM2150	5/15/13	MWK	ODOR_130515	Temperature: 42.5
E-14506	**ALKALINITY**	161	1.00	1.00		mg CaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	279	10	10		mg/L	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
E-10139	**HYDROGEN ION (pH)**	6.84				pH Units	1.00	SM4500-H+ B	5/15/13	SRF	pH_130515	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	mg/L	1.00	SM5540 C	5/16/13	EB	AMTEST_130516	Analyzed by Amtest
16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
E-11712	**COLOR**	ND	5	5		Color Units	1.00	SM2120 B	5/16/13	CNH	COLOR_130516	pH:7
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	279	10	10		mg/L	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
7439-89-6	**IRON**	ND	0.03	0.03	0.004	mg/L	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
7440-39-3	**BARIUM**	0.044	0.00025	0.0002		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-50-8	**COPPER**	0.0009	0.0005	0.0005		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7439-92-1	**LEAD**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7439-96-5	**MANGANESE**	0.004	0.001	0.001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7782-49-2	**SELENIUM**	ND	0.001	0.001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-22-4	**SILVER**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-66-6	**ZINC**	ND	0.0025	0.0025		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-70-2	**CALCIUM**	39.2	0.5	0.5	0.017	mg/L	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
7723-14-0	**TOTAL PHOSPHORUS**	0.076	0.010	0.010	0.0061	mg/L	1.00	SM4500-P F/SM450	5/17/13	SPL	TPHOS-130517	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

Sample Description: GW-71 - Locher Road Recharge
Lab Number: 19126 Sample Comment:
Sample Date: 5/14/13
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
16887-00-6	**CHLORIDE**	5.4	0.1	0.1	0.012	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
14808-79-8	**SULFATE**	12	0.2	1	0.04	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	mg/L	1.00	245.1	5/24/13	MWK	245.1_130524	
NA	**BICARBONATE**	103	1.00	1.00		mg CaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
NA	**CARBONATE**	ND	1.00	1.00		mgCaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
E-10617	**TURBIDITY**	0.39	0.10	0.10		NTU	1.00	180.1	5/15/13	CNH	turb_130515	
16984-48-8	**FLUORIDE**	0.1	0.1	0.1	0.004	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
14797-55-8	**NITRATE-N**	4.24	0.100	0.100	0.011	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
NA	**CORROSIVITY**	-1.46				SI	1.00	SM203	5/29/13	mvp	COR_130529	
E-11734	**ODOR**	ND	1	1	1	TON	1.00	SM2150	5/15/13	MWK	ODOR_130515	Temperature: 42.5
E-14506	**ALKALINITY**	103	1.00	1.00		mg CaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	205	10	10		mg/L	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
E-10139	**HYDROGEN ION (pH)**	6.86				pH Units	1.00	SM4500-H+ B	5/15/13	SRF	pH_130515	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	mg/L	1.00	SM5540 C	5/16/13	EB	AMTEST_130516	Analyzed by Amtest
E-11712	**COLOR**	ND	5	5		Color Units	1.00	SM2120 B	5/16/13	CNH	COLOR_130516	pH:7
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	205	10	10		mg/L	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
7439-89-6	**IRON**	ND	0.03	0.03	0.004	mg/L	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
7440-39-3	**BARIUM**	0.031	0.00025	0.0002		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-50-8	**COPPER**	0.0009	0.0005	0.0005		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7439-92-1	**LEAD**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7439-96-5	**MANGANESE**	ND	0.001	0.001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7782-49-2	**SELENIUM**	ND	0.005	0.005		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-22-4	**SILVER**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-66-6	**ZINC**	ND	0.0025	0.0025		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-70-2	**CALCIUM**	25.4	0.5	0.5	0.017	mg/L	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
7723-14-0	**TOTAL PHOSPHORUS**	0.075	0.010	0.010	0.0061	mg/L	1.00	SM4500-P F/SM450	5/17/13	SPL	TPHOS-130517	

Sample Description: GW-72 - Locher Road Recharge
Lab Number: 19127 Sample Comment:
Sample Date: 5/14/13
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
16887-00-6	**CHLORIDE**	1	0.1	0.1	0.012	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
14808-79-8	**SULFATE**	2.5	0.2	1	0.04	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	mg/L	1.00	245.1	5/24/13	MWK	245.1_130524	
NA	**BICARBONATE**	44.7	1.00	1.00		mg CaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
NA	**CARBONATE**	ND	1.00	1.00		mgCaCO3/L	1.00	SM2320 B	5/20/13	SPL	ALK_130520	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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D.F. - Dilution Factor

Data Report

E-10617	**TURBIDITY**	0.16	0.10	0.10		**NTU**	1.00	180.1	5/15/13	CNH	turb_130515	
16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	**mg/L**	1.00	300.0	5/15/13	BJ	I130515A	
14797-55-8	**NITRATE-N**	1.52	0.100	0.100	0.011	**mg/L**	1.00	300.0	5/15/13	BJ	I130515A	
NA	**CORROSIVITY**	-2.14				**SI**	1.00	SM203	5/29/13	mvp	COR_130529	
E-11734	**ODOR**	ND	1	1	1	**TON**	1.00	SM2150	5/15/13	MWK	ODOR_130515	Temperature: 42.8
E-14506	**ALKALINITY**	44.7	1.00	1.00		**mg CaCO3/L**	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	102	10	10		**mg/L**	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
E-10139	**HYDROGEN ION (pH)**	6.93				**pH Units**	1.00	SM4500-H+ B	5/15/13	SRF	pH_130515	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	**mg/L**	1.00	SM5540 C	5/16/13	EB	AMTEST_130516	Analyzed by Amtest
E-11712	**COLOR**	ND	5	5		**Color Units**	1.00	SM2120 B	5/16/13	CNH	COLOR_130516	pH:7
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	102	10	10		**mg/L**	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
7439-89-6	**IRON**	ND	0.03	0.03	0.004	**mg/L**	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
7440-39-3	**BARIUM**	0.010	0.00025	0.0002		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-50-8	**COPPER**	0.0007	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7439-92-1	**LEAD**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7439-96-5	**MANGANESE**	ND	0.001	0.001		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7782-49-2	**SELENIUM**	ND	0.001	0.001		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-22-4	**SILVER**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-66-6	**ZINC**	ND	0.0025	0.0025		**mg/L**	1.00	200.8/3010A	5/22/13	MVP	200.8_130522W	
7440-70-2	**CALCIUM**	10.2	0.5	0.5	0.017	**mg/L**	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
7723-14-0	**TOTAL PHOSPHORUS**	0.073	0.010	0.010	0.0061	**mg/L**	1.00	SM4500-P F/SM450	5/17/13	SPL	TPHOS-130517	

Sample Description: SW-1 - Locher Road Recharge　　Sample Date: 5/14/13
Lab Number: 19128　　Sample Comment:　　Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
16887-00-6	**CHLORIDE**	0.9	0.1	0.1	0.012	**mg/L**	1.00	300.0	5/15/13	BJ	I130515A	
14808-79-8	**SULFATE**	1.7	0.2	1	0.04	**mg/L**	1.00	300.0	5/15/13	BJ	I130515A	
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	**mg/L**	1.00	245.1	5/24/13	MWK	245.1_130524	
NA	**BICARBONATE**	33.0	1.00	1.00		**mg CaCO3/L**	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
NA	**CARBONATE**	ND	1.00	1.00		**mgCaCO3/L**	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
E-10617	**TURBIDITY**	7.08	0.10	0.10		**NTU**	1.00	180.1	5/15/13	CNH	turb_130515	
14797-55-8	**NITRATE-N**	0.26	0.100	0.100	0.011	**mg/L**	1.00	300.0	5/15/13	BJ	I130515A	
NA	**CORROSIVITY**	-1.77				**SI**	1.00	SM203	5/29/13	mvp	COR_130529	
E-11734	**ODOR**	1.68	1	1	1	**TON**	1.00	SM2150	5/15/13	MWK	ODOR_130515	Temperature: 42.8
E-14506	**ALKALINITY**	33.0	1.00	1.00		**mg CaCO3/L**	1.00	SM2320 B	5/20/13	SPL	ALK_130520	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	70	10	10		**mg/L**	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
E-10139	**HYDROGEN ION (pH)**	7.59				**pH Units**	1.00	SM4500-H+ B	5/15/13	SRF	pH_130515	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	**mg/L**	1.00	SM5540 C	5/16/13	EB	AMTEST_130516	Analyzed by Amtest

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Data Report

16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	mg/L	1.00	300.0	5/15/13	BJ	I130515A	
E-11712	**COLOR**	9	5	5		Color Units	1.00	SM2120 B	5/16/13	CNH	COLOR_130516	pH:7
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	70	10	10		mg/L	1.00	SM2540 C	5/17/13	SRF	TDS_130517	
7439-89-6	**IRON**	0.53	0.03	0.03	0.004	mg/L	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
7440-39-3	**BARIUM**	0.0106	0.00025	0.0002		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-50-8	**COPPER**	0.0008	0.0005	0.0005		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7439-92-1	**LEAD**	0.0002	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7439-96-5	**MANGANESE**	0.013	0.001	0.001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7782-49-2	**SELENIUM**	ND	0.001	0.001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-22-4	**SILVER**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-66-6	**ZINC**	ND	0.0025	0.0025		mg/L	1.00	200.8/3010A	5/22/13	MVP	200.8_130522WW	
7440-70-2	**CALCIUM**	7.0	0.5	0.5	0.017	mg/L	1.00	200.7/3010A	5/23/13	BJ	200.7-130522A	
	E. Coli	127.4	1	1		MPN/100mL	1.00	SM9223 B.2.b/Coliler	5/16/13	JMM	QT_130515	
	TOTAL COLIFORM	1413.6	1	1		MPN/100mL	1.00	SM9223 B.2.b/Coliler	5/16/13	JMM	QT_130515	
7723-14-0	**TOTAL PHOSPHORUS**	0.040	0.010	0.010	0.0061	mg/L	1.00	SM4500-P F/SM450	5/17/13	SPL	TPHOS-130517	

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D.F. - Dilution Factor

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9150 SW Pioneer Ct Ste W- 97070
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WSDOE Lab C567

DATA REPORT

Page 1 of 2

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19128
Field ID: SW-1
Sample Description: Locher Road Recharge
Matrix: Surface Water
Sample Date: 5/14/13
Extraction Date: 5/24/13
Extraction Method: 5030B

Report Date: 6/4/13
Date Analyzed: 5/24/13
Analyst: HY
Released By:
Analytical Method: 8260B
Batch: 8260W_130524

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
75-34-3	1,1 - DICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-35-4	1,1 - DICHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
563-58-6	1,1 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
71-55-6	1,1,1 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
630-20-6	1,1,1,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-00-5	1,1,2 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-34-5	1,1,2,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
95-50-1	1,2 - DICHLOROBENZENE (ortho)	**ND**		ug/L	0.1	0.1	-	1.00	
107-06-2	1,2 - DICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
78-87-5	1,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
87-61-6	1,2,3 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-18-4	1,2,3 - TRICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
120-82-1	1,2,4 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-63-6	1,2,4 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
541-73-1	1,3 - DICHLOROBENZENE (meta)	**ND**		ug/L	0.1	0.1	-	1.00	
142-28-9	1,3 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
108-67-8	1,3,5 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-46-7	1,4 - DICHLOROBENZENE (para)	**ND**		ug/L	0.1	0.1	-	1.00	
594-20-7	2,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
71-43-2	BENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-86-1	BROMOBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
74-97-5	BROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-27-4	BROMODICHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-25-2	BROMOFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-83-9	BROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
56-23-5	CARBON TETRACHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
108-90-7	CHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-00-3	CHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
67-66-3	CHLOROFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-87-3	CHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	

Notes:

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D.F. - Dilution Factor.

If you have any questions concerning this report contact us at the above phone number.

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
156-59-2	CIS - 1,2 - DICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
10061-01-	CIS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
124-48-1	DIBROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
74-95-3	DIBROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-71-8	DICHLORODIFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
100-41-4	ETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-93-4	ETHYLENE DIBROMIDE (EDB)	**ND**		ug/L	0.1	0.1	-	1.00	
87-68-3	HEXACHLOROBUTADIENE	**ND**		ug/L	0.1	0.1	-	1.00	
98-82-8	ISOPROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
1330-20-7	M,P- XYLENE	**ND**		ug/L	0.2	0.2	-	1.00	
1634-04-4	METHYL TERT-BUTYL ETHER	**ND**		ug/L	0.1	0.1	-	1.00	
75-09-2	METHYLENE CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
104-51-8	N - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
103-65-1	N - PROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
91-20-3	NAPHTHALENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-49-8	O - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-47-6	O - XYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-43-4	P - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
99-87-6	P - ISOPROPYLTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
135-98-8	SEC - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
100-42-5	STYRENE	**ND**		ug/L	0.1	0.1	-	1.00	Screening Only
98-06-6	TERT - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
127-18-4	TETRACHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-88-3	TOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
156-60-5	TRANS - 1,2 - DICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
10061-02-	TRANS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
79-01-6	TRICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-69-4	TRICHLOROFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-01-4	VINYL CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	

Notes:

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WSDOE Lab C567

DATA REPORT

Page 1 of 2

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19127
Field ID: GW-72
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/24/13
Extraction Method: 5030B

Report Date: 6/4/13
Date Analyzed: 5/24/13
Analyst: HY
Released By:
Analytical Method: 8260B
Batch: 8260W_130524

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
75-34-3	1,1 - DICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-35-4	1,1 - DICHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
563-58-6	1,1 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
71-55-6	1,1,1 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
630-20-6	1,1,1,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-00-5	1,1,2 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-34-5	1,1,2,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
95-50-1	1,2 - DICHLOROBENZENE (ortho)	**ND**		ug/L	0.1	0.1	-	1.00	
107-06-2	1,2 - DICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
78-87-5	1,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
87-61-6	1,2,3 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-18-4	1,2,3 - TRICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
120-82-1	1,2,4 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-63-6	1,2,4 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
541-73-1	1,3 - DICHLOROBENZENE (meta)	**ND**		ug/L	0.1	0.1	-	1.00	
142-28-9	1,3 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
108-67-8	1,3,5 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-46-7	1,4 - DICHLOROBENZENE (para)	**ND**		ug/L	0.1	0.1	-	1.00	
594-20-7	2,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
71-43-2	BENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-86-1	BROMOBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
74-97-5	BROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-27-4	BROMODICHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-25-2	BROMOFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-83-9	BROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
56-23-5	CARBON TETRACHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
108-90-7	CHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-00-3	CHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
67-66-3	CHLOROFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-87-3	CHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	

Notes:

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ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

If you have any questions concerning this report contact us at the above phone number.

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
156-59-2	CIS - 1,2 - DICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
10061-01-	CIS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
124-48-1	DIBROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
74-95-3	DIBROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-71-8	DICHLORODIFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
100-41-4	ETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-93-4	ETHYLENE DIBROMIDE (EDB)	**ND**		ug/L	0.1	0.1	-	1.00	
87-68-3	HEXACHLOROBUTADIENE	**ND**		ug/L	0.1	0.1	-	1.00	
98-82-8	ISOPROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
1330-20-7	M,P- XYLENE	**ND**		ug/L	0.2	0.2	-	1.00	
1634-04-4	METHYL TERT-BUTYL ETHER	**ND**		ug/L	0.1	0.1	-	1.00	
75-09-2	METHYLENE CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
104-51-8	N - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
103-65-1	N - PROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
91-20-3	NAPHTHALENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-49-8	O - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-47-6	O - XYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-43-4	P - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
99-87-6	P - ISOPROPYLTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
135-98-8	SEC - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
100-42-5	STYRENE	**ND**		ug/L	0.1	0.1	-	1.00	Screening Only
98-06-6	TERT - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
127-18-4	TETRACHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-88-3	TOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
156-60-5	TRANS - 1,2 - DICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
10061-02-	TRANS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
79-01-6	TRICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-69-4	TRICHLOROFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-01-4	VINYL CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	

Notes:

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DATA REPORT

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19126
Field ID: GW-71
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/24/13
Extraction Method: 5030B

Report Date: 6/4/13
Date Analyzed: 5/24/13
Analyst: HY
Released By:
Analytical Method: 8260B
Batch: 8260W_130524

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
75-34-3	1,1 - DICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-35-4	1,1 - DICHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
563-58-6	1,1 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
71-55-6	1,1,1 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
630-20-6	1,1,1,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-00-5	1,1,2 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-34-5	1,1,2,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
95-50-1	1,2 - DICHLOROBENZENE (ortho)	**ND**		ug/L	0.1	0.1	-	1.00	
107-06-2	1,2 - DICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
78-87-5	1,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
87-61-6	1,2,3 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-18-4	1,2,3 - TRICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
120-82-1	1,2,4 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-63-6	1,2,4 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
541-73-1	1,3 - DICHLOROBENZENE (meta)	**ND**		ug/L	0.1	0.1	-	1.00	
142-28-9	1,3 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
108-67-8	1,3,5 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-46-7	1,4 - DICHLOROBENZENE (para)	**ND**		ug/L	0.1	0.1	-	1.00	
594-20-7	2,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
71-43-2	BENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-86-1	BROMOBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
74-97-5	BROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-27-4	BROMODICHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-25-2	BROMOFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-83-9	BROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
56-23-5	CARBON TETRACHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
108-90-7	CHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-00-3	CHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
67-66-3	CHLOROFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-87-3	CHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	

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10061-01-	CIS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
124-48-1	DIBROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
74-95-3	DIBROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-71-8	DICHLORODIFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
100-41-4	ETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-93-4	ETHYLENE DIBROMIDE (EDB)	**ND**		ug/L	0.1	0.1	-	1.00	
87-68-3	HEXACHLOROBUTADIENE	**ND**		ug/L	0.1	0.1	-	1.00	
98-82-8	ISOPROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
1330-20-7	M,P- XYLENE	**ND**		ug/L	0.2	0.2	-	1.00	
1634-04-4	METHYL TERT-BUTYL ETHER	**ND**		ug/L	0.1	0.1	-	1.00	
75-09-2	METHYLENE CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
104-51-8	N - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
103-65-1	N - PROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
91-20-3	NAPHTHALENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-49-8	O - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-47-6	O - XYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-43-4	P - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
99-87-6	P - ISOPROPYLTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
135-98-8	SEC - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
100-42-5	STYRENE	**ND**		ug/L	0.1	0.1	-	1.00	Screening Only
98-06-6	TERT - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
127-18-4	TETRACHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-88-3	TOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
156-60-5	TRANS - 1,2 - DICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
10061-02-	TRANS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
79-01-6	TRICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-69-4	TRICHLOROFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-01-4	VINYL CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	

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WSDOE Lab C567

DATA REPORT

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19125
Field ID: GW-70
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/24/13
Extraction Method: 5030B

Report Date: 6/4/13
Date Analyzed: 5/24/13
Analyst: HY
Released By:
Analytical Method: 8260B
Batch: 8260W_130524

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
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75-35-4	1,1 - DICHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
563-58-6	1,1 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
71-55-6	1,1,1 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
630-20-6	1,1,1,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-00-5	1,1,2 - TRICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
79-34-5	1,1,2,2 - TETRACHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
95-50-1	1,2 - DICHLOROBENZENE (ortho)	**ND**		ug/L	0.1	0.1	-	1.00	
107-06-2	1,2 - DICHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
78-87-5	1,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
87-61-6	1,2,3 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-18-4	1,2,3 - TRICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
120-82-1	1,2,4 - TRICHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-63-6	1,2,4 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
541-73-1	1,3 - DICHLOROBENZENE (meta)	**ND**		ug/L	0.1	0.1	-	1.00	
142-28-9	1,3 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
108-67-8	1,3,5 - TRIMETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-46-7	1,4 - DICHLOROBENZENE (para)	**ND**		ug/L	0.1	0.1	-	1.00	
594-20-7	2,2 - DICHLOROPROPANE	**ND**		ug/L	0.1	0.1	-	1.00	
71-43-2	BENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-86-1	BROMOBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
74-97-5	BROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-27-4	BROMODICHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-25-2	BROMOFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-83-9	BROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
56-23-5	CARBON TETRACHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
108-90-7	CHLOROBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-00-3	CHLOROETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
67-66-3	CHLOROFORM	**ND**		ug/L	0.1	0.1	-	1.00	
74-87-3	CHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	

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CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
156-59-2	CIS - 1,2 - DICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
10061-01-	CIS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
124-48-1	DIBROMOCHLOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
74-95-3	DIBROMOMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-71-8	DICHLORODIFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
100-41-4	ETHYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-93-4	ETHYLENE DIBROMIDE (EDB)	**ND**		ug/L	0.1	0.1	-	1.00	
87-68-3	HEXACHLOROBUTADIENE	**ND**		ug/L	0.1	0.1	-	1.00	
98-82-8	ISOPROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
1330-20-7	M,P- XYLENE	**ND**		ug/L	0.2	0.2	-	1.00	
1634-04-4	METHYL TERT-BUTYL ETHER	**ND**		ug/L	0.1	0.1	-	1.00	
75-09-2	METHYLENE CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	
104-51-8	N - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
103-65-1	N - PROPYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
91-20-3	NAPHTHALENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-49-8	O - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
95-47-6	O - XYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
106-43-4	P - CHLOROTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
99-87-6	P - ISOPROPYLTOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
135-98-8	SEC - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
100-42-5	STYRENE	**ND**		ug/L	0.1	0.1	-	1.00	Screening Only
98-06-6	TERT - BUTYLBENZENE	**ND**		ug/L	0.1	0.1	-	1.00	
127-18-4	TETRACHLOROETHYLENE	**ND**		ug/L	0.1	0.1	-	1.00	
108-88-3	TOLUENE	**ND**		ug/L	0.1	0.1	-	1.00	
156-60-5	TRANS - 1,2 - DICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
10061-02-	TRANS - 1,3 - DICHLOROPROPENE	**ND**		ug/L	0.1	0.1	-	1.00	
79-01-6	TRICHLOROETHENE	**ND**		ug/L	0.1	0.1	-	1.00	
75-69-4	TRICHLOROFLUOROMETHANE	**ND**		ug/L	0.1	0.1	-	1.00	
75-01-4	VINYL CHLORIDE	**ND**		ug/L	0.1	0.1	-	1.00	

Notes:

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WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19128
Field ID: SW-1
Sample Description: Locher Road Recharge
Matrix: Surface Water
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/7/13
Date Analyzed: 6/3/13
Analyst: EM
Released By:
Analytical Method: 8151A
Batch: 8151_130521

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**0.25**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

Notes:

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Form: c608.rpt

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WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19127
Field ID: GW-72
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/7/13
Date Analyzed: 6/3/13
Analyst: EM
Released By:
Analytical Method: 8151A
Batch: 8151_130521

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.05	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.02	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**ND**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

Notes:

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19126
Field ID: GW-71
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/7/13
Date Analyzed: 6/3/13
Analyst: EM
Released By:
Analytical Method: 8151A
Batch: 8151_130521

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**ND**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19125
Field ID: GW-70
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/7/13
Date Analyzed: 6/3/13
Analyst: EM
Released By:
Analytical Method: 8151A
Batch: 8151_130521

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**ND**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19128
Field ID: SW-1
Sample Description: Locher Road Recharge
Matrix: Surface Water
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/13/13
Date Analyzed: 5/28/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130521

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05		1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05		1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05		1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05		1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05		1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05		1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05		1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05		1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05		1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05		1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05		1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05		1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05		1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1		1.00	

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19127
Field ID: GW-72
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/13/13
Date Analyzed: 5/28/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130521

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05		1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05		1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05		1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05		1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05		1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05		1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05		1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05		1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05		1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05		1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05		1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05		1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05		1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1		1.00	

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19126
Field ID: GW-71
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/13/13
Date Analyzed: 5/28/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130521

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05		1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05		1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05		1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05		1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05		1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05		1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05		1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05		1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05		1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05		1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05		1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05		1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05		1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

If you have any questions concerning this report contact us at the above phone number.

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08278**
Project: Water Quality

Lab Number: 19125
Field ID: GW-70
Sample Description: Locher Road Recharge
Matrix: Wastewater
Sample Date: 5/14/13
Extraction Date: 5/21/13
Extraction Method: 3510C

Report Date: 6/13/13
Date Analyzed: 5/28/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130521

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05		1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05		1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05		1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05		1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05		1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05		1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05		1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05		1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05		1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05		1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05		1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05		1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05		1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05		1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
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D.F. - Dilution Factor.

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	Qualifier	QC Type*	Comment
200.7-130522A	CALCIUM	25.7	26	mg/L	200.7	99	85-115		LFB	
	IRON	1.01	1	mg/L	200.7	101	85-115			
200.8_130522WV	BARIUM	0.038	0.040	mg/L	200.8	95	85-115		LFB	
	CADMIUM	0.038	0.040	mg/L	200.8	95	85-115			
	CHROMIUM	0.037	0.040	mg/L	200.8	93	85-115			
	COPPER	0.039	0.040	mg/L	200.8	98	85-115			
	LEAD	0.039	0.040	mg/L	200.8	98	85-115			
	MANGANESE	0.039	0.040	mg/L	200.8	98	85-115			
	SELENIUM	0.036	0.040	mg/L	200.8	90	85-115			
	SILVER	0.036	0.040	mg/L	200.8	90	85-115			
	ZINC	0.037	0.040	mg/L	200.8	93	85-115			
245.1_130524	MERCURY	0.00166	0.00167	mg/L	245.1	99	85-115		LFB	
8081W_130521	4,4' - DDD	0.590	0.5	ug/L	8081A	118	78-132		LFB	
	4,4' - DDE	0.506	0.5	ug/L	8081A	101	73-127			
	4,4' - DDT	0.536	0.5	ug/L	8081A	107	56-158			
	ALDRIN	0.547	0.5	ug/L	8081A	109	68-128			
	ALPHA-CHLORDANE	0.585	0.5	ug/L	8081A	117	70-130			
	BHC, ALPHA -	0.548	0.5	ug/L	8081A	110	37-134			
	BHC, BETA -	0.523	0.5	ug/L	8081A	105	17-147			
	BHC, DELTA -	0.543	0.5	ug/L	8081A	109	32-127			
	DIELDRIN	0.597	0.5	ug/L	8081A	119	74-134			
	ENDOSULFAN I	0.544	0.5	ug/L	8081A	109	67-133			
	ENDOSULFAN II	0.641	0.5	ug/L	8081A	128	64-142			
	ENDOSULFAN SULFATE	0.545	0.5	ug/L	8081A	109	71-143			
	ENDRIN	0.490	0.5	ug/L	8081A	98	30-147			
	ENDRIN ALDEHYDE	0.608	0.5	ug/L	8081A	122	78-110			
	ENDRIN KETONE	0.627	0.5	ug/L	8081A	125	70-130			
	GAMMA-CHLORDANE	0.586	0.5	ug/L	8081A	117	74-124			
	HEPTACHLOR	0.565	0.5	ug/L	8081A	113	61-133			
	HEPTACHLOR EPOXIDE "B"	0.561	0.5	ug/L	8081A	112	73-127			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-08278
Report Date: 06/14/13

			True			%		QC		
Batch	Analyte	Result	Value	Units	Method	Recovery	Limits*	Qualifier	Type*	Comment
8081W_130521	LINDANE (BHC - GAMMA)	0.528	0.5	ug/L	8081A	106	17-140		LFB	
	METHOXYCHLOR	0.443	0.5	ug/L	8081A	89	41-157			
	DECACHLOROBIPHENYL (Surr)	97		%	8081A		58-132			
	TETRACHLORO-M-XYLENE (Surr)	98		%	8081A		67-115			
8151_130521	PICLORAM	2.16	2.22	ug/L	8151A	97	48-114		LFB	
	3,5 - DICHLOROBENZOIC ACID	1.65	2.22	ug/L	8151A	74	70-130			
	BENTAZON	5.28	4.44	ug/L	8151A	119	67-121			
	TOTAL DCPA	1.86	2.22	ug/L	8151A	84	48-168			
	2,4 - D	3.57	4.44	ug/L	8151A	80	60-120			
	2,4 DB	12.3	17.8	ug/L	8151A	69	49-134			
	2,4,5 - TP (SILVEX)	1.95	2.22	ug/L	8151A	88	68-122			
	2,4,5 T	1.88	2.22	ug/L	8151A	85	62-128			
	DALAPON	20.7	28.9	ug/L	8151A	72	53-142			
	DICAMBA	2.56	2.22	ug/L	8151A	115	66-126			
	DICHLORPROP	5.29	6.66	ug/L	8151A	79	63-123			
	DINOSEB	3.34	4.44	ug/L	8151A	75	73-127			
	PENTACHLOROPHENOL	2.03	2.22	ug/L	8151A	91	69-123			
	ACIFLUORFEN	1.82	2.22	ug/L	8151A	82	65-125			
	2,4 - DCAA (SURR)	73		%	8151A		61-129			
8260W_130524	1,1 - DICHLOROETHANE	3.9	4	ug/L	8260B	98	70-130		LFB	
	1,1 - DICHLOROETHYLENE	3.7	4	ug/L	8260B	93	70-130			
	1,1 - DICHLOROPROPENE	3.9	4	ug/L	8260B	98	70-130			
	1,1,1 - TRICHLOROETHANE	4.0	4	ug/L	8260B	100	70-130			
	1,1,1,2 - TETRACHLOROETHANE	4.0	4	ug/L	8260B	100	70-130			
	1,1,2 - TRICHLOROETHANE	3.8	4	ug/L	8260B	95	70-130			
	1,1,2,2 - TETRACHLOROETHANE	3.6	4	ug/L	8260B	90	70-130			
	1,2 - DICHLOROBENZENE (ortho)	3.8	4	ug/L	8260B	95	70-130			
	1,2 - DICHLOROETHANE	4.3	4	ug/L	8260B	108	70-130			
	1,2 - DICHLOROPROPANE	3.9	4	ug/L	8260B	98	70-130			
	1,2,3 - TRICHLOROBENZENE	3.2	4	ug/L	8260B	80	70-130			
	1,2,3 - TRICHLOROPROPANE	3.6	4	ug/L	8260B	90	70-130			
	1,2,4 - TRICHLOROBENZENE	3.5	4	ug/L	8260B	88	70-130			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	Qualifier	QC Type*	Comment
8260W_130524	1,2,4 - TRIMETHYLBENZENE	3.5	4	ug/L	8260B	88	70-130		LFB	
	1,2-DIBROMO-3-CHLOROPROPANE	4.4	4	ug/L	8260B	110	70-130			
	1,3 - DICHLOROBENZENE (meta)	3.9	4	ug/L	8260B	98	70-130			
	1,3 - DICHLOROPROPANE	4.0	4	ug/L	8260B	100	70-130			
	1,3,5 - TRIMETHYLBENZENE	3.6	4	ug/L	8260B	90	70-130			
	1,4 - DICHLOROBENZENE (para)	3.9	4	ug/L	8260B	98	70-130			
	2,2 - DICHLOROPROPANE	4.1	4	ug/L	8260B	103	70-130			
	BENZENE	3.9	4	ug/L	8260B	98	70-130			
	BROMOBENZENE	3.6	4	ug/L	8260B	90	70-130			
	BROMOCHLOROMETHANE	4.3	4	ug/L	8260B	108	70-130			
	BROMODICHLOROMETHANE	4.2	4	ug/L	8260B	105	70-130			
	BROMOFORM	3.4	4	ug/L	8260B	85	70-130			
	BROMOMETHANE	4.5	4	ug/L	8260B	113	70-130			
	CARBON TETRACHLORIDE	4.0	4	ug/L	8260B	100	70-130			
	CHLOROBENZENE	4.0	4	ug/L	8260B	100	70-130			
	CHLOROETHANE	3.9	4	ug/L	8260B	98	70-130			
	CHLOROFORM	4.0	4	ug/L	8260B	100	70-130			
	CHLOROMETHANE	4.5	4	ug/L	8260B	113	70-130			
	CIS - 1,2 - DICHLOROETHENE	3.9	4	ug/L	8260B	98	70-130			
	CIS - 1,3 - DICHLOROPROPENE	3.8	4	ug/L	8260B	95	70-130			
	DIBROMOCHLOROMETHANE	4.1	4	ug/L	8260B	103	70-130			
	DIBROMOMETHANE	4.5	4	ug/L	8260B	113	70-130			
	DICHLORODIFLUOROMETHANE	3.9	4	ug/L	8260B	98	70-130			
	ETHYLBENZENE	3.8	4	ug/L	8260B	95	70-130			
	HEXACHLOROBUTADIENE	4.1	4	ug/L	8260B	103	70-130			
	ISOPROPYLBENZENE	3.6	4	ug/L	8260B	90	70-130			
	M,P- XYLENE	7.3	8	ug/L	8260B	91	70-130			
	METHYL TERT-BUTYL ETHER	3.4	4	ug/L	8260B	85	70-130			
	METHYLENE CHLORIDE	3.8	4	ug/L	8260B	95	70-130			
	N - BUTYLBENZENE	3.8	4	ug/L	8260B	95	70-130			
	N - PROPYLBENZENE	3.7	4	ug/L	8260B	93	70-130			
	NAPHTHALENE	2.9	4	ug/L	8260B	73	70-130			
	O - CHLOROTOLUENE	3.8	4	ug/L	8260B	95	70-130			
	O - XYLENE	3.6	4	ug/L	8260B	90	70-130			
	P - CHLOROTOLUENE	3.7	4	ug/L	8260B	93	70-130			
	P - ISOPROPYLTOLUENE	3.8	4	ug/L	8260B	95	70-130			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8260W_130524	SEC - BUTYLBENZENE	3.8	4	ug/L	8260B	95	70-130		LFB	
	STYRENE	3.6	4	ug/L	8260B	90	70-130			
	TERT - BUTYLBENZENE	3.6	4	ug/L	8260B	90	70-130			
	TETRACHLOROETHYLENE	4.3	4	ug/L	8260B	108	70-130			
	TOLUENE	3.9	4	ug/L	8260B	98	70-130			
	TRANS - 1,2 - DICHLOROETHENE	3.8	4	ug/L	8260B	95	70-130			
	TRANS - 1,3 - DICHLOROPROPENE	3.7	4	ug/L	8260B	93	70-130			
	TRICHLOROETHENE	4.0	4	ug/L	8260B	100	70-130			
	TRICHLOROFLUOROMETHANE	4.2	4	ug/L	8260B	105	70-130			
	VINYL CHLORIDE	4.1	4	ug/L	8260B	103	70-130			
	1,2 - DICHLOROETHANE-d4 (SURR)	111		ug/L	8260B		70-130			
	1,4 - DIFLUOROBENZENE-d4 (Surr)	99		ug/L	8260B		70-130			
	4-BROMOFLUOROBENZENE (Surr)	86		ug/L	8260B		70-130			
	d8-TOLUENE (Surr)	101		ug/L	8260B					
ALK_130520	ALKALINITY	99.9	100	mg CaCO3/L	SM2320 B	100	70-130		LFB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Low Level Laboratory Fortified Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8151_130521	PICLORAM	0.11	0.1	ug/L	8151A	110	48-114		LFBD	
	3,5 - DICHLOROBENZOIC ACID	0.12	0.1	ug/L	8151A	120	70-130			
	BENTAZON	0.26	0.22	ug/L	8151A	118	67-121			
	TOTAL DCPA	0.14	0.1	ug/L	8151A	140	48-168			
	2,4 - D	0.31	0.22	ug/L	8151A	141	60-120			
	2,4 DB	0.95	0.89	ug/L	8151A	107	49-134			
	2,4,5 - TP (SILVEX)	0.12	0.1	ug/L	8151A	120	68-122			
	2,4,5 T	0.14	0.1	ug/L	8151A	140	62-128			
	DALAPON	1.71	1.44	ug/L	8151A	119	53-142			
	DICHLORPROP	0.36	0.33	ug/L	8151A	109	63-123			
	DINOSEB	0.21	0.22	ug/L	8151A	95	73-127			
	PENTACHLOROPHENOL	0.15	0.1	ug/L	8151A	150	69-123			
	ACIFLUORFEN	0.10	0.1	ug/L	8151A	100	65-125			
	2,4 - DCAA (SURR)	69		%	8151A		61-129			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-130522A	CALCIUM	ND		mg/L	200.7		0.00000		LRB	
	IRON	ND		mg/L	200.7		0.05000			
200.8_130522WV	BARIUM	ND		mg/L	200.8		0.00000		LRB	
	CADMIUM	ND		mg/L	200.8		0.00100			
	CHROMIUM	ND		mg/L	200.8		0.00100			
	COPPER	ND		mg/L	200.8		0.01000			
	LEAD	ND		mg/L	200.8		0.00100			
	MANGANESE	ND		mg/L	200.8		0.00000			
	SELENIUM	ND		mg/L	200.8		0.00100			
	SILVER	ND		mg/L	200.8		0.00100			
	ZINC	ND		mg/L	200.8		0.02000			
245.1_130524	MERCURY	ND		mg/L	245.1		0.00050		LRB	
ALK_130520	ALKALINITY	ND		mg CaCO3/L	SM2320 B		0.00000		LRB	
ALK_130520	ALKALINITY	ND		mg CaCO3/L	SM2320 B		0.00000		LRB	
I130515A	FLUORIDE	ND		mg/L	300.0		0.01000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
	CHLORIDE	ND		mg/L	300.0		0.10000			
	SULFATE	ND		mg/L	300.0		0.10000			

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NA = Indicates % Recovery could not be calculated.

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	Qualifier	QC Type*	Comment
200.7-130522A	CALCIUM	ND		mg/L	200.7		0.00000		MB	
	IRON	ND		mg/L	200.7		0.01000			
200.8_130522WV	BARIUM	ND		mg/L	200.8		0.00030		MB	
	CADMIUM	ND		mg/L	200.8		0.00030			
	CHROMIUM	ND		mg/L	200.8		0.00030			
	COPPER	ND		mg/L	200.8		0.00130			
	LEAD	ND		mg/L	200.8		0.00030			
	MANGANESE	ND		mg/L	200.8		0.00030			
	SELENIUM	ND		mg/L	200.8		0.00030			
	SILVER	ND		mg/L	200.8		0.00030			
	ZINC	ND		mg/L	200.8		0.00130			
8081W_130521	4,4' - DDD	ND		ug/L	8081A		0.02000		MB	
	4,4' - DDE	ND		ug/L	8081A		0.02000			
	4,4' - DDT	ND		ug/L	8081A		0.02000			
	ALDRIN	ND		ug/L	8081A		0.02000			
	ALPHA-CHLORDANE	ND		ug/L	8081A		0.02000			
	BHC, ALPHA -	ND		ug/L	8081A		0.02000			
	BHC, BETA -	ND		ug/L	8081A		0.02000			
	BHC, DELTA -	ND		ug/L	8081A		0.02000			
	DIELDRIN	ND		ug/L	8081A		0.02000			
	ENDOSULFAN I	ND		ug/L	8081A		0.02000			
	ENDOSULFAN II	ND		ug/L	8081A		0.02000			
	ENDOSULFAN SULFATE	ND		ug/L	8081A		0.02000			
	ENDRIN	ND		ug/L	8081A		0.02000			
	ENDRIN ALDEHYDE	ND		ug/L	8081A		0.02000			
	ENDRIN KETONE	ND		ug/L	8081A		0.02000			
	GAMMA-CHLORDANE	ND		ug/L	8081A		0.02000			
	HEPTACHLOR	ND		ug/L	8081A		0.02000			
	HEPTACHLOR EPOXIDE "B"	ND		ug/L	8081A		0.02000			
	LINDANE (BHC - GAMMA)	ND		ug/L	8081A		0.02000			
	METHOXYCHLOR	ND		ug/L	8081A		0.02000			
	TOXAPHENE	ND		ug/L	8081A		0.02000			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8081W_130521	DECACHLOROBIPHENYL (Surr)	25		%	8081A			S10	MB	
	TETRACHLORO-M-XYLENE (Surr)	44		%	8081A			S10		
8151_130521	PICLORAM	ND		ug/L	8151A		0.07000		MB	
	3,5 - DICHLOROBENZOIC ACID	ND		ug/L	8151A		0.20000			
	BENTAZON	ND		ug/L	8151A		0.20000			
	TOTAL DCPA	ND		ug/L	8151A		0.03000			
	2,4 - D	ND		ug/L	8151A		0.03000			
	2,4 DB	ND		ug/L	8151A		0.30000			
	2,4,5 - TP (SILVEX)	ND		ug/L	8151A		0.03000			
	2,4,5 T	ND		ug/L	8151A		0.03000			
	DALAPON	ND		ug/L	8151A		0.40000			
	DICAMBA	ND		ug/L	8151A		0.03000			
	DICHLORPROP	ND		ug/L	8151A		0.03000			
	DINOSEB	ND		ug/L	8151A		0.03000			
	PENTACHLOROPHENOL	ND		ug/L	8151A		0.03000			
	ACIFLUORFEN	ND		ug/L	8151A		0.03000			
	2,4 - DCAA (SURR)	66		%	8151A		0.00000			
8260W_130524	1,1 - DICHLOROETHANE	ND		ug/L	8260B		0.12000		MB	TB 13-08278
	1,1 - DICHLOROETHYLENE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,1 - DICHLOROPROPENE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,1,1 - TRICHLOROETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,1,1,2 - TETRACHLOROETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,1,2 - TRICHLOROETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,1,2,2 - TETRACHLOROETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2 - DICHLOROBENZENE (ortho)	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2 - DICHLOROETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2 - DICHLOROPROPANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2,3 - TRICHLOROBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2,3 - TRICHLOROPROPANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2,4 - TRICHLOROBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2,4 - TRIMETHYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2-DIBROMO-3-CHLOROPROPANE	ND		ug/L	8260B		0.12000			TB 13-08278

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8260W_130524	1,3 - DICHLOROBENZENE (meta)	ND		ug/L	8260B		0.12000		MB	TB 13-08278
	1,3 - DICHLOROPROPANE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,3,5 - TRIMETHYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,4 - DICHLOROBENZENE (para)	ND		ug/L	8260B		0.12000			TB 13-08278
	2,2 - DICHLOROPROPANE	ND		ug/L	8260B		0.12000			TB 13-08278
	BENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	BROMOBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	BROMOCHLOROMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	BROMODICHLOROMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	BROMOFORM	ND		ug/L	8260B		0.12000			TB 13-08278
	BROMOMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	CARBON TETRACHLORIDE	ND		ug/L	8260B		0.12000			TB 13-08278
	CHLOROBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	CHLOROETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	CHLOROFORM	ND		ug/L	8260B		0.12000			TB 13-08278
	CHLOROMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	CIS - 1,2 - DICHLOROETHENE	ND		ug/L	8260B		0.12000			TB 13-08278
	CIS - 1,3 - DICHLOROPROPENE	ND		ug/L	8260B		0.12000			TB 13-08278
	DIBROMOCHLOROMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	DIBROMOMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	DICHLORODIFLUOROMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	ETHYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	HEXACHLOROBUTADIENE	ND		ug/L	8260B		0.12000			TB 13-08278
	ISOPROPYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	M,P- XYLENE	ND		ug/L	8260B		0.12000			TB 13-08278
	METHYLENE CHLORIDE	ND		ug/L	8260B		0.50000			TB 13-08278
	N - BUTYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	N - PROPYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	NAPHTHALENE	ND		ug/L	8260B		0.12000			TB 13-08278
	O - XYLENE	ND		ug/L	8260B		0.12000			TB 13-08278
	P - ISOPROPYLTOLUENE	ND		ug/L	8260B		0.12000			TB 13-08278
	SEC - BUTYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	STYRENE	ND		ug/L	8260B		0.12000			TB 13-08278
	TERT - BUTYLBENZENE	ND		ug/L	8260B		0.12000			TB 13-08278
	TETRACHLOROETHYLENE	ND		ug/L	8260B		0.12000			TB 13-08278
	TOLUENE	ND		ug/L	8260B		0.12000			TB 13-08278

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8260W_130524	TRANS - 1,2 - DICHLOROETHENE	ND		ug/L	8260B		0.12000		MB	TB 13-08278
	TRANS - 1,3 - DICHLOROPROPENE	ND		ug/L	8260B		0.12000			TB 13-08278
	TRICHLOROETHENE	ND		ug/L	8260B		0.12000			TB 13-08278
	TRICHLOROFLUOROMETHANE	ND		ug/L	8260B		0.12000			TB 13-08278
	VINYL CHLORIDE	ND		ug/L	8260B		0.12000			TB 13-08278
	1,2 - DICHLOROETHANE-d4 (SURR)	110		%	8260B					TB 13-08278
	1,4 - DIFLUOROBENZENE-d4 (Surr)	99		%	8260B					TB 13-08278
	4-BROMOFLUOROBENZENE (Surr)	84		%	8260B					TB 13-08278
	d8-TOLUENE (Surr)	99		%	8260B					TB 13-08278
color_130516	COLOR	ND		CU	SM2120 B		1.25000		MB	
TDS_130517	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		0.00000		MB	
	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		2.50000			
TDS_130517	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		0.00000		MB	
	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		2.50000			
TDS_130517	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		0.00000		MB	
	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		2.50000			
turb_130515	TURBIDITY	0.02		NTU	180.1		0.02000		MB	

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-130522A	IRON	1.03	1	mg/L	200.7	103	85-115		QCS	
200.7-130522A	CALCIUM	19.8	20	mg/L	200.7	99	85-115		QCS	
200.8_130522WV	BARIUM	0.039	0.040	mg/L	200.8	98	85-115		QCS	
	CADMIUM	0.039	0.040	mg/L	200.8	98	85-115			
	CHROMIUM	0.039	0.040	mg/L	200.8	98	85-115			
	COPPER	0.040	0.040	mg/L	200.8	100	85-115			
	LEAD	0.039	0.040	mg/L	200.8	98	85-115			
	MANGANESE	0.039	0.040	mg/L	200.8	98	85-115			
	SELENIUM	0.039	0.040	mg/L	200.8	98	85-115			
	SILVER	0.038	0.040	mg/L	200.8	95	85-115			
	ZINC	0.039	0.040	mg/L	200.8	98	85-115			
245.1_130524	MERCURY	0.00290	0.00314	mg/L	245.1	92	85-115		QCS	
ALK_130520	ALKALINITY	182	178	mg CaCO3/L	SM2320 B	102	70-130		QCS	
color_130516	COLOR	10	10	CU	SM2120 B	100	80-120		QCS	
I130515A	FLUORIDE	2.46	2.50	mg/L	300.0	98	85-115		QCS	
	NITRATE-N	2.38	2.50	mg/L	300.0	95	80-120			
	CHLORIDE	29.9	30.00	mg/L	300.0	100	80-120			
	SULFATE	31.1	30.00	mg/L	300.0	104	80-120			
PH_130515	HYDROGEN ION (pH)	8.07	8.00	pH Units	SM4500-H+ B	101	70-130		QCS	
	HYDROGEN ION (pH)	8.08	8.00	pH Units	SM4500-H+ B	101	70-130			
TDS_130517	TOTAL DISSOLVED SOLIDS (TDS)	498	500	mg/L	SM2540 C	100	70-130		QCS	
	TOTAL DISSOLVED SOLIDS (TDS)	498	500	mg/L	SM2540 C	100	80-120			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 13-08278
Report Date: 06/14/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
TDS_130517	TOTAL DISSOLVED SOLIDS (TDS)	496	500	mg/L	SM2540 C	99	70-130		QCS	
	TOTAL DISSOLVED SOLIDS (TDS)	496	500	mg/L	SM2540 C	99	80-120			
turb_130515	TURBIDITY	1.04	1.00	NTU	180.1	104	70-130		QCS	

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SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 13-08278
Report Date: 6/14/2013

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-130522A										
	19125	CALCIUM	39.2	40.0	mg/L	**2.0**	0-20		DUP	
	19366	CALCIUM	91.8	90.7	mg/L	**1.2**	0-20		DUP	
200.8_130522WW										
	18335	COPPER	0.007	0.007	mg/L	**0.0**	0-45		DUP	
	18335	ZINC	0.014	0.014	mg/L	**0.0**	0-45		DUP	
	19125	BARIUM	0.044	0.043	mg/L	**2.3**	0-50		DUP	
	19125	COPPER	0.0009	0.0009	mg/L	**0.0**	0-45		DUP	
	19573	COPPER	0.003	0.003	mg/L	**0.0**	0-45		DUP	
245.1_130524										
	19686	MERCURY	0.00004	0.000043	mg/L	**4.5**	0-45		DUP	
8081W_130521										
8151_130521										
ALK_130520										
	19127	BICARBONATE	44.7	44.7	mg CaCO3/L	**0.0**	0-45		DUP	
	19127	ALKALINITY	44.7	45.1	mg CaCO3/L	**0.9**	0-50		DUP	
COLOR_130516										
I130515A										
	19138	CHLORIDE	15	15	mg/L	**0.0**	0-45		DUP	
	19138	SULFATE	40	40	mg/L	**0.0**	0-45		DUP	
	19194	FLUORIDE	0.32	0.32	mg/L	**0.0**	0-20		DUP	
	19194	NITRATE-N	0.1	0.1	mg/L	**0.0**	0-45		DUP	
	19194	CHLORIDE	7.3	7.3	mg/L	**0.0**	0-45		DUP	
ODOR_130515										
pH_130515										
	19126	HYDROGEN ION (pH)	6.86	6.88	pH Units	**0.3**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

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Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
QT_130515										
	19128	TOTAL COLIFORM	1413.6	1986.3	MPN/100mL	**33.7**	0-20		DUP	
	19128	E. Coli	127.4	93.3	MPN/100mL	**30.9**	0-20		DUP	
TDS_130517										
	19517	TOTAL DISSOLVED SOLIDS (TDS)	34	34	mg/L	**0.0**	0-50		DUP	
	19517	TOTAL DISSOLVED SOLIDS (TDS)	34	34	mg/L	**0.0**	0-45		DUP	
TPHOS-130517										
	17693	TOTAL PHOSPHORUS	0.126	0.124	mg/L	**1.6**	0-50		DUP	
	17703	TOTAL PHOSPHORUS	0.026	0.026	mg/L	**0.0**	0-50		DUP	
	17713	TOTAL PHOSPHORUS	0.204	0.194	mg/L	**5.0**	0-50		DUP	
	17723	TOTAL PHOSPHORUS	0.041	0.044	mg/L	**7.1**	0-50		DUP	
	18208	TOTAL PHOSPHORUS	0.042	0.041	mg/L	**2.4**	0-50		DUP	
	18700	TOTAL PHOSPHORUS	0.021	0.021	mg/L	**0.0**	0-50		DUP	
	18710	TOTAL PHOSPHORUS	0.041	0.046	mg/L	**11.5**	0-50		DUP	
	19128	TOTAL PHOSPHORUS	0.040	0.046	mg/L	**14.0**	0-50		DUP	
turb_130515										
	19128	TURBIDITY	7.08	7.57	NTU	**6.7**	0-50		DUP	

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Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
200.7-130522A															
	19125	IRON	ND	0.057		0.050	mg/L	**114**		70-130	**NA**	0-60		LFM	
	19366	CALCIUM	91.8	111.3		26.0	mg/L	**75**		70-130	**NA**	0-50		LFM	
200.8_130522WW															
	18335	SILVER	ND	0.045		0.050	mg/L	**90**		70-130	**NA**	0-60		LFM	
	18335	CADMIUM	ND	0.042		0.050	mg/L	**84**		70-130	**NA**	0-60		LFM	
	18335	CHROMIUM	0.0009	0.055		0.050	mg/L	**108**		70-130	**NA**	0-60		LFM	
	18335	COPPER	0.007	0.059		0.050	mg/L	**104**		70-130	**NA**	0-60		LFM	
	18335	LEAD	ND	0.049		0.050	mg/L	**98**		70-130	**NA**	0-60		LFM	
	18335	SELENIUM	ND	0.035		0.050	mg/L	**70**		70-130	**NA**	0-60		LFM	
	18335	ZINC	0.014	0.052		0.050	mg/L	**76**		70-130	**NA**	0-60		LFM	
	19125	SILVER	ND	0.048		0.050	mg/L	**96**		70-130	**NA**	0-60		LFM	
	19125	BARIUM	0.044	0.096		0.050	mg/L	**104**		70-130	**NA**	0-50		LFM	
	19125	CADMIUM	ND	0.043		0.050	mg/L	**86**		70-130	**NA**	0-60		LFM	
	19125	CHROMIUM	ND	0.053		0.050	mg/L	**106**		70-130	**NA**	0-60		LFM	
	19125	COPPER	0.0009	0.050		0.050	mg/L	**98**		70-130	**NA**	0-60		LFM	
	19125	MANGANESE	0.004	0.054		0.050	mg/L	**100**		70-130	**NA**	0-50		LFM	
	19125	LEAD	ND	0.051		0.050	mg/L	**102**		70-130	**NA**	0-60		LFM	
	19125	SELENIUM	ND	0.035		0.050	mg/L	**70**		70-130	**NA**	0-60		LFM	
	19125	ZINC	ND	0.039		0.050	mg/L	**78**		70-130	**NA**	0-60		LFM	
	19573	COPPER	0.003	0.053		0.050	mg/L	**100**		70-130	**NA**	0-60		LFM	
245.1_130524															
	18582	MERCURY	ND	0.00166	0.00165	0.00167	mg/L	**99**	**99**	70-130	**0.6**	0-60		LFM	
	19138	MERCURY	ND	0.00168	0.00169	0.00167	mg/L	**101**	**101**	70-130	**0.6**	0-60		LFM	
	19686	MERCURY	0.00004	0.00169	0.00170	0.00167	mg/L	**99**	**99**	70-130	**0.6**	0-60		LFM	
	20069	MERCURY	ND	0.00164	0.00164	0.00167	mg/L	**98**	**98**	70-130	**0.0**	0-60		LFM	
8081W_130521															
	19128	ALDRIN	ND	0.544		0.5	ug/L	**109**	**NA**	68-128	**NA**	0-30		LFM	
	19128	BHC, ALPHA -	ND	0.533		0.5	ug/L	**107**	**NA**	37-134	**NA**	0-30		LFM	
	19128	BHC, BETA -	ND	0.517		0.5	ug/L	**103**	**NA**	17-147	**NA**	0-30		LFM	
	19128	LINDANE (BHC - GAMMA)	ND	0.522		0.5	ug/L	**104**	**NA**	19-140	**NA**	0-30		LFM	
	19128	BHC, DELTA -	ND	0.538		0.5	ug/L	**108**	**NA**	32-127	**NA**	0-30		LFM	
	19128	ALPHA-CHLORDANE	ND	0.569		0.5	ug/L	**114**	**NA**	70-130	**NA**	0-30		LFM	
	19128	GAMMA-CHLORDANE	ND	0.560		0.5	ug/L	**112**	**NA**	74-124	**NA**	0-30		LFM	

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Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
	19128	4,4' - DDT	ND	0.508		0.5	ug/L	**102**	**NA**	56-158	**NA**	0-30		LFM	
	19128	4,4' - DDE	ND	0.491		0.5	ug/L	**98**	**NA**	73-127	**NA**	0-30		LFM	
	19128	4,4' - DDD	ND	0.574		0.5	ug/L	**115**	**NA**	78-132	**NA**	0-30		LFM	
	19128	DIELDRIN	ND	0.580		0.5	ug/L	**116**	**NA**	74-134	**NA**	0-30		LFM	
	19128	ENDOSULFAN I	ND	0.540		0.5	ug/L	**108**	**NA**	67-133	**NA**	0-30		LFM	
	19128	ENDOSULFAN II	ND	0.604		0.5	ug/L	**121**	**NA**	64-142	**NA**	0-30		LFM	
	19128	ENDOSULFAN SULFATE	ND	0.525		0.5	ug/L	**105**	**NA**	71-143	**NA**	0-30		LFM	
	19128	ENDRIN	ND	0.526		0.5	ug/L	**105**	**NA**	30-147	**NA**	0-30		LFM	
	19128	ENDRIN ALDEHYDE	ND	0.558		0.5	ug/L	**112**	**NA**	78-110	**NA**	0-30		LFM	
	19128	ENDRIN KETONE	ND	0.571		0.5	ug/L	**114**	**NA**	70-130	**NA**	0-30		LFM	
	19128	HEPTACHLOR	ND	0.557		0.5	ug/L	**111**	**NA**	61-133	**NA**	0-30		LFM	
	19128	HEPTACHLOR EPOXIDE "B"	ND	0.540		0.5	ug/L	**108**	**NA**	73-127	**NA**	0-30		LFM	
	19128	METHOXYCHLOR	ND	0.562		0.5	ug/L	**112**	**NA**	41-157	**NA**	0-30		LFM	
8151_130521															
	19127	PICLORAM	ND	2.05		2.30	ug/L	**89**	**NA**	48-114	**NA**	0-30		LFM	
	19127	3,5 - DICHLOROBENZOIC ACID	ND	1.49		2.30	ug/L	**65**	**NA**	70-130	**NA**	0-30	M2	LFM	
	19127	BENTAZON	ND	5.22		4.60	ug/L	**113**	**NA**	67-121	**NA**	0-30		LFM	
	19127	TOTAL DCPA	ND	2.46		2.30	ug/L	**107**	**NA**	48-168	**NA**	0-30		LFM	
	19127	DALAPON	ND	23.2		29.9	ug/L	**78**	**NA**	53-142	**NA**	0-30		LFM	
	19127	2,4 DB	ND	6.89		18.4	ug/L	**37**	**NA**	49-134	**NA**	0-30	M2	LFM	
	19127	DINOSEB	ND	4.23		4.60	ug/L	**92**	**NA**	73-127	**NA**	0-30		LFM	
	19127	DICAMBA	ND	3.06		2.30	ug/L	**133**	**NA**	66-126	**NA**	0-30	M1	LFM	
	19127	DICHLORPROP	ND	4.97		6.90	ug/L	**72**	**NA**	63-123	**NA**	0-30		LFM	
	19127	2,4 - D	ND	3.27		4.60	ug/L	**71**	**NA**	60-120	**NA**	0-30		LFM	
	19127	PENTACHLOROPHENOL	ND	2.24		2.30	ug/L	**97**	**NA**	69-123	**NA**	0-30		LFM	
	19127	2,4,5 - TP (SILVEX)	ND	1.99		2.30	ug/L	**87**	**NA**	68-122	**NA**	0-30		LFM	
	19127	2,4,5 T	ND	1.94		2.30	ug/L	**84**	**NA**	62-128	**NA**	0-30		LFM	
	19127	ACIFLUORFEN	ND	2.32		2.30	ug/L	**101**	**NA**	65-125	**NA**	0-30		LFM	
8260W_130524															
	19125	1,2-DIBROMO-3-CHLOROPROPANE	ND	4.5	4.9	4	ug/L	**113**	**123**	70-130	**8.5**	0-60		LFM	
	19125	TRANS - 1,2 - DICHLOROETHENE	ND	3.5	3.3	4	ug/L	**88**	**83**	70-130	**5.9**	0-60		LFM	
	19125	1,1 - DICHLOROETHANE	ND	3.7	3.6	4	ug/L	**93**	**90**	70-130	**2.7**	0-60		LFM	
	19125	2,2 - DICHLOROPROPANE	ND	3.8	3.7	4	ug/L	**95**	**93**	70-130	**2.7**	0-60		LFM	
	19125	CIS - 1,2 - DICHLOROETHENE	ND	3.5	3.4	4	ug/L	**88**	**85**	70-130	**2.9**	0-60		LFM	

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Matrix Spike

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	19125	BROMOCHLOROMETHANE	ND	3.9	3.9	4	ug/L	**98**	**98**	70-130	**0.0**	0-60		LFM	
	19125	CHLOROFORM	ND	3.7	3.6	4	ug/L	**93**	**90**	70-130	**2.7**	0-60		LFM	
	19125	1,1,1 - TRICHLOROETHANE	ND	3.7	3.7	4	ug/L	**93**	**93**	70-130	**0.0**	0-60		LFM	
	19125	1,1 - DICHLOROPROPENE	ND	3.6	3.5	4	ug/L	**90**	**88**	70-130	**2.8**	0-60		LFM	
	19125	CARBON TETRACHLORIDE	ND	3.8	3.6	4	ug/L	**95**	**90**	70-130	**5.4**	0-60		LFM	
	19125	BENZENE	ND	3.6	3.7	4	ug/L	**90**	**93**	70-130	**2.7**	0-60		LFM	
	19125	DICHLORODIFLUOROMETHANE	ND	3.3	3.3	4	ug/L	**83**	**83**	70-130	**0.0**	0-60		LFM	
	19125	1,2 - DICHLOROETHANE	ND	4.1	4.1	4	ug/L	**103**	**103**	70-130	**0.0**	0-60		LFM	
	19125	TRICHLOROETHENE	ND	3.6	3.6	4	ug/L	**90**	**90**	70-130	**0.0**	0-60		LFM	
	19125	1,2 - DICHLOROPROPANE	ND	3.5	3.6	4	ug/L	**88**	**90**	70-130	**2.8**	0-60		LFM	
	19125	DIBROMOMETHANE	ND	4.0	4.0	4	ug/L	**100**	**100**	70-130	**0.0**	0-60		LFM	
	19125	BROMODICHLOROMETHANE	ND	3.8	3.9	4	ug/L	**95**	**98**	70-130	**2.6**	0-60		LFM	
	19125	CIS - 1,3 - DICHLOROPROPENE	ND	3.4	3.3	4	ug/L	**85**	**83**	70-130	**3.0**	0-60		LFM	
	19125	TOLUENE	ND	3.7	3.5	4	ug/L	**93**	**88**	70-130	**5.6**	0-60		LFM	
	19125	TRANS - 1,3 - DICHLOROPROPENE	ND	3.4	3.4	4	ug/L	**85**	**85**	70-130	**0.0**	0-60		LFM	
	19125	CHLOROMETHANE	ND	4.3	3.5	4	ug/L	**108**	**88**	70-130	**20.5**	0-60		LFM	
	19125	1,1,2 - TRICHLOROETHANE	ND	3.7	3.6	4	ug/L	**93**	**90**	70-130	**2.7**	0-60		LFM	
	19125	TETRACHLOROETHYLENE	ND	3.7	3.6	4	ug/L	**93**	**90**	70-130	**2.7**	0-60		LFM	
	19125	1,3 - DICHLOROPROPANE	ND	3.8	3.7	4	ug/L	**95**	**93**	70-130	**2.7**	0-60		LFM	
	19125	DIBROMOCHLOROMETHANE	ND	3.5	3.8	4	ug/L	**88**	**95**	70-130	**8.2**	0-60		LFM	
	19125	CHLOROBENZENE	ND	3.8	3.6	4	ug/L	**95**	**90**	70-130	**5.4**	0-60		LFM	
	19125	1,1,1,2 - TETRACHLOROETHANE	ND	3.9	4.0	4	ug/L	**98**	**100**	70-130	**2.5**	0-60		LFM	
	19125	ETHYLBENZENE	ND	3.6	3.4	4	ug/L	**90**	**85**	70-130	**5.7**	0-60		LFM	
	19125	M,P- XYLENE	ND	6.9	6.4	8	ug/L	**86**	**80**	70-130	**7.5**	0-60		LFM	
	19125	VINYL CHLORIDE	ND	3.6	3.3	4	ug/L	**90**	**83**	70-130	**8.7**	0-60		LFM	
	19125	O - XYLENE	ND	3.3	3.1	4	ug/L	**83**	**78**	70-130	**6.3**	0-60		LFM	
	19125	STYRENE	ND	3.2	3.2	4	ug/L	**80**	**80**	70-130	**0.0**	0-60		LFM	
	19125	BROMOFORM	ND	3.2	3.5	4	ug/L	**80**	**88**	70-130	**9.0**	0-60		LFM	
	19125	ISOPROPYLBENZENE	ND	3.4	3.2	4	ug/L	**85**	**80**	70-130	**6.1**	0-60		LFM	
	19125	1,2,3 - TRICHLOROPROPANE	ND	3.4	3.7	4	ug/L	**85**	**93**	70-130	**8.5**	0-60		LFM	
	19125	BROMOBENZENE	ND	3.4	3.5	4	ug/L	**85**	**88**	70-130	**2.9**	0-60		LFM	
	19125	1,1,2,2 - TETRACHLOROETHANE	ND	3.5	3.7	4	ug/L	**88**	**93**	70-130	**5.6**	0-60		LFM	
	19125	O - CHLOROTOLUENE	ND	3.5	3.4	4	ug/L	**88**	**85**	70-130	**2.9**	0-60		LFM	
	19125	N - PROPYLBENZENE	ND	3.5	3.3	4	ug/L	**88**	**83**	70-130	**5.9**	0-60		LFM	
	19125	1,3,5 - TRIMETHYLBENZENE	ND	3.4	3.4	4	ug/L	**85**	**85**	70-130	**0.0**	0-60		LFM	

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Matrix Spike

				Spike	Duplicate Spike	Spike		Percent Recovery					QC		
Batch	Sample	Analyte	Result	Result	Result	Conc	Units	MS	MSD	Limits*	%RPD	Limits*	Qualifier	Type	Comments
	19125	BROMOMETHANE	ND	3.5	3.5	4	ug/L	**88**	**88**	70-130	**0.0**	0-60		LFM	
	19125	P - CHLOROTOLUENE	ND	3.4	3.3	4	ug/L	**85**	**83**	70-130	**3.0**	0-60		LFM	
	19125	TERT - BUTYLBENZENE	ND	3.3	3.2	4	ug/L	**83**	**80**	70-130	**3.1**	0-60		LFM	
	19125	1,2,4 - TRIMETHYLBENZENE	ND	3.3	3.1	4	ug/L	**83**	**78**	70-130	**6.3**	0-60		LFM	
	19125	SEC - BUTYLBENZENE	ND	3.3	3.3	4	ug/L	**83**	**83**	70-130	**0.0**	0-60		LFM	
	19125	1,3 - DICHLOROBENZENE (meta)	ND	3.8	3.8	4	ug/L	**95**	**95**	70-130	**0.0**	0-60		LFM	
	19125	P - ISOPROPYLTOLUENE	ND	3.3	3.3	4	ug/L	**83**	**83**	70-130	**0.0**	0-60		LFM	
	19125	1,4 - DICHLOROBENZENE (para)	ND	3.8	3.7	4	ug/L	**95**	**93**	70-130	**2.7**	0-60		LFM	
	19125	1,2 - DICHLOROBENZENE (ortho)	ND	3.5	3.5	4	ug/L	**88**	**88**	70-130	**0.0**	0-60		LFM	
	19125	N - BUTYLBENZENE	ND	3.5	3.6	4	ug/L	**88**	**90**	70-130	**2.8**	0-60		LFM	
	19125	CHLOROETHANE	ND	3.8	1.7	4	ug/L	**95**	**43**	70-130	**76.4**	0-60	EC	LFM	
	19125	1,2,4 - TRICHLOROBENZENE	ND	3.0	3.5	4	ug/L	**75**	**88**	70-130	**15.4**	0-60		LFM	
	19125	HEXACHLOROBUTADIENE	ND	3.4	3.3	4	ug/L	**85**	**83**	70-130	**3.0**	0-60		LFM	
	19125	NAPHTHALENE	ND	2.6	2.9	4	ug/L	**65**	**73**	70-130	**10.9**	0-60	M2	LFM	
	19125	1,2,3 - TRICHLOROBENZENE	ND	2.9	3.6	4	ug/L	**73**	**90**	70-130	**21.5**	0-60		LFM	
	19125	TRICHLOROFLUOROMETHANE	ND	4.0	3.6	4	ug/L	**100**	**90**	70-130	**10.5**	0-60		LFM	
	19125	1,1 - DICHLOROETHYLENE	ND	3.5	3.1	4	ug/L	**88**	**78**	70-130	**12.1**	0-60		LFM	
	19125	METHYLENE CHLORIDE	ND	3.8	3.4	4	ug/L	**95**	**85**	70-130	**11.1**	0-60		LFM	
	19125	METHYL TERT-BUTYL ETHER	ND	3.0	3.2	4	ug/L	**75**	**80**	70-130	**6.5**	0-60		LFM	
I130515A															
	19138	FLUORIDE	ND	1.02		1	mg/L	**102**	**NA**	90-110	**NA**	0-75		LFM	
	19138	NITRATE-N	ND	1.03		1	mg/L	**103**	**NA**	80-120	**NA**	0-60		LFM	
	19138	CHLORIDE	15	16		1	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	
	19194	FLUORIDE	0.32	1.27		1	mg/L	**95**	**NA**	90-110	**NA**	0-75		LFM	
	19194	NITRATE-N	0.1	1.14		1	mg/L	**104**	**NA**	80-120	**NA**	0-60		LFM	
	19256	NITRATE-N	ND	1		1	mg/L	**100**	**NA**	80-120	**NA**	0-60		LFM	
TPHOS-130517															
	17693	TOTAL PHOSPHORUS	0.126	0.180	0.209	0.050	mg/L	**108**	**166**	70-130	**42.3**	0-50	IM	LFM	
	17703	TOTAL PHOSPHORUS	0.026	0.075	0.070	0.050	mg/L	**98**	**88**	70-130	**10.8**	0-50		LFM	
	17713	TOTAL PHOSPHORUS	0.204	0.250	0.231	0.050	mg/L	**92**	**54**	70-130	**52.1**	0-50	IM	LFM	
	17723	TOTAL PHOSPHORUS	0.041	0.159	0.171	0.100	mg/L	**118**	**130**	70-130	**9.7**	0-50		LFM	
	18208	TOTAL PHOSPHORUS	0.042	0.097	0.105	0.050	mg/L	**110**	**126**	70-130	**13.6**	0-50		LFM	
	18700	TOTAL PHOSPHORUS	0.021	0.069	0.068	0.050	mg/L	**96**	**94**	70-130	**2.1**	0-50		LFM	
	18710	TOTAL PHOSPHORUS	0.041	0.100	0.102	0.050	mg/L	**118**	**122**	70-130	**3.3**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
	19128	TOTAL PHOSPHORUS	0.040	0.093	0.104	0.050	mg/L	**106**	**128**	70-130	**18.8**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Qualifier Definitions

Reference Number: 13-08278
Report Date: 06/14/13

Qualifier	Definition
EC	This compound is subject to erratic chromatographic behavior.
IJ	An estimated concentration, below calibration curve but above method detection limit.
IM	Matrix induced bias assumed
INH	The sample was non-homogeneous
IS	The ratio of the spike concentration to sample background was too low to meet performance criteria
M1	Matrix spike recovery was high; the associated blank spike recovery was acceptable. Matrix bias indicated.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
MN	Mechanical loss during extraction. See extraction log.
N1	See case narrative.
S10	Surrogate recovery was outside laboratory and method acceptance limits. See case narrative.

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Page______ of______

19327

Chain of Custody / Analysis Request (F

13-08278
19125 - 19128

aded sections)

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to:	Walla Walla Basin Watershed Cour	Bill to:	
Ship Address:	810 S Main Street	Address:	
City:	Milton-Freewa St: OR Zip: 97862	City:	St: Zip:
Attn:	Steven Patten	Phone:	FAX:
Phone:	541.938-2170 FAX:	P.O.#:	Attn:
Email:	steven.patten@wwbwc.org	☐ Visa ☐ M/C ☐ A/E	Expires /
Project	Water Quality	Card#:	

For Lab Use Only
Ref # 13-08278

Check Regulatory Program
☐ Safe Drinking Water Act
☐ Clean Water Act
☐ RCRA / CERCLA
☐ Other

CO019327

Instructions
1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
☑ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	8081 (Chlorinated Pesticides)	8151 (2-4 D) (2, 4, 5-TP Silvex)	8260 (1,1,1-Trichloroethane)	8260 Field Blank (VOCs)	Ba,Cd,Cr,Pb,Hg,Se,Ag, Cu,Fe,Mn,Zn	Carbonate and Bicarbonate	Chloride, Sulfate, Fluoride, TDS, Color	MBAS (Foaming Agents)	Number of Containers	Special Instructions Conditions on Receipt
1	GW-70	LOCHER ROAD RECHARGE		GW	5-14-13	AM 11:00	☒	☒	☒	☒	☒	☒	☒	☒		
2	GW-71	" "		GW	"	10:40	☒	☒	☒	☒	☒	☒	☒	☒		
3	GW-72	" "		GW	"	9:00	☒	☒	☒	☒	☒	☒	☒	☒		
4	SW-1	" "		SW	"	11:30	☒	☒	☒	☒	☒	☒	☒	☒		
5					"		☐	☐	☐	☐	☐	☐	☐	☐		
6							☐	☐	☐	☐	☐	☐	☐	☐		
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: Phone: FAX: Email: Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **DW** - drinking water **SW** - surface water **GW** - Ground water **WW** - waste water **S** - soil **OL** - oil Other__________

Relinquished by	Date	Time	Received by	Date	Time
T. Baker	5/14/13	2:00			
			PMS	5/15/13	0930

	Yes	No	N/A
Custody seals intact UPS	☐	☐	☐
Sample temp 5 C satisfactory	☐	☐	☐
Samples received intact	☐	☐	
Chain of custody & labels agree	☐	☐	

Page______ of______

19327

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to: Walla Walla Basin Watershed Cour
Ship Address: 810 S Main Street
City: Milton-Freewa St: OR Zip: 97862
Attn: Steven Patten
Phone: 541.938-2170 FAX:
Email: steven.patten@wwbwc.org
Project: Water Quality

Bill to:
Address:
City: St: Zip:
Phone: FAX:
P.O.#: Attn:
☐ Visa ☐ M/C ☐ A/E Expires /
Card#:

For Lab Use Only
Ref #

Check Regulatory Program
☐ Safe Drinking Water Act
☐ Clean Water Act
☐ RCRA / CERCLA
☐ Other

CO019327

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	Nitrate as N, Turbidity, Corrosivity	Odor	SM9223B (GROUND WATER)	SM9223B.2b (SURFACE WATER)	Total Phosphorus				Number of Containers	Special Instructions Conditions on Receipt
1	GW-70	Locher Road Recharge		GW	5-14-13	11:00 Am	☒	☒	☒	~~☒~~	☒	☐	☐	☐	13	
2	GW-71	" "		GW	"	10:40	☒	☒	☒	☐	☒	☐	☐	☐	13	
3	GW-72	" "		GW	"	9:00	☒	☒	☒	☐	☒	☐	☐	☐	13	
4	SW-1	" "		SW	"	11:30	☒	☒	☐	☒	☒	☐	☐	☐	15	
5							☐	☐	☐	☐	☐	☐	☐	☐		
6							☐	☐	☐	☐	☐	☐	☐	☐		
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: Phone: FAX: Email: Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **SW** - surface water **WW** - waste water **OL** - oil
DW - drinking water **GW** - Ground water **S** - soil Other__________

Relinquished by	Date	Time	Received by	Date	Time
T. Baker	5/14/13	2:06			

	Yes	No	N/A
Custody seals intact	☐	☐	☐
Sample temp_____C satisfactory	☐	☐	☐
Samples received intact	☐	☐	
Chain of custody & labels agree	☐	☐	

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 ● 360.757.1400 ● 360.757.1402fax

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Attn: Mr. Steven Patten

Reference: **13-08278**
Date: June 18, 2013
Project: Water Quality
Date Received: May 15, 2013
Purchase Order:

	Lab Sample	Client Sample		Type of	Extended
Item	**Number**	**Number**	**Description**	**Analysis**	**Cost**
1	19125.00	GW-70	Locher Road Recharge	Pesticides in Water	$182.00
2	19125.00	GW-70	Locher Road Recharge	Chlorinated Herbicides	$231.00
3	19125.00	GW-70	Locher Road Recharge	Volatile Organic Compounds GC/MS	$280.00
4	19125.00	GW-70	Locher Road Recharge	Metals in Wastewater	$168.00
5	19125.00	GW-70	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
6	19125.10	GW-70	Locher Road Recharge	Surfactants	$70.00
7	19125.10	GW-70	Locher Road Recharge	Nitrate-N	$21.00
8	19125.10	GW-70	Locher Road Recharge	Turbidity	$15.00
9	19125.10	GW-70	Locher Road Recharge	Corrosivity	$53.00
10	19125.10	GW-70	Locher Road Recharge	ODOR	$21.00
11	19125.10	GW-70	Locher Road Recharge	Total Phosphorus	$24.00
12	19125.10	GW-70	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
13	19125.10	GW-70	Locher Road Recharge	Chloride	$21.00
14	19125.10	GW-70	Locher Road Recharge	Sulfate	$20.00
15	19125.20	GW-70	Locher Road Recharge	Fluoride	$21.00
16	19125.20	GW-70	Locher Road Recharge	Total Dissolved Solids	$20.00
17	19125.20	GW-70	Locher Road Recharge	Color	$19.00
18	19126.00	GW-71	Locher Road Recharge	Pesticides in Water	$182.00
19	19126.00	GW-71	Locher Road Recharge	Chlorinated Herbicides	$231.00
20	19126.00	GW-71	Locher Road Recharge	Volatile Organic Compounds GC/MS	$280.00
21	19126.00	GW-71	Locher Road Recharge	Metals in Wastewater	$168.00
22	19126.00	GW-71	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
23	19126.10	GW-71	Locher Road Recharge	Surfactants	$70.00
24	19126.10	GW-71	Locher Road Recharge	Nitrate-N	$21.00
25	19126.10	GW-71	Locher Road Recharge	Turbidity	$15.00
26	19126.10	GW-71	Locher Road Recharge	Corrosivity	$53.00
27	19126.10	GW-71	Locher Road Recharge	ODOR	$21.00
28	19126.10	GW-71	Locher Road Recharge	Total Phosphorus	$24.00

Thank You for Your Business

Please pay to corporate office by July 18, 2013 to avoid a 1.5% per month finance charge.

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Reference: **13-08278**
Date: June 18, 2013
Project: Water Quality
Date Received: May 15, 2013
Purchase Order:

Attn: Mr. Steven Patten

Item	Lab Sample Number	Client Sample Number	Client Sample Description	Type of Analysis	Extended Cost
29	19126.10	GW-71	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
30	19126.10	GW-71	Locher Road Recharge	Chloride	$21.00
31	19126.10	GW-71	Locher Road Recharge	Sulfate	$20.00
32	19126.10	GW-71	Locher Road Recharge	Fluoride	$21.00
33	19126.20	GW-71	Locher Road Recharge	Total Dissolved Solids	$20.00
34	19126.20	GW-71	Locher Road Recharge	Color	$19.00
35	19127.00	GW-72	Locher Road Recharge	Pesticides in Water	$182.00
36	19127.00	GW-72	Locher Road Recharge	Chlorinated Herbicides	$231.00
37	19127.00	GW-72	Locher Road Recharge	Volatile Organic Compounds GC/MS	$280.00
38	19127.00	GW-72	Locher Road Recharge	Metals in Wastewater	$168.00
39	19127.00	GW-72	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
40	19127.10	GW-72	Locher Road Recharge	Surfactants	$70.00
41	19127.10	GW-72	Locher Road Recharge	Nitrate-N	$21.00
42	19127.10	GW-72	Locher Road Recharge	Turbidity	$15.00
43	19127.10	GW-72	Locher Road Recharge	Corrosivity	$53.00
44	19127.10	GW-72	Locher Road Recharge	ODOR	$21.00
45	19127.10	GW-72	Locher Road Recharge	Total Phosphorus	$24.00
46	19127.10	GW-72	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
47	19127.10	GW-72	Locher Road Recharge	Chloride	$21.00
48	19127.10	GW-72	Locher Road Recharge	Sulfate	$20.00
49	19127.10	GW-72	Locher Road Recharge	Fluoride	$21.00
50	19127.20	GW-72	Locher Road Recharge	Total Dissolved Solids	$20.00
51	19127.20	GW-72	Locher Road Recharge	Color	$19.00
52	19128.00	SW-1	Locher Road Recharge	Pesticides in Water	$182.00
53	19128.00	SW-1	Locher Road Recharge	Chlorinated Herbicides	$231.00
54	19128.00	SW-1	Locher Road Recharge	Volatile Organic Compounds GC/MS	$280.00
55	19128.00	SW-1	Locher Road Recharge	Metals in Wastewater	$168.00
56	19128.00	SW-1	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
57	19128.10	SW-1	Locher Road Recharge	Surfactants	$70.00

Thank You for Your Business

Please pay to corporate office by July 18, 2013 to avoid a 1.5% per month finance charge.

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 ● 360.757.1400 ● 360.757.1402fax

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Attn: Mr. Steven Patten

Reference: **13-08278**
Date: June 18, 2013
Project: Water Quality
Date Received: May 15, 2013
Purchase Order:

Item	Lab Sample Number	Client Sample Number	Description	Type of Analysis	Extended Cost
58	19128.10	SW-1	Locher Road Recharge	Nitrate-N	$21.00
59	19128.10	SW-1	Locher Road Recharge	Turbidity	$15.00
60	19128.10	SW-1	Locher Road Recharge	Corrosivity	$53.00
61	19128.10	SW-1	Locher Road Recharge	ODOR	$21.00
62	19128.10	SW-1	Locher Road Recharge	Total Phosphorus	$24.00
63	19128.10	SW-1	Locher Road Recharge	carbonate/bicarbonate/hydroxide	$25.00
64	19128.10		Shipping Charge	SHIPPING CHARGE	$12.00
65	19128.10	SW-1	Locher Road Recharge	QuantiTray Total Coliform and E Coli Cour	$27.00
66	19128.10	SW-1	Locher Road Recharge	Chloride	$21.00
67	19128.20	SW-1	Locher Road Recharge	Sulfate	$20.00
68	19128.20	SW-1	Locher Road Recharge	Fluoride	$21.00
69	19128.20	SW-1	Locher Road Recharge	Total Dissolved Solids	$20.00
70	19128.20	SW-1	Locher Road Recharge	Color	$19.00

Grand Total:	$4,903.00
Amount Paid:	$0.00
Amount Due:	$4,903.00

Thank You for Your Business

Please pay to corporate office by July 18, 2013 to avoid a 1.5% per month finance charge.

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

June 13, 2013

Case Narrative

Reference: **13-08384**

Lab Sample ID	**Sample Information**
19375	**Soil #7 - Locher Road Recharge**

Analytical Method	**Notes**	**Created by**
8081A	LFB and LFM had high recovery outside the acceptance range for Endosulfan II. Surrogate recoveries for LFB and LFM were also high, but with in acceptance range showing a possible increase in detector response. There were no sample detections for this compound and increase in response shows that Endosulfan II would still be detectable if present in sample.	ERM
8081A	LFB and LFM had high recovery outside the acceptance range for Endosulfan II. Surrogate recoveries for LFB and LFM were also high, but with in acceptance range showing a possible increase in detector response. There were no sample detections for this compound and with an increase in response Endosulfan II would still be detectable if present in sample.	ERM
8081A	LFB and LFM had high recovery outside the acceptance range for Endosulfan II. Surrogate recoveries for LFB and LFM were also high, but with in acceptance range showing a possible increase in detector response. There were no sample detections for this compound and with an increase in response Endosulfan II would still be detectable if present in sample.	ERM

EDGE ANALYTICAL LABORATORIES

Burlington WA	Bellingham WA	Portland OR
Corporate Office	*Microbiology*	*Microbiology/Chemistry*
1620 S Walnut St - 98233	805 Orchard Dr Ste 4 - 98225	9150 SW Pioneer Ct Ste W- 97070
800.755.9295 • 360.757.1400	360.671.0688	503.682.7802

Data Report

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Report Date: 6/13/13
Date Received: 5/15/13
Reviewed by:

Sample Description: Soil #1 - Locher Road Recharge
Sample Date: 5/14/13
Lab Number: 19369
Sample Comment:
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	2.6	0.01	0.1	0.015	mg/Kg	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	936	123	123		mg/Kg	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #2 - Locher Road Recharge
Sample Date: 5/14/13
Lab Number: 19370
Sample Comment:
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	0.6	0.01	0.1	0.015	mg/Kg	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	976	122	122		mg/Kg	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #3 - Locher Road Recharge
Sample Date: 5/14/13
Lab Number: 19371
Sample Comment:
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	2.9	0.01	0.1	0.015	mg/Kg	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1195	117	117		mg/Kg	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #4 - Locher Road Recharge
Sample Date: 5/14/13
Lab Number: 19372
Sample Comment:
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	0.5	0.01	0.1	0.015	mg/Kg	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1217	127	127		mg/Kg	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #5 - Locher Road Recharge
Sample Date: 5/14/13
Lab Number: 19373
Sample Comment:
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	3.9	0.01	0.1	0.015	mg/Kg	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1204	130	130		mg/Kg	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Reference Number: **13-08384**
Report Date: 6/13/13

Data Report

Sample Description: Soil #6 - Locher Road Recharge
Lab Number: 19374 Sample Comment:
Sample Date: 5/14/13
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	0.5	0.01	0.1	0.015	**mg/Kg**	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1222	124	124		**mg/Kg**	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #7 - Locher Road Recharge
Lab Number: 19375 Sample Comment:
Sample Date: 5/14/13
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	2.8	0.01	0.1	0.015	**mg/Kg**	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1240	120	120		**mg/Kg**	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #8 - Locher Road Recharge
Lab Number: 19376 Sample Comment:
Sample Date: 5/14/13
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	2.2	0.01	0.1	0.015	**mg/Kg**	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1162	119	119		**mg/Kg**	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #9 - Locher Road Recharge
Lab Number: 19377 Sample Comment:
Sample Date: 5/14/13
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	2.0	0.01	0.1	0.015	**mg/Kg**	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1189	123	123		**mg/Kg**	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Sample Description: Soil #10 - Locher Road Recharge
Lab Number: 19378 Sample Comment:
Sample Date: 5/14/13
Collected By: Steven Patten

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
14797-55-8	**NITRATE-N**	1.1	0.01	0.1	0.015	**mg/Kg**	1.00	SM4500-NO3 F	5/23/13	DN	SOILTEST_13052	Analzyed by Soiltest
7723-14-0	**TOTAL PHOSPHORUS**	1148	128	128		**mg/Kg**	1.00	SM4500-P F/SM450(	6/3/13	SPL	TPHOS-130603	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19378
Field ID: Soil #10
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/28/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130528

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**		mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19377
Field ID: Soil #9
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/28/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130528

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**		mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19376
Field ID: Soil #8
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/28/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130528

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**		mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

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DATA REPORT

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19375
Field ID: Soil #7
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/28/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130528

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**		mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**		mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19374
Field ID: Soil #6
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/23/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130523

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19373
Field ID: Soil #5
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/23/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130523

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**0.0016**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**0.0007**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
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WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19372
Field ID: Soil #4
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/23/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130523

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**0.0010**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

If you have any questions concerning this report contact us at the above phone number.

EDGE ANALYTICAL LABORATORIES

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360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19371
Field ID: Soil #3
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/23/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130523

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**0.0010**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
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WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19370
Field ID: Soil #2
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/23/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130523

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**0.0025**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**ND**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**		mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
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WSDOE Lab C567

DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-08384**
Project: Soil Sampling

Lab Number: 19369
Field ID: Soil #1
Sample Description: Locher Road Recharge
Matrix: Soil
Sample Date: 5/14/13
Extraction Date: 5/23/13
Extraction Method: 3540C

Report Date: 6/13/13
Date Analyzed: 6/5/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081S_130523

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-84-6	BHC, ALPHA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-85-7	BHC, BETA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		mg/Kg	0.0004	0.0004		1.00	
319-86-8	BHC, DELTA -	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		mg/Kg	0.0004	0.0004		1.00	
50-29-3	4,4' - DDT	**ND**	M2	mg/Kg	0.0004	0.0004		1.00	
72-55-9	4,4' - DDE	**0.0054**		mg/Kg	0.0004	0.0004		1.00	
72-54-8	4,4' - DDD	**0.0009**		mg/Kg	0.0004	0.0004		1.00	
60-57-1	DIELDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
959-98-8	ENDOSULFAN I	**ND**	M2	mg/Kg	0.0004	0.0004		1.00	
33213-65-	ENDOSULFAN II	**ND**		mg/Kg	0.0004	0.0004		1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-20-8	ENDRIN	**ND**		mg/Kg	0.0004	0.0004		1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**	M2	mg/Kg	0.0004	0.0004		1.00	
53494-70-	ENDRIN KETONE	**ND**	M2	mg/Kg	0.0004	0.0004		1.00	
76-44-8	HEPTACHLOR	**ND**	CV	mg/Kg	0.0004	0.0004		1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		mg/Kg	0.0004	0.0004		1.00	
72-43-5	METHOXYCHLOR	**ND**	M2	mg/Kg	0.0004	0.0004		1.00	
8001-35-2	TOXAPHENE	**ND**		mg/Kg	0.25	0.25		1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

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Form: c608.rpt

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-08384
Report Date: 06/19/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8081S_130523	4,4' - DDD	0.0153	0.02	mg/Kg	8081A	77	31-141		LFB	
	4,4' - DDE	0.0136	0.02	mg/Kg	8081A	68	30-145			
	4,4' - DDT	0.0148	0.02	mg/Kg	8081A	74	25-160			
	ALDRIN	0.0141	0.02	mg/Kg	8081A	71	42-128			
	ALPHA-CHLORDANE	0.0161	0.02	mg/Kg	8081A	81	60-140			
	BHC, ALPHA -	0.0133	0.02	mg/Kg	8081A	67	37-134			
	BHC, BETA -	0.0139	0.02	mg/Kg	8081A	70	17-147			
	BHC, DELTA -	0.0124	0.02	mg/Kg	8081A	62	32-127			
	DIELDRIN	0.0160	0.02	mg/Kg	8081A	80	57-126			
	ENDOSULFAN I	0.0148	0.02	mg/Kg	8081A	74	67-133			
	ENDOSULFAN II	0.0167	0.02	mg/Kg	8081A	84	42-146			
	ENDOSULFAN SULFATE	0.0156	0.02	mg/Kg	8081A	78	20-172			
	ENDRIN	0.0145	0.02	mg/Kg	8081A	73	30-147			
	ENDRIN ALDEHYDE	0.0160	0.02	mg/Kg	8081A	80	78-110			
	ENDRIN KETONE	0.0167	0.02	mg/Kg	8081A	84	60-140			
	GAMMA-CHLORDANE	0.0155	0.02	mg/Kg	8081A	78	60-140			
	HEPTACHLOR	0.0171	0.02	mg/Kg	8081A	86	34-111			
	HEPTACHLOR EPOXIDE "B"	0.0150	0.02	mg/Kg	8081A	75	37-142			
	LINDANE (BHC - GAMMA)	0.0130	0.02	mg/Kg	8081A	65	17-140			
	METHOXYCHLOR	0.0175	0.02	mg/Kg	8081A	88	41-157			
	DECACHLOROBIPHENYL (Surr)	97		%	8081A		35-155			
	TETRACHLORO-M-XYLENE (Surr)	88		%	8081A		81-123			
8081S_130528	4,4' - DDD	0.0257	0.02	mg/Kg	8081A	129	31-141		LFB	
	4,4' - DDE	0.0225	0.02	mg/Kg	8081A	113	30-145			
	4,4' - DDT	0.0249	0.02	mg/Kg	8081A	125	25-160			
	ALDRIN	0.0151	0.02	mg/Kg	8081A	76	42-128			
	ALPHA-CHLORDANE	0.0222	0.02	mg/Kg	8081A	111	60-140			
	BHC, ALPHA -	0.0129	0.02	mg/Kg	8081A	65	37-134			
	BHC, BETA -	0.0219	0.02	mg/Kg	8081A	110	17-147			
	BHC, DELTA -	0.0198	0.02	mg/Kg	8081A	99	32-127			
	DIELDRIN	0.0238	0.02	mg/Kg	8081A	119	57-126			
	ENDOSULFAN I	0.0213	0.02	mg/Kg	8081A	107	67-133			
	ENDOSULFAN II	0.0301	0.02	mg/Kg	8081A	151	42-146	HQ		
	ENDOSULFAN SULFATE	0.0285	0.02	mg/Kg	8081A	143	20-172			

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-08384
Report Date: 06/19/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8081S_130528	ENDRIN	0.0210	0.02	mg/Kg	8081A	105	30-147		LFB	
	ENDRIN ALDEHYDE	0.0216	0.02	mg/Kg	8081A	108	78-110			
	ENDRIN KETONE	0.0281	0.02	mg/Kg	8081A	141	60-140			
	GAMMA-CHLORDANE	0.0236	0.02	mg/Kg	8081A	118	60-140			
	HEPTACHLOR	0.0163	0.02	mg/Kg	8081A	82	34-111			
	HEPTACHLOR EPOXIDE "B"	0.0202	0.02	mg/Kg	8081A	101	37-142			
	LINDANE (BHC - GAMMA)	0.0145	0.02	mg/Kg	8081A	73	17-140			
	METHOXYCHLOR	0.0299	0.02	mg/Kg	8081A	150	41-157			
	DECACHLOROBIPHENYL (Surr)	154		%	8081A		35-155			
	TETRACHLORO-M-XYLENE (Surr)	78		%	8081A		81-123			
TPHOS-130603	TOTAL PHOSPHORUS	5.05	5.00	mg/L	SM4500-P F	101	70-130		LFB	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 13-08384
Report Date: 06/19/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
TPHOS-130603	TOTAL PHOSPHORUS	ND		mg/L	SM4500-P F		0.01000		LRB	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-08384
Report Date: 06/19/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8081S_130523	4,4' - DDD	ND		mg/Kg	8081A		0.00800		MB	
	4,4' - DDE	ND		mg/Kg	8081A		0.00800			
	4,4' - DDT	ND		mg/Kg	8081A		0.00800			
	ALDRIN	ND		mg/Kg	8081A		0.00800			
	ALPHA-CHLORDANE	ND		mg/Kg	8081A		0.00800			
	BHC, ALPHA -	ND		mg/Kg	8081A		0.00800			
	BHC, BETA -	ND		mg/Kg	8081A		0.00800			
	BHC, DELTA -	ND		mg/Kg	8081A		0.00800			
	DIELDRIN	ND		mg/Kg	8081A		0.00800			
	ENDOSULFAN I	ND		mg/Kg	8081A		0.00800			
	ENDOSULFAN II	ND		mg/Kg	8081A		0.00800			
	ENDOSULFAN SULFATE	ND		mg/Kg	8081A		0.00800			
	ENDRIN	ND		mg/Kg	8081A		0.00800			
	ENDRIN ALDEHYDE	ND		mg/Kg	8081A		0.00800			
	ENDRIN KETONE	ND		mg/Kg	8081A		0.00800			
	GAMMA-CHLORDANE	ND		mg/Kg	8081A		0.00800			
	HEPTACHLOR	ND		mg/Kg	8081A		0.00800			
	HEPTACHLOR EPOXIDE "B"	ND		mg/Kg	8081A		0.00800			
	LINDANE (BHC - GAMMA)	ND		mg/Kg	8081A		0.00800			
	METHOXYCHLOR	ND		mg/Kg	8081A		0.00800			
	TOXAPHENE	ND		mg/Kg	8081A		0.00800			
	DECACHLOROBIPHENYL (Surr)	82		%	8081A					
	TETRACHLORO-M-XYLENE (Surr)	87		%	8081A					
8081S_130528	4,4' - DDD	ND		mg/Kg	8081A		0.00800		MB	
	4,4' - DDE	ND		mg/Kg	8081A		0.00800			
	4,4' - DDT	ND		mg/Kg	8081A		0.00800			
	ALDRIN	ND		mg/Kg	8081A		0.00800			
	ALPHA-CHLORDANE	ND		mg/Kg	8081A		0.00800			
	BHC, ALPHA -	ND		mg/Kg	8081A		0.00800			
	BHC, BETA -	ND		mg/Kg	8081A		0.00800			
	BHC, DELTA -	ND		mg/Kg	8081A		0.00800			
	DIELDRIN	ND		mg/Kg	8081A		0.00800			
	ENDOSULFAN I	ND		mg/Kg	8081A		0.00800			
	ENDOSULFAN II	ND		mg/Kg	8081A		0.00800			

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-08384
Report Date: 06/19/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8081S_130528	ENDOSULFAN SULFATE	ND		mg/Kg	8081A		0.00800		MB	
	ENDRIN	ND		mg/Kg	8081A		0.00800			
	ENDRIN ALDEHYDE	ND		mg/Kg	8081A		0.00800			
	ENDRIN KETONE	ND		mg/Kg	8081A		0.00800			
	GAMMA-CHLORDANE	ND		mg/Kg	8081A		0.00800			
	HEPTACHLOR	ND		mg/Kg	8081A		0.00800			
	HEPTACHLOR EPOXIDE "B"	ND		mg/Kg	8081A		0.00800			
	LINDANE (BHC - GAMMA)	ND		mg/Kg	8081A		0.00800			
	METHOXYCHLOR	ND		mg/Kg	8081A		0.00800			
	TOXAPHENE	ND		mg/Kg	8081A		0.00800			
	DECACHLOROBIPHENYL (Surr)	136		%	8081A					
	TETRACHLORO-M-XYLENE (Surr)	75		%	8081A					
TPHOS-130603	TOTAL PHOSPHORUS	ND		mg/L	SM4500-P F		0.02000		MB	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 13-08384
Report Date: 06/19/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
TPHOS-130603	TOTAL PHOSPHORUS	8.95	10.0	mg/L	SM4500-P F	90	70-130		QCS	

---

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 13-08384
Report Date: 6/19/2013

Confirmation Result

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
8081S_130523										
	19369	4,4' - DDE	0.0054	0.0057	mg/Kg	**5.4**	0-35		CR	
	19369	4,4' - DDD	0.0009	0.0010	mg/Kg	**10.5**	0-35		CR	
	19370	4,4' - DDE	0.0025	0.0028	mg/Kg	**11.3**	0-35		CR	
	19371	4,4' - DDE	0.0010	0.0010	mg/Kg	**0.0**	0-35		CR	
	19372	4,4' - DDE	0.0010	0.0009	mg/Kg	**10.5**	0-35		CR	
	19373	4,4' - DDE	0.0016	0.0016	mg/Kg	**0.0**	0-35		CR	
	19373	4,4' - DDD	0.0007	0.0005	mg/Kg	**33.3**	0-35		CR	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

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Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
8081S_130523										
	19369	4,4' - DDE	0.0054	0.0058	mg/Kg	**7.1**	0-50		DUP	
	19369	4,4' - DDD	0.0009	0.0016	mg/Kg	**56.0**	0-50		DUP	
	19369	DECACHLOROBIPHENYL (Surr)	95	96	%	**1.0**	0-50		DUP	
	19369	TETRACHLORO-M-XYLENE (Surr)	95	86	%	**9.9**	0-50		DUP	
8081S_130528										
	19378	DECACHLOROBIPHENYL (Surr)	105	101	%	**3.9**	0-50		DUP	
	19378	TETRACHLORO-M-XYLENE (Surr)	116	97	%	**17.8**	0-50		DUP	
TPHOS-130603										
	19378	TOTAL PHOSPHORUS	1148	1223	mg/Kg	**6.3**	0-50		DUP	
TS_130520										
	19375	TOTAL SOLIDS FOR CALCULATION	94.42	94.42	%	**0.0**	0-45		DUP	
	19589	TOTAL SOLIDS FOR CALCULATION	100	100	%	**0.0**	0-45		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
8081S_130523															
	19374	ALDRIN	ND	0.0198		0.0213	mg/Kg	**93**	**NA**	42-128	**NA**	0-30		LFM	
	19374	BHC, ALPHA -	ND	0.0128		0.0213	mg/Kg	**60**	**NA**	37-134	**NA**	0-30		LFM	
	19374	BHC, BETA -	ND	0.0081		0.0213	mg/Kg	**38**	**NA**	17-147	**NA**	0-30		LFM	
	19374	LINDANE (BHC - GAMMA)	ND	0.0084		0.0213	mg/Kg	**39**	**NA**	17-140	**NA**	0-30		LFM	
	19374	BHC, DELTA -	ND	0.0091		0.0213	mg/Kg	**43**	**NA**	32-127	**NA**	0-30		LFM	
	19374	ALPHA-CHLORDANE	ND	0.0145		0.0213	mg/Kg	**68**	**NA**	60-140	**NA**	0-30		LFM	
	19374	GAMMA-CHLORDANE	ND	0.0130		0.0213	mg/Kg	**61**	**NA**	60-140	**NA**	0-30		LFM	
	19374	4,4' - DDT	ND	0		0.0213	mg/Kg	**0**	**NA**	25-160	**NA**	0-30	M2	LFM	
	19374	4,4' - DDE	ND	0.0141		0.0213	mg/Kg	**66**	**NA**	30-145	**NA**	0-30		LFM	
	19374	4,4' - DDD	ND	0.0140		0.0213	mg/Kg	**66**	**NA**	31-141	**NA**	0-30		LFM	
	19374	DIELDRIN	ND	0.0140		0.0213	mg/Kg	**66**	**NA**	57-126	**NA**	0-30		LFM	
	19374	ENDOSULFAN I	ND	0.0131		0.0213	mg/Kg	**62**	**NA**	67-133	**NA**	0-30	M2	LFM	
	19374	ENDOSULFAN II	ND	0.0132		0.0213	mg/Kg	**62**	**NA**	42-146	**NA**	0-30		LFM	
	19374	ENDOSULFAN SULFATE	ND	0.0081		0.0213	mg/Kg	**38**	**NA**	20-172	**NA**	0-30		LFM	
	19374	ENDRIN	ND	0.0129		0.0213	mg/Kg	**61**	**NA**	30-147	**NA**	0-30		LFM	
	19374	ENDRIN ALDEHYDE	ND	0.0061		0.0213	mg/Kg	**29**	**NA**	78-110	**NA**	0-30	M2	LFM	
	19374	ENDRIN KETONE	ND	0.0034		0.0213	mg/Kg	**16**	**NA**	60-140	**NA**	0-30	M2	LFM	
	19374	HEPTACHLOR	ND	0.0097		0.0213	mg/Kg	**46**	**NA**	34-111	**NA**	0-30		LFM	
	19374	HEPTACHLOR EPOXIDE "B"	ND	0.0125		0.0213	mg/Kg	**59**	**NA**	37-142	**NA**	0-30		LFM	
	19374	METHOXYCHLOR	ND	0		0.0213	mg/Kg	**0**	**NA**	41-157	**NA**	0-30	M2	LFM	
	19374	DECACHLOROBIPHENYL (Surr)	87	109			%		**NA**	35-155	**NA**	0-30		LFM	
	19374	TETRACHLORO-M-XYLENE (Surr)	87	129			%		**NA**	81-123	**NA**	0-30		LFM	
8081S_130528															
	19375	ALDRIN	ND	0.0202		0.0212	mg/Kg	**95**	**NA**	42-128	**NA**	0-30		LFM	
	19375	BHC, ALPHA -	ND	0.0182		0.0212	mg/Kg	**86**	**NA**	37-134	**NA**	0-30		LFM	
	19375	BHC, BETA -	ND	0.0210		0.0212	mg/Kg	**99**	**NA**	17-147	**NA**	0-30		LFM	
	19375	LINDANE (BHC - GAMMA)	ND	0.0189		0.0212	mg/Kg	**89**	**NA**	17-140	**NA**	0-30		LFM	
	19375	BHC, DELTA -	ND	0.0217		0.0212	mg/Kg	**102**	**NA**	32-127	**NA**	0-30		LFM	
	19375	ALPHA-CHLORDANE	ND	0.0226		0.0212	mg/Kg	**107**	**NA**	60-140	**NA**	0-30		LFM	
	19375	GAMMA-CHLORDANE	ND	0.0240		0.0212	mg/Kg	**113**	**NA**	60-140	**NA**	0-30		LFM	
	19375	4,4' - DDT	ND	0.0242		0.0212	mg/Kg	**114**	**NA**	25-160	**NA**	0-30		LFM	
	19375	4,4' - DDE	ND	0.0238		0.0212	mg/Kg	**112**	**NA**	30-145	**NA**	0-30		LFM	
	19375	4,4' - DDD	ND	0.0271		0.0212	mg/Kg	**128**	**NA**	31-141	**NA**	0-30		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

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Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
	19375	DIELDRIN	ND	0.0268		0.0212	mg/Kg	**126**	**NA**	57-126	**NA**	0-30		LFM	
	19375	ENDOSULFAN I	ND	0.0222		0.0212	mg/Kg	**105**	**NA**	67-133	**NA**	0-30		LFM	
	19375	ENDOSULFAN II	ND	0.0343		0.0212	mg/Kg	**162**	**NA**	42-146	**NA**	0-30	HQ	LFM	
	19375	ENDOSULFAN SULFATE	ND	0.0276		0.0212	mg/Kg	**130**	**NA**	20-172	**NA**	0-30		LFM	
	19375	ENDRIN	ND	0.0254		0.0212	mg/Kg	**120**	**NA**	30-147	**NA**	0-30		LFM	
	19375	ENDRIN ALDEHYDE	ND	0.0194		0.0212	mg/Kg	**92**	**NA**	78-110	**NA**	0-30		LFM	
	19375	ENDRIN KETONE	ND	0.0271		0.0212	mg/Kg	**128**	**NA**	60-140	**NA**	0-30		LFM	
	19375	HEPTACHLOR	ND	0.0222		0.0212	mg/Kg	**105**	**NA**	34-111	**NA**	0-30		LFM	
	19375	HEPTACHLOR EPOXIDE "B"	ND	0.0237		0.0212	mg/Kg	**112**	**NA**	37-142	**NA**	0-30		LFM	
	19375	METHOXYCHLOR	ND	0.0283		0.0212	mg/Kg	**133**	**NA**	41-157	**NA**	0-30		LFM	
	19375	DECACHLOROBIPHENYL (Surr)	120	132			%		**NA**	35-155	**NA**	0-30		LFM	
	19375	TETRACHLORO-M-XYLENE (Surr)	80	81			%		**NA**	81-123	**NA**	0-30		LFM	
TPHOS-130603															
	19378	TOTAL PHOSPHORUS	1148	1985	1746	641	mg/Kg	**131**	**93**	70-130	**33.3**	0-50	IM	LFM	

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Qualifier Definitions

Reference Number: 13-08384
Report Date: 06/18/13

Qualifier	Definition
CV	The end calibration verification was significantly below the acceptance criterion of 80%. Low recovery is a result of this sample's high boiling material residue analyzed prior affecting chromatography. Data if reported, is suspect as biased low.
HQ	High QCS recovery due to increased detector response of the sample extract. The continuing calibration checks are within acceptance limits.
IM	Matrix induced bias assumed
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Page 1 of 1

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

19328

EDGE ANALYTICAL LABORATORIES

1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to:	Walla Walla Basin Watershed Cour	Bill to:	SAME
Ship Address:	810 S Main Street	Address:	
City:	Milton-Freewa St: OR Zip: 97862	City:	St: Zip:
Attn:	Steven Patten	Phone:	FAX:
Phone:	541.938-2170 FAX:	P.O.#:	Attn:
Email:	steven.patten@wwbwc.org	☐ Visa ☐ M/C ☐ A/E	Expires /
Project	Soil Sampling	Card#:	

For Lab Use Only

Ref # 13-08384

Check Regulatory Program

- ☐ Safe Drinking Water Act
- ☐ Clean Water Act
- ☐ RCRA / CERCLA
- ☒ Other

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required

- ☒ Standard
- ☐ Half-time (50% surcharge)
- ☐ Quickest (100% surcharge) Phone Call Req.
- ☐ Emergency (Phone Call Req.)

Analyses Requested

CO019328

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	8081A (Chlorinated Pesticides)	Nitrate as N, Total Phosphorus							Number of Containers	Special Instructions Conditions on Receipt
1	SOIL #1	LOCHER ROAD RECHARGE		S	5-14-13	11:55	☒	☒	☐	☐	☐	☐	☐	☐		
2	SOIL #2			S	5-14-13	11:55	☒	☒	☐	☐	☐	☐	☐	☐		
3	SOIL #3			S	5-14-13	11:50	☒	☒	☐	☐	☐	☐	☐	☐		
4	SOIL #4			S	5-14-13	11:50	☒	☒	☐	☐	☐	☐	☐	☐		
5	SOIL #5			S	5-14-13	11:40	☒	☒	☐	☐	☐	☐	☐	☐		
6	SOIL #6			S	5-14-13	11:40	☒	☒	☐	☐	☐	☐	☐	☐		
7	SOIL #7			S	5-14-13	11:30	☒	☒	☐	☐	☐	☐	☐	☐		
8	SOIL #8			S	5-14-13	11:30	☒	☒	☐	☐	☐	☐	☐	☐		
9	SOIL #9			S	5-14-13	11:20	☒	☒	☐	☐	☐	☐	☐	☐		
10	SOIL #10			S	5-14-13	11:20	☒	☒	☐	☐	☐	☐	☐	☐		

Sampled by: STEVEN PATTEN Phone: 541-938-2170 FAX: SAME Email: steven.patten@wwbwc.org Total Containers 10

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **DW** - drinking water **SW** - surface water **GW** - Ground water **WW** - waste water **S** - soil **OL** - oil Other

Relinquished by	Date	Time	Received by	Date	Time
STEVEN PATTEN	5-14-13	13:20	UPS		
			PMS	5.15.13	0930

	Yes	No	N/A
Custody seals intact	☐	☐	☑
Sample temp ~~14~~ 14 C satisfactory	☑	☐	☐
Samples received intact	☑	☐	
Chain of custody & labels agree	☑	☐	

pms UPS

FORM COC 01-06-2009

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 ● 360.757.1400 ● 360.757.1402fax

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Attn: Mr. Steven Patten

Reference: **13-08384**
Date: June 20, 2013
Project: Soil Sampling
Date Received: May 15, 2013
Purchase Order:

	Lab Sample	Client Sample		Type of	Extended
Item	Number	Number	Description	Analysis	Cost
1	19369.00	Soil #1	Locher Road Recharge	Pesticides in Soil	$192.00
2	19369.00	Soil #1	Locher Road Recharge	Nitrate-N	$21.00
3	19369.00	Soil #1	Locher Road Recharge	Total Phosphorus	$24.00
4	19369.00	Soil #1	Locher Road Recharge	Total Solids for Calculation	
5	19370.00	Soil #2	Locher Road Recharge	Pesticides in Soil	$192.00
6	19370.00	Soil #2	Locher Road Recharge	Nitrate-N	$21.00
7	19370.00	Soil #2	Locher Road Recharge	Total Phosphorus	$24.00
8	19370.00	Soil #2	Locher Road Recharge	Total Solids for Calculation	
9	19371.00	Soil #3	Locher Road Recharge	Pesticides in Soil	$192.00
10	19371.00	Soil #3	Locher Road Recharge	Nitrate-N	$21.00
11	19371.00	Soil #3	Locher Road Recharge	Total Phosphorus	$24.00
12	19371.00	Soil #3	Locher Road Recharge	Total Solids for Calculation	
13	19372.00	Soil #4	Locher Road Recharge	Pesticides in Soil	$192.00
14	19372.00	Soil #4	Locher Road Recharge	Nitrate-N	$21.00
15	19372.00	Soil #4	Locher Road Recharge	Total Phosphorus	$24.00
16	19372.00	Soil #4	Locher Road Recharge	Total Solids for Calculation	
17	19373.00	Soil #5	Locher Road Recharge	Pesticides in Soil	$192.00
18	19373.00	Soil #5	Locher Road Recharge	Nitrate-N	$21.00
19	19373.00	Soil #5	Locher Road Recharge	Total Phosphorus	$24.00
20	19373.00	Soil #5	Locher Road Recharge	Total Solids for Calculation	
21	19374.00	Soil #6	Locher Road Recharge	Pesticides in Soil	$192.00
22	19374.00	Soil #6	Locher Road Recharge	Nitrate-N	$21.00
23	19374.00	Soil #6	Locher Road Recharge	Total Phosphorus	$24.00
24	19374.00	Soil #6	Locher Road Recharge	Total Solids for Calculation	
25	19375.00	Soil #7	Locher Road Recharge	Pesticides in Soil	$192.00
26	19375.00	Soil #7	Locher Road Recharge	Nitrate-N	$21.00
27	19375.00	Soil #7	Locher Road Recharge	Total Phosphorus	$24.00
28	19375.00	Soil #7	Locher Road Recharge	Total Solids for Calculation	

Thank You for Your Business

Please pay to corporate office by July 20, 2013 to avoid a 1.5% per month finance charge.

INVOICE

Client No: WAL06

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Attn: Mr. Steven Patten

Please include Reference number with payment

Reference: **13-08384**
Date: June 20, 2013
Project: Soil Sampling
Date Received: May 15, 2013
Purchase Order:

	Lab Sample	**Client Sample**		**Type of**	**Extended**
Item	**Number**	**Number**	**Description**	**Analysis**	**Cost**
29	19376.00	Soil #8	Locher Road Recharge	Pesticides in Soil	$192.00
30	19376.00	Soil #8	Locher Road Recharge	Nitrate-N	$21.00
31	19376.00	Soil #8	Locher Road Recharge	Total Phosphorus	$24.00
32	19376.00	Soil #8	Locher Road Recharge	Total Solids for Calculation	
33	19377.00	Soil #9	Locher Road Recharge	Pesticides in Soil	$192.00
34	19377.00	Soil #9	Locher Road Recharge	Nitrate-N	$21.00
35	19377.00	Soil #9	Locher Road Recharge	Total Phosphorus	$24.00
36	19377.00	Soil #9	Locher Road Recharge	Total Solids for Calculation	
37	19378.00	Soil #10	Locher Road Recharge	Pesticides in Soil	$192.00
38	19378.00	Soil #10	Locher Road Recharge	Nitrate-N	$21.00
39	19378.00	Soil #10	Locher Road Recharge	Total Phosphorus	$24.00
40	19378.00		Shipping Charge	SHIPPING CHARGE	$12.00
41	19378.00	Soil #10	Locher Road Recharge	Total Solids for Calculation	

Grand Total:	$2,382.00
Amount Paid:	$0.00
Amount Due:	$2,382.00

Thank You for Your Business

Please pay to corporate office by July 20, 2013 to avoid a 1.5% per month finance charge.

Vista

June 06, 2013

Vista Project I.D.: 1300362

Mr. Steven Patten
Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Dear Mr. Patten,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 15, 2013. This sample set was analyzed on a standard turn-around time, under your Project Name 'Locher Road Recharge'. The work was authorized under your Purchase Order No. Locher.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

For

Martha Maier
Laboratory Director

Vista Work Order No. 1300362
Case Narrative

Sample Condition on Receipt:

Four aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1668C

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668C using a ZB-1 GC column. A duplicate analysis and MS/MSD were run on sample "SW-1".

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1300362-01	GW-70	14-May-13 11:05	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:05	15-May-13 12:44	Amber Glass NM Bottle, 1L
1300362-02	GW-71	14-May-13 10:40	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 10:40	15-May-13 12:44	Amber Glass NM Bottle, 1L
1300362-03	GW-72	14-May-13 09:00	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 09:00	15-May-13 12:44	Amber Glass NM Bottle, 1L
1300362-04	SW-1	14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L
		14-May-13 11:30	15-May-13 12:44	Amber Glass NM Bottle, 1L

ANALYTICAL RESULTS

Sample ID: Method Blank EPA Method 1668C

Matrix:	Aqueous	QC Batch:	B3E0077	Lab Sample:	B3E0077-BLK1
Sample Size:	1.00 L	Date Extracted:	23-May-2013 8:22	Date Analyzed:	01-Jun-13 10:36 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	ND	0.775	
PCB-2	ND	0.866	
PCB-3	ND	0.847	
PCB-4/10	ND	2.66	
PCB-5/8	2.08		J
PCB-6	ND	2.18	
PCB-7/9	ND	2.27	
PCB-11	14.4		
PCB-12/13	ND	2.12	
PCB-14	ND	2.31	
PCB-15	ND	2.02	
PCB-16/32	1.84		J
PCB-17	0.924		J
PCB-18	ND	2.06	
PCB-19	ND	1.23	
PCB-20/21/33	1.47		J
PCB-22	0.756		J
PCB-23	ND	0.835	
PCB-24/27	ND	0.744	
PCB-25	ND	0.811	
PCB-26	ND	0.891	
PCB-28	1.60		J
PCB-29	ND	0.908	
PCB-30	ND	0.730	
PCB-31	1.94		J
PCB-34	ND	0.886	
PCB-35	ND	0.921	
PCB-36	ND	0.913	
PCB-37	ND	0.867	
PCB-38	ND	0.940	
PCB-39	ND	0.960	
PCB-40	ND	2.02	
PCB-41/64/71/72	1.35		J
PCB-42/59	ND	1.37	
PCB-43/49	ND	1.58	
PCB-44	1.76		J
PCB-45	ND	0.757	
PCB-46	ND	0.784	
PCB-47	3.18		J
PCB-48/75	ND	1.19	
PCB-50	ND	0.603	
PCB-51	ND	0.670	
PCB-52/69	2.82		J
PCB-53	ND	0.616	
PCB-54	ND	0.484	
PCB-55	ND	0.877	
PCB-56/60	ND	0.894	
PCB-57	ND	1.03	
PCB-58	ND	1.08	
PCB-61/70	1.47		J
PCB-62	ND	1.19	
PCB-63	ND	1.11	
PCB-65	ND	1.20	
PCB-67	ND	0.986	
PCB-68	ND	1.06	
PCB-73	ND	1.11	
PCB-74	0.759		J
PCB-76/66	ND	1.10	
PCB-77	0.788		J
PCB-78	ND	0.915	
PCB-79	ND	0.847	
PCB-80	ND	0.843	
PCB-81	ND	0.834	
PCB-82	ND	2.39	
PCB-83	ND	1.47	
PCB-84/92	ND	2.02	
PCB-85/116	ND	1.65	
PCB-86	ND	2.24	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22

Lab Sample: B3E0077-BLK1
Date Analyzed: 01-Jun-13 10:36 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-87/117/125	ND	1.53	
PCB-88/91	ND	2.28	
PCB-89	ND	2.13	
PCB-90/101	ND	1.82	
PCB-93	ND	2.53	
PCB-94	ND	2.41	
PCB-95/98/102	1.63		J
PCB-96	ND	1.82	
PCB-97	ND	1.98	
PCB-99	ND	1.70	
PCB-100	ND	2.22	
PCB-103	ND	2.12	
PCB-104	ND	1.72	
PCB-105	ND	0.897	
PCB-106/118	1.39		J
PCB-107/109	ND	1.36	
PCB-108/112	ND	1.84	
PCB-110	ND	1.41	
PCB-111/115	ND	1.44	
PCB-113	ND	1.50	
PCB-114	ND	0.907	
PCB-119	ND	1.41	
PCB-120	ND	1.47	
PCB-121	ND	1.53	
PCB-122	ND	0.976	
PCB-123	ND	1.50	
PCB-124	ND	1.31	
PCB-126	ND	1.01	
PCB-127	ND	0.891	
PCB-128/162	ND	0.927	
PCB-129	ND	1.25	
PCB-130	ND	1.08	
PCB-131	ND	1.13	
PCB-132/161	ND	0.919	
PCB-133/142	ND	1.25	
PCB-134/143	ND	0.853	
PCB-135	ND	1.00	
PCB-136	ND	0.757	
PCB-137	ND	0.957	
PCB-138/163/164	1.21		J
PCB-139/149	ND	1.05	
PCB-140	ND	1.05	
PCB-141	ND	0.968	
PCB-144	ND	0.992	
PCB-145	ND	0.779	
PCB-146/165	ND	0.837	
PCB-147	ND	1.00	
PCB-148	ND	1.05	
PCB-150	ND	0.803	
PCB-151	ND	1.06	
PCB-152	ND	0.740	
PCB-153	0.910		J
PCB-154	ND	0.892	
PCB-155	ND	0.751	
PCB-156	ND	0.749	
PCB-157	ND	0.785	
PCB-158/160	ND	0.783	
PCB-159	ND	0.828	
PCB-166	ND	0.827	
PCB-167	ND	0.767	
PCB-168	ND	0.740	
PCB-169	ND	0.734	
PCB-170	ND	0.558	
PCB-171	ND	0.542	
PCB-172	ND	0.520	
PCB-173	ND	0.720	
PCB-174	ND	0.582	
PCB-175	ND	0.686	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank **EPA Method 1668C**

Matrix:	Aqueous	QC Batch:	B3E0077	Lab Sample:	B3E0077-BLK1
Sample Size:	1.00 L	Date Extracted:	23-May-2013 8:22	Date Analyzed:	01-Jun-13 10:36 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-176	ND	0.495	
PCB-177	ND	0.645	
PCB-178	ND	0.698	
PCB-179	ND	0.545	
PCB-180	ND	0.599	
PCB-181	ND	0.589	
PCB-182/187	ND	0.595	
PCB-183	ND	0.592	
PCB-184	ND	0.495	
PCB-185	ND	0.510	
PCB-186	ND	0.489	
PCB-188	ND	0.518	
PCB-189	ND	0.397	
PCB-190	ND	0.434	
PCB-191	ND	0.487	
PCB-192	ND	0.492	
PCB-193	ND	0.476	
PCB-194	ND	0.606	
PCB-195	ND	0.601	
PCB-196/203	ND	1.12	
PCB-197	ND	0.897	
PCB-198	ND	1.22	
PCB-199	ND	1.15	
PCB-200	ND	0.873	
PCB-201	ND	0.849	
PCB-202	ND	0.902	
PCB-204	ND	0.843	
PCB-205	ND	0.458	
PCB-206	ND	0.443	
PCB-207	ND	0.267	
PCB-208	ND	0.317	
PCB-209	ND	0.874	
Total monoCB	ND	0.866	
Total diCB	16.5		

Analyte	Conc. (pg/L)	DL	Qualifiers
Total triCB	8.53		
Total tetraCB	12.1		
Total pentaCB	3.02		
Total hexaCB	2.12		
Total heptaCB	ND	0.720	
Total octaCB	ND	1.22	
Total nonaCB	ND	0.443	
DecaCB	ND	0.874	
Total PCB	42.3		

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank

EPA Method 1668C

Matrix:	Aqueous	QC Batch:	B3E0077	Lab Sample:	B3E0077-BLK1
Sample Size:	1.00 L	Date Extracted:	23-May-2013 8:22	Date Analyzed:	01-Jun-13 10:36 Column: ZB-1 Analyst: MAS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	63.5	5 - 145	
	13C-PCB-3	58.5	5 - 145	
	13C-PCB-4	72.0	5 - 145	
	13C-PCB-11	77.9	5 - 145	
	13C-PCB-9	71.6	5 - 145	
	13C-PCB-19	60.6	5 - 145	
	13C-PCB-28	73.7	5 - 145	
	13C-PCB-32	59.2	5 - 145	
	13C-PCB-37	72.9	5 - 145	
	13C-PCB-47	76.3	5 - 145	
	13C-PCB-52	78.2	5 - 145	
	13C-PCB-54	77.6	5 - 145	
	13C-PCB-70	82.6	5 - 145	
	13C-PCB-77	91.4	10 - 145	
	13C-PCB-80	88.6	10 - 145	
	13C-PCB-81	90.6	10 - 145	
	13C-PCB-95	76.5	10 - 145	
	13C-PCB-97	84.4	10 - 145	
	13C-PCB-101	80.3	10 - 145	
	13C-PCB-104	68.8	10 - 145	
	13C-PCB-105	107	10 - 145	
	13C-PCB-114	107	10 - 145	
	13C-PCB-118	81.6	10 - 145	
	13C-PCB-123	81.5	10 - 145	
	13C-PCB-126	104	10 - 145	
	13C-PCB-127	104	10 - 145	
	13C-PCB-138	86.8	10 - 145	
	13C-PCB-141	86.1	10 - 145	
	13C-PCB-153	84.9	10 - 145	
	13C-PCB-155	68.9	10 - 145	
	13C-PCB-156	85.6	10 - 145	

Labeled Standard		%R	LCL-UCL	Qualifiers
	13C-PCB-157	84.1	10 - 145	
	13C-PCB-159	84.5	10 - 145	
	13C-PCB-167	84.4	10 - 145	
	13C-PCB-169	88.1	10 - 145	
	13C-PCB-170	77.1	10 - 145	
	13C-PCB-180	74.9	10 - 145	
	13C-PCB-188	66.8	10 - 145	
	13C-PCB-189	80.9	10 - 145	
	13C-PCB-194	92.4	10 - 145	
	13C-PCB-202	70.5	10 - 145	
	13C-PCB-206	81.0	10 - 145	
	13C-PCB-208	72.2	10 - 145	
	13C-PCB-209	67.1	10 - 145	
CRS	13C-PCB-79	103	10 - 145	
	13C-PCB-178	85.3	10 - 145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: OPR **EPA Method 1668C**

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22

Lab Sample: B3E0077-BS1
Date Analyzed: 01-Jun-13 08:27 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits
PCB-1	1050	1000	105	60 - 135
PCB-3	1080	1000	108	60 - 135
PCB-4/10	2140	2000	107	60 - 135
PCB-15	1060	1000	106	60 - 135
PCB-19	969	1000	96.9	60 - 135
PCB-37	890	1000	89.0	60 - 135
PCB-54	981	1000	98.1	60 - 135
PCB-77	1050	1000	105	60 - 135
PCB-81	1050	1000	105	60 - 135
PCB-104	924	1000	92.4	60 - 135
PCB-105	1020	1000	102	60 - 135
PCB-106/118	1870	2000	93.3	60 - 135
PCB-114	1000	1000	100	60 - 135
PCB-123	913	1000	91.3	60 - 135
PCB-126	1030	1000	103	60 - 135
PCB-155	957	1000	95.7	60 - 135
PCB-156	1010	1000	101	60 - 135
PCB-157	995	1000	99.5	60 - 135
PCB-167	1010	1000	101	60 - 135
PCB-169	998	1000	99.8	60 - 135
PCB-188	976	1000	97.6	60 - 135
PCB-189	996	1000	99.6	60 - 135
PCB-202	928	1000	92.8	60 - 135
PCB-205	976	1000	97.6	60 - 135
PCB-206	919	1000	91.9	60 - 135
PCB-208	951	1000	95.1	60 - 135
PCB-209	906	1000	90.6	60 - 135

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-1	32.1	15 - 145
IS	13C-PCB-3	36.8	15 - 145
IS	13C-PCB-4	42.9	15 - 145
IS	13C-PCB-11	54.9	15 - 145
IS	13C-PCB-9	45.9	15 - 145
IS	13C-PCB-19	39.1	15 - 145
IS	13C-PCB-28	53.3	15 - 145
IS	13C-PCB-32	43.2	15 - 145
IS	13C-PCB-37	51.9	15 - 145
IS	13C-PCB-47	51.9	15 - 145
IS	13C-PCB-52	53.1	15 - 145
IS	13C-PCB-54	53.9	15 - 145
IS	13C-PCB-70	57.9	15 - 145
IS	13C-PCB-77	66.8	40 - 145
IS	13C-PCB-80	58.7	40 - 145
IS	13C-PCB-81	65.3	40 - 145
IS	13C-PCB-95	59.8	40 - 145
IS	13C-PCB-97	64.8	40 - 145
IS	13C-PCB-101	60.0	40 - 145
IS	13C-PCB-104	51.1	40 - 145
IS	13C-PCB-105	82.5	40 - 145
IS	13C-PCB-114	83.4	40 - 145
IS	13C-PCB-118	65.5	40 - 145
IS	13C-PCB-123	64.9	40 - 145
IS	13C-PCB-126	77.6	40 - 145
IS	13C-PCB-127	78.8	40 - 145
IS	13C-PCB-138	67.4	40 - 145
IS	13C-PCB-141	66.7	40 - 145
IS	13C-PCB-153	64.5	40 - 145
IS	13C-PCB-155	52.0	40 - 145
IS	13C-PCB-156	65.7	40 - 145
IS	13C-PCB-157	66.0	40 - 145
IS	13C-PCB-159	64.9	40 - 145
IS	13C-PCB-167	66.7	40 - 145
IS	13C-PCB-169	65.2	40 - 145
IS	13C-PCB-170	57.5	40 - 145
IS	13C-PCB-180	55.8	40 - 145
IS	13C-PCB-188	52.8	40 - 145
IS	13C-PCB-189	58.4	40 - 145
IS	13C-PCB-194	66.0	40 - 145

Sample ID: OPR **EPA Method 1668C**

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22

Lab Sample: B3E0077-BS1
Date Analyzed: 01-Jun-13 08:27 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-202	53.6	40 - 145
IS	13C-PCB-206	56.9	40 - 145
IS	13C-PCB-208	53.0	40 - 145
IS	13C-PCB-209	47.8	40 - 145
CRS	13C-PCB-79	70.2	40 - 145
CRS	13C-PCB-178	61.2	40 - 145

LCL-UCL - Lower control limit - upper control limit

Sample ID: GW-70 EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 11:05

Sample Data

Matrix: Aqueous
Sample Size: 0.975 L

Laboratory Data

Lab Sample: 1300362-01
Date Received: 15-May-2013 12:44
QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22
Date Analyzed : 01-Jun-13 11:40 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	17.2		
PCB-2	ND	1.81	
PCB-3	6.25		
PCB-4/10	29.0		
PCB-5/8	88.6		B
PCB-6	13.9		
PCB-7/9	6.53		J
PCB-11	14.9		B
PCB-12/13	ND	2.68	
PCB-14	ND	2.91	
PCB-15	14.5		
PCB-16/32	29.9		B
PCB-17	13.8		B
PCB-18	45.0		
PCB-19	6.86		
PCB-20/21/33	16.5		B
PCB-22	7.01		B
PCB-23	ND	0.769	
PCB-24/27	3.49		J
PCB-25	ND	1.51	
PCB-26	3.46		J
PCB-28	16.1		B
PCB-29	ND	0.837	
PCB-30	ND	0.567	
PCB-31	17.4		B
PCB-34	ND	0.817	
PCB-35	ND	0.794	
PCB-36	ND	0.786	
PCB-37	ND	1.38	
PCB-38	ND	0.810	
PCB-39	ND	0.827	
PCB-40	ND	1.15	
PCB-41/64/71/72	3.90		J, B
PCB-42/59	1.76		J
PCB-43/49	3.60		J
PCB-44	4.76		J, B
PCB-45	3.08		J
PCB-46	ND	1.15	
PCB-47	3.03		J, B
PCB-48/75	ND	0.678	
PCB-50	ND	0.893	
PCB-51	ND	0.981	
PCB-52/69	6.02		J, B
PCB-53	1.77		J
PCB-54	ND	0.715	
PCB-55	ND	0.571	
PCB-56/60	1.42		J
PCB-57	ND	0.584	
PCB-58	ND	0.610	
PCB-61/70	ND	0.611	
PCB-62	ND	0.679	
PCB-63	ND	0.629	
PCB-65	ND	0.684	
PCB-67	ND	0.558	
PCB-68	ND	0.604	
PCB-73	ND	0.688	
PCB-74	1.09		J, B
PCB-76/66	ND	0.622	
PCB-77	0.706		J, B
PCB-78	ND	0.574	
PCB-79	ND	0.552	
PCB-80	ND	0.549	
PCB-81	ND	0.524	
PCB-82	ND	1.68	
PCB-83	ND	1.19	
PCB-84/92	ND	1.56	
PCB-85/116	ND	1.33	
PCB-86	ND	1.81	
PCB-87/117/125	ND	1.24	
PCB-88/91	ND	1.63	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-70

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 11:05

Sample Data
Matrix: Aqueous
Sample Size: 0.975 L

Laboratory Data
Lab Sample: 1300362-01
Date Received: 15-May-2013 12:44
QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22
Date Analyzed : 01-Jun-13 11:40 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers	Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	1.64		PCB-136	ND	1.12	
PCB-90/101	ND	1.40		PCB-137	ND	0.786	
PCB-93	ND	1.81		PCB-138/163/164	1.21		J, B
PCB-94	ND	1.72		PCB-139/149	ND	1.55	
PCB-95/98/102	ND	1.51		PCB-140	ND	1.56	
PCB-96	ND	1.42		PCB-141	ND	0.794	
PCB-97	ND	1.60		PCB-144	ND	1.47	
PCB-99	ND	1.31		PCB-145	ND	1.15	
PCB-100	ND	1.73		PCB-146/165	ND	0.657	
PCB-103	ND	1.66		PCB-147	ND	1.48	
PCB-104	ND	1.34		PCB-148	ND	1.55	
PCB-105	0.726		J	PCB-150	ND	1.19	
PCB-106/118	ND	1.06		PCB-151	ND	1.56	
PCB-107/109	ND	0.959		PCB-152	ND	1.09	
PCB-108/112	ND	1.49		PCB-153	ND	0.641	
PCB-110	1.69		J	PCB-154	ND	1.32	
PCB-111/115	ND	1.17		PCB-155	ND	1.11	
PCB-113	ND	1.15		PCB-156	ND	0.583	
PCB-114	ND	1.08		PCB-157	ND	0.621	
PCB-119	ND	1.14		PCB-158/160	ND	0.613	
PCB-120	ND	1.19		PCB-159	ND	0.625	
PCB-121	ND	1.09		PCB-166	ND	0.624	
PCB-122	ND	1.16		PCB-167	ND	0.636	
PCB-123	ND	1.05		PCB-168	ND	0.580	
PCB-124	ND	0.921		PCB-169	ND	0.602	
PCB-126	ND	1.16		PCB-170	ND	0.518	
PCB-127	ND	1.02		PCB-171	ND	0.509	
PCB-128/162	ND	0.700		PCB-172	ND	0.488	
PCB-129	ND	0.977		PCB-173	ND	0.676	
PCB-130	ND	0.888		PCB-174	ND	0.546	
PCB-131	ND	0.883		PCB-175	ND	0.619	
PCB-132/161	ND	0.721		PCB-176	ND	0.446	
PCB-133/142	ND	0.981		PCB-177	ND	0.605	
PCB-134/143	ND	0.859		PCB-178	ND	0.629	
PCB-135	ND	1.48		PCB-179	ND	0.492	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-70

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Aqueous	Lab Sample:	1300362-01	Date Received:	15-May-2013 12:44
Project:	Locher Road Recharge	Sample Size:	0.975 L	QC Batch:	B3E0077	Date Extracted:	23-May-2013 8:22
Date Collected:	14-May-2013 11:05			Date Analyzed :	01-Jun-13 11:40 Column: ZB-1 Analyst: MAS		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	0.562	
PCB-181	ND	0.553	
PCB-182/187	ND	0.536	
PCB-183	ND	0.533	
PCB-184	ND	0.447	
PCB-185	ND	0.478	
PCB-186	ND	0.441	
PCB-188	ND	0.467	
PCB-189	ND	0.349	
PCB-190	ND	0.403	
PCB-191	ND	0.457	
PCB-192	ND	0.462	
PCB-193	ND	0.447	
PCB-194	ND	0.657	
PCB-195	ND	0.651	
PCB-196/203	ND	0.961	
PCB-197	ND	0.768	
PCB-198	ND	1.05	
PCB-199	ND	0.984	
PCB-200	ND	0.747	
PCB-201	ND	0.726	
PCB-202	ND	0.774	
PCB-204	ND	0.721	
PCB-205	ND	0.496	
PCB-206	ND	0.535	
PCB-207	ND	0.299	
PCB-208	ND	0.355	
PCB-209	ND	0.594	
Total monoCB	23.4		
Total diCB	167		B
Total triCB	160		B
Total tetraCB	31.1		B
Total pentaCB	2.41		B
Total hexaCB	1.21		B
Total heptaCB	ND	0.676	

Analyte	Conc. (pg/L)	DL	Qualifiers
Total octaCB	ND	1.05	
Total nonaCB	ND	0.535	
DecaCB	ND	0.594	
Total PCB	385		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-70

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Aqueous	Lab Sample:	1300362-01	Date Received:	15-May-2013 12:44
Project:	Locher Road Recharge	Sample Size:	0.975 L	QC Batch:	B3E0077	Date Extracted:	23-May-2013 8:22
Date Collected:	14-May-2013 11:05			Date Analyzed :	01-Jun-13 11:40 Column: ZB-1 Analyst: MAS		

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	15.6	5 -145	
	13C-PCB-3	28.0	5 -145	
	13C-PCB-4	37.5	5 -145	
	13C-PCB-11	58.3	5 -145	
	13C-PCB-9	42.2	5 -145	
	13C-PCB-19	41.3	5 -145	
	13C-PCB-28	66.6	5 -145	
	13C-PCB-32	47.0	5 -145	
	13C-PCB-37	62.8	5 -145	
	13C-PCB-47	62.4	5 -145	
	13C-PCB-52	59.1	5 -145	
	13C-PCB-54	60.6	5 -145	
	13C-PCB-70	69.1	5 -145	
	13C-PCB-77	77.9	10 -145	
	13C-PCB-80	72.1	10 -145	
	13C-PCB-81	76.3	10 -145	
	13C-PCB-95	72.1	10 -145	
	13C-PCB-97	79.8	10 -145	
	13C-PCB-101	76.4	10 -145	
	13C-PCB-104	63.0	10 -145	
	13C-PCB-105	102	10 -145	
	13C-PCB-114	104	10 -145	
	13C-PCB-118	79.3	10 -145	
	13C-PCB-123	80.8	10 -145	
	13C-PCB-126	99.6	10 -145	
	13C-PCB-127	101	10 -145	
	13C-PCB-138	86.9	10 -145	
	13C-PCB-141	85.9	10 -145	
	13C-PCB-153	82.8	10 -145	
	13C-PCB-155	64.0	10 -145	
	13C-PCB-156	85.5	10 -145	
	13C-PCB-157	84.0	10 -145	
	13C-PCB-159	83.6	10 -145	
	13C-PCB-167	85.4	10 -145	
	13C-PCB-169	84.7	10 -145	
	13C-PCB-170	74.7	10 -145	
	13C-PCB-180	74.1	10 -145	
	13C-PCB-188	67.3	10 -145	
	13C-PCB-189	76.7	10 -145	
	13C-PCB-194	86.4	10 -145	
	13C-PCB-202	70.4	10 -145	
	13C-PCB-206	75.2	10 -145	
	13C-PCB-208	68.1	10 -145	
	13C-PCB-209	64.9	10 -145	
CRS	13C-PCB-79	87.4	10 -145	
	13C-PCB-178	82.5	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71 EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 10:40

Sample Data

Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data

Lab Sample: 1300362-02
Date Received: 15-May-2013 12:44
QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22
Date Analyzed : 01-Jun-13 12:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	17.9		
PCB-2	ND	1.73	
PCB-3	8.87		
PCB-4/10	41.2		
PCB-5/8	149		B
PCB-6	23.6		
PCB-7/9	11.0		
PCB-11	19.5		B
PCB-12/13	4.84		J
PCB-14	ND	3.50	
PCB-15	38.3		
PCB-16/32	75.8		B
PCB-17	34.9		B
PCB-18	111		
PCB-19	13.3		
PCB-20/21/33	31.0		B
PCB-22	17.1		B
PCB-23	ND	0.675	
PCB-24/27	8.82		J
PCB-25	ND	4.63	
PCB-26	11.3		
PCB-28	49.3		B
PCB-29	ND	0.734	
PCB-30	ND	0.615	
PCB-31	ND	44.7	I
PCB-34	ND	0.717	
PCB-35	ND	0.984	
PCB-36	ND	0.975	
PCB-37	7.14		
PCB-38	ND	1.00	
PCB-39	ND	1.03	
PCB-40	ND	3.81	
PCB-41/64/71/72	12.2		J, B
PCB-42/59	5.46		J
PCB-43/49	11.5		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-44	15.8		B
PCB-45	7.34		
PCB-46	ND	3.69	
PCB-47	4.89		J, B
PCB-48/75	3.97		J
PCB-50	ND	0.779	
PCB-51	1.94		J
PCB-52/69	15.6		B
PCB-53	3.92		J
PCB-54	ND	0.625	
PCB-55	ND	0.926	
PCB-56/60	4.22		J
PCB-57	ND	0.945	
PCB-58	ND	0.988	
PCB-61/70	5.86		J, B
PCB-62	ND	0.992	
PCB-63	ND	1.02	
PCB-65	ND	0.999	
PCB-67	ND	0.904	
PCB-68	ND	0.883	
PCB-73	ND	0.895	
PCB-74	1.94		J, B
PCB-76/66	4.31		J
PCB-77	ND	0.869	
PCB-78	ND	0.897	
PCB-79	ND	0.895	
PCB-80	ND	0.890	
PCB-81	ND	0.818	
PCB-82	ND	1.99	
PCB-83	ND	1.31	
PCB-84/92	ND	2.68	
PCB-85/116	ND	1.47	
PCB-86	ND	1.99	
PCB-87/117/125	ND	1.36	
PCB-88/91	ND	3.00	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 10:40

Sample Data

Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data

Lab Sample: 1300362-02
Date Received: 15-May-2013 12:44
QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22
Date Analyzed : 01-Jun-13 12:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	2.82	
PCB-90/101	2.45		J
PCB-93	ND	3.34	
PCB-94	ND	3.18	
PCB-95/98/102	3.28		J, B
PCB-96	ND	2.38	
PCB-97	ND	1.77	
PCB-99	ND	1.46	
PCB-100	ND	2.91	
PCB-103	ND	2.78	
PCB-104	ND	2.26	
PCB-105	ND	1.24	
PCB-106/118	ND	2.01	
PCB-107/109	ND	1.14	
PCB-108/112	ND	1.64	
PCB-110	ND	1.74	
PCB-111/115	ND	1.28	
PCB-113	ND	1.28	
PCB-114	ND	1.23	
PCB-119	ND	1.26	
PCB-120	ND	1.31	
PCB-121	ND	2.01	
PCB-122	ND	1.32	
PCB-123	ND	1.25	
PCB-124	ND	1.09	
PCB-126	ND	1.52	
PCB-127	ND	1.28	
PCB-128/162	ND	0.775	
PCB-129	ND	1.08	
PCB-130	ND	0.998	
PCB-131	ND	0.940	
PCB-132/161	ND	0.768	
PCB-133/142	ND	1.05	
PCB-134/143	ND	0.916	
PCB-135	ND	1.33	

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-136	ND	1.00	
PCB-137	ND	0.883	
PCB-138/163/164	1.45		J, B
PCB-139/149	ND	1.39	
PCB-140	ND	1.40	
PCB-141	ND	0.893	
PCB-144	ND	1.31	
PCB-145	ND	1.03	
PCB-146/165	ND	0.700	
PCB-147	ND	1.33	
PCB-148	ND	1.39	
PCB-150	ND	1.06	
PCB-151	ND	1.40	
PCB-152	ND	0.980	
PCB-153	ND	0.682	
PCB-154	ND	1.18	
PCB-155	ND	0.995	
PCB-156	ND	0.678	
PCB-157	ND	0.677	
PCB-158/160	ND	0.678	
PCB-159	ND	0.692	
PCB-166	ND	0.691	
PCB-167	ND	0.714	
PCB-168	ND	0.618	
PCB-169	ND	0.728	
PCB-170	ND	0.638	
PCB-171	ND	0.651	
PCB-172	ND	0.624	
PCB-173	ND	0.865	
PCB-174	ND	0.699	
PCB-175	ND	0.757	
PCB-176	ND	0.546	
PCB-177	ND	0.774	
PCB-178	ND	0.769	
PCB-179	ND	0.601	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 10:40

Sample Data
Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1300362-02
Date Received: 15-May-2013 12:44
QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22
Date Analyzed : 01-Jun-13 12:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	0.719	
PCB-181	ND	0.707	
PCB-182/187	ND	0.656	
PCB-183	ND	0.652	
PCB-184	ND	0.546	
PCB-185	ND	0.612	
PCB-186	ND	0.539	
PCB-188	ND	0.568	
PCB-189	ND	0.455	
PCB-190	ND	0.496	
PCB-191	ND	0.585	
PCB-192	ND	0.591	
PCB-193	ND	0.572	
PCB-194	ND	0.785	
PCB-195	ND	0.778	
PCB-196/203	ND	1.27	
PCB-197	ND	1.01	
PCB-198	ND	1.38	
PCB-199	ND	1.30	
PCB-200	ND	0.987	
PCB-201	ND	0.960	
PCB-202	ND	1.02	
PCB-204	ND	0.952	
PCB-205	ND	0.593	
PCB-206	ND	0.795	
PCB-207	ND	0.408	
PCB-208	ND	0.485	
PCB-209	0.878		J
Total monoCB	26.8		
Total diCB	287		B
Total triCB	359		B
Total tetraCB	98.9		B
Total pentaCB	5.72		B
Total hexaCB	1.45		B
Total heptaCB	ND	0.865	
Total octaCB	ND	1.38	
Total nonaCB	ND	0.795	
DecaCB	0.878		
Total PCB	781		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71 EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Aqueous	Lab Sample:	1300362-02	Date Received:	15-May-2013 12:44
Project:	Locher Road Recharge	Sample Size:	1.01 L	QC Batch:	B3E0077	Date Extracted:	23-May-2013 8:22
Date Collected:	14-May-2013 10:40			Date Analyzed :	01-Jun-13 12:44 Column: ZB-1 Analyst: MAS		

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	38.9	5 -145	
	13C-PCB-3	41.9	5 -145	
	13C-PCB-4	54.2	5 -145	
	13C-PCB-11	60.9	5 -145	
	13C-PCB-9	54.7	5 -145	
	13C-PCB-19	45.7	5 -145	
	13C-PCB-28	70.0	5 -145	
	13C-PCB-32	45.6	5 -145	
	13C-PCB-37	54.3	5 -145	
	13C-PCB-47	55.6	5 -145	
	13C-PCB-52	56.2	5 -145	
	13C-PCB-54	58.3	5 -145	
	13C-PCB-70	57.2	5 -145	
	13C-PCB-77	63.8	10 -145	
	13C-PCB-80	55.9	10 -145	
	13C-PCB-81	59.9	10 -145	
	13C-PCB-95	59.3	10 -145	
	13C-PCB-97	64.3	10 -145	
	13C-PCB-101	62.7	10 -145	
	13C-PCB-104	54.5	10 -145	
	13C-PCB-105	79.2	10 -145	
	13C-PCB-114	79.4	10 -145	
	13C-PCB-118	63.2	10 -145	
	13C-PCB-123	63.8	10 -145	
	13C-PCB-126	72.5	10 -145	
	13C-PCB-127	75.5	10 -145	
	13C-PCB-138	64.8	10 -145	
	13C-PCB-141	66.1	10 -145	
	13C-PCB-153	64.7	10 -145	
	13C-PCB-155	54.2	10 -145	
	13C-PCB-156	62.4	10 -145	
	13C-PCB-157	63.1	10 -145	
	13C-PCB-159	63.7	10 -145	
	13C-PCB-167	65.6	10 -145	
	13C-PCB-169	60.8	10 -145	

Labeled Standard		%R	LCL-UCL	Qualifiers
	13C-PCB-170	56.0	10 -145	
	13C-PCB-180	55.6	10 -145	
	13C-PCB-188	51.6	10 -145	
	13C-PCB-189	55.4	10 -145	
	13C-PCB-194	62.4	10 -145	
	13C-PCB-202	52.8	10 -145	
	13C-PCB-206	52.7	10 -145	
	13C-PCB-208	51.5	10 -145	
	13C-PCB-209	45.8	10 -145	
CRS	13C-PCB-79	68.8	10 -145	
	13C-PCB-178	65.9	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-72

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Aqueous	Lab Sample:	1300362-03	Date Received:	15-May-2013 12:44
Project:	Locher Road Recharge	Sample Size:	0.997 L	QC Batch:	B3E0077	Date Extracted:	23-May-2013 8:22
Date Collected:	14-May-2013 9:00			Date Analyzed :	03-Jun-13 13:06 Column: ZB-1 Analyst: MAS		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	18.9		
PCB-2	ND	4.44	
PCB-3	8.26		
PCB-4/10	41.7		
PCB-5/8	151		B
PCB-6	25.6		
PCB-7/9	ND	9.51	
PCB-11	22.4		B
PCB-12/13	ND	6.48	
PCB-14	ND	7.05	
PCB-15	32.5		
PCB-16/32	78.7		B
PCB-17	36.6		B
PCB-18	114		
PCB-19	12.4		
PCB-20/21/33	52.4		B
PCB-22	24.3		B
PCB-23	ND	1.76	
PCB-24/27	8.69		J
PCB-25	5.02		
PCB-26	10.9		
PCB-28	46.8		B
PCB-29	ND	1.92	
PCB-30	ND	1.78	
PCB-31	47.1		B
PCB-34	ND	1.87	
PCB-35	ND	1.76	
PCB-36	ND	1.74	
PCB-37	6.98		
PCB-38	ND	1.79	
PCB-39	ND	1.83	
PCB-40	ND	2.68	
PCB-41/64/71/72	11.3		J, B
PCB-42/59	5.54		J
PCB-43/49	10.3		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-44	17.5		B
PCB-45	7.52		
PCB-46	4.37		J
PCB-47	7.62		B
PCB-48/75	4.18		J
PCB-50	ND	1.93	
PCB-51	ND	1.98	
PCB-52/69	17.9		B
PCB-53	6.17		
PCB-54	ND	1.55	
PCB-55	ND	1.37	
PCB-56/60	5.05		J
PCB-57	ND	1.46	
PCB-58	ND	1.52	
PCB-61/70	7.37		J, B
PCB-62	ND	1.58	
PCB-63	ND	1.57	
PCB-65	ND	1.60	
PCB-67	ND	1.39	
PCB-68	ND	1.41	
PCB-73	ND	1.39	
PCB-74	ND	1.31	
PCB-76/66	5.84		J
PCB-77	ND	1.37	
PCB-78	ND	1.29	
PCB-79	ND	1.32	
PCB-80	ND	1.31	
PCB-81	ND	1.18	
PCB-82	ND	4.48	
PCB-83	ND	2.67	
PCB-84/92	ND	3.82	
PCB-85/116	ND	2.99	
PCB-86	ND	4.06	
PCB-87/117/125	ND	2.77	
PCB-88/91	ND	4.11	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-72

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:00

Sample Data
Matrix: Aqueous
Sample Size: 0.997 L

Laboratory Data
Lab Sample: 1300362-03
Date Received: 15-May-2013 12:44
QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22
Date Analyzed : 03-Jun-13 13:06 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	4.02	
PCB-90/101	ND	3.43	
PCB-93	ND	4.56	
PCB-94	ND	4.89	
PCB-95/98/102	ND	4.29	
PCB-96	ND	3.66	
PCB-97	ND	3.59	
PCB-99	ND	3.21	
PCB-100	ND	4.46	
PCB-103	ND	4.27	
PCB-104	ND	3.47	
PCB-105	ND	3.40	
PCB-106/118	ND	2.63	
PCB-107/109	ND	2.55	
PCB-108/112	ND	3.34	
PCB-110	ND	2.55	
PCB-111/115	ND	2.61	
PCB-113	ND	2.83	
PCB-114	ND	3.56	
PCB-119	ND	2.56	
PCB-120	ND	2.67	
PCB-121	ND	2.76	
PCB-122	ND	3.83	
PCB-123	ND	2.81	
PCB-124	ND	2.45	
PCB-126	ND	4.47	
PCB-127	ND	3.55	
PCB-128/162	ND	2.25	
PCB-129	ND	2.79	
PCB-130	ND	2.58	
PCB-131	ND	2.63	
PCB-132/161	ND	2.15	
PCB-133/142	ND	2.92	
PCB-134/143	ND	2.56	
PCB-135	ND	2.33	

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-136	ND	1.76	
PCB-137	ND	2.29	
PCB-138/163/164	ND	1.87	
PCB-139/149	ND	2.43	
PCB-140	ND	2.45	
PCB-141	ND	2.31	
PCB-144	ND	2.31	
PCB-145	ND	1.81	
PCB-146/165	ND	1.96	
PCB-147	ND	2.34	
PCB-148	ND	2.44	
PCB-150	ND	1.87	
PCB-151	ND	2.45	
PCB-152	ND	1.72	
PCB-153	ND	1.91	
PCB-154	ND	2.07	
PCB-155	ND	1.75	
PCB-156	ND	1.90	
PCB-157	ND	1.83	
PCB-158/160	ND	1.75	
PCB-159	ND	2.01	
PCB-166	ND	2.00	
PCB-167	ND	1.90	
PCB-168	ND	1.73	
PCB-169	ND	2.11	
PCB-170	ND	1.62	
PCB-171	ND	1.46	
PCB-172	ND	1.40	
PCB-173	ND	1.93	
PCB-174	ND	1.56	
PCB-175	ND	1.75	
PCB-176	ND	1.27	
PCB-177	ND	1.73	
PCB-178	ND	1.78	
PCB-179	ND	1.39	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-72

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Aqueous	Lab Sample:	1300362-03	Date Received:	15-May-2013 12:44
Project:	Locher Road Recharge	Sample Size:	0.997 L	QC Batch:	B3E0077	Date Extracted:	23-May-2013 8:22
Date Collected:	14-May-2013 9:00			Date Analyzed :	03-Jun-13 13:06 Column: ZB-1 Analyst: MAS		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	1.61	
PCB-181	ND	1.58	
PCB-182/187	ND	1.52	
PCB-183	ND	1.51	
PCB-184	ND	1.27	
PCB-185	ND	1.37	
PCB-186	ND	1.25	
PCB-188	ND	1.32	
PCB-189	ND	1.11	
PCB-190	ND	1.26	
PCB-191	ND	1.31	
PCB-192	ND	1.32	
PCB-193	ND	1.28	
PCB-194	ND	1.91	
PCB-195	ND	1.89	
PCB-196/203	ND	2.69	
PCB-197	ND	2.15	
PCB-198	ND	2.93	
PCB-199	ND	2.75	
PCB-200	ND	2.09	
PCB-201	ND	2.03	
PCB-202	ND	2.16	
PCB-204	ND	2.02	
PCB-205	ND	1.44	
PCB-206	ND	1.54	
PCB-207	ND	0.884	
PCB-208	ND	1.05	
PCB-209	ND	3.82	
Total monoCB	27.1		
Total diCB	274		B
Total triCB	444		B
Total tetraCB	111		B
Total pentaCB	ND	4.89	
Total hexaCB	ND	2.92	
Total heptaCB	ND	1.93	

Analyte	Conc. (pg/L)	DL	Qualifiers
Total octaCB	ND	2.93	
Total nonaCB	ND	1.54	
DecaCB	ND	3.82	
Total PCB	856		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-72

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:00

Sample Data

Matrix: Aqueous
Sample Size: 0.997 L

Laboratory Data

Lab Sample: 1300362-03
Date Received: 15-May-2013 12:44
QC Batch: B3E0077
Date Extracted: 23-May-2013 8:22
Date Analyzed : 03-Jun-13 13:06 Column: ZB-1 Analyst: MAS

Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	16.0	5 -145	
13C-PCB-3	25.2	5 -145	
13C-PCB-4	32.1	5 -145	
13C-PCB-11	51.6	5 -145	
13C-PCB-9	36.8	5 -145	
13C-PCB-19	38.2	5 -145	
13C-PCB-28	58.0	5 -145	
13C-PCB-32	41.1	5 -145	
13C-PCB-37	63.8	5 -145	
13C-PCB-47	55.8	5 -145	
13C-PCB-52	58.6	5 -145	
13C-PCB-54	57.7	5 -145	
13C-PCB-70	63.1	5 -145	
13C-PCB-77	68.2	10 -145	
13C-PCB-80	63.9	10 -145	
13C-PCB-81	67.0	10 -145	
13C-PCB-95	59.7	10 -145	
13C-PCB-97	64.0	10 -145	
13C-PCB-101	61.5	10 -145	
13C-PCB-104	53.3	10 -145	
13C-PCB-105	73.8	10 -145	
13C-PCB-114	74.3	10 -145	
13C-PCB-118	62.9	10 -145	
13C-PCB-123	63.1	10 -145	
13C-PCB-126	65.4	10 -145	
13C-PCB-127	72.1	10 -145	
13C-PCB-138	61.9	10 -145	
13C-PCB-141	63.5	10 -145	
13C-PCB-153	63.8	10 -145	
13C-PCB-155	54.1	10 -145	
13C-PCB-156	61.4	10 -145	
13C-PCB-157	61.6	10 -145	
13C-PCB-159	60.1	10 -145	
13C-PCB-167	60.0	10 -145	
13C-PCB-169	56.0	10 -145	
13C-PCB-170	53.5	10 -145	
13C-PCB-180	55.9	10 -145	
13C-PCB-188	55.1	10 -145	
13C-PCB-189	52.8	10 -145	
13C-PCB-194	67.9	10 -145	
13C-PCB-202	58.1	10 -145	
13C-PCB-206	61.5	10 -145	
13C-PCB-208	56.9	10 -145	
13C-PCB-209	52.1	10 -145	
CRS 13C-PCB-79	74.9	10 -145	
13C-PCB-178	64.2	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: Matrix Spike

EPA Method 1668C

Source Client ID:	SW-1				
Source LabNumber:	1300362-04	QC Batch:	B3E0077	Lab Sample:	B3E0077-MS1/B3E0077-MSD1
Matrix:	Aqueous	Date Extracted:	23-May-2013 8:22	Date Analyzed:	03-Jun-13 14:10 Column: ZB-1 Analyst: MAS
Sample Size:	0.985/0.989 L				01-Jun-13 18:05 Column: ZB-1 Analyst: MAS

Analyte	Spike-MS (pg/L)	MS %R	Spike-MSD (pg/L)	MSD %R	RPD
PCB-1	1020	123	1010	109	12.4
PCB-3	1020	122	1010	113	8.02
PCB-4/10	2030	117	2020	109	6.88
PCB-15	1020	109	1010	108	0.878
PCB-19	1020	115	1010	102	12.5
PCB-37	1020	75.4	1010	87.6	15.0
PCB-54	1020	107	1010	106	0.862
PCB-77	1020	109	1010	111	1.93
PCB-81	1020	108	1010	113	4.96
PCB-104	1020	97.0	1010	101	4.20
PCB-105	1020	104	1010	109	4.63
PCB-106/118	2030	102	2020	101	1.48
PCB-114	1020	104	1010	108	3.62
PCB-126	1020	104	1010	109	4.73
PCB-155	1020	102	1010	103	0.0191
PCB-156	1020	109	1010	109	0.767
PCB-157	1020	106	1010	108	1.56
PCB-167	1020	107	1010	109	1.79
PCB-169	1020	107	1010	106	1.45
PCB-188	1020	105	1010	106	0.818
PCB-189	1020	103	1010	108	4.37
PCB-202	1020	99.9	1010	103	2.90
PCB-205	1020	108	1010	108	0.562
PCB-206	1020	97.3	1010	102	4.28
PCB-208	1020	100	1010	102	1.71
PCB-209	1020	100	1010	101	0.689

	Labeled Standard	MS-%R	MSD-%R
IS	13C-PCB-1	28.4	41.4
IS	13C-PCB-3	35.9	45.7
IS	13C-PCB-4	46.2	54.1
IS	13C-PCB-11	57.5	68.0
IS	13C-PCB-9	50.1	58.1
IS	13C-PCB-19	40.2	51.3
IS	13C-PCB-28	56.3	65.7
IS	13C-PCB-32	43.9	55.1
IS	13C-PCB-37	51.3	77.7
IS	13C-PCB-47	57.9	71.2
IS	13C-PCB-52	57.8	72.2
IS	13C-PCB-54	60.7	69.2
IS	13C-PCB-70	63.9	73.0
IS	13C-PCB-77	65.8	80.1
IS	13C-PCB-80	60.9	73.9
IS	13C-PCB-81	63.6	70.5
IS	13C-PCB-95	60.5	73.6
IS	13C-PCB-97	63.5	77.4
IS	13C-PCB-101	63.1	74.2
IS	13C-PCB-104	56.1	68.7
IS	13C-PCB-105	73.3	99.8
IS	13C-PCB-114	76.3	99.8
IS	13C-PCB-118	61.2	77.6
IS	13C-PCB-123	61.9	77.4
IS	13C-PCB-126	69.5	89.3
IS	13C-PCB-127	74.0	97.6
IS	13C-PCB-138	66.3	81.5
IS	13C-PCB-141	67.2	82.1
IS	13C-PCB-153	66.7	81.5
IS	13C-PCB-155	59.3	69.1
IS	13C-PCB-156	61.8	80.0
IS	13C-PCB-157	62.4	78.6
IS	13C-PCB-159	63.8	80.4
IS	13C-PCB-167	63.8	78.3
IS	13C-PCB-169	62.1	80.4
IS	13C-PCB-170	57.0	70.8
IS	13C-PCB-180	57.4	68.6
IS	13C-PCB-188	59.3	68.8
IS	13C-PCB-189	55.4	75.3

Sample ID: Matrix Spike

EPA Method 1668C

Source Client ID:	SW-1				
Source LabNumber:	1300362-04	QC Batch:	B3E0077	Lab Sample:	B3E0077-MS1/B3E0077-MSD1
Matrix:	Aqueous	Date Extracted:	23-May-2013 8:22	Date Analyzed:	03-Jun-13 14:10 Column: ZB-1 Analyst: MAS
Sample Size:	0.985/0.989 L				01-Jun-13 18:05 Column: ZB-1 Analyst: MAS

Analyte	Spike-MS (pg/L)	MS %R	Spike-MSD (pg/L)	MSD %R	RPD

	Labeled Standard	MS-%R	MSD-%R
IS	13C-PCB-194	60.8	80.0
IS	13C-PCB-202	58.3	65.3
IS	13C-PCB-206	64.4	74.4
IS	13C-PCB-208	59.3	67.8
IS	13C-PCB-209	52.0	62.2
CRS	13C-PCB-79	69.8	84.4
CRS	13C-PCB-178	64.4	76.1

Sample ID: **Method Blank** **EPA Method 1668C**

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03

Lab Sample: B3F0005-BLK1
Date Analyzed: 05-Jun-13 20:13 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	ND	3.06	
PCB-2	ND	3.71	
PCB-3	ND	3.63	
PCB-4/10	ND	8.59	
PCB-5/8	ND	8.52	
PCB-6	ND	7.66	
PCB-7/9	ND	7.98	
PCB-11	ND	32.1	I
PCB-12/13	ND	7.58	
PCB-14	ND	8.24	
PCB-15	ND	7.21	
PCB-16/32	ND	1.27	
PCB-17	ND	1.40	
PCB-18	ND	1.59	
PCB-19	ND	1.87	
PCB-20/21/33	ND	1.88	
PCB-22	ND	1.78	
PCB-23	ND	1.78	
PCB-24/27	ND	1.04	
PCB-25	ND	1.73	
PCB-26	ND	1.90	
PCB-28	ND	1.73	
PCB-29	ND	1.93	
PCB-30	ND	1.11	
PCB-31	ND	1.85	
PCB-34	ND	1.89	
PCB-35	ND	1.81	
PCB-36	ND	1.79	
PCB-37	ND	1.70	
PCB-38	ND	1.85	
PCB-39	ND	1.89	
PCB-40	ND	2.20	
PCB-41/64/71/72	ND	1.35	
PCB-42/59	ND	1.50	
PCB-43/49	ND	1.81	
PCB-44	ND	1.92	
PCB-45	ND	2.05	
PCB-46	ND	2.13	
PCB-47	4.65		J
PCB-48/75	ND	1.30	
PCB-50	ND	1.60	
PCB-51	ND	1.82	
PCB-52/69	ND	1.62	
PCB-53	ND	1.67	
PCB-54	ND	1.28	
PCB-55	ND	1.18	
PCB-56/60	ND	1.20	
PCB-57	ND	1.15	
PCB-58	ND	1.20	
PCB-61/70	1.97		J
PCB-62	ND	1.30	
PCB-63	ND	1.24	
PCB-65	ND	1.31	
PCB-67	ND	1.10	
PCB-68	ND	1.16	
PCB-73	ND	1.28	
PCB-74	ND	1.04	
PCB-76/66	ND	1.23	
PCB-77	1.87		J
PCB-78	ND	1.18	
PCB-79	ND	1.14	
PCB-80	ND	1.13	
PCB-81	ND	1.07	
PCB-82	ND	4.21	
PCB-83	ND	2.76	
PCB-84/92	ND	3.87	
PCB-85/116	ND	3.08	
PCB-86	ND	4.19	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03

Lab Sample: B3F0005-BLK1
Date Analyzed: 05-Jun-13 20:13 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers	Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-87/117/125	ND	2.86		PCB-133/142	ND	1.57	
PCB-88/91	ND	3.70		PCB-134/143	ND	1.37	
PCB-89	ND	4.07		PCB-135	ND	2.29	
PCB-90/101	ND	3.47		PCB-136	ND	1.73	
PCB-93	ND	4.11		PCB-137	ND	1.21	
PCB-94	ND	3.92		PCB-138/163/164	6.09		J
PCB-95/98/102	ND	3.44		PCB-139/149	4.95		J
PCB-96	ND	3.10		PCB-140	ND	2.41	
PCB-97	ND	3.71		PCB-141	ND	1.22	
PCB-99	ND	3.25		PCB-144	ND	2.27	
PCB-100	ND	3.78		PCB-145	ND	1.78	
PCB-103	ND	3.61		PCB-146/165	1.01		J
PCB-104	ND	2.93		PCB-147	ND	2.29	
PCB-105	ND	3.14		PCB-148	ND	2.40	
PCB-106/118	4.04		J	PCB-150	ND	1.83	
PCB-107/109	ND	2.40		PCB-151	ND	2.41	
PCB-108/112	ND	3.45		PCB-152	ND	1.69	
PCB-110	4.51		J	PCB-153	3.35		J
PCB-111/115	ND	2.69		PCB-154	ND	2.04	
PCB-113	ND	2.86		PCB-155	ND	1.71	
PCB-114	ND	3.21		PCB-156	1.53		J
PCB-119	ND	2.64		PCB-157	ND	0.996	
PCB-120	ND	2.75		PCB-158/160	1.08		J
PCB-121	ND	2.48		PCB-159	ND	1.06	
PCB-122	ND	3.45		PCB-166	ND	1.06	
PCB-123	ND	2.63		PCB-167	ND	0.994	
PCB-124	ND	2.30		PCB-168	ND	0.926	
PCB-126	ND	3.52		PCB-169	ND	1.25	
PCB-127	ND	3.18		PCB-170	ND	1.30	
PCB-128/162	2.18		J	PCB-171	ND	1.17	
PCB-129	ND	1.46		PCB-172	ND	1.12	
PCB-130	ND	1.37		PCB-173	ND	1.56	
PCB-131	ND	1.41		PCB-174	ND	1.26	
PCB-132/161	2.29		J	PCB-175	ND	1.36	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank

EPA Method 1668C

Matrix:	Aqueous	QC Batch:	B3F0005	Lab Sample:	B3F0005-BLK1
Sample Size:	1.00 L	Date Extracted:	05-Jun-2013 8:03	Date Analyzed:	05-Jun-13 20:13 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-176	ND	0.978	
PCB-177	ND	1.39	
PCB-178	ND	1.38	
PCB-179	ND	1.08	
PCB-180	ND	1.29	
PCB-181	ND	1.27	
PCB-182/187	ND	1.18	
PCB-183	ND	1.17	
PCB-184	ND	0.979	
PCB-185	ND	1.10	
PCB-186	ND	0.966	
PCB-188	ND	1.02	
PCB-189	ND	0.905	
PCB-190	ND	1.01	
PCB-191	ND	1.05	
PCB-192	ND	1.06	
PCB-193	ND	1.03	
PCB-194	ND	0.996	
PCB-195	ND	0.987	
PCB-196/203	ND	1.77	
PCB-197	ND	1.41	
PCB-198	ND	1.93	
PCB-199	ND	1.81	
PCB-200	ND	1.37	
PCB-201	ND	1.34	
PCB-202	ND	1.42	
PCB-204	ND	1.33	
PCB-205	ND	0.752	
PCB-206	ND	1.03	
PCB-207	ND	0.573	
PCB-208	0.767		J
PCB-209	1.07		J
Total monoCB	ND	3.71	
Total diCB	ND	32.1	

Analyte	Conc. (pg/L)	DL	Qualifiers
Total triCB	ND	1.93	
Total tetraCB	8.48		
Total pentaCB	8.55		
Total hexaCB	22.5		
Total heptaCB	ND	1.56	
Total octaCB	ND	1.93	
Total nonaCB	0.767		
DecaCB	1.07		
Total PCB	41.4		

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank | **EPA Method 1668C**

Matrix:	Aqueous	QC Batch:	B3F0005	Lab Sample:	B3F0005-BLK1
Sample Size:	1.00 L	Date Extracted:	05-Jun-2013 8:03	Date Analyzed:	05-Jun-13 20:13 Column: ZB-1 Analyst: MAS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	82.9	5 - 145	
	13C-PCB-3	72.0	5 - 145	
	13C-PCB-4	77.5	5 - 145	
	13C-PCB-11	86.2	5 - 145	
	13C-PCB-9	76.0	5 - 145	
	13C-PCB-19	113	5 - 145	
	13C-PCB-28	83.5	5 - 145	
	13C-PCB-32	119	5 - 145	
	13C-PCB-37	92.9	5 - 145	
	13C-PCB-47	83.9	5 - 145	
	13C-PCB-52	87.8	5 - 145	
	13C-PCB-54	86.6	5 - 145	
	13C-PCB-70	95.5	5 - 145	
	13C-PCB-77	97.4	10 - 145	
	13C-PCB-80	96.3	10 - 145	
	13C-PCB-81	96.9	10 - 145	
	13C-PCB-95	96.3	10 - 145	
	13C-PCB-97	103	10 - 145	
	13C-PCB-101	99.7	10 - 145	
	13C-PCB-104	89.1	10 - 145	
	13C-PCB-105	88.1	10 - 145	
	13C-PCB-114	84.4	10 - 145	
	13C-PCB-118	98.2	10 - 145	
	13C-PCB-123	103	10 - 145	
	13C-PCB-126	88.8	10 - 145	
	13C-PCB-127	85.4	10 - 145	
	13C-PCB-138	99.9	10 - 145	
	13C-PCB-141	102	10 - 145	
	13C-PCB-153	96.3	10 - 145	
	13C-PCB-155	78.8	10 - 145	
	13C-PCB-156	97.4	10 - 145	

Labeled Standard		%R	LCL-UCL	Qualifiers
	13C-PCB-157	95.8	10 - 145	
	13C-PCB-159	97.1	10 - 145	
	13C-PCB-167	97.3	10 - 145	
	13C-PCB-169	91.7	10 - 145	
	13C-PCB-170	85.4	10 - 145	
	13C-PCB-180	85.6	10 - 145	
	13C-PCB-188	81.8	10 - 145	
	13C-PCB-189	78.0	10 - 145	
	13C-PCB-194	106	10 - 145	
	13C-PCB-202	75.0	10 - 145	
	13C-PCB-206	93.0	10 - 145	
	13C-PCB-208	106	10 - 145	
	13C-PCB-209	66.4	10 - 145	
CRS	13C-PCB-79	99.4	10 - 145	
	13C-PCB-178	88.2	10 - 145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: OPR **EPA Method 1668C**

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03

Lab Sample: B3F0005-BS1
Date Analyzed: 05-Jun-13 16:58 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits
PCB-1	957	1000	95.7	60 - 135
PCB-3	968	1000	96.8	60 - 135
PCB-4/10	1880	2000	93.9	60 - 135
PCB-15	959	1000	95.9	60 - 135
PCB-19	969	1000	96.9	60 - 135
PCB-37	1070	1000	107	60 - 135
PCB-54	1000	1000	100	60 - 135
PCB-77	1040	1000	104	60 - 135
PCB-81	995	1000	99.5	60 - 135
PCB-104	1080	1000	108	60 - 135
PCB-105	958	1000	95.8	60 - 135
PCB-106/118	2140	2000	107	60 - 135
PCB-114	976	1000	97.6	60 - 135
PCB-123	1070	1000	107	60 - 135
PCB-126	985	1000	98.5	60 - 135
PCB-155	1100	1000	110	60 - 135
PCB-156	1020	1000	102	60 - 135
PCB-157	1040	1000	104	60 - 135
PCB-167	1050	1000	105	60 - 135
PCB-169	1030	1000	103	60 - 135
PCB-188	1100	1000	110	60 - 135
PCB-189	1050	1000	105	60 - 135
PCB-202	1060	1000	106	60 - 135
PCB-205	956	1000	95.6	60 - 135
PCB-206	1060	1000	106	60 - 135
PCB-208	1060	1000	106	60 - 135
PCB-209	1050	1000	105	60 - 135

Labeled Standard		%R	LCL-UCL
IS	13C-PCB-1	76.9	15 - 145
IS	13C-PCB-3	69.4	15 - 145
IS	13C-PCB-4	80.2	15 - 145
IS	13C-PCB-11	84.1	15 - 145
IS	13C-PCB-9	78.0	15 - 145
IS	13C-PCB-19	104	15 - 145
IS	13C-PCB-28	76.6	15 - 145
IS	13C-PCB-32	109	15 - 145
IS	13C-PCB-37	87.8	15 - 145
IS	13C-PCB-47	84.1	15 - 145
IS	13C-PCB-52	87.5	15 - 145
IS	13C-PCB-54	83.0	15 - 145
IS	13C-PCB-70	92.5	15 - 145
IS	13C-PCB-77	95.2	40 - 145
IS	13C-PCB-80	91.2	40 - 145
IS	13C-PCB-81	97.0	40 - 145
IS	13C-PCB-95	89.1	40 - 145
IS	13C-PCB-97	98.7	40 - 145
IS	13C-PCB-101	93.0	40 - 145
IS	13C-PCB-104	83.4	40 - 145
IS	13C-PCB-105	92.4	40 - 145
IS	13C-PCB-114	85.6	40 - 145
IS	13C-PCB-118	94.9	40 - 145
IS	13C-PCB-123	97.1	40 - 145
IS	13C-PCB-126	88.5	40 - 145
IS	13C-PCB-127	89.1	40 - 145
IS	13C-PCB-138	97.5	40 - 145
IS	13C-PCB-141	98.7	40 - 145
IS	13C-PCB-153	96.4	40 - 145
IS	13C-PCB-155	71.0	40 - 145
IS	13C-PCB-156	95.5	40 - 145
IS	13C-PCB-157	93.2	40 - 145
IS	13C-PCB-159	94.4	40 - 145
IS	13C-PCB-167	94.2	40 - 145
IS	13C-PCB-169	92.2	40 - 145
IS	13C-PCB-170	80.1	40 - 145
IS	13C-PCB-180	80.8	40 - 145
IS	13C-PCB-188	79.8	40 - 145
IS	13C-PCB-189	74.3	40 - 145
IS	13C-PCB-194	102	40 - 145

Sample ID: OPR **EPA Method 1668C**

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03

Lab Sample: B3F0005-BS1
Date Analyzed: 05-Jun-13 16:58 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits

Labeled Standard		%R	LCL-UCL
IS	13C-PCB-202	71.2	40 - 145
IS	13C-PCB-206	85.2	40 - 145
IS	13C-PCB-208	91.3	40 - 145
IS	13C-PCB-209	60.5	40 - 145
CRS	13C-PCB-79	101	40 - 145
CRS	13C-PCB-178	85.9	40 - 145

LCL-UCL - Lower control limit - upper control limit

Sample ID: SW-1

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 11:30

Sample Data

Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data

Lab Sample: 1300362-04
Date Received: 15-May-2013 12:44
QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03
Date Analyzed : 06-Jun-13 00:34 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	13.6		
PCB-2	ND	3.31	
PCB-3	5.76		
PCB-4/10	38.5		
PCB-5/8	123		
PCB-6	19.8		
PCB-7/9	ND	8.22	
PCB-11	26.1		
PCB-12/13	ND	7.28	
PCB-14	ND	7.91	
PCB-15	30.5		
PCB-16/32	55.9		
PCB-17	32.9		
PCB-18	100		
PCB-19	13.1		
PCB-20/21/33	49.1		
PCB-22	29.7		
PCB-23	ND	1.06	
PCB-24/27	7.27		J
PCB-25	4.67		J
PCB-26	13.7		
PCB-28	57.3		
PCB-29	ND	1.16	
PCB-30	ND	0.766	
PCB-31	63.2		
PCB-34	ND	1.13	
PCB-35	ND	1.15	
PCB-36	ND	1.14	
PCB-37	8.34		
PCB-38	ND	1.17	
PCB-39	ND	1.20	
PCB-40	3.84		J
PCB-41/64/71/72	13.3		J
PCB-42/59	5.91		J
PCB-43/49	13.7		
PCB-44	18.8		
PCB-45	6.90		
PCB-46	3.06		J
PCB-47	ND	4.64	
PCB-48/75	3.82		J
PCB-50	ND	1.13	
PCB-51	ND	1.26	
PCB-52/69	19.6		
PCB-53	4.85		J
PCB-54	ND	0.908	
PCB-55	ND	0.823	
PCB-56/60	4.72		J
PCB-57	ND	0.827	
PCB-58	ND	0.864	
PCB-61/70	8.94		J, B
PCB-62	ND	0.884	
PCB-63	ND	0.891	
PCB-65	ND	0.890	
PCB-67	ND	0.791	
PCB-68	ND	0.786	
PCB-73	ND	0.882	
PCB-74	ND	2.92	
PCB-76/66	6.77		J
PCB-77	ND	0.936	
PCB-78	ND	0.858	
PCB-79	ND	0.795	
PCB-80	ND	0.791	
PCB-81	ND	0.782	
PCB-82	ND	4.81	
PCB-83	ND	3.41	
PCB-84/92	ND	4.57	
PCB-85/116	ND	3.52	
PCB-86	ND	4.78	
PCB-87/117/125	ND	3.27	
PCB-88/91	ND	4.42	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: SW-1 EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 11:30

Sample Data
Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1300362-04
Date Received: 15-May-2013 12:44
QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03
Date Analyzed : 06-Jun-13 00:34 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	4.80	
PCB-90/101	6.48		J
PCB-93	ND	4.91	
PCB-94	ND	4.68	
PCB-95/98/102	5.35		J
PCB-96	ND	3.52	
PCB-97	ND	4.59	
PCB-99	ND	3.84	
PCB-100	ND	4.30	
PCB-103	ND	4.11	
PCB-104	ND	3.33	
PCB-105	ND	3.48	
PCB-106/118	ND	3.21	
PCB-107/109	ND	2.74	
PCB-108/112	ND	4.27	
PCB-110	ND	7.46	I
PCB-111/115	ND	3.08	
PCB-113	ND	3.38	
PCB-114	ND	3.29	
PCB-119	ND	3.27	
PCB-120	ND	3.14	
PCB-121	ND	2.97	
PCB-122	ND	3.54	
PCB-123	ND	3.01	
PCB-124	ND	2.63	
PCB-126	ND	3.80	
PCB-127	ND	3.36	
PCB-128/162	ND	1.21	
PCB-129	ND	1.61	
PCB-130	ND	1.63	
PCB-131	ND	1.50	
PCB-132/161	1.87		J, B
PCB-133/142	ND	1.67	
PCB-134/143	ND	1.46	
PCB-135	ND	2.06	

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-136	ND	1.56	
PCB-137	ND	1.44	
PCB-138/163/164	3.34		J, B
PCB-139/149	3.49		J, B
PCB-140	ND	2.17	
PCB-141	ND	1.46	
PCB-144	ND	2.04	
PCB-145	ND	1.60	
PCB-146/165	ND	1.11	
PCB-147	ND	2.07	
PCB-148	ND	2.16	
PCB-150	ND	1.65	
PCB-151	ND	2.17	
PCB-152	ND	1.52	
PCB-153	2.62		J, B
PCB-154	ND	1.84	
PCB-155	ND	1.55	
PCB-156	ND	1.09	
PCB-157	ND	1.14	
PCB-158/160	ND	1.01	
PCB-159	ND	1.08	
PCB-166	ND	1.08	
PCB-167	ND	1.09	
PCB-168	ND	0.986	
PCB-169	ND	1.27	
PCB-170	ND	1.12	
PCB-171	ND	0.910	
PCB-172	ND	0.872	
PCB-173	ND	1.21	
PCB-174	ND	0.976	
PCB-175	ND	1.02	
PCB-176	ND	0.736	
PCB-177	ND	1.08	
PCB-178	ND	1.04	
PCB-179	ND	0.811	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: SW-1

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 11:30

Sample Data

Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data

Lab Sample: 1300362-04
Date Received: 15-May-2013 12:44
QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03
Date Analyzed : 06-Jun-13 00:34 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	1.00	
PCB-181	ND	0.988	
PCB-182/187	ND	0.885	
PCB-183	ND	0.880	
PCB-184	ND	0.737	
PCB-185	ND	0.855	
PCB-186	ND	0.727	
PCB-188	ND	0.768	
PCB-189	ND	0.733	
PCB-190	ND	0.872	
PCB-191	ND	0.816	
PCB-192	ND	0.825	
PCB-193	ND	0.799	
PCB-194	ND	0.884	
PCB-195	ND	0.877	
PCB-196/203	ND	2.00	
PCB-197	ND	1.60	
PCB-198	ND	2.18	
PCB-199	ND	2.05	
PCB-200	ND	1.55	
PCB-201	ND	1.51	
PCB-202	ND	1.60	
PCB-204	ND	1.50	
PCB-205	ND	0.668	
PCB-206	ND	1.16	
PCB-207	ND	0.668	
PCB-208	ND	0.795	
PCB-209	ND	1.53	
Total monoCB	19.4		
Total diCB	238		
Total triCB	436		
Total tetraCB	114		B
Total pentaCB	11.8		B
Total hexaCB	11.3		B
Total heptaCB	ND	1.21	
Total octaCB	ND	2.18	
Total nonaCB	ND	1.16	
DecaCB	ND	1.53	
Total PCB	830		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: SW-1

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 11:30

Sample Data

Matrix: Aqueous
Sample Size: 1.01 L

Laboratory Data

Lab Sample: 1300362-04
Date Received: 15-May-2013 12:44
QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03
Date Analyzed : 06-Jun-13 00:34 Column: ZB-1 Analyst: MAS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	81.9	5 -145	
	13C-PCB-3	74.8	5 -145	
	13C-PCB-4	78.9	5 -145	
	13C-PCB-11	88.6	5 -145	
	13C-PCB-9	78.1	5 -145	
	13C-PCB-19	118	5 -145	
	13C-PCB-28	89.6	5 -145	
	13C-PCB-32	122	5 -145	
	13C-PCB-37	95.9	5 -145	
	13C-PCB-47	89.7	5 -145	
	13C-PCB-52	89.3	5 -145	
	13C-PCB-54	87.6	5 -145	
	13C-PCB-70	95.6	5 -145	
	13C-PCB-77	90.5	10 -145	
	13C-PCB-80	95.7	10 -145	
	13C-PCB-81	93.0	10 -145	
	13C-PCB-95	98.6	10 -145	
	13C-PCB-97	97.2	10 -145	
	13C-PCB-101	95.4	10 -145	
	13C-PCB-104	91.1	10 -145	
	13C-PCB-105	83.1	10 -145	
	13C-PCB-114	80.9	10 -145	
	13C-PCB-118	94.0	10 -145	
	13C-PCB-123	98.2	10 -145	
	13C-PCB-126	81.3	10 -145	
	13C-PCB-127	80.9	10 -145	
	13C-PCB-138	95.4	10 -145	
	13C-PCB-141	92.5	10 -145	
	13C-PCB-153	94.3	10 -145	
	13C-PCB-155	79.0	10 -145	
	13C-PCB-156	91.5	10 -145	
	13C-PCB-157	89.0	10 -145	
	13C-PCB-159	93.7	10 -145	
	13C-PCB-167	93.2	10 -145	
	13C-PCB-169	88.1	10 -145	
	13C-PCB-170	78.6	10 -145	
	13C-PCB-180	82.0	10 -145	
	13C-PCB-188	83.7	10 -145	
	13C-PCB-189	75.2	10 -145	
	13C-PCB-194	98.3	10 -145	
	13C-PCB-202	74.7	10 -145	
	13C-PCB-206	88.4	10 -145	
	13C-PCB-208	86.7	10 -145	
	13C-PCB-209	65.6	10 -145	
CRS	13C-PCB-79	93.1	10 -145	
	13C-PCB-178	87.1	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: Duplicate

EPA Method 1668C

Source Client ID: SW-1
Source LabNumber: 1300362-04
Matrix: Aqueous
Sample Size: 0.994 L

QC Batch: B3F0005
Date Extracted: 05-Jun-2013 8:03

Lab Sample: B3F0005-DUP1
Date Analyzed: 06-Jun-13 01:40 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	12.8		
PCB-2	ND	3.22	
PCB-3	5.09		
PCB-4/10	ND	29.8	I
PCB-5/8	121		
PCB-6	19.2		
PCB-7/9	ND	9.30	
PCB-11	28.6		
PCB-12/13	ND	7.22	
PCB-14	ND	7.85	
PCB-15	31.8		
PCB-16/32	53.7		
PCB-17	31.5		
PCB-18	96.0		
PCB-19	10.3		
PCB-20/21/33	48.2		
PCB-22	29.7		
PCB-23	ND	0.984	
PCB-24/27	7.43		J
PCB-25	5.33		
PCB-26	13.0		
PCB-28	55.5		
PCB-29	ND	1.07	
PCB-30	ND	0.577	
PCB-31	62.0		
PCB-34	ND	1.05	
PCB-35	ND	0.977	
PCB-36	ND	0.968	
PCB-37	7.98		
PCB-38	ND	0.997	
PCB-39	ND	1.02	
PCB-40	3.86		J

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-41/64/71/72	14.6		J
PCB-42/59	6.21		J
PCB-43/49	12.5		
PCB-44	17.5		
PCB-45	7.31		
PCB-46	3.41		J
PCB-47	7.80		B
PCB-48/75	3.84		J
PCB-50	ND	1.43	
PCB-51	ND	1.40	
PCB-52/69	18.2		
PCB-53	4.42		J
PCB-54	ND	1.14	
PCB-55	ND	0.934	
PCB-56/60	4.64		J
PCB-57	ND	0.887	
PCB-58	ND	0.928	
PCB-61/70	8.21		J, B
PCB-62	ND	1.04	
PCB-63	ND	0.956	
PCB-65	ND	1.05	
PCB-67	ND	0.849	
PCB-68	ND	0.928	
PCB-73	ND	0.985	
PCB-74	2.94		J
PCB-76/66	5.97		J
PCB-77	ND	1.02	
PCB-78	ND	0.961	
PCB-79	ND	0.902	
PCB-80	ND	0.898	
PCB-81	ND	0.876	
PCB-82	ND	4.84	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Duplicate

EPA Method 1668C

Source Client ID:	SW-1	QC Batch:	B3F0005	Lab Sample:	B3F0005-DUP1
Source LabNumber:	1300362-04	Date Extracted:	05-Jun-2013 8:03	Date Analyzed:	06-Jun-13 01:40 Column: ZB-1 Analyst: MAS
Matrix:	Aqueous				
Sample Size:	0.994 L				

Analyte	Conc. (pg/L)	DL	Qualifiers	Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-83	ND	3.03		PCB-127	ND	2.47	
PCB-84/92	ND	3.98		PCB-128/162	ND	1.06	
PCB-85/116	ND	3.38		PCB-129	ND	1.40	
PCB-86	ND	4.60		PCB-130	ND	1.27	
PCB-87/117/125	ND	3.14		PCB-131	ND	1.25	
PCB-88/91	ND	4.13		PCB-132/161	ND	1.02	
PCB-89	ND	4.19		PCB-133/142	ND	1.39	
PCB-90/101	ND	3.58		PCB-134/143	ND	1.22	
PCB-93	ND	4.59		PCB-135	ND	1.83	
PCB-94	ND	4.37		PCB-136	ND	1.39	
PCB-95/98/102	ND	3.83		PCB-137	ND	1.12	
PCB-96	ND	3.29		PCB-138/163/164	2.45		J, B
PCB-97	ND	4.07		PCB-139/149	1.99		J, B
PCB-99	ND	3.35		PCB-140	ND	1.93	
PCB-100	ND	4.02		PCB-141	ND	1.14	
PCB-103	ND	3.84		PCB-144	ND	1.82	
PCB-104	ND	3.11		PCB-145	ND	1.43	
PCB-105	ND	2.63		PCB-146/165	ND	0.933	
PCB-106/118	3.20		J, B	PCB-147	ND	1.84	
PCB-107/109	ND	2.76		PCB-148	ND	1.92	
PCB-108/112	ND	3.79		PCB-150	ND	1.47	
PCB-110	5.25		B	PCB-151	ND	1.93	
PCB-111/115	ND	2.96		PCB-152	ND	1.35	
PCB-113	ND	2.95		PCB-153	2.11		J, B
PCB-114	ND	2.78		PCB-154	ND	1.63	
PCB-119	ND	2.90		PCB-155	ND	1.37	
PCB-120	ND	3.02		PCB-156	ND	0.890	
PCB-121	ND	2.77		PCB-157	ND	0.921	
PCB-122	ND	3.00		PCB-158/160	ND	0.877	
PCB-123	ND	3.03		PCB-159	ND	0.945	
PCB-124	ND	2.65		PCB-166	ND	0.944	
PCB-126	ND	2.83		PCB-167	ND	0.950	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Duplicate

EPA Method 1668C

Source Client ID:	SW-1	QC Batch:	B3F0005	Lab Sample:	B3F0005-DUP1
Source LabNumber:	1300362-04	Date Extracted:	05-Jun-2013 8:03	Date Analyzed:	06-Jun-13 01:40 Column: ZB-1 Analyst: MAS
Matrix:	Aqueous				
Sample Size:	0.994 L				

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-168	ND	0.824	
PCB-169	ND	1.08	
PCB-170	ND	0.806	
PCB-171	ND	0.706	
PCB-172	ND	0.677	
PCB-173	ND	0.938	
PCB-174	ND	0.758	
PCB-175	ND	0.762	
PCB-176	ND	0.550	
PCB-177	ND	0.839	
PCB-178	ND	0.775	
PCB-179	ND	0.606	
PCB-180	ND	0.780	
PCB-181	ND	0.767	
PCB-182/187	ND	0.661	
PCB-183	ND	0.657	
PCB-184	ND	0.550	
PCB-185	ND	0.664	
PCB-186	ND	0.543	
PCB-188	ND	0.574	
PCB-189	ND	0.530	
PCB-190	ND	0.627	
PCB-191	ND	0.634	
PCB-192	ND	0.640	
PCB-193	ND	0.620	
PCB-194	ND	0.662	
PCB-195	ND	0.656	
PCB-196/203	ND	1.50	
PCB-197	ND	1.20	
PCB-198	ND	1.64	
PCB-199	ND	1.54	
PCB-200	ND	1.17	

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-201	ND	1.13	
PCB-202	ND	1.20	
PCB-204	ND	1.12	
PCB-205	ND	0.500	
PCB-206	ND	0.662	
PCB-207	ND	0.410	
PCB-208	ND	0.488	
PCB-209	ND	2.30	
Total monoCB	17.9		
Total diCB	200		
Total triCB	421		
Total tetraCB	121		B
Total pentaCB	8.45		B
Total hexaCB	6.55		B
Total heptaCB	ND	0.938	
Total octaCB	ND	1.64	
Total nonaCB	ND	0.662	
DecaCB	ND	2.30	
Total PCB	775		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Duplicate

EPA Method 1668C

Source Client ID:	SW-1	QC Batch:	B3F0005	Lab Sample:	B3F0005-DUP1
Source LabNumber:	1300362-04	Date Extracted:	05-Jun-2013 8:03	Date Analyzed:	06-Jun-13 01:40 Column: ZB-1 Analyst: MAS
Matrix:	Aqueous				
Sample Size:	0.994 L				

Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	51.9	5 - 145	
13C-PCB-3	50.9	5 - 145	
13C-PCB-4	52.0	5 - 145	
13C-PCB-11	73.3	5 - 145	
13C-PCB-9	56.5	5 - 145	
13C-PCB-19	92.9	5 - 145	
13C-PCB-28	77.9	5 - 145	
13C-PCB-32	103	5 - 145	
13C-PCB-37	89.1	5 - 145	
13C-PCB-47	81.4	5 - 145	
13C-PCB-52	83.1	5 - 145	
13C-PCB-54	72.5	5 - 145	
13C-PCB-70	91.1	5 - 145	
13C-PCB-77	87.2	10 - 145	
13C-PCB-80	89.6	10 - 145	
13C-PCB-81	87.8	10 - 145	
13C-PCB-95	93.3	10 - 145	
13C-PCB-97	93.8	10 - 145	
13C-PCB-101	92.7	10 - 145	
13C-PCB-104	82.8	10 - 145	
13C-PCB-105	79.0	10 - 145	
13C-PCB-114	74.2	10 - 145	
13C-PCB-118	88.7	10 - 145	
13C-PCB-123	92.4	10 - 145	
13C-PCB-126	77.1	10 - 145	
13C-PCB-127	78.6	10 - 145	
13C-PCB-138	92.4	10 - 145	
13C-PCB-141	93.8	10 - 145	
13C-PCB-153	92.4	10 - 145	
13C-PCB-155	75.9	10 - 145	
13C-PCB-156	89.4	10 - 145	
13C-PCB-157	86.6	10 - 145	
13C-PCB-159	89.4	10 - 145	
13C-PCB-167	88.9	10 - 145	
13C-PCB-169	87.4	10 - 145	
13C-PCB-170	80.4	10 - 145	
13C-PCB-180	80.1	10 - 145	
13C-PCB-188	82.0	10 - 145	
13C-PCB-189	76.6	10 - 145	
13C-PCB-194	93.7	10 - 145	
13C-PCB-202	73.4	10 - 145	
13C-PCB-206	88.1	10 - 145	
13C-PCB-208	88.8	10 - 145	
13C-PCB-209	64.1	10 - 145	
CRS 13C-PCB-79	87.4	10 - 145	
13C-PCB-178	83.6	10 - 145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The amount detected is above the High Calibration Limit.**
P	**The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.**
H	**Recovery was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Low Calibration Limit.**
*****	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.**
EMPC	**Estimated Maximum Possible Concentration**
NA	**Not applicable**
RL	**Reporting Limit – concentrations that correspond to low calibration point**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	CA00413
Alabama Dept of Environmental Management	41610
Arkansas Dept of Environmental Quality	11-035-0
California Dept of Health – NELAP	02102CA
Colorado Dept of Public Health & Environment	N/A
Connecticut Dept of Public Health	PH-0182
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA120020
Maine Department of Health	2012010
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132011-1
New Jersey Dept of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Dept of Health & Human Services	06700
North Dakota Dept of Health	R-078
Oklahoma Dept of Environmental Quality	2012-109
Oregon Laboratory Accreditation Program	CA200001-011
Pennsylvania Dept of Environmental Protection	010
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-13-4
Utah Dept of Health	CA164002012-2
Virginia Dept of General Services	1831
Washington Department of Ecology	C584-12a
Wisconsin Dept of Natural Resources	998036160

Vista

CHAIN OF CUSTODY

FOR LABORATORY USE ONLY

Laboratory Project ID:

Storage ID WR-2

Storage Secured Yes ☒ No ☐

Temp 3.1 2.3 °°C

TAT: (Check One):

Standard: ☒ 21 Days

Rush (surcharge may apply):

○ 14 days ○ 7 days Specify:

Project I.D.: LOCHER ROAD RECHARGE P.O.#

Sampler: STEVEN PATTEN / TROY BAKER (Name)

Invoice to: Name CHRIS SMEETS Company WWBWC Address 810 S. MAIN City MILTON FREEWATER State OR Zip 97862 Ph# 541-938-2170 Fax# - SAME

Relinquished by: (Signature and Printed Name) STEVEN PATTEN Date: 5-14-13 Time: 13:00 Received by: (Signature and Printed Name) Brittany Smith Date: 5/15/13 Time: 1011

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 • Fax (916) 673-0106

ATTN: CALVIN

Method of Shipment: UPS

Tracking No.:

Add Analysis(es) Requested

					Container(s)			EPA1613			EPA8290			EPA8280			EPA1668			EPA1614	CARB429	
	Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB'S	209 CONGENERS	PBDE	PAH	WHO-29
	GW-70	5-14-13	11:05	LOCHER ROAD RECHARGE	A		AQ										X					
	GW-71	5-14-13	10:40		A		AQ										X					
300362	GW-72	5-14-13	9:00		A		AQ										X					
	SW-1	5-14-13	11:30		A		AQ										X					
300361 *	SOIL #11	5-14-13	9:05	LOCHER ROAD RECHARGE	O		SO										X					

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: STEVEN PATTEN
Company: WWBWC
Address: 810 S. MAIN
City: MILTON FREEWATER State: OR Zip: 97862
Phone: 541-938-2170 Fax: SAME
Email: steven.patten@wwbwc.org

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O= Other SOIL JAR

*Bottle Preservative Type: T = Thiosulfate,
O = Other ICE

Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
AQ = Aqueous, O = Other

WHITE - ORIGINAL YELLOW - ARCHIVE PINK - COPY

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1300362 **TAT** Std

Samples Arrival:	**Date/Time** 5/15/13 1000	**Initials:** Bms	**Location:** WR-2 **Shelf/Rack:** MA
Logged In:	**Date/Time** 5/15/13 1244	**Initials:** Bms	**Location:** WR-2 **Shelf/Rack:** B5

Delivered By:	FedEx	[✓ UPS]	On Trac	DHL	Hand Delivered	Other

Preservation:	[✓ Ice]	Blue Ice	Dry Ice	None

Temp °C 3.1	**Time:** 1016	**Thermometer ID:** IR-1

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill — Trk # 1Z62E 3F7 01 4540 8223	✓		
Sample Container Intact?*	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	[✓ COC]	Sample Container	[✓ None]

Shipping Container	[✓ Vista]	Client	[✓ Retain]	Return	Dispose

Comments:

SW-1 A, B, C, D, E containers (MS/MSD)
GW-70 A container

*SW-1 F container MS, received broken

Sample Login 3/2007 rmh

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1300362 **TAT** Std

Samples Arrival:	**Date/Time** 5/15/13 1000	**Initials:** BMS	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 5/15/13 1244	**Initials:** BMS	**Location:** WR-2 **Shelf/Rack:** B5

Delivered By:	FedEx	[✓ UPS]	On Trac	DHL	Hand Delivered	Other

Preservation:	[✓ Ice]	Blue Ice	Dry Ice	None

Temp °C 2.3	**Time:** 10:25	**Thermometer ID:** IR-1

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # 1Z 62E 3F7014540 9624	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?				✓
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?		✓		

If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	[✓ COC]	Sample Container	[✓ None]

Shipping Container	[✓ Vista]	Client	[✓ Retain]	Return	Dispose

Comments:

SW-1 G, H containers
SW-1 I, J containers (FD)
GW-70 B container
GW-71 A, B containers*
GW-72 A, B containers

* ink smeared on label, difficult to read

Chain of Custody Anomaly/Sample Acceptance Form

Vista Analytical Laboratory

Client: Walla Walla Basin Watershed Council
Contact: Steven Patten
Email: steven.patten@wwbwc.org
Phone: (541) 938-2170

Workorder Number: 1300362
Date Received: 15-May-13 12:44
Documented by/date: B. Smith 5/15/13

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Maier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

- ☐ Complete Chain-of-Custody
- ☐ Test Method Requested
- ☐ Analyte List Requested
- ☐ Preservative
- ☐ Sample Identification
- ☐ Sample Collection Date and/or Time
- ☐ Collector's Name
- ☐ Sample Type
- ☐ Sample Location
- ☒ Other: Sample labels for SW-1 reflect MS, MSD, and FD while COC does not provide that information.

The following anomalies were noted. Authorization is needed to proceed with analysis.

☐ Temperature outside < 6°C Range   Samples Affected: ____________

Temperature ________°C   Ice Present? Yes No Melted

- ☐ Sample ID Discrepancy
- ☐ Sample Holding Time Missed
- ☐ Custody Seals Broken
- ☐ Insufficient Sample Size
- ☒ Sample Container(s) Broken; SW-1 (MS) container F
- ☐ Incorrect Container Type

Comments:

Client Authorization

Proceed with Analysis: [✓ YES] NO   **Signature and Date** 5-15-13

Client Comments/Instructions ____________

June 04, 2013

Vista Project I.D.: 1300361

Mr. Steven Patten
Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Dear Mr. Patten,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 15, 2013. This sample set was analyzed on a standard turn-around time, under your Project Name 'Locher Road Recharge'. The work was authorized under your Purchase Order No. Locher.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1300361
Case Narrative

Sample Condition on Receipt:

Eleven soil samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1668C

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668C using a ZB-1 GC column. A MS/MSD was run on sample "Locher Soil #1".

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1300361-01	Locher Soil #1	14-May-13 08:40	15-May-13 10:00	Amber Glass, 125 mL
1300361-02	Locher Soil #2	14-May-13 08:40	15-May-13 10:00	Amber Glass, 125 mL
1300361-03	Locher Soil #3	14-May-13 08:55	15-May-13 10:00	Amber Glass, 125 mL
1300361-04	Locher Soil #4	14-May-13 08:55	15-May-13 10:00	Amber Glass, 125 mL
1300361-05	Locher Soil #5	14-May-13 09:05	15-May-13 10:00	Amber Glass, 125 mL
1300361-06	Locher Soil #6	14-May-13 09:05	15-May-13 10:00	Amber Glass, 125 mL
1300361-07	Locher Soil #7	14-May-13 09:25	15-May-13 10:00	Amber Glass, 125 mL
1300361-08	Locher Soil #8	14-May-13 09:25	15-May-13 10:00	Amber Glass, 125 mL
1300361-09	Locher Soil #9	14-May-13 09:40	15-May-13 10:00	Amber Glass, 125 mL
1300361-10	Locher Soil #10	14-May-13 09:40	15-May-13 10:00	Amber Glass, 125 mL
1300361-11	Soil #11	14-May-13 09:05	15-May-13 10:00	Amber Glass, 125 mL

Vista Project:

Client Project: Locher Road Recharge

ANALYTICAL RESULTS

Sample ID: Method Blank **EPA Method 1668C**

Matrix: Solid
Sample Size: 10.0 g

QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36

Lab Sample: B3E0071-BLK1
Date Analyzed: 30-May-13 11:23 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	0.719	
PCB-2	ND	0.590	
PCB-3	ND	0.577	
PCB-4/10	ND	2.98	
PCB-5/8	ND	2.68	
PCB-6	ND	2.41	
PCB-7/9	ND	2.51	
PCB-11	ND	2.48	
PCB-12/13	ND	2.30	
PCB-14	ND	2.50	
PCB-15	ND	2.19	
PCB-16/32	ND	0.292	
PCB-17	ND	0.322	
PCB-18	ND	0.365	
PCB-19	ND	0.393	
PCB-20/21/33	ND	0.349	
PCB-22	ND	0.332	
PCB-23	ND	0.330	
PCB-24/27	ND	0.239	
PCB-25	ND	0.321	
PCB-26	ND	0.352	
PCB-28	ND	0.322	
PCB-29	ND	0.359	
PCB-30	ND	0.234	
PCB-31	ND	0.344	
PCB-34	ND	0.351	
PCB-35	ND	0.472	
PCB-36	ND	0.468	
PCB-37	ND	0.444	
PCB-38	ND	0.482	
PCB-39	ND	0.492	
PCB-40	ND	0.563	
PCB-41/64/71/72	ND	0.345	
PCB-42/59	ND	0.382	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-43/49	ND	0.406	
PCB-44	ND	0.490	
PCB-45	ND	0.459	
PCB-46	ND	0.476	
PCB-47	ND	0.401	
PCB-48/75	ND	0.332	
PCB-50	ND	0.381	
PCB-51	ND	0.407	
PCB-52/69	ND	0.362	
PCB-53	ND	0.374	
PCB-54	ND	0.305	
PCB-55	ND	0.345	
PCB-56/60	ND	0.351	
PCB-57	ND	0.329	
PCB-58	ND	0.344	
PCB-61/70	ND	0.345	
PCB-62	ND	0.333	
PCB-63	ND	0.355	
PCB-65	ND	0.335	
PCB-67	ND	0.315	
PCB-68	ND	0.296	
PCB-73	ND	0.285	
PCB-74	ND	0.296	
PCB-76/66	ND	0.351	
PCB-77	ND	0.381	
PCB-78	ND	0.392	
PCB-79	ND	0.333	
PCB-80	ND	0.331	
PCB-81	ND	0.357	
PCB-82	ND	0.838	
PCB-83	ND	0.589	
PCB-84/92	ND	0.723	
PCB-85/116	ND	0.658	
PCB-86	ND	0.894	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Method Blank **EPA Method 1668C**

Matrix:	Solid	QC Batch:	B3E0071	Lab Sample:	B3E0071-BLK1
Sample Size:	10.0 g	Date Extracted:	21-May-2013 14:36	Date Analyzed:	30-May-13 11:23 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers	Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-87/117/125	ND	0.610		PCB-133/142	ND	0.299	
PCB-88/91	ND	0.691		PCB-134/143	ND	0.262	
PCB-89	ND	0.760		PCB-135	ND	0.366	
PCB-90/101	ND	0.649		PCB-136	ND	0.277	
PCB-93	ND	0.768		PCB-137	ND	0.248	
PCB-94	ND	0.732		PCB-138/163/164	ND	0.201	
PCB-95/98/102	ND	0.642		PCB-139/149	0.534		J
PCB-96	ND	0.508		PCB-140	ND	0.385	
PCB-97	ND	0.791		PCB-141	ND	0.251	
PCB-99	ND	0.608		PCB-144	ND	0.363	
PCB-100	ND	0.619		PCB-145	ND	0.285	
PCB-103	ND	0.592		PCB-146/165	ND	0.200	
PCB-104	ND	0.480		PCB-147	ND	0.367	
PCB-105	ND	0.420		PCB-148	ND	0.383	
PCB-106/118	ND	0.560		PCB-150	ND	0.293	
PCB-107/109	ND	0.478		PCB-151	ND	0.386	
PCB-108/112	ND	0.736		PCB-152	ND	0.270	
PCB-110	ND	0.563		PCB-153	0.367		J
PCB-111/115	ND	0.575		PCB-154	ND	0.326	
PCB-113	ND	0.535		PCB-155	ND	0.274	
PCB-114	ND	0.446		PCB-156	ND	0.194	
PCB-119	ND	0.564		PCB-157	ND	0.204	
PCB-120	ND	0.587		PCB-158/160	ND	0.188	
PCB-121	ND	0.464		PCB-159	ND	0.202	
PCB-122	ND	0.480		PCB-166	ND	0.201	
PCB-123	ND	0.525		PCB-167	0.232		J
PCB-124	ND	0.459		PCB-168	ND	0.177	
PCB-126	ND	0.549		PCB-169	0.350		J
PCB-127	ND	0.475		PCB-170	ND	0.257	
PCB-128/162	0.337		J	PCB-171	ND	0.242	
PCB-129	ND	0.300		PCB-172	ND	0.232	
PCB-130	ND	0.281		PCB-173	ND	0.321	
PCB-131	ND	0.269		PCB-174	ND	0.259	
PCB-132/161	ND	0.220		PCB-175	ND	0.245	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Method Blank **EPA Method 1668C**

Matrix:	Solid	QC Batch:	B3E0071	Lab Sample:	B3E0071-BLK1
Sample Size:	10.0 g	Date Extracted:	21-May-2013 14:36	Date Analyzed:	30-May-13 11:23 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-176	ND	0.177	
PCB-177	ND	0.287	
PCB-178	ND	0.249	
PCB-179	ND	0.195	
PCB-180	ND	0.267	
PCB-181	ND	0.262	
PCB-182/187	ND	0.212	
PCB-183	ND	0.211	
PCB-184	ND	0.177	
PCB-185	ND	0.227	
PCB-186	ND	0.174	
PCB-188	ND	0.185	
PCB-189	ND	0.178	
PCB-190	ND	0.200	
PCB-191	ND	0.217	
PCB-192	ND	0.219	
PCB-193	ND	0.212	
PCB-194	ND	0.352	
PCB-195	ND	0.348	
PCB-196/203	ND	0.300	
PCB-197	ND	0.240	
PCB-198	ND	0.327	
PCB-199	ND	0.307	
PCB-200	ND	0.234	
PCB-201	ND	0.227	
PCB-202	ND	0.242	
PCB-204	ND	0.225	
PCB-205	ND	0.266	
PCB-206	ND	0.233	
PCB-207	ND	0.107	
PCB-208	ND	0.128	
PCB-209	ND	0.314	
Total monoCB	ND	0.719	
Total diCB	ND	2.98	
Total triCB	ND	0.492	
Total tetraCB	ND	0.563	
Total pentaCB	ND	0.894	
Total hexaCB	1.82		
Total heptaCB	ND	0.321	
Total octaCB	ND	0.352	
Total nonaCB	ND	0.233	
DecaCB	ND	0.314	
Total PCB	1.82		

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Method Blank

EPA Method 1668C

Matrix: Solid
Sample Size: 10.0 g

QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36

Lab Sample: B3E0071-BLK1
Date Analyzed: 30-May-13 11:23 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	43.9	5 - 145	
	13C-PCB-3	52.4	5 - 145	
	13C-PCB-4	67.5	5 - 145	
	13C-PCB-11	77.8	5 - 145	
	13C-PCB-9	70.8	5 - 145	
	13C-PCB-19	70.7	5 - 145	
	13C-PCB-28	76.9	5 - 145	
	13C-PCB-32	74.2	5 - 145	
	13C-PCB-37	65.5	5 - 145	
	13C-PCB-47	102	5 - 145	
	13C-PCB-52	102	5 - 145	
	13C-PCB-54	107	5 - 145	
	13C-PCB-70	96.9	5 - 145	
	13C-PCB-77	83.3	10 - 145	
	13C-PCB-80	92.7	10 - 145	
	13C-PCB-81	81.3	10 - 145	
	13C-PCB-95	103	10 - 145	
	13C-PCB-97	89.3	10 - 145	
	13C-PCB-101	98.8	10 - 145	
	13C-PCB-104	99.6	10 - 145	
	13C-PCB-105	81.0	10 - 145	
	13C-PCB-114	81.8	10 - 145	
	13C-PCB-118	89.2	10 - 145	
	13C-PCB-123	91.3	10 - 145	
	13C-PCB-126	75.5	10 - 145	
	13C-PCB-127	76.8	10 - 145	
	13C-PCB-138	91.9	10 - 145	
	13C-PCB-141	93.8	10 - 145	
	13C-PCB-153	95.2	10 - 145	
	13C-PCB-155	96.1	10 - 145	
	13C-PCB-156	85.9	10 - 145	
	13C-PCB-157	85.1	10 - 145	
	13C-PCB-159	88.1	10 - 145	
	13C-PCB-167	90.0	10 - 145	
	13C-PCB-169	81.4	10 - 145	
	13C-PCB-170	83.1	10 - 145	
	13C-PCB-180	85.5	10 - 145	
	13C-PCB-188	88.2	10 - 145	
	13C-PCB-189	79.4	10 - 145	
	13C-PCB-194	98.1	10 - 145	
	13C-PCB-202	84.7	10 - 145	
	13C-PCB-206	98.3	10 - 145	
	13C-PCB-208	115	10 - 145	
	13C-PCB-209	85.6	10 - 145	
CRS	13C-PCB-79	90.3	10 - 145	
	13C-PCB-178	92.7	10 - 145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: OPR **EPA Method 1668C**

Matrix: Solid
Sample Size: 10.0 g

QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36

Lab Sample: B3E0071-BS1
Date Analyzed: 30-May-13 09:15 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits
PCB-1	526	500	105	60 - 135
PCB-3	549	500	110	60 - 135
PCB-4/10	1000	1000	100	60 - 135
PCB-15	493	500	98.6	60 - 135
PCB-19	563	500	113	60 - 135
PCB-37	439	500	87.7	60 - 135
PCB-54	481	500	96.1	60 - 135
PCB-77	513	500	103	60 - 135
PCB-81	527	500	105	60 - 135
PCB-104	512	500	102	60 - 135
PCB-105	545	500	109	60 - 135
PCB-106/118	1050	1000	105	60 - 135
PCB-114	540	500	108	60 - 135
PCB-123	518	500	104	60 - 135
PCB-126	548	500	110	60 - 135
PCB-155	539	500	108	60 - 135
PCB-156	483	500	96.7	60 - 135
PCB-157	489	500	97.7	60 - 135
PCB-167	487	500	97.4	60 - 135
PCB-169	479	500	95.8	60 - 135
PCB-188	537	500	107	60 - 135
PCB-189	532	500	106	60 - 135
PCB-202	517	500	103	60 - 135
PCB-205	555	500	111	60 - 135
PCB-206	470	500	94.0	60 - 135
PCB-208	483	500	96.6	60 - 135
PCB-209	529	500	106	60 - 135

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-1	29.4	15 - 145
IS	13C-PCB-3	36.3	15 - 145
IS	13C-PCB-4	48.5	15 - 145
IS	13C-PCB-11	66.4	15 - 145
IS	13C-PCB-9	54.7	15 - 145
IS	13C-PCB-19	57.1	15 - 145
IS	13C-PCB-28	70.8	15 - 145
IS	13C-PCB-32	68.9	15 - 145
IS	13C-PCB-37	75.1	15 - 145
IS	13C-PCB-47	82.0	15 - 145
IS	13C-PCB-52	84.3	15 - 145
IS	13C-PCB-54	87.0	15 - 145
IS	13C-PCB-70	81.8	15 - 145
IS	13C-PCB-77	85.2	40 - 145
IS	13C-PCB-80	89.5	40 - 145
IS	13C-PCB-81	81.9	40 - 145
IS	13C-PCB-95	91.7	40 - 145
IS	13C-PCB-97	85.1	40 - 145
IS	13C-PCB-101	91.1	40 - 145
IS	13C-PCB-104	88.9	40 - 145
IS	13C-PCB-105	77.1	40 - 145
IS	13C-PCB-114	80.7	40 - 145
IS	13C-PCB-118	87.3	40 - 145
IS	13C-PCB-123	87.7	40 - 145
IS	13C-PCB-126	74.0	40 - 145
IS	13C-PCB-127	76.1	40 - 145
IS	13C-PCB-138	90.4	40 - 145
IS	13C-PCB-141	92.2	40 - 145
IS	13C-PCB-153	93.3	40 - 145
IS	13C-PCB-155	88.7	40 - 145
IS	13C-PCB-156	87.5	40 - 145
IS	13C-PCB-157	86.8	40 - 145
IS	13C-PCB-159	89.0	40 - 145
IS	13C-PCB-167	89.1	40 - 145
IS	13C-PCB-169	82.9	40 - 145
IS	13C-PCB-170	85.7	40 - 145
IS	13C-PCB-180	87.0	40 - 145
IS	13C-PCB-188	89.9	40 - 145
IS	13C-PCB-189	79.9	40 - 145
IS	13C-PCB-194	89.0	40 - 145

Sample ID: OPR **EPA Method 1668C**

Matrix:	Solid	QC Batch:	B3E0071	Lab Sample:	B3E0071-BS1
Sample Size:	10.0 g	Date Extracted:	21-May-2013 14:36	Date Analyzed:	30-May-13 09:15 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard		%R	LCL-UCL
					IS	13C-PCB-202	87.1	40 - 145
					IS	13C-PCB-206	94.5	40 - 145
					IS	13C-PCB-208	111	40 - 145
					IS	13C-PCB-209	84.5	40 - 145
					CRS	13C-PCB-79	91.2	40 - 145
					CRS	13C-PCB-178	97.0	40 - 145

LCL-UCL - Lower control limit - upper control limit

Sample ID: Locher Soil #1

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:40

Sample Data

Matrix: Soil
Sample Size: 11.0 g
% Solids: 90.5

Laboratory Data

Lab Sample: 1300361-01
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 18:19 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	0.866	
PCB-2	1.18		J
PCB-3	1.16		J
PCB-4/10	ND	1.79	
PCB-5/8	5.35		J
PCB-6	0.979		J
PCB-7/9	ND	1.51	
PCB-11	7.67		
PCB-12/13	ND	1.44	
PCB-14	ND	1.56	
PCB-15	8.69		
PCB-16/32	5.85		
PCB-17	5.84		
PCB-18	18.9		
PCB-19	1.16		J
PCB-20/21/33	8.02		
PCB-22	8.50		
PCB-23	ND	0.291	
PCB-24/27	1.38		J
PCB-25	2.04		J
PCB-26	4.28		
PCB-28	22.4		
PCB-29	ND	0.316	
PCB-30	ND	0.342	
PCB-31	23.7		
PCB-34	ND	0.309	
PCB-35	0.661		J
PCB-36	ND	0.324	
PCB-37	11.5		
PCB-38	0.477		J
PCB-39	ND	0.341	
PCB-40	4.04		
PCB-41/64/71/72	18.3		
PCB-42/59	7.33		
PCB-43/49	20.0		
PCB-44	23.5		
PCB-45	2.95		
PCB-46	0.838		J
PCB-47	6.57		
PCB-48/75	3.93		J
PCB-50	ND	0.360	
PCB-51	0.463		J
PCB-52/69	30.6		
PCB-53	2.35		J
PCB-54	ND	0.288	
PCB-55	0.848		J
PCB-56/60	23.3		
PCB-57	ND	0.287	
PCB-58	ND	0.300	
PCB-61/70	44.7		
PCB-62	ND	0.296	
PCB-63	1.61		J
PCB-65	ND	0.298	
PCB-67	0.942		J
PCB-68	0.418		J
PCB-73	ND	0.266	
PCB-74	13.9		
PCB-76/66	32.1		
PCB-77	4.45		
PCB-78	ND	0.264	
PCB-79	1.33		J
PCB-80	ND	0.263	
PCB-81	ND	0.241	
PCB-82	6.61		
PCB-83	ND	0.699	
PCB-84/92	20.3		
PCB-85/116	12.0		
PCB-86	ND	1.06	
PCB-87/117/125	22.9		
PCB-88/91	7.22		

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #1

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:40

Sample Data
Matrix: Soil
Sample Size: 11.0 g
% Solids: 90.5

Laboratory Data
Lab Sample: 1300361-01
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 18:19 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers	Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	0.987		PCB-136	4.96		
PCB-90/101	58.9			PCB-137	6.11		
PCB-93	ND	1.08		PCB-138/163/164	84.7		
PCB-94	ND	1.02		PCB-139/149	44.8		B
PCB-95/98/102	33.0			PCB-140	ND	0.706	
PCB-96	ND	0.697		PCB-141	12.0		
PCB-97	18.8			PCB-144	2.38		J
PCB-99	29.0			PCB-145	ND	0.523	
PCB-100	ND	0.850		PCB-146/165	9.19		
PCB-103	ND	0.813		PCB-147	1.77		J
PCB-104	ND	0.659		PCB-148	ND	0.703	
PCB-105	32.9			PCB-150	ND	0.538	
PCB-106/118	70.4			PCB-151	9.15		
PCB-107/109	5.33			PCB-152	ND	0.496	
PCB-108/112	2.92		J	PCB-153	61.0		B
PCB-110	66.3			PCB-154	0.847		J
PCB-111/115	1.67		J	PCB-155	ND	0.504	
PCB-113	ND	0.695		PCB-156	10.2		
PCB-114	1.51		J	PCB-157	2.51		
PCB-119	1.32		J	PCB-158/160	8.59		
PCB-120	ND	0.698		PCB-159	ND	0.407	
PCB-121	ND	0.649		PCB-166	0.620		J
PCB-122	1.02		J	PCB-167	4.69		B
PCB-123	ND	1.34		PCB-168	ND	0.355	
PCB-124	3.08			PCB-169	0.350		J, B
PCB-126	0.991		J	PCB-170	13.4		
PCB-127	ND	1.08		PCB-171	2.67		
PCB-128/162	17.1		B	PCB-172	2.36		J
PCB-129	4.51			PCB-173	ND	0.414	
PCB-130	6.20			PCB-174	11.1		
PCB-131	ND	0.540		PCB-175	ND	0.349	
PCB-132/161	18.0			PCB-176	1.13		J
PCB-133/142	2.53		J	PCB-177	6.51		
PCB-134/143	3.42		J	PCB-178	2.66		
PCB-135	6.61			PCB-179	4.97		

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #1 | EPA Method 1668C

Client Data

Name:	Walla Walla Basin Watershed Council
Project:	Locher Road Recharge
Date Collected:	14-May-2013 8:40

Sample Data

Matrix:	Soil
Sample Size:	11.0 g
% Solids:	90.5

Laboratory Data

Lab Sample:	1300361-01	Date Received:	15-May-2013 10:00
QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Analyzed :	31-May-13 18:19 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	28.4		
PCB-181	ND	0.338	
PCB-182/187	16.7		
PCB-183	5.83		
PCB-184	ND	0.252	
PCB-185	1.16		J
PCB-186	ND	0.249	
PCB-188	ND	0.263	
PCB-189	0.969		J
PCB-190	3.37		
PCB-191	0.594		J
PCB-192	ND	0.283	
PCB-193	1.80		J
PCB-194	9.53		
PCB-195	2.98		
PCB-196/203	16.3		
PCB-197	ND	0.607	
PCB-198	ND	0.828	
PCB-199	16.4		
PCB-200	1.79		J
PCB-201	1.63		J
PCB-202	5.24		
PCB-204	ND	0.570	
PCB-205	0.434		J
PCB-206	19.7		
PCB-207	2.15		J
PCB-208	9.19		
PCB-209	24.7		
Total monoCB	2.34		
Total diCB	22.7		
Total triCB	115		
Total tetraCB	244		
Total pentaCB	396		
Total hexaCB	322		B
Total heptaCB	104		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	54.3		
Total nonaCB	31.1		
DecaCB	24.7		
Total PCB	1320		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #1

EPA Method 1668C

Client Data

Name:	Walla Walla Basin Watershed Council
Project:	Locher Road Recharge
Date Collected:	14-May-2013 8:40

Sample Data

Matrix:	Soil
Sample Size:	11.0 g
% Solids:	90.5

Laboratory Data

Lab Sample:	1300361-01	Date Received:	15-May-2013 10:00
QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Analyzed :	31-May-13 18:19 Column: ZB-1 Analyst: DMS		

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	44.4	5 -145	
	13C-PCB-3	55.4	5 -145	
	13C-PCB-4	79.5	5 -145	
	13C-PCB-11	85.5	5 -145	
	13C-PCB-9	82.8	5 -145	
	13C-PCB-19	58.1	5 -145	
	13C-PCB-28	80.9	5 -145	
	13C-PCB-32	62.4	5 -145	
	13C-PCB-37	84.1	5 -145	
	13C-PCB-47	81.6	5 -145	
	13C-PCB-52	86.9	5 -145	
	13C-PCB-54	87.2	5 -145	
	13C-PCB-70	85.6	5 -145	
	13C-PCB-77	89.3	10 -145	
	13C-PCB-80	86.9	10 -145	
	13C-PCB-81	90.6	10 -145	
	13C-PCB-95	86.2	10 -145	
	13C-PCB-97	91.5	10 -145	
	13C-PCB-101	88.4	10 -145	
	13C-PCB-104	87.1	10 -145	
	13C-PCB-105	113	10 -145	
	13C-PCB-114	117	10 -145	
	13C-PCB-118	93.7	10 -145	
	13C-PCB-123	94.4	10 -145	
	13C-PCB-126	108	10 -145	
	13C-PCB-127	112	10 -145	
	13C-PCB-138	89.7	10 -145	
	13C-PCB-141	92.3	10 -145	
	13C-PCB-153	94.2	10 -145	
	13C-PCB-155	82.5	10 -145	
	13C-PCB-156	94.1	10 -145	
	13C-PCB-157	92.6	10 -145	
	13C-PCB-159	91.5	10 -145	
	13C-PCB-167	91.1	10 -145	
	13C-PCB-169	97.2	10 -145	
	13C-PCB-170	81.9	10 -145	
	13C-PCB-180	80.9	10 -145	
	13C-PCB-188	77.7	10 -145	
	13C-PCB-189	96.3	10 -145	
	13C-PCB-194	88.3	10 -145	
	13C-PCB-202	74.5	10 -145	
	13C-PCB-206	76.1	10 -145	
	13C-PCB-208	68.7	10 -145	
	13C-PCB-209	58.6	10 -145	
CRS	13C-PCB-79	88.6	10 -145	
	13C-PCB-178	80.3	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Matrix Spike EPA Method 1668C

Source Client ID: Locher Soil #1
Source LabNumber: 1300361-01
Matrix: Solid
Sample Size: 11.2/11.2 g

QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36

Lab Sample: B3E0071-MS1/B3E0071-MSD1
Date Analyzed: 01-Jun-13 01:49 Column: ZB-1 Analyst: MAS
01-Jun-13 02:53 Column: ZB-1 Analyst: MAS

Analyte	Spike-MS (pg/g)	MS %R	Spike-MSD (pg/g)	MSD %R	RPD
PCB-1	495	131	495	141	7.64
PCB-3	495	129	495	141	8.83
PCB-4/10	990	123	990	131	5.85
PCB-15	495	118	495	123	3.58
PCB-19	495	118	495	126	6.96
PCB-37	495	102	495	107	4.14
PCB-54	495	109	495	107	2.07
PCB-77	495	110	495	118	7.01
PCB-81	495	114	495	119	4.24
PCB-104	495	102	495	107	4.40
PCB-105	495	115	495	125	8.36
PCB-106/118	990	102	990	109	6.73
PCB-114	495	112	495	120	6.24
PCB-126	495	115	495	120	4.01
PCB-155	495	105	495	112	5.73
PCB-156	495	113	495	118	4.36
PCB-157	495	111	495	118	5.76
PCB-167	495	111	495	118	6.12
PCB-169	495	111	495	117	5.36
PCB-188	495	107	495	113	5.34
PCB-189	495	109	495	115	5.26
PCB-202	495	102	495	109	6.11
PCB-205	495	108	495	120	10.8
PCB-206	495	103	495	108	4.77
PCB-208	495	106	495	111	4.73
PCB-209	495	102	495	109	6.46

	Labeled Standard	MS-%R	MSD-%R
IS	13C-PCB-1	43.9	44.0
IS	13C-PCB-3	54.4	51.3
IS	13C-PCB-4	71.4	71.7
IS	13C-PCB-11	86.3	85.2
IS	13C-PCB-9	77.0	76.3
IS	13C-PCB-19	59.3	57.7
IS	13C-PCB-28	85.8	101
IS	13C-PCB-32	66.3	63.8
IS	13C-PCB-37	84.8	102
IS	13C-PCB-47	89.8	83.8
IS	13C-PCB-52	89.0	82.8
IS	13C-PCB-54	83.0	80.3
IS	13C-PCB-70	89.0	88.0
IS	13C-PCB-77	90.2	95.9
IS	13C-PCB-80	93.5	90.4
IS	13C-PCB-81	91.7	95.0
IS	13C-PCB-95	93.2	87.0
IS	13C-PCB-97	97.8	92.8
IS	13C-PCB-101	96.8	93.4
IS	13C-PCB-104	88.3	82.5
IS	13C-PCB-105	119	110
IS	13C-PCB-114	122	119
IS	13C-PCB-118	94.4	92.3
IS	13C-PCB-123	94.8	93.2
IS	13C-PCB-126	114	111
IS	13C-PCB-127	119	110
IS	13C-PCB-138	97.7	92.1
IS	13C-PCB-141	97.7	93.1
IS	13C-PCB-153	96.3	91.8
IS	13C-PCB-155	89.0	85.9
IS	13C-PCB-156	97.9	94.2
IS	13C-PCB-157	98.5	92.6
IS	13C-PCB-159	95.3	94.0
IS	13C-PCB-167	95.2	91.8
IS	13C-PCB-169	103	97.5
IS	13C-PCB-170	87.1	83.5
IS	13C-PCB-180	85.1	78.9
IS	13C-PCB-188	80.8	78.6
IS	13C-PCB-189	91.0	91.2

Sample ID: Matrix Spike

EPA Method 1668C

Source Client ID:	Locher Soil #1				
Source LabNumber:	1300361-01	QC Batch:	B3E0071	Lab Sample:	B3E0071-MS1/B3E0071-MSD1
Matrix:	Solid	Date Extracted:	21-May-2013 14:36	Date Analyzed:	01-Jun-13 01:49 Column: ZB-1 Analyst: MAS
Sample Size:	11.2/11.2 g				01-Jun-13 02:53 Column: ZB-1 Analyst: MAS

Analyte	Spike-MS (pg/g)	MS %R	Spike-MSD (pg/g)	MSD %R	RPD

	Labeled Standard	MS-%R	MSD-%R
IS	13C-PCB-194	92.5	89.5
IS	13C-PCB-202	81.1	76.9
IS	13C-PCB-206	76.9	77.6
IS	13C-PCB-208	75.2	73.6
IS	13C-PCB-209	60.9	59.2
CRS	13C-PCB-79	94.4	97.2
CRS	13C-PCB-178	85.5	84.9

Sample ID: Locher Soil #2

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:40

Sample Data
Matrix: Soil
Sample Size: 10.7 g
% Solids: 93.2

Laboratory Data
Lab Sample: 1300361-02
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 19:23 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	1.19	
PCB-2	ND	0.942	
PCB-3	ND	0.921	
PCB-4/10	ND	1.31	
PCB-5/8	1.51		J
PCB-6	ND	0.934	
PCB-7/9	ND	0.974	
PCB-11	2.34		J
PCB-12/13	ND	0.906	
PCB-14	ND	0.985	
PCB-15	2.81		J
PCB-16/32	1.93		J
PCB-17	1.65		J
PCB-18	4.79		
PCB-19	ND	0.689	
PCB-20/21/33	2.78		J
PCB-22	2.41		J
PCB-23	ND	0.419	
PCB-24/27	ND	0.358	
PCB-25	0.590		J
PCB-26	1.37		J
PCB-28	5.80		
PCB-29	ND	0.456	
PCB-30	ND	0.409	
PCB-31	6.13		
PCB-34	ND	0.445	
PCB-35	ND	0.427	
PCB-36	ND	0.423	
PCB-37	3.82		
PCB-38	ND	0.436	
PCB-39	ND	0.445	
PCB-40	1.32		J
PCB-41/64/71/72	6.21		J
PCB-42/59	2.64		J
PCB-43/49	6.36		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-44	6.69		
PCB-45	ND	0.567	
PCB-46	ND	0.587	
PCB-47	2.36		J
PCB-48/75	1.35		J
PCB-50	ND	0.500	
PCB-51	ND	0.502	
PCB-52/69	9.09		
PCB-53	0.848		J
PCB-54	ND	0.401	
PCB-55	ND	0.349	
PCB-56/60	7.24		
PCB-57	ND	0.377	
PCB-58	ND	0.395	
PCB-61/70	13.1		
PCB-62	ND	0.394	
PCB-63	ND	0.407	
PCB-65	ND	0.396	
PCB-67	ND	0.361	
PCB-68	ND	0.350	
PCB-73	ND	0.352	
PCB-74	4.23		
PCB-76/66	10.8		
PCB-77	1.58		J
PCB-78	ND	0.346	
PCB-79	ND	0.337	
PCB-80	ND	0.336	
PCB-81	ND	0.315	
PCB-82	ND	2.22	
PCB-83	ND	0.853	
PCB-84/92	6.18		
PCB-85/116	3.49		J
PCB-86	ND	1.29	
PCB-87/117/125	6.41		J
PCB-88/91	ND	2.06	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #2

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:40

Sample Data
Matrix: Soil
Sample Size: 10.7 g
% Solids: 93.2

Laboratory Data
Lab Sample: 1300361-02
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 19:23 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.16	
PCB-90/101	17.6		
PCB-93	ND	1.36	
PCB-94	ND	1.30	
PCB-95/98/102	9.57		
PCB-96	ND	0.906	
PCB-97	4.92		
PCB-99	8.84		
PCB-100	ND	1.11	
PCB-103	ND	1.06	
PCB-104	ND	0.857	
PCB-105	10.0		
PCB-106/118	20.3		
PCB-107/109	1.68		J
PCB-108/112	ND	1.07	
PCB-110	18.8		
PCB-111/115	0.840		J
PCB-113	ND	0.820	
PCB-114	ND	0.959	
PCB-119	ND	0.817	
PCB-120	ND	0.851	
PCB-121	ND	0.820	
PCB-122	ND	1.03	
PCB-123	ND	0.886	
PCB-124	ND	0.775	
PCB-126	ND	1.09	
PCB-127	ND	1.00	
PCB-128/162	4.64		J, B
PCB-129	1.08		J
PCB-130	1.57		J
PCB-131	ND	0.662	
PCB-132/161	4.84		J
PCB-133/142	ND	0.736	
PCB-134/143	1.08		J
PCB-135	1.74		J

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-136	1.43		J
PCB-137	ND	0.600	
PCB-138/163/164	23.7		
PCB-139/149	11.8		B
PCB-140	ND	0.982	
PCB-141	3.26		
PCB-144	ND	0.925	
PCB-145	ND	0.727	
PCB-146/165	2.97		J
PCB-147	ND	0.937	
PCB-148	ND	0.978	
PCB-150	ND	0.749	
PCB-151	3.19		
PCB-152	ND	0.690	
PCB-153	19.0		B
PCB-154	ND	0.832	
PCB-155	ND	0.700	
PCB-156	3.00		
PCB-157	0.923		J
PCB-158/160	2.69		J
PCB-159	ND	0.493	
PCB-166	ND	0.492	
PCB-167	1.35		J, B
PCB-168	ND	0.435	
PCB-169	ND	0.445	
PCB-170	4.45		
PCB-171	0.880		J
PCB-172	0.802		J
PCB-173	ND	0.595	
PCB-174	3.55		
PCB-175	ND	0.476	
PCB-176	ND	0.343	
PCB-177	2.66		
PCB-178	1.10		J
PCB-179	ND	0.868	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #2

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-02	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	10.7 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 8:40	% Solids:	93.2	Date Analyzed :	31-May-13 19:23 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	9.44		
PCB-181	ND	0.487	
PCB-182/187	5.80		
PCB-183	1.84		J
PCB-184	ND	0.343	
PCB-185	ND	0.421	
PCB-186	ND	0.339	
PCB-188	ND	0.358	
PCB-189	ND	0.295	
PCB-190	0.918		J
PCB-191	ND	0.402	
PCB-192	ND	0.406	
PCB-193	ND	0.394	
PCB-194	3.30		
PCB-195	0.995		J
PCB-196/203	5.12		
PCB-197	ND	0.667	
PCB-198	ND	0.911	
PCB-199	5.28		
PCB-200	0.817		J
PCB-201	0.673		J
PCB-202	ND	0.671	
PCB-204	ND	0.627	
PCB-205	ND	0.337	
PCB-206	6.73		
PCB-207	ND	0.439	
PCB-208	3.08		
PCB-209	9.63		
Total monoCB	ND	1.19	
Total diCB	6.66		
Total triCB	31.3		
Total tetraCB	73.8		
Total pentaCB	109		
Total hexaCB	88.2		B
Total heptaCB	31.4		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	16.2		
Total nonaCB	9.81		
DecaCB	9.63		
Total PCB	376		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #2

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:40

Sample Data

Matrix: Soil
Sample Size: 10.7 g
% Solids: 93.2

Laboratory Data

Lab Sample: 1300361-02
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 19:23 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	25.6	5 -145	
	13C-PCB-3	37.1	5 -145	
	13C-PCB-4	64.0	5 -145	
	13C-PCB-11	81.3	5 -145	
	13C-PCB-9	72.0	5 -145	
	13C-PCB-19	49.5	5 -145	
	13C-PCB-28	79.5	5 -145	
	13C-PCB-32	57.2	5 -145	
	13C-PCB-37	93.9	5 -145	
	13C-PCB-47	81.8	5 -145	
	13C-PCB-52	83.6	5 -145	
	13C-PCB-54	84.4	5 -145	
	13C-PCB-70	83.3	5 -145	
	13C-PCB-77	89.8	10 -145	
	13C-PCB-80	87.8	10 -145	
	13C-PCB-81	90.8	10 -145	
	13C-PCB-95	86.8	10 -145	
	13C-PCB-97	91.6	10 -145	
	13C-PCB-101	92.6	10 -145	
	13C-PCB-104	84.3	10 -145	
	13C-PCB-105	113	10 -145	
	13C-PCB-114	118	10 -145	
	13C-PCB-118	87.4	10 -145	
	13C-PCB-123	87.5	10 -145	
	13C-PCB-126	108	10 -145	
	13C-PCB-127	112	10 -145	
	13C-PCB-138	91.5	10 -145	
	13C-PCB-141	93.5	10 -145	
	13C-PCB-153	91.7	10 -145	
	13C-PCB-155	83.5	10 -145	
	13C-PCB-156	91.7	10 -145	
	13C-PCB-157	90.1	10 -145	
	13C-PCB-159	93.3	10 -145	
	13C-PCB-167	91.6	10 -145	
	13C-PCB-169	94.6	10 -145	
	13C-PCB-170	80.2	10 -145	
	13C-PCB-180	77.8	10 -145	
	13C-PCB-188	76.6	10 -145	
	13C-PCB-189	87.1	10 -145	
	13C-PCB-194	85.9	10 -145	
	13C-PCB-202	75.3	10 -145	
	13C-PCB-206	77.0	10 -145	
	13C-PCB-208	64.0	10 -145	
	13C-PCB-209	56.1	10 -145	
CRS	13C-PCB-79	93.9	10 -145	
	13C-PCB-178	84.8	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #3

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:55

Sample Data
Matrix: Soil
Sample Size: 10.8 g
% Solids: 93.2

Laboratory Data
Lab Sample: 1300361-03
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 20:28 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	0.859	
PCB-2	ND	0.755	
PCB-3	ND	0.738	
PCB-4/10	ND	1.51	
PCB-5/8	ND	1.38	
PCB-6	ND	1.24	
PCB-7/9	ND	1.29	
PCB-11	1.68		J
PCB-12/13	ND	1.23	
PCB-14	ND	1.34	
PCB-15	ND	1.18	
PCB-16/32	ND	0.404	
PCB-17	ND	0.446	
PCB-18	ND	0.505	
PCB-19	ND	0.557	
PCB-20/21/33	ND	0.342	
PCB-22	0.372		J
PCB-23	ND	0.324	
PCB-24/27	ND	0.331	
PCB-25	ND	0.315	
PCB-26	ND	0.346	
PCB-28	0.812		J
PCB-29	ND	0.353	
PCB-30	ND	0.331	
PCB-31	ND	0.933	
PCB-34	ND	0.344	
PCB-35	ND	0.341	
PCB-36	ND	0.338	
PCB-37	0.622		J
PCB-38	ND	0.348	
PCB-39	ND	0.355	
PCB-40	ND	0.603	
PCB-41/64/71/72	0.642		J
PCB-42/59	ND	0.409	
PCB-43/49	ND	0.491	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-44	ND	0.524	
PCB-45	ND	0.555	
PCB-46	ND	0.576	
PCB-47	ND	0.429	
PCB-48/75	ND	0.355	
PCB-50	ND	0.461	
PCB-51	ND	0.492	
PCB-52/69	ND	1.33	
PCB-53	ND	0.452	
PCB-54	ND	0.370	
PCB-55	ND	0.324	
PCB-56/60	0.646		J
PCB-57	ND	0.332	
PCB-58	ND	0.347	
PCB-61/70	1.44		J
PCB-62	ND	0.356	
PCB-63	ND	0.358	
PCB-65	ND	0.358	
PCB-67	ND	0.318	
PCB-68	ND	0.317	
PCB-73	ND	0.345	
PCB-74	0.506		J
PCB-76/66	1.07		J
PCB-77	ND	0.353	
PCB-78	ND	0.333	
PCB-79	ND	0.313	
PCB-80	ND	0.311	
PCB-81	ND	0.304	
PCB-82	ND	1.36	
PCB-83	ND	0.864	
PCB-84/92	ND	1.13	
PCB-85/116	ND	0.965	
PCB-86	ND	1.31	
PCB-87/117/125	ND	0.895	
PCB-88/91	ND	1.19	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #3

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:55

Sample Data

Matrix: Soil
Sample Size: 10.8 g
% Solids: 93.2

Laboratory Data

Lab Sample: 1300361-03
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 20:28 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.19	
PCB-90/101	2.70		J
PCB-93	ND	1.32	
PCB-94	ND	1.26	
PCB-95/98/102	1.45		J
PCB-96	ND	0.858	
PCB-97	ND	1.16	
PCB-99	1.44		J
PCB-100	ND	1.05	
PCB-103	ND	1.00	
PCB-104	ND	0.812	
PCB-105	1.45		J
PCB-106/118	2.80		J
PCB-107/109	ND	0.778	
PCB-108/112	ND	1.08	
PCB-110	2.79		
PCB-111/115	ND	0.844	
PCB-113	ND	0.839	
PCB-114	ND	0.842	
PCB-119	ND	0.827	
PCB-120	ND	0.862	
PCB-121	ND	0.797	
PCB-122	ND	0.907	
PCB-123	ND	0.855	
PCB-124	ND	0.747	
PCB-126	ND	0.918	
PCB-127	ND	0.823	
PCB-128/162	0.985		J, B
PCB-129	ND	0.746	
PCB-130	ND	0.703	
PCB-131	ND	0.688	
PCB-132/161	ND	0.562	
PCB-133/142	ND	0.765	
PCB-134/143	ND	0.671	
PCB-135	ND	0.864	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-136	ND	0.653	
PCB-137	ND	0.622	
PCB-138/163/164	5.23		J
PCB-139/149	2.85		J, B
PCB-140	ND	0.908	
PCB-141	0.772		J
PCB-144	ND	0.856	
PCB-145	ND	0.672	
PCB-146/165	0.959		J
PCB-147	ND	0.866	
PCB-148	ND	0.904	
PCB-150	ND	0.692	
PCB-151	ND	0.910	
PCB-152	ND	0.638	
PCB-153	4.21		B
PCB-154	ND	0.769	
PCB-155	ND	0.648	
PCB-156	0.677		J
PCB-157	ND	0.483	
PCB-158/160	0.607		J
PCB-159	ND	0.489	
PCB-166	ND	0.488	
PCB-167	ND	0.472	
PCB-168	ND	0.452	
PCB-169	ND	0.464	
PCB-170	1.49		J
PCB-171	ND	0.429	
PCB-172	ND	0.411	
PCB-173	ND	0.570	
PCB-174	1.15		J
PCB-175	ND	0.490	
PCB-176	ND	0.354	
PCB-177	0.850		J
PCB-178	ND	0.499	
PCB-179	ND	0.390	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #3

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-03	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	10.8 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 8:55	% Solids:	93.2	Date Analyzed :	31-May-13 20:28 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	3.42		
PCB-181	ND	0.466	
PCB-182/187	2.15		J
PCB-183	ND	0.423	
PCB-184	ND	0.354	
PCB-185	ND	0.403	
PCB-186	ND	0.349	
PCB-188	ND	0.369	
PCB-189	ND	0.258	
PCB-190	0.568		J
PCB-191	ND	0.385	
PCB-192	ND	0.389	
PCB-193	ND	0.377	
PCB-194	1.26		J
PCB-195	0.453		J
PCB-196/203	1.63		J
PCB-197	ND	0.688	
PCB-198	ND	0.938	
PCB-199	1.66		J
PCB-200	ND	0.669	
PCB-201	ND	0.650	
PCB-202	0.752		J
PCB-204	ND	0.645	
PCB-205	ND	0.315	
PCB-206	2.17		J
PCB-207	0.278		J
PCB-208	0.920		J
PCB-209	3.39		
Total monoCB	ND	0.859	
Total diCB	1.68		
Total triCB	1.81		
Total tetraCB	4.30		
Total pentaCB	12.6		
Total hexaCB	16.3		B
Total heptaCB	9.62		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	5.75		
Total nonaCB	3.37		
DecaCB	3.39		
Total PCB	58.8		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #3

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:55

Sample Data

Matrix: Soil
Sample Size: 10.8 g
% Solids: 93.2

Laboratory Data

Lab Sample: 1300361-03
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 20:28 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	44.9	5 -145	
	13C-PCB-3	54.6	5 -145	
	13C-PCB-4	81.7	5 -145	
	13C-PCB-11	90.0	5 -145	
	13C-PCB-9	83.3	5 -145	
	13C-PCB-19	61.5	5 -145	
	13C-PCB-28	90.4	5 -145	
	13C-PCB-32	61.8	5 -145	
	13C-PCB-37	97.0	5 -145	
	13C-PCB-47	89.8	5 -145	
	13C-PCB-52	89.8	5 -145	
	13C-PCB-54	89.8	5 -145	
	13C-PCB-70	94.5	5 -145	
	13C-PCB-77	93.6	10 -145	
	13C-PCB-80	94.8	10 -145	
	13C-PCB-81	91.6	10 -145	
	13C-PCB-95	94.8	10 -145	
	13C-PCB-97	94.1	10 -145	
	13C-PCB-101	96.1	10 -145	
	13C-PCB-104	89.9	10 -145	
	13C-PCB-105	111	10 -145	
	13C-PCB-114	116	10 -145	
	13C-PCB-118	94.1	10 -145	
	13C-PCB-123	92.7	10 -145	
	13C-PCB-126	111	10 -145	
	13C-PCB-127	110	10 -145	
	13C-PCB-138	94.0	10 -145	
	13C-PCB-141	93.8	10 -145	
	13C-PCB-153	90.9	10 -145	
	13C-PCB-155	89.8	10 -145	
	13C-PCB-156	91.2	10 -145	
	13C-PCB-157	91.9	10 -145	
	13C-PCB-159	93.6	10 -145	
	13C-PCB-167	93.1	10 -145	
	13C-PCB-169	96.5	10 -145	
	13C-PCB-170	81.4	10 -145	
	13C-PCB-180	79.9	10 -145	
	13C-PCB-188	75.2	10 -145	
	13C-PCB-189	85.9	10 -145	
	13C-PCB-194	89.8	10 -145	
	13C-PCB-202	76.3	10 -145	
	13C-PCB-206	74.6	10 -145	
	13C-PCB-208	70.0	10 -145	
	13C-PCB-209	57.7	10 -145	
CRS	13C-PCB-79	93.1	10 -145	
	13C-PCB-178	82.2	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #4 EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 8:55

Sample Data
Matrix: Soil
Sample Size: 11.2 g
% Solids: 91.3

Laboratory Data
Lab Sample: 1300361-04
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 10:21 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers	Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	1.35		PCB-44	ND	0.782	
PCB-2	ND	1.31		PCB-45	ND	0.856	
PCB-3	ND	1.28		PCB-46	ND	0.887	
PCB-4/10	ND	3.42		PCB-47	0.746		J
PCB-5/8	ND	3.08		PCB-48/75	ND	0.531	
PCB-6	ND	2.77		PCB-50	ND	0.697	
PCB-7/9	ND	2.89		PCB-51	ND	0.758	
PCB-11	2.88		J	PCB-52/69	ND	0.674	
PCB-12/13	ND	2.79		PCB-53	ND	0.697	
PCB-14	ND	3.03		PCB-54	ND	0.559	
PCB-15	ND	2.66		PCB-55	ND	0.468	
PCB-16/32	ND	0.498		PCB-56/60	0.635		J
PCB-17	ND	0.549		PCB-57	ND	0.518	
PCB-18	ND	0.623		PCB-58	ND	0.542	
PCB-19	ND	0.763		PCB-61/70	1.31		J
PCB-20/21/33	ND	0.592		PCB-62	ND	0.531	
PCB-22	ND	0.563		PCB-63	ND	0.558	
PCB-23	ND	0.560		PCB-65	ND	0.535	
PCB-24/27	ND	0.408		PCB-67	ND	0.496	
PCB-25	ND	0.545		PCB-68	ND	0.473	
PCB-26	ND	0.598		PCB-73	ND	0.532	
PCB-28	ND	0.547		PCB-74	ND	0.466	
PCB-29	ND	0.610		PCB-76/66	ND	0.552	
PCB-30	ND	0.453		PCB-77	ND	0.491	
PCB-31	ND	0.584		PCB-78	ND	0.485	
PCB-34	ND	0.595		PCB-79	ND	0.452	
PCB-35	ND	0.564		PCB-80	ND	0.449	
PCB-36	ND	0.559		PCB-81	ND	0.442	
PCB-37	ND	0.530		PCB-82	ND	1.22	
PCB-38	ND	0.575		PCB-83	ND	0.780	
PCB-39	ND	0.588		PCB-84/92	ND	1.07	
PCB-40	ND	0.900		PCB-85/116	ND	0.871	
PCB-41/64/71/72	ND	0.550		PCB-86	ND	1.18	
PCB-42/59	ND	0.611		PCB-87/117/125	ND	0.808	
PCB-43/49	ND	0.756		PCB-88/91	ND	1.07	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #4 EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-04	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.2 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 8:55	% Solids:	91.3	Date Analyzed :	31-May-13 10:21 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.13	
PCB-90/101	2.31		J
PCB-93	ND	1.19	
PCB-94	ND	1.14	
PCB-95/98/102	ND	0.996	
PCB-96	ND	0.828	
PCB-97	ND	1.05	
PCB-99	ND	0.901	
PCB-100	ND	1.01	
PCB-103	ND	0.966	
PCB-104	ND	0.783	
PCB-105	ND	1.57	
PCB-106/118	2.47		J
PCB-107/109	ND	0.698	
PCB-108/112	ND	0.975	
PCB-110	2.72		
PCB-111/115	ND	0.762	
PCB-113	ND	0.792	
PCB-114	ND	1.57	
PCB-119	ND	0.747	
PCB-120	ND	0.778	
PCB-121	ND	0.719	
PCB-122	ND	1.69	
PCB-123	ND	0.766	
PCB-124	ND	0.670	
PCB-126	ND	1.78	
PCB-127	ND	1.55	
PCB-128/162	ND	0.535	
PCB-129	ND	0.708	
PCB-130	ND	0.640	
PCB-131	ND	0.629	
PCB-132/161	0.844		J
PCB-133/142	ND	0.700	
PCB-134/143	ND	0.613	
PCB-135	ND	0.655	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-136	ND	0.495	
PCB-137	ND	0.566	
PCB-138/163/164	3.91		J
PCB-139/149	2.50		J, B
PCB-140	ND	0.689	
PCB-141	0.724		J
PCB-144	ND	0.649	
PCB-145	ND	0.509	
PCB-146/165	0.672		J
PCB-147	ND	0.657	
PCB-148	ND	0.685	
PCB-150	ND	0.525	
PCB-151	ND	0.690	
PCB-152	ND	0.484	
PCB-153	3.38		B
PCB-154	ND	0.583	
PCB-155	ND	0.492	
PCB-156	ND	0.457	
PCB-157	ND	0.455	
PCB-158/160	0.540		J
PCB-159	ND	0.478	
PCB-166	ND	0.477	
PCB-167	ND	0.461	
PCB-168	ND	0.414	
PCB-169	ND	0.444	
PCB-170	ND	0.349	
PCB-171	ND	0.364	
PCB-172	ND	0.349	
PCB-173	ND	0.483	
PCB-174	ND	0.390	
PCB-175	ND	0.408	
PCB-176	ND	0.294	
PCB-177	ND	0.432	
PCB-178	ND	0.415	
PCB-179	ND	0.324	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #4

EPA Method 1668C

Client Data

Name:	Walla Walla Basin Watershed Council
Project:	Locher Road Recharge
Date Collected:	14-May-2013 8:55

Sample Data

Matrix:	Soil
Sample Size:	11.2 g
% Solids:	91.3

Laboratory Data

Lab Sample:	1300361-04	Date Received:	15-May-2013 10:00
QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Analyzed :	31-May-13 10:21 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	2.58		
PCB-181	ND	0.395	
PCB-182/187	2.02		J
PCB-183	ND	0.352	
PCB-184	ND	0.294	
PCB-185	ND	0.342	
PCB-186	ND	0.290	
PCB-188	ND	0.307	
PCB-189	ND	0.226	
PCB-190	ND	0.271	
PCB-191	ND	0.326	
PCB-192	ND	0.330	
PCB-193	ND	0.320	
PCB-194	ND	0.850	
PCB-195	ND	0.842	
PCB-196/203	ND	0.737	
PCB-197	ND	0.589	
PCB-198	ND	0.804	
PCB-199	1.46		J
PCB-200	ND	0.574	
PCB-201	ND	0.558	
PCB-202	ND	0.592	
PCB-204	ND	0.553	
PCB-205	ND	0.642	
PCB-206	ND	1.26	
PCB-207	ND	0.249	
PCB-208	0.968		J
PCB-209	2.31		J
Total monoCB	ND	1.35	
Total diCB	2.88		
Total triCB	ND	0.763	
Total tetraCB	2.69		
Total pentaCB	7.50		
Total hexaCB	12.6		B
Total heptaCB	4.60		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	1.46		
Total nonaCB	0.968		
DecaCB	2.31		
Total PCB	35.0		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #4

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-04	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.2 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 8:55	% Solids:	91.3	Date Analyzed :	31-May-13 10:21 Column: ZB-1 Analyst: DMS		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	58.1	5 -145	
	13C-PCB-3	59.4	5 -145	
	13C-PCB-4	84.1	5 -145	
	13C-PCB-11	89.3	5 -145	
	13C-PCB-9	85.8	5 -145	
	13C-PCB-19	62.0	5 -145	
	13C-PCB-28	96.3	5 -145	
	13C-PCB-32	65.9	5 -145	
	13C-PCB-37	102	5 -145	
	13C-PCB-47	92.7	5 -145	
	13C-PCB-52	90.6	5 -145	
	13C-PCB-54	88.7	5 -145	
	13C-PCB-70	94.4	5 -145	
	13C-PCB-77	97.8	10 -145	
	13C-PCB-80	95.6	10 -145	
	13C-PCB-81	97.6	10 -145	
	13C-PCB-95	89.9	10 -145	
	13C-PCB-97	94.2	10 -145	
	13C-PCB-101	91.8	10 -145	
	13C-PCB-104	86.3	10 -145	
	13C-PCB-105	84.9	10 -145	
	13C-PCB-114	87.0	10 -145	
	13C-PCB-118	96.6	10 -145	
	13C-PCB-123	96.5	10 -145	
	13C-PCB-126	79.4	10 -145	
	13C-PCB-127	82.5	10 -145	
	13C-PCB-138	93.4	10 -145	
	13C-PCB-141	94.0	10 -145	
	13C-PCB-153	94.4	10 -145	
	13C-PCB-155	92.0	10 -145	
	13C-PCB-156	92.6	10 -145	
	13C-PCB-157	94.1	10 -145	
	13C-PCB-159	93.5	10 -145	
	13C-PCB-167	92.7	10 -145	
	13C-PCB-169	91.6	10 -145	
	13C-PCB-170	92.0	10 -145	
	13C-PCB-180	87.5	10 -145	
	13C-PCB-188	85.9	10 -145	
	13C-PCB-189	92.3	10 -145	
	13C-PCB-194	99.6	10 -145	
	13C-PCB-202	86.5	10 -145	
	13C-PCB-206	97.9	10 -145	
	13C-PCB-208	103	10 -145	
	13C-PCB-209	80.8	10 -145	
CRS	13C-PCB-79	96.3	10 -145	
	13C-PCB-178	91.6	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #5

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data
Matrix: Soil
Sample Size: 11.0 g
% Solids: 90.5

Laboratory Data
Lab Sample: 1300361-05
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 11:25 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	2.26	
PCB-2	ND	1.56	
PCB-3	ND	1.53	
PCB-4/10	ND	4.08	
PCB-5/8	ND	3.64	
PCB-6	ND	3.27	
PCB-7/9	ND	3.41	
PCB-11	ND	3.52	
PCB-12/13	ND	3.27	
PCB-14	ND	3.55	
PCB-15	ND	3.11	
PCB-16/32	ND	0.594	
PCB-17	ND	0.655	
PCB-18	ND	1.54	
PCB-19	ND	0.897	
PCB-20/21/33	ND	0.754	
PCB-22	ND	0.716	
PCB-23	ND	0.714	
PCB-24/27	ND	0.487	
PCB-25	ND	0.693	
PCB-26	ND	0.762	
PCB-28	ND	2.79	
PCB-29	ND	0.776	
PCB-30	ND	0.533	
PCB-31	3.10		
PCB-34	ND	0.758	
PCB-35	ND	0.714	
PCB-36	ND	0.708	
PCB-37	ND	0.672	
PCB-38	ND	0.729	
PCB-39	ND	0.744	
PCB-40	ND	1.01	
PCB-41/64/71/72	1.84		J
PCB-42/59	ND	0.682	
PCB-43/49	2.26		J
PCB-44	ND	2.39	
PCB-45	ND	0.847	
PCB-46	ND	0.878	
PCB-47	ND	0.716	
PCB-48/75	ND	0.593	
PCB-50	ND	0.757	
PCB-51	ND	0.750	
PCB-52/69	2.89		J
PCB-53	ND	0.690	
PCB-54	ND	0.607	
PCB-55	ND	0.544	
PCB-56/60	3.14		J
PCB-57	ND	0.560	
PCB-58	ND	0.585	
PCB-61/70	5.50		
PCB-62	ND	0.594	
PCB-63	ND	0.603	
PCB-65	ND	0.598	
PCB-67	ND	0.535	
PCB-68	ND	0.528	
PCB-73	ND	0.526	
PCB-74	1.54		J
PCB-76/66	3.88		J
PCB-77	ND	0.536	
PCB-78	ND	0.540	
PCB-79	ND	0.526	
PCB-80	ND	0.523	
PCB-81	ND	0.492	
PCB-82	ND	1.89	
PCB-83	ND	1.19	
PCB-84/92	2.59		J
PCB-85/116	1.71		J
PCB-86	ND	1.80	
PCB-87/117/125	2.32		J
PCB-88/91	ND	1.72	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #5 EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data
Matrix: Soil
Sample Size: 11.0 g
% Solids: 90.5

Laboratory Data
Lab Sample: 1300361-05
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 11:25 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.78	
PCB-90/101	6.56		
PCB-93	ND	1.92	
PCB-94	ND	1.83	
PCB-95/98/102	ND	2.56	
PCB-96	ND	1.25	
PCB-97	2.18		J
PCB-99	3.40		
PCB-100	ND	1.52	
PCB-103	ND	1.46	
PCB-104	ND	1.18	
PCB-105	ND	5.59	
PCB-106/118	8.74		
PCB-107/109	ND	1.08	
PCB-108/112	ND	1.49	
PCB-110	8.32		
PCB-111/115	ND	1.16	
PCB-113	ND	1.25	
PCB-114	ND	1.73	
PCB-119	ND	1.14	
PCB-120	ND	1.19	
PCB-121	ND	1.16	
PCB-122	ND	1.86	
PCB-123	ND	1.19	
PCB-124	ND	1.04	
PCB-126	ND	1.99	
PCB-127	ND	1.73	
PCB-128/162	ND	0.775	
PCB-129	ND	1.07	
PCB-130	ND	0.958	
PCB-131	ND	1.01	
PCB-132/161	2.49		J
PCB-133/142	ND	1.12	
PCB-134/143	ND	0.985	
PCB-135	ND	1.01	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-136	ND	0.761	
PCB-137	ND	0.847	
PCB-138/163/164	10.5		
PCB-139/149	5.68		B
PCB-140	ND	1.06	
PCB-141	ND	0.857	
PCB-144	ND	0.997	
PCB-145	ND	0.783	
PCB-146/165	1.25		J
PCB-147	ND	1.01	
PCB-148	ND	1.05	
PCB-150	ND	0.807	
PCB-151	ND	1.06	
PCB-152	ND	0.744	
PCB-153	8.52		B
PCB-154	ND	0.896	
PCB-155	ND	0.755	
PCB-156	ND	0.651	
PCB-157	ND	0.667	
PCB-158/160	1.37		J
PCB-159	ND	0.692	
PCB-166	ND	0.691	
PCB-167	ND	0.677	
PCB-168	ND	0.664	
PCB-169	ND	0.652	
PCB-170	2.11		J
PCB-171	ND	0.426	
PCB-172	ND	0.408	
PCB-173	ND	0.566	
PCB-174	1.78		J
PCB-175	ND	0.526	
PCB-176	ND	0.380	
PCB-177	ND	0.506	
PCB-178	ND	0.535	
PCB-179	ND	0.418	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #5

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-05	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.0 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:05	% Solids:	90.5	Date Analyzed :	31-May-13 11:25 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	4.21		
PCB-181	ND	0.462	
PCB-182/187	2.45		J
PCB-183	ND	0.454	
PCB-184	ND	0.380	
PCB-185	ND	0.400	
PCB-186	ND	0.375	
PCB-188	ND	0.396	
PCB-189	ND	0.293	
PCB-190	ND	0.330	
PCB-191	ND	0.382	
PCB-192	ND	0.386	
PCB-193	ND	0.374	
PCB-194	ND	1.22	
PCB-195	ND	1.21	
PCB-196/203	ND	2.32	
PCB-197	ND	0.708	
PCB-198	ND	0.966	
PCB-199	ND	2.37	
PCB-200	ND	0.689	
PCB-201	ND	0.670	
PCB-202	ND	0.712	
PCB-204	ND	0.665	
PCB-205	ND	0.922	
PCB-206	3.22		
PCB-207	ND	0.358	
PCB-208	1.41		J
PCB-209	4.29		
Total monoCB	ND	2.26	
Total diCB	ND	4.08	
Total triCB	3.10		
Total tetraCB	21.0		
Total pentaCB	35.8		
Total hexaCB	29.8		B
Total heptaCB	10.6		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	ND	2.37	
Total nonaCB	4.62		
DecaCB	4.29		
Total PCB	109		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #5 — EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data
Matrix: Soil
Sample Size: 11.0 g
% Solids: 90.5

Laboratory Data
Lab Sample: 1300361-05
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 11:25 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	45.4	5 -145	
	13C-PCB-3	59.4	5 -145	
	13C-PCB-4	69.1	5 -145	
	13C-PCB-11	79.1	5 -145	
	13C-PCB-9	71.2	5 -145	
	13C-PCB-19	61.3	5 -145	
	13C-PCB-28	83.1	5 -145	
	13C-PCB-32	68.0	5 -145	
	13C-PCB-37	94.0	5 -145	
	13C-PCB-47	76.4	5 -145	
	13C-PCB-52	78.0	5 -145	
	13C-PCB-54	71.4	5 -145	
	13C-PCB-70	81.9	5 -145	
	13C-PCB-77	86.1	10 -145	
	13C-PCB-80	82.9	10 -145	
	13C-PCB-81	84.8	10 -145	
	13C-PCB-95	86.9	10 -145	
	13C-PCB-97	89.1	10 -145	
	13C-PCB-101	86.6	10 -145	
	13C-PCB-104	83.5	10 -145	
	13C-PCB-105	81.9	10 -145	
	13C-PCB-114	81.7	10 -145	
	13C-PCB-118	88.8	10 -145	
	13C-PCB-123	90.2	10 -145	
	13C-PCB-126	83.7	10 -145	
	13C-PCB-127	80.1	10 -145	
	13C-PCB-138	86.9	10 -145	
	13C-PCB-141	90.0	10 -145	
	13C-PCB-153	86.8	10 -145	
	13C-PCB-155	90.1	10 -145	
	13C-PCB-156	89.5	10 -145	
	13C-PCB-157	95.8	10 -145	
	13C-PCB-159	88.2	10 -145	
	13C-PCB-167	87.9	10 -145	
	13C-PCB-169	92.0	10 -145	
	13C-PCB-170	89.6	10 -145	
	13C-PCB-180	87.3	10 -145	
	13C-PCB-188	80.9	10 -145	
	13C-PCB-189	91.4	10 -145	
	13C-PCB-194	87.3	10 -145	
	13C-PCB-202	89.9	10 -145	
	13C-PCB-206	89.6	10 -145	
	13C-PCB-208	87.6	10 -145	
	13C-PCB-209	75.7	10 -145	
CRS	13C-PCB-79	83.0	10 -145	
	13C-PCB-178	89.9	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #6

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data

Matrix: Soil
Sample Size: 11.1 g
% Solids: 91.0

Laboratory Data

Lab Sample: 1300361-06
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 12:30 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	2.08	
PCB-2	ND	0.964	
PCB-3	ND	0.943	
PCB-4/10	ND	3.00	
PCB-5/8	ND	2.94	
PCB-6	ND	2.64	
PCB-7/9	ND	2.75	
PCB-11	ND	4.03	
PCB-12/13	ND	2.72	
PCB-14	ND	2.96	
PCB-15	ND	2.59	
PCB-16/32	ND	0.554	
PCB-17	ND	0.611	
PCB-18	ND	0.693	
PCB-19	ND	0.794	
PCB-20/21/33	ND	0.799	
PCB-22	ND	0.760	
PCB-23	ND	0.757	
PCB-24/27	ND	0.454	
PCB-25	ND	0.735	
PCB-26	ND	0.807	
PCB-28	ND	0.738	
PCB-29	ND	0.823	
PCB-30	ND	0.472	
PCB-31	ND	0.789	
PCB-34	ND	0.804	
PCB-35	ND	0.752	
PCB-36	ND	0.745	
PCB-37	ND	0.707	
PCB-38	ND	0.768	
PCB-39	ND	0.784	
PCB-40	ND	1.04	
PCB-41/64/71/72	ND	0.633	
PCB-42/59	ND	0.703	
PCB-43/49	ND	0.806	
PCB-44	ND	0.900	
PCB-45	ND	0.912	
PCB-46	ND	0.946	
PCB-47	ND	0.737	
PCB-48/75	ND	0.611	
PCB-50	ND	0.735	
PCB-51	ND	0.808	
PCB-52/69	ND	0.719	
PCB-53	ND	0.743	
PCB-54	ND	0.589	
PCB-55	ND	0.525	
PCB-56/60	ND	0.535	
PCB-57	ND	0.563	
PCB-58	ND	0.589	
PCB-61/70	ND	0.590	
PCB-62	ND	0.611	
PCB-63	ND	0.607	
PCB-65	ND	0.616	
PCB-67	ND	0.539	
PCB-68	ND	0.544	
PCB-73	ND	0.567	
PCB-74	ND	0.506	
PCB-76/66	ND	0.601	
PCB-77	ND	0.504	
PCB-78	ND	0.545	
PCB-79	ND	0.507	
PCB-80	ND	0.504	
PCB-81	ND	0.497	
PCB-82	ND	1.77	
PCB-83	ND	1.13	
PCB-84/92	ND	1.55	
PCB-85/116	ND	1.26	
PCB-86	ND	1.71	
PCB-87/117/125	ND	1.17	
PCB-88/91	ND	1.62	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #6 EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data
Matrix: Soil
Sample Size: 11.1 g
% Solids: 91.0

Laboratory Data
Lab Sample: 1300361-06
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 12:30 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.63	
PCB-90/101	ND	1.39	
PCB-93	ND	1.81	
PCB-94	ND	1.72	
PCB-95/98/102	ND	1.51	
PCB-96	ND	1.28	
PCB-97	ND	1.52	
PCB-99	ND	1.30	
PCB-100	ND	1.56	
PCB-103	ND	1.49	
PCB-104	ND	1.21	
PCB-105	ND	1.77	
PCB-106/118	ND	1.06	
PCB-107/109	ND	1.01	
PCB-108/112	ND	1.41	
PCB-110	ND	1.08	
PCB-111/115	ND	1.10	
PCB-113	ND	1.15	
PCB-114	ND	1.89	
PCB-119	ND	1.08	
PCB-120	ND	1.13	
PCB-121	ND	1.09	
PCB-122	ND	2.04	
PCB-123	ND	1.11	
PCB-124	ND	0.970	
PCB-126	ND	1.95	
PCB-127	ND	1.77	
PCB-128/162	ND	0.919	
PCB-129	ND	1.16	
PCB-130	ND	1.01	
PCB-131	ND	1.08	
PCB-132/161	ND	0.882	
PCB-133/142	ND	1.20	
PCB-134/143	ND	1.05	
PCB-135	ND	1.22	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-136	ND	0.921	
PCB-137	ND	0.893	
PCB-138/163/164	1.85		J
PCB-139/149	ND	1.27	
PCB-140	ND	1.28	
PCB-141	ND	0.903	
PCB-144	ND	1.21	
PCB-145	ND	0.948	
PCB-146/165	ND	0.804	
PCB-147	ND	1.22	
PCB-148	ND	1.28	
PCB-150	ND	0.977	
PCB-151	ND	1.28	
PCB-152	ND	0.900	
PCB-153	ND	1.46	
PCB-154	ND	1.08	
PCB-155	ND	0.913	
PCB-156	ND	0.750	
PCB-157	ND	0.765	
PCB-158/160	ND	0.726	
PCB-159	ND	0.821	
PCB-166	ND	0.819	
PCB-167	ND	0.778	
PCB-168	ND	0.710	
PCB-169	ND	0.734	
PCB-170	0.892		J
PCB-171	ND	0.664	
PCB-172	ND	0.637	
PCB-173	ND	0.882	
PCB-174	ND	0.713	
PCB-175	ND	0.724	
PCB-176	ND	0.522	
PCB-177	ND	0.790	
PCB-178	ND	0.736	
PCB-179	ND	0.575	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #6

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-06	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.1 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:05	% Solids:	91.0	Date Analyzed :	31-May-13 12:30 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	ND	0.733	
PCB-181	ND	0.721	
PCB-182/187	1.30		J
PCB-183	ND	0.624	
PCB-184	ND	0.522	
PCB-185	ND	0.624	
PCB-186	ND	0.515	
PCB-188	ND	0.545	
PCB-189	ND	0.435	
PCB-190	ND	0.489	
PCB-191	ND	0.596	
PCB-192	ND	0.602	
PCB-193	ND	0.584	
PCB-194	ND	1.42	
PCB-195	ND	1.40	
PCB-196/203	ND	1.17	
PCB-197	ND	0.932	
PCB-198	ND	1.27	
PCB-199	ND	1.19	
PCB-200	ND	0.907	
PCB-201	ND	0.882	
PCB-202	ND	0.937	
PCB-204	ND	0.875	
PCB-205	ND	1.07	
PCB-206	ND	0.739	
PCB-207	ND	0.361	
PCB-208	ND	0.430	
PCB-209	ND	1.35	
Total monoCB	ND	2.08	
Total diCB	ND	4.03	
Total triCB	ND	0.823	
Total tetraCB	ND	1.04	
Total pentaCB	ND	2.04	
Total hexaCB	1.85		B
Total heptaCB	2.19		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	ND	1.42	
Total nonaCB	ND	0.739	
DecaCB	ND	1.35	
Total PCB	4.04		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #6

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data

Matrix: Soil
Sample Size: 11.1 g
% Solids: 91.0

Laboratory Data

Lab Sample: 1300361-06
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 12:30 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	82.7	5 -145	
	13C-PCB-3	78.1	5 -145	
	13C-PCB-4	84.4	5 -145	
	13C-PCB-11	86.7	5 -145	
	13C-PCB-9	83.6	5 -145	
	13C-PCB-19	76.0	5 -145	
	13C-PCB-28	87.8	5 -145	
	13C-PCB-32	75.8	5 -145	
	13C-PCB-37	99.3	5 -145	
	13C-PCB-47	78.1	5 -145	
	13C-PCB-52	79.8	5 -145	
	13C-PCB-54	77.0	5 -145	
	13C-PCB-70	85.3	5 -145	
	13C-PCB-77	90.2	10 -145	
	13C-PCB-80	86.3	10 -145	
	13C-PCB-81	86.8	10 -145	
	13C-PCB-95	84.8	10 -145	
	13C-PCB-97	89.5	10 -145	
	13C-PCB-101	85.8	10 -145	
	13C-PCB-104	79.1	10 -145	
	13C-PCB-105	82.5	10 -145	
	13C-PCB-114	80.1	10 -145	
	13C-PCB-118	90.8	10 -145	
	13C-PCB-123	90.4	10 -145	
	13C-PCB-126	82.9	10 -145	
	13C-PCB-127	80.1	10 -145	
	13C-PCB-138	88.2	10 -145	
	13C-PCB-141	88.1	10 -145	
	13C-PCB-153	85.4	10 -145	
	13C-PCB-155	90.6	10 -145	
	13C-PCB-156	86.4	10 -145	
	13C-PCB-157	98.5	10 -145	
	13C-PCB-159	86.1	10 -145	
	13C-PCB-167	87.0	10 -145	
	13C-PCB-169	81.9	10 -145	
	13C-PCB-170	90.3	10 -145	
	13C-PCB-180	86.4	10 -145	
	13C-PCB-188	82.1	10 -145	
	13C-PCB-189	89.2	10 -145	
	13C-PCB-194	91.7	10 -145	
	13C-PCB-202	91.0	10 -145	
	13C-PCB-206	87.2	10 -145	
	13C-PCB-208	90.5	10 -145	
	13C-PCB-209	72.5	10 -145	
CRS	13C-PCB-79	91.5	10 -145	
	13C-PCB-178	91.9	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #7 EPA Method 1668C

Client Data

Name:	Walla Walla Basin Watershed Council
Project:	Locher Road Recharge
Date Collected:	14-May-2013 9:25

Sample Data

Matrix:	Soil
Sample Size:	11.0 g
% Solids:	90.8

Laboratory Data

Lab Sample:	1300361-07	Date Received:	15-May-2013 10:00
QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Analyzed :	31-May-13 13:34 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers	Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	1.73		PCB-44	ND	0.868	
PCB-2	ND	1.43		PCB-45	ND	0.862	
PCB-3	ND	1.40		PCB-46	ND	0.894	
PCB-4/10	ND	3.00		PCB-47	ND	0.711	
PCB-5/8	ND	2.88		PCB-48/75	ND	0.589	
PCB-6	ND	2.59		PCB-50	ND	0.756	
PCB-7/9	ND	2.70		PCB-51	ND	0.764	
PCB-11	ND	2.79		PCB-52/69	ND	0.680	
PCB-12/13	ND	2.59		PCB-53	ND	0.702	
PCB-14	ND	2.81		PCB-54	ND	0.606	
PCB-15	ND	2.47		PCB-55	ND	0.519	
PCB-16/32	ND	0.665		PCB-56/60	ND	0.529	
PCB-17	ND	0.734		PCB-57	ND	0.550	
PCB-18	ND	0.832		PCB-58	ND	0.575	
PCB-19	ND	0.965		PCB-61/70	ND	0.576	
PCB-20/21/33	ND	0.822		PCB-62	ND	0.590	
PCB-22	ND	0.781		PCB-63	ND	0.592	
PCB-23	ND	0.778		PCB-65	ND	0.594	
PCB-24/27	ND	0.546		PCB-67	ND	0.526	
PCB-25	ND	0.756		PCB-68	ND	0.525	
PCB-26	ND	0.830		PCB-73	ND	0.536	
PCB-28	ND	0.759		PCB-74	ND	0.494	
PCB-29	ND	0.847		PCB-76/66	ND	0.586	
PCB-30	ND	0.573		PCB-77	ND	0.511	
PCB-31	ND	0.811		PCB-78	ND	0.471	
PCB-34	ND	0.827		PCB-79	ND	0.501	
PCB-35	ND	0.737		PCB-80	ND	0.499	
PCB-36	ND	0.731		PCB-81	ND	0.430	
PCB-37	ND	0.693		PCB-82	ND	1.71	
PCB-38	ND	0.752		PCB-83	ND	1.18	
PCB-39	ND	0.768		PCB-84/92	ND	1.66	
PCB-40	ND	0.999		PCB-85/116	ND	1.31	
PCB-41/64/71/72	ND	0.611		PCB-86	ND	1.78	
PCB-42/59	ND	0.678		PCB-87/117/125	ND	1.22	
PCB-43/49	ND	0.762		PCB-88/91	ND	1.67	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #7 EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:25

Sample Data
Matrix: Soil
Sample Size: 11.0 g
% Solids: 90.8

Laboratory Data
Lab Sample: 1300361-07
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 13:34 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.75	
PCB-90/101	ND	1.49	
PCB-93	ND	1.86	
PCB-94	ND	1.77	
PCB-95/98/102	ND	1.55	
PCB-96	ND	1.27	
PCB-97	ND	1.58	
PCB-99	ND	1.40	
PCB-100	ND	1.55	
PCB-103	ND	1.49	
PCB-104	ND	1.21	
PCB-105	ND	1.83	
PCB-106/118	ND	1.09	
PCB-107/109	ND	0.976	
PCB-108/112	ND	1.47	
PCB-110	ND	1.12	
PCB-111/115	ND	1.15	
PCB-113	ND	1.23	
PCB-114	ND	1.94	
PCB-119	ND	1.13	
PCB-120	ND	1.17	
PCB-121	ND	1.12	
PCB-122	ND	2.09	
PCB-123	ND	1.07	
PCB-124	ND	0.938	
PCB-126	ND	2.02	
PCB-127	ND	1.68	
PCB-128/162	ND	0.726	
PCB-129	ND	0.946	
PCB-130	ND	0.944	
PCB-131	ND	0.861	
PCB-132/161	ND	0.704	
PCB-133/142	ND	0.958	
PCB-134/143	ND	0.839	
PCB-135	ND	1.00	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-136	ND	0.756	
PCB-137	ND	0.835	
PCB-138/163/164	1.53		J
PCB-139/149	1.70		B, J
PCB-140	ND	1.05	
PCB-141	ND	0.844	
PCB-144	ND	0.991	
PCB-145	ND	0.778	
PCB-146/165	ND	0.641	
PCB-147	ND	1.00	
PCB-148	ND	1.05	
PCB-150	ND	0.802	
PCB-151	ND	1.05	
PCB-152	ND	0.739	
PCB-153	ND	1.19	
PCB-154	ND	0.891	
PCB-155	ND	0.750	
PCB-156	ND	0.631	
PCB-157	ND	0.650	
PCB-158/160	ND	0.594	
PCB-159	ND	0.648	
PCB-166	ND	0.647	
PCB-167	ND	0.643	
PCB-168	ND	0.566	
PCB-169	ND	0.613	
PCB-170	ND	0.563	
PCB-171	ND	0.527	
PCB-172	ND	0.505	
PCB-173	ND	0.700	
PCB-174	ND	0.566	
PCB-175	ND	0.583	
PCB-176	ND	0.421	
PCB-177	ND	0.627	
PCB-178	ND	0.593	
PCB-179	ND	0.463	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #7

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-07	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.0 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:25	% Solids:	90.8	Date Analyzed :	31-May-13 13:34 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	ND	0.582	
PCB-181	ND	0.573	
PCB-182/187	ND	0.506	
PCB-183	ND	0.503	
PCB-184	ND	0.421	
PCB-185	ND	0.495	
PCB-186	ND	0.415	
PCB-188	ND	0.439	
PCB-189	ND	0.379	
PCB-190	ND	0.438	
PCB-191	ND	0.473	
PCB-192	ND	0.478	
PCB-193	ND	0.463	
PCB-194	ND	1.21	
PCB-195	ND	1.20	
PCB-196/203	ND	1.16	
PCB-197	ND	0.926	
PCB-198	ND	1.26	
PCB-199	ND	1.19	
PCB-200	ND	0.901	
PCB-201	ND	0.876	
PCB-202	ND	0.931	
PCB-204	ND	0.869	
PCB-205	ND	0.913	
PCB-206	ND	0.631	
PCB-207	ND	0.350	
PCB-208	ND	0.416	
PCB-209	ND	0.864	
Total monoCB	ND	1.73	
Total diCB	ND	3.00	
Total triCB	ND	0.965	
Total tetraCB	ND	0.999	
Total pentaCB	ND	2.09	
Total hexaCB	3.23		B
Total heptaCB	ND	0.700	

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	ND	1.26	
Total nonaCB	ND	0.631	
DecaCB	ND	0.864	
Total PCB	3.23		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #7

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-07	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.0 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:25	% Solids:	90.8	Date Analyzed :	31-May-13 13:34 Column: ZB-1 Analyst: DMS		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	74.9	5 -145	
	13C-PCB-3	76.5	5 -145	
	13C-PCB-4	82.6	5 -145	
	13C-PCB-11	85.8	5 -145	
	13C-PCB-9	81.9	5 -145	
	13C-PCB-19	78.9	5 -145	
	13C-PCB-28	84.1	5 -145	
	13C-PCB-32	79.5	5 -145	
	13C-PCB-37	101	5 -145	
	13C-PCB-47	80.1	5 -145	
	13C-PCB-52	80.8	5 -145	
	13C-PCB-54	78.6	5 -145	
	13C-PCB-70	89.8	5 -145	
	13C-PCB-77	92.4	10 -145	
	13C-PCB-80	91.6	10 -145	
	13C-PCB-81	93.6	10 -145	
	13C-PCB-95	89.6	10 -145	
	13C-PCB-97	93.2	10 -145	
	13C-PCB-101	90.5	10 -145	
	13C-PCB-104	83.5	10 -145	
	13C-PCB-105	92.0	10 -145	
	13C-PCB-114	87.4	10 -145	
	13C-PCB-118	94.3	10 -145	
	13C-PCB-123	95.5	10 -145	
	13C-PCB-126	87.2	10 -145	
	13C-PCB-127	91.3	10 -145	
	13C-PCB-138	93.8	10 -145	
	13C-PCB-141	94.3	10 -145	
	13C-PCB-153	92.2	10 -145	
	13C-PCB-155	97.1	10 -145	
	13C-PCB-156	91.4	10 -145	
	13C-PCB-157	110	10 -145	
	13C-PCB-159	93.0	10 -145	
	13C-PCB-167	94.8	10 -145	
	13C-PCB-169	92.1	10 -145	
	13C-PCB-170	95.4	10 -145	
	13C-PCB-180	92.6	10 -145	
	13C-PCB-188	89.3	10 -145	
	13C-PCB-189	94.7	10 -145	
	13C-PCB-194	91.4	10 -145	
	13C-PCB-202	99.2	10 -145	
	13C-PCB-206	95.6	10 -145	
	13C-PCB-208	88.7	10 -145	
	13C-PCB-209	83.3	10 -145	
CRS	13C-PCB-79	97.0	10 -145	
	13C-PCB-178	102	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #8 EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:25

Sample Data
Matrix: Soil
Sample Size: 11.1 g
% Solids: 91.0

Laboratory Data
Lab Sample: 1300361-08
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 21:32 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	0.727	
PCB-2	ND	0.670	
PCB-3	ND	0.655	
PCB-4/10	ND	1.92	
PCB-5/8	ND	1.75	
PCB-6	ND	1.57	
PCB-7/9	ND	1.64	
PCB-11	ND	1.60	
PCB-12/13	ND	1.48	
PCB-14	ND	1.61	
PCB-15	ND	1.41	
PCB-16/32	ND	0.424	
PCB-17	ND	0.467	
PCB-18	ND	0.530	
PCB-19	ND	0.659	
PCB-20/21/33	ND	0.297	
PCB-22	ND	0.282	
PCB-23	ND	0.281	
PCB-24/27	ND	0.348	
PCB-25	ND	0.273	
PCB-26	ND	0.300	
PCB-28	ND	0.274	
PCB-29	ND	0.306	
PCB-30	ND	0.391	
PCB-31	ND	0.293	
PCB-34	ND	0.298	
PCB-35	ND	0.334	
PCB-36	ND	0.331	
PCB-37	ND	0.314	
PCB-38	ND	0.341	
PCB-39	ND	0.348	
PCB-40	ND	0.456	
PCB-41/64/71/72	ND	0.279	
PCB-42/59	ND	0.310	
PCB-43/49	ND	0.375	
PCB-44	ND	0.396	
PCB-45	ND	0.424	
PCB-46	ND	0.440	
PCB-47	ND	0.325	
PCB-48/75	ND	0.269	
PCB-50	ND	0.368	
PCB-51	ND	0.376	
PCB-52/69	ND	0.334	
PCB-53	ND	0.345	
PCB-54	ND	0.295	
PCB-55	ND	0.280	
PCB-56/60	ND	0.286	
PCB-57	ND	0.264	
PCB-58	ND	0.276	
PCB-61/70	ND	0.276	
PCB-62	ND	0.269	
PCB-63	ND	0.284	
PCB-65	ND	0.271	
PCB-67	ND	0.252	
PCB-68	ND	0.240	
PCB-73	ND	0.264	
PCB-74	ND	0.237	
PCB-76/66	ND	0.281	
PCB-77	ND	0.298	
PCB-78	ND	0.309	
PCB-79	ND	0.271	
PCB-80	ND	0.269	
PCB-81	ND	0.282	
PCB-82	ND	1.44	
PCB-83	ND	0.841	
PCB-84/92	ND	1.25	
PCB-85/116	ND	0.940	
PCB-86	ND	1.28	
PCB-87/117/125	ND	0.872	
PCB-88/91	ND	1.21	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #8

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:25

Sample Data

Matrix: Soil
Sample Size: 11.1 g
% Solids: 91.0

Laboratory Data

Lab Sample: 1300361-08
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 21:32 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.32	
PCB-90/101	ND	1.12	
PCB-93	ND	1.35	
PCB-94	ND	1.29	
PCB-95/98/102	ND	1.13	
PCB-96	ND	0.869	
PCB-97	ND	1.13	
PCB-99	ND	1.05	
PCB-100	ND	1.06	
PCB-103	ND	1.01	
PCB-104	ND	0.822	
PCB-105	ND	0.990	
PCB-106/118	ND	0.869	
PCB-107/109	ND	0.819	
PCB-108/112	ND	1.05	
PCB-110	ND	0.804	
PCB-111/115	ND	0.821	
PCB-113	ND	0.926	
PCB-114	ND	0.979	
PCB-119	ND	0.805	
PCB-120	ND	0.839	
PCB-121	ND	0.815	
PCB-122	ND	1.05	
PCB-123	ND	0.899	
PCB-124	ND	0.787	
PCB-126	ND	1.10	
PCB-127	ND	0.977	
PCB-128/162	ND	0.568	
PCB-129	ND	0.740	
PCB-130	ND	0.681	
PCB-131	ND	0.692	
PCB-132/161	ND	0.565	
PCB-133/142	ND	0.769	
PCB-134/143	ND	0.674	
PCB-135	ND	0.792	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-136	ND	0.599	
PCB-137	ND	0.602	
PCB-138/163/164	0.803		J
PCB-139/149	ND	0.828	
PCB-140	ND	0.833	
PCB-141	ND	0.609	
PCB-144	ND	0.785	
PCB-145	ND	0.616	
PCB-146/165	ND	0.515	
PCB-147	ND	0.794	
PCB-148	ND	0.829	
PCB-150	ND	0.635	
PCB-151	ND	0.835	
PCB-152	ND	0.585	
PCB-153	0.682		B, J
PCB-154	ND	0.705	
PCB-155	ND	0.594	
PCB-156	ND	0.467	
PCB-157	ND	0.492	
PCB-158/160	ND	0.464	
PCB-159	ND	0.507	
PCB-166	ND	0.506	
PCB-167	ND	0.484	
PCB-168	ND	0.455	
PCB-169	ND	0.457	
PCB-170	ND	0.453	
PCB-171	ND	0.468	
PCB-172	ND	0.448	
PCB-173	ND	0.621	
PCB-174	ND	0.502	
PCB-175	ND	0.529	
PCB-176	ND	0.382	
PCB-177	ND	0.556	
PCB-178	ND	0.538	
PCB-179	ND	0.421	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #8

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-08	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.1 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:25	% Solids:	91.0	Date Analyzed :	31-May-13 21:32 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	ND	0.516	
PCB-181	ND	0.508	
PCB-182/187	ND	0.459	
PCB-183	ND	0.456	
PCB-184	ND	0.382	
PCB-185	ND	0.439	
PCB-186	ND	0.377	
PCB-188	ND	0.398	
PCB-189	ND	0.295	
PCB-190	ND	0.352	
PCB-191	ND	0.420	
PCB-192	ND	0.424	
PCB-193	ND	0.411	
PCB-194	ND	0.511	
PCB-195	ND	0.506	
PCB-196/203	ND	1.03	
PCB-197	ND	0.827	
PCB-198	ND	1.13	
PCB-199	ND	1.06	
PCB-200	ND	0.805	
PCB-201	ND	0.783	
PCB-202	ND	0.831	
PCB-204	ND	0.777	
PCB-205	ND	0.386	
PCB-206	ND	0.290	
PCB-207	ND	0.162	
PCB-208	ND	0.192	
PCB-209	0.565		J
Total monoCB	ND	0.727	
Total diCB	ND	1.92	
Total triCB	ND	0.659	
Total tetraCB	ND	0.456	
Total pentaCB	ND	1.44	
Total hexaCB	1.49		B
Total heptaCB	ND	0.621	

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	ND	1.13	
Total nonaCB	ND	0.290	
DecaCB	0.565		
Total PCB	2.05		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #8 EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-08	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.1 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:25	% Solids:	91.0	Date Analyzed :	31-May-13 21:32 Column: ZB-1 Analyst: DMS		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	41.2	5 -145	
	13C-PCB-3	43.3	5 -145	
	13C-PCB-4	70.1	5 -145	
	13C-PCB-11	81.8	5 -145	
	13C-PCB-9	73.6	5 -145	
	13C-PCB-19	52.9	5 -145	
	13C-PCB-28	83.2	5 -145	
	13C-PCB-32	58.6	5 -145	
	13C-PCB-37	77.4	5 -145	
	13C-PCB-47	87.2	5 -145	
	13C-PCB-52	90.4	5 -145	
	13C-PCB-54	86.4	5 -145	
	13C-PCB-70	87.3	5 -145	
	13C-PCB-77	80.4	10 -145	
	13C-PCB-80	83.8	10 -145	
	13C-PCB-81	83.1	10 -145	
	13C-PCB-95	88.9	10 -145	
	13C-PCB-97	91.8	10 -145	
	13C-PCB-101	90.0	10 -145	
	13C-PCB-104	92.6	10 -145	
	13C-PCB-105	109	10 -145	
	13C-PCB-114	115	10 -145	
	13C-PCB-118	87.7	10 -145	
	13C-PCB-123	88.5	10 -145	
	13C-PCB-126	107	10 -145	
	13C-PCB-127	111	10 -145	
	13C-PCB-138	90.0	10 -145	
	13C-PCB-141	91.3	10 -145	
	13C-PCB-153	89.7	10 -145	
	13C-PCB-155	84.3	10 -145	
	13C-PCB-156	90.1	10 -145	
	13C-PCB-157	87.2	10 -145	
	13C-PCB-159	88.7	10 -145	
	13C-PCB-167	89.2	10 -145	
	13C-PCB-169	90.0	10 -145	

	Labeled Standard	%R	LCL-UCL	Qualifiers
	13C-PCB-170	77.8	10 -145	
	13C-PCB-180	76.1	10 -145	
	13C-PCB-188	75.0	10 -145	
	13C-PCB-189	80.1	10 -145	
	13C-PCB-194	85.1	10 -145	
	13C-PCB-202	75.4	10 -145	
	13C-PCB-206	72.5	10 -145	
	13C-PCB-208	65.1	10 -145	
	13C-PCB-209	57.7	10 -145	
CRS	13C-PCB-79	91.9	10 -145	
	13C-PCB-178	82.2	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #9 EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:40

Sample Data
Matrix: Soil
Sample Size: 11.2 g
% Solids: 88.8

Laboratory Data
Lab Sample: 1300361-09
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 22:36 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	0.855	
PCB-2	ND	0.834	
PCB-3	ND	0.815	
PCB-4/10	ND	1.84	
PCB-5/8	ND	1.51	
PCB-6	ND	1.36	
PCB-7/9	ND	1.42	
PCB-11	1.10		J
PCB-12/13	ND	1.34	
PCB-14	ND	1.45	
PCB-15	ND	1.27	
PCB-16/32	ND	0.403	
PCB-17	ND	0.445	
PCB-18	ND	0.504	
PCB-19	ND	0.598	
PCB-20/21/33	ND	0.342	
PCB-22	ND	0.325	
PCB-23	ND	0.324	
PCB-24/27	ND	0.331	
PCB-25	ND	0.315	
PCB-26	ND	0.346	
PCB-28	ND	0.316	
PCB-29	ND	0.353	
PCB-30	ND	0.355	
PCB-31	0.425		J
PCB-34	ND	0.344	
PCB-35	ND	0.387	
PCB-36	ND	0.383	
PCB-37	ND	0.364	
PCB-38	ND	0.395	
PCB-39	ND	0.403	
PCB-40	ND	0.710	
PCB-41/64/71/72	ND	0.434	
PCB-42/59	ND	0.482	
PCB-43/49	ND	0.531	
PCB-44	ND	0.617	
PCB-45	ND	0.601	
PCB-46	ND	0.622	
PCB-47	ND	0.505	
PCB-48/75	ND	0.419	
PCB-50	ND	0.520	
PCB-51	ND	0.532	
PCB-52/69	ND	0.473	
PCB-53	ND	0.489	
PCB-54	ND	0.417	
PCB-55	ND	0.414	
PCB-56/60	0.409		J
PCB-57	ND	0.406	
PCB-58	ND	0.424	
PCB-61/70	ND	0.425	
PCB-62	ND	0.419	
PCB-63	ND	0.437	
PCB-65	ND	0.422	
PCB-67	ND	0.388	
PCB-68	ND	0.373	
PCB-73	ND	0.373	
PCB-74	ND	0.365	
PCB-76/66	0.578		J
PCB-77	ND	0.396	
PCB-78	ND	0.416	
PCB-79	ND	0.400	
PCB-80	ND	0.397	
PCB-81	ND	0.379	
PCB-82	ND	1.65	
PCB-83	ND	1.01	
PCB-84/92	ND	1.42	
PCB-85/116	ND	1.13	
PCB-86	ND	1.53	
PCB-87/117/125	ND	1.05	
PCB-88/91	ND	1.45	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #9

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:40

Sample Data

Matrix: Soil
Sample Size: 11.2 g
% Solids: 88.8

Laboratory Data

Lab Sample: 1300361-09
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 22:36 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.49	
PCB-90/101	1.25		J
PCB-93	ND	1.61	
PCB-94	ND	1.53	
PCB-95/98/102	ND	1.34	
PCB-96	ND	1.05	
PCB-97	ND	1.36	
PCB-99	ND	1.19	
PCB-100	ND	1.28	
PCB-103	ND	1.22	
PCB-104	ND	0.991	
PCB-105	ND	0.868	
PCB-106/118	1.24		J
PCB-107/109	ND	0.938	
PCB-108/112	ND	1.26	
PCB-110	ND	0.965	
PCB-111/115	ND	0.986	
PCB-113	ND	1.05	
PCB-114	ND	0.901	
PCB-119	ND	0.967	
PCB-120	ND	1.01	
PCB-121	ND	0.970	
PCB-122	ND	0.971	
PCB-123	ND	1.03	
PCB-124	ND	0.901	
PCB-126	ND	1.05	
PCB-127	ND	0.933	
PCB-128/162	0.448		J, B
PCB-129	ND	0.563	
PCB-130	ND	0.532	
PCB-131	ND	0.494	
PCB-132/161	ND	0.404	
PCB-133/142	ND	0.549	
PCB-134/143	ND	0.482	
PCB-135	ND	1.09	
PCB-136	ND	0.826	
PCB-137	ND	0.471	
PCB-138/163/164	2.16		J
PCB-139/149	ND	1.14	
PCB-140	ND	1.15	
PCB-141	ND	0.476	
PCB-144	ND	1.08	
PCB-145	ND	0.850	
PCB-146/165	ND	0.368	
PCB-147	ND	1.10	
PCB-148	ND	1.14	
PCB-150	ND	0.876	
PCB-151	ND	1.15	
PCB-152	ND	0.808	
PCB-153	1.48		J, B
PCB-154	ND	0.973	
PCB-155	ND	0.820	
PCB-156	ND	0.340	
PCB-157	ND	0.351	
PCB-158/160	ND	0.353	
PCB-159	ND	0.361	
PCB-166	ND	0.360	
PCB-167	ND	0.380	
PCB-168	ND	0.325	
PCB-169	ND	0.335	
PCB-170	ND	0.470	
PCB-171	ND	0.335	
PCB-172	ND	0.321	
PCB-173	ND	0.445	
PCB-174	ND	0.359	
PCB-175	ND	0.358	
PCB-176	ND	0.258	
PCB-177	ND	0.398	
PCB-178	ND	0.364	
PCB-179	ND	0.284	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #9

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-09	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.2 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:40	% Solids:	88.8	Date Analyzed :	31-May-13 22:36 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	ND	1.09	
PCB-181	ND	0.364	
PCB-182/187	ND	0.310	
PCB-183	ND	0.308	
PCB-184	ND	0.258	
PCB-185	ND	0.315	
PCB-186	ND	0.255	
PCB-188	ND	0.269	
PCB-189	ND	0.209	
PCB-190	ND	0.258	
PCB-191	ND	0.301	
PCB-192	ND	0.304	
PCB-193	ND	0.294	
PCB-194	0.478		J
PCB-195	ND	0.448	
PCB-196/203	ND	0.591	
PCB-197	ND	0.473	
PCB-198	ND	0.645	
PCB-199	ND	0.606	
PCB-200	ND	0.460	
PCB-201	ND	0.447	
PCB-202	ND	0.475	
PCB-204	ND	0.444	
PCB-205	ND	0.342	
PCB-206	0.995		J
PCB-207	ND	0.189	
PCB-208	0.360		J
PCB-209	1.05		J
Total monoCB	ND	0.855	
Total diCB	1.10		
Total triCB	0.425		
Total tetraCB	0.987		
Total pentaCB	2.49		
Total hexaCB	4.10		B
Total heptaCB	ND	1.09	

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	0.478		
Total nonaCB	1.35		
DecaCB	1.05		
Total PCB	12.0		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #9

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:40

Sample Data

Matrix: Soil
Sample Size: 11.2 g
% Solids: 88.8

Laboratory Data

Lab Sample: 1300361-09
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 22:36 Column: ZB-1 Analyst: DMS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	39.2	5 -145	
	13C-PCB-3	47.0	5 -145	
	13C-PCB-4	70.6	5 -145	
	13C-PCB-11	84.0	5 -145	
	13C-PCB-9	78.0	5 -145	
	13C-PCB-19	56.8	5 -145	
	13C-PCB-28	84.2	5 -145	
	13C-PCB-32	57.8	5 -145	
	13C-PCB-37	81.5	5 -145	
	13C-PCB-47	89.1	5 -145	
	13C-PCB-52	95.0	5 -145	
	13C-PCB-54	91.6	5 -145	
	13C-PCB-70	91.6	5 -145	
	13C-PCB-77	94.5	10 -145	
	13C-PCB-80	91.2	10 -145	
	13C-PCB-81	91.5	10 -145	
	13C-PCB-95	90.2	10 -145	
	13C-PCB-97	93.9	10 -145	
	13C-PCB-101	91.0	10 -145	
	13C-PCB-104	90.5	10 -145	
	13C-PCB-105	114	10 -145	
	13C-PCB-114	115	10 -145	
	13C-PCB-118	88.6	10 -145	
	13C-PCB-123	88.4	10 -145	
	13C-PCB-126	107	10 -145	
	13C-PCB-127	108	10 -145	
	13C-PCB-138	91.3	10 -145	
	13C-PCB-141	92.0	10 -145	
	13C-PCB-153	90.9	10 -145	
	13C-PCB-155	86.6	10 -145	
	13C-PCB-156	90.7	10 -145	
	13C-PCB-157	88.8	10 -145	
	13C-PCB-159	89.8	10 -145	
	13C-PCB-167	89.6	10 -145	
	13C-PCB-169	92.6	10 -145	
	13C-PCB-170	78.9	10 -145	
	13C-PCB-180	76.7	10 -145	
	13C-PCB-188	76.9	10 -145	
	13C-PCB-189	81.4	10 -145	
	13C-PCB-194	82.0	10 -145	
	13C-PCB-202	76.0	10 -145	
	13C-PCB-206	70.7	10 -145	
	13C-PCB-208	62.9	10 -145	
	13C-PCB-209	55.9	10 -145	
CRS	13C-PCB-79	92.1	10 -145	
	13C-PCB-178	80.7	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #10

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:40

Sample Data
Matrix: Soil
Sample Size: 11.3 g
% Solids: 88.6

Laboratory Data
Lab Sample: 1300361-10
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 23:40 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	1.07	
PCB-2	ND	0.737	
PCB-3	ND	0.721	
PCB-4/10	ND	1.79	
PCB-5/8	ND	1.62	
PCB-6	ND	1.46	
PCB-7/9	ND	1.52	
PCB-11	ND	2.76	
PCB-12/13	ND	1.52	
PCB-14	ND	1.66	
PCB-15	ND	1.45	
PCB-16/32	ND	1.15	
PCB-17	ND	0.534	
PCB-18	ND	0.605	
PCB-19	ND	0.661	
PCB-20/21/33	ND	0.313	
PCB-22	ND	0.297	
PCB-23	ND	0.296	
PCB-24/27	ND	0.397	
PCB-25	ND	0.288	
PCB-26	ND	0.316	
PCB-28	ND	0.598	
PCB-29	ND	0.322	
PCB-30	ND	0.393	
PCB-31	ND	0.639	
PCB-34	ND	0.314	
PCB-35	ND	0.323	
PCB-36	ND	0.321	
PCB-37	ND	0.304	
PCB-38	ND	0.330	
PCB-39	ND	0.337	
PCB-40	ND	0.664	
PCB-41/64/71/72	ND	0.406	
PCB-42/59	ND	0.450	
PCB-43/49	ND	0.503	
PCB-44	ND	0.577	
PCB-45	ND	0.570	
PCB-46	ND	0.590	
PCB-47	ND	0.472	
PCB-48/75	ND	0.391	
PCB-50	ND	0.467	
PCB-51	ND	0.505	
PCB-52/69	ND	0.449	
PCB-53	ND	0.464	
PCB-54	ND	0.374	
PCB-55	ND	0.346	
PCB-56/60	ND	0.353	
PCB-57	ND	0.368	
PCB-58	ND	0.385	
PCB-61/70	0.448		J
PCB-62	ND	0.392	
PCB-63	ND	0.397	
PCB-65	ND	0.394	
PCB-67	ND	0.352	
PCB-68	ND	0.348	
PCB-73	ND	0.354	
PCB-74	ND	0.331	
PCB-76/66	ND	0.393	
PCB-77	ND	0.394	
PCB-78	ND	0.365	
PCB-79	ND	0.334	
PCB-80	ND	0.332	
PCB-81	ND	0.333	
PCB-82	ND	1.49	
PCB-83	ND	0.954	
PCB-84/92	ND	1.31	
PCB-85/116	ND	1.07	
PCB-86	ND	1.45	
PCB-87/117/125	ND	0.989	
PCB-88/91	ND	1.27	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #10

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:40

Sample Data

Matrix: Soil
Sample Size: 11.3 g
% Solids: 88.6

Laboratory Data

Lab Sample: 1300361-10
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 23:40 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.37	
PCB-90/101	ND	1.17	
PCB-93	ND	1.42	
PCB-94	ND	1.35	
PCB-95/98/102	ND	1.18	
PCB-96	ND	0.986	
PCB-97	ND	1.28	
PCB-99	ND	1.10	
PCB-100	ND	1.20	
PCB-103	ND	1.15	
PCB-104	ND	0.933	
PCB-105	0.410		J
PCB-106/118	ND	0.909	
PCB-107/109	ND	0.850	
PCB-108/112	ND	1.19	
PCB-110	0.696		J
PCB-111/115	ND	0.932	
PCB-113	ND	0.966	
PCB-114	ND	0.625	
PCB-119	ND	0.914	
PCB-120	ND	0.952	
PCB-121	ND	0.855	
PCB-122	ND	0.673	
PCB-123	ND	0.934	
PCB-124	ND	0.816	
PCB-126	ND	0.713	
PCB-127	ND	0.651	
PCB-128/162	ND	0.561	
PCB-129	ND	0.716	
PCB-130	ND	0.649	
PCB-131	ND	0.685	
PCB-132/161	ND	0.559	
PCB-133/142	ND	0.761	
PCB-134/143	ND	0.667	
PCB-135	ND	1.06	
PCB-136	ND	0.799	
PCB-137	ND	0.574	
PCB-138/163/164	1.46		J
PCB-139/149	ND	1.10	
PCB-140	ND	1.99	
PCB-141	ND	0.580	
PCB-144	ND	1.05	
PCB-145	ND	0.822	
PCB-146/165	ND	0.509	
PCB-147	ND	1.06	
PCB-148	ND	1.11	
PCB-150	ND	0.847	
PCB-151	ND	1.11	
PCB-152	ND	0.781	
PCB-153	1.03		B, J
PCB-154	ND	0.941	
PCB-155	ND	0.793	
PCB-156	ND	0.471	
PCB-157	ND	0.491	
PCB-158/160	ND	0.450	
PCB-159	ND	0.501	
PCB-166	ND	0.500	
PCB-167	ND	0.480	
PCB-168	ND	0.450	
PCB-169	ND	0.456	
PCB-170	ND	0.448	
PCB-171	ND	0.436	
PCB-172	ND	0.418	
PCB-173	ND	0.580	
PCB-174	ND	0.468	
PCB-175	ND	0.508	
PCB-176	ND	0.367	
PCB-177	ND	0.519	
PCB-178	ND	0.517	
PCB-179	ND	0.404	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #10

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:40

Sample Data

Matrix: Soil
Sample Size: 11.3 g
% Solids: 88.6

Laboratory Data

Lab Sample: 1300361-10
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 23:40 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	1.34		J
PCB-181	ND	0.474	
PCB-182/187	ND	0.568	
PCB-183	ND	0.438	
PCB-184	ND	0.367	
PCB-185	ND	0.410	
PCB-186	ND	0.362	
PCB-188	ND	0.383	
PCB-189	ND	0.289	
PCB-190	ND	0.348	
PCB-191	ND	0.392	
PCB-192	ND	0.396	
PCB-193	ND	0.384	
PCB-194	ND	0.666	
PCB-195	ND	0.489	
PCB-196/203	ND	0.696	
PCB-197	ND	0.762	
PCB-198	ND	1.04	
PCB-199	ND	0.976	
PCB-200	ND	0.741	
PCB-201	ND	0.720	
PCB-202	ND	0.765	
PCB-204	ND	0.715	
PCB-205	ND	0.373	
PCB-206	0.962		J
PCB-207	ND	0.235	
PCB-208	ND	0.212	
PCB-209	1.53		J
Total monoCB	ND	1.07	
Total diCB	ND	2.76	
Total triCB	ND	1.15	
Total tetraCB	0.448		
Total pentaCB	1.11		
Total hexaCB	2.50		B
Total heptaCB	1.34		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	ND	1.04	
Total nonaCB	0.962		
DecaCB	1.53		
Total PCB	7.88		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Locher Soil #10

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:40

Sample Data

Matrix: Soil
Sample Size: 11.3 g
% Solids: 88.6

Laboratory Data

Lab Sample: 1300361-10
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 31-May-13 23:40 Column: ZB-1 Analyst: DMS

Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	48.3	5 -145	
13C-PCB-3	56.7	5 -145	
13C-PCB-4	80.7	5 -145	
13C-PCB-11	87.6	5 -145	
13C-PCB-9	84.6	5 -145	
13C-PCB-19	61.8	5 -145	
13C-PCB-28	90.1	5 -145	
13C-PCB-32	62.1	5 -145	
13C-PCB-37	87.8	5 -145	
13C-PCB-47	82.5	5 -145	
13C-PCB-52	84.9	5 -145	
13C-PCB-54	83.8	5 -145	
13C-PCB-70	85.2	5 -145	
13C-PCB-77	84.4	10 -145	
13C-PCB-80	88.7	10 -145	
13C-PCB-81	88.0	10 -145	
13C-PCB-95	89.0	10 -145	
13C-PCB-97	93.1	10 -145	
13C-PCB-101	89.3	10 -145	
13C-PCB-104	87.2	10 -145	
13C-PCB-105	118	10 -145	
13C-PCB-114	120	10 -145	
13C-PCB-118	85.9	10 -145	
13C-PCB-123	88.6	10 -145	
13C-PCB-126	111	10 -145	
13C-PCB-127	113	10 -145	
13C-PCB-138	93.5	10 -145	
13C-PCB-141	93.0	10 -145	
13C-PCB-153	92.8	10 -145	
13C-PCB-155	85.0	10 -145	
13C-PCB-156	87.9	10 -145	
13C-PCB-157	87.4	10 -145	
13C-PCB-159	91.0	10 -145	
13C-PCB-167	89.5	10 -145	
13C-PCB-169	90.2	10 -145	
13C-PCB-170	77.4	10 -145	
13C-PCB-180	76.5	10 -145	
13C-PCB-188	77.1	10 -145	
13C-PCB-189	79.8	10 -145	
13C-PCB-194	83.4	10 -145	
13C-PCB-202	75.3	10 -145	
13C-PCB-206	71.4	10 -145	
13C-PCB-208	64.3	10 -145	
13C-PCB-209	57.2	10 -145	
CRS 13C-PCB-79	94.3	10 -145	
13C-PCB-178	85.3	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Soil #11

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data

Matrix: Soil
Sample Size: 11.2 g
% Solids: 90.0

Laboratory Data

Lab Sample: 1300361-11
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 01-Jun-13 00:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-1	ND	1.13	
PCB-2	ND	0.593	
PCB-3	ND	0.580	
PCB-4/10	ND	1.77	
PCB-5/8	ND	1.69	
PCB-6	ND	1.52	
PCB-7/9	ND	1.59	
PCB-11	1.16		J
PCB-12/13	ND	1.50	
PCB-14	ND	1.63	
PCB-15	ND	1.43	
PCB-16/32	0.478		J
PCB-17	ND	0.524	
PCB-18	ND	0.595	
PCB-19	ND	0.692	
PCB-20/21/33	ND	0.414	
PCB-22	ND	0.393	
PCB-23	ND	0.392	
PCB-24/27	ND	0.390	
PCB-25	ND	0.381	
PCB-26	ND	0.418	
PCB-28	ND	0.981	
PCB-29	ND	0.426	
PCB-30	ND	0.411	
PCB-31	ND	1.05	
PCB-34	ND	0.416	
PCB-35	ND	0.398	
PCB-36	ND	0.395	
PCB-37	ND	0.519	
PCB-38	ND	0.406	
PCB-39	ND	0.415	
PCB-40	ND	0.750	
PCB-41/64/71/72	ND	0.459	
PCB-42/59	ND	0.509	
PCB-43/49	ND	0.556	

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-44	ND	0.652	
PCB-45	ND	0.630	
PCB-46	ND	0.652	
PCB-47	ND	0.534	
PCB-48/75	ND	0.442	
PCB-50	ND	0.559	
PCB-51	ND	0.558	
PCB-52/69	ND	0.496	
PCB-53	ND	0.513	
PCB-54	ND	0.448	
PCB-55	ND	0.425	
PCB-56/60	ND	0.433	
PCB-57	ND	0.428	
PCB-58	ND	0.447	
PCB-61/70	0.718		J
PCB-62	ND	0.443	
PCB-63	ND	0.461	
PCB-65	ND	0.446	
PCB-67	ND	0.409	
PCB-68	ND	0.394	
PCB-73	ND	0.391	
PCB-74	ND	0.385	
PCB-76/66	ND	0.456	
PCB-77	ND	0.396	
PCB-78	ND	0.376	
PCB-79	ND	0.410	
PCB-80	ND	0.408	
PCB-81	ND	0.343	
PCB-82	ND	1.54	
PCB-83	ND	1.03	
PCB-84/92	ND	1.45	
PCB-85/116	ND	1.15	
PCB-86	ND	1.56	
PCB-87/117/125	ND	1.07	
PCB-88/91	ND	1.49	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Soil #11

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data
Matrix: Soil
Sample Size: 11.2 g
% Solids: 90.0

Laboratory Data
Lab Sample: 1300361-11
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 01-Jun-13 00:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/g)	DL	Qualifiers	Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-89	ND	1.53		PCB-136	ND	0.679	
PCB-90/101	ND	1.30		PCB-137	ND	0.682	
PCB-93	ND	1.66		PCB-138/163/164	ND	1.96	
PCB-94	ND	1.58		PCB-139/149	0.872		J, B
PCB-95/98/102	ND	1.39		PCB-140	ND	0.944	
PCB-96	ND	1.10		PCB-141	ND	0.689	
PCB-97	ND	1.38		PCB-144	ND	0.889	
PCB-99	ND	1.22		PCB-145	ND	0.698	
PCB-100	ND	1.34		PCB-146/165	ND	0.533	
PCB-103	ND	1.28		PCB-147	ND	0.900	
PCB-104	ND	1.04		PCB-148	ND	0.940	
PCB-105	ND	0.932		PCB-150	ND	0.720	
PCB-106/118	0.979		J	PCB-151	ND	0.946	
PCB-107/109	ND	0.877		PCB-152	ND	0.663	
PCB-108/112	ND	1.29		PCB-153	1.70		J, B
PCB-110	0.894		J	PCB-154	ND	0.799	
PCB-111/115	ND	1.01		PCB-155	ND	0.673	
PCB-113	ND	1.08		PCB-156	ND	0.499	
PCB-114	ND	0.667		PCB-157	ND	0.505	
PCB-119	ND	0.986		PCB-158/160	ND	0.518	
PCB-120	ND	1.03		PCB-159	ND	0.561	
PCB-121	ND	1.00		PCB-166	ND	0.560	
PCB-122	ND	0.719		PCB-167	ND	0.557	
PCB-123	ND	0.963		PCB-168	ND	0.471	
PCB-124	ND	0.842		PCB-169	ND	0.466	
PCB-126	ND	0.698		PCB-170	ND	0.453	
PCB-127	ND	0.640		PCB-171	ND	0.460	
PCB-128/162	ND	0.628		PCB-172	ND	0.441	
PCB-129	ND	0.825		PCB-173	ND	0.611	
PCB-130	ND	0.771		PCB-174	ND	0.493	
PCB-131	ND	0.716		PCB-175	ND	0.519	
PCB-132/161	ND	0.585		PCB-176	ND	0.374	
PCB-133/142	ND	0.796		PCB-177	ND	0.547	
PCB-134/143	ND	0.698		PCB-178	ND	0.527	
PCB-135	ND	0.898		PCB-179	ND	0.412	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Soil #11

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Soil	Lab Sample:	1300361-11	Date Received:	15-May-2013 10:00
Project:	Locher Road Recharge	Sample Size:	11.2 g	QC Batch:	B3E0071	Date Extracted:	21-May-2013 14:36
Date Collected:	14-May-2013 9:05	% Solids:	90.0	Date Analyzed :	01-Jun-13 00:44 Column: ZB-1 Analyst: MAS		

Analyte	Conc. (pg/g)	DL	Qualifiers
PCB-180	1.26		J
PCB-181	ND	0.499	
PCB-182/187	0.919		J
PCB-183	ND	0.447	
PCB-184	ND	0.374	
PCB-185	ND	0.432	
PCB-186	ND	0.369	
PCB-188	ND	0.390	
PCB-189	ND	0.301	
PCB-190	ND	0.352	
PCB-191	ND	0.413	
PCB-192	ND	0.417	
PCB-193	ND	0.404	
PCB-194	ND	0.518	
PCB-195	ND	0.592	
PCB-196/203	0.829		J
PCB-197	ND	0.825	
PCB-198	ND	1.13	
PCB-199	0.869		J
PCB-200	ND	0.803	
PCB-201	ND	0.780	
PCB-202	ND	0.829	
PCB-204	ND	0.774	
PCB-205	ND	0.451	
PCB-206	1.04		J
PCB-207	ND	0.249	
PCB-208	ND	0.642	
PCB-209	1.14		J
Total monoCB	ND	1.13	
Total diCB	1.16		
Total triCB	0.478		
Total tetraCB	0.718		
Total pentaCB	1.87		
Total hexaCB	2.57		B
Total heptaCB	2.18		

Analyte	Conc. (pg/g)	DL	Qualifiers
Total octaCB	1.70		
Total nonaCB	1.04		
DecaCB	1.14		
Total PCB	12.9		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

Sample ID: Soil #11

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Road Recharge
Date Collected: 14-May-2013 9:05

Sample Data

Matrix: Soil
Sample Size: 11.2 g
% Solids: 90.0

Laboratory Data

Lab Sample: 1300361-11
Date Received: 15-May-2013 10:00
QC Batch: B3E0071
Date Extracted: 21-May-2013 14:36
Date Analyzed : 01-Jun-13 00:44 Column: ZB-1 Analyst: MAS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	48.1	5 -145	
	13C-PCB-3	56.2	5 -145	
	13C-PCB-4	76.5	5 -145	
	13C-PCB-11	82.4	5 -145	
	13C-PCB-9	77.8	5 -145	
	13C-PCB-19	57.8	5 -145	
	13C-PCB-28	78.0	5 -145	
	13C-PCB-32	58.7	5 -145	
	13C-PCB-37	84.4	5 -145	
	13C-PCB-47	72.9	5 -145	
	13C-PCB-52	75.5	5 -145	
	13C-PCB-54	75.0	5 -145	
	13C-PCB-70	78.5	5 -145	
	13C-PCB-77	83.4	10 -145	
	13C-PCB-80	78.0	10 -145	
	13C-PCB-81	82.4	10 -145	
	13C-PCB-95	78.2	10 -145	
	13C-PCB-97	84.4	10 -145	
	13C-PCB-101	81.4	10 -145	
	13C-PCB-104	76.4	10 -145	
	13C-PCB-105	109	10 -145	
	13C-PCB-114	109	10 -145	
	13C-PCB-118	81.6	10 -145	
	13C-PCB-123	82.2	10 -145	
	13C-PCB-126	110	10 -145	
	13C-PCB-127	107	10 -145	
	13C-PCB-138	87.0	10 -145	
	13C-PCB-141	88.9	10 -145	
	13C-PCB-153	87.6	10 -145	
	13C-PCB-155	75.1	10 -145	
	13C-PCB-156	87.6	10 -145	
	13C-PCB-157	87.9	10 -145	
	13C-PCB-159	85.6	10 -145	
	13C-PCB-167	89.0	10 -145	
	13C-PCB-169	93.1	10 -145	
	13C-PCB-170	78.9	10 -145	
	13C-PCB-180	75.3	10 -145	
	13C-PCB-188	73.2	10 -145	
	13C-PCB-189	81.2	10 -145	
	13C-PCB-194	88.3	10 -145	
	13C-PCB-202	73.7	10 -145	
	13C-PCB-206	68.7	10 -145	
	13C-PCB-208	70.0	10 -145	
	13C-PCB-209	52.6	10 -145	
CRS	13C-PCB-79	89.2	10 -145	
	13C-PCB-178	83.6	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The amount detected is above the High Calibration Limit.**
P	**The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.**
H	**Recovery was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Low Calibration Limit.**
*****	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.**
EMPC	**Estimated Maximum Possible Concentration**
NA	**Not applicable**
RL	**Reporting Limit – concentrations that correspond to low calibration point**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	CA00413
Alabama Dept of Environmental Management	41610
Arkansas Dept of Environmental Quality	11-035-0
California Dept of Health – NELAP	02102CA
Colorado Dept of Public Health & Environment	N/A
Connecticut Dept of Public Health	PH-0182
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA120020
Maine Department of Health	2012010
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132011-1
New Jersey Dept of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Dept of Health & Human Services	06700
North Dakota Dept of Health	R-078
Oklahoma Dept of Environmental Quality	2012-109
Oregon Laboratory Accreditation Program	CA200001-011
Pennsylvania Dept of Environmental Protection	010
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-13-4
Utah Dept of Health	CA164002012-2
Virginia Dept of General Services	1831
Washington Department of Ecology	C584-12a
Wisconsin Dept of Natural Resources	998036160

Vista

CHAIN OF CUSTODY

FOR LABORATORY USE ONLY

Laboratory Project ID: 1300361

Storage Secured Yes ☒ No ☐

Storage ID WR-2

Temp 1.3 °°C

TAT: (Check One):

Standard: [✓ ○ 21 Days]

Rush (surcharge may apply):

○ 14 days ○ 7 days Specify:___

Project I.D.: LOCHER ROAD RECHARGE P.O.#

Sampler: STEVEN PATTEN (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax#
CHRIS SHEETS	WALLA WALLA BASIN WATERSHED COUNCIL	810 S. MAIN	MILTON-FREEWATER		OR	97862	541-938-2170 (FAX = SAME

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
STEVEN PATTEN	5-14-13	13:00	Brittany Smith	5/15/13	1011

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 • Fax (916) 673-0106

ATTN: CALVIN

Method of Shipment: UPS

Tracking No.:

Add Analysis(es) Requested

				Container(s)			EPA1613			EPA8290			EPA8280			EPA1668			EPA1614	CARB429		
Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	
LOCHER SOIL #1	5-14-13	8:40	LOCHER ROAD SOIL #1	O		SO										X						
LOCHER SOIL #2	5-14-13	8:40	LOCHER ROAD SOIL #2	O		SO										X						
LOCHER SOIL #3	5-14-13	8:55	LOCHER ROAD SOIL #3	O		SO										X						
LOCHER SOIL #4	5-14-13	8:55	LOCHER ROAD SOIL #4	O		SO										X						
LOCHER SOIL #5	5-14-13	9:05	LOCHER ROAD SOIL #5	O		SO										X						
LOCHER SOIL #6	5-14-13	9:05	LOCHER ROAD SOIL #6	O		SO										X						
LOCHER SOIL #7	5-14-13	9:25	LOCHER ROAD SOIL #7	O		SO										X						
LOCHER SOIL #8	5-14-13	9:25	LOCHER ROAD SOIL #8	O		SO										X						
LOCHER SOIL #9	5-14-13	9:40	LOCHER ROAD SOIL #9	O		SO										X						
LOCHER SOIL #10	5-14-13	9:40	LOCHER ROAD SOIL #10	O		SO										X						

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: STEVEN PATTEN
Company: WWBWC
Address: 810 S MAIN
City: MILTON FREEWATER State: OR Zip: 97862
Phone: 541-938-2170 Fax: SAME
Email: steven.patten@wwbwc.org

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O= Other SOIL JAR

*Bottle Preservative Type: T = Thiosulfate,
O = Other ICE

Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
AQ = Aqueous, O = Other

WHITE - ORIGINAL YELLOW - ARCHIVE PINK - COPY

Vista

CHAIN OF CUSTODY

FOR LABORATORY USE ONLY

Laboratory Project ID:

Storage ID: WR-2

Storage Secured Yes ☑ No ☐

Temp 1.3 °C

TAT: (Check One):
Standard: [✓ 21 Days]
Rush (surcharge may apply):
○ 14 days ○ 7 days Specify:

Project I.D.: LOCHTER ROAD RECHARGE P.O.#: Sampler: STEVEN PATTEN / TROY BAKER (Name)

Invoice to: Name: CHRIS STEETS Company: WWBWC Address: 510 S. MAIN City: MILTON FREEWATER State: OR Zip: 97862 Ph#: 541-938-2170 Fax#: - SAME

Relinquished by: (Signature and Printed Name) STEVEN PATTEN Date: 5-14-13 Time: 13:00 Received by: (Signature and Printed Name) Brittany Smith Date: 5/15/13 Time: 1011

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 • Fax (916) 673-0106

ATTN: CALVIN

Method of Shipment: UPS

Tracking No.:

Add Analysis(es) Requested

					Container(s)			EPA1613			EPA8290			EPA8280			EPA1668			EPA1614	CARB429		
	Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	
300362	GW-70	5-14-13	11:05	LOCHTER ROAD RECHARGE	A		AQ										X						
	GW-71	5-14-13	10:40		A		AQ										X						
	GW-72	5-14-13	9:00		A		AQ										X						
	SW-1	5-14-13	11:30		A		AQ										X						
300361	* SOIL #11	5-14-13	9:05	LOCHTER ROAD RECHARGE	O		SO										X						

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: STEVEN PATTEN
Company: WWBWC
Address: 510 S. MAIN
City: MILTON FREEWATER State: OR Zip: 97862
Phone: 541-938-2170 Fax: SAME
Email: steven.patten@wwbwc.org

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O= Other SOIL JAR

*Bottle Preservative Type: T = Thiosulfate,
O = Other ICE

Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum AQ = Aqueous, O = Other

WHITE - ORIGINAL YELLOW - ARCHIVE PINK - COPY

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1300361 **TAT** Std

Samples Arrival:	**Date/Time** 5/15/13 1000	**Initials:** Bms	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 5/15/13 1106	**Initials:** Bms	**Location:** WR-2 **Shelf/Rack:** F-4

Delivered By:	FedEx	[✓ UPS]	On Trac	DHL	Hand Delivered	Other

Preservation:	[✓ Ice]	Blue Ice	Dry Ice	None

Temp °C 1.3	**Time:** 1011	**Thermometer ID:** IR-1

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # ~~1~~1Z 62E3F7017874 0150 (Bms 5/15/13)	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	✓		✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	[✓ None]

Shipping Container	[✓ Vista]	Client	[✓ Retain]	Return	Dispose

Comments:

Container	
Locher Soil #1	✓
Locher Soil #2	✓
Locher Soil #3	✓
Locher Soil #4	✓
Locher Soil #5	✓
Locher Soil #6	✓
Locher Soil #7	✓
Locher Soil #8	✓
Locher Soil #9	✓
Locher Soil #10	✓

Field Duplicate Locher Soil #11 ✓

Sample Login 3/2007 rmh

Chain of Custody Anomaly/Sample Acceptance Form

Vista Analytical Laboratory

Client: Walla Walla Basin Watershed Council
Contact: Steven Patten
Email: steven.patten@wwbwc.org
Phone: (541) 938-2170

Workorder Number: 1300361
Date Received: 15-May-13 10:00
Documented by/date: B. Smith 5/15/13

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Maier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

☐ Complete Chain-of-Custody
☐ Test Method Requested
☐ Analyte List Requested
☐ Other:

☐ Preservative
☐ Sample Identification
☐ Sample Collection Date and/or Time

☐ Collector's Name
☐ Sample Type
☐ Sample Location

The following anomalies were noted. Authorization is needed to proceed with analysis.

☐ Temperature outside < 6°C Range
Samples Affected: ____
Temperature ______ °C
Ice Present? Yes No Melted

☒ Sample ID Discrepancy; See comments
☐ Sample Holding Time Missed
☐ Custody Seals Broken

☐ Insufficient Sample Size
☐ Sample Container(s) Broken
☐ Incorrect Container Type

Comments:
COC Sample ID: Soil #11
Label ID: Field Duplicate Locher Soil #11
LOGGED AS SOIL #11 - ACCEPTABLE

Client Authorization

Proceed with Analysis: [✓ YES] NO
Signature and Date 5-15-13

Client Comments/Instructions ____

EDGE ANALYTICAL LABORATORIES

Burlington WA	Bellingham WA	Portland OR
Corporate Office	*Microbiology*	*Microbiology/Chemistry*
1620 S Walnut St - 98233	805 Orchard Dr Ste 4 - 98225	9150 SW Pioneer Ct Ste W- 97070
800.755.9295 • 360.757.1400	360.671.0688	503.682.7802

July 9, 2013

Mr. Steven Patten
Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

RE: 13-09875 - Water Quality Multiple Locations

Dear Mr. Steven Patten,

Your project: Water Quality Multiple Locations, was received on Friday June 07, 2013.
All samples were analyzed within the accepted holding times, were appropriately preserved and were analyzed according to approved analytical protocols. The quality control data was within laboratory acceptance limits, unless specified in the QA reports.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report
QC Reports
Chain of Custody

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

July 9, 2013

Case Narrative

Reference: **13-09875**

Project Notes

	Analytical Method	Notes	Created by
Project Note	8151A	The Total DCPA includes the mono and di-metabolites. All Total DCPA results reported were verfied by GC/MS.	CO

EDGE ANALYTICAL LABORATORIES

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360.671.0688

Portland OR
Microbiology/Chemistry
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503.682.7802

WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22815
Field ID: S-1 Dup
Sample Description: Locher Rd.
Matrix: Surface Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/8/13
Date Analyzed: 6/24/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130612

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05	0.007	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.007	1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.02	1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05	0.03	1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05	0.005	1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05	0.01	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05	0.007	1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05	0.02	1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05	0.009	1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05	0.04	1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05	0.02	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05	0.008	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1	0.5	1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

If you have any questions concerning this report contact us at the above phone number.

EDGE ANALYTICAL LABORATORIES

Burlington WA
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360.671.0688

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503.682.7802

WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22814
Field ID: S-1
Sample Description: Locher Rd.
Matrix: Surface Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/8/13
Date Analyzed: 6/24/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130612

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05	0.007	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.007	1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.02	1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05	0.03	1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05	0.005	1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05	0.01	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05	0.007	1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05	0.02	1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05	0.009	1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05	0.04	1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05	0.02	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05	0.008	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1	0.5	1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

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WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22813
Field ID: GW-71
Sample Description: Locher Rd.
Matrix: Water
Sample Date: 6/6/13
Extraction Date: 6/20/13
Extraction Method: 3510C

Report Date: 7/8/13
Date Analyzed: 6/24/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130620

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05	0.007	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.007	1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.02	1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05	0.03	1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05	0.005	1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05	0.01	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05	0.007	1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05	0.02	1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05	0.009	1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05	0.04	1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05	0.02	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05	0.008	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1	0.5	1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22812
Field ID: GW-70
Sample Description: Locher Rd.
Matrix: Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/8/13
Date Analyzed: 6/24/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130612

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05	0.007	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.007	1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.02	1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05	0.03	1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05	0.005	1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05	0.01	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05	0.007	1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05	0.02	1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05	0.009	1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05	0.04	1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05	0.02	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05	0.008	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1	0.5	1.00	

Notes:

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22811
Field ID: GW-72
Sample Description: Locher Rd.
Matrix: Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/8/13
Date Analyzed: 6/24/13
Analyst: EM
Released By:
Analytical Method: 8081A
Batch: 8081W_130612

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
	- Organochlorine Pesticides								
309-00-2	ALDRIN	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-84-6	BHC, ALPHA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
319-85-7	BHC, BETA -	**ND**		ug/L	0.05	0.05	0.007	1.00	
58-89-9	LINDANE (BHC - GAMMA)	**ND**		ug/L	0.05	0.05	0.04	1.00	
319-86-8	BHC, DELTA -	**ND**		ug/L	0.05	0.05	0.01	1.00	
5103-71-9	ALPHA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.007	1.00	
5103-74-2	GAMMA-CHLORDANE	**ND**		ug/L	0.05	0.05	0.02	1.00	
50-29-3	4,4' - DDT	**ND**		ug/L	0.05	0.05	0.03	1.00	
72-55-9	4,4' - DDE	**ND**		ug/L	0.05	0.05	0.005	1.00	
72-54-8	4,4' - DDD	**ND**		ug/L	0.05	0.05	0.01	1.00	
60-57-1	DIELDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
959-98-8	ENDOSULFAN I	**ND**		ug/L	0.05	0.05	0.007	1.00	
33213-65-	ENDOSULFAN II	**ND**		ug/L	0.05	0.05	0.02	1.00	
1031-07-8	ENDOSULFAN SULFATE	**ND**		ug/L	0.05	0.05	0.009	1.00	
72-20-8	ENDRIN	**ND**		ug/L	0.05	0.05	0.005	1.00	
7421-93-4	ENDRIN ALDEHYDE	**ND**		ug/L	0.05	0.05	0.04	1.00	
53494-70-	ENDRIN KETONE	**ND**		ug/L	0.05	0.05	0.02	1.00	
76-44-8	HEPTACHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
1024-57-3	HEPTACHLOR EPOXIDE "B"	**ND**		ug/L	0.05	0.05	0.008	1.00	
72-43-5	METHOXYCHLOR	**ND**		ug/L	0.05	0.05	0.03	1.00	
8001-35-2	TOXAPHENE	**ND**		ug/L	1	1	0.5	1.00	

Notes:

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22815
Field ID: S-1 Dup
Sample Description: Locher Rd.
Matrix: Surface Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/9/13
Date Analyzed: 6/24/13
Analyst: CO
Released By:
Analytical Method: 8151A
Batch: 8151_130612

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
55336-06-	TRICLOPYR	**ND**		ug/L	0.1	0.1	0.05	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
94-74-6	MCPA	**ND**		ug/L	0.1	0.1	0.07	1.00	
7085-19-0	MCPP	**ND**		ug/L	0.1	0.1	0.03	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**0.4**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

Notes:

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DATA REPORT

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Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22814
Field ID: S-1
Sample Description: Locher Rd.
Matrix: Surface Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/9/13
Date Analyzed: 6/24/13
Analyst: CO
Released By:
Analytical Method: 8151A
Batch: 8151_130612

CAS	**Compound**	**RESULT**	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
55336-06-	TRICLOPYR	**ND**		ug/L	0.1	0.1	0.05	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
94-74-6	MCPA	**ND**		ug/L	0.1	0.1	0.07	1.00	
7085-19-0	MCPP	**ND**		ug/L	0.1	0.1	0.03	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**0.7**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

Notes:

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WSDOE Lab C567

DATA REPORT

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22813
Field ID: GW-71
Sample Description: Locher Rd.
Matrix: Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/9/13
Date Analyzed: 6/24/13
Analyst: CO
Released By:
Analytical Method: 8151A
Batch: 8151_130612

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
55336-06-	TRICLOPYR	**ND**		ug/L	0.1	0.1	0.05	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
94-74-6	MCPA	**ND**		ug/L	0.1	0.1	0.07	1.00	
7085-19-0	MCPP	**ND**		ug/L	0.1	0.1	0.03	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**ND**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor.

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EDGE ANALYTICAL LABORATORIES

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360.671.0688

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Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
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WSDOE Lab C567

DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22812
Field ID: GW-70
Sample Description: Locher Rd.
Matrix: Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/9/13
Date Analyzed: 6/24/13
Analyst: CO
Released By:
Analytical Method: 8151A
Batch: 8151_130612

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
55336-06-	TRICLOPYR	**ND**		ug/L	0.1	0.1	0.05	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
94-74-6	MCPA	**ND**		ug/L	0.1	0.1	0.07	1.00	
7085-19-0	MCPP	**ND**		ug/L	0.1	0.1	0.03	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**0.2**		ug/L	0.1	0.1	0.04	1.00	
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

Notes:

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ND - indicates the compound was not detected above the PQL or MDL.
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Form: c608.rpt

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DATA REPORT

Page 1 of 1

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locati

Lab Number: 22811
Field ID: GW-72
Sample Description: Locher Rd.
Matrix: Water
Sample Date: 6/6/13
Extraction Date: 6/12/13
Extraction Method: 3510C

Report Date: 7/9/13
Date Analyzed: 6/24/13
Analyst: CO
Released By:
Analytical Method: 8151A
Batch: 8151_130612

CAS	Compound	RESULT	Flag	UNITS	PQL	MRL	MDL	D.F.	COMMENT
50594-66-	ACIFLUORFEN	**ND**		ug/L	0.1	0.1	0.15	1.00	
55336-06-	TRICLOPYR	**ND**		ug/L	0.1	0.1	0.05	1.00	
94-75-7	2,4 - D	**ND**		ug/L	0.1	0.1	0.06	1.00	
94-82-6	2,4 DB	**ND**		ug/L	0.8	0.8	0.22	1.00	
93-72-1	2,4,5 - TP (SILVEX)	**ND**		ug/L	0.1	0.1	0.04	1.00	
93-76-5	2,4,5 T	**ND**		ug/L	0.1	0.1	0.03	1.00	
75-99-0	DALAPON	**ND**		ug/L	1.3	1.3	0.77	1.00	
1918-00-9	DICAMBA	**ND**		ug/L	0.1	0.1	0.03	1.00	
120-36-5	DICHLORPROP	**ND**		ug/L	0.1	0.1	0.05	1.00	
88-85-7	DINOSEB	**ND**		ug/L	0.1	0.1	0.13	1.00	
94-74-6	MCPA	**ND**		ug/L	0.1	0.1	0.07	1.00	
7085-19-0	MCPP	**ND**		ug/L	0.1	0.1	0.03	1.00	
87-86-5	PENTACHLOROPHENOL	**ND**		ug/L	0.1	0.1	0.03	1.00	
51-36-5	3,5 - DICHLOROBENZOIC ACID	**ND**		ug/L	0.5	0.5	0.05	1.00	
25057-89-	BENTAZON	**ND**		ug/L	0.5	0.5	0.03	1.00	
1861-32-1	TOTAL DCPA	**ND**		ug/L	0.1	0.1	0.04	1.00	trace suspected <MRL
1918-02-1	PICLORAM	**ND**		ug/L	0.2	0.2	0.03	1.00	

Notes:

Flags are data qualifiers. If there are data qualifiers on your report definitions can be found on an accompanying sheet.
ND - indicates the compound was not detected above the PQL or MDL.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
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Data Report

Client Name: Walla Walla Basin Watershed Council
810 South Main Street
Milton-Freewater, OR 97862

Reference Number: **13-09875**
Project: Water Quality Multiple Locations

Report Date: 7/9/13
Date Received: 6/7/13
Reviewed by:

Sample Description: GW-72 - Locher Rd.
Sample Date: 6/6/13
Lab Number: 22811
Sample Comment:
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	mg/L	1.00	245.1	6/14/13	MWK	245.1_130614	
NA	**BICARBONATE**	57.3	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CARBONATE**	ND	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**HYDROXIDE**	ND	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
E-10617	**TURBIDITY**	0.44	0.10	0.10		NTU	1.00	180.1	6/7/13	CNH	TURB_130607	
16887-00-6	**CHLORIDE**	1.5	0.1	0.1	0.014	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
14797-55-8	**NITRATE-N**	2.91	0.100	0.100	0.011	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
14808-79-8	**SULFATE**	4.2	0.2	1	0.016	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
E-14506	**ALKALINITY**	57.3	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CORROSIVITY**	-2.01				SI	1.00	SM203	6/21/13	mvp	COR130621	
E-11712	**COLOR**	ND	5	5		Color Units	1.00	SM2120 B	6/7/13	CNH	COLOR_130607	pH:7
E-11734	**ODOR**	ND	1	1	1	TON	1.00	SM2150	6/7/13	MWK	ODOR_130607	Temperature: 39.6
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	118	10	10		mg/L	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	118	10	10		mg/L	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10139	**HYDROGEN ION (pH)**	6.82				pH Units	1.00	SM4500-H+ B	6/7/13	CNH	pH_130607	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	mg/L	1.00	SM5540 C	6/7/13	EB	AMTEST_130607	Analyzed by AMTEST
7439-89-6	**IRON**	0.02	0.01	0.01	0.004	mg/L	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
7440-39-3	**BARIUM**	0.016	0.00025	0.0002		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-50-8	**COPPER**	0.001	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-92-1	**LEAD**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-96-5	**MANGANESE**	ND	0.001	0.001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7782-49-2	**SELENIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-22-4	**SILVER**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-66-6	**ZINC**	ND	0.0025	0.0025		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-70-2	**CALCIUM**	13.7	0.5	0.5	0.017	mg/L	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
	E. COLI	N	Y/N	Y/N		per 100mL	1.00	SM9223 B/Colilert-1	6/8/13	JMM	M_130607Wsure	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
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Data Report

	TOTAL COLIFORM	P	P/A	P/A		per 100mL	1.00	SM9223 B/Colilert-1	6/8/13	JMM	M_130607Wsure	
7723-14-0	**TOTAL PHOSPHORUS**	0.082	0.010	0.010	0.0061	mg/L	1.00	SM4500-P F/SM450	6/11/13	SPL	TPHOS-130611	

Sample Description: GW-70 - Locher Rd.
Sample Date: 6/6/13
Lab Number: 22812
Sample Comment:
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	mg/L	1.00	245.1	6/14/13	MWK	245.1_130614	
NA	**BICARBONATE**	96.4	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CARBONATE**	ND	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**HYDROXIDE**	ND	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
E-10617	**TURBIDITY**	0.40	0.10	0.10		NTU	1.00	180.1	6/7/13	CNH	TURB_130607	
16887-00-6	**CHLORIDE**	2.6	0.1	0.1	0.014	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
14797-55-8	**NITRATE-N**	4.75	0.100	0.100	0.011	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
14808-79-8	**SULFATE**	7	0.2	1	0.016	mg/L	1.00	300.0	6/7/13	BJ	I130607A	
E-14506	**ALKALINITY**	96.4	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CORROSIVITY**	-1.53				SI	1.00	SM203	6/21/13	mvp	COR130621	
E-11712	**COLOR**	ND	5	5		Color Units	1.00	SM2120 B	6/7/13	CNH	COLOR_130607	pH:7
E-11734	**ODOR**	ND	1	1	1	TON	1.00	SM2150	6/7/13	MWK	ODOR_130607	Temperature: 39.6
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	173	10	10		mg/L	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	173	10	10		mg/L	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10139	**HYDROGEN ION (pH)**	6.91				pH Units	1.00	SM4500-H+ B	6/7/13	CNH	pH_130607	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	mg/L	1.00	SM5540 C	6/7/13	EB	AMTEST_130607	Anaylzed by AMTEST
7439-89-6	**IRON**	0.05	0.01	0.01	0.004	mg/L	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
7440-39-3	**BARIUM**	0.024	0.00025	0.0002		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-50-8	**COPPER**	0.001	0.0005	0.005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-92-1	**LEAD**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-96-5	**MANGANESE**	0.001	0.001	0.001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7782-49-2	**SELENIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-22-4	**SILVER**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-66-6	**ZINC**	ND	0.0025	0.0025		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-70-2	**CALCIUM**	20.5	0.5	0.5	0.017	mg/L	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
	E. COLI	Y	Y/N	Y/N		per 100mL	1.00	SM9223 B/Colilert-1	6/8/13	JMM	M_130607Wsure	
	TOTAL COLIFORM	P	P/A	P/A		per 100mL	1.00	SM9223 B/Colilert-1	6/8/13	JMM	M_130607Wsure	
7723-14-0	**TOTAL PHOSPHORUS**	0.098	0.010	0.010	0.0061	mg/L	1.00	SM4500-P F/SM450	6/11/13	SPL	TPHOS-130611	

Sample Description: GW-71 - Locher Rd.
Sample Date: 6/6/13
Lab Number: 22813
Sample Comment:
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

Notes:

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D.F. - Dilution Factor

Data Report

7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	**mg/L**	1.00	245.1	6/14/13	MWK	245.1_130614	
16887-00-6	**CHLORIDE**	6.1	0.1	0.1	0.014	**mg/L**	1.00	300.0	6/8/13	BJ	I130607A	
NA	**BICARBONATE**	120	10	10		**mg CaCO3/L**	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CARBONATE**	ND	10	10		**mg CaCO3/L**	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**HYDROXIDE**	ND	10	10		**mg CaCO3/L**	1.00	310.2	6/13/13	SPL	310.2_130613	
E-10617	**TURBIDITY**	0.29	0.10	0.10		**NTU**	1.00	180.1	6/7/13	CNH	TURB_130607	
16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	**mg/L**	1.00	300.0	6/8/13	BJ	I130607A	
14797-55-8	**NITRATE-N**	17.36	0.100	0.100	0.011	**mg/L**	1.00	300.0	6/8/13	BJ	I130607A	
14808-79-8	**SULFATE**	22	0.2	1	0.016	**mg/L**	1.00	300.0	6/8/13	BJ	I130607A	
E-14506	**ALKALINITY**	120	10	10		**mg CaCO3/L**	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CORROSIVITY**	-1.42				**SI**	1.00	SM203	6/21/13	mvp	COR130621	
E-11712	**COLOR**	ND	5	5		**Color Units**	1.00	SM2120 B	6/7/13	CNH	COLOR_130607	pH:7
E-11734	**ODOR**	ND	1	1	1	**TON**	1.00	SM2150	6/7/13	MWK	ODOR_130607	Temperature: 39.6
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	312	10	10		**mg/L**	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	312	10	10		**mg/L**	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10139	**HYDROGEN ION (pH)**	6.69				**pH Units**	1.00	SM4500-H+ B	6/7/13	CNH	pH_130607	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	**mg/L**	1.00	SM5540 C	6/7/13	EB	AMTEST_130607	Analyzed by AMTEST
7439-89-6	**IRON**	0.01	0.01	0.01	0.004	**mg/L**	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
7440-39-3	**BARIUM**	0.055	0.00025	0.0002		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-50-8	**COPPER**	0.002	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-92-1	**LEAD**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-96-5	**MANGANESE**	ND	0.001	00001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7782-49-2	**SELENIUM**	ND	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-22-4	**SILVER**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-66-6	**ZINC**	ND	0.0025	0.0025		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-70-2	**CALCIUM**	37.1	0.5	0.5	0.017	**mg/L**	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
	E. COLI	N	Y/N	Y/N		**per 100mL**	1.00	SM9223 B/Colilert-1	6/8/13	JMM	M_130607Wsure	
	TOTAL COLIFORM	P	P/A	P/A		**per 100mL**	1.00	SM9223 B/Colilert-1	6/8/13	JMM	M_130607Wsure	
7723-14-0	**TOTAL PHOSPHORUS**	0.079	0.010	0.010	0.0061	**mg/L**	1.00	SM4500-P F/SM450	6/11/13	SPL	TPHOS-130611	

Sample Description: S-1 - Locher Rd.
Sample Date: 6/6/13
Lab Number: 22814
Sample Comment:
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	**mg/L**	1.00	245.1	6/14/13	MWK	245.1_130614	
NA	**BICARBONATE**	55.7	10	10		**mg CaCO3/L**	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CARBONATE**	ND	10	10		**mg CaCO3/L**	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**HYDROXIDE**	ND	10	10		**mg CaCO3/L**	1.00	310.2	6/13/13	SPL	310.2_130613	
E-10617	**TURBIDITY**	2.27	0.10	0.10		**NTU**	1.00	180.1	6/7/13	CNH	TURB_130607	
16887-00-6	**CHLORIDE**	2.1	0.1	0.1	0.014	**mg/L**	1.00	300.0	6/8/13	BJ	I130607A	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

Data Report

16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	mg/L	1.00	300.0	6/8/13	BJ	I130607A	
14797-55-8	**NITRATE-N**	0.62	0.100	0.100	0.011	mg/L	1.00	300.0	6/8/13	BJ	I130607A	
14808-79-8	**SULFATE**	4.2	0.2	1	0.016	mg/L	1.00	300.0	6/8/13	BJ	I130607A	
E-14506	**ALKALINITY**	55.7	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CORROSIVITY**	-1.36				SI	1.00	SM203	6/21/13	mvp	COR130621	
E-11712	**COLOR**	9	5	5		Color Units	1.00	SM2120 B	6/7/13	CNH	COLOR_130607	pH:7
E-11734	**ODOR**	3.17	1	1	1	TON	1.00	SM2150	6/7/13	MWK	ODOR_130607	Temperature: 42.4
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	102	10	10		mg/L	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	102	10	10		mg/L	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10139	**HYDROGEN ION (pH)**	7.53				pH Units	1.00	SM4500-H+ B	6/7/13	CNH	pH_130607	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	mg/L	1.00	SM5540 C	6/7/13	EB	AMTEST_130607	Analyzed by AMTEST
7439-89-6	**IRON**	0.44	0.01	0.01	0.004	mg/L	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
7440-39-3	**BARIUM**	0.019	0.00025	0.0002		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7440-50-8	**COPPER**	0.001	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7439-92-1	**LEAD**	0.0002	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7439-96-5	**MANGANESE**	0.015	0.001	0.001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7782-49-2	**SELENIUM**	ND	0.0005	0.0005		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7440-22-4	**SILVER**	ND	0.0001	0.0001		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7440-66-6	**ZINC**	ND	0.0025	0.0025		mg/L	1.00	200.8/3010A	6/11/13	MVP	200.8_130611W	
7440-70-2	**CALCIUM**	12.2	0.5	0.5	0.017	mg/L	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
	E. Coli	178.9	1	1		MPN/100mL	1.00	SM9223 B.2.b/Coliler	6/8/13	JMM	QT_130607	
	TOTAL COLIFORM	>2419.6	1	1		MPN/100mL	1.00	SM9223 B.2.b/Coliler	6/8/13	JMM	QT_130607	
7723-14-0	**TOTAL PHOSPHORUS**	0.067	0.010	0.010	0.0061	mg/L	1.00	SM4500-P F/SM450	6/11/13	SPL	TPHOS-130611	

Sample Description: S-1 Dup - Locher Rd.
Sample Date: 6/6/13
Lab Number: 22815
Sample Comment:
Collected By: Unknown

CAS ID#	Parameter	**Result**	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7439-97-6	**MERCURY**	ND	0.0002	0.0002	2.1E-05	mg/L	1.00	245.1	6/14/13	MWK	245.1_130614	
NA	**BICARBONATE**	54.2	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CARBONATE**	ND	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**HYDROXIDE**	ND	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
E-10617	**TURBIDITY**	7.96	0.10	0.10		NTU	1.00	180.1	6/7/13	CNH	TURB_130607	
16887-00-6	**CHLORIDE**	2.1	0.1	0.1	0.014	mg/L	1.00	300.0	6/8/13	BJ	I130607A	
16984-48-8	**FLUORIDE**	ND	0.1	0.1	0.004	mg/L	1.00	300.0	6/8/13	BJ	I130607A	
14797-55-8	**NITRATE-N**	0.61	0.100	0.100	0.011	mg/L	1.00	300.0	6/8/13	BJ	I130607A	
14808-79-8	**SULFATE**	4.1	0.2	1	0.016	mg/L	1.00	300.0	6/8/13	BJ	I130607A	
E-14506	**ALKALINITY**	54.2	10	10		mg CaCO3/L	1.00	310.2	6/13/13	SPL	310.2_130613	
NA	**CORROSIVITY**	-1.39				SI	1.00	SM203	6/21/13	mvp	COR130621	
E-11712	**COLOR**	10	5	5		Color Units	1.00	SM2120 B	6/7/13	CNH	COLOR_130607	pH:7

Notes:

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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

Reference Number: **13-09875**
Report Date: 7/9/13

Data Report

E-11734	**ODOR**	2.52	1	1	1	**TON**	1.00	SM2150	6/7/13	MWK	ODOR_130607	Temperature: 42.4
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	104	10	10		**mg/L**	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10173	**TOTAL DISSOLVED SOLIDS (TDS)**	104	10	10		**mg/L**	1.00	SM2540 C	6/12/13	SRF	TDS_130612	
E-10139	**HYDROGEN ION (pH)**	7.51				**pH Units**	1.00	SM4500-H+ B	6/7/13	CNH	pH_130607	
NA	**SURFACTANTS**	ND	0.05	0.05	0.025	**mg/L**	1.00	SM5540 C	6/7/13	EB	AMTEST_130607	Analyzed by AMTEST
7439-89-6	**IRON**	0.42	0.01	0.01	0.004	**mg/L**	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
7440-39-3	**BARIUM**	0.020	0.00025	0.0002		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-43-9	**CADMIUM**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-47-3	**CHROMIUM**	ND	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-50-8	**COPPER**	0.001	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-92-1	**LEAD**	0.0002	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7439-96-5	**MANGANESE**	0.014	0.001	0.001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7782-49-2	**SELENIUM**	ND	0.0005	0.0005		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-22-4	**SILVER**	ND	0.0001	0.0001		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-66-6	**ZINC**	ND	0.0025	0.0025		**mg/L**	1.00	200.8/3010A	6/11/13	MVP	200.8_130611WW	
7440-70-2	**CALCIUM**	12.4	0.5	0.5	0.017	**mg/L**	1.00	200.7/3010A	6/11/13	BJ	200.7-130611B	
	E. Coli	112.6	1	1		**MPN/100mL**	1.00	SM9223 B.2.b/Coliler	6/8/13	JMM	QT_130607	
	TOTAL COLIFORM	>2419.6	1	1		**MPN/100mL**	1.00	SM9223 B.2.b/Coliler	6/8/13	JMM	QT_130607	
7723-14-0	**TOTAL PHOSPHORUS**	0.064	0.010	0.010	0.0061	**mg/L**	1.00	SM4500-P F/SM450	6/11/13	SPL	TPHOS-130611	

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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA
Microbiology
805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR
Microbiology/Chemistry
9150 SW Pioneer Ct Ste W- 97070
503.682.7802

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-130611B	CALCIUM	24.9	26	mg/L	200.7	96	85-115		LFB	
	IRON	0.9	1	mg/L	200.7	90	85-115			
200.8_130611WV	BARIUM	0.040	0.040	mg/L	200.8	100	85-115		LFB	
	CADMIUM	0.040	0.040	mg/L	200.8	100	85-115			
	CHROMIUM	0.040	0.040	mg/L	200.8	100	85-115			
	COPPER	0.040	0.040	mg/L	200.8	100	85-115			
	LEAD	0.039	0.040	mg/L	200.8	98	85-115			
	MANGANESE	0.040	0.040	mg/L	200.8	100	85-115			
	SELENIUM	0.038	0.040	mg/L	200.8	95	85-115			
	SILVER	0.037	0.040	mg/L	200.8	93	85-115			
	ZINC	0.040	0.040	mg/L	200.8	100	85-115			
245.1_130614	MERCURY	0.00168	0.00167	mg/L	245.1	101	85-115		LFB	
8081W_130612	4,4' - DDD	0.5	0.5	ug/L	8081A	100	78-132		LFB	
	4,4' - DDE	0.47	0.5	ug/L	8081A	94	73-127			
	4,4' - DDT	0.53	0.5	ug/L	8081A	106	56-158			
	ALDRIN	0.49	0.5	ug/L	8081A	98	68-128			
	ALPHA-CHLORDANE	0.51	0.5	ug/L	8081A	102	70-130			
	BHC, ALPHA -	0.51	0.5	ug/L	8081A	102	37-134			
	BHC, BETA -	0.49	0.5	ug/L	8081A	98	17-147			
	BHC, DELTA -	0.51	0.5	ug/L	8081A	102	32-127			
	DIELDRIN	0.54	0.5	ug/L	8081A	108	74-134			
	ENDOSULFAN I	0.54	0.5	ug/L	8081A	108	67-133			
	ENDOSULFAN II	0.59	0.5	ug/L	8081A	118	64-142			
	ENDOSULFAN SULFATE	0.50	0.5	ug/L	8081A	100	71-143			
	ENDRIN	0.48	0.5	ug/L	8081A	96	30-147			
	ENDRIN ALDEHYDE	0.48	0.5	ug/L	8081A	96	78-110			
	ENDRIN KETONE	0.52	0.5	ug/L	8081A	104	70-130			
	GAMMA-CHLORDANE	0.53	0.5	ug/L	8081A	106	74-124			
	HEPTACHLOR	0.51	0.5	ug/L	8081A	102	61-133			
	HEPTACHLOR EPOXIDE "B"	0.50	0.5	ug/L	8081A	100	73-127			

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8081W_130612	LINDANE (BHC - GAMMA)	0.51	0.5	ug/L	8081A	102	17-140		LFB	
	METHOXYCHLOR	0.55	0.5	ug/L	8081A	110	41-157			
	DECACHLOROBIPHENYL (Surr)	54		%	8081A		58-132			
	TETRACHLORO-M-XYLENE (Surr)	84		%	8081A		67-115			
8081W_130620	4,4' - DDD	0.58	0.5	ug/L	8081A	116	78-132		LFB	
	4,4' - DDE	0.54	0.5	ug/L	8081A	108	73-127			
	4,4' - DDT	0.59	0.5	ug/L	8081A	118	56-158			
	ALDRIN	0.54	0.5	ug/L	8081A	108	68-128			
	ALPHA-CHLORDANE	0.55	0.5	ug/L	8081A	110	70-130			
	BHC, ALPHA -	0.55	0.5	ug/L	8081A	110	37-134			
	BHC, BETA -	0.56	0.5	ug/L	8081A	112	17-147			
	BHC, DELTA -	0.58	0.5	ug/L	8081A	116	32-127			
	DIELDRIN	0.61	0.5	ug/L	8081A	122	74-134			
	ENDOSULFAN I	0.58	0.5	ug/L	8081A	116	67-133			
	ENDOSULFAN II	0.64	0.5	ug/L	8081A	128	64-142			
	ENDOSULFAN SULFATE	0.56	0.5	ug/L	8081A	112	71-143			
	ENDRIN	0.56	0.5	ug/L	8081A	112	30-147			
	ENDRIN ALDEHYDE	0.21	0.5	ug/L	8081A	42	78-110	L2		
	ENDRIN KETONE	0.6	0.5	ug/L	8081A	120	70-130			
	GAMMA-CHLORDANE	0.60	0.5	ug/L	8081A	120	74-124			
	HEPTACHLOR	0.53	0.5	ug/L	8081A	106	61-133			
	HEPTACHLOR EPOXIDE "B"	0.58	0.5	ug/L	8081A	116	73-127			
	LINDANE (BHC - GAMMA)	0.58	0.5	ug/L	8081A	116	17-140			
	METHOXYCHLOR	0.63	0.5	ug/L	8081A	126	41-157			
	DECACHLOROBIPHENYL (Surr)	109		%	8081A		58-132			
	TETRACHLORO-M-XYLENE (Surr)	95		%	8081A		67-115			
8151_130612	PICLORAM	1.11	1	ug/L	8151A	111	48-114		LFB	
	BENTAZON	2.23	2	ug/L	8151A	112	67-121			
	TOTAL DCPA	1	1	ug/L	8151A	100	48-168			
	2,4 - D	1.73	2	ug/L	8151A	87	60-120			
	2,4 DB	7.9	8	ug/L	8151A	99	49-134			
	2,4,5 - TP (SILVEX)	0.89	1	ug/L	8151A	89	68-122			

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NA = Indicates % Recovery could not be calculated.

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MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Fortified Blank

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8151_130612	2,4,5 T	0.86	1	ug/L	8151A	86	62-128		LFB	
	DALAPON	9.3	13	ug/L	8151A	72	53-142			
	DICAMBA	1.01	1	ug/L	8151A	101	66-126			
	DICHLORPROP	2.71	3	ug/L	8151A	90	63-123			
	DINOSEB	1.86	2	ug/L	8151A	93	73-127			
	PENTACHLOROPHENOL	0.93	1	ug/L	8151A	93	69-123			
8151_130612	MCPA	0.96	1	ug/L	8151A	96	49-121		LFB	GC/MS SIM
	MCPP	0.87	1	ug/L	8151A	87	48-126			GC/MS SIM
	2,4 - DCAA (SURR)	92		%	8151A		61-129			

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Laboratory Reagent Blank

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-130611B	CALCIUM	ND		mg/L	200.7		0.00000		LRB	
	IRON	ND		mg/L	200.7		0.02500			
200.8_130611WV	BARIUM	ND		mg/L	200.8		0.00050		LRB	
	CADMIUM	ND		mg/L	200.8		0.00050			
	CHROMIUM	ND		mg/L	200.8		0.00250			
	COPPER	ND		mg/L	200.8		0.00250			
	LEAD	ND		mg/L	200.8		0.00050			
	MANGANESE	ND		mg/L	200.8		0.00250			
	SELENIUM	ND		mg/L	200.8		0.00250			
	SILVER	ND		mg/L	200.8		0.00050			
	ZINC	ND		mg/L	200.8		0.00250			
245.1_130614	MERCURY	ND		mg/L	245.1		0.00010		LRB	
310.2_130613	ALKALINITY	ND		mg CaCO3/L	310.2		0.00000		LRB	
I130607A	FLUORIDE	ND		mg/L	300.0		0.01000		LRB	
	NITRATE-N	ND		mg/L	300.0		0.10000			
	CHLORIDE	ND		mg/L	300.0		0.10000			
	SULFATE	ND		mg/L	300.0		0.10000			
TPHOS-130611	TOTAL PHOSPHORUS	ND		mg/L	SM4500-P F		0.01000		LRB	

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*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

QCS: Quality Control Sample, a solution containing known concentrations of method analytes which is used to fortify an aliquot of reagent matrix. The QCS is obtained from an external source and is used to check lab performance.

LFB: Laboratory Fortified Blank, an aliquot of reagent matrix to which known quantities of method analytes are added in the lab. The LFB is analyzed exactly like a sample, and its purpose is to determine whether method performance is within accepted control limits.

MB or LRB: Method Blank or Laboratory Reagent Blank, an aliquot of reagent matrix is analyzed exactly like a sample, and its purpose is to determine if there is background contamination.

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
200.7-130611B	CALCIUM	ND		mg/L	200.7		0.00000		MB	
	IRON	ND		mg/L	200.7		0.02500			
200.8_130611WV	BARIUM	ND		mg/L	200.8		0.00050		MB	
	CADMIUM	ND		mg/L	200.8		0.00050			
	CHROMIUM	ND		mg/L	200.8		0.00250			
	COPPER	ND		mg/L	200.8		0.00250			
	LEAD	ND		mg/L	200.8		0.00050			
	MANGANESE	ND		mg/L	200.8		0.00250			
	SELENIUM	ND		mg/L	200.8		0.00250			
	SILVER	ND		mg/L	200.8		0.00050			
	ZINC	ND		mg/L	200.8		0.00250			
310.2_130613	ALKALINITY	ND		mg CaCO3/L	310.2		0.00000		MB	
8081W_130612	4,4' - DDD	ND		ug/L	8081A		0.02000		MB	
	4,4' - DDE	ND		ug/L	8081A		0.02000			
	4,4' - DDT	ND		ug/L	8081A		0.02000			
	ALDRIN	ND		ug/L	8081A		0.02000			
	ALPHA-CHLORDANE	ND		ug/L	8081A		0.02000			
	BHC, ALPHA -	ND		ug/L	8081A		0.02000			
	BHC, BETA -	ND		ug/L	8081A		0.02000			
	BHC, DELTA -	ND		ug/L	8081A		0.02000			
	DIELDRIN	ND		ug/L	8081A		0.02000			
	ENDOSULFAN I	ND		ug/L	8081A		0.02000			
	ENDOSULFAN II	ND		ug/L	8081A		0.02000			
	ENDOSULFAN SULFATE	ND		ug/L	8081A		0.02000			
	ENDRIN	ND		ug/L	8081A		0.02000			
	ENDRIN ALDEHYDE	ND		ug/L	8081A		0.02000			
	ENDRIN KETONE	ND		ug/L	8081A		0.02000			
	GAMMA-CHLORDANE	ND		ug/L	8081A		0.02000			
	HEPTACHLOR	ND		ug/L	8081A		0.02000			
	HEPTACHLOR EPOXIDE "B"	ND		ug/L	8081A		0.02000			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
8081W_130612	LINDANE (BHC - GAMMA)	ND		ug/L	8081A		0.02000		MB	
	METHOXYCHLOR	ND		ug/L	8081A		0.02000			
	DECACHLOROBIPHENYL (Surr)	73		%	8081A					
	TETRACHLORO-M-XYLENE (Surr)	94		%	8081A					
8081W_130620	4,4' - DDD	ND		ug/L	8081A		0.02000		MB	
	4,4' - DDE	ND		ug/L	8081A		0.02000			
	4,4' - DDT	ND		ug/L	8081A		0.02000			
	ALDRIN	ND		ug/L	8081A		0.02000			
	ALPHA-CHLORDANE	ND		ug/L	8081A		0.02000			
	BHC, ALPHA -	ND		ug/L	8081A		0.02000			
	BHC, BETA -	ND		ug/L	8081A		0.02000			
	BHC, DELTA -	ND		ug/L	8081A		0.02000			
	DIELDRIN	ND		ug/L	8081A		0.02000			
	ENDOSULFAN I	ND		ug/L	8081A		0.02000			
	ENDOSULFAN II	ND		ug/L	8081A		0.02000			
	ENDOSULFAN SULFATE	ND		ug/L	8081A		0.02000			
	ENDRIN	ND		ug/L	8081A		0.02000			
	ENDRIN ALDEHYDE	ND		ug/L	8081A		0.02000			
	ENDRIN KETONE	ND		ug/L	8081A		0.02000			
	GAMMA-CHLORDANE	ND		ug/L	8081A		0.02000			
	HEPTACHLOR	ND		ug/L	8081A		0.02000			
	HEPTACHLOR EPOXIDE "B"	ND		ug/L	8081A		0.02000			
	LINDANE (BHC - GAMMA)	ND		ug/L	8081A		0.02000			
	METHOXYCHLOR	ND		ug/L	8081A		0.02000			
	DECACHLOROBIPHENYL (Surr)	113		%	8081A					
	TETRACHLORO-M-XYLENE (Surr)	91		%	8081A					
8151_130612	PICLORAM	ND		ug/L	8151A		0.07000		MB	
	BENTAZON	ND		ug/L	8151A		0.20000			
	TOTAL DCPA	ND		ug/L	8151A		0.03000			
	2,4 - D	ND		ug/L	8151A		0.03000			
	2,4 DB	ND		ug/L	8151A		0.30000			
	2,4,5 - TP (SILVEX)	ND		ug/L	8151A		0.03000			

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SAMPLE INDEPENDENT
QUALITY CONTROL REPORT

Method Blank

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	Qualifier	QC Type*	Comment
8151_130612	2,4,5 T	ND		ug/L	8151A		0.03000		MB	
	DALAPON	ND		ug/L	8151A		0.40000			
	DICAMBA	ND		ug/L	8151A		0.03000			
	DICHLORPROP	ND		ug/L	8151A		0.03000			
	DINOSEB	ND		ug/L	8151A		0.03000			
	PENTACHLOROPHENOL	ND		ug/L	8151A		0.03000			
8151_130612	MCPA	ND		ug/L	8151A		0.03000		MB	GC/MS SIM
	MCPP	ND		ug/L	8151A		0.03000			GC/MS SIM
	2,4 - DCAA (SURR)	87		%	8151A		0.00000			
COLOR_130607	COLOR	ND		CU	SM2120 B		1.25000		MB	
TDS_130612	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		0.00000		MB	
	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		2.50000			
TDS_130612	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		0.00000		MB	
	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		2.50000			
TDS_130612	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		0.00000		MB	
	TOTAL DISSOLVED SOLIDS (TDS)	ND		mg/L	SM2540 C		2.50000			
TPHOS-130611	TOTAL PHOSPHORUS	ND		mg/L	SM4500-P F		0.02000		MB	
TURB_130607	TURBIDITY	ND		NTU	180.1		0.02000		MB	

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FORM: QC Independent

SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 13-09875
Report Date: 07/09/13

			True			%		QC		
Batch	Analyte	Result	Value	Units	Method	Recovery	Limits*	Qualifier	Type*	Comment
200.7-130611B	IRON	1.04	1	mg/L	200.7	104	85-115		QCS	
200.7-130611B	CALCIUM	20	20	mg/L	200.7	100	85-115		QCS	
200.8_130611WV	BARIUM	0.040	0.040	mg/L	200.8	100	85-115		QCS	
	CADMIUM	0.040	0.040	mg/L	200.8	100	85-115			
	CHROMIUM	0.039	0.040	mg/L	200.8	98	85-115			
	COPPER	0.040	0.040	mg/L	200.8	100	85-115			
	LEAD	0.039	0.040	mg/L	200.8	98	85-115			
	MANGANESE	0.040	0.040	mg/L	200.8	100	85-115			
	SELENIUM	0.041	0.040	mg/L	200.8	103	85-115			
	SILVER	0.038	0.040	mg/L	200.8	95	85-115			
	ZINC	0.041	0.040	mg/L	200.8	103	85-115			
245.1_130614	MERCURY	0.00315	0.00314	mg/L	245.1	100	85-115		QCS	
310.2_130613	ALKALINITY	187	178	mg CaCO3/L	310.2	105	85-115		QCS	
COLOR_130607	COLOR	10	10	CU	SM2120 B	100	80-120		QCS	
I130607A	FLUORIDE	2.37	2.50	mg/L	300.0	95	85-115		QCS	
	NITRATE-N	2.53	2.50	mg/L	300.0	101	80-120			
	CHLORIDE	30.5	30.00	mg/L	300.0	102	80-120			
	SULFATE	31.4	30.00	mg/L	300.0	105	80-120			
TDS_130612	TOTAL DISSOLVED SOLIDS (TDS)	492	500	mg/L	SM2540 C	98	70-130		QCS	
	TOTAL DISSOLVED SOLIDS (TDS)	492	500	mg/L	SM2540 C	98	80-120			
TDS_130612	TOTAL DISSOLVED SOLIDS (TDS)	496	500	mg/L	SM2540 C	99	70-130		QCS	
	TOTAL DISSOLVED SOLIDS (TDS)	496	500	mg/L	SM2540 C	99	80-120			

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SAMPLE INDEPENDENT QUALITY CONTROL REPORT

Quality Control Sample

Reference Number: 13-09875
Report Date: 07/09/13

Batch	Analyte	Result	True Value	Units	Method	% Recovery	Limits*	QC Qualifier	Type*	Comment
TPHOS-130611	TOTAL PHOSPHORUS	0.115	0.105	mg/L	SM4500-P F	110	70-130		QCS	
TURB_130607	TURBIDITY	1.07	1.0	NTU	180.1	107	70-130		QCS	

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SAMPLE DEPENDENT
QUALITY CONTROL REPORT
Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

Reference Number: 13-09875
Report Date: 7/9/2013

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
200.7-130611B										
	22841	CALCIUM	171.8	172.7	mg/L	**0.5**	0-20		DUP	
	22841	IRON	2.71	2.76	mg/L	**1.8**	0-20		DUP	
200.8_130611WW										
	21943	CHROMIUM	0.002	0.002	mg/L	**0.0**	0-20		DUP	
	21943	COPPER	0.0032	0.0038	mg/L	**17.1**	0-50		DUP	
	22264	CHROMIUM	1.4	1.4	ug/L	**0.0**	0-20		DUP	
	22264	COPPER	5.2	5.1	ug/L	**1.9**	0-50		DUP	
	22264	ZINC	58	59	ug/L	**1.7**	0-50		DUP	
	22264	SELENIUM	12	12	ug/L	**0.0**	0-20		DUP	
	22264	CADMIUM	0.4	0.4	ug/L	**0.0**	0-20		DUP	
	22264	LEAD	0.2	0.2	ug/L	**0.0**	0-20		DUP	
	22833	CHROMIUM	0.001	0.001	mg/L	**0.0**	0-20		DUP	
	22833	LEAD	0.002	0.002	mg/L	**0.0**	0-20		DUP	
	22841	CHROMIUM	0.057	0.059	mg/L	**3.4**	0-20		DUP	
	22841	COPPER	0.005	0.005	mg/L	**0.0**	0-50		DUP	
	22841	ZINC	0.009	0.009	mg/L	**0.0**	0-50		DUP	
	22841	SELENIUM	0.014	0.014	mg/L	**0.0**	0-20		DUP	
	22841	BARIUM	0.152	0.155	mg/L	**2.0**	0-20		DUP	
245.1_130614										
	22833	MERCURY	0.00045	0.000444	mg/L	**2.4**	0-50		DUP	
310.2_130613										
	23047	ALKALINITY	196	197	mg CaCO3/L	**0.5**	0-20		DUP	
	23569	ALKALINITY	285	287	mg CaCO3/L	**0.7**	0-20		DUP	
	23569	BICARBONATE	285	287	mg CaCO3/L	**0.7**	0-20		DUP	
	23570	ALKALINITY	235	240	mg CaCO3/L	**2.1**	0-20		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Duplicate

Batch	Sample	Analyte	Result	Duplicate Result	Units	%RPD	Limits	QC Qualifier	Type	Comments
	23570	BICARBONATE	235	240	mg CaCO3/L	**2.1**	0-20		DUP	
8081W_130612										
	22815	DECACHLOROBIPHENYL (Surr)	101	104	%	**2.9**	0-35		DUP	
	22815	TETRACHLORO-M-XYLENE (Surr)	88	91	%	**3.4**	0-35		DUP	
8081W_130620										
	22813	DECACHLOROBIPHENYL (Surr)	107	111	%	**3.7**	0-35		DUP	
	22813	TETRACHLORO-M-XYLENE (Surr)	100	98	%	**2.0**	0-35		DUP	
8151_130612										
	22811	2,4 - DCAA (SURR)	105	104	%	**1.0**	0-35		DUP	
COLOR_130607										
I130607A										
	22812	NITRATE-N	4.75	4.72	mg/L	**0.6**	0-45		DUP	
	22812	CHLORIDE	2.6	2.6	mg/L	**0.0**	0-45		DUP	
	22812	SULFATE	7	6.9	mg/L	**1.4**	0-45		DUP	
ODOR_130607										
	22815	ODOR	2.52	1.59	TON	**45.3**	0-45		DUP	
pH_130607										
	22812	HYDROGEN ION (pH)	6.91	6.92	pH Units	**0.1**	0-50		DUP	
TDS_130612										
	23027	TOTAL DISSOLVED SOLIDS (TDS)	339	340	mg/L	**0.3**	0-50		DUP	
	23027	TOTAL DISSOLVED SOLIDS (TDS)	339	340	mg/L	**0.3**	0-45		DUP	
	23347	TOTAL DISSOLVED SOLIDS (TDS)	134	134	mg/L	**0.0**	0-50		DUP	
	23347	TOTAL DISSOLVED SOLIDS (TDS)	134	134	mg/L	**0.0**	0-45		DUP	
TPHOS-130611										
	22814	TOTAL PHOSPHORUS	0.067	0.061	mg/L	**9.4**	0-50		DUP	
	23040	TOTAL PHOSPHORUS	0.069	0.076	mg/L	**9.7**	0-50		DUP	
	23043	TOTAL PHOSPHORUS	0.054	0.044	mg/L	**20.4**	0-50	INH	DUP	
TURB_130607										
	22821	TURBIDITY	2.62	2.71	NTU	**3.4**	0-50		DUP	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

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FORM: cLFMD.rpt

Matrix Spike

				Spike	Duplicate Spike	Spike		Percent Recovery					QC		
Batch	Sample	Analyte	Result	Result	Result	Conc	Units	MS	MSD	Limits*	%RPD	Limits*	Qualifier	Type	Comments
200.8_130611WW															
	21943	CHROMIUM	0.002	0.067		0.050	mg/L	**130**		70-130	**NA**	0-50		LFM	
	21943	COPPER	0.0032	0.053		0.050	mg/L	**100**		70-130	**NA**	0-50		LFM	
	21943	SILVER	ND	0.046		0.050	mg/L	**92**		70-130	**NA**	0-50		LFM	
	21943	CADMIUM	ND	0.039		0.050	mg/L	**78**		70-130	**NA**	0-50		LFM	
	21943	LEAD	ND	0.042		0.050	mg/L	**84**		70-130	**NA**	0-50		LFM	
	22264	CHROMIUM	1.4	65		50	ug/L	**127**		70-130	**NA**	0-50		LFM	
	22264	COPPER	5.2	54		50	ug/L	**98**		70-130	**NA**	0-50		LFM	
	22264	ZINC	58	95		50	ug/L	**74**		70-130	**NA**	0-50		LFM	
	22264	SELENIUM	12	39		50	ug/L	**54**		70-130	**NA**	0-50	IM	LFM	
	22264	SILVER	ND	59		50	ug/L	**118**		70-130	**NA**	0-50		LFM	
	22264	CADMIUM	0.4	43		50	ug/L	**85**		70-130	**NA**	0-50		LFM	
	22264	LEAD	0.2	40		50	ug/L	**80**		70-130	**NA**	0-50		LFM	
	22833	CHROMIUM	0.001	0.060		0.050	mg/L	**118**		70-130	**NA**	0-50		LFM	
	22833	SELENIUM	ND	0.035		0.050	mg/L	**70**		70-130	**NA**	0-50		LFM	
	22833	CADMIUM	ND	0.048		0.050	mg/L	**96**		70-130	**NA**	0-50		LFM	
	22833	LEAD	0.002	0.055		0.050	mg/L	**106**		70-130	**NA**	0-50		LFM	
	22841	CHROMIUM	0.057	0.119		0.050	mg/L	**124**		70-130	**NA**	0-50		LFM	
	22841	COPPER	0.005	0.054		0.050	mg/L	**98**		70-130	**NA**	0-50		LFM	
	22841	ZINC	0.009	0.044		0.050	mg/L	**70**		70-130	**NA**	0-50		LFM	
	22841	SELENIUM	0.014	0.051		0.050	mg/L	**74**		70-130	**NA**	0-50		LFM	
	22841	SILVER	ND	0.051		0.050	mg/L	**102**		70-130	**NA**	0-50		LFM	
	22841	CADMIUM	ND	0.041		0.050	mg/L	**82**		70-130	**NA**	0-50		LFM	
	22841	BARIUM	0.152	0.206		0.050	mg/L	**108**		70-130	**NA**	0-50		LFM	
	22841	LEAD	ND	0.042		0.050	mg/L	**84**		70-130	**NA**	0-50		LFM	
245.1_130614															
	22811	MERCURY	ND	0.00171	0.00168	0.00167	mg/L	**102**	**101**	70-130	**1.8**	0-50		LFM	
	22833	MERCURY	0.00045	0.00262IN	0.00190	0.00167	mg/L	**130**	**87**	70-130	**39.9**	0-50	INH	LFM	
	23250	MERCURY	ND	0.00171	0.00171	0.00167	mg/L	**102**	**102**	70-130	**0.0**	0-50		LFM	
	23275	MERCURY	ND	0.00174	0.00174	0.00167	mg/L	**104**	**104**	70-130	**0.0**	0-50		LFM	
310.2_130613															
	23047	ALKALINITY	196	416	414	250	mg CaCO3/L	**88**	**87**	70-130	**0.9**	0-50		LFM	
	23569	ALKALINITY	285	448	444	250	mg CaCO3/L	**65**	**64**	70-130	**2.5**	0-50	IM	LFM	
	23570	ALKALINITY	235	454	443	250	mg CaCO3/L	**88**	**83**	70-130	**5.2**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Matrix Spike

					Duplicate			Percent Recovery					QC		
Batch	Sample	Analyte	Result	Spike Result	Spike Result	Spike Conc	Units	MS	MSD	Limits*	%RPD	Limits*	Qualifier	Type	Comments
8081W_130612															
	22811	ALDRIN	ND	0.45		0.5	ug/L	**90**	**NA**	68-128	**NA**	0-30		LFM	
	22811	BHC, ALPHA -	ND	0.48		0.5	ug/L	**96**	**NA**	37-134	**NA**	0-30		LFM	
	22811	BHC, BETA -	ND	0.46		0.5	ug/L	**92**	**NA**	17-147	**NA**	0-30		LFM	
	22811	LINDANE (BHC - GAMMA)	ND	0.48		0.5	ug/L	**96**	**NA**	19-140	**NA**	0-30		LFM	
	22811	BHC, DELTA -	ND	0.47		0.5	ug/L	**94**	**NA**	32-127	**NA**	0-30		LFM	
	22811	ALPHA-CHLORDANE	ND	0.46		0.5	ug/L	**92**	**NA**	70-130	**NA**	0-30		LFM	
	22811	GAMMA-CHLORDANE	ND	0.47		0.5	ug/L	**94**	**NA**	74-124	**NA**	0-30		LFM	
	22811	4,4' - DDT	ND	0.38		0.5	ug/L	**76**	**NA**	56-158	**NA**	0-30		LFM	
	22811	4,4' - DDE	ND	0.44		0.5	ug/L	**88**	**NA**	73-127	**NA**	0-30		LFM	
	22811	4,4' - DDD	ND	0.48		0.5	ug/L	**96**	**NA**	78-132	**NA**	0-30		LFM	
	22811	DIELDRIN	ND	0.47		0.5	ug/L	**94**	**NA**	74-134	**NA**	0-30		LFM	
	22811	ENDOSULFAN I	ND	0.47		0.5	ug/L	**94**	**NA**	67-133	**NA**	0-30		LFM	
	22811	ENDOSULFAN II	ND	0.52		0.5	ug/L	**104**	**NA**	64-142	**NA**	0-30		LFM	
	22811	ENDOSULFAN SULFATE	ND	0.42		0.5	ug/L	**84**	**NA**	71-143	**NA**	0-30		LFM	
	22811	ENDRIN	ND	0.42		0.5	ug/L	**84**	**NA**	30-147	**NA**	0-30		LFM	
	22811	ENDRIN ALDEHYDE	ND	0.46		0.5	ug/L	**92**	**NA**	78-110	**NA**	0-30		LFM	
	22811	ENDRIN KETONE	ND	0.46		0.5	ug/L	**92**	**NA**	70-130	**NA**	0-30		LFM	
	22811	HEPTACHLOR	ND	0.45		0.5	ug/L	**90**	**NA**	61-133	**NA**	0-30		LFM	
	22811	HEPTACHLOR EPOXIDE "B"	ND	0.45		0.5	ug/L	**90**	**NA**	73-127	**NA**	0-30		LFM	
	22811	METHOXYCHLOR	ND	0.45		0.5	ug/L	**90**	**NA**	41-157	**NA**	0-30		LFM	
	22811	DECACHLOROBIPHENYL (Surr)	63	74			%		**NA**	58-132	**NA**	0-30		LFM	
	22811	TETRACHLORO-M-XYLENE (Surr)	96	89			%		**NA**	67-115	**NA**	0-30		LFM	
8081W_130620															
	22813	ALDRIN	ND	0.56		0.5	ug/L	**112**	**NA**	68-128	**NA**	0-30		LFM	
	22813	BHC, ALPHA -	ND	0.54		0.5	ug/L	**108**	**NA**	37-134	**NA**	0-30		LFM	
	22813	BHC, BETA -	ND	0.55		0.5	ug/L	**110**	**NA**	17-147	**NA**	0-30		LFM	
	22813	LINDANE (BHC - GAMMA)	ND	0.59		0.5	ug/L	**118**	**NA**	19-140	**NA**	0-30		LFM	
	22813	BHC, DELTA -	ND	0.58		0.5	ug/L	**116**	**NA**	32-127	**NA**	0-30		LFM	
	22813	ALPHA-CHLORDANE	ND	0.55		0.5	ug/L	**110**	**NA**	70-130	**NA**	0-30		LFM	
	22813	GAMMA-CHLORDANE	ND	0.60		0.5	ug/L	**120**	**NA**	74-124	**NA**	0-30		LFM	
	22813	4,4' - DDT	ND	0.50		0.5	ug/L	**100**	**NA**	56-158	**NA**	0-30		LFM	
	22813	4,4' - DDE	ND	0.54		0.5	ug/L	**108**	**NA**	73-127	**NA**	0-30		LFM	
	22813	4,4' - DDD	ND	0.61		0.5	ug/L	**122**	**NA**	78-132	**NA**	0-30		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

Matrix Spike

				Spike	Duplicate Spike	Spike		Percent Recovery					QC		
Batch	Sample	Analyte	Result	Result	Result	Conc	Units	MS	MSD	Limits*	%RPD	Limits*	Qualifier	Type	Comments
	22813	DIELDRIN	ND	0.61		0.5	ug/L	**122**	**NA**	74-134	**NA**	0-30		LFM	
	22813	ENDOSULFAN I	ND	0.58		0.5	ug/L	**116**	**NA**	67-133	**NA**	0-30		LFM	
	22813	ENDOSULFAN II	ND	0.53		0.5	ug/L	**106**	**NA**	64-142	**NA**	0-30		LFM	
	22813	ENDOSULFAN SULFATE	ND	0.53		0.5	ug/L	**106**	**NA**	71-143	**NA**	0-30		LFM	
	22813	ENDRIN	ND	0.55		0.5	ug/L	**110**	**NA**	30-147	**NA**	0-30		LFM	
	22813	ENDRIN ALDEHYDE	ND	0.50		0.5	ug/L	**100**	**NA**	78-110	**NA**	0-30		LFM	
	22813	ENDRIN KETONE	ND	0.59		0.5	ug/L	**118**	**NA**	70-130	**NA**	0-30		LFM	
	22813	HEPTACHLOR	ND	0.57		0.5	ug/L	**114**	**NA**	61-133	**NA**	0-30		LFM	
	22813	HEPTACHLOR EPOXIDE "B"	ND	0.57		0.5	ug/L	**114**	**NA**	73-127	**NA**	0-30		LFM	
	22813	METHOXYCHLOR	ND	0.60		0.5	ug/L	**120**	**NA**	41-157	**NA**	0-30		LFM	
	22813	DECACHLOROBIPHENYL (Surr)	107	115			%		**NA**	58-132	**NA**	0-30		LFM	
	22813	TETRACHLORO-M-XYLENE (Surr)	100	101			%		**NA**	67-115	**NA**	0-30		LFM	
8151_130612															
	22815	PICLORAM		2.6		2.2	ug/L	**118**	**NA**	48-114	**NA**	0-30		LFM	
	22815	BENTAZON		5.5		4.5	ug/L	**122**	**NA**	67-121	**NA**	0-30		LFM	
	22815	TOTAL DCPA	0.4	3.0		2.2	ug/L	**118**	**NA**	48-168	**NA**	0-30		LFM	
	22815	DALAPON		24.3		29.2	ug/L	**83**	**NA**	53-142	**NA**	0-30		LFM	
	22815	2,4 DB		24.3		18.0	ug/L	**135**	**NA**	49-134	**NA**	0-30		LFM	
	22815	DINOSEB		4.3		4.5	ug/L	**96**	**NA**	73-127	**NA**	0-30		LFM	
	22815	DICAMBA		2.4		2.2	ug/L	**109**	**NA**	66-126	**NA**	0-30		LFM	
	22815	DICHLORPROP		6.5		6.7	ug/L	**97**	**NA**	63-123	**NA**	0-30		LFM	
	22815	2,4 - D		3.8		4.5	ug/L	**84**	**NA**	60-120	**NA**	0-30		LFM	
	22815	PENTACHLOROPHENOL		2.2		2.2	ug/L	**100**	**NA**	69-123	**NA**	0-30		LFM	
	22815	2,4,5 - TP (SILVEX)		2.2		2.2	ug/L	**100**	**NA**	68-122	**NA**	0-30		LFM	
	22815	2,4,5 T		2.1		2.2	ug/L	**95**	**NA**	62-128	**NA**	0-30		LFM	
	22815	MCPA		2.3		2.2	ug/L	**105**	**NA**	49-121	**NA**	0-30		LFM	GC/MS SIM
	22815	MCPP		2.1		2.2	ug/L	**95**	**NA**	48-126	**NA**	0-30		LFM	GC/MS SIM
	22815	2,4 - DCAA (SURR)	104	105			%		**NA**	61-129	**NA**	0-30		LFM	
I130607A															
	22812	FLUORIDE	ND	0.97		1.00	mg/L	**97**	**NA**	90-110	**NA**	0-75		LFM	
	22812	NITRATE-N	4.75	5.71		1.00	mg/L	**96**	**NA**	80-120	**NA**	0-60		LFM	
	22812	CHLORIDE	2.6	3.7		1.00	mg/L	**110**	**NA**	80-120	**NA**	0-60		LFM	
	22812	SULFATE	7	8.8		2.00	mg/L	**90**	**NA**	80-120	**NA**	0-60		LFM	
	22875	NITRATE-N	ND	1.4		1.00	mg/L	**140**	**NA**	80-120	**NA**	0-60	IM	LFM	Chlorinated

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%RPD = Relative Percent Difference

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Matrix Spike

Batch	Sample	Analyte	Result	Spike Result	Duplicate Spike Result	Spike Conc	Units	Percent Recovery MS	Percent Recovery MSD	Limits*	%RPD	Limits*	QC Qualifier	Type	Comments
TPHOS-130611															
	22814	TOTAL PHOSPHORUS	0.067	0.112	0.115	0.050	mg/L	**90**	**96**	70-130	**6.5**	0-50		LFM	
	23040	TOTAL PHOSPHORUS	0.069	0.122	0.120	0.050	mg/L	**106**	**102**	70-130	**3.8**	0-50		LFM	
	23043	TOTAL PHOSPHORUS	0.054	0.103	0.100	0.050	mg/L	**98**	**92**	70-130	**6.3**	0-50		LFM	

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of a analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

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FORM: cLFMD.rpt

QUALITY CONTROL REPORT
SURROGATE REPORT

Reference Number: 13-09875
Report Date: 07/09/13

Lab No	Analyte	Result	Qualifier	Units	Method	Limit
8081W_130612						
22811	DECACHLOROBIPHENYL (Surr)	63		%	8081A	Acceptance Limits 58-132%
	TETRACHLORO-M-XYLENE (Surr)	96		%		Acceptance Limits 67-115%
8151_130612						
22811	2,4 - DCAA (SURR)	105		%	8151A	Acceptance Range 61-129%
8081W_130612						
22812	DECACHLOROBIPHENYL (Surr)	82		%	8081A	Acceptance Limits 58-132%
	TETRACHLORO-M-XYLENE (Surr)	93		%		Acceptance Limits 67-115%
8151_130612						
22812	2,4 - DCAA (SURR)	91		%	8151A	Acceptance Range 61-129%
8151_130612						
22813	2,4 - DCAA (SURR)	118		%	8151A	Acceptance Range 61-129%
8081W_130620						
22813	DECACHLOROBIPHENYL (Surr)	107		%	8081A	Acceptance Limits 58-132%
	TETRACHLORO-M-XYLENE (Surr)	100		%		Acceptance Limits 67-115%
8081W_130612						
22814	DECACHLOROBIPHENYL (Surr)	105		%	8081A	Acceptance Limits 58-132%
	TETRACHLORO-M-XYLENE (Surr)	93		%		Acceptance Limits 67-115%
8151_130612						
22814	2,4 - DCAA (SURR)	105		%	8151A	Acceptance Range 61-129%
8081W_130612						
22815	DECACHLOROBIPHENYL (Surr)	101		%	8081A	Acceptance Limits 58-132%
	TETRACHLORO-M-XYLENE (Surr)	88		%		Acceptance Limits 67-115%
8151_130612						
22815	2,4 - DCAA (SURR)	104		%	8151A	Acceptance Range 61-129%

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*Notation:

A surrogate is a pure compound added to a sample in the laboratory just before processing so that the overall efficiency of a method can be determined.

The Acceptance Limits (or Control Limits) approximate a 99% confidence interval around the mean recovery.

Qualifier Definitions

Reference Number: 13-09875
Report Date: 07/09/13

Qualifier	Definition
IM	Matrix induced bias assumed
INH	The sample was non-homogeneous
L2	The associated blank spike recovery was below laboratory acceptance limits.

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Page______ of______

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Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

Report to: Walla Walla Basin Watershed Cour
Ship Address: 810 S Main Street
City: Milton-Freewa St: OR Zip: 97862
Attn: Steven Patten
Phone: 541.938-2170 FAX:
Email: steven.patten@wwbwc.org
Project Water Quality

Bill to:
Address:
City: St: Zip:
Phone: FAX:
P.O.#: Attn:
☐ Visa ☐ M/C ☐ A/E Expires /
Card#:

For Lab Use Only
Ref #

Check Regulatory Program
- ☐ Safe Drinking Water Act
- ☐ Clean Water Act
- ☐ RCRA / CERCLA
- ☐ Other

EDGE ANALYTICAL LABORATORIES
1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

CO019541

Instructions
1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required
- ☒ Standard
- ☐ Half-time (50% surcharge)
- ☐ Quickest (100% surcharge) Phone Call Req.
- ☐ Emergency (Phone Call Req.)

Analyses Requested

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	8081 (Chlorinated Pesticides)	8151 (2-4 D) (2, 4, 5-TP Silvex)	8260 (1,1,1-Trichloroethane)	8260 Field Blank (VOCs)	Ba,Cd,Cr,Pb,Hg,Se,Ag, Cu,Fe,Mn,Zn	Carbonate and Bicarbonate	Chloride, Sulfate, Fluoride, TDS, Color	MBAS (Foaming Agents)	Number of Containers	Special Instructions Conditions on Receipt
1	GW-72	Locher Rd		GW	6/6/13	8:30	☒	☒	☒	☒	☒	☒	☒	☒	15	Total
2	GW-70	" "		GW	"	9:30	☒	☒	☒	☒	☒	☒	☒	☒	15	total GW-71
3	CW-71	" "		GW	"	10:00	☒	☒	☒	☒	☒	☒	☒	☒	15	total 8081 broken
4	S-1	" "		SW	"	10:30	☒	☒	☒	☒	☒	☒	☒	☒	16	total
5	S-1 Dup	" "		SW	"	10:30	☒	☒	☒	☒	☒	☒	☒	☒	15	total
6							☐	☐	☐	☐	☐	☐	☐	☐		
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: Phone: FAX: Email: Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **SW** - surface water **WW** - waste water **OL** - oil
DW - drinking water **GW** - Ground water **S** - soil Other________

Relinquished by	Date	Time	Received by	Date	Time
T. BOKER	6/6/13	12:00			
			Ofelia	6/7/13	0915

	Yes	No	N/A
Custody seals intact ups	☐	☐	☒
Sample temp 3 C satisfactory	☒	☐	☐
Samples received intact	☒	☐	
Chain of custody & labels agree	☒	☐	

S1, S1-Dup, GW70, GW-71 & GW-72

FORM: COC 01-06-2009

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

Page______ of______

19541

EDGE ANALYTICAL LABORATORIES

1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Report to:	Walla Walla Basin Watershed Cour	Bill to:	
Ship Address:	810 S Main Street	Address:	
City:	Milton-Freewa St: OR Zip: 97862	City:	St: Zip:
Attn:	Steven Patten	Phone:	FAX:
Phone:	541.938-2170 FAX:	P.O.#:	Attn:
Email:	steven.patten@wwbwc.org	☐ Visa ☐ M/C ☐ A/E	Expires /
Project	Water Quality	Card#:	

For Lab Use Only
Ref # 13-09875

Check Regulatory Program

- ☐ Safe Drinking Water Act
- ☐ Clean Water Act
- ☐ RCRA / CERCLA
- ☐ Other

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. *(NEW)* **List each metal individually** *(NEW)*
4. Check off analyses to be performed for each sample Loaction.
5. Enter number of containers.

Turn Around Time Required

- ☒ Standard
- ☐ Half-time (50% surcharge)
- ☐ Quickest (100% surcharge) Phone Call Req.
- ☐ Emergency (Phone Call Req.)

Analyses Requested

	Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	Nitrate as N, Turbidity, Corrosivity	Odor	SM9223B (GROUND WATER)	SM9223B.2b (SURFACE WATER)	Total Phosphorus				Number of Containers	Special Instructions Conditions on Receipt
1	GW-72	Locher Rd		GW	6/6/13	8:30	☒	☒	☒	☐	☒	☐	☐	☐		
2	GW-70	Locher Rd		GW	6/6/13	9:30	☒	☒	☒	☐	☒	☐	☐	☐		
3	GW-71	Locher Rd		GW	"	10:00	☒	☒	☒	☐	☒	☐	☐	☐		
4	S-1	" "		SW	"	10:30	☒	☒	☐	☒	☒	☐	☐	☐		
5	S-1 Dup	" "		SW	"	10:30	☒	☒	☐	☒	☒	☐	☐	☐		
6							☐	☐	☐	☐	☐	☐	☐	☐		
7							☐	☐	☐	☐	☐	☐	☐	☐		
8							☐	☐	☐	☐	☐	☐	☐	☐		
9							☐	☐	☐	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐	☐		

Sampled by: Phone: FAX: Email: Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* **W** - water **SW** - surface water **WW** - waste water **OL** - oil
DW - drinking water **GW** - Ground water **S** - soil Other______

Relinquished by	Date	Time	Received by	Date	Time
T. BAKER	6/6/13	12:00			

	Yes	No	N/A
Custody seals intact	☐	☐	☐
Sample temp_____C satisfactory	☐	☐	☐
Samples received intact	☐	☐	
Chain of custody & labels agree	☐	☐	

CO019541

FORM: COC 01-06-2009

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 ● 360.757.1400 ● 360.757.1402fax

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Reference: **13-09875**
Date: July 11, 2013
Project: Water Quality Multiple Locations
Date Received: June 07, 2013
Purchase Order:

Attn: Steven Patton

Item	Lab Sample Number	Client Sample Number	Client Sample Description	Type of Analysis	Extended Cost
1	22811.00	GW-72	Locher Rd.	Pesticides in Water	$182.00
2	22811.00	GW-72	Locher Rd.	Chlorinated Herbicides	$231.00
3	22811.00	GW-72	Locher Rd.	Volatile Organic Compounds GC/MS	
4	22811.00	GW-72	Locher Rd.	Total Metals in Water	$168.00
5	22811.00	GW-72	Locher Rd.	carbonate/bicarbonate/hydroxide.NP	$25.00
6	22811.10	GW-72	Locher Rd.	Chloride	$21.00
7	22811.10	GW-72	Locher Rd.	Sulfate	$20.00
8	22811.10	GW-72	Locher Rd.	Fluoride	$21.00
9	22811.10	GW-72	Locher Rd.	Total Dissolved Solids	$20.00
10	22811.10	GW-72	Locher Rd.	Color	$19.00
11	22811.10	GW-72	Locher Rd.	Surfactants	$70.00
12	22811.10	GW-72	Locher Rd.	Nitrate-N	$21.00
13	22811.10	GW-72	Locher Rd.	Turbidity	$15.00
14	22811.10	GW-72	Locher Rd.	Corrosivity	$53.00
15	22811.10	GW-72	Locher Rd.	ODOR	$21.00
16	22811.20	GW-72	Locher Rd.	Chromogenic Substrate Test (Coliforms)	$21.00
17	22811.20	GW-72	Locher Rd.	Total Phosphorus	$24.00
18	22811.20	GW-72	Locher Rd.	Special Handling	$200.00
19	22812.00	GW-70	Locher Rd.	Pesticides in Water	$182.00
20	22812.00	GW-70	Locher Rd.	Chlorinated Herbicides	$231.00
21	22812.00	GW-70	Locher Rd.	Volatile Organic Compounds GC/MS	
22	22812.00	GW-70	Locher Rd.	Total Metals in Water	$168.00
23	22812.00	GW-70	Locher Rd.	carbonate/bicarbonate/hydroxide.NP	$25.00
24	22812.10	GW-70	Locher Rd.	Chloride	$21.00
25	22812.10	GW-70	Locher Rd.	Sulfate	$20.00
26	22812.10	GW-70	Locher Rd.	Fluoride	$21.00
27	22812.10	GW-70	Locher Rd.	Total Dissolved Solids	$20.00
28	22812.10	GW-70	Locher Rd.	Color	$19.00

Thank You for Your Business

Please pay to corporate office by August 10, 2013 to avoid a 1.5% per month finance charge.

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Reference: **13-09875**
Date: July 11, 2013
Project: Water Quality Multiple Locations
Date Received: June 07, 2013
Purchase Order:

Attn: Steven Patton

	Lab Sample	**Client Sample**		**Type of**	**Extended**
Item	**Number**	**Number**	**Description**	**Analysis**	**Cost**
29	22812.10	GW-70	Locher Rd.	Surfactants	$70.00
30	22812.10	GW-70	Locher Rd.	Nitrate-N	$21.00
31	22812.10	GW-70	Locher Rd.	Turbidity	$15.00
32	22812.10	GW-70	Locher Rd.	Corrosivity	$53.00
33	22812.10	GW-70	Locher Rd.	ODOR	$21.00
34	22812.20	GW-70	Locher Rd.	Chromogenic Substrate Test (Coliforms)	$21.00
35	22812.20	GW-70	Locher Rd.	Total Phosphorus	$24.00
36	22813.00	GW-71	Locher Rd.	Chlorinated Herbicides	$231.00
37	22813.00	GW-71	Locher Rd.	Volatile Organic Compounds GC/MS	
38	22813.00	GW-71	Locher Rd.	Total Metals in Water	$168.00
39	22813.00	GW-71	Locher Rd.	carbonate/bicarbonate/hydroxide.NP	$25.00
40	22813.00	GW-71	Locher Rd.	Chloride	$21.00
41	22813.10	GW-71	Locher Rd.	Sulfate	$20.00
42	22813.10	GW-71	Locher Rd.	Fluoride	$21.00
43	22813.10	GW-71	Locher Rd.	Total Dissolved Solids	$20.00
44	22813.10	GW-71	Locher Rd.	Color	$19.00
45	22813.10	GW-71	Locher Rd.	Surfactants	$70.00
46	22813.10	GW-71	Locher Rd.	Nitrate-N	$21.00
47	22813.10	GW-71	Locher Rd.	Turbidity	$15.00
48	22813.10	GW-71	Locher Rd.	Corrosivity	$53.00
49	22813.10	GW-71	Locher Rd.	ODOR	$21.00
50	22813.10	GW-71	Locher Rd.	Chromogenic Substrate Test (Coliforms)	$21.00
51	22813.20	GW-71	Locher Rd.	Total Phosphorus	$24.00
52	22813.20	GW-71	Locher Rd.	Pesticides in Water	$182.00
53	22814.00	S-1	Locher Rd.	Pesticides in Water	$182.00
54	22814.00	S-1	Locher Rd.	Chlorinated Herbicides	$231.00
55	22814.00	S-1	Locher Rd.	Volatile Organic Compounds GC/MS	
56	22814.00	S-1	Locher Rd.	Total Metals in Water	$168.00
57	22814.00	S-1	Locher Rd.	carbonate/bicarbonate/hydroxide.NP	$25.00

Thank You for Your Business

Please pay to corporate office by August 10, 2013 to avoid a 1.5% per month finance charge.

EDGE ANALYTICAL LABORATORIES

Burlington WA
Corporate Office
1620 S Walnut St - 98233
800.755.9295 ● 360.757.1400 ● 360.757.1402fax

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Reference: **13-09875**
Date: July 11, 2013
Project: Water Quality Multiple Locations
Date Received: June 07, 2013
Purchase Order:

Attn: Steven Patton

Item	Lab Sample Number	Client Sample Number	Client Sample Description	Type of Analysis	Extended Cost
58	22814.10	S-1	Locher Rd.	Chloride	$21.00
59	22814.10	S-1	Locher Rd.	Sulfate	$20.00
60	22814.10	S-1	Locher Rd.	Fluoride	$21.00
61	22814.10	S-1	Locher Rd.	Total Dissolved Solids	$20.00
62	22814.10	S-1	Locher Rd.	Color	$19.00
63	22814.10	S-1	Locher Rd.	Surfactants	$70.00
64	22814.10	S-1	Locher Rd.	Nitrate-N	$21.00
65	22814.10	S-1	Locher Rd.	Turbidity	$15.00
66	22814.10	S-1	Locher Rd.	Corrosivity	$53.00
67	22814.10	S-1	Locher Rd.	ODOR	$21.00
68	22814.20	S-1	Locher Rd.	QuantiTray Total Coliform and E Coli Cour	$27.00
69	22814.20	S-1	Locher Rd.	Total Phosphorus	$24.00
70	22815.00	S-1 Dup	Locher Rd.	Pesticides in Water	$182.00
71	22815.00	S-1 Dup	Locher Rd.	Chlorinated Herbicides	$231.00
72	22815.00	S-1 Dup	Locher Rd.	Volatile Organic Compounds GC/MS	
73	22815.00	S-1 Dup	Locher Rd.	Total Metals in Water	$168.00
74	22815.00	S-1 Dup	Locher Rd.	carbonate/bicarbonate/hydroxide.NP	$25.00
75	22815.10	S-1 Dup	Locher Rd.	Chloride	$21.00
76	22815.10	S-1 Dup	Locher Rd.	Sulfate	$20.00
77	22815.10	S-1 Dup	Locher Rd.	Fluoride	$21.00
78	22815.10	S-1 Dup	Locher Rd.	Total Dissolved Solids	$20.00
79	22815.10	S-1 Dup	Locher Rd.	Color	$19.00
80	22815.10	S-1 Dup	Locher Rd.	Surfactants	$70.00
81	22815.10	S-1 Dup	Locher Rd.	Nitrate-N	$21.00
82	22815.10	S-1 Dup	Locher Rd.	Turbidity	$15.00
83	22815.10	S-1 Dup	Locher Rd.	Corrosivity	$53.00
84	22815.10	S-1 Dup	Locher Rd.	ODOR	$21.00
85	22815.20	S-1 Dup	Locher Rd.	QuantiTray Total Coliform and E Coli Cour	$27.00

Thank You for Your Business

Please pay to corporate office by August 10, 2013 to avoid a 1.5% per month finance charge.

INVOICE

Client No: WAL06

Please include Reference number with payment

Client: WALLA WALLA BASIN WATERSHED COUNCIL
810 SOUTH MAIN STREET
MILTON-FREEWATER, OR 97862

Attn: Steven Patton

Reference: **13-09875**
Date: July 11, 2013
Project: Water Quality Multiple Locations
Date Received: June 07, 2013
Purchase Order:

Item	Lab Sample Number	Client Sample Number	Client Sample Description	Type of Analysis	Extended Cost
86	22815.20	S-1 Dup	Locher Rd.	Total Phosphorus	$24.00
87	22815.20		Shipping Charge	SHIPPING CHARGE	$12.00

Grand Total:	$4,884.00
Amount Paid:	$0.00
Amount Due:	$4,884.00

Thank You for Your Business

Please pay to corporate office by August 10, 2013 to avoid a 1.5% per month finance charge.

Vista

June 14, 2013

Vista Project I.D.: 1300407

Mr. Steven Patten
Walla Walla Basin Watershed Council
810 S. Main Street
Milton-Freewater, OR 97862

Dear Mr. Patten,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 07, 2013. This sample set was analyzed on a standard turn-around time, under your Project Name 'Locher Rd'. The work was authorized under your Purchase Order No. Locher.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Martha Maier
Laboratory Director

Vista Work Order No. 1300407
Case Narrative

Sample Condition on Receipt:

Four groundwater samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1668C

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668C using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. The concentration of 13.1 pg/L of PCB-11 was detected in the method blank; this concentration is greater than the quantation limit of 10 pg/L, but less than the method minimum level of 100 pg/L. No other analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1300407-01	GW-72	06-Jun-13 08:30	07-Jun-13 09:36	Amber Glass NM Bottle, 1L
		06-Jun-13 08:30	07-Jun-13 09:36	Amber Glass NM Bottle, 1L
1300407-02	GW-70	06-Jun-13 09:30	07-Jun-13 09:36	Amber Glass NM Bottle, 1L
		06-Jun-13 09:30	07-Jun-13 09:36	Amber Glass NM Bottle, 1L
1300407-03	GW-71	06-Jun-13 10:00	07-Jun-13 09:36	Amber Glass NM Bottle, 1L
		06-Jun-13 10:00	07-Jun-13 09:36	Amber Glass NM Bottle, 1L
1300407-04	S-1	06-Jun-13 10:30	07-Jun-13 09:36	Amber Glass NM Bottle, 1L
		06-Jun-13 10:30	07-Jun-13 09:36	Amber Glass NM Bottle, 1L

Vista Project:

ANALYTICAL RESULTS

Sample ID: Method Blank **EPA Method 1668C**

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12

Lab Sample: B3F0017-BLK1
Date Analyzed: 11-Jun-13 18:31 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	ND	2.32	
PCB-2	ND	2.32	
PCB-3	ND	2.27	
PCB-4/10	ND	12.1	
PCB-5/8	ND	10.4	
PCB-6	ND	9.34	
PCB-7/9	ND	9.74	
PCB-11	13.1		
PCB-12/13	ND	9.21	
PCB-14	ND	10.0	
PCB-15	ND	8.77	
PCB-16/32	ND	0.955	
PCB-17	ND	1.05	
PCB-18	ND	1.19	
PCB-19	ND	1.25	
PCB-20/21/33	ND	1.24	
PCB-22	ND	1.18	
PCB-23	ND	1.17	
PCB-24/27	ND	0.783	
PCB-25	ND	1.14	
PCB-26	ND	1.26	
PCB-28	ND	1.15	
PCB-29	ND	1.28	
PCB-30	ND	0.742	
PCB-31	ND	1.23	
PCB-34	ND	1.25	
PCB-35	ND	1.38	
PCB-36	ND	1.37	
PCB-37	ND	1.30	
PCB-38	ND	1.41	
PCB-39	ND	1.44	
PCB-40	ND	1.39	
PCB-41/64/71/72	ND	0.849	
PCB-42/59	ND	0.942	
PCB-43/49	ND	1.00	
PCB-44	ND	1.21	
PCB-45	ND	1.14	
PCB-46	ND	1.18	
PCB-47	3.25		J
PCB-48/75	ND	0.818	
PCB-50	ND	0.832	
PCB-51	ND	1.01	
PCB-52/69	ND	0.896	
PCB-53	ND	0.925	
PCB-54	ND	0.667	
PCB-55	ND	0.715	
PCB-56/60	ND	0.729	
PCB-57	ND	0.757	
PCB-58	ND	0.791	
PCB-61/70	ND	0.792	
PCB-62	ND	0.819	
PCB-63	ND	0.815	
PCB-65	ND	0.825	
PCB-67	ND	0.724	
PCB-68	ND	0.729	
PCB-73	ND	0.706	
PCB-74	ND	0.680	
PCB-76/66	ND	0.807	
PCB-77	ND	1.11	
PCB-78	ND	0.955	
PCB-79	0.834		J
PCB-80	ND	0.687	
PCB-81	ND	0.870	
PCB-82	ND	3.74	
PCB-83	ND	2.54	
PCB-84/92	ND	3.24	
PCB-85/116	ND	2.83	
PCB-86	ND	3.85	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank **EPA Method 1668C**

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12

Lab Sample: B3F0017-BLK1
Date Analyzed: 11-Jun-13 18:31 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-87/117/125	ND	2.63	
PCB-88/91	ND	3.28	
PCB-89	ND	3.41	
PCB-90/101	ND	2.91	
PCB-93	ND	3.65	
PCB-94	ND	3.48	
PCB-95/98/102	ND	3.05	
PCB-96	ND	2.23	
PCB-97	ND	3.41	
PCB-99	ND	2.73	
PCB-100	ND	2.72	
PCB-103	ND	2.60	
PCB-104	ND	2.11	
PCB-105	ND	1.81	
PCB-106/118	ND	2.42	
PCB-107/109	ND	2.13	
PCB-108/112	ND	3.17	
PCB-110	ND	2.42	
PCB-111/115	ND	2.48	
PCB-113	ND	2.40	
PCB-114	ND	1.74	
PCB-119	ND	2.43	
PCB-120	ND	2.53	
PCB-121	ND	2.20	
PCB-122	ND	1.87	
PCB-123	ND	2.34	
PCB-124	ND	2.05	
PCB-126	ND	2.37	
PCB-127	ND	1.82	
PCB-128/162	ND	1.37	
PCB-129	ND	1.76	
PCB-130	ND	1.59	
PCB-131	ND	1.69	
PCB-132/161	ND	1.38	

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-133/142	ND	1.88	
PCB-134/143	ND	1.65	
PCB-135	ND	2.74	
PCB-136	ND	2.07	
PCB-137	ND	1.41	
PCB-138/163/164	1.66		J
PCB-139/149	ND	2.86	
PCB-140	ND	2.88	
PCB-141	ND	1.42	
PCB-144	ND	2.71	
PCB-145	ND	2.13	
PCB-146/165	ND	1.26	
PCB-147	ND	2.75	
PCB-148	ND	2.87	
PCB-150	ND	2.19	
PCB-151	ND	2.89	
PCB-152	ND	2.02	
PCB-153	ND		
PCB-154	ND	2.44	
PCB-155	ND	2.05	
PCB-156	ND	1.21	
PCB-157	ND	1.24	
PCB-158/160	ND	1.10	
PCB-159	ND	1.23	
PCB-166	ND	1.22	
PCB-167	ND	1.19	
PCB-168	ND	1.11	
PCB-169	ND	1.60	
PCB-170	ND	1.21	
PCB-171	ND	1.01	
PCB-172	ND	0.966	
PCB-173	ND	1.34	
PCB-174	ND	1.08	
PCB-175	ND	1.29	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank **EPA Method 1668C**

Matrix:	Aqueous	QC Batch:	B3F0017	Lab Sample:	B3F0017-BLK1
Sample Size:	1.00 L	Date Extracted:	10-Jun-2013 8:12	Date Analyzed:	11-Jun-13 18:31 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-176	ND	0.930	
PCB-177	ND	1.20	
PCB-178	ND	1.31	
PCB-179	ND	1.02	
PCB-180	ND	1.11	
PCB-181	ND	1.09	
PCB-182/187	ND	1.12	
PCB-183	ND	1.11	
PCB-184	ND	0.931	
PCB-185	ND	0.947	
PCB-186	ND	0.918	
PCB-188	ND	0.970	
PCB-189	ND	1.03	
PCB-190	ND	0.941	
PCB-191	ND	0.905	
PCB-192	ND	0.914	
PCB-193	ND	0.886	
PCB-194	ND	0.787	
PCB-195	ND	0.780	
PCB-196/203	ND	2.18	
PCB-197	ND	1.74	
PCB-198	ND	2.38	
PCB-199	ND	2.23	
PCB-200	ND	1.70	
PCB-201	ND	1.65	
PCB-202	ND	1.75	
PCB-204	ND	1.64	
PCB-205	ND	0.594	
PCB-206	ND	1.29	
PCB-207	ND	0.554	
PCB-208	ND	0.659	
PCB-209	ND	1.27	
Total monoCB	ND	2.32	
Total diCB	13.1		

Analyte	Conc. (pg/L)	DL	Qualifiers
Total triCB	ND	1.44	
Total tetraCB	4.09		
Total pentaCB	ND	3.85	
Total hexaCB	1.66		
Total heptaCB	ND	1.34	
Total octaCB	ND	2.38	
Total nonaCB	ND	1.29	
DecaCB	ND	1.27	
Total PCB	18.8		

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank

EPA Method 1668C

Matrix:	Aqueous	QC Batch:	B3F0017	Lab Sample:	B3F0017-BLK1
Sample Size:	1.00 L	Date Extracted:	10-Jun-2013 8:12	Date Analyzed:	11-Jun-13 18:31 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	43.6	5 - 145	
	13C-PCB-3	41.4	5 - 145	
	13C-PCB-4	61.1	5 - 145	
	13C-PCB-11	68.9	5 - 145	
	13C-PCB-9	62.1	5 - 145	
	13C-PCB-19	55.1	5 - 145	
	13C-PCB-28	74.7	5 - 145	
	13C-PCB-32	51.5	5 - 145	
	13C-PCB-37	77.3	5 - 145	
	13C-PCB-47	76.6	5 - 145	
	13C-PCB-52	83.4	5 - 145	
	13C-PCB-54	92.2	5 - 145	
	13C-PCB-70	80.1	5 - 145	
	13C-PCB-77	65.5	10 - 145	
	13C-PCB-80	80.2	10 - 145	
	13C-PCB-81	66.2	10 - 145	
	13C-PCB-95	86.1	10 - 145	
	13C-PCB-97	81.6	10 - 145	
	13C-PCB-101	86.2	10 - 145	
	13C-PCB-104	86.8	10 - 145	
	13C-PCB-105	93.5	10 - 145	
	13C-PCB-114	92.4	10 - 145	
	13C-PCB-118	86.8	10 - 145	
	13C-PCB-123	89.0	10 - 145	
	13C-PCB-126	81.9	10 - 145	
	13C-PCB-127	90.2	10 - 145	
	13C-PCB-138	85.1	10 - 145	
	13C-PCB-141	81.4	10 - 145	
	13C-PCB-153	76.5	10 - 145	
	13C-PCB-155	63.0	10 - 145	
	13C-PCB-156	80.9	10 - 145	
	13C-PCB-157	83.2	10 - 145	
	13C-PCB-159	83.0	10 - 145	
	13C-PCB-167	83.8	10 - 145	
	13C-PCB-169	76.7	10 - 145	
	13C-PCB-170	68.1	10 - 145	
	13C-PCB-180	67.8	10 - 145	
	13C-PCB-188	56.8	10 - 145	
	13C-PCB-189	59.6	10 - 145	
	13C-PCB-194	85.4	10 - 145	
	13C-PCB-202	55.9	10 - 145	
	13C-PCB-206	65.0	10 - 145	
	13C-PCB-208	69.3	10 - 145	
	13C-PCB-209	51.0	10 - 145	
CRS	13C-PCB-79	87.7	10 - 145	
	13C-PCB-178	80.9	10 - 145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Sample ID: OPR

EPA Method 1668C

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12

Lab Sample: B3F0017-BS1
Date Analyzed: 11-Jun-13 16:21 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits
PCB-1	1150	1000	115	60 - 135
PCB-3	1220	1000	122	60 - 135
PCB-4/10	2120	2000	106	60 - 135
PCB-15	1030	1000	103	60 - 135
PCB-19	1150	1000	115	60 - 135
PCB-37	1010	1000	101	60 - 135
PCB-54	998	1000	99.8	60 - 135
PCB-77	1060	1000	106	60 - 135
PCB-81	1070	1000	107	60 - 135
PCB-104	1040	1000	104	60 - 135
PCB-105	1050	1000	105	60 - 135
PCB-106/118	2100	2000	105	60 - 135
PCB-114	1090	1000	109	60 - 135
PCB-123	1090	1000	109	60 - 135
PCB-126	1070	1000	107	60 - 135
PCB-155	1110	1000	111	60 - 135
PCB-156	1060	1000	106	60 - 135
PCB-157	1040	1000	104	60 - 135
PCB-167	1060	1000	106	60 - 135
PCB-169	1110	1000	111	60 - 135
PCB-188	1090	1000	109	60 - 135
PCB-189	1070	1000	107	60 - 135
PCB-202	1070	1000	107	60 - 135
PCB-205	1010	1000	101	60 - 135
PCB-206	1070	1000	107	60 - 135
PCB-208	1090	1000	109	60 - 135
PCB-209	1060	1000	106	60 - 135

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-1	50.6	15 - 145
IS	13C-PCB-3	42.5	15 - 145
IS	13C-PCB-4	65.5	15 - 145
IS	13C-PCB-11	71.9	15 - 145
IS	13C-PCB-9	64.7	15 - 145
IS	13C-PCB-19	55.6	15 - 145
IS	13C-PCB-28	69.1	15 - 145
IS	13C-PCB-32	56.9	15 - 145
IS	13C-PCB-37	73.3	15 - 145
IS	13C-PCB-47	75.1	15 - 145
IS	13C-PCB-52	82.4	15 - 145
IS	13C-PCB-54	93.8	15 - 145
IS	13C-PCB-70	77.1	15 - 145
IS	13C-PCB-77	71.4	40 - 145
IS	13C-PCB-80	73.1	40 - 145
IS	13C-PCB-81	70.2	40 - 145
IS	13C-PCB-95	83.5	40 - 145
IS	13C-PCB-97	80.8	40 - 145
IS	13C-PCB-101	79.2	40 - 145
IS	13C-PCB-104	82.6	40 - 145
IS	13C-PCB-105	89.6	40 - 145
IS	13C-PCB-114	91.9	40 - 145
IS	13C-PCB-118	80.3	40 - 145
IS	13C-PCB-123	80.9	40 - 145
IS	13C-PCB-126	85.5	40 - 145
IS	13C-PCB-127	85.8	40 - 145
IS	13C-PCB-138	82.5	40 - 145
IS	13C-PCB-141	77.9	40 - 145
IS	13C-PCB-153	75.3	40 - 145
IS	13C-PCB-155	57.3	40 - 145
IS	13C-PCB-156	82.8	40 - 145
IS	13C-PCB-157	84.3	40 - 145
IS	13C-PCB-159	79.7	40 - 145
IS	13C-PCB-167	81.5	40 - 145
IS	13C-PCB-169	77.0	40 - 145
IS	13C-PCB-170	66.6	40 - 145
IS	13C-PCB-180	65.8	40 - 145
IS	13C-PCB-188	57.7	40 - 145
IS	13C-PCB-189	62.1	40 - 145
IS	13C-PCB-194	86.9	40 - 145

Sample ID: OPR **EPA Method 1668C**

Matrix:	Aqueous	QC Batch:	B3F0017	Lab Sample:	B3F0017-BS1
Sample Size:	1.00 L	Date Extracted:	10-Jun-2013 8:12	Date Analyzed:	11-Jun-13 16:21 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits

Labeled Standard		%R	LCL-UCL
IS	13C-PCB-202	56.4	40 - 145
IS	13C-PCB-206	66.8	40 - 145
IS	13C-PCB-208	68.2	40 - 145
IS	13C-PCB-209	51.3	40 - 145
CRS	13C-PCB-79	89.7	40 - 145
CRS	13C-PCB-178	77.4	40 - 145

LCL-UCL - Lower control limit - upper control limit

Sample ID: GW-72

EPA Method 1668C

Client Data

Name:	Walla Walla Basin Watershed Council
Project:	Locher Rd
Date Collected:	06-Jun-2013 8:30

Sample Data

Matrix:	Groundwater
Sample Size:	0.980 L

Laboratory Data

Lab Sample:	1300407-01	Date Received:	07-Jun-2013 9:36
QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12

Date Analyzed : 11-Jun-13 19:36 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	23.7		
PCB-2	2.40		J
PCB-3	9.36		
PCB-4/10	44.5		
PCB-5/8	124		
PCB-6	19.4		
PCB-7/9	9.96		J
PCB-11	15.4		B
PCB-12/13	ND	7.08	
PCB-14	ND	7.70	
PCB-15	35.3		
PCB-16/32	79.4		
PCB-17	38.3		
PCB-18	115		
PCB-19	13.6		
PCB-20/21/33	48.1		
PCB-22	25.0		
PCB-23	ND	1.88	
PCB-24/27	9.26		J
PCB-25	5.11		
PCB-26	14.7		
PCB-28	43.3		
PCB-29	ND	2.05	
PCB-30	ND	0.644	
PCB-31	63.6		
PCB-34	ND	2.00	
PCB-35	ND	2.18	
PCB-36	ND	2.16	
PCB-37	8.91		
PCB-38	ND	2.22	
PCB-39	ND	2.27	
PCB-40	2.66		J
PCB-41/64/71/72	9.66		J
PCB-42/59	5.10		J
PCB-43/49	7.76		J
PCB-44	12.6		
PCB-45	5.75		
PCB-46	ND	2.03	
PCB-47	4.72		J, B
PCB-48/75	3.22		J
PCB-50	ND	0.848	
PCB-51	1.84		J
PCB-52/69	12.8		
PCB-53	4.36		J
PCB-54	ND	0.680	
PCB-55	ND	0.849	
PCB-56/60	ND	2.63	
PCB-57	ND	0.847	
PCB-58	ND	0.885	
PCB-61/70	5.10		J
PCB-62	ND	0.831	
PCB-63	ND	0.912	
PCB-65	ND	0.836	
PCB-67	ND	0.810	
PCB-68	ND	0.739	
PCB-73	ND	0.790	
PCB-74	1.67		J
PCB-76/66	3.12		J
PCB-77	ND	1.05	
PCB-78	ND	0.940	
PCB-79	ND	0.820	
PCB-80	ND	0.816	
PCB-81	ND	0.856	
PCB-82	ND	2.85	
PCB-83	ND	1.74	
PCB-84/92	ND	2.26	
PCB-85/116	ND	1.95	
PCB-86	ND	2.64	
PCB-87/117/125	ND	1.80	
PCB-88/91	ND	2.28	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-72 EPA Method 1668C

Client Data

Name:	Walla Walla Basin Watershed Council
Project:	Locher Rd
Date Collected:	06-Jun-2013 8:30

Sample Data

Matrix:	Groundwater
Sample Size:	0.980 L

Laboratory Data

Lab Sample:	1300407-01	Date Received:	07-Jun-2013 9:36
QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12

Date Analyzed : 11-Jun-13 19:36 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers	Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	2.38		PCB-136	ND	1.90	
PCB-90/101	ND	2.03		PCB-137	ND	1.06	
PCB-93	ND	2.54		PCB-138/163/164	ND	0.865	
PCB-94	ND	2.42		PCB-139/149	ND	2.62	
PCB-95/98/102	ND	2.12		PCB-140	ND	2.64	
PCB-96	ND	1.57		PCB-141	ND	1.07	
PCB-97	ND	2.34		PCB-144	ND	2.49	
PCB-99	ND	1.90		PCB-145	ND	1.95	
PCB-100	ND	1.92		PCB-146/165	ND	0.899	
PCB-103	ND	1.83		PCB-147	ND	2.52	
PCB-104	ND	1.49		PCB-148	ND	2.63	
PCB-105	ND	1.15		PCB-150	ND	2.01	
PCB-106/118	ND	1.90		PCB-151	ND	2.64	
PCB-107/109	ND	1.62		PCB-152	ND	1.85	
PCB-108/112	ND	2.18		PCB-153	ND	0.877	
PCB-110	2.17		J	PCB-154	ND	2.23	
PCB-111/115	ND	1.70		PCB-155	ND	1.88	
PCB-113	ND	1.67		PCB-156	ND	0.870	
PCB-114	ND	1.25		PCB-157	ND	0.880	
PCB-119	ND	1.67		PCB-158/160	ND	0.811	
PCB-120	ND	1.74		PCB-159	ND	0.941	
PCB-121	ND	1.53		PCB-166	ND	0.939	
PCB-122	ND	1.35		PCB-167	ND	0.896	
PCB-123	ND	1.78		PCB-168	ND	0.794	
PCB-124	ND	1.56		PCB-169	ND	1.19	
PCB-126	ND	1.67		PCB-170	ND	0.924	
PCB-127	ND	1.14		PCB-171	ND	0.846	
PCB-128/162	ND	1.05		PCB-172	ND	0.811	
PCB-129	ND	1.29		PCB-173	ND	1.12	
PCB-130	ND	1.19		PCB-174	ND	0.908	
PCB-131	ND	1.21		PCB-175	ND	0.904	
PCB-132/161	ND	0.987		PCB-176	ND	0.652	
PCB-133/142	ND	1.34		PCB-177	ND	1.01	
PCB-134/143	ND	1.18		PCB-178	ND	0.919	
PCB-135	ND	2.51		PCB-179	ND	0.718	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-72 | EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 8:30

Sample Data
Matrix: Groundwater
Sample Size: 0.980 L

Laboratory Data
Lab Sample: 1300407-01
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 19:36 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	0.934	
PCB-181	ND	0.919	
PCB-182/187	ND	0.783	
PCB-183	ND	0.779	
PCB-184	ND	0.652	
PCB-185	ND	0.795	
PCB-186	ND	0.643	
PCB-188	ND	0.680	
PCB-189	ND	0.696	
PCB-190	ND	0.719	
PCB-191	ND	0.759	
PCB-192	ND	0.768	
PCB-193	ND	0.744	
PCB-194	ND	0.738	
PCB-195	ND	0.731	
PCB-196/203	ND	1.83	
PCB-197	ND	1.46	
PCB-198	ND	1.99	
PCB-199	ND	1.87	
PCB-200	ND	1.42	
PCB-201	ND	1.38	
PCB-202	ND	1.47	
PCB-204	ND	1.37	
PCB-205	ND	0.557	
PCB-206	ND	1.02	
PCB-207	ND	0.453	
PCB-208	ND	0.539	
PCB-209	ND	1.71	
Total monoCB	35.4		
Total diCB	249		B
Total triCB	465		
Total tetraCB	80.3		B
Total pentaCB	2.17		
Total hexaCB	ND	2.64	
Total heptaCB	ND	1.12	

Analyte	Conc. (pg/L)	DL	Qualifiers
Total octaCB	ND	1.99	
Total nonaCB	ND	1.02	
DecaCB	ND	1.71	
Total PCB	831		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-72

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 8:30

Sample Data

Matrix: Groundwater
Sample Size: 0.980 L

Laboratory Data

Lab Sample: 1300407-01
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 19:36 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	39.3	5 -145	
	13C-PCB-3	48.2	5 -145	
	13C-PCB-4	78.7	5 -145	
	13C-PCB-11	81.0	5 -145	
	13C-PCB-9	80.8	5 -145	
	13C-PCB-19	61.8	5 -145	
	13C-PCB-28	75.0	5 -145	
	13C-PCB-32	60.1	5 -145	
	13C-PCB-37	74.0	5 -145	
	13C-PCB-47	98.1	5 -145	
	13C-PCB-52	101	5 -145	
	13C-PCB-54	119	5 -145	
	13C-PCB-70	93.6	5 -145	
	13C-PCB-77	83.5	10 -145	
	13C-PCB-80	96.0	10 -145	
	13C-PCB-81	89.0	10 -145	
	13C-PCB-95	99.5	10 -145	
	13C-PCB-97	94.3	10 -145	
	13C-PCB-101	96.8	10 -145	
	13C-PCB-104	102	10 -145	
	13C-PCB-105	105	10 -145	
	13C-PCB-114	99.0	10 -145	
	13C-PCB-118	84.8	10 -145	
	13C-PCB-123	87.4	10 -145	
	13C-PCB-126	88.9	10 -145	
	13C-PCB-127	104	10 -145	
	13C-PCB-138	92.8	10 -145	
	13C-PCB-141	93.7	10 -145	
	13C-PCB-153	91.9	10 -145	
	13C-PCB-155	76.0	10 -145	
	13C-PCB-156	91.3	10 -145	
	13C-PCB-157	92.8	10 -145	
	13C-PCB-159	91.8	10 -145	
	13C-PCB-167	93.0	10 -145	
	13C-PCB-169	87.9	10 -145	
	13C-PCB-170	75.7	10 -145	
	13C-PCB-180	74.6	10 -145	
	13C-PCB-188	70.3	10 -145	
	13C-PCB-189	72.7	10 -145	
	13C-PCB-194	99.3	10 -145	
	13C-PCB-202	63.9	10 -145	
	13C-PCB-206	72.3	10 -145	
	13C-PCB-208	78.7	10 -145	
	13C-PCB-209	53.7	10 -145	
CRS	13C-PCB-79	87.9	10 -145	
	13C-PCB-178	77.4	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-70

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Groundwater	Lab Sample:	1300407-02	Date Received:	07-Jun-2013 9:36
Project:	Locher Rd	Sample Size:	1.01 L	QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12
Date Collected:	06-Jun-2013 9:30			Date Analyzed :	11-Jun-13 20:42 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	27.6		
PCB-2	3.01		J
PCB-3	12.4		
PCB-4/10	55.2		
PCB-5/8	156		
PCB-6	26.2		
PCB-7/9	12.8		
PCB-11	17.4		B
PCB-12/13	ND	7.12	
PCB-14	ND	7.74	
PCB-15	42.2		
PCB-16/32	97.9		
PCB-17	48.0		
PCB-18	148		
PCB-19	16.5		
PCB-20/21/33	42.7		
PCB-22	25.1		
PCB-23	ND	2.07	
PCB-24/27	9.79		J
PCB-25	4.76		J
PCB-26	12.3		
PCB-28	44.7		
PCB-29	ND	2.25	
PCB-30	ND	0.751	
PCB-31	66.9		
PCB-34	ND	2.20	
PCB-35	ND	2.16	
PCB-36	ND	2.14	
PCB-37	10.4		
PCB-38	ND	2.20	
PCB-39	ND	2.25	
PCB-40	3.56		J
PCB-41/64/71/72	12.6		J
PCB-42/59	6.28		J
PCB-43/49	11.4		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-44	16.3		
PCB-45	6.75		
PCB-46	3.01		J
PCB-47	6.45		B
PCB-48/75	3.57		J
PCB-50	ND	0.849	
PCB-51	1.85		J
PCB-52/69	16.9		
PCB-53	5.03		
PCB-54	ND	0.680	
PCB-55	ND	0.799	
PCB-56/60	3.04		J
PCB-57	ND	0.840	
PCB-58	ND	0.878	
PCB-61/70	6.99		J
PCB-62	ND	0.833	
PCB-63	ND	0.905	
PCB-65	ND	0.838	
PCB-67	ND	0.803	
PCB-68	ND	0.741	
PCB-73	ND	0.740	
PCB-74	1.86		J
PCB-76/66	ND	4.04	
PCB-77	ND	1.02	
PCB-78	ND	1.00	
PCB-79	ND	0.772	
PCB-80	ND	0.768	
PCB-81	ND	0.913	
PCB-82	ND	2.96	
PCB-83	ND	1.70	
PCB-84/92	ND	2.39	
PCB-85/116	ND	1.89	
PCB-86	ND	2.57	
PCB-87/117/125	ND	1.76	
PCB-88/91	ND	2.42	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-70

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 9:30

Sample Data
Matrix: Groundwater
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1300407-02
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 20:42 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	2.51	
PCB-90/101	3.46		J
PCB-93	ND	2.69	
PCB-94	ND	2.56	
PCB-95/98/102	3.77		J
PCB-96	ND	1.58	
PCB-97	ND	2.28	
PCB-99	ND	2.01	
PCB-100	ND	1.93	
PCB-103	ND	1.84	
PCB-104	ND	1.50	
PCB-105	ND	1.32	
PCB-106/118	ND	1.84	
PCB-107/109	ND	1.69	
PCB-108/112	ND	2.12	
PCB-110	2.66		J
PCB-111/115	ND	1.66	
PCB-113	ND	1.77	
PCB-114	ND	1.33	
PCB-119	ND	1.62	
PCB-120	ND	1.69	
PCB-121	ND	1.62	
PCB-122	ND	1.43	
PCB-123	ND	1.86	
PCB-124	ND	1.62	
PCB-126	ND	1.91	
PCB-127	ND	1.42	
PCB-128/162	ND	1.24	
PCB-129	ND	1.63	
PCB-130	ND	1.41	
PCB-131	ND	1.46	
PCB-132/161	ND	1.19	
PCB-133/142	ND	1.62	
PCB-134/143	ND	1.42	
PCB-135	ND	2.34	
PCB-136	ND	1.77	
PCB-137	ND	1.24	
PCB-138/163/164	ND	1.09	
PCB-139/149	ND	2.44	
PCB-140	ND	2.46	
PCB-141	ND	1.26	
PCB-144	ND	2.32	
PCB-145	ND	1.82	
PCB-146/165	ND	1.09	
PCB-147	ND	2.35	
PCB-148	ND	2.45	
PCB-150	ND	1.88	
PCB-151	ND	2.47	
PCB-152	ND	1.73	
PCB-153	ND	1.06	
PCB-154	ND	2.08	
PCB-155	ND	1.75	
PCB-156	ND	1.08	
PCB-157	ND	1.10	
PCB-158/160	ND	1.02	
PCB-159	ND	1.11	
PCB-166	ND	1.11	
PCB-167	ND	1.03	
PCB-168	ND	0.959	
PCB-169	ND	1.30	
PCB-170	ND	1.08	
PCB-171	ND	0.945	
PCB-172	ND	0.906	
PCB-173	ND	1.26	
PCB-174	ND	1.01	
PCB-175	ND	1.19	
PCB-176	ND	0.857	
PCB-177	ND	1.12	
PCB-178	ND	1.21	
PCB-179	ND	0.945	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-70

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 9:30

Sample Data

Matrix: Groundwater
Sample Size: 1.01 L

Laboratory Data

Lab Sample: 1300407-02
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 20:42 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	1.04	
PCB-181	ND	1.03	
PCB-182/187	ND	1.03	
PCB-183	ND	1.02	
PCB-184	ND	0.858	
PCB-185	ND	0.888	
PCB-186	ND	0.847	
PCB-188	ND	0.895	
PCB-189	ND	0.867	
PCB-190	ND	0.844	
PCB-191	ND	0.848	
PCB-192	ND	0.857	
PCB-193	ND	0.831	
PCB-194	ND	0.921	
PCB-195	ND	0.913	
PCB-196/203	ND	2.59	
PCB-197	ND	2.07	
PCB-198	ND	2.82	
PCB-199	ND	2.65	
PCB-200	ND	2.01	
PCB-201	ND	1.96	
PCB-202	ND	2.08	
PCB-204	ND	1.94	
PCB-205	ND	0.695	
PCB-206	ND	1.28	
PCB-207	ND	0.624	
PCB-208	ND	0.742	
PCB-209	ND	1.35	
Total monoCB	43.0		
Total diCB	310		B
Total triCB	527		
Total tetraCB	106		B
Total pentaCB	9.89		
Total hexaCB	ND	2.47	
Total heptaCB	ND	1.26	

Analyte	Conc. (pg/L)	DL	Qualifiers
Total octaCB	ND	2.82	
Total nonaCB	ND	1.28	
DecaCB	ND	1.35	
Total PCB	996		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-70 EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Groundwater	Lab Sample:	1300407-02	Date Received:	07-Jun-2013 9:36
Project:	Locher Rd	Sample Size:	1.01 L	QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12
Date Collected:	06-Jun-2013 9:30			Date Analyzed :	11-Jun-13 20:42 Column: ZB-1 Analyst: DMS		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	49.2	5 -145	
	13C-PCB-3	38.7	5 -145	
	13C-PCB-4	76.4	5 -145	
	13C-PCB-11	81.4	5 -145	
	13C-PCB-9	78.4	5 -145	
	13C-PCB-19	56.0	5 -145	
	13C-PCB-28	83.2	5 -145	
	13C-PCB-32	57.2	5 -145	
	13C-PCB-37	78.7	5 -145	
	13C-PCB-47	81.8	5 -145	
	13C-PCB-52	85.9	5 -145	
	13C-PCB-54	97.8	5 -145	
	13C-PCB-70	83.6	5 -145	
	13C-PCB-77	77.5	10 -145	
	13C-PCB-80	84.1	10 -145	
	13C-PCB-81	72.0	10 -145	
	13C-PCB-95	89.8	10 -145	
	13C-PCB-97	88.3	10 -145	
	13C-PCB-101	87.1	10 -145	
	13C-PCB-104	92.6	10 -145	
	13C-PCB-105	96.7	10 -145	
	13C-PCB-114	98.3	10 -145	
	13C-PCB-118	81.6	10 -145	
	13C-PCB-123	84.5	10 -145	
	13C-PCB-126	75.6	10 -145	
	13C-PCB-127	85.8	10 -145	
	13C-PCB-138	86.9	10 -145	
	13C-PCB-141	86.9	10 -145	
	13C-PCB-153	88.0	10 -145	
	13C-PCB-155	68.0	10 -145	
	13C-PCB-156	85.0	10 -145	
	13C-PCB-157	85.5	10 -145	
	13C-PCB-159	86.3	10 -145	
	13C-PCB-167	85.7	10 -145	
	13C-PCB-169	81.3	10 -145	

	Labeled Standard	%R	LCL-UCL	Qualifiers
	13C-PCB-170	70.6	10 -145	
	13C-PCB-180	71.3	10 -145	
	13C-PCB-188	64.3	10 -145	
	13C-PCB-189	66.1	10 -145	
	13C-PCB-194	90.8	10 -145	
	13C-PCB-202	55.9	10 -145	
	13C-PCB-206	67.6	10 -145	
	13C-PCB-208	71.8	10 -145	
	13C-PCB-209	49.9	10 -145	
CRS	13C-PCB-79	86.0	10 -145	
	13C-PCB-178	77.8	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 10:00

Sample Data

Matrix: Groundwater
Sample Size: 1.00 L

Laboratory Data

Lab Sample: 1300407-03
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 21:47 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	23.1		
PCB-2	ND	2.31	
PCB-3	10.8		
PCB-4/10	43.0		
PCB-5/8	133		
PCB-6	21.6		
PCB-7/9	11.2		
PCB-11	14.9		B
PCB-12/13	ND	8.36	
PCB-14	ND	9.08	
PCB-15	36.3		
PCB-16/32	84.2		
PCB-17	40.1		
PCB-18	124		
PCB-19	15.0		
PCB-20/21/33	37.2		
PCB-22	ND	23.0	I
PCB-23	ND	2.36	
PCB-24/27	8.45		J
PCB-25	4.65		J
PCB-26	13.3		
PCB-28	44.8		
PCB-29	ND	2.57	
PCB-30	ND	0.474	
PCB-31	43.8		
PCB-34	ND	2.51	
PCB-35	ND	2.22	
PCB-36	ND	2.20	
PCB-37	7.88		
PCB-38	ND	2.26	
PCB-39	ND	2.31	
PCB-40	3.28		J
PCB-41/64/71/72	9.76		J
PCB-42/59	4.32		J
PCB-43/49	8.24		J

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-44	14.0		
PCB-45	5.62		
PCB-46	2.85		J
PCB-47	5.08		B
PCB-48/75	2.64		J
PCB-50	ND	0.676	
PCB-51	1.81		J
PCB-52/69	13.4		
PCB-53	4.40		J
PCB-54	ND	0.542	
PCB-55	ND	0.647	
PCB-56/60	3.46		J
PCB-57	ND	0.642	
PCB-58	ND	0.672	
PCB-61/70	4.75		J
PCB-62	ND	0.682	
PCB-63	ND	0.692	
PCB-65	ND	0.687	
PCB-67	ND	0.614	
PCB-68	0.954		J
PCB-73	ND	0.618	
PCB-74	1.51		J
PCB-76/66	3.72		J
PCB-77	ND	0.744	
PCB-78	ND	0.799	
PCB-79	ND	0.625	
PCB-80	ND	0.622	
PCB-81	ND	0.728	
PCB-82	ND	2.69	
PCB-83	ND	1.66	
PCB-84/92	ND	2.23	
PCB-85/116	ND	1.86	
PCB-86	ND	2.53	
PCB-87/117/125	ND	1.73	
PCB-88/91	ND	2.14	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71 EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Groundwater	Lab Sample:	1300407-03	Date Received:	07-Jun-2013 9:36
Project:	Locher Rd	Sample Size:	1.00 L	QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12
Date Collected:	06-Jun-2013 10:00			Date Analyzed :	11-Jun-13 21:47 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	DL	Qualifiers	Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	2.35		PCB-136	ND	1.35	
PCB-90/101	ND	2.01		PCB-137	ND	1.08	
PCB-93	ND	2.38		PCB-138/163/164	ND	0.900	
PCB-94	ND	2.27		PCB-139/149	ND	1.86	
PCB-95/98/102	ND	3.29		PCB-140	ND	1.87	
PCB-96	ND	1.48		PCB-141	ND	1.09	
PCB-97	ND	2.24		PCB-144	ND	1.76	
PCB-99	ND	1.88		PCB-145	ND	1.39	
PCB-100	ND	1.80		PCB-146/165	ND	0.902	
PCB-103	ND	1.72		PCB-147	ND	1.79	
PCB-104	ND	1.40		PCB-148	ND	1.87	
PCB-105	ND	1.30		PCB-150	ND	1.43	
PCB-106/118	ND	1.68		PCB-151	ND	1.88	
PCB-107/109	ND	1.53		PCB-152	ND	1.32	
PCB-108/112	ND	2.08		PCB-153	ND	0.880	
PCB-110	ND	2.08		PCB-154	ND	1.59	
PCB-111/115	ND	1.63		PCB-155	ND	1.34	
PCB-113	ND	1.65		PCB-156	ND	0.914	
PCB-114	ND	1.36		PCB-157	ND	0.923	
PCB-119	ND	1.59		PCB-158/160	ND	0.844	
PCB-120	ND	1.66		PCB-159	ND	0.934	
PCB-121	ND	1.44		PCB-166	ND	0.933	
PCB-122	ND	1.47		PCB-167	ND	0.915	
PCB-123	ND	1.68		PCB-168	ND	0.798	
PCB-124	ND	1.47		PCB-169	ND	1.13	
PCB-126	ND	1.95		PCB-170	ND	1.02	
PCB-127	ND	1.41		PCB-171	ND	0.833	
PCB-128/162	ND	1.05		PCB-172	ND	0.798	
PCB-129	ND	1.34		PCB-173	ND	1.11	
PCB-130	ND	1.22		PCB-174	ND	0.894	
PCB-131	ND	1.21		PCB-175	ND	0.988	
PCB-132/161	ND	0.991		PCB-176	ND	0.712	
PCB-133/142	ND	1.35		PCB-177	ND	0.990	
PCB-134/143	ND	1.18		PCB-178	ND	1.00	
PCB-135	ND	1.78		PCB-179	ND	0.785	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71

EPA Method 1668C

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Walla Walla Basin Watershed Council	Matrix:	Groundwater	Lab Sample:	1300407-03	Date Received:	07-Jun-2013 9:36
Project:	Locher Rd	Sample Size:	1.00 L	QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12
Date Collected:	06-Jun-2013 10:00			Date Analyzed :	11-Jun-13 21:47 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	0.920	
PCB-181	ND	0.904	
PCB-182/187	ND	0.856	
PCB-183	ND	0.852	
PCB-184	ND	0.713	
PCB-185	ND	0.783	
PCB-186	ND	0.703	
PCB-188	ND	0.744	
PCB-189	ND	0.765	
PCB-190	ND	0.794	
PCB-191	ND	0.747	
PCB-192	ND	0.755	
PCB-193	ND	0.732	
PCB-194	ND	0.730	
PCB-195	ND	0.724	
PCB-196/203	ND	1.82	
PCB-197	ND	1.46	
PCB-198	ND	1.99	
PCB-199	ND	1.87	
PCB-200	ND	1.42	
PCB-201	ND	1.38	
PCB-202	ND	1.47	
PCB-204	ND	1.37	
PCB-205	ND	0.551	
PCB-206	ND	1.07	
PCB-207	ND	0.456	
PCB-208	ND	0.542	
PCB-209	ND	1.13	
Total monoCB	33.9		
Total diCB	260		B
Total triCB	423		
Total tetraCB	89.8		B
Total pentaCB	ND	3.29	
Total hexaCB	ND	1.88	
Total heptaCB	ND	1.11	

Analyte	Conc. (pg/L)	DL	Qualifiers
Total octaCB	ND	1.99	
Total nonaCB	ND	1.07	
DecaCB	ND	1.13	
Total PCB	807		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: GW-71

EPA Method 1668C

Client Data

Name:	Walla Walla Basin Watershed Council
Project:	Locher Rd
Date Collected:	06-Jun-2013 10:00

Sample Data

Matrix:	Groundwater
Sample Size:	1.00 L

Laboratory Data

Lab Sample:	1300407-03	Date Received:	07-Jun-2013 9:36
QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12

Date Analyzed : 11-Jun-13 21:47 Column: ZB-1 Analyst: DMS

Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	45.7	5 -145	
13C-PCB-3	42.4	5 -145	
13C-PCB-4	80.6	5 -145	
13C-PCB-11	83.2	5 -145	
13C-PCB-9	82.0	5 -145	
13C-PCB-19	52.0	5 -145	
13C-PCB-28	73.0	5 -145	
13C-PCB-32	56.6	5 -145	
13C-PCB-37	90.8	5 -145	
13C-PCB-47	82.7	5 -145	
13C-PCB-52	88.5	5 -145	
13C-PCB-54	104	5 -145	
13C-PCB-70	90.2	5 -145	
13C-PCB-77	81.7	10 -145	
13C-PCB-80	85.9	10 -145	
13C-PCB-81	79.7	10 -145	
13C-PCB-95	91.1	10 -145	
13C-PCB-97	90.0	10 -145	
13C-PCB-101	89.3	10 -145	
13C-PCB-104	92.5	10 -145	
13C-PCB-105	99.9	10 -145	
13C-PCB-114	103	10 -145	
13C-PCB-118	84.1	10 -145	
13C-PCB-123	85.0	10 -145	
13C-PCB-126	79.2	10 -145	
13C-PCB-127	96.7	10 -145	
13C-PCB-138	91.4	10 -145	
13C-PCB-141	93.1	10 -145	
13C-PCB-153	93.0	10 -145	
13C-PCB-155	68.1	10 -145	
13C-PCB-156	88.8	10 -145	
13C-PCB-157	91.1	10 -145	
13C-PCB-159	89.1	10 -145	
13C-PCB-167	90.5	10 -145	
13C-PCB-169	84.5	10 -145	
13C-PCB-170	72.6	10 -145	
13C-PCB-180	73.7	10 -145	
13C-PCB-188	71.0	10 -145	
13C-PCB-189	69.6	10 -145	
13C-PCB-194	95.5	10 -145	
13C-PCB-202	61.1	10 -145	
13C-PCB-206	74.3	10 -145	
13C-PCB-208	80.6	10 -145	
13C-PCB-209	57.0	10 -145	
CRS 13C-PCB-79	88.8	10 -145	
13C-PCB-178	78.9	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: S-1

EPA Method 1668C

Client Data
Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 10:30

Sample Data
Matrix: Groundwater
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1300407-04
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 22:52 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-1	28.0		
PCB-2	2.52		J
PCB-3	13.1		
PCB-4/10	51.2		
PCB-5/8	167		
PCB-6	25.7		
PCB-7/9	12.9		
PCB-11	18.9		B
PCB-12/13	ND	7.35	
PCB-14	ND	7.99	
PCB-15	47.5		
PCB-16/32	114		
PCB-17	55.8		
PCB-18	171		
PCB-19	19.9		
PCB-20/21/33	32.8		
PCB-22	21.6		
PCB-23	ND	1.23	
PCB-24/27	12.0		
PCB-25	6.31		
PCB-26	15.9		
PCB-28	65.4		
PCB-29	ND	1.34	
PCB-30	ND	0.790	
PCB-31	ND	70.7	I
PCB-34	ND	1.31	
PCB-35	ND	1.81	
PCB-36	ND	1.79	
PCB-37	11.4		
PCB-38	ND	1.84	
PCB-39	ND	1.88	
PCB-40	4.78		J
PCB-41/64/71/72	14.6		J
PCB-42/59	6.84		J
PCB-43/49	14.5		
PCB-44	20.8		
PCB-45	7.32		
PCB-46	3.53		J
PCB-47	8.83		B
PCB-48/75	3.90		J
PCB-50	ND	0.689	
PCB-51	2.43		J
PCB-52/69	23.3		
PCB-53	5.04		
PCB-54	ND	0.553	
PCB-55	ND	0.636	
PCB-56/60	6.53		J
PCB-57	ND	0.706	
PCB-58	ND	0.738	
PCB-61/70	10.9		
PCB-62	ND	0.676	
PCB-63	ND	0.761	
PCB-65	ND	0.681	
PCB-67	ND	0.675	
PCB-68	ND	0.602	
PCB-73	ND	0.582	
PCB-74	3.70		J
PCB-76/66	7.73		J
PCB-77	ND	0.799	
PCB-78	ND	0.791	
PCB-79	ND	0.615	
PCB-80	ND	0.612	
PCB-81	ND	0.721	
PCB-82	ND	2.42	
PCB-83	ND	1.42	
PCB-84/92	3.23		J
PCB-85/116	ND	1.59	
PCB-86	ND	2.16	
PCB-87/117/125	2.61		J
PCB-88/91	ND	1.87	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: S-1

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 10:30

Sample Data

Matrix: Groundwater
Sample Size: 0.998 L

Laboratory Data

Lab Sample: 1300407-04
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 22:52 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-89	ND	2.09	
PCB-90/101	6.02		J
PCB-93	ND	2.08	
PCB-94	ND	1.98	
PCB-95/98/102	6.65		J
PCB-96	ND	1.29	
PCB-97	ND	1.91	
PCB-99	2.78		J
PCB-100	ND	1.57	
PCB-103	ND	1.50	
PCB-104	ND	1.22	
PCB-105	1.89		J
PCB-106/118	4.56		J
PCB-107/109	ND	1.38	
PCB-108/112	ND	1.78	
PCB-110	6.53		
PCB-111/115	ND	1.39	
PCB-113	ND	1.47	
PCB-114	ND	1.14	
PCB-119	ND	1.36	
PCB-120	ND	1.42	
PCB-121	ND	1.25	
PCB-122	ND	1.22	
PCB-123	ND	1.52	
PCB-124	ND	1.33	
PCB-126	ND	1.50	
PCB-127	ND	1.12	
PCB-128/162	ND	1.06	
PCB-129	ND	1.35	
PCB-130	ND	1.25	
PCB-131	ND	1.28	
PCB-132/161	ND	1.05	
PCB-133/142	ND	1.43	
PCB-134/143	ND	1.25	
PCB-135	ND	1.77	
PCB-136	ND	1.34	
PCB-137	ND	1.11	
PCB-138/163/164	3.94		J, B
PCB-139/149	ND	2.05	
PCB-140	ND	1.86	
PCB-141	ND	1.12	
PCB-144	ND	1.75	
PCB-145	ND	1.38	
PCB-146/165	ND	0.955	
PCB-147	ND	1.78	
PCB-148	ND	1.85	
PCB-150	ND	1.42	
PCB-151	ND	1.87	
PCB-152	ND	1.31	
PCB-153	3.14		J
PCB-154	ND	1.58	
PCB-155	ND	1.33	
PCB-156	ND	0.938	
PCB-157	ND	0.911	
PCB-158/160	ND	0.848	
PCB-159	ND	0.946	
PCB-166	ND	0.944	
PCB-167	ND	0.942	
PCB-168	ND	0.845	
PCB-169	ND	1.16	
PCB-170	ND	0.993	
PCB-171	ND	0.868	
PCB-172	ND	0.832	
PCB-173	ND	1.15	
PCB-174	ND	0.931	
PCB-175	ND	0.957	
PCB-176	ND	0.690	
PCB-177	ND	1.03	
PCB-178	ND	0.973	
PCB-179	ND	0.760	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: S-1

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Walla Walla Basin Watershed Council	Matrix:	Groundwater	Lab Sample:	1300407-04	Date Received:	07-Jun-2013 9:36
Project:	Locher Rd	Sample Size:	0.998 L	QC Batch:	B3F0017	Date Extracted:	10-Jun-2013 8:12
Date Collected:	06-Jun-2013 10:30			Date Analyzed :	11-Jun-13 22:52 Column: ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	DL	Qualifiers
PCB-180	ND	0.958	
PCB-181	ND	0.942	
PCB-182/187	ND	0.829	
PCB-183	ND	0.825	
PCB-184	ND	0.691	
PCB-185	ND	0.815	
PCB-186	ND	0.681	
PCB-188	ND	0.720	
PCB-189	ND	0.742	
PCB-190	ND	0.773	
PCB-191	ND	0.779	
PCB-192	ND	0.787	
PCB-193	ND	0.762	
PCB-194	ND	0.676	
PCB-195	ND	0.670	
PCB-196/203	ND	1.89	
PCB-197	ND	1.51	
PCB-198	ND	2.06	
PCB-199	ND	1.94	
PCB-200	ND	1.47	
PCB-201	ND	1.43	
PCB-202	ND	1.52	
PCB-204	ND	1.42	
PCB-205	ND	0.511	
PCB-206	ND	0.932	
PCB-207	ND	0.457	
PCB-208	ND	0.543	
PCB-209	ND	1.03	
Total monoCB	43.7		
Total diCB	323		B
Total triCB	527		
Total tetraCB	145		B
Total pentaCB	34.3		
Total hexaCB	7.08		B
Total heptaCB	ND	1.15	

Analyte	Conc. (pg/L)	DL	Qualifiers
Total octaCB	ND	2.06	
Total nonaCB	ND	0.932	
DecaCB	ND	1.03	
Total PCB	1080		B

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

Sample ID: S-1

EPA Method 1668C

Client Data

Name: Walla Walla Basin Watershed Council
Project: Locher Rd
Date Collected: 06-Jun-2013 10:30

Sample Data

Matrix: Groundwater
Sample Size: 0.998 L

Laboratory Data

Lab Sample: 1300407-04
Date Received: 07-Jun-2013 9:36
QC Batch: B3F0017
Date Extracted: 10-Jun-2013 8:12
Date Analyzed : 11-Jun-13 22:52 Column: ZB-1 Analyst: DMS

Labeled Standard		%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	34.0	5 -145	
	13C-PCB-3	41.2	5 -145	
	13C-PCB-4	79.9	5 -145	
	13C-PCB-11	86.0	5 -145	
	13C-PCB-9	82.3	5 -145	
	13C-PCB-19	56.9	5 -145	
	13C-PCB-28	76.1	5 -145	
	13C-PCB-32	55.3	5 -145	
	13C-PCB-37	54.6	5 -145	
	13C-PCB-47	93.0	5 -145	
	13C-PCB-52	93.9	5 -145	
	13C-PCB-54	104	5 -145	
	13C-PCB-70	87.9	5 -145	
	13C-PCB-77	79.2	10 -145	
	13C-PCB-80	92.0	10 -145	
	13C-PCB-81	80.8	10 -145	
	13C-PCB-95	96.6	10 -145	
	13C-PCB-97	94.9	10 -145	
	13C-PCB-101	95.8	10 -145	
	13C-PCB-104	99.2	10 -145	
	13C-PCB-105	97.6	10 -145	
	13C-PCB-114	101	10 -145	
	13C-PCB-118	89.4	10 -145	
	13C-PCB-123	92.9	10 -145	
	13C-PCB-126	85.7	10 -145	
	13C-PCB-127	97.2	10 -145	
	13C-PCB-138	92.6	10 -145	
	13C-PCB-141	92.2	10 -145	
	13C-PCB-153	92.0	10 -145	
	13C-PCB-155	78.5	10 -145	
	13C-PCB-156	89.9	10 -145	
	13C-PCB-157	90.6	10 -145	
	13C-PCB-159	91.9	10 -145	
	13C-PCB-167	92.9	10 -145	
	13C-PCB-169	85.5	10 -145	

Labeled Standard		%R	LCL-UCL	Qualifiers
	13C-PCB-170	73.8	10 -145	
	13C-PCB-180	73.4	10 -145	
	13C-PCB-188	71.5	10 -145	
	13C-PCB-189	70.0	10 -145	
	13C-PCB-194	96.8	10 -145	
	13C-PCB-202	60.6	10 -145	
	13C-PCB-206	73.8	10 -145	
	13C-PCB-208	78.2	10 -145	
	13C-PCB-209	56.9	10 -145	
CRS	13C-PCB-79	91.6	10 -145	
	13C-PCB-178	78.5	10 -145	

DL - Sample specifc estimated detection limit

LCL-UCL - Lowercontrol limit - upper control limit

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The amount detected is above the High Calibration Limit.**
P	**The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.**
H	**Recovery was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Low Calibration Limit.**
*****	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.**
EMPC	**Estimated Maximum Possible Concentration**
NA	**Not applicable**
RL	**Reporting Limit – concentrations that correspond to low calibration point**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	CA00413
Alabama Dept of Environmental Management	41610
Arkansas Dept of Environmental Quality	11-035-0
California Dept of Health – NELAP	02102CA
Colorado Dept of Public Health & Environment	N/A
Connecticut Dept of Public Health	PH-0182
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA120020
Maine Department of Health	2012010
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132011-1
New Jersey Dept of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Dept of Health & Human Services	06700
North Dakota Dept of Health	R-078
Oklahoma Dept of Environmental Quality	2012-109
Oregon Laboratory Accreditation Program	CA200001-011
Pennsylvania Dept of Environmental Protection	010
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-13-4
Utah Dept of Health	CA164002012-2
Virginia Dept of General Services	1831
Washington Department of Ecology	C584-12a
Wisconsin Dept of Natural Resources	998036160

CHAIN OF CUSTODY

FOR LABORATORY USE ONLY

Laboratory Project ID: 1300407

Storage ID: WR-2

Storage Secured Yes ☑ No ☐

Temp 2.3 °C

TAT: (Check One):

Standard: ○ 21 Days

Rush (surcharge may apply):

○ 14 days ○ 7 days Specify:

Project I.D.: Locher RD

P.O.#:

Sampler: T. BAKER (Name)

Invoice to: Name:
Company: WWRWC
Address: 810 SW MAIN
City: Milton-Freewater
State: OR
Zip: 97862
Ph#:
Fax#:

Relinquished by: (Signature and Printed Name) Troy Baker Date: 6/6/13 Time: 12:00 Received by: (Signature and Printed Name) B.Benedict Date: 6/7/13 Time: 0956

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 • Fax (916) 673-0106

ATTN:

Method of Shipment:

Tracking No.:

Add Analysis(es) Requested: EPA1613, EPA8290, EPA8280, EPA1668, EPA1614, CARB429

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Container(s) Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29
GW-72	6/6/13	8:30	Locher RD														X				
GW-70	6/6/13	9:30	"														X				
GW-71	6/6/13	10:00	"														X				
S-1	6/6/13	10:30	"														X				
			"																		

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name:
Company:
Address:
City: State: Zip:
Phone: Fax:
Email:

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O= Other

*Bottle Preservative Type: T = Thiosulfate,
O = Other

Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
AQ = Aqueous, O = Other

WHITE - ORIGINAL YELLOW - ARCHIVE PINK - COPY

Vista
Analytical Laboratory

SAMPLE LOG-IN CHECKLIST

Vista Project #: 1300407 **TAT** not specified

Samples Arrival:	**Date/Time** 6/7/13 0936	**Initials:** BAB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 6/7/13 1026	**Initials:** BAB	**Location:** WR-2 **Shelf/Rack:** B3

Delivered By:	FedEx	[✓ UPS]	On Trac	DHL	Hand Delivered	Other

Preservation:	[✓ Ice]	Blue Ice	Dry Ice	None

Temp °C 2.3°C	**Time:** 0951	**Thermometer ID:** IR-1

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill — Trk # 1Z 62E 3F701 79575953	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None

Shipping Container	[✓ Vista]	Client	[✓ Retain]	Return	Dispose

Comments:

Sample Login 3/2007 rmh

STILLER POND – 2011-2012

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

---

Client:	GSI WATER SOLUTIONS INC	**Batch #:**	120308043
Address:	8019 W. QUINAULT AVE KENNEWICK, WA 99336	**Project Name:**	WWBC STILLER RECHARGE
Attn:	KEVIN LINDSEY		

Analytical Results Report

Sample Number	120308043-001	**Sampling Date**	3/7/2012	**Date/Time Received**	3/8/2012	11:16 AM
Client Sample ID	MW-SP1-PT-A	**Sampling Time**	3:01 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Chloride	30.6	mg/L	0.1	3/9/2012	JTT	EPA 300.0	
COD	5.87	mg/L	5	3/12/2012	JLU	EPA 410.4	
Calcium	54.2	mg/L	0.1	3/21/2012	ETL	EPA 200.7	
Hardness	212	mg/L	1	3/21/2012	ETL	EPA 200.7	
Magnesium	18.6	mg/L	0.1	3/21/2012	ETL	EPA 200.7	
NO3/N	6.24	mg/L	0.1	3/9/2012	JTT	EPA 300.0	
NO2/N	ND	mg/L	0.1	3/9/2012	JTT	EPA 300.0	
PO4/P	ND	mg/L	0.05	3/9/2012	JTT	EPA 300.0	
TDS	345	mg/L	10	3/13/2012	JTT	SM 2540C	
TKN	0.336	mg/L	0.2	3/19/2012	JTT	SM4500NORGC	

Authorized Signature

John Coddington, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Login Report

Customer Name:	GSI WATER SOLUTIONS INC	**Order ID:**	120308043
	8019 W. QUINAULT AVE	**Order Date:**	3/8/2012
	KENNEWICK WA 99336		
Contact Name:	KEVIN LINDSEY	**Project Name:**	WWBC STILLER RECHARGE
Comment:			

Sample #: 120308043-001 **Customer Sample #:** MW-SP1-PT-A

Recv'd:	☑	**Collector:**	TRAVIS HAMMOND	**Date Collected:**	3/7/2012
Quantity:	2	**Matrix:**	Water	**Date Received:**	3/8/2012 11:16:00 A
Comment:					

Test	Lab	Method	Due Date	Priority
CHLORIDE	M	EPA 300.0	3/20/2012	***Normal (6-10 Days)***
COD - CHEMICAL OXYGEN DEMAND	S	EPA 410.4	3/20/2012	***Normal (6-10 Days)***
HARDNESS by EPA 200.7	M	EPA 200.7	3/20/2012	***Normal (6-10 Days)***
NITRATE/N	M	EPA 300.0	3/20/2012	***Normal (6-10 Days)***
NITRITE/N	M	EPA 300.0	3/20/2012	***Normal (6-10 Days)***
PHOSPHATE/P	M	EPA 300.0	3/20/2012	***Normal (6-10 Days)***
SOLIDS - TDS	M	SM 2540C	3/20/2012	***Normal (6-10 Days)***
TKN	M	SM4500NORGC	3/20/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	1.0
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

○ 1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246 ○
○ 504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433 ○

120308 043 **GSIW** Last Due 3/20/2012
1st SAMP 3/7/2012 1st RCVD 3/8/2012
WWBC STILLER RECHARGE

Company Name: GSI WS
Address: 8019 W. Quinault Ave., St. 201
City: Kennewick State: WA Zip: 99336
Phone: (509) 735-7135
Fax:

Project Manager: Kevin Lindsey
Project Name & #: WWBC STILLER RECHARGE
Email Address: KLindsey@GSIWS.Com
Purchase Order #: 214.009
Sampler Name & phone: Travis Hammond (509) 735-7135

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

✓Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Total N as nitrate	TDS	Hardness	chloride	orthophosphate	COD	~~Total + po~~			
					Preservative:										
	MW-SP1-PT-A	3/7/12 1501		2		X	X	X	X	X	X				

Note Special Instructions/Comments

MWBS
COD → SPOA
← Needs Nitrogen per Kevin Lindsey - TK 3/9/12

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Hammond		GSI	3/7/12	1630
Received by	B Thomson	B Thom	anatek	3-8-12	11:16
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? [✓ Y] N
Labels & Chains Agree? [✓ Y] N
Containers Sealed? [✓ Y] N
VOC Head Space? Y N
FedEx
Ice Y
Seal N
Temperature (°C): 1.0
Preservative:
H_2SO_4
Date & Time: 3-8-12 11:16
Inspected By: BT

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---

Client: GSI WATER SOLUTIONS INC
Address: 8019 W. QUINAULT AVE
KENNEWICK, WA 99336
Attn: TRAVIS HAMMOND

Batch #: 120411024
Project Name: WWBWC 214.009

Analytical Results Report

Sample Number 120411024-001
Client Sample ID MWSP-1-POST-A
Matrix Water
Comments

Sampling Date 4/10/2012
Sampling Time 1:52 PM

Date/Time Received 4/11/2012 10:21 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Chloride	17.7	mg/L	0.1	4/11/2012	JTT	EPA 300.0	
COD	ND	mg/L	5	4/16/2012	JLU	EPA 410.4	
Calcium	42.5	mg/L	0.1	4/18/2012	ETL	EPA 200.7	
Hardness	164	mg/L	1	4/18/2012	ETL	EPA 200.7	
Magnesium	13.9	mg/L	0.1	4/18/2012	ETL	EPA 200.7	
NO3/N	2.78	mg/L	0.1	4/11/2012	JTT	EPA 300.0	
NO2/N	ND	mg/L	0.1	4/11/2012	JTT	EPA 300.0	
PO4/P	ND	mg/L	0.1	4/11/2012	JTT	EPA 300.0	
TDS	282	mg/L	10	4/17/2012	JTT	SM 2540C	
TKN	0.575	mg/L	0.2	4/19/2012	CRW	SM4500NORGC	

Authorized Signature

John Coddington, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Login Report

Customer Name: GSI WATER SOLUTIONS INC
8019 W. QUINAULT AVE
KENNEWICK WA 99336

Order ID: 120411024
Order Date: 4/11/2012

Contact Name: TRAVIS HAMMOND
Project Name: WWBWC 214.009
Comment:

Sample #: 120411024-001 **Customer Sample #:** MWSP-1-POST-A

Recv'd: ☑ **Collector:** TRAVIS HAMMOND **Date Collected:** 4/10/2012
Quantity: 9 **Matrix:** Water **Date Received:** 4/11/2012 10:21:00 A
Comment:

Test	Lab	Method	Due Date	Priority
CHLORIDE	M	EPA 300.0	4/23/2012	***Normal (6-10 Days)***
COD - CHEMICAL OXYGEN DEMAND	S	EPA 410.4	4/23/2012	***Normal (6-10 Days)***
HARDNESS by EPA 200.7	M	EPA 200.7	4/23/2012	***Normal (6-10 Days)***
NITRATE/N	M	EPA 300.0	4/23/2012	***Normal (6-10 Days)***
NITRITE/N	M	EPA 300.0	4/23/2012	***Normal (6-10 Days)***
PHOSPHATE/P	M	EPA 300.0	4/23/2012	***Normal (6-10 Days)***
SOLIDS - TDS	M	SM 2540C	4/23/2012	***Normal (6-10 Days)***
TKN	M	SM4500NORGC	4/23/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	6.0
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120411 024 **GSIW** Last Due 4/23/2012
1st SAMP 4/10/2012 1st RCVD 4/11/2012
WWBWC 214.009

Company Name: GSI Water Solutions, Inc.
Address: 8019 W. Quinault Ave., Ste. 201
City: Kennewick State: WA Zip: 99336
Phone: 509-735-7135
Fax:

Project Manager: Travis Hammond
Project Name & #: WWBWC 214.009
Email Address: thammond@gsiws.com
Purchase Order #: 214.009
Sampler Name & phone: Travis Hammond 509-620-1952

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

- ✓ Normal
- __Next Day*
- __2nd Day*
- __Other*______

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

Provide Sample Description

Shallow groundwater

List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Cl	COD	Hardness	nitrate as N	nitrite as N	Phosphate	TDS	TKN		
1	MWSP-1-Post-A	4/10/12 1352		9											

Note Special Instructions/Comments

MWBS
SPOA → COD

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Hammond		GSI	4/10	1600
Received by	B Thomson	B Thomson	anatek	4/11/12	10:21
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? [✓ Y] N
Labels & Chains Agree? [✓ Y] N
Containers Sealed? [✓ Y] N
VOC Head Space? Y N
Fedex
Ice yes
Seal NO
Temperature (°C): 6.0
Preservative: H_2SO_4
Date & Time: 4/11/12 10:21
Inspected By: BT

Anatek Labs, Inc.

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Client:	GSI WATER SOLUTIONS INC	**Batch #:**	120411034
Address:	8019 W. QUINAULT AVE KENNEWICK, WA 99336	**Project Name:**	WWBWC 214.009
Attn:	TRAVIS HAMMOND		

Analytical Results Report

Sample Number	120411034-001	**Sampling Date**	4/10/2012	**Date/Time Received**	4/11/2012 9:45 AM
Client Sample ID	MWSP-1-POST-B	**Sampling Time**	1:52 PM	**Extraction Date**	
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Fecal Coliform	<2	MPN/100mL	2	4/13/2012	KEA	SM9221E	
Total Coliform	<2	MPN/100mL	2	4/13/2012	KEA	SM9221B	

Authorized Signature Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: GSI WATER SOLUTIONS INC
8019 W. QUINAULT AVE
KENNEWICK WA 99336

Order ID: 120411034

Order Date: 4/11/2012

Contact Name: TRAVIS HAMMOND

Project Name: WWBWC 214.009

Comment:

Sample #: 120411034-001 **Customer Sample #:** MWSP-1-POST-B

Recv'd: ☑ **Collector:** TRAVIS HAMMOND **Date Collected:** 4/10/2012

Quantity: 1 **Matrix:** Water **Date Received:** 4/11/2012 9:45:00 A

Comment:

Test	Lab	Method	Due Date	Priority
BACT - FECAL COLIFORMS	S	SM9221E	4/18/2012	***Normal (6-10 Days)***
BACT - TOTAL COLIFORMS	S	SM9221B	4/18/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	4.2
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	ICE
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek
Labs,
Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

20411 034 **GSIW** Last Due 4/18/2012
1st SAMP 4/10/2012 1st RCVD 4/11/2012
WBWC 214.009

Company Name: GSI Water Solutions, Inc.
Address: 8019 W. Quinault Ave., Ste 201
City: Kennewick State: WA Zip: 99336
Phone: 509-735-7135
Fax:

Project Manager: Travis Hammond
Project Name & #: WWBWC 214.009
Email Address: thammond@GSIWS.Com
Purchase Order #: 214.009
Sampler Name & phone: Travis Hammond

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

✓ Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description

List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Total and fecal coliform
1	MWSP-1-Post-B	4/10/12 1352				

Note Special Instructions/Comments

SWBS
All SP

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Hammond		GSI	4/10	1600
Received by	K Cratt	K Cratt	Anatek	4/11	945
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? [✓ Y] N
Labels & Chains Agree? [✓ Y] N
Containers Sealed? [✓ Y] N
~~VOC Head Space? Y N~~
Cooler / Fedex
Temperature (°C): 4.2°
Preservative: ice
Date & Time: 4-11-12
Inspected By: KB

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Client:	GSI WATER SOLUTIONS INC	**Batch #:**	120308009
Address:	8019 W. QUINAULT AVE KENNEWICK, WA 99336	**Project Name:**	WWBWC
Attn:	TRAVIS HAMMOND		

Analytical Results Report

Sample Number	120308009-001	**Sampling Date**	3/7/2012	**Date/Time Received**	3/8/2012	10:00 AM
Client Sample ID	MW-SP1-PT-B	**Sampling Time**	3:01 PM	**Extraction Date**		
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Fecal Coliform	<2	MPN/100mL	2	3/10/2012	MJL	SM9221E	
Total Coliform	<2	MPN/100mL	2	3/10/2012	MJL	SM9221B	

Authorized Signature Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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Login Report

Customer Name: GSI WATER SOLUTIONS INC
8019 W. QUINAULT AVE
KENNEWICK WA 99336

Order ID: 120308009
Order Date: 3/8/2012

Contact Name: TRAVIS HAMMOND
Project Name: WWBWC

Comment:

Sample #: 120308009-001 **Customer Sample #:** MW-SP1-PT-B

Recv'd: ☑
Collector: TRAVIS HAMMOND
Date Collected: 3/7/2012
Quantity: 1
Matrix: Water
Date Received: 3/8/2012 10:00:00 A
Comment:

Test	Lab	Method	Due Date	Priority
BACT - FECAL COLIFORMS	S	SM9221E	3/15/2012	***Normal (6-10 Days)***
BACT - TOTAL COLIFORMS	S	SM9221B	3/15/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.6
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	ICE
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

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120308 009 **GSIW** Last Due 3/15/2012
1st SAMP 3/7/2012 1st RCVD 3/8/2012
VWBWC

Company Name: GSI WS
Address: 8019 W. Quinault Ave., St. 201
City: Kennewick State: WA Zip: 99336
Phone: (509) 735-7135
Fax:

Project Manager: Kevin Lindsey
Project Name & #: WWBWC STILLER RECHARGE
Email Address: KLindsey@GSIWS.com
Purchase Order #: 214.009
Sampler Name & phone: Travis Hammond (509) 735-7135

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

✓ Normal
__ Next Day*
__ 2nd Day*
__ Other*

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Total + fecal coliform
	MW-SP1-PT-B	3/7/12 1501		1		X

Preservative

Note Special Instructions/Comments

SWBS
all sp

Inspection Checklist

Received Intact? [✓ Y] N
Labels & Chains Agree? [✓ Y] N
Containers Sealed? Y N
VOC Head Space? Y N

cooler / fedex

Temperature (°C): 5.6
Preservative: ice

Date & Time: 3-8-12
Inspected By: KS

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Hammond		GSI	3/7/12	1630
Received by	KScott	KScott	Anatek	3/8	1000
Relinquished by					
Received by					
Relinquished by					
Received by					

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Client:	GSI WATER SOLUTIONS INC	**Batch #:**	120314012
Address:	8019 W. QUINAULT AVE KENNEWICK, WA 99336	**Project Name:**	WWBWC
Attn:	KEVIN LINDSEY		

Analytical Results Report

Sample Number	120314012-001	**Sampling Date**	3/13/2012	**Date/Time Received**	3/14/2012 10:15 AM
Client Sample ID	SP-SOURCE-B	**Sampling Time**	1:30 PM	**Extraction Date**	
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Fecal Coliform	<2	MPN/100mL	2	3/17/2012	KEA	SM9221E	
Total Coliform	<2	MPN/100mL	2	3/19/2012	KEA	SM9221B	

Authorized Signature Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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Login Report

Customer Name: GSI WATER SOLUTIONS INC
8019 W. QUINAULT AVE
KENNEWICK WA 99336

Order ID: 120314012
Order Date: 3/14/2012

Contact Name: KEVIN LINDSEY
Project Name: WWBWC
Comment:

Sample #: 120314012-001 **Customer Sample #:** SP-SOURCE-B

Recv'd: ☑ **Collector:** TRAVIS HAMMOND **Date Collected:** 3/13/2012
Quantity: 1 **Matrix:** Water **Date Received:** 3/14/2012 10:15:00 A
Comment:

Test	Lab	Method	Due Date	Priority
BACT - FECAL COLIFORMS	S	SM9221E	3/14/2012	***Normal (6-10 Days)***
BACT - TOTAL COLIFORMS	S	SM9221B	3/14/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.0
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

120314 012 **GSIW** Last Due 3/14/2012
1st SAMP 3/13/2012 1st RCVD 3/14/2012
WWBWC

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Company Name: **GSI Water Solutions**
Address: **8019 W. Quinault Ave., Ste. 201**
City: **Kennewick** State: **WA** Zip: **99336**
Phone: **(509) 735-7135**
Fax: **(509) 735-7067**

Project Manager: **Kevin Lindsey**
Project Name & #: **WWBWC**
Email Address: **klindsey@gsiws.com**
Purchase Order #: **214.009**
Sampler Name & phone: **Travis Hammond (509) 670-1952**

Turn Around Time & Reporting

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✓ Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description

ASR source water from creek diversion sampled through a port on the transfer pipeline

List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Total and fecal coliform
	SP-Source-B	3/13/12 1330		1		✓

Note Special Instructions/Comments

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Hammond		GSI	3/13/12	1430
Received by	Jamie Utesch	Jamie Utesch	Anatek	3/14/12	1015
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? [✓ Y] N
Labels & Chains Agree? [✓ Y] N
Containers Sealed? [✓ Y] N
VOC Head Space? Y N

Fed Ex – 5.0 – cooler – ice

Temperature (°C): 5.0
Preservative: NA
Date & Time: 3/14/12 1015
Inspected By: JU

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Client:	GSI WATER SOLUTIONS INC	**Batch #:**	120314010
Address:	8019 W. QUINAULT AVE	**Project Name:**	WWBWC
	KENNEWICK, WA 99336		
Attn:	KEVIN LINDSEY		

Analytical Results Report

Sample Number	120314010-001	**Sampling Date**	3/13/2012	**Date/Time Received**	3/14/2012 10:30 AM
Client Sample ID	SP-SOURCE-A	**Sampling Time**	1:30 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Chloride	2.98	mg/L	0.1	3/14/2012	JTT	EPA 300.0	
COD	7.61	mg/L	5	3/22/2012	JLU	EPA 410.4	
Calcium	7.79	mg/L	0.1	3/21/2012	ETL	EPA 200.7	
Hardness	32.6	mg/L	1	3/21/2012	ETL	EPA 200.7	
Magnesium	3.18	mg/L	0.1	3/21/2012	ETL	EPA 200.7	
NO3/N+NO2/N	0.406	mg/L	0.1	3/14/2012	JTT	EPA 300.0	
PO4/P	0.184	mg/L	0.05	3/14/2012	JTT	EPA 300.0	
TDS	161	mg/L	10	3/20/2012	JTT	SM 2540C	
TKN	ND	mg/L	0.2	3/27/2012	CRW	SM4500NORGC	

Authorized Signature

John Coddington, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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Login Report

Customer Name: GSI WATER SOLUTIONS INC
8019 W. QUINAULT AVE
KENNEWICK WA 99336

Order ID: 120314010

Order Date: 3/14/2012

Contact Name: KEVIN LINDSEY

Project Name: WWBWC

Comment:

Sample #: 120314010-001 **Customer Sample #:** SP-SOURCE-A

Recv'd: ☑ **Collector:** TRAVIS HAMMOND **Date Collected:** 3/13/2012

Quantity: 2 **Matrix:** Water **Date Received:** 3/14/2012 10:30:00 A

Comment:

Test	Lab	Method	Due Date	Priority
CHLORIDE	M	EPA 300.0	3/26/2012	***Normal (6-10 Days)***
COD - CHEMICAL OXYGEN DEMAND	S	EPA 410.4	3/26/2012	***Normal (6-10 Days)***
HARDNESS by EPA 200.7	M	EPA 200.7	3/26/2012	***Normal (6-10 Days)***
NITRATE+ NITRITE AS N	M	EPA 300.0	3/26/2012	***Normal (6-10 Days)***
PHOSPHATE/P	M	EPA 300.0	3/26/2012	***Normal (6-10 Days)***
SOLIDS - TDS	M	SM 2540C	3/26/2012	***Normal (6-10 Days)***
TKN	M	SM4500NORGC	3/26/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	2.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

120314 010 **GSIW** Last Due 3/26/2012
1st SAMP 3/13/2012 1st RCVD 3/14/2012

Anatek Log-In # WWBWC

Anatek Labs, Inc.

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○ 504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433 ○

Company Name: GSI Water Solutions
Address: 8019 W. Quinault Ave., Ste. 201
City: Kennewick State: WA Zip: 99336
Phone: (509) 735-7135
Fax: (509) 735-7067

Project Manager: Kevin Lindsey
Project Name & #: WWBWC
Email Address: klindsey@gsiws.com
Purchase Order #: 214.009
Sampler Name & phone: Travis Hammond (509) 670-1952

Turn Around Time & Reporting

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✓ Normal
__ Next Day*
__ 2nd Day*
__ Other* ______

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description

ASR source water from creek diversion sampled through a port on the transfer pipeline

List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Total N as nitrate	TDS	Hardness	Chloride	Orthophosphate	Chemical Oxygen Demand				
	SP-Source-A	3/13/12 1330		2		✓	✓	✓	✓	✓	✓				

Note Special Instructions/Comments

MWBS
COD → SPOK

	Printed Name	Signature	Company	Date	Time
Relinquished by	Travis Hammond		GSI	3/13/12	1430
Received by	B Thomson		Anatek	3/14/12	10:30
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? [✓ Y] N
Labels & Chains Agree? [✓ Y] N
Containers Sealed? [✓ Y] N
VOC Head Space? Y N
Fed ex
Ice Y
Seal N
Temperature (°C): 2.3
Preservative: H_2SO_4
Date & Time: 3/14/12 10:30
Inspected By: BT

STILLER POND – 2012-2013

No water quality results for this recharge season.

APPENDIX C

Draft report on circumstances that prevented the Stiller Pond Aquifer Recharge site from operating during the 2012-2013 recharge season.

This report outlines and describes the events that occurred, starting in November, 2012, that prevented the Stiller Pond Aquifer Recharge site from operating during the 2012-2013 water year. The report is divided into three sections. The first section is a short narrative explaining the project, the local water plan and the proposed environmental enhancement project permit. The second is an outline of the water supply issues that prevented the site from operating. The last section is an outline of the water and soil quality monitoring plan development that also prevented the site from operating.

Project Overview

The Stiller Pond Aquifer Recharge site was established using local water plan 10-02 developed by GSI Water Solutions for the Walla Walla County Conservation District and Thundering Hooves. The local water plan was approved and became effective on May 10, 2011. The local water plan added aquifer recharge as a purpose to the existing surface water right allowing for 32 acre-feet to be used for aquifer recharge each year. The local water plan limited aquifer recharge to only occur between December 1 and May 31. The local water plan also stated that "use of the water right for the purpose of aquifer recharge should be contingent upon operating under a monitoring and testing plan approved by Ecology. Approval of such a plan should not require revision of the Local Water Plan (Local Water Plan 10-02, page 5)."

In addition to the Local Water Plan, the Walla Walla Conservation District has been working to develop an environmental enhancement project (EEP) permit for the site to increase the volume of aquifer recharge water each year. The EEP process is described in WAC 173-532. The development of the EEP also required a monitoring plan to be developed.

Water Supply Issues

A number of issues occurred during the spring of 2013 which prevented pumping the 32 ac/ft of water out of Mill Creek for the purpose of aquifer recharge at the Stiller Pond, as specified in the *Stiller Pond Site Local Water Plan Agreement.*

The following events transpired during the time frame of April 1 thru June 15, rendering the landowner/operator incapable of delivering the required water:

- <u>4/01/2013</u> – the surface water right increased to .816 cfs (366 gpm) which is only a marginal amount to pump efficiently. The operator determined that he didn't need to pump any irrigation water at this time. It was decided at this time to begin pumping on 5/01/13 when the water right increased to 1.237 cfs (555 gpm). The operator used the first two weeks in April to prepare the pump site for service. In mid April the operator called a local irrigation contractor to install the fish screen and by the end of the third week the pump station was ready, waiting for the May 1 start-up date.

- 4/20/- 4/21/2013 – heavy rains caused a high-water event on Mill Creek. The river level rose to the top of the banks and ran very swiftly for several hours, resulting in extensive damage to the pump station. The lifting boom was dislodged and tilted over; the Pac-Ag screen was significantly wrenched around on the stream bottom pushing the 12" steel suction pipe enough to shift the entire pump and mounting cart by 2 feet. The specially designed water tight elbow was egged out at both ends, not allowing an airtight connection between the suction pipe and the pump suction flange. The discharge cone which connected the pump discharge flange to the discharge manifold was split in half. Like the specialty elbow, this also was a specialty fitting which required several days to fabricate. Pump station repairs commenced immediately.

- 5/08/2013 – pump station repairs are completed and the operator began priming the pump. The adjustable locking collar holding the shaft seal packing gland was tightened down appropriately to provide adequate suction seal but this caused the connecting bracket (between the pump volute and motor housing) to break. This was probably damaged by the excessive torque applied by the twisting motion encountered during the high water event. Another bracket was ordered immediately.

- 5/15/2013 - a new bracket was installed. The river level had now dropped below the top of the screen and the pump was unable to maintain prime. The pump was sucking air.

- 5/17/2013 – ecology blocks were placed in the river to raise the water level over the screen but there was still insufficient flow to cover the screen.

- 5/20/2013 – a request was made to WDFW to dredge the river bottom under the screen to allow sufficient submergence but this activity would not be able to commence until the in-water work window opens on 7/15/2013. Therefore, at this time, the operator is not able to pump water out of Mill Creek due to insufficient flow.

- 6/15/2013 – spring water right is over. Water right does not authorize significant withdrawal until October.

In summary, heavy rains caused a high water event resulting in damage to the pumping station. Unusually early low flows pre-empted pumping with the existing infrastructure and screen system.

Water and Soil Quality Monitoring Plan Development

Aquifer recharge has occurred on the Washington side of the basin since 2007 at the Locher Road Aquifer Recharge site. The Locher Road site has been operated for 5 seasons with extensive water quality sampling of both surface and groundwater resources. These results were compiled and analyzed by GSI Water Solutions in 2012. In late 2012, the Walla Walla Basin Watershed Council (WWBWC) approached Washington Department of Ecology (WDOE) regarding the results of GSI's analysis and proposed reducing requirements for water quality monitoring of aquifer recharge sites. This lead to a full review of water quality monitoring for aquifer recharge projects by WDOE using existing data and procedures. This process ended with new, more stringent water and soil quality monitoring requirements than were in place before. Below are bullets providing a timeline of events regarding the water and soil quality monitoring plan development.

- November 9th, 2012 – The WWBWC initiated a conversation with WDOE to reduce water quality sampling requirements for aquifer recharge projects.

- December 11th, 2012 – Initial meetings with Mike Kuttel and Dan Tolleson regarding Stiller Pond EEP and water quality monitoring plan. Discussion of potential new requirements based upon TMDLs for the Walla Walla Basin and an expansion of infrastructure to conduct both water level monitoring and water quality monitoring.

- January 3rd, 2013 – The WWCCD and WWBWC receive a memo from Victoria Lueba detailing WDOE's requirements for water level and water quality monitoring at the Stiller Pond Aquifer Recharge site. Including the addition of two stream gages on Mill Creek, 3 new monitoring wells, sampling of PCBs (at parts per trillion) and chlorinated pesticides at surface and groundwater locations.

- January 23rd, 2013 – The WWBWC and GSI create a "straw man" proposal response to WDOE. This proposed to reduce the water quality monitoring requirements and to establish operational controls to prevent potential contamination of the site. Document sent to WDOE for review.

- January 31st, 2013 – The WWCCD, WWBWC and GSI met with Mike Kuttel to discuss the "straw man" proposal and visit the Stiller Pond site. The proposal was discussed with input from Mike Kuttel. The proposal was to be presented to managers at WDOE.

- February 26th, 2013 – WDOE provides an initial response to the "straw man" proposal submitted on January 23rd.

- March 7th, 2013 – WDOE provides a memo in response to the "straw man" proposal detailing required water and soil quality monitoring. The entire proposal was rejected and requirements were the same as the January 3rd memo with additional details included.

- March 15th, 2013 – WWBWC starts researching and contacting water quality laboratories certified to process PCB and chlorinated pesticide samples. Only 6 labs in North America are certified to conduct the PCB sampling down to parts per trillion.

- March 19th, 2013 – Draft Quality Assurance Project Plan (QAPP) was submitted to WDOE for review and comment. An approved QAPP document would satisfy the local water plan requirement for an approved monitoring and testing plan.

- March 26th, 2013 – WDOE provides comment on draft QAPP. Additional sections need to be added and existing sections need to be updated.

- March 29th, 2013 – WWBWC sends letter to WDOE requesting a change in deliverables for aquifer recharge activities. This request would allow WWBWC to use its existing grant funding to cover additional cost of water quality sampling for WA aquifer recharge sites.

- April 2nd, 2013 – WWBWC submits an updated QAPP document to WDOE.

- April 23rd, 2013 – WDOE provides comment on updated QAPP document.

- April 25th, 2013 – WWBWC submits final version of the QAPP document.

- May 2nd, 2013 – WWBWC receives an email from WDOE indicating approval of QAPP document, however the document has not been signed by all parties.

- May 9th-10th, 2013 – QAPP document received and signed by WDOE staff. QAPP document has all required signatures and is filed with WDOE.

In summary, the water and soil quality monitoring plan development took approximately 6 months to finalize. The additional cost of water and soil quality monitoring (~$30,000 per aquifer recharge site per year) required the WWBWC to amend its grant to provide a funding source to move forward with aquifer recharge during 2013. Once the QAPP was approved in May, aquifer recharge operations could not start due to water supply issues (mentioned above).

APPENDIX D

Review of Previously Collected Source Water and Groundwater Quality Data from Alluvial Aquifer Recharge Projects in the Walla Walla Basin, Washington and Oregon.

Contents

Introduction

Present and future alluvial aquifer recharge (AR) projects in the Walla Walla Basin (the Basin) must proceed with the assurance that these projects not only provide recharge to the alluvial aquifer but also that the additional recharge does not degrade native, or background, groundwater quality. Traditionally water quality monitoring focuses on project-by-project and/or site specific up-gradient and down-gradient sampling. For Walla Walla Basin AR projects this has resulted in each individual AR site having a water quality monitoring program specific to that site, and independent of other AR sites.

In reviewing water quality data collected at multiple AR sites in the Basin, Walla Walla Basin Watershed Council (WWBWC) staff and consultants have made a preliminary observation that AR in the Walla Walla Basin has not resulted in detectable degradation of native groundwater quality. Given this preliminary observation and the desire to streamline water quality monitoring associated with multiple, but inter-related AR sites, the WWBWC decided to do a more comprehensive review of the historical water quality monitoring data collected at the four AR sites it has worked on since AR began in the Walla Walla Basin in 2004. Two of these sites, Hall-Wentland and Hulette Johnson (formerly referred to as the Hudson Bay site) are located in Oregon. The other two, Locher Road and Stiller Pond, are located in Washington (Figure 1). Based on that effort the WWBWC, would like to eliminate synthetic organic compounds (SOC's) from the analyte list for the proposed multi-site AR monitoring program.

This report presents the results of this review of available AR water quality monitoring data, and WWBWC's recommendations for a single, multi-site water quality monitoring program to be used in lieu of a series of independent site-specific monitoring efforts, including the elimination of SOC sampling from normal AR monitoring for the proposed multi-site AR project.

To that end, the purpose of the analysis is twofold:

1. Evaluate water quality data collected before, during, and following various AR events at the four AR sites in an effort to identify analyte trends that may indicate any possible negative or positive effects with respect to water quality on the alluvial aquifer from AR operations.
2. Using that evaluation, propose removing synthetic organic compounds (SOC's) from the list of sampled parameters is plausible.

The remainder of this report focuses on a review of water quality data collected to-date at each of the four AR sites, the evaluation of the impacts of AR on groundwater quality, and recommendations for the scope of a potential future multi-site AR monitoring effort that eliminates expensive and time consuming SOC sampling. Details of AR operations at the four sites are found in Kennedy/Jenks (2006), GSI (2007a, 2007b, 2008a, 2008b, 2009, 2012), and WBWC and GSI (2010). Alluvial aquifer geology and hydrogeology are discussed in detail in Newcomb (1965), Barker and McNish (1976), and GSI (2007c).

Alluvial Aquifer Water Quality

Alluvial aquifer water quality data collected from the various AR sites and evaluated for this effort varies from site-to-site. However, they generally included field parameters, major ions, nutrients (nitrate-N, total Kjeldahl nitrogen (TKN) and ortho-phosphate), PCB's, bisphenol-A (BPA), and agricultural synthetic organic compounds (SOC's).

AR Site Water Quality Findings

Hulette Johnson

The Hulette Johnson site (Figures 1 and 2) is a fully developed AR site that has been in operations since 2004. Both recharge basins and infiltration galleries are used at this site. It is the most up-gradient of all the sites evaluated herein (WWBWC, 2012) and is located about 2 miles northwest of Milton-Freewater, Oregon. Water quality data used in this evaluation come from two monitoring wells (HJ-1 and HJ-2) and from the source water intake at the site. The source water is Walla Walla River water delivered to the site via the White Ditch operated by HBDIC. This site has been operated under a Limited License issued to the HBDIC.

The samples evaluated herein were collected periodically between 2006 and 2012. Water quality parameters evaluated from the Hulette Johnson site include nitrate-N, total Kjeldahl nitrogen (TKN), ortho-phosphate, chloride, total organic carbon (TOC), total suspended solids (TSS), total dissolved solids (TDS), hardness, and a suite of synthetic organic compounds (SOC's). Field parameter data, consisting of pH and electrical conductance (EC), where only collected at this site during its early years of operation. Plots for many of the parameters collected at this site are provided in Appendix A.

A range of source water and groundwater quality relationships are found in the Hulette Johnson site data. Some parameters display higher values in groundwater, while others display higher values in the source water. In other data sets groundwater quality parameter values are similar to those from source water samples. Specific observations are as follows.

Ortho-phosphate, nitrate-N (nutrient type parameters) and TDS generally are lower in source water during the same sampling events as compared to local groundwater. Slightly negative correlations (Table 1) between both source and alluvial groundwater ortho-phosphate data with sampling dates over time suggest that with respect to this parameter groundwater quality is not degraded but improved during AR operations. Groundwater nitrate-N concentrations have a slightly positive (0.02) correlation to sampling date but source water nitrate-N has a negative correlation (-0.45). The slightly increasing nitrate correlation in groundwater with sampling date over time, as compared to decreasing correlation in surface water, is interpreted to show that surface water introduced via AR is not degrading groundwater quality.

Chemical oxygen demand (COD) data exhibit no trends in groundwater and surface water, but do show generally values with the range of concentrations measured to-date in both systems overlapping (Appendix A Figure A-12). A slightly negative correlation between the data from each sampling location at this site and the sampling date suggests that groundwater quality at this site is not degraded but improved with respect to organic constituents.

TKN and TOC in groundwater and surface water generally show similar values with the range of concentrations measured to-date in both systems overlapping (Appendix A Figures A-17 and A-19). A slightly negative correlation (TKN = -0.31, TOC = -0.52) between the data from each sampling location at this site and the sampling date suggests that groundwater quality at this site is not degraded but improved with respect to TKN and TOC.

Chloride and TSS in source water generally is the same as, or higher than is seen in local groundwater (Appendix A Figures A-15 and A-13). The parameter concentrations measured to-date are low in general and suggest no contamination issues related to TSS and chloride. A positive correlation of chloride data to sampling date (0.54) suggests that chloride in groundwater may be increasing slightly over time. TSS source water data also has a positive correlation to sampling date (0.11), also suggesting that it could be slightly increasing over time. For both parameters though negative correlation in groundwater of -0.03 for chloride and -0.54 for TSS is interpreted to show that AR is not degrading local groundwater quality with respect to these two parameters.

Bisphenol-A (BPA) is the only ***SOC*** at this site with repeat detections, being detected intermittently in site groundwater between 2008 and 2012. BPA has not been detected at this site in source water. To-date, these measured BPA concentrations are two orders of magnitude lower than EPA toxic levels for aquatic organisms. EPA toxic levels for aquatics are between 1100 and 10,200 µg/L for aquatic organisms (EPA, 1988). Insufficient data is available for statistical and long term trend evaluation of BPA at this site.

In summary, these data are interpreted to show that to-date, AR operations at the Hulette Johnson site generally have not lead to degradation of local groundwater. Nutrients in source water are lower than seen in groundwater; therefore if they have any influence on groundwater, they decrease down gradient concentrations. Although Chloride and TSS are higher in source water, the relatively low concentrations seen in local groundwater are interpreted to reflect a minimal impact on local groundwater quality by AR operations. With respect to other parameters TDS, TKN, and TOC in both groundwater and surface water overlap to such a degree that they are interpreted to reflect a similar origin and AR operations has a minimal influence on them. SOC data collected to-date do not show any impact to groundwater by AR activities. BPA when found in groundwater is not detected in source water, suggesting its introduction to groundwater via other means than AR activity at this location.

Hall-Wentland

The Hall-Wentland site (Figures 1 and 3) hosted AR activity between 2006 and 2009. This site is located 4 miles southwest of Walla Walla, WA and about 6 miles northeast of the Hulette Johnson site. The Hall-Wentland site is on irrigated pasture and adjacent cropped ground which was flooded for AR operations. Water was delivered to the Hall-Wentland site via a small canal, the Wells ditch. Wells ditch is sourced from a weir structure on the East Branch of the Little Walla Walla River less than one mile south-southeast of the site. When operated, this AR project was operated under a Limited License issued to the WWRID, but operated by a local land owner.

WQ samples were collected in 2006, 2007, 2008, and 2009 from one up-gradient monitoring well (HW-2), two down-gradient monitoring wells (HW-1 and HW-3), and from source water before, during, and after AR operations. Parameters used in this evaluation of AR influences on groundwater at the Hall-Wentland site include pH, EC, turbidity, nitrate-N, hardness, TDS, chloride, and SOC's. Plots for these data are provided in Appendix B. As with the Hulette Johnson site, water quality data from the Hall-Wentland site shows that for some constituents source water and groundwater geochemistry are similar, while for others they differ, but without a significant change, or degradation, in groundwater conditions resulting from AR operations.

With respect to the ***field parameters (pH and EC)*** source water pH generally is higher than groundwater pH, and while there is a slight increase in down-gradient pH the differences between the two are small (Appendix B Figures B-13 and B-14), and up-gradient to down-gradient changes are not consistent. Source water EC generally is lower than groundwater EC, and groundwater EC does not show any clear up-gradient to down-gradient changes that are interpreted as indicative of AR influences on groundwater quality (Appendix B Figure B-14). These trends are exemplified with a positive correlation (0.23) between pH and sampling date over time in source water and slightly negative correlations between groundwater data sets (-0.05, -0.23 and -0.23 for HW-1, HW-2 and HW-3 respectively).

Turbidity also appears to be generally higher in source water when compared to groundwater. With that though, there is no readily apparent increase in groundwater turbidity from up-gradient to down-gradient at the Hall-Wentland site (Appendix B Figure B-15). This likely reflects the filtration of fines from the source water as it migrates through the vadose zone to the water table.

Source water generally displays lower values for ***hardness, TDS, and nitrate-N*** than groundwater (Appendix B Figures B-16 and B-19). Given that, if there were significant changes in groundwater quality caused by AR operations at the Hall-Wentland site one should expect to see up-gradient to down-gradient decreases in these parameters. Such trends are not readily apparent in the data collected to-date. Negative correlations (see Table 1) between source and groundwater samples at this site for all but one sampling location (HW-3, which is the furthest down-gradient) indicate that groundwater quality with respect to TDS could have improved due to AR at this site. All sampling locations at this site exhibited positive correlations between nitrate values and sampling dates over time (See Table 1). Being that groundwater values are higher than source water values (Appendix B Figure B-19), it is most likely that nitrate-N levels in groundwater are influenced by other activities than AR.

Ortho-phosphate in groundwater and surface water generally show similar values with the range of concentrations measured to-date in both systems overlapping (Appendix B Figure B-20). Positive correlations between ortho-phosphate values and sampling times (See Table 1) showed that values increased over the time of sampling at this site.

The ***chloride*** data collected during Hall-Wentland operations contains some anomalously high values which may mask a trend indicative of AR influences on groundwater quality (Appendix B Figure B-18). Although chloride concentrations generally are low in both groundwater and source water (<5 mg/L) high and low source water values do seem to generally be reflected in down-gradient increases and decreases. Given that though, negative correlations between chloride data and sampling dates over time for all sampling locations at this this site suggest that chloride over time could be decreasing.

Three ***SOC's, di(ethylhexyl)-phthalate, diethyl phthalate, and Malathion***, were detected in 4 different sampling events. However, in only one sampling event were SOC's (di(ethylhexyl)-phthalate and diethyl phthalate) detected in the source water. In all cases, the detected concentrations were below EPA drinking water standards, as follows:

- Di(ethylhexyl)-phthalate values ranged from 1.6 to 4.1 µg/L. The EPA drinking water standard is 6.0 µg/L.
- Diethyl phthalate values ranged from 0.5 to 2.2 µg/L. The EPA drinking water standard for diethyl phthalate is 5000 µg/L.
- Malathion was detected only for the 04/11/07 sampling event in the three wells and not in the source water. Malathion levels ranged 0.3 to 0.4 µg/L. This is far below the EPA drinking water standard of 500 µg/L.

Insufficient data is available for statistical and long term trend evaluation of SOC's at this site.

In summary data from the Hall-Wentland site are interpreted to show that AR operations generally had little or no significant influence on local groundwater quality. There are likely several reasons for this, including:

- The general similarity of the source water and the groundwater at the Hall-Wentland site may be related to the location and leaky nature of the Wells ditch with respect to the monitoring wells and the AR site. Wells ditch was shown during work on the AR project to be a leaking ditch, supplying recharge to local groundwater. The ditch is in-turn located up gradient of the up gradient well, HW-2. Given this relationship, water leaking from the canal to the aquifer has already influenced local groundwater up gradient of the AR site, masking any potential AR site influence on local groundwater. This relationship is one we have come to expect across much of the Basin, the surface water system contributes significant recharge to the alluvial aquifer, and as such, exerts a strong influence on local groundwater quality quite independently of any AR activity.
- For some constituents the soil column (vadose zone) acts as a filter and these constituents are held up, or filtered, by the soil column as water infiltrates from the surface to the underlying alluvial aquifer.
- In other cases, where constituents are present in groundwater but not in source water, such as is usually the case with SOC's, we infer that these entered the groundwater system at a location(s) other than the AR site.

Based on what was seen at the Hall-Wentland site when it was operated, AR activity may have influenced down-gradient water quality, but the changes from up to down-gradient are relatively small, with the total potential change caused by AR less than variation occurring independent of AR resulting from natural (or normal) canal and ditch operations. With that though, even normal operation generally appears to not cause degradation of the underlying alluvial aquifer.

Locher Road

The Locher Road site is an excavated basin specifically designed for AR located within a larger, inactive gravel pit. It is cross gradient of the Hall-Wentland site and down gradient from the Hulette Johnson site. It is located about 5 miles southwest of College Place, WA (Figures 1 and 4). AR operations occurred seasonally at the site in 2006, 2007, 2008, 2009, 2011, and 2012. The Locher Road site is operated by GFID#13 under an agreement with the owner of the site.

Water quality samples have been collected from one up gradient monitoring well (L-1), two down gradient monitoring wells (L-2 and L-3), and from the source water diversion on GFID's Burlingame Canal. Parameters used in this evaluation of potential AR influences on the alluvial aquifer include the field parameters pH and EC, turbidity, nitrate-N, hardness, TDS, chloride, and SOC's. Plots for these data are provided in Appendix C.

Locher Road groundwater monitoring data is interpreted to show that AR at this site does influence groundwater quality. In addition, some of the data may show the influence of local land uses.

TDS, hardness, and EC data are interpreted to show up gradient to down gradient decreases directly related to AR. Generally source water values are lower than down gradient groundwater, and down gradient groundwater values are lower than up gradient (Appendix C Figures C-15, C-16 and C-12). Scatter plot trends and positive correlations between TDS data and sampling dates over time for all site source and all groundwater datasets indicates a slight increasing trend over time. However, this trend appears to be slight enough as to not be indicative of any groundwater degradation by AR operations at the site (Appendix C Figures C-5, C-15 and Table 1). EC at this site exhibits slightly increasing trends on scatter plots and positive correlations between EC values and sampling dates over time in source water and all monitoring wells except the up-gradient well LR-1 which exhibits a slightly negative trend and negative correlation (Appendix C Figures C-2, C-12 and Table 1). However actual values of EC from LR-1 average higher than all other locations and source water at this site which is typical for up-gradient conditions. LR-1 is very close to the recharge basin and the decreasing trend and negative correlation with sampling date over time could be due to some groundwater dilution caused by possible groundwater mounding from AR.

Chemical oxygen demand (COD) show concentration ranges where both source water and groundwater overlap (Appendix C Figure C-14 and Table 1). These data are interpreted to show that there are no trends in groundwater and surface water.

Locher Road site ***nitrate- N*** data is interpreted to in part reflect groundwater impacts unrelated to AR operations. Source water nitrate-N is very low and prior to 2009 there was an up gradient to down gradient decrease in constituent concentration that is interpreted to result from source water dilution of groundwater nitrate -N. In the 2009, 2011, and 2012 there is elevated nitrate-N in the most down gradient well, L-2, while source nitrate-N is extremely low, less than 1 mg/L. Elevated nitrate-N in well L-2 is interpreted to be because the well is down gradient of an actively farmed field and results from fertilizer application on that field, and not AR operations. Box-plot analysis and positive correlation coefficient comparisons between sampling location datasets at this site indicate dilution of groundwater with respect to nitrate-N in a down gradient direction (Appendix C Figure C-18 and Table 1). This is interpreted to show no alluvial groundwater quality degradation, but possibly improvement, because of AR operations with respect nitrate-N.

Source water generally displays lower values for ***ortho-phosphate*** than groundwater. These values do trend together and are relatively close suggesting a common source of ortho-phosphate for both systems. These observations can be seen in box-plots comparing sampling location datasets for this site (Appendix C Figure C-19). Source water ortho-phosphate correlation with sampling date over time is slightly positive but moderately negative for all monitoring wells. This suggests that AR operation at Locher Road does not degrade alluvial groundwater quality with respect to ortho-phosphate.

Chloride, pH, and turbidity data are less clear, and at this time are interpreted to show that source water and local groundwater have many similarities. With that general interpretation groundwater chloride generally is higher than source water, groundwater pH generally is lower, and turbidity does not seem to show a clear trend because of intermittent elevated levels in L-1. On box-plots, source and groundwater chloride ranges overlap, further illustrating the similarity between them (Appendix C Figure C-17). Turbidity does exhibit slightly negative correlations with sampling dates over time suggesting some possible flushing of fine materials from the alluvial aquifer in the vicinity of Locher Road due to AR (Table 1).

With respect to ***SOC's***, the Locher Road SOC data collected in 2007 and 2008 is similar to the other SOC data sets, showing intermittent low concentration detections of just a few parameters ***(Bromacil, Malathion, Di-N-Butyl-Phthalate)***, although these parameters differ somewhat from the other sites. Bromacil is detected in some of the up gradient groundwater samples, but not in the down gradient samples, suggesting potential down gradient dilution from AR activities. The other low concentration SOC detections for Malathion (detected once in all three wells) and Di-N-Butyl-Phthalate (detected in 2 sampling events in 2007) are sporadic, low concentration in nature, and show down gradient reduction in concentrations when seen. These are interpreted to show that Locher Road AR activities are not causing degradation of local groundwater by introducing SOC's to the alluvial aquifer system. Insufficient data is available for statistical and long term trend evaluation of SOC's at this site.

Stiller Pond

The Stiller Pond AR site is an artificial pond that has been used historically as an irrigation water storage impoundment. Unlike the other three sites it is located north of the Walla Walla River and several miles west of Walla Walla (Figure 1 and 5). The source of water for the Stiller Pond site is Mill Creek, and water is delivered via a pipeline that extends from the creek to the site. The Stiller Pond site was operated by the WWCCD, under an agreement with the land owner.

AR operations first began at Stiller Pond in the spring of 2012 and lasted approximately 3 weeks. During this AR event water quality samples were collected at one down gradient well and from the source water. Parameters used in this evaluation of potential AR influences on the alluvial aquifer include the field parameters pH, EC, dissolved oxygen (DO), and oxidation-reduction potential (ORP) and hardness, chloride, magnesium, TDS, nitrate-N, phosphate, and TKN.

SOC's were not collected at the Stiller Pond site. Comparative histograms for the data collected are provided in Appendix D.

Like the other AR sites described herein, at Stiller Pond, the influence of AR operations on local groundwater is apparent but impacts are not major and do not appear to lead to degradation of local groundwater quality. Specifically:

- Pre- and post-test groundwater and source water ***pH*** remained relatively consistent.
- ***EC and ORP*** appear to have decreased as a result of AR activities, with the down gradient well dropping soon after the start of AR operations and infiltration of low EC and anion source water.
- ***Chloride, hardness, magnesium, and TDS*** were all lower following the AR event. This is again inferred to result from dilution of groundwater constituents as low concentration source water infiltrated to and recharge the local alluvial aquifer.
- Nutrient concentrations, which include ***nitrate-N, phosphate, and TKN*** are interpreted to show that AR at this site did not degrade groundwater quality. TKN was elevated slightly in the post-recharge sample, but this was expected due to the introduction of additional organic nitrogen, ammonia and ammonium to the groundwater via recharge through the biomass on the surface of the Pond in the form of decaying plant matter. This slight rise in TKN is not interpreted to reflect groundwater degradation because the slight increase in TKN did not correspond to a matching increase in nitrate-N. In fact, nitrate-N decreased in groundwater following the AR event.

Basic water quality parameters summarized above are interpreted to show that AR activities at the Site did not degrade groundwater quality during the 2012 AR season. This data, especially the fact that pre-test groundwater concentrations in most parameters are higher than post-test groundwater concentrations and source water, suggests AR operations at the Site may lead to reductions in parameter concentrations as recharge water is added to the alluvial aquifer underlying the Site.

Summary

Review of the groundwater quality monitoring data collected to-date at the three active AR sites, Hulette Johnson, Locher Road, and Stiller Pond and at the inactive Hall-Wentland site we conclude that while AR operations conducted in the Walla Walla Basin does influence local groundwater quality, this influence should not be construed as degradation. Based on the data reviewed here the basic changes seen include the following:

- With respect to nutrient type constituents, including nitrate-N, TKN, phosphate, and ortho-phosphate the groundwater changes we see generally show down gradient declines in constituent concentrations, which we interpret to reflect dilution of groundwater concentrations by AR water.
- Other parameters, such as TDS, chloride, and EC also commonly show evidence of down gradient reductions through AR sites that we again interpret as evidence of dilution of these parameters in groundwater by AR water.
- The SOC data available for these sites is interpreted to show that AR operations have essentially no influence on SOC's present in groundwater. Based on what we reviewed

SOC detections are sporadic, not systematic, and at very low concentrations. With that observation, we interpret the few detections to result from background conditions reflective of activities other than AR operations.

- In addition to these observations, the Hall-Wentland data is instructive as it shows the importance of natural leakage from surface waters (which typically are the same waters these AR sites use for source water) influencing local groundwater chemistry.

The water quality data collected over several AR seasons from four different sites are interpreted to have not resulted in alluvial aquifer water quality degradation. Field parameters and major ion hydrochemical trends seen in monitoring well data commonly show reduced concentrations, indicating dilution of groundwater concentrations by AR operations. A few anomalies did occur in these trends, but low source water concentrations versus high monitoring well concentrations strongly suggest that AR operations were not the cause of these anomalies. There were no significant SOC detections from any site. Of the SOC detections seen in the data sets, SOC concentrations are low enough to be considered background levels and/or these detections were instances of localized transient introduction to the water table from an unaltered ground surface AR site (specifically HW).

Recommendations

Based on our interpretation that AR has led to little to no degradation of groundwater quality in the Walla Walla Basin, we recommend that future monitoring of AR projects exclude extensive sampling and testing for SOC's. The data collected to-date is interpreted to show very low, and sporadic background SOC concentrations not related to AR activities. Rather SOC detections are likely related to transient events originating at sites other than the AR sites. Thus it is unlikely that SOC's have been or would be introduced to the alluvial groundwater by AR source water.

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Table 1. Correlation Coefficients between Water Quality Parameters and Sampling Dates over Time. EC =electrical conductivity, COD = chemical oxygen demand, TDS = total dissolved solids, TSS = total suspended solids, TKN = total Kjeldahl nitrogen and TOC = total organic carbon.

Site/ Well	**Correlation Coefficient**											
	pH	**EC**	**Turb.**	**COD**	**TDS**	**TSS**	**HCO3**	**Cl-**	**NO3-**	**TKN**	**Ortho-phos.**	**TOC**
Hall-Wentland												
Source	0.23	0.34	0.16	-0.33	-0.23	N/A	-0.15	-0.44	0.07	N/A	0.42	N/A
HW-1	-0.05	0.66	0.61	-0.28	-0.06	N/A	-0.08	-0.36	0.52	N/A	0.61	N/A
HW-2	-0.23	0.57	0.18	-0.28	-0.02	N/A	-0.36	-0.27	0.32	N/A	0.59	N/A
HW-3	-0.23	0.86	0.12	-0.25	0.21	N/A	0.05	-0.37	0.64	N/A	0.71	N/A
Hulette-Johnson												
Source	N/A	N/A	N/A	-0.89	0.33	0.11	N/A	-0.03	-0.45	-0.31	-0.15	-0.52
HJ-1	N/A	N/A	N/A	-0.57	0.30	-0.54	N/A	0.54	0.02	-0.25	-0.20	-0.35
Locher Road												
Source	-0.50	0.01	0.76	0.31	0.14	N/A	0.00	-0.57	-0.25	N/A	0.14	N/A
LR-1	-0.43	-0.16	-0.11	0.03	0.44	N/A	-0.37	0.40	0.28	N/A	-0.40	N/A
LR-2	-0.69	0.54	-0.03	-0.05	0.68	N/A	0.42	0.55	0.63	N/A	-0.42	N/A
LR-3	-0.65	0.12	-0.22	-0.09	0.33	N/A	0.07	-0.27	0.43	N/A	-0.39	N/A

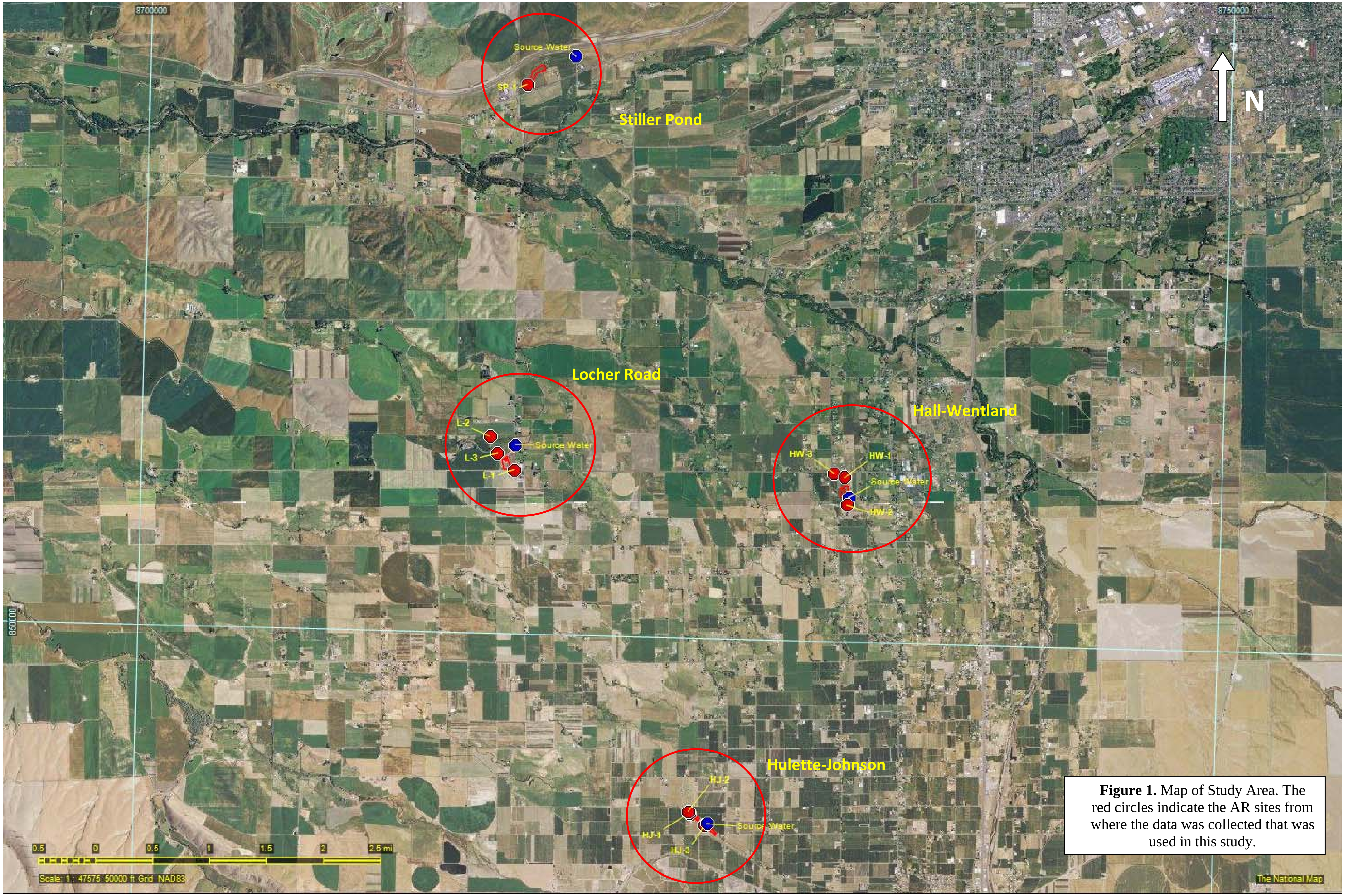

Figure 1. Map of Study Area. The red circles indicate the AR sites from where the data was collected that was used in this study.

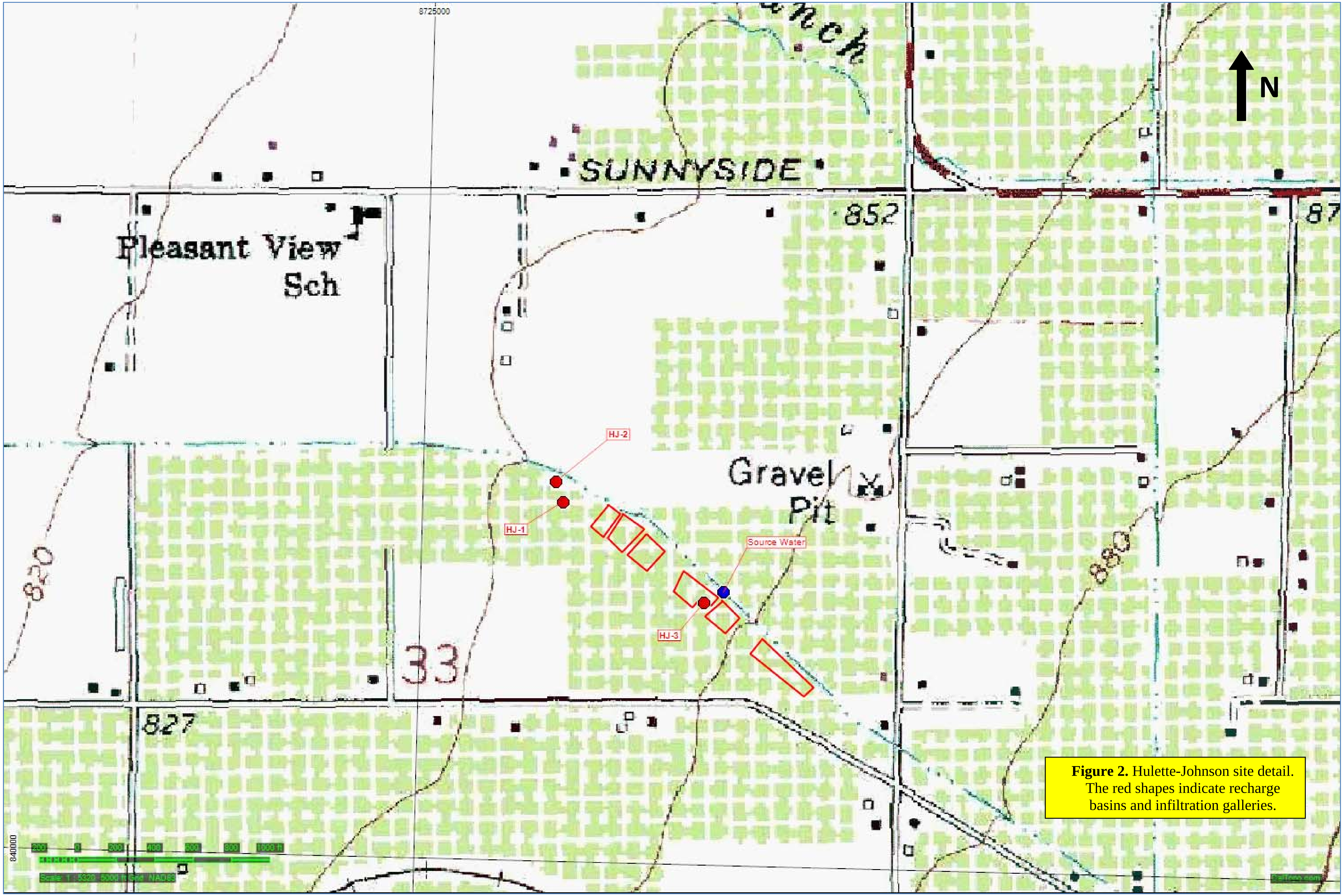

Figure 2. Hulette-Johnson site detail. The red shapes indicate recharge basins and infiltration galleries.

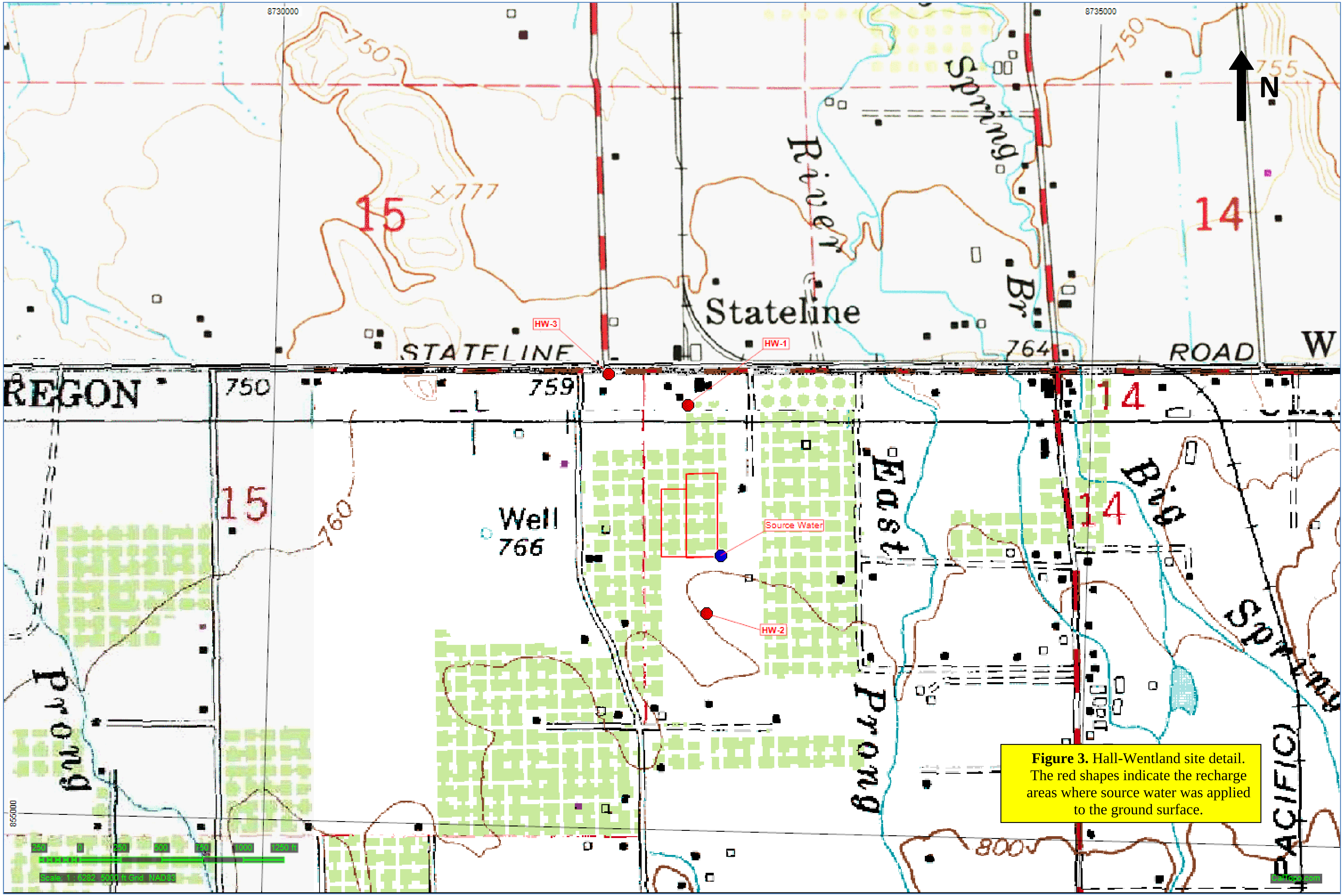

Figure 3. Hall-Wentland site detail. The red shapes indicate the recharge areas where source water was applied to the ground surface.

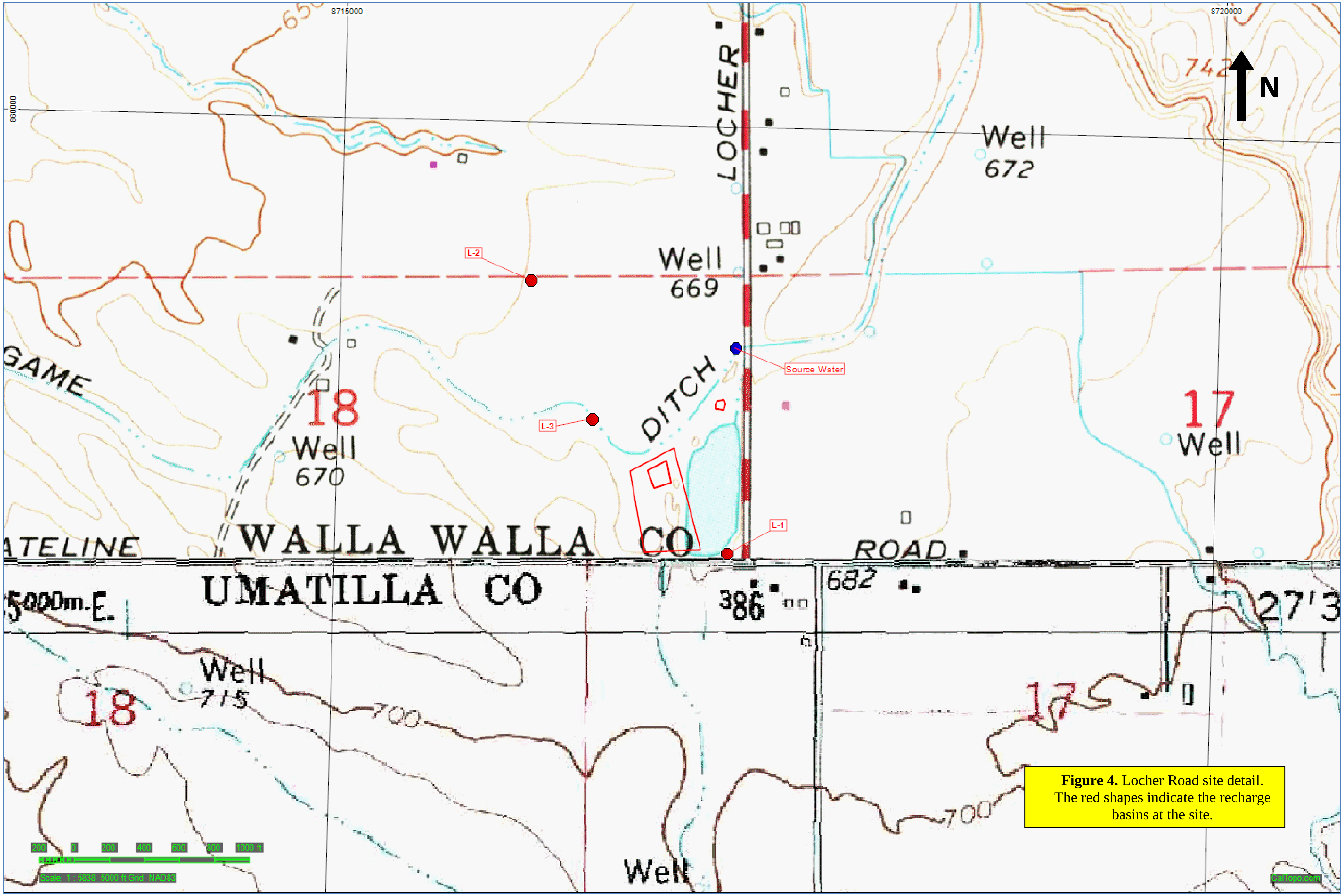

Figure 4. Locher Road site detail. The red shapes indicate the recharge basins at the site.

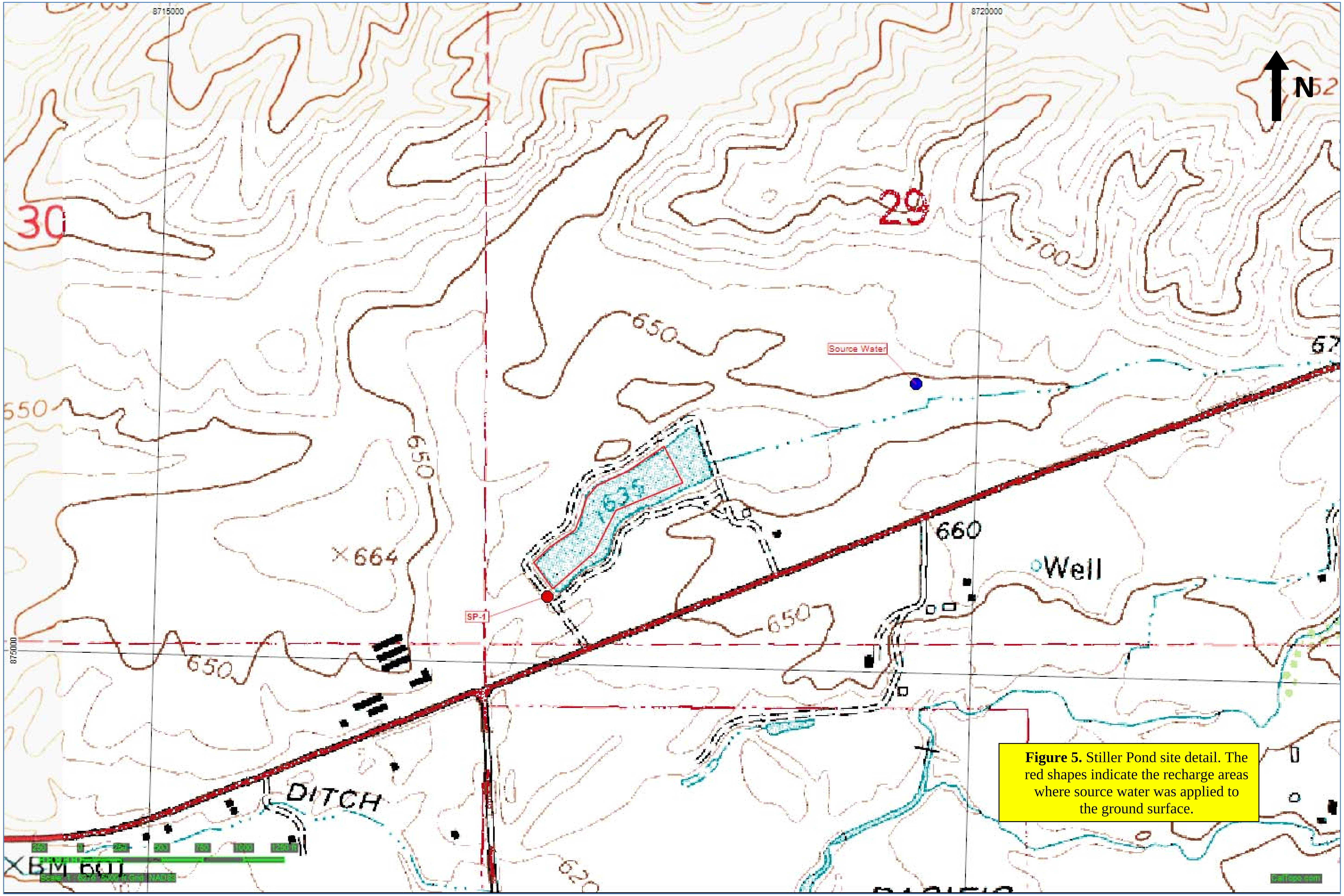

Figure 5. Stiller Pond site detail. The red shapes indicate the recharge areas where source water was applied to the ground surface.

Appendix A

Hewlett-Johnson Data Plots

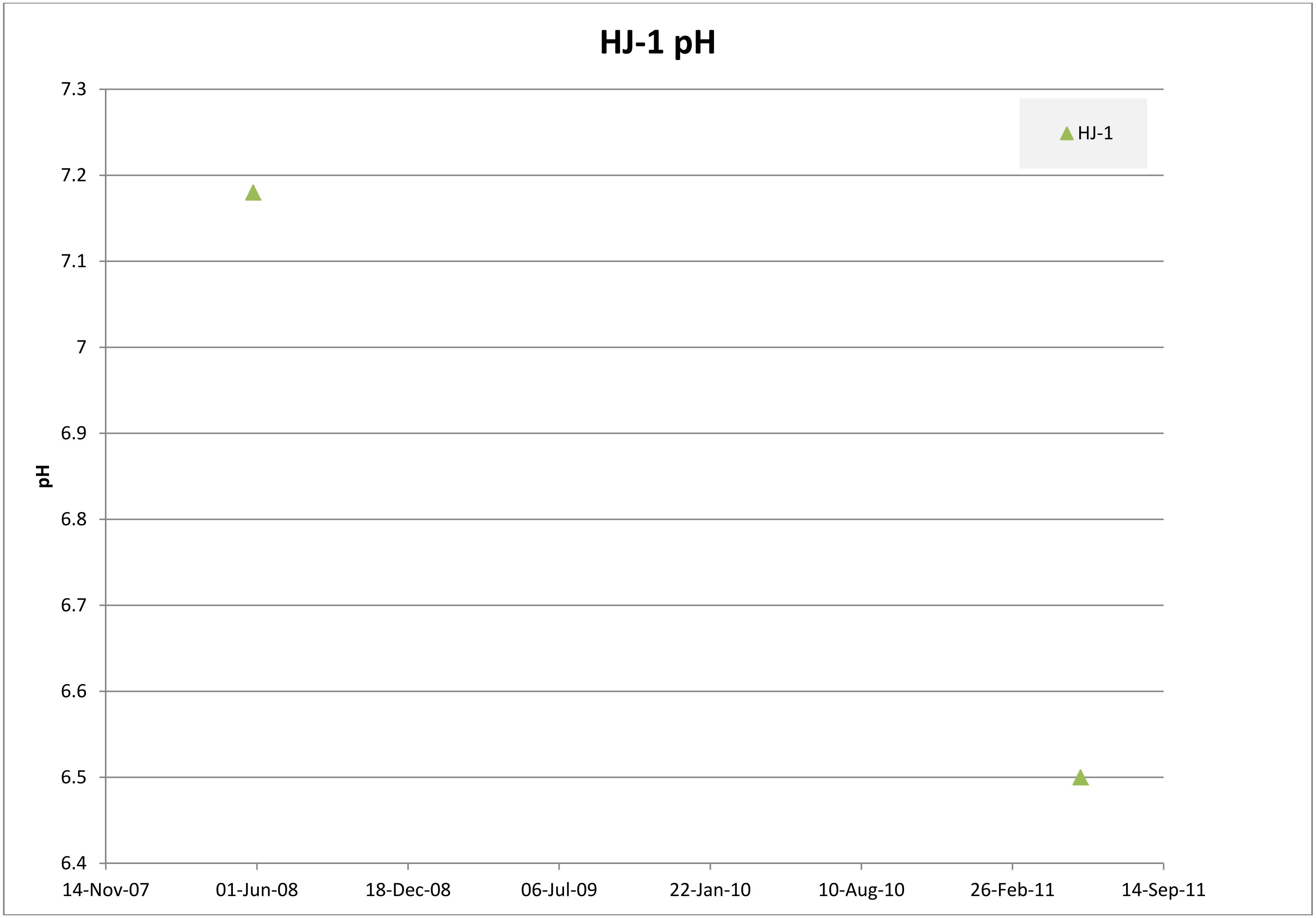

Figure A-1. Hewlett-Johnson pH. HJ-1 = Hewlett-Johnson monitoring well 1.

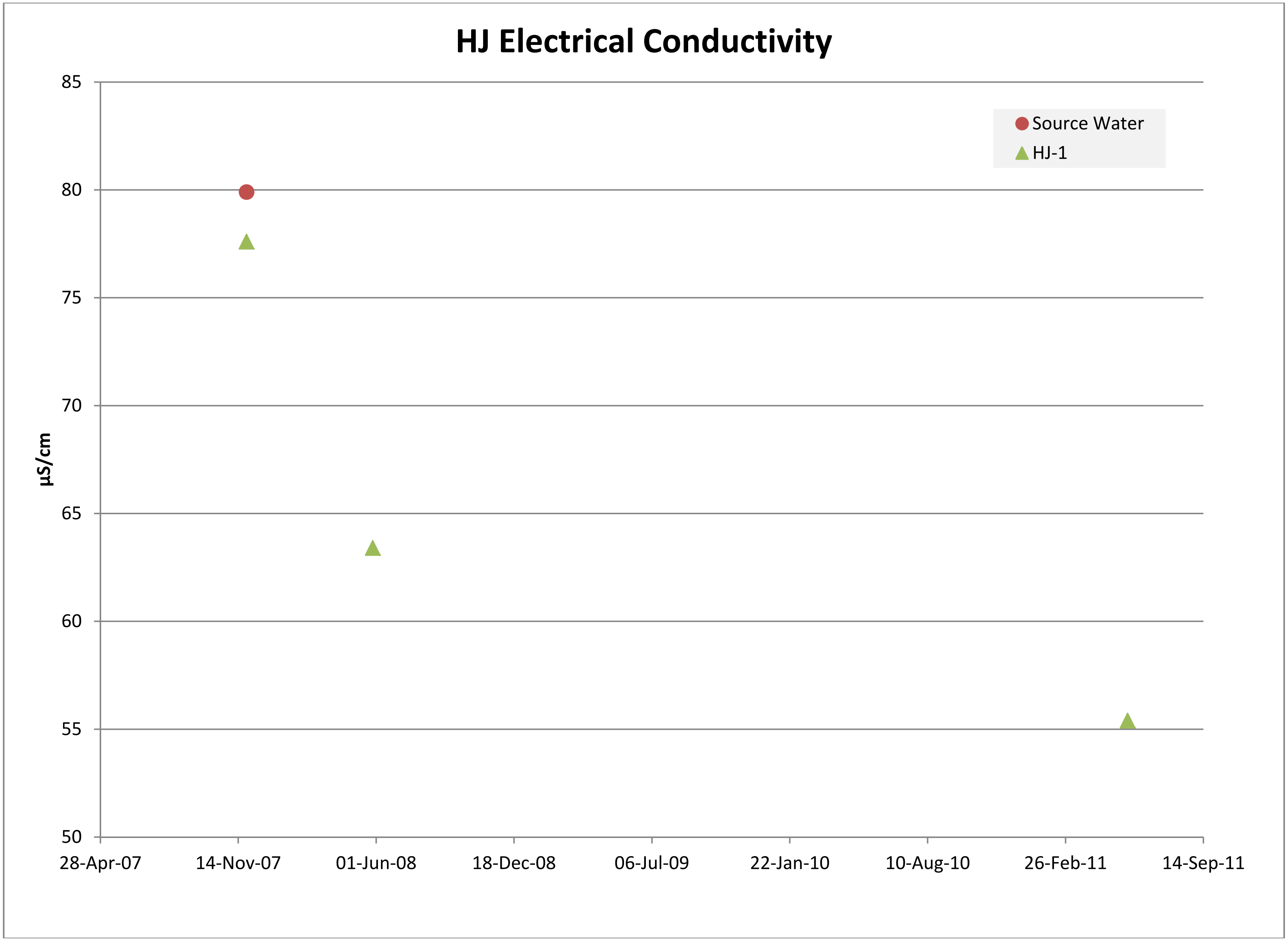

Figure A-2.Hewlett-Johnson electrical conductivity (EC). HJ-1 = Hewlett-Johnson monitoring well 1.

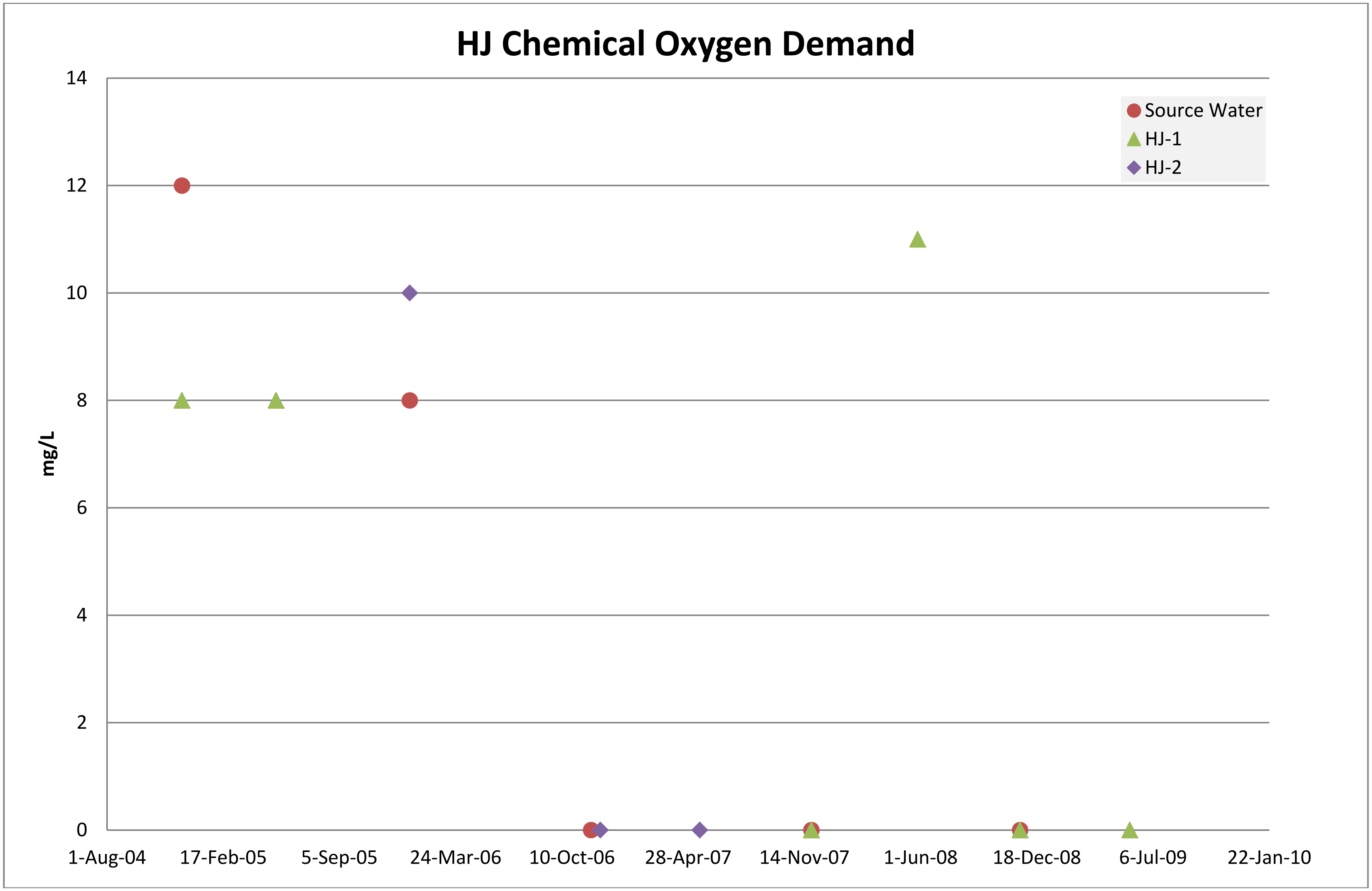

Figure A-3. Hewlett-Johnson chemical oxygen demand (COD). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

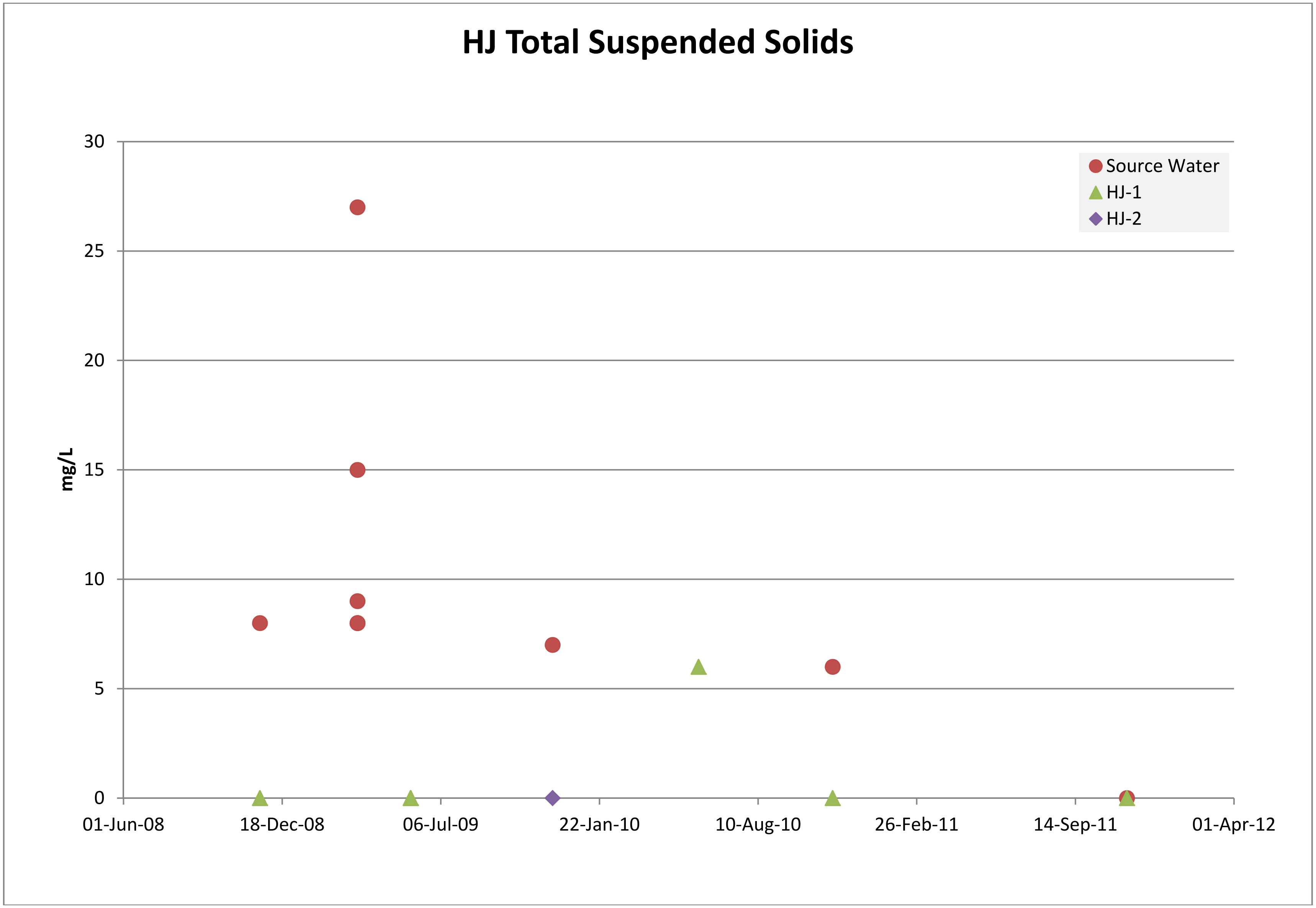

Figure A-4.Hewlett-Johnson total suspended solids (TSS). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

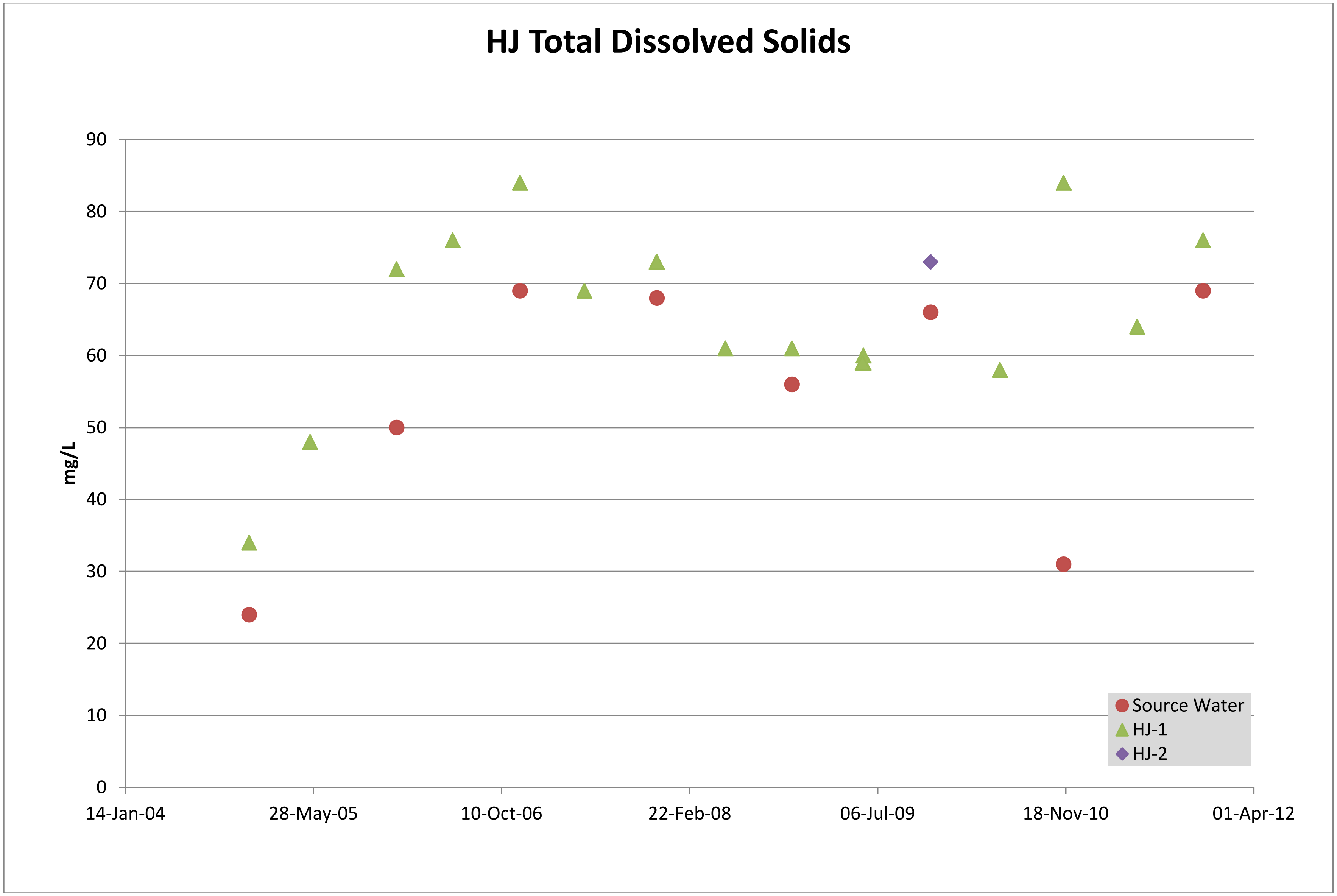

Figure A-5. Hewlett-Johnson total dissolved solids (TDS). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

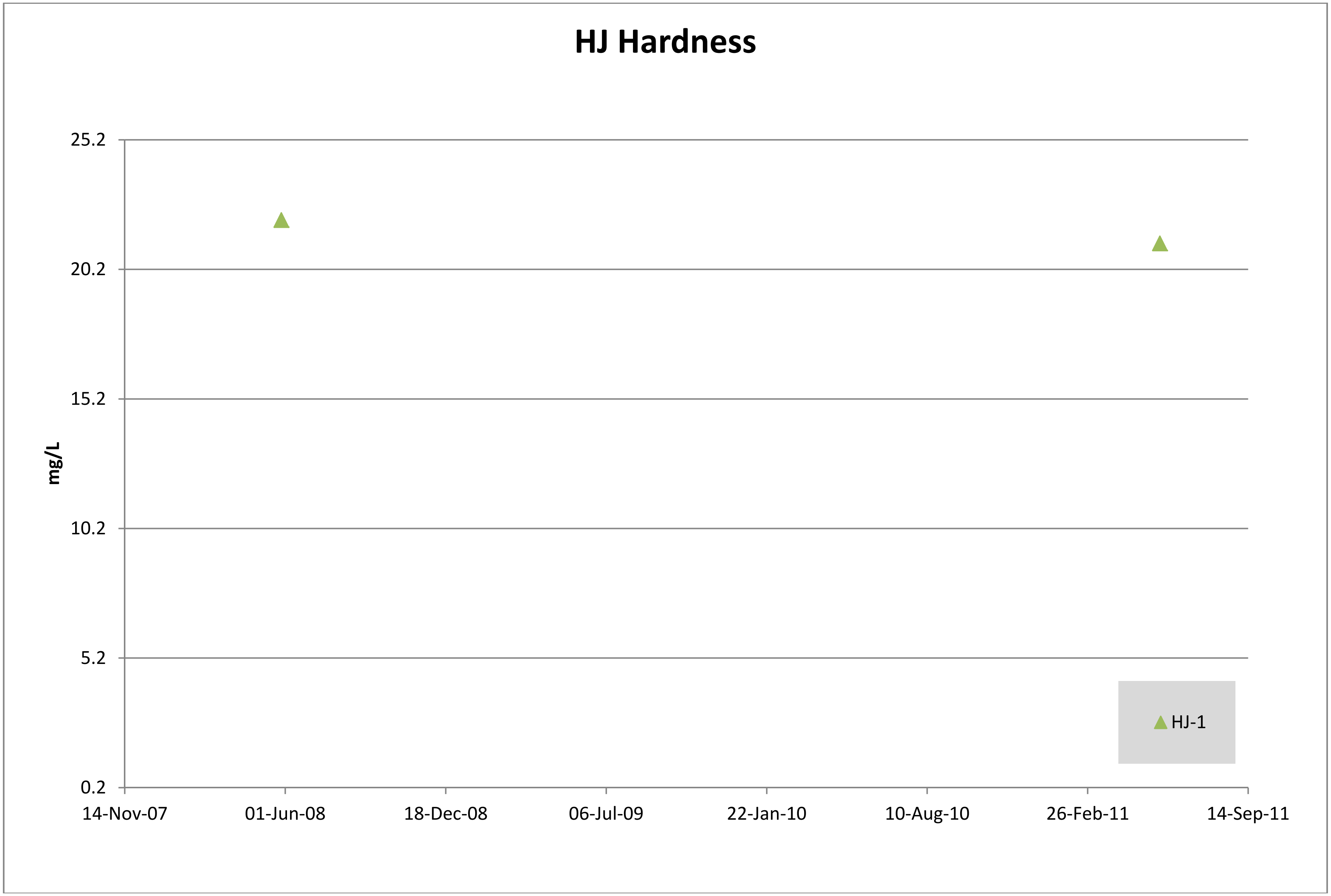

Figure A-6. Hewlett-Johnson hardness. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

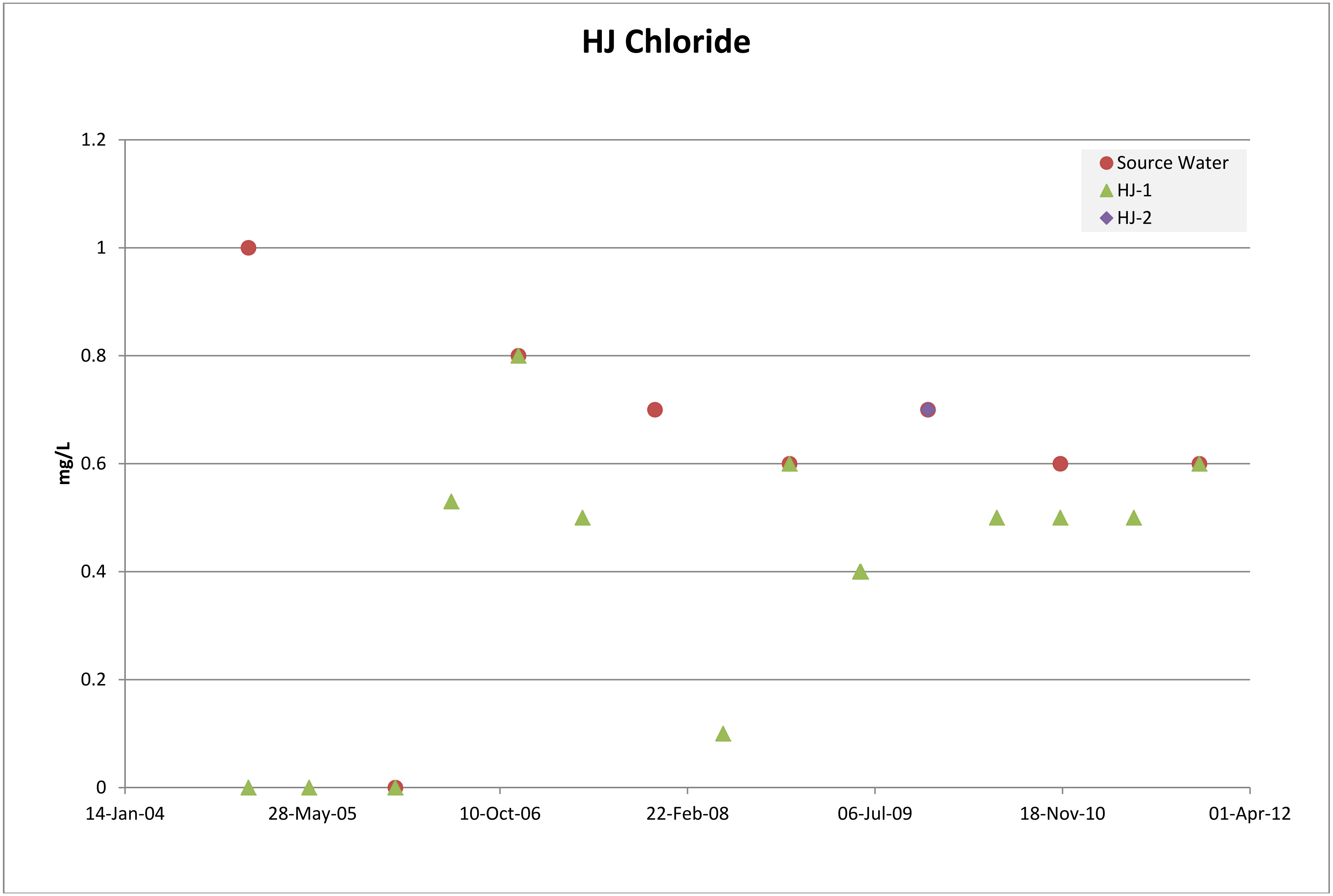

Figure A-7. Hewlett-Johnson chloride. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

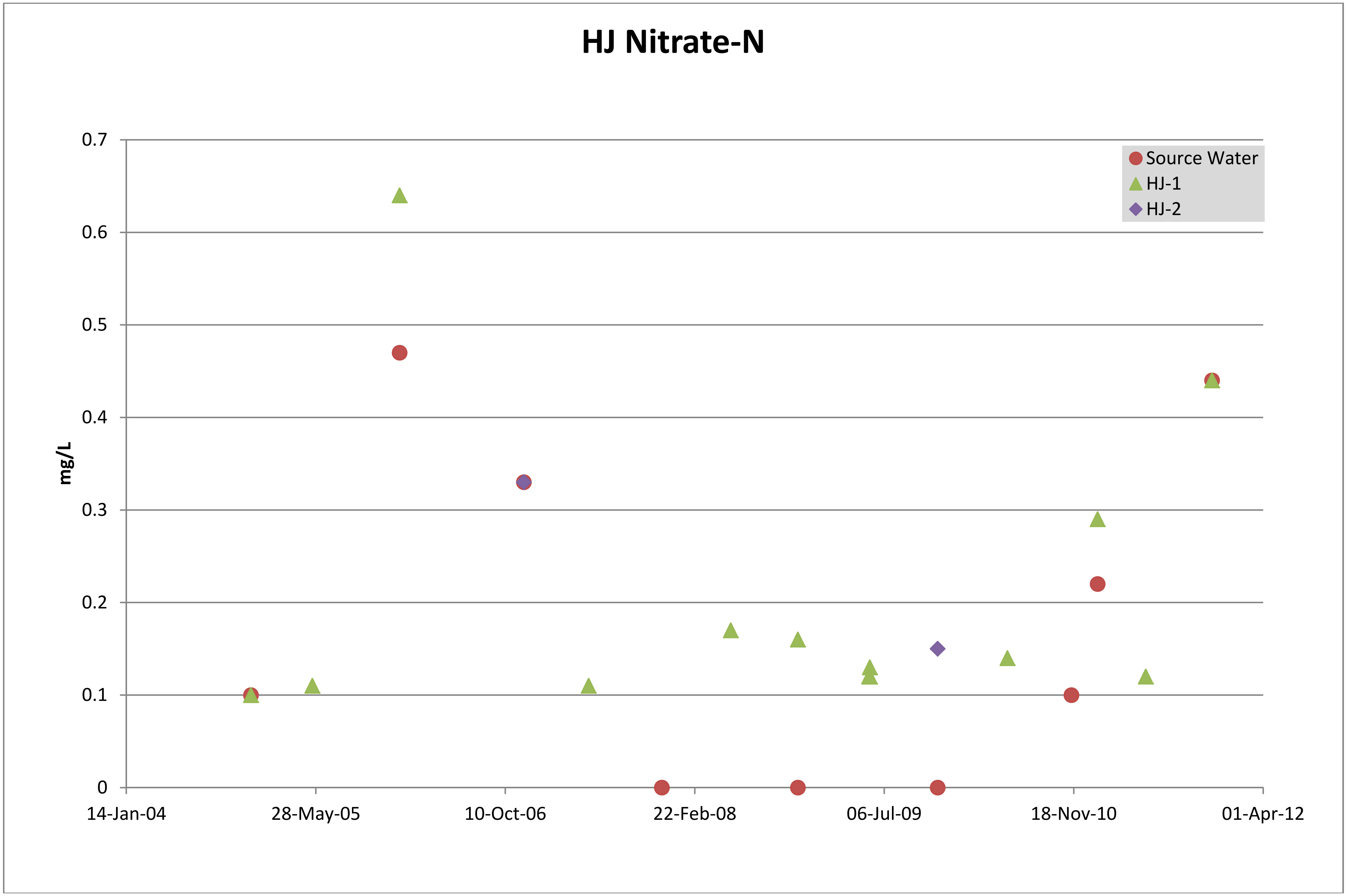

Figure A-8. Hewlett-Johnson nitrate. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

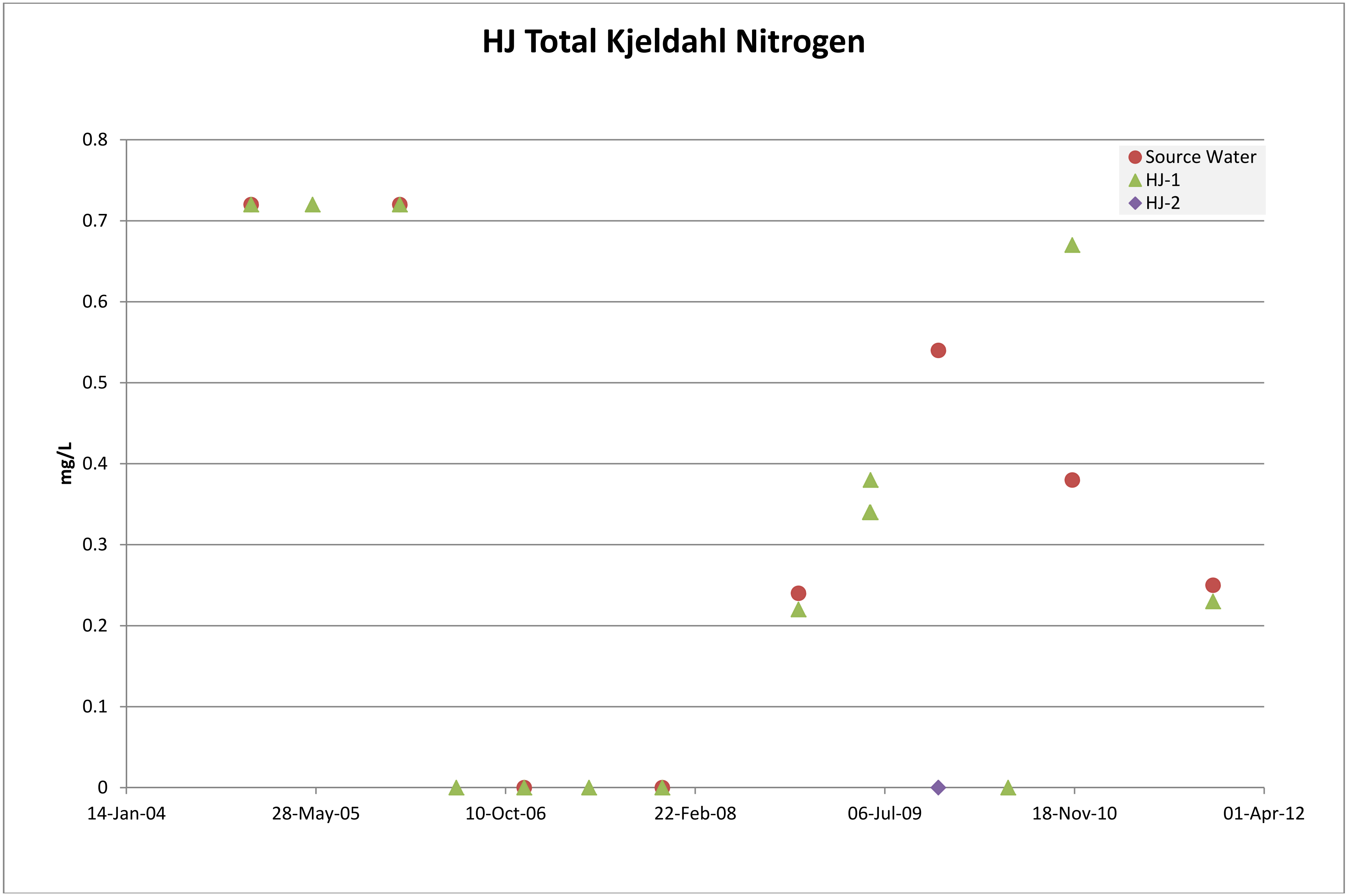

Figure A-9. Hewlett-Johnson total Kjeldahl nitrogen (TKN). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

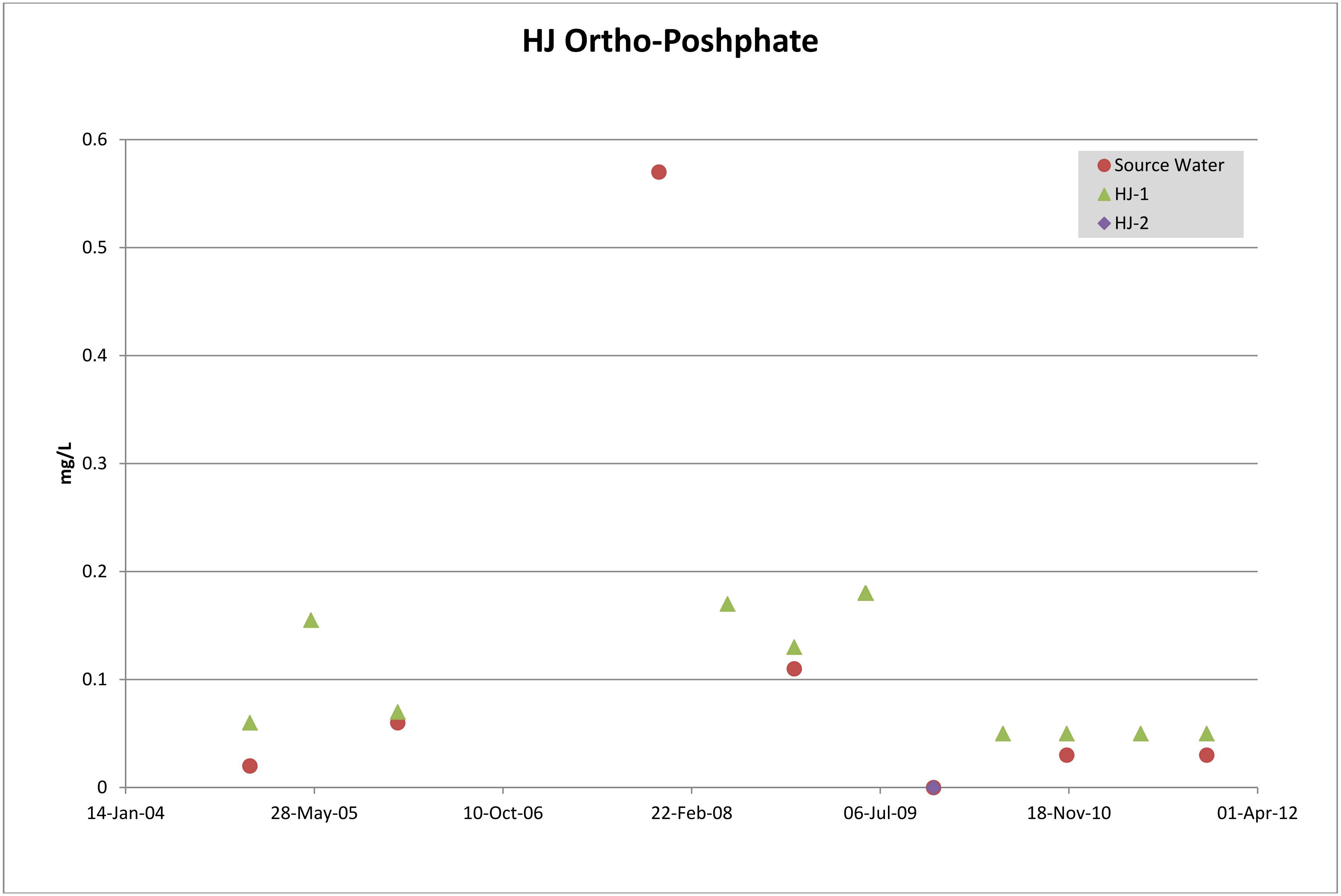

Figure A-10. Hewlett-Johnson ortho-phosphate. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

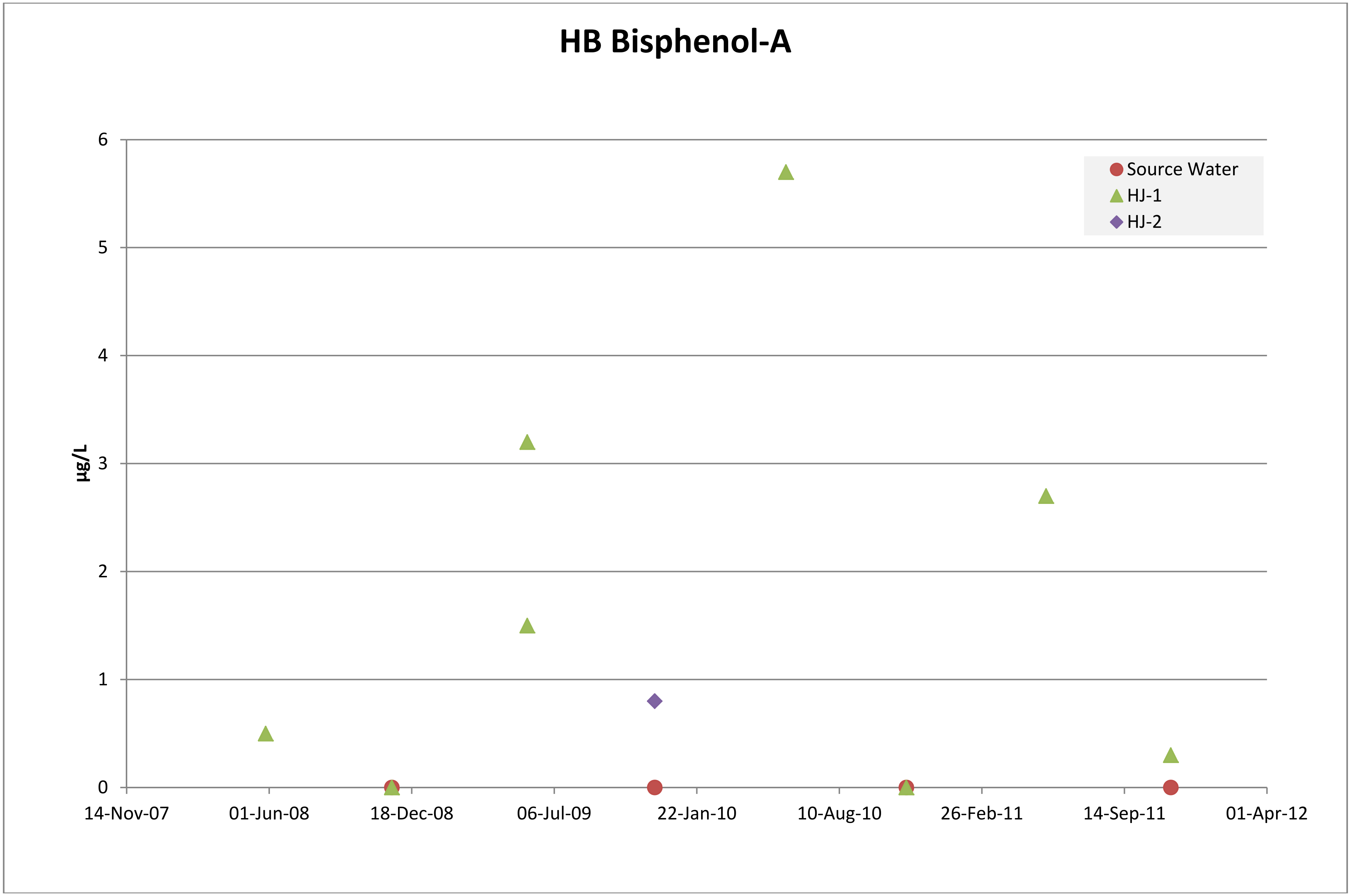

Figure A-11. Hewlett-Johnson bisphenol-A. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

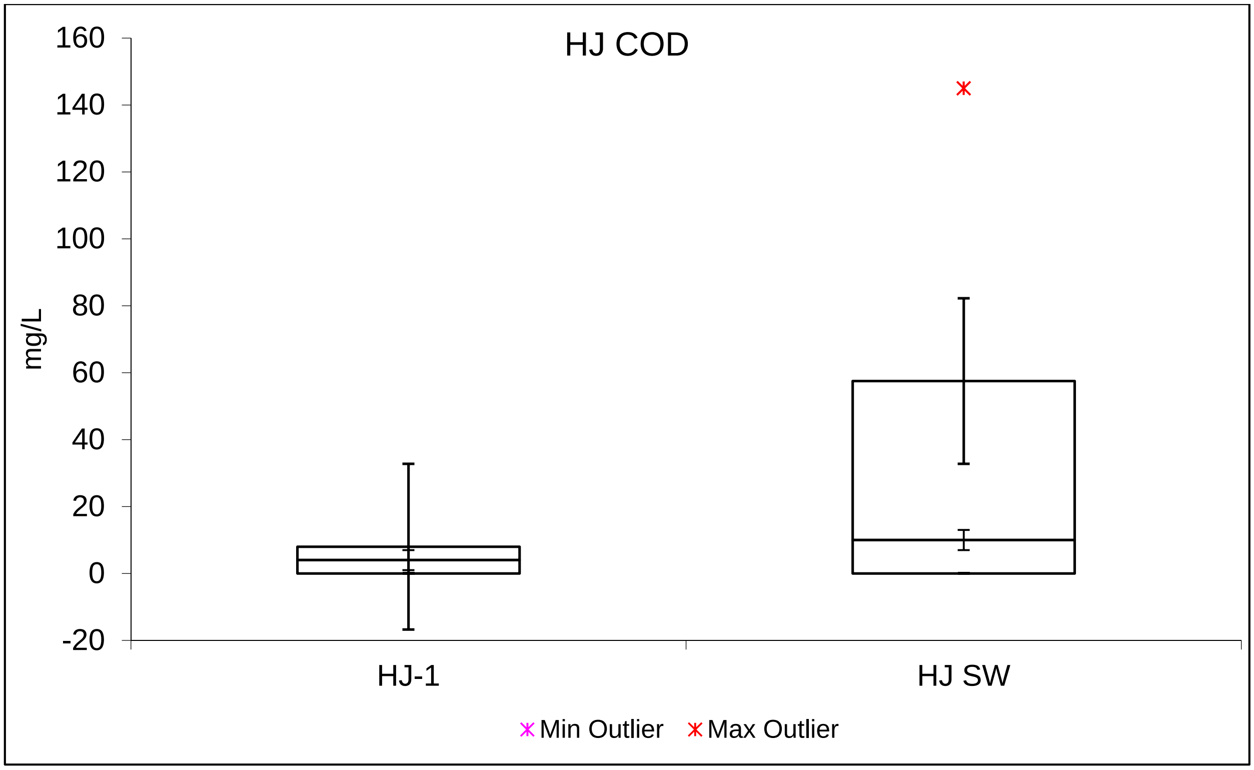

Figure A-12. Hewlett-Johnson pH box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

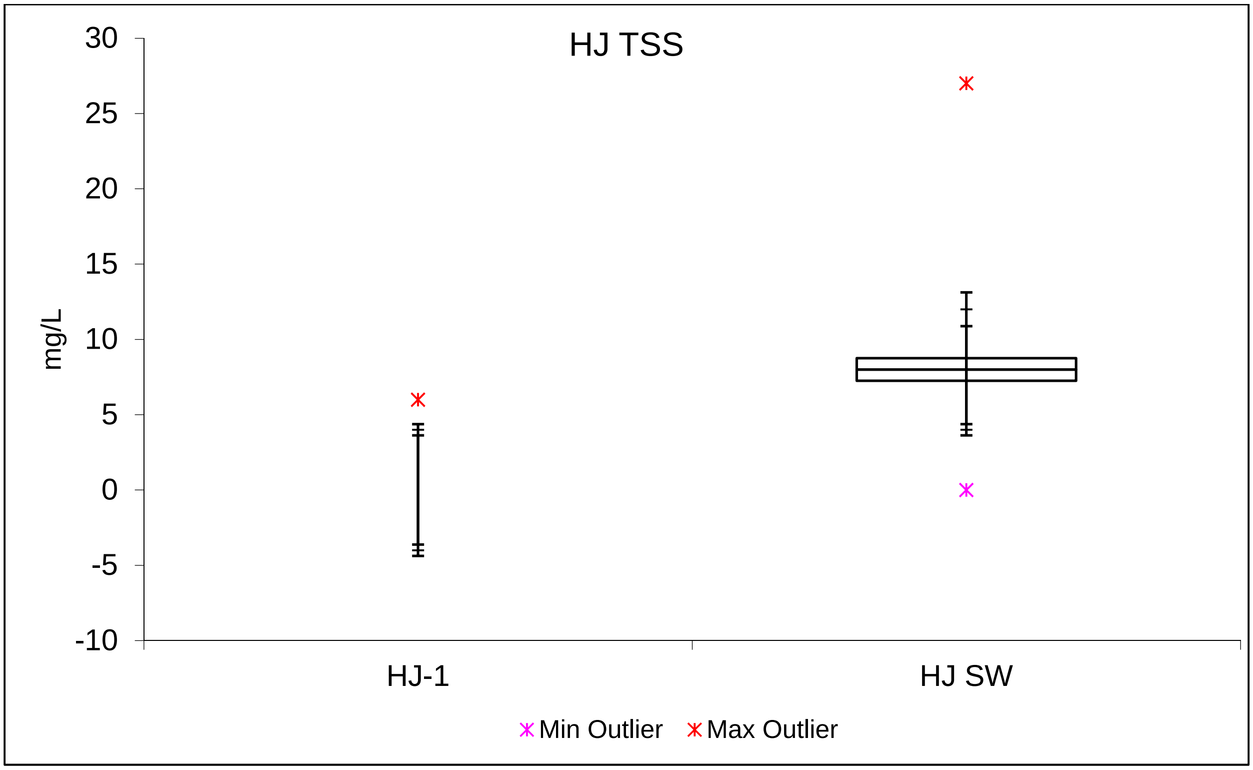

Figure A-13. Hewlett-Johnson TSS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

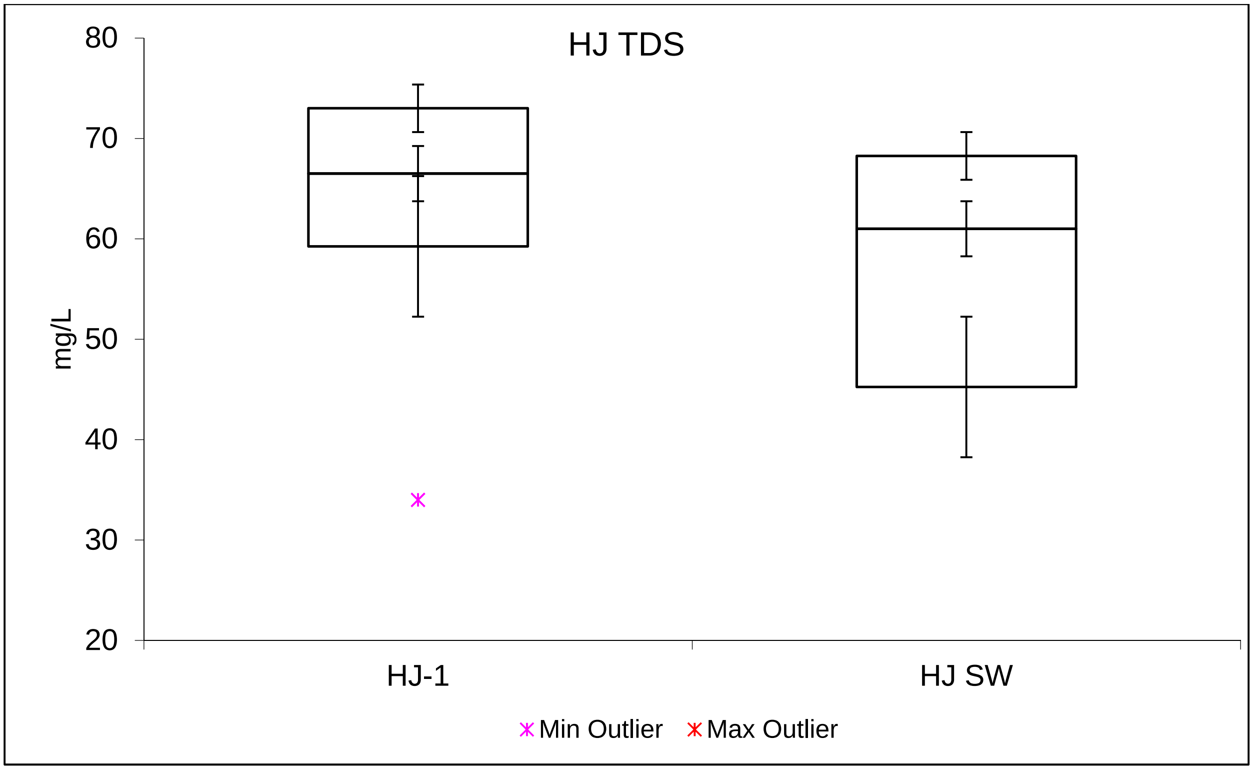

Figure A-14. Hewlett-Johnson TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

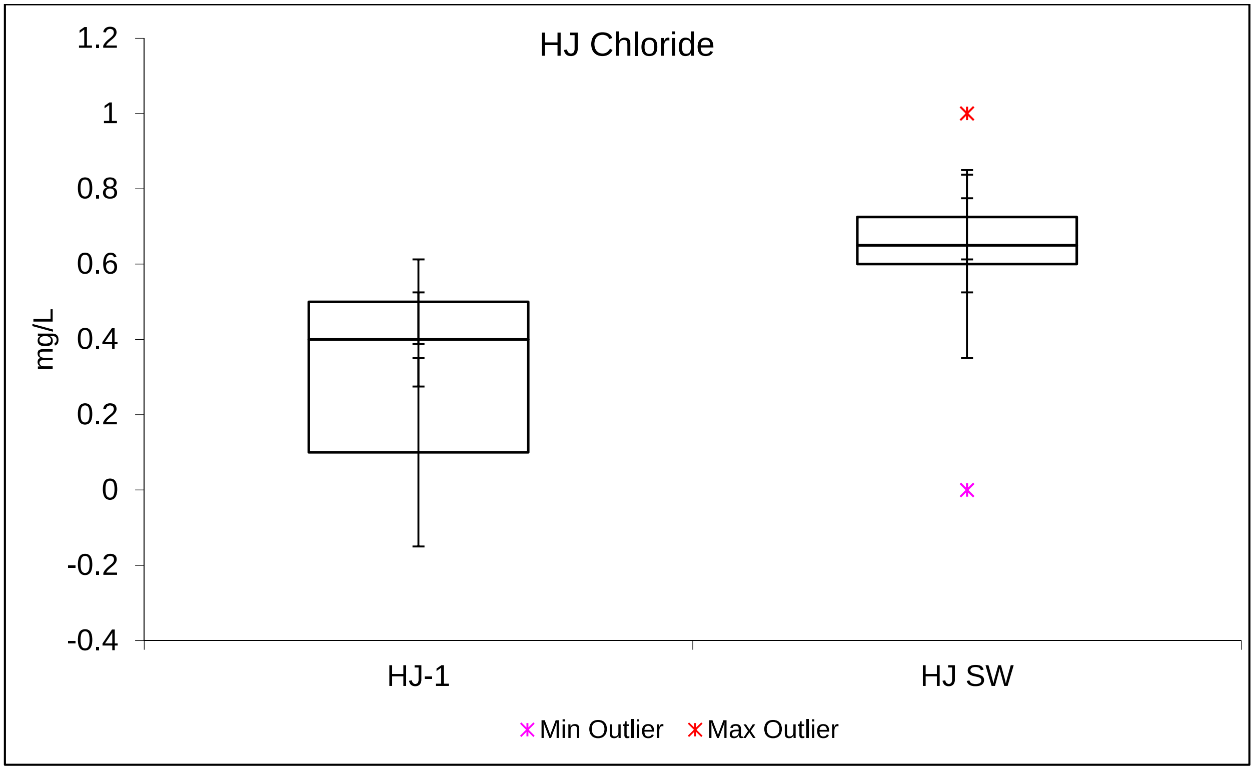

Figure A-15. Hewlett-Johnson chloride box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

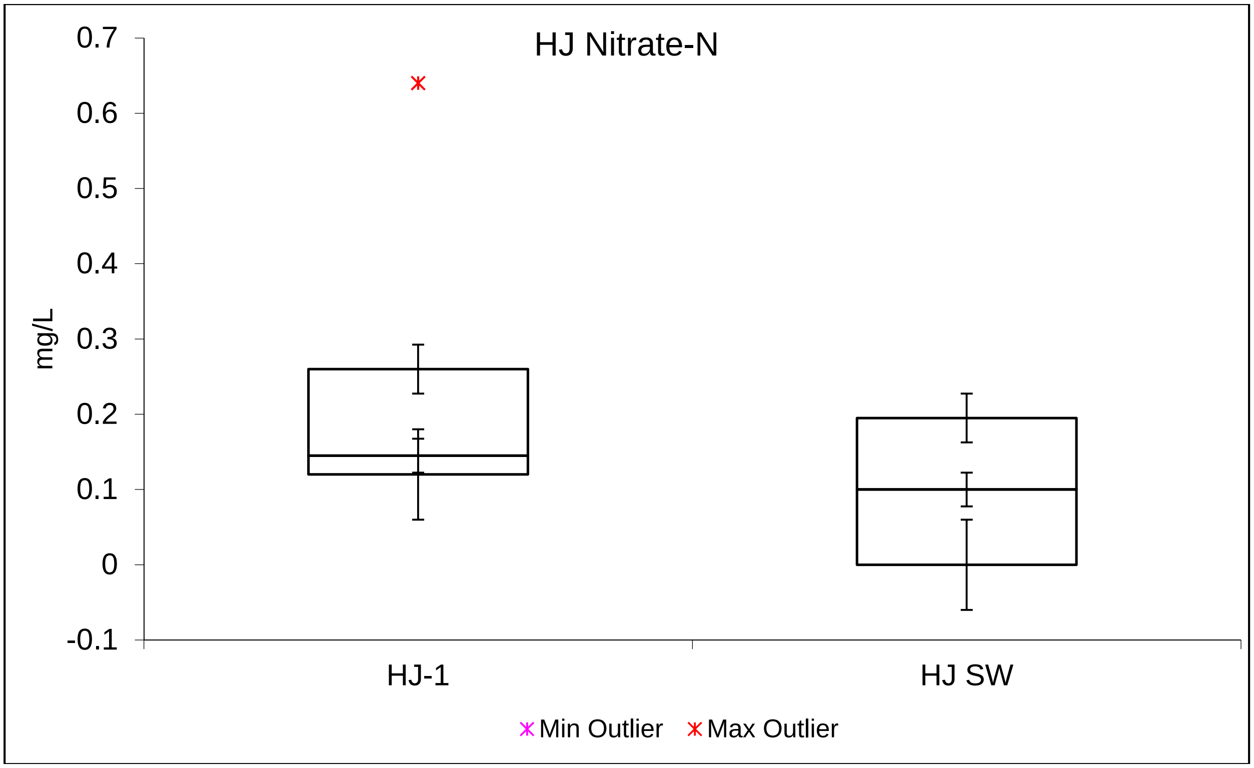

Figure A-16. Hewlett-Johnson nitrate-N box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

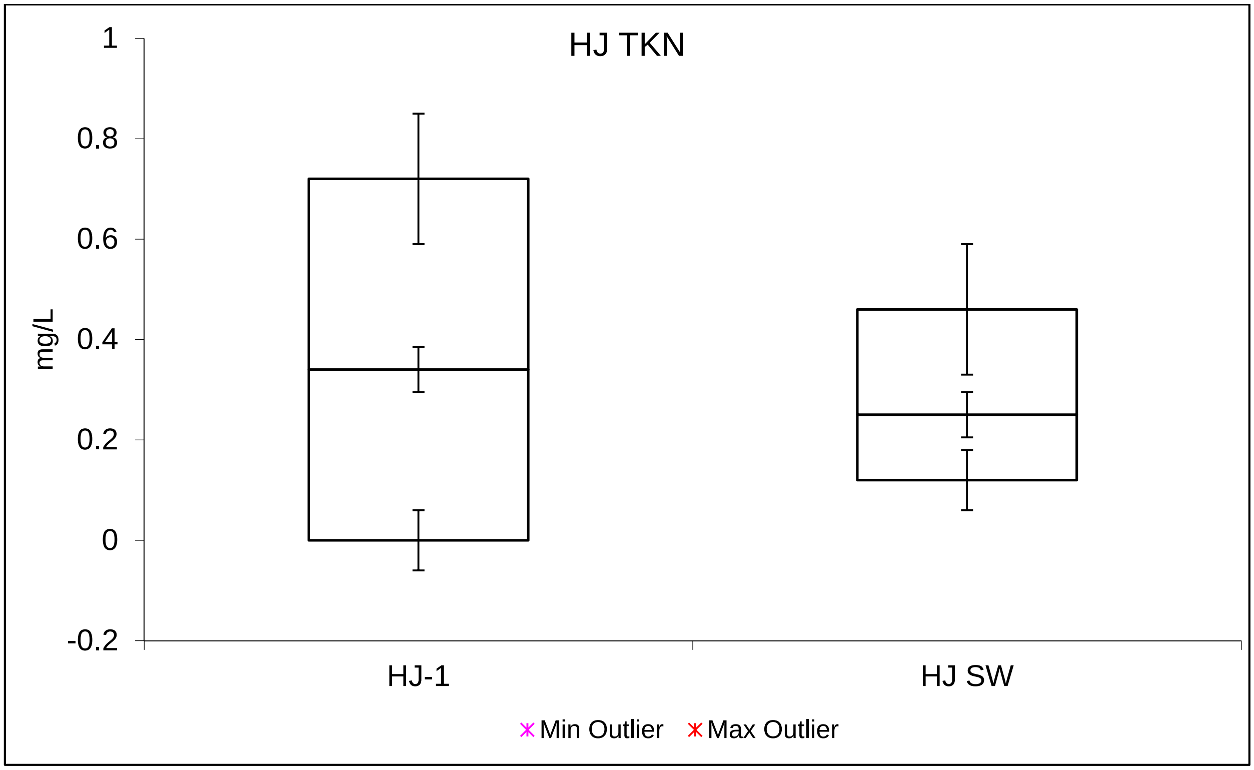

Figure A-17. Hewlett-Johnson TKN box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

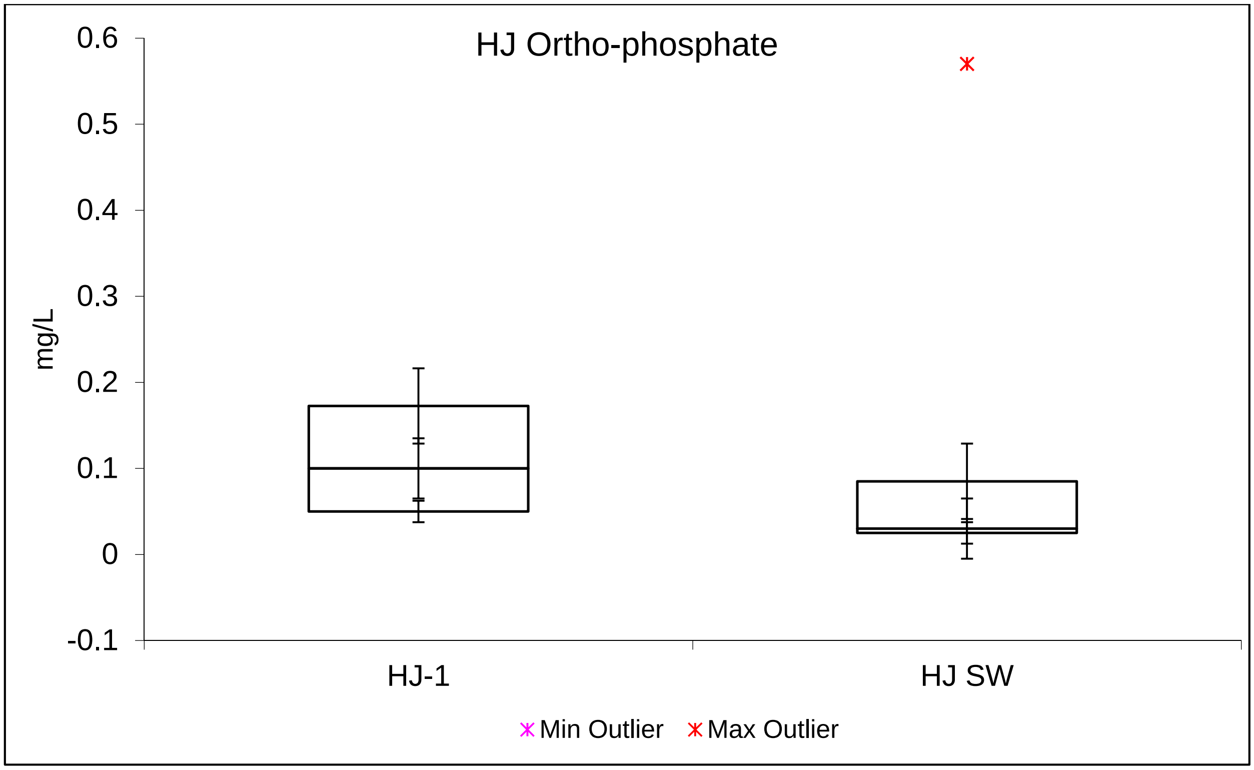

Figure A-18. Hewlett-Johnson ortho-phosphate box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

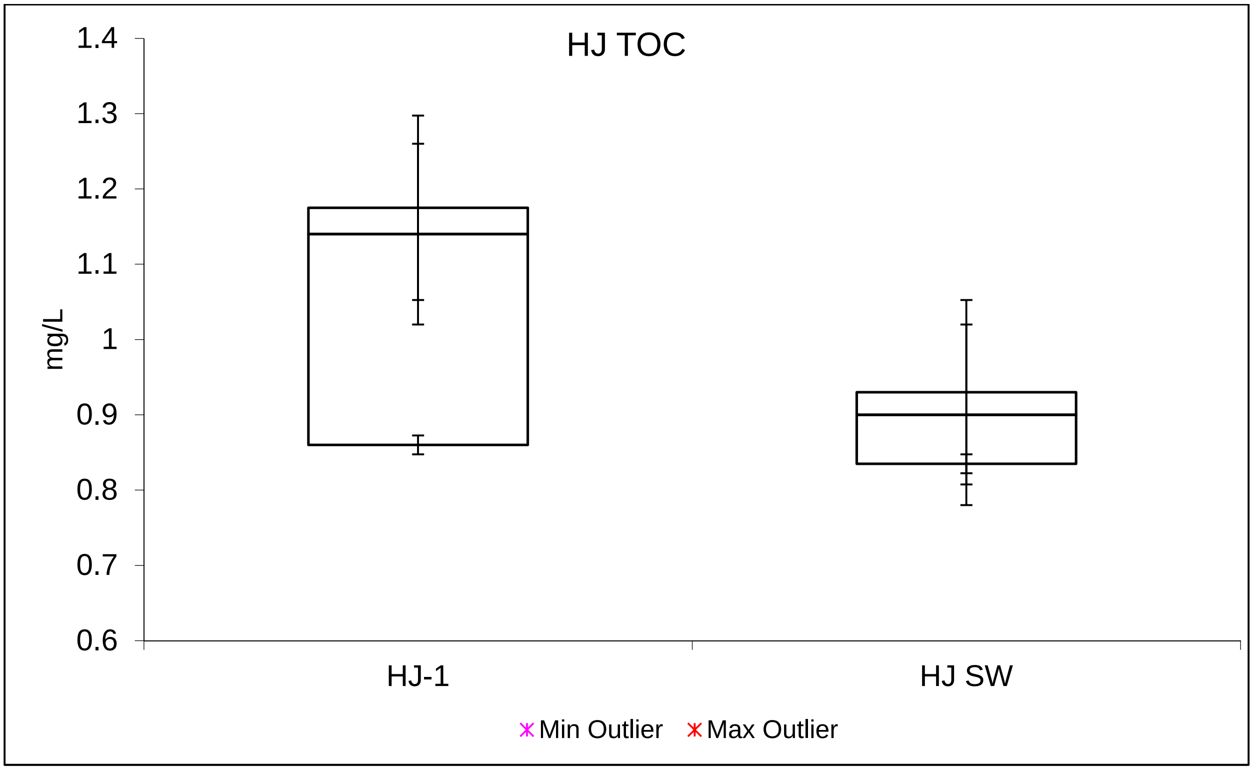

Figure A-19. Hewlett-Johnson TOC box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

Appendix B

Hall-Wentland Data Plots

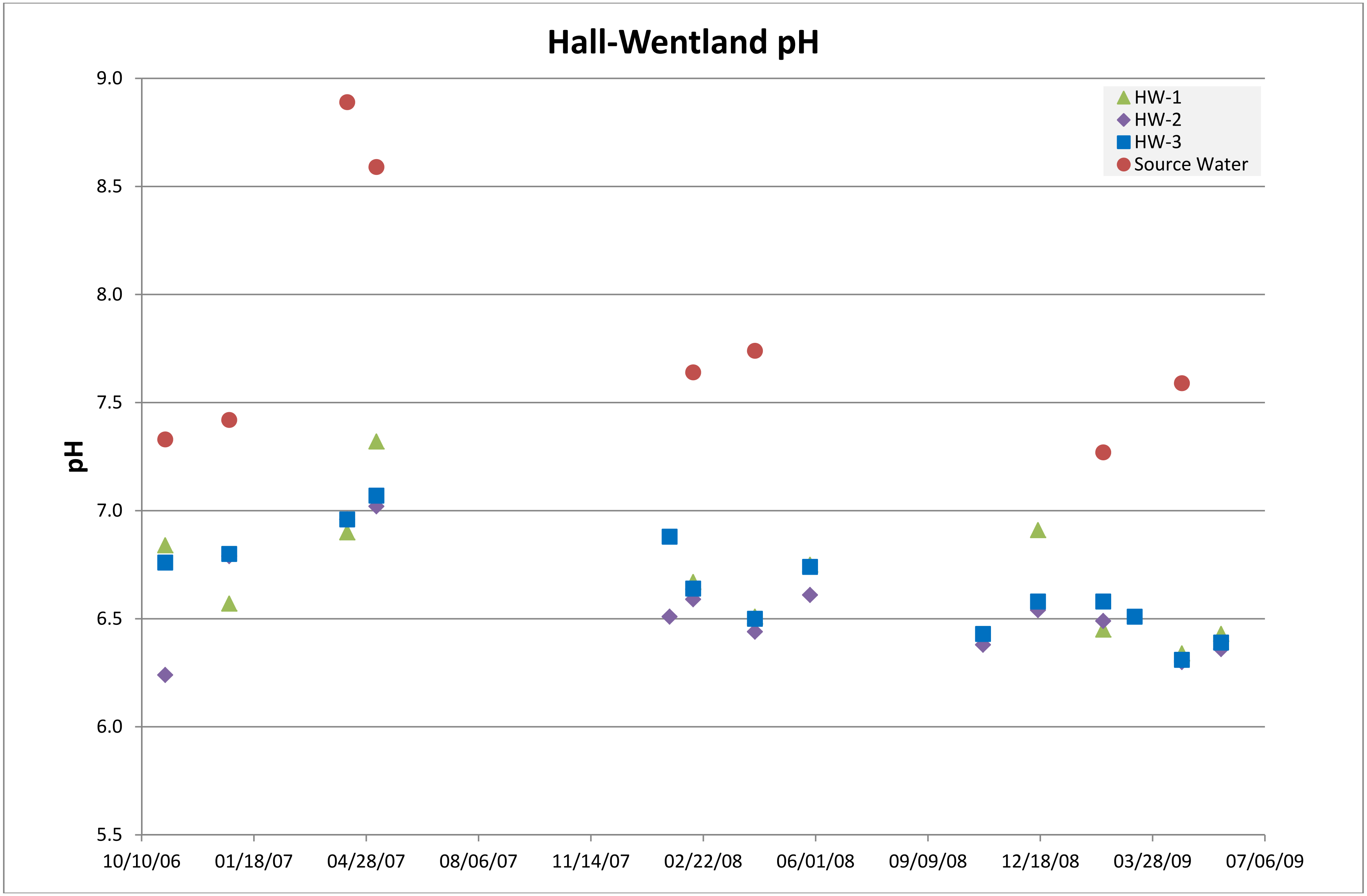

Figure B-1. Hall-Wentland pH. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

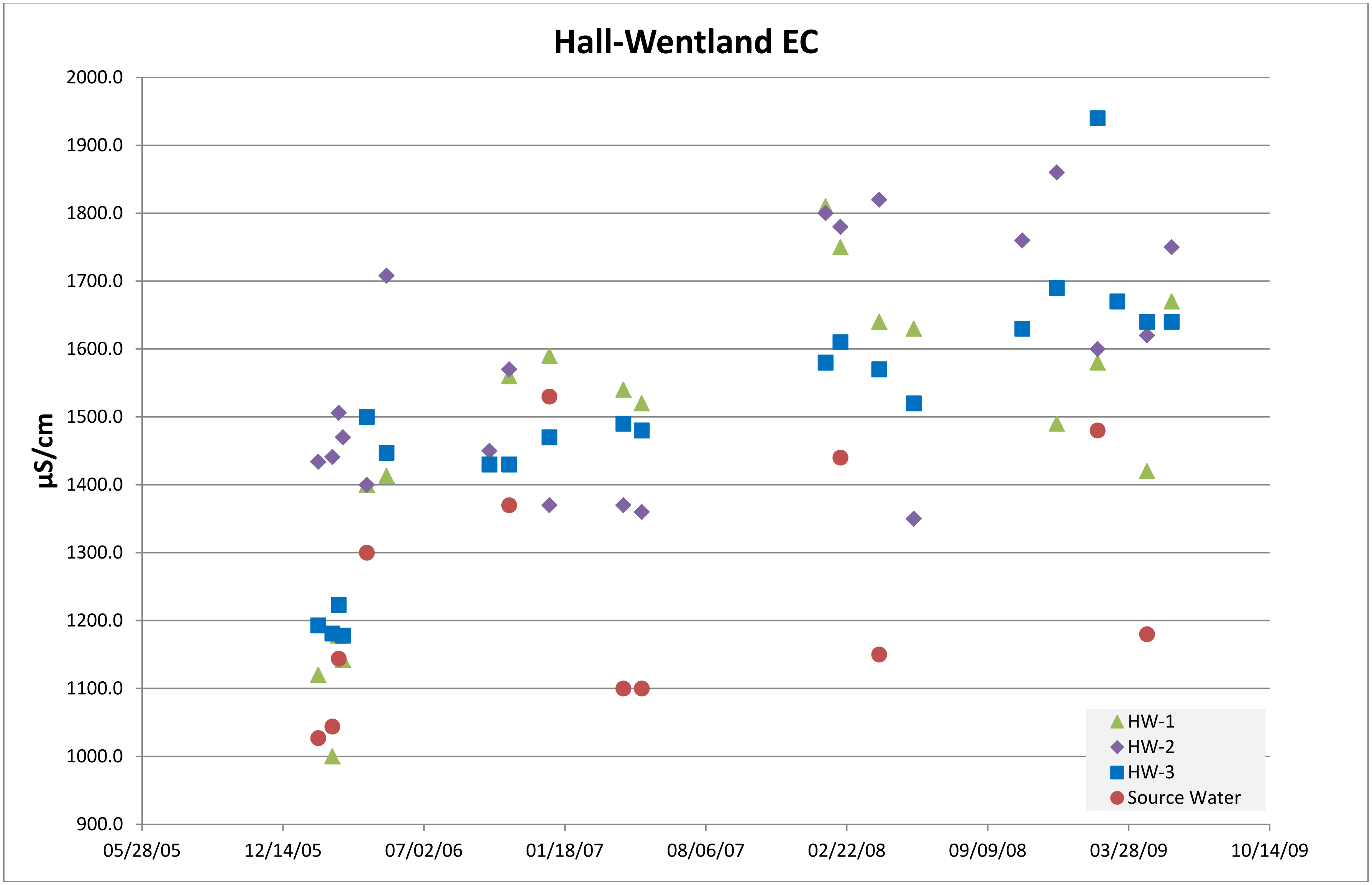

Figure B-2. Hall-Wentland electrical conductivity. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

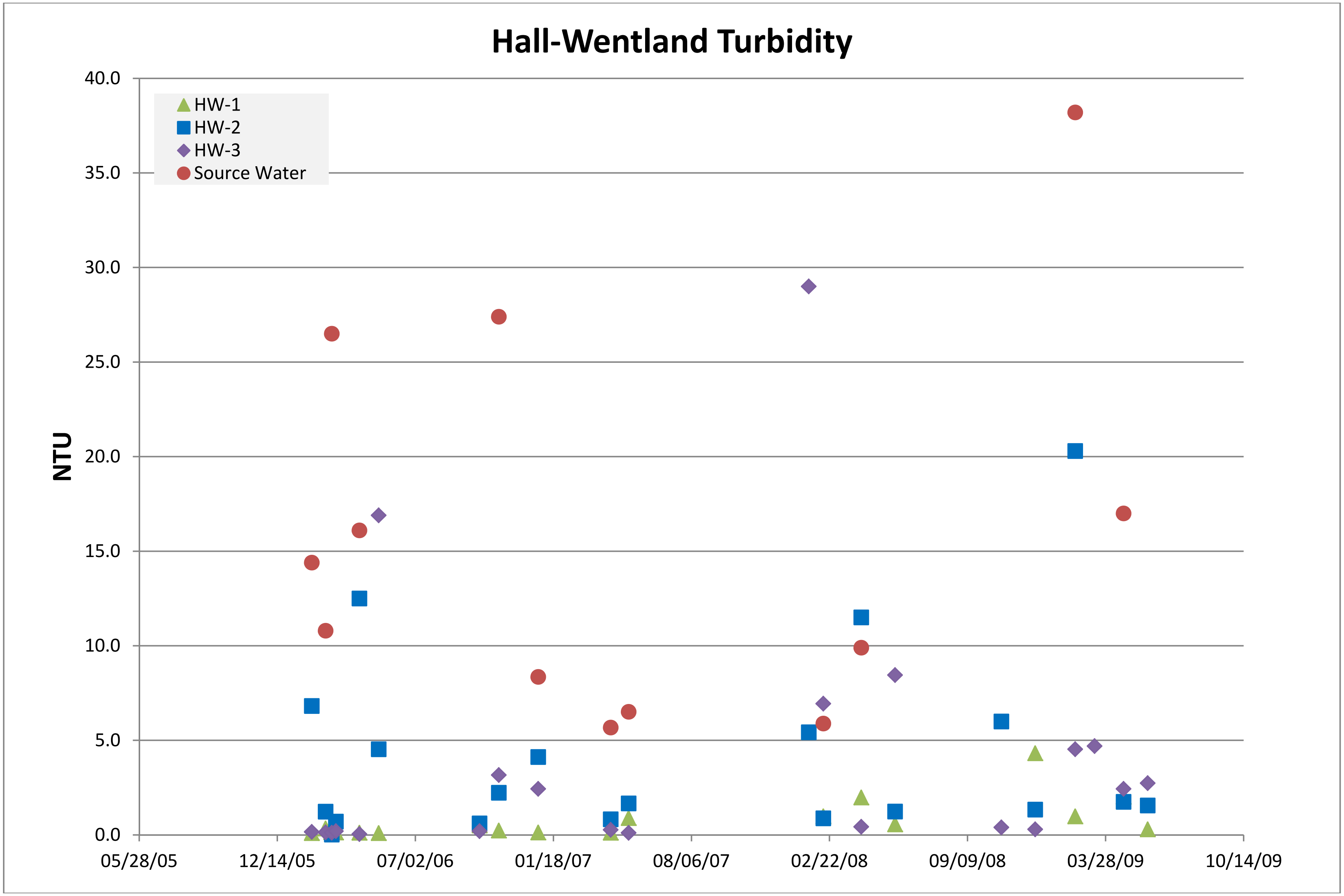

Figure B-3. Hall-Wentland turbidity. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

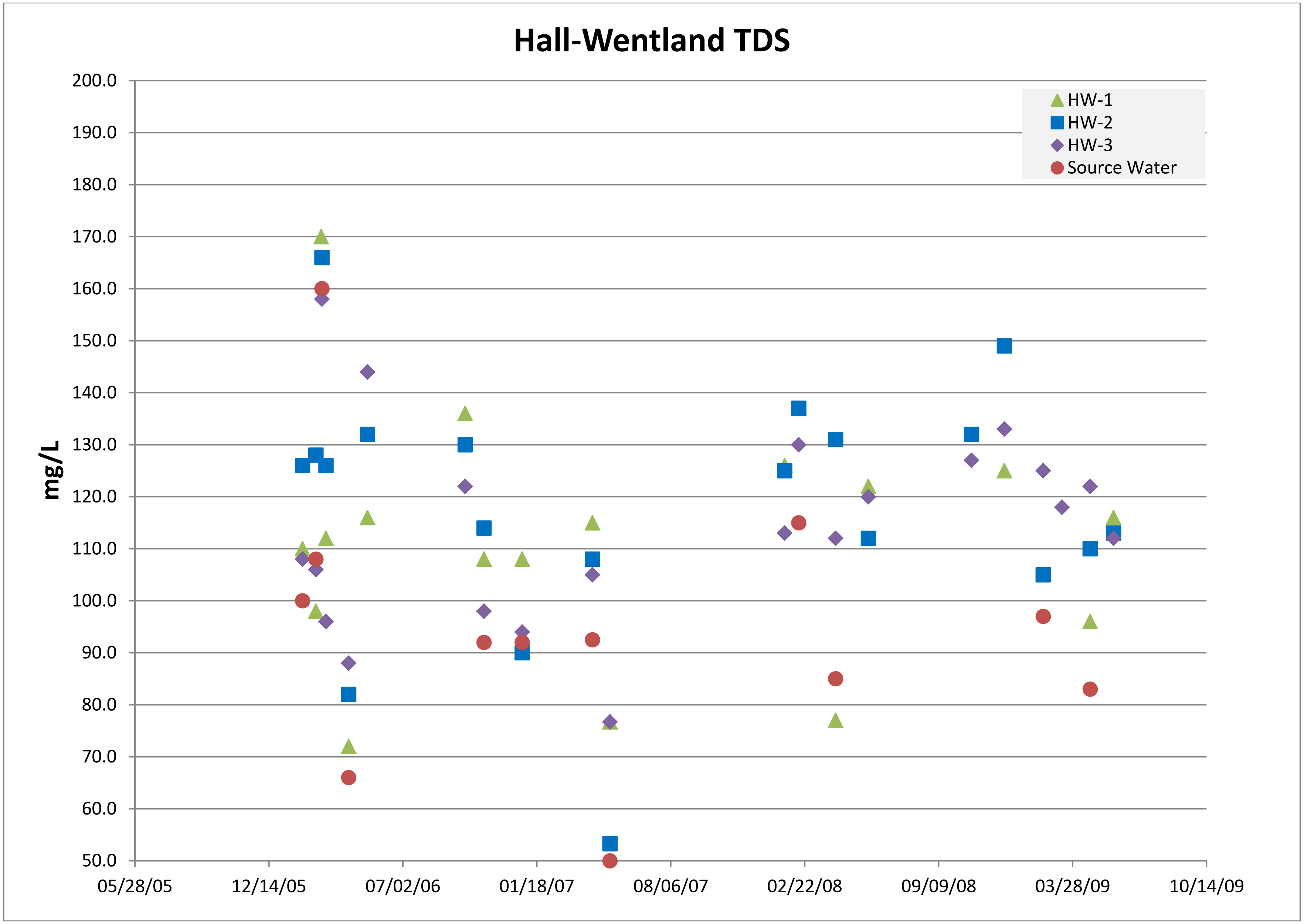

Figure B-4. Hall-Wentland total dissolved solids (TDS). HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

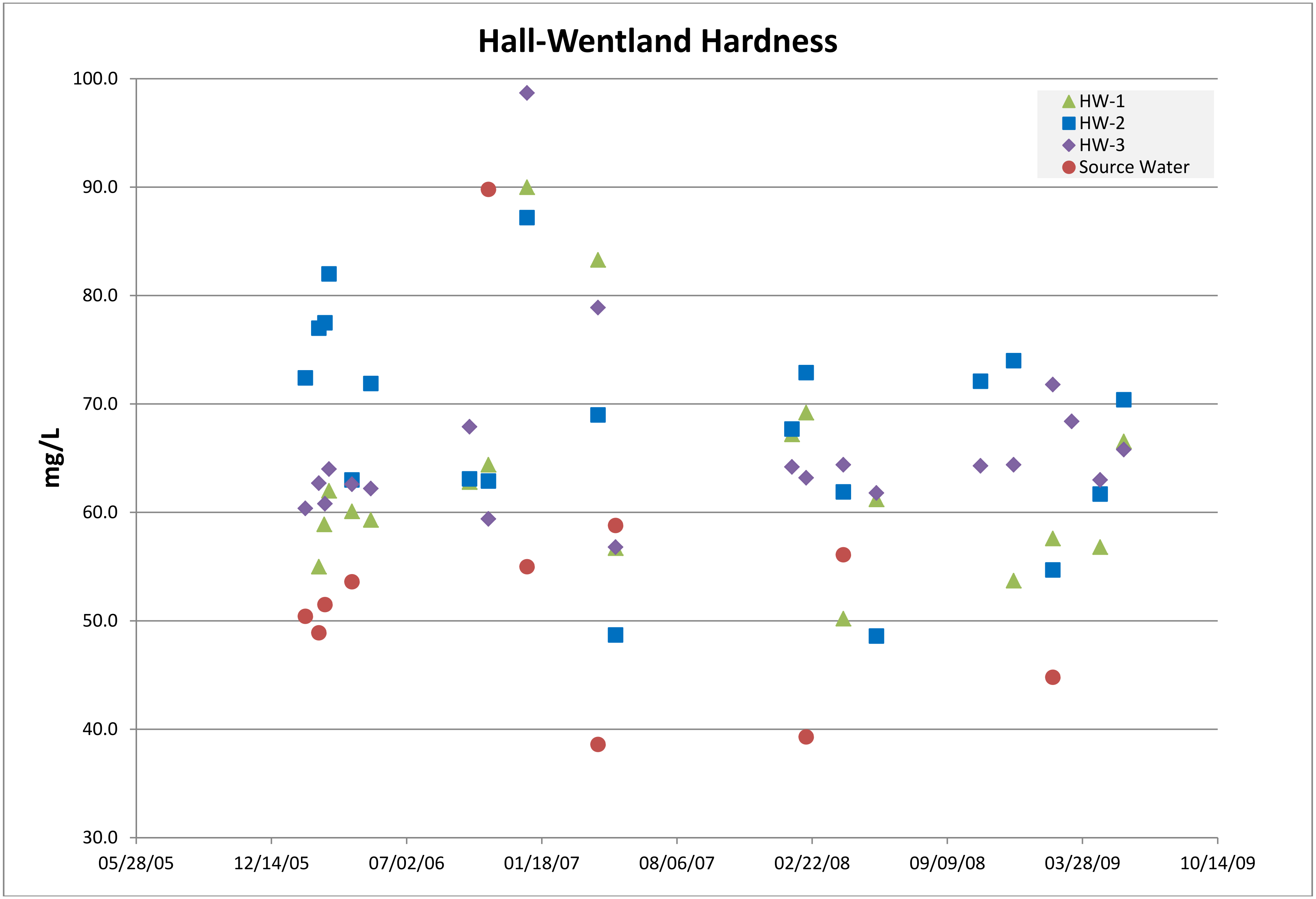

Figure B-5. Hall-Wentland Hardness. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

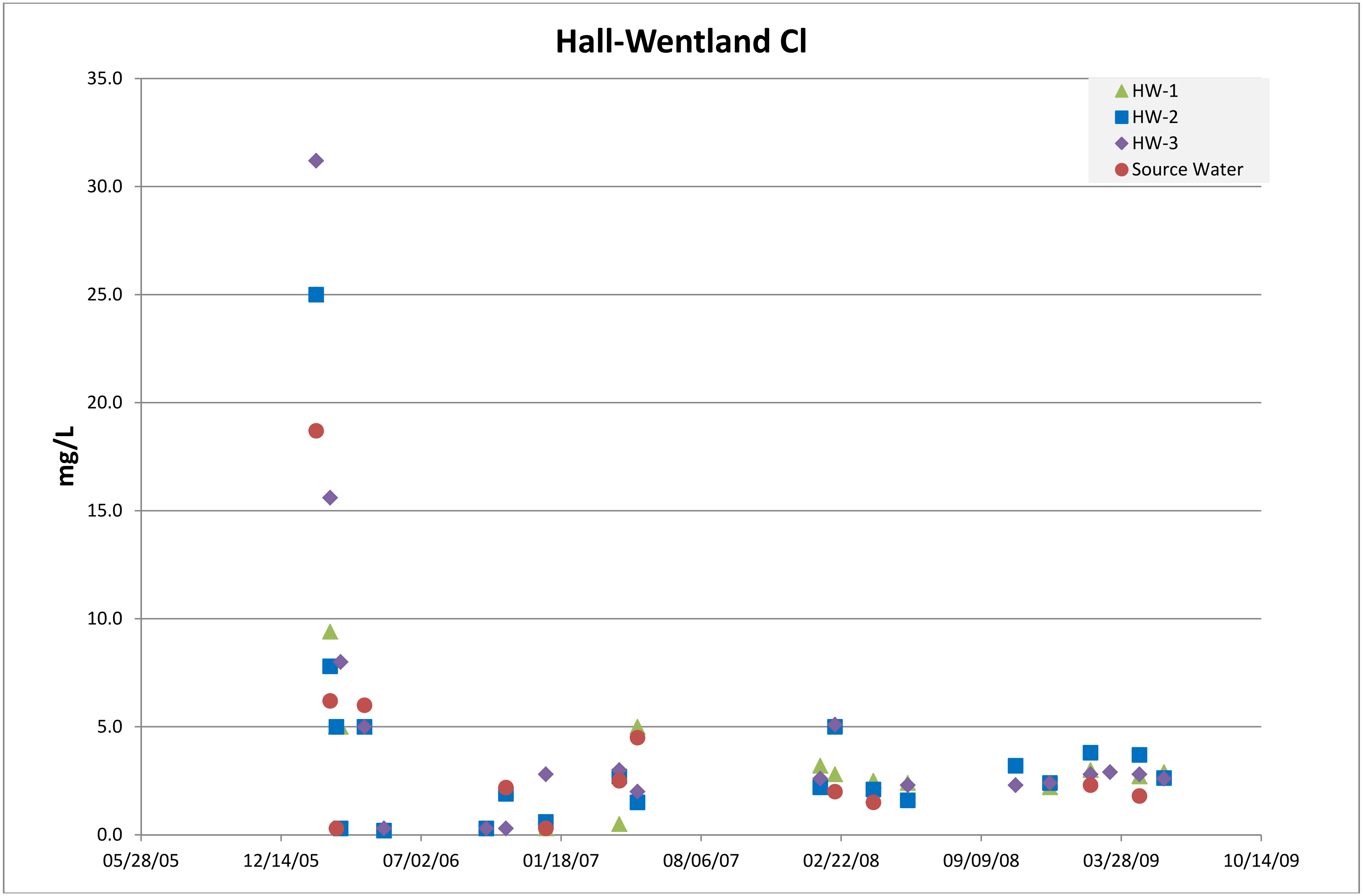

Figure B-6. Hall-Wentland chloride. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

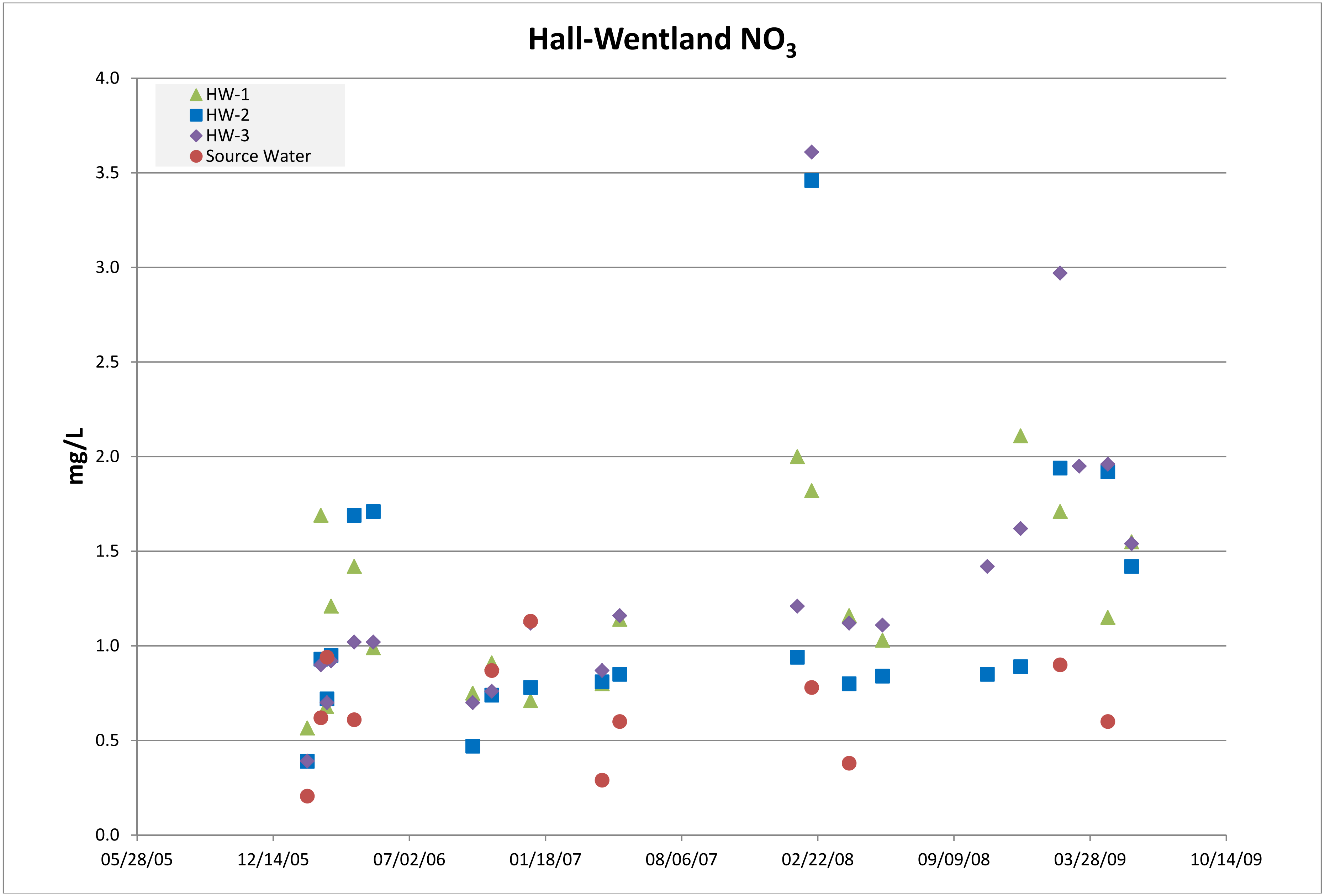

Figure B-7. Hall-Wentland nitrate-N. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

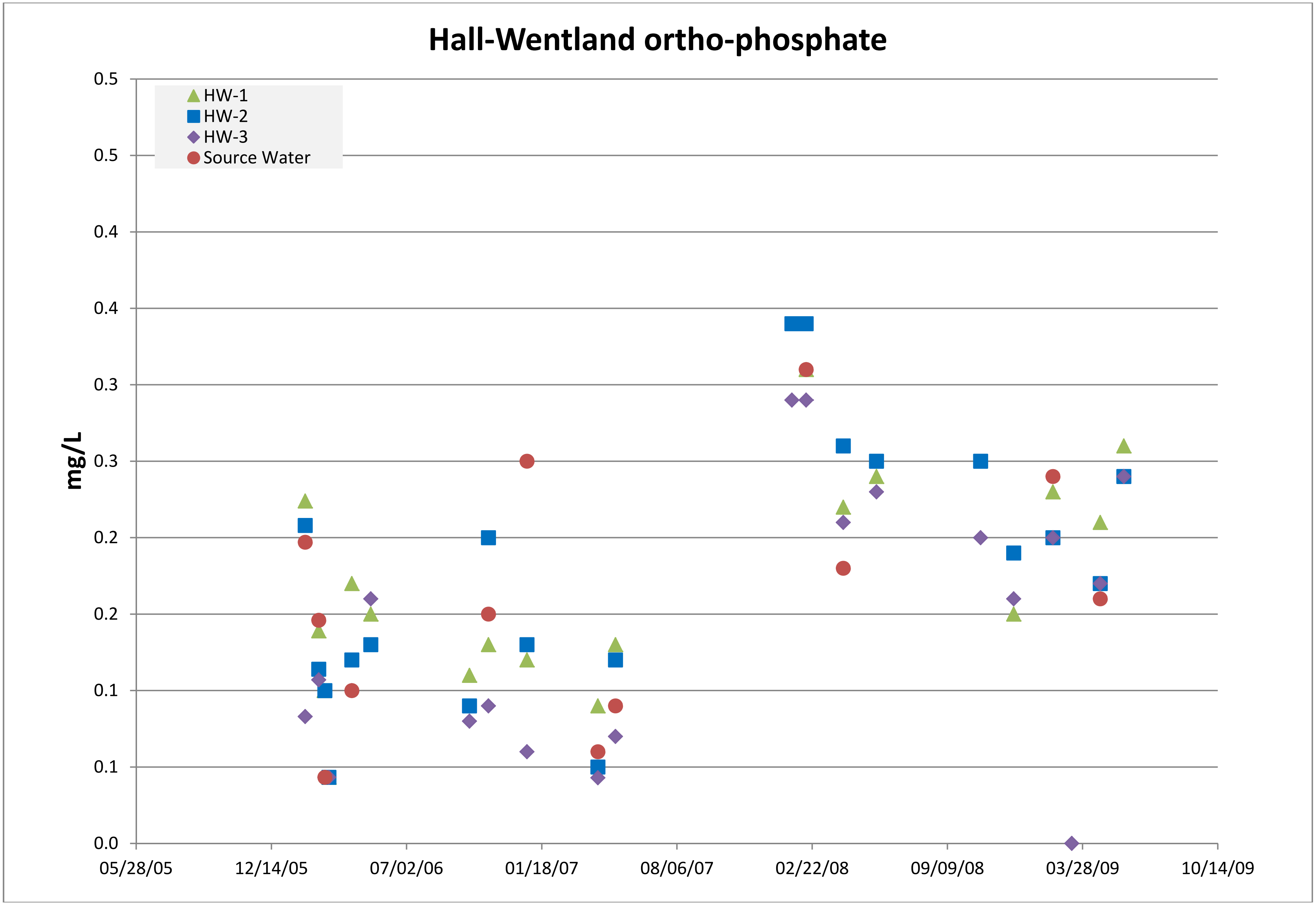

Figure B-8. Hall-Wentland ortho-phosphate. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

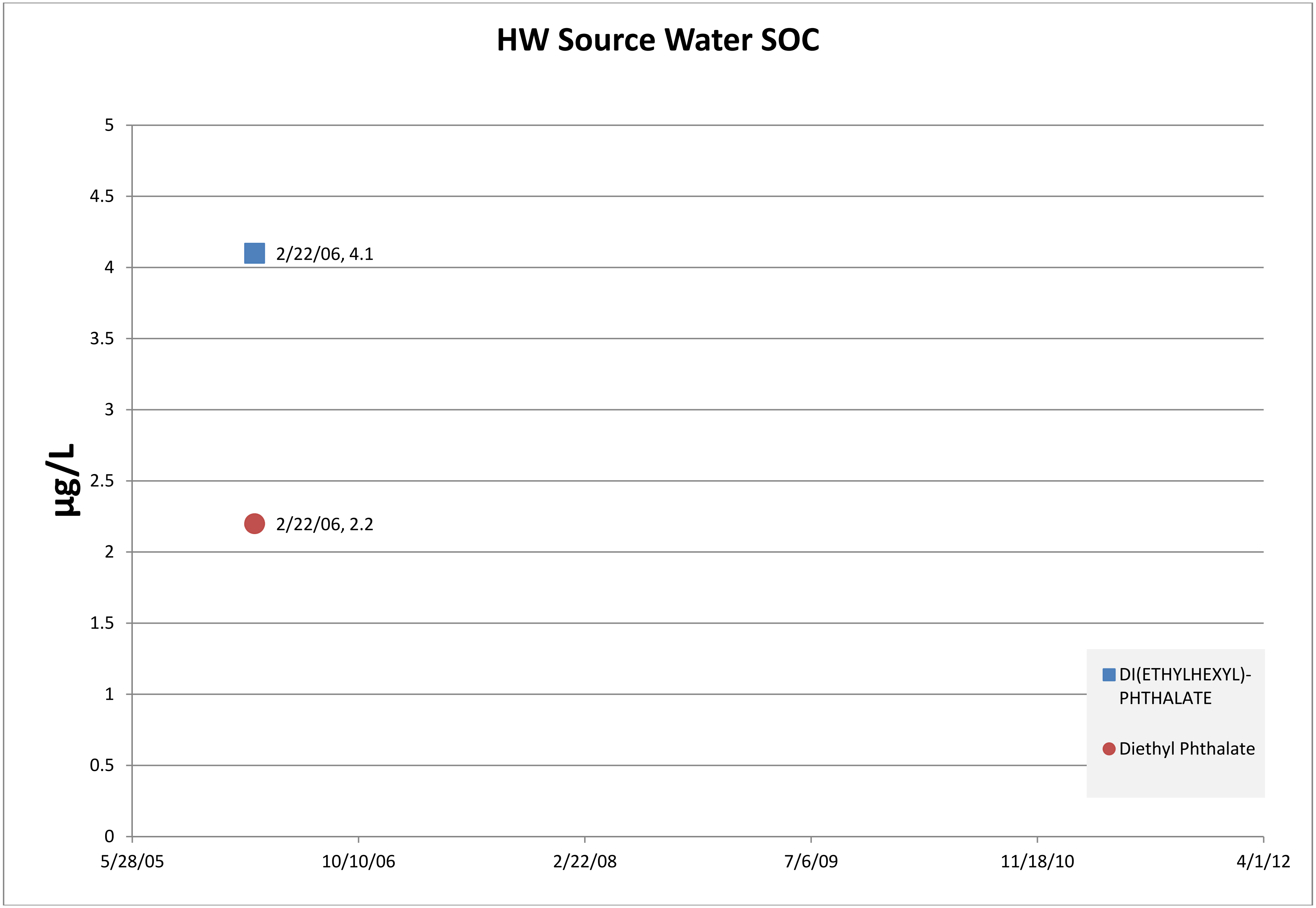

Figure B-9. Hall-Wentland source water SOC's.

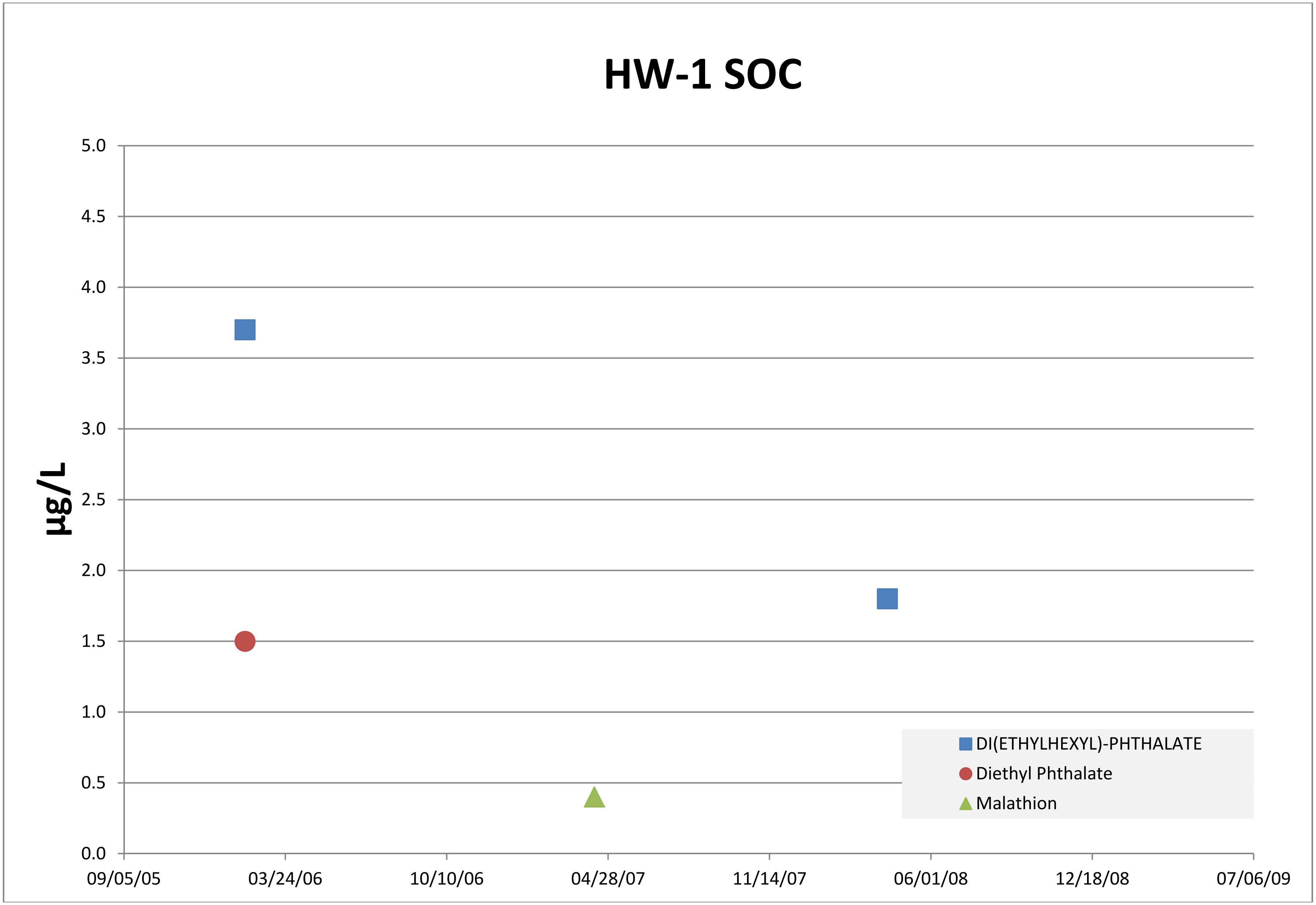

Figure B-10. Hall-Wentland monitoring well HW-1 water SOC’s.

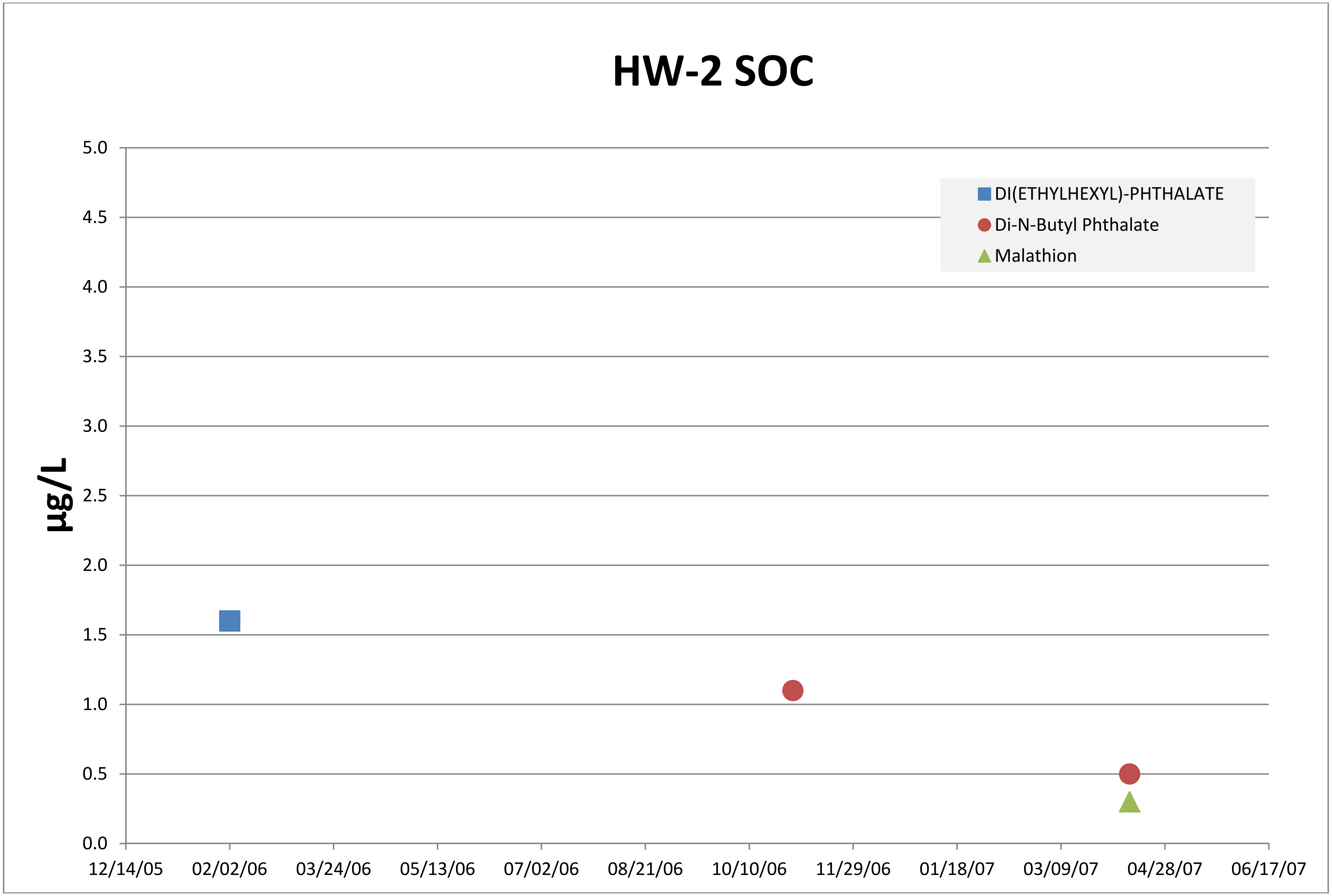

Figure B-11. Hall-Wentland monitoring well HW-2 water SOC’s.

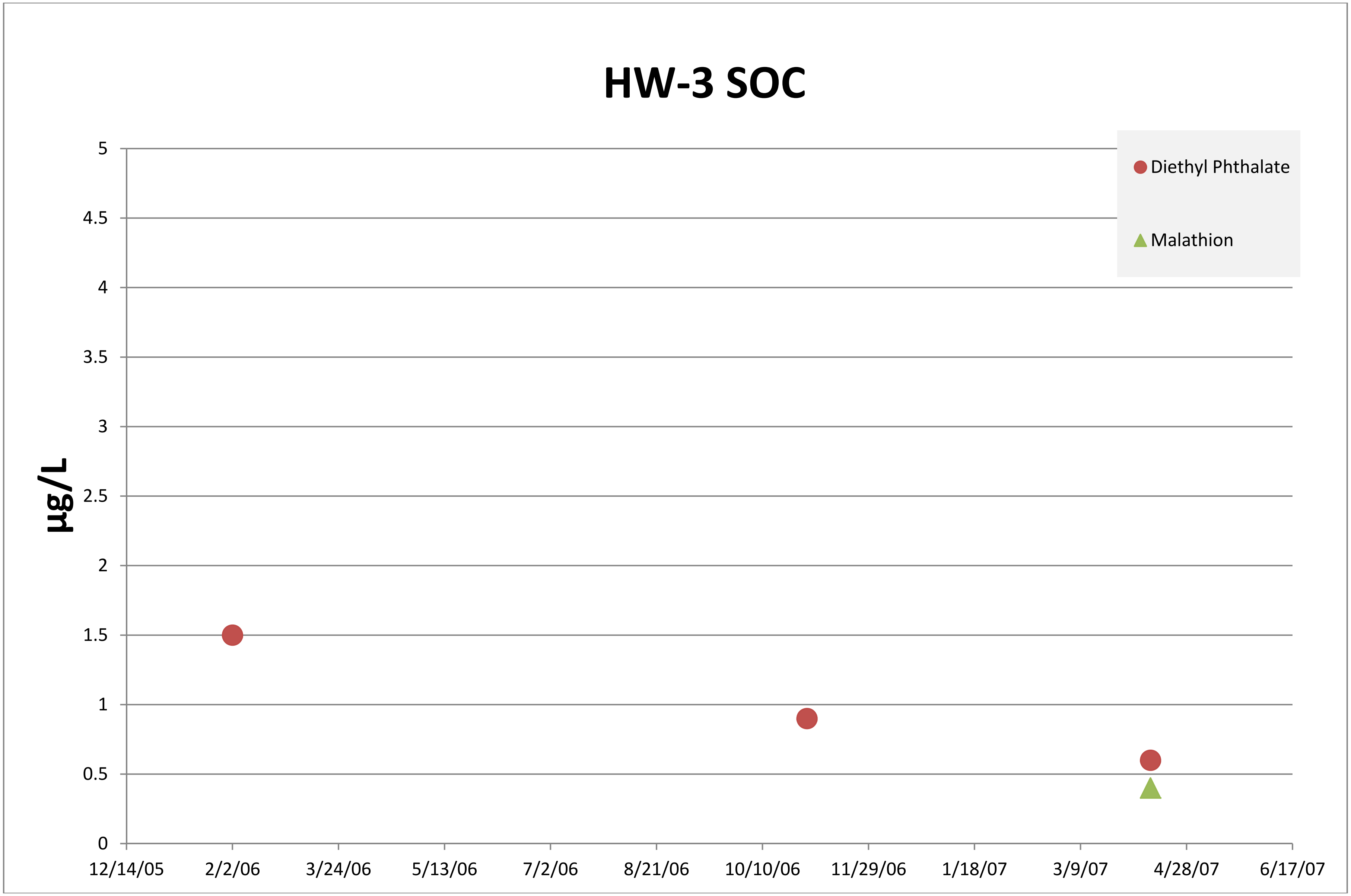

Figure B-12. Hall-Wentland monitoring well HW-3 water SOC’s.

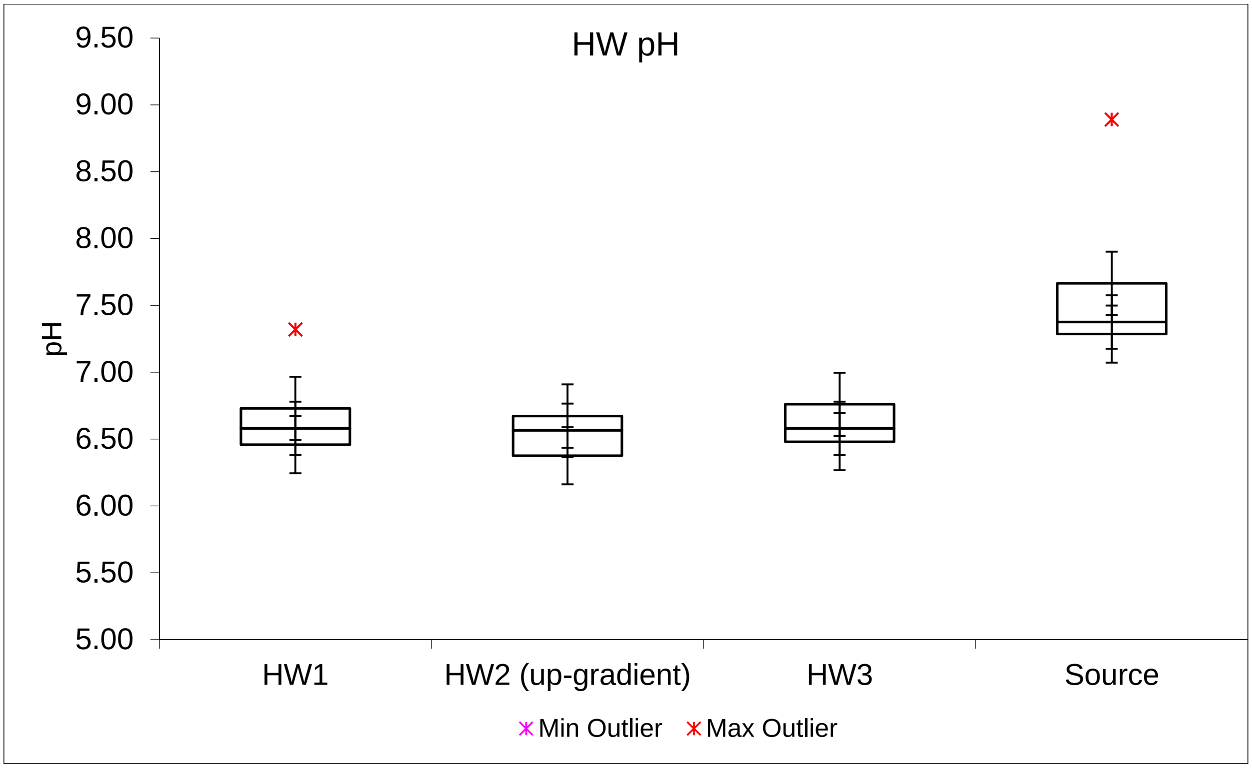

Figure B-13. Hall-Wentland pH box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

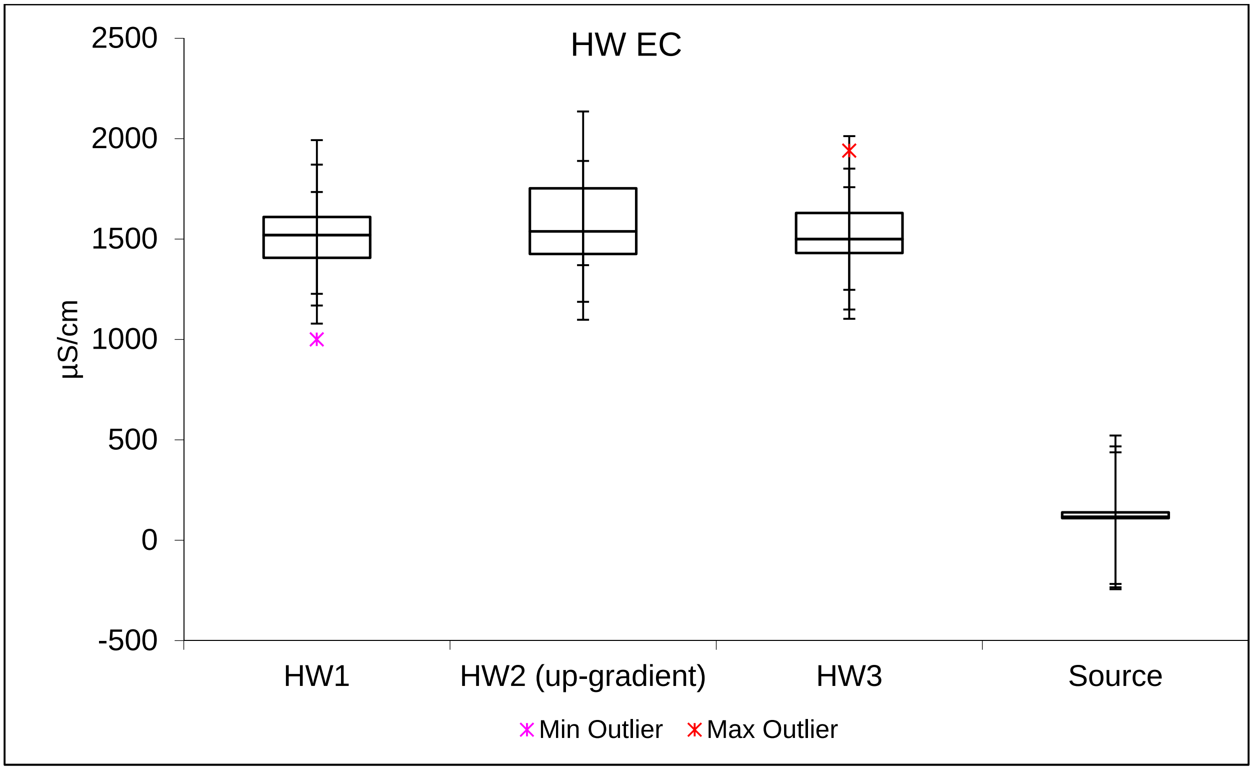

Figure B-14. Hall-Wentland EC box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

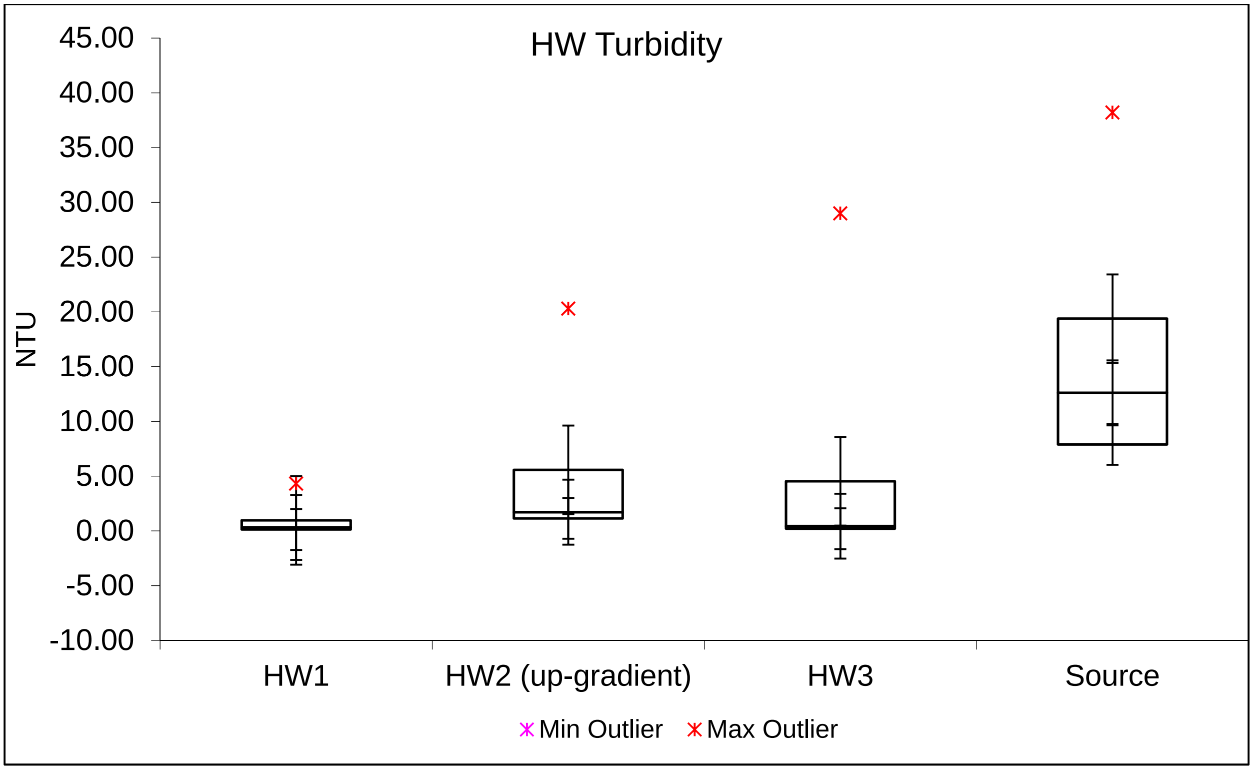

Figure B-15. Hall-Wentland turbidity box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

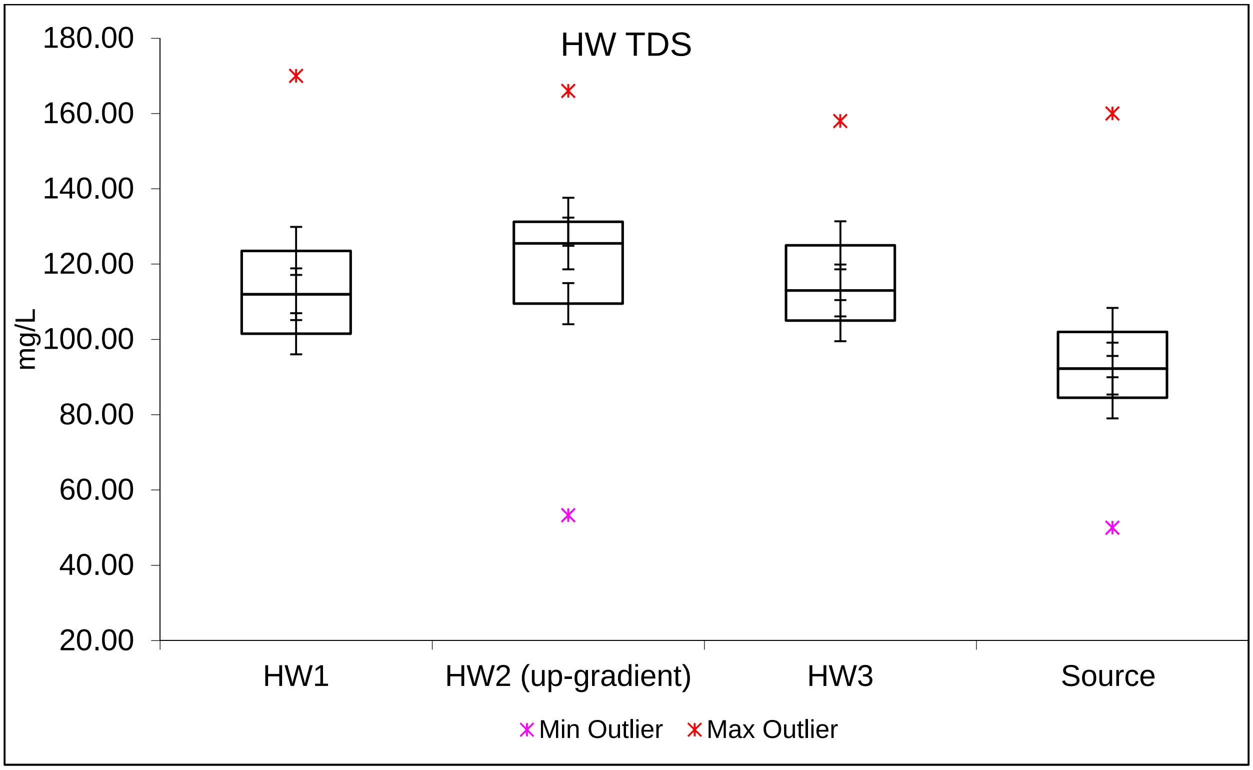

Figure B-16. Hall-Wentland TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

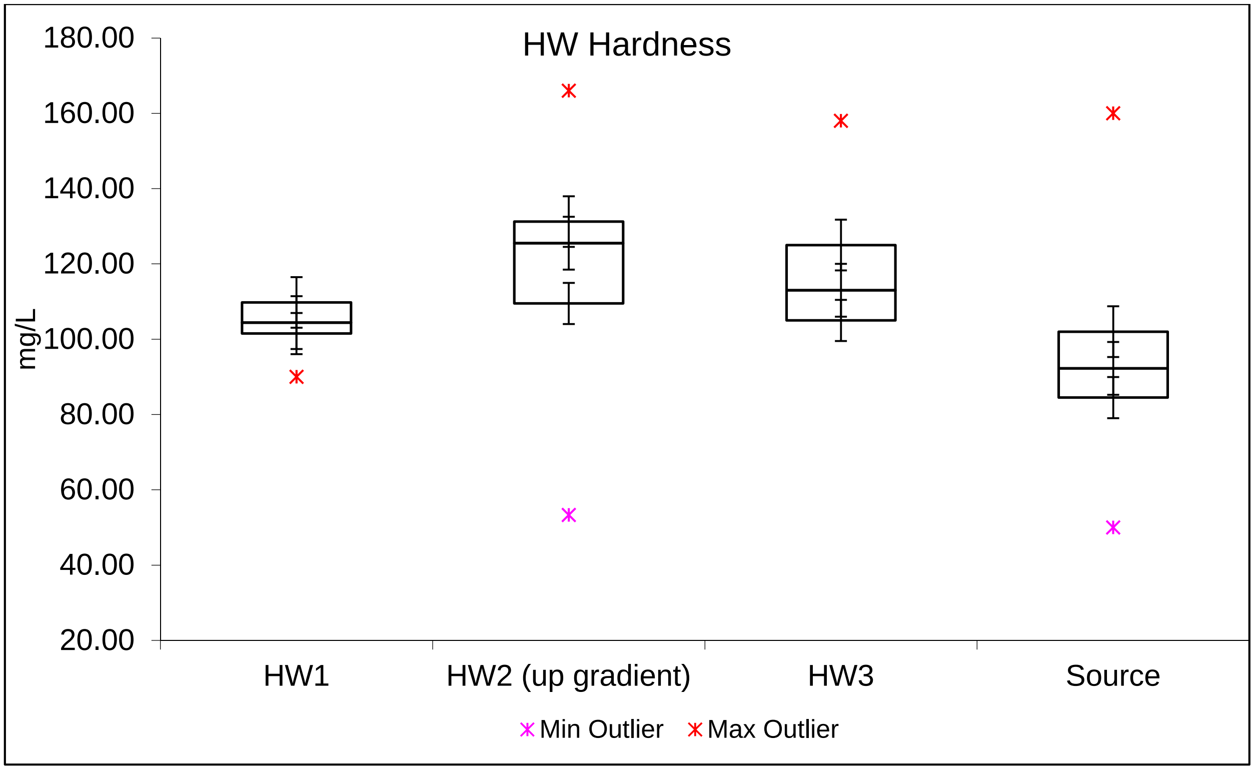

Figure B-17. Hall-Wentland hardness box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

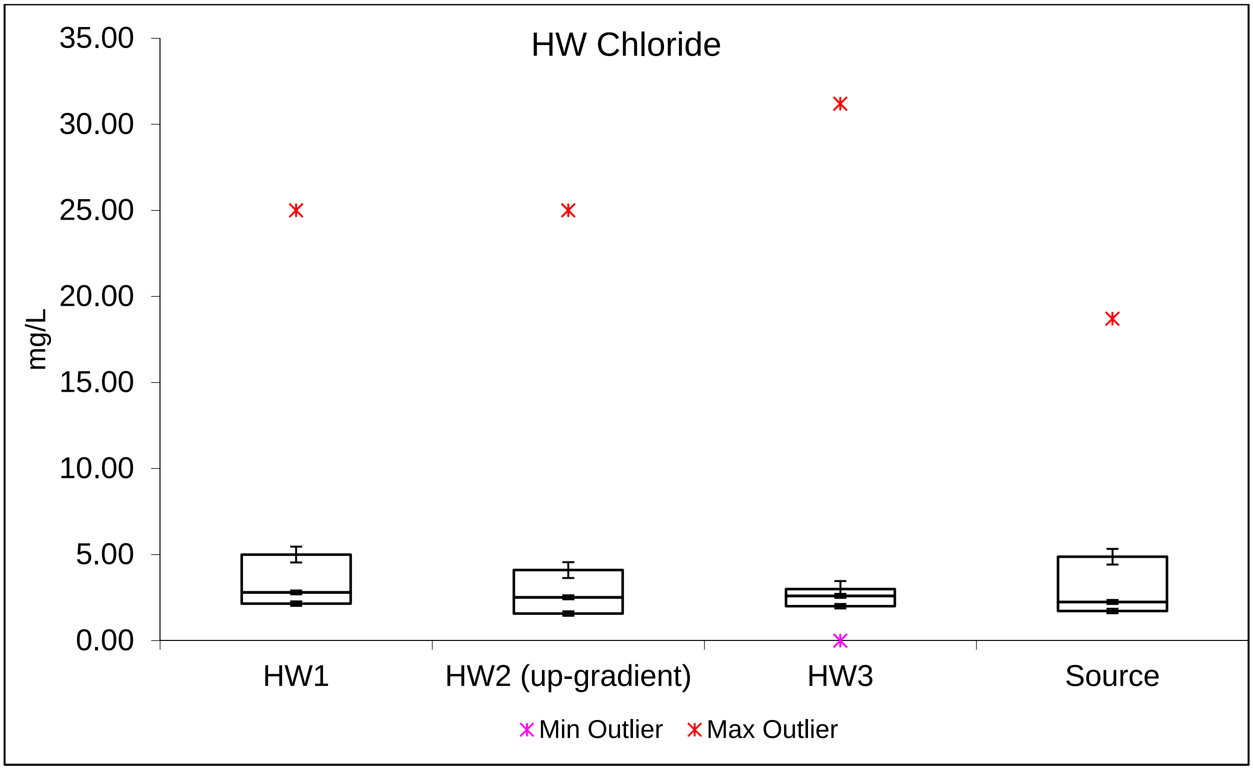

Figure B-18. Hall-Wentland chloride box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

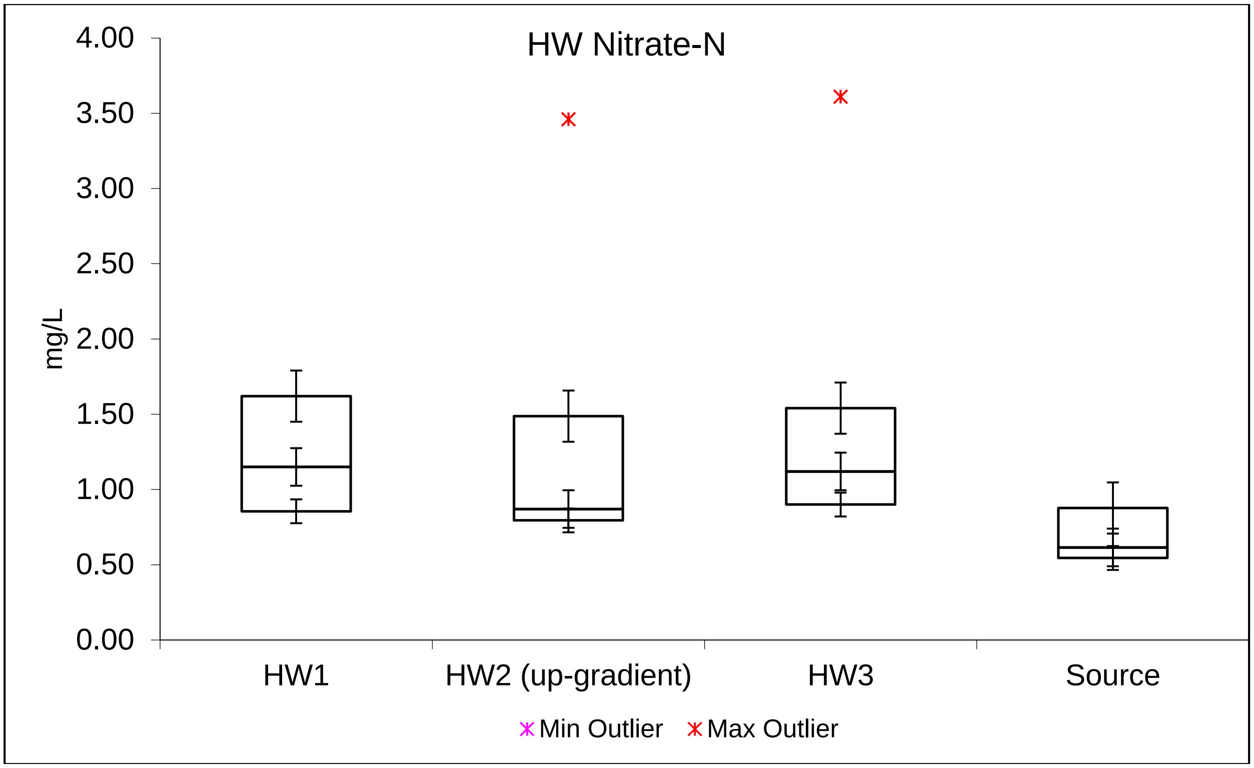

Figure B-19. Hall-Wentland nitrate-N box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

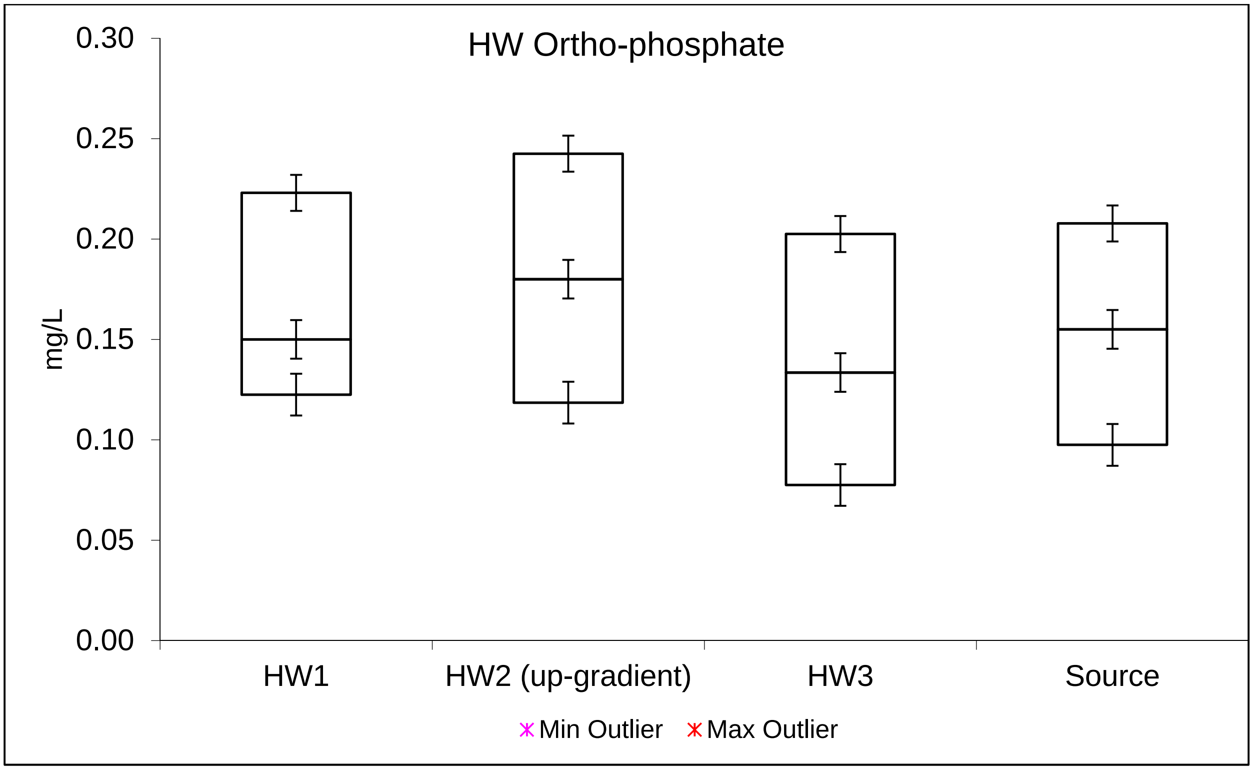

Figure B-20. Hall-Wentland ortho-phosphate box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

Appendix C

Locher Road Data Plots

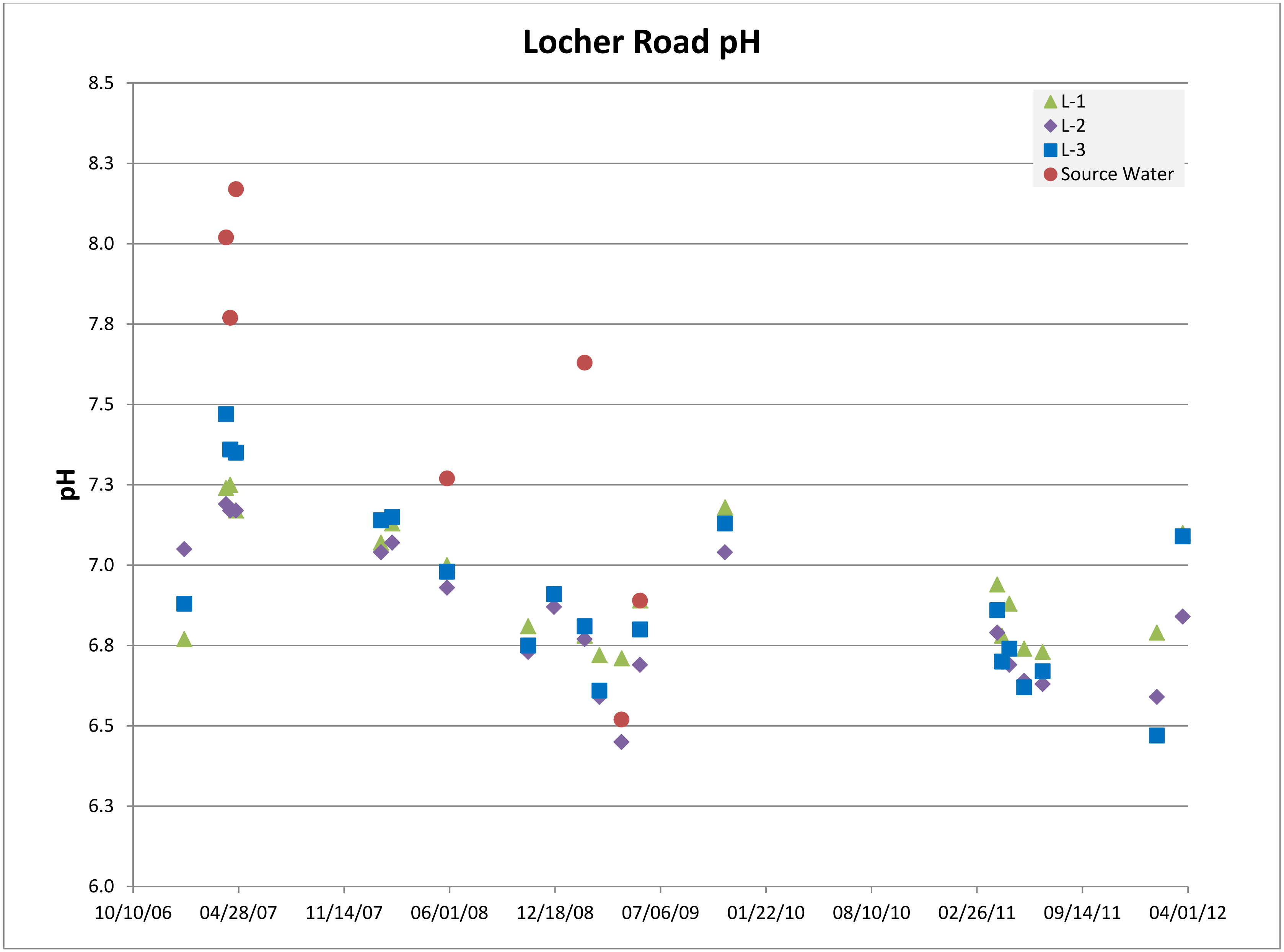

Figure C-1. Locher Road pH. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

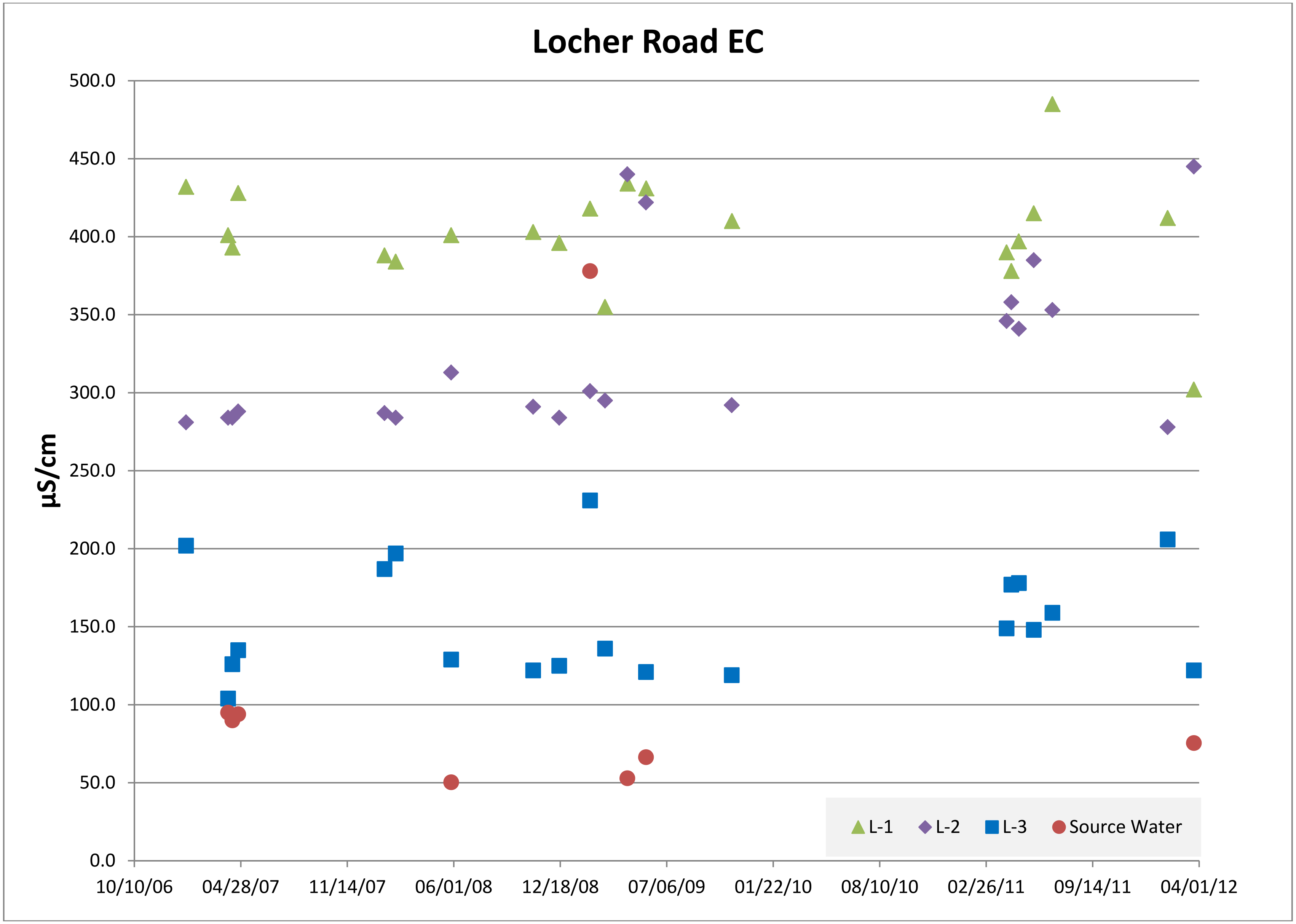

Figure C-2. Locher Road electrical conductivity (EC). L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

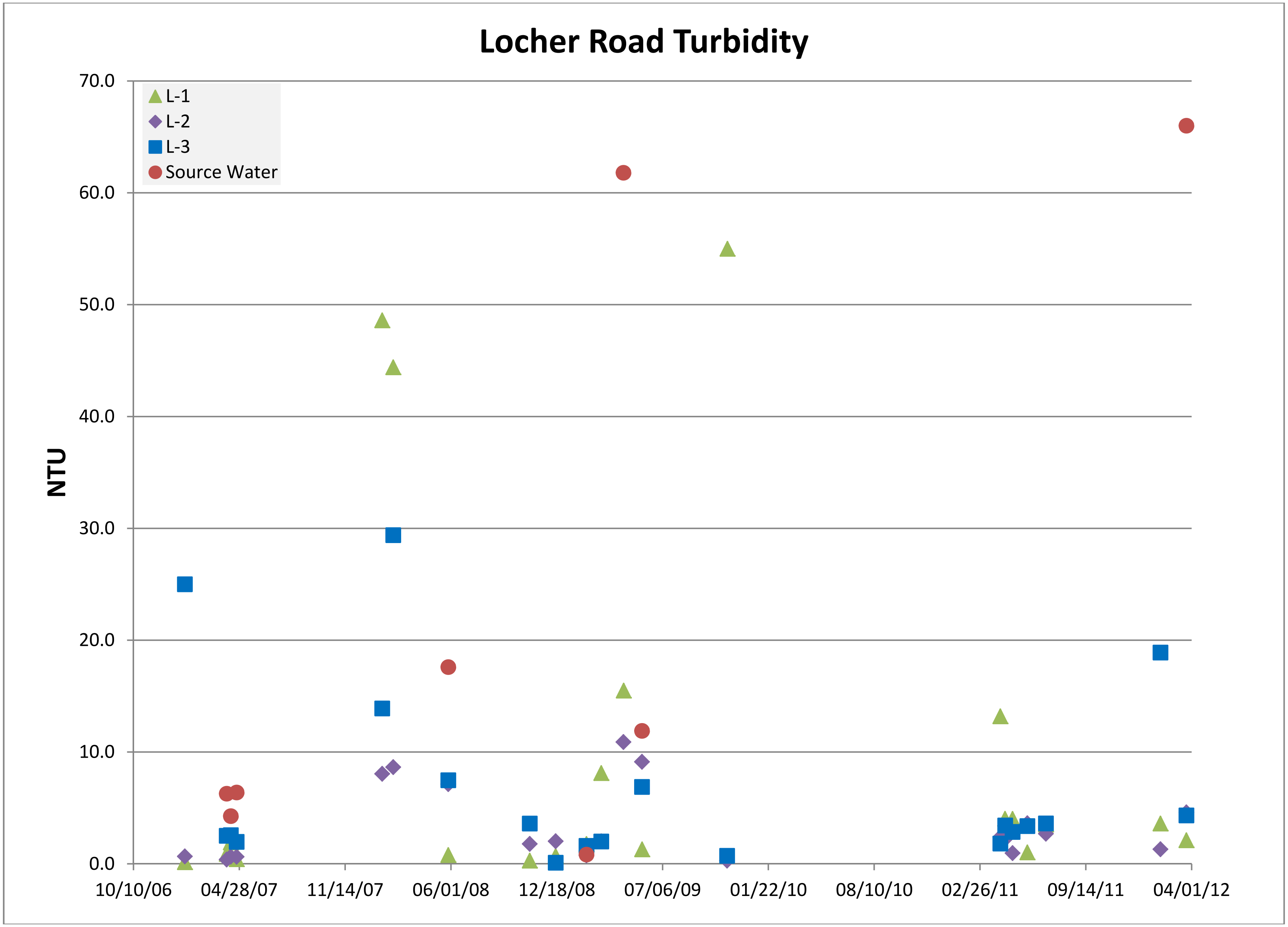

Figure C-3. Locher Road turbidity. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

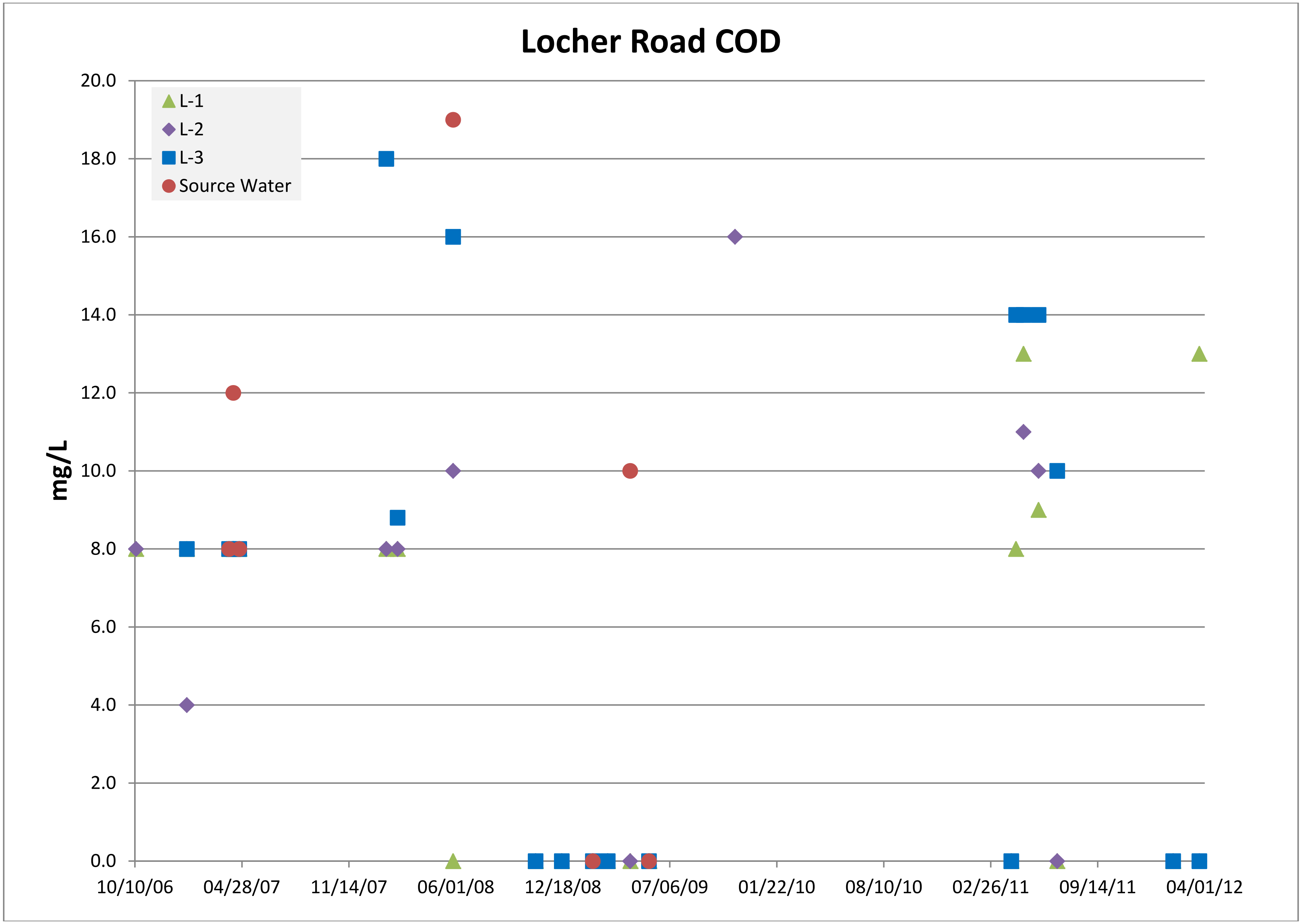

Figure C-4. Locher Road chemical oxygen demand (COD). L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

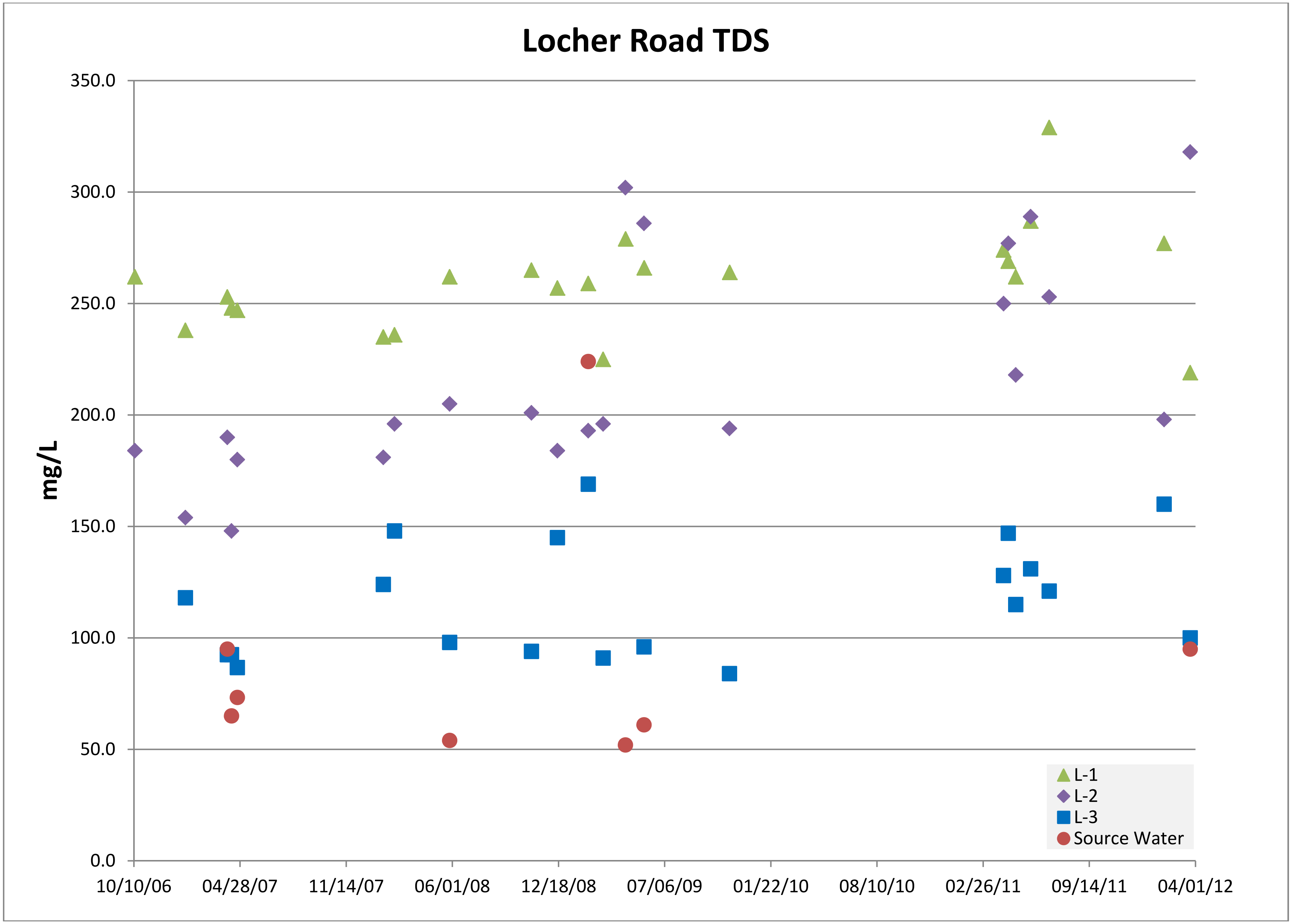

Figure C-5. Locher Road total dissolved solids (TDS). L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

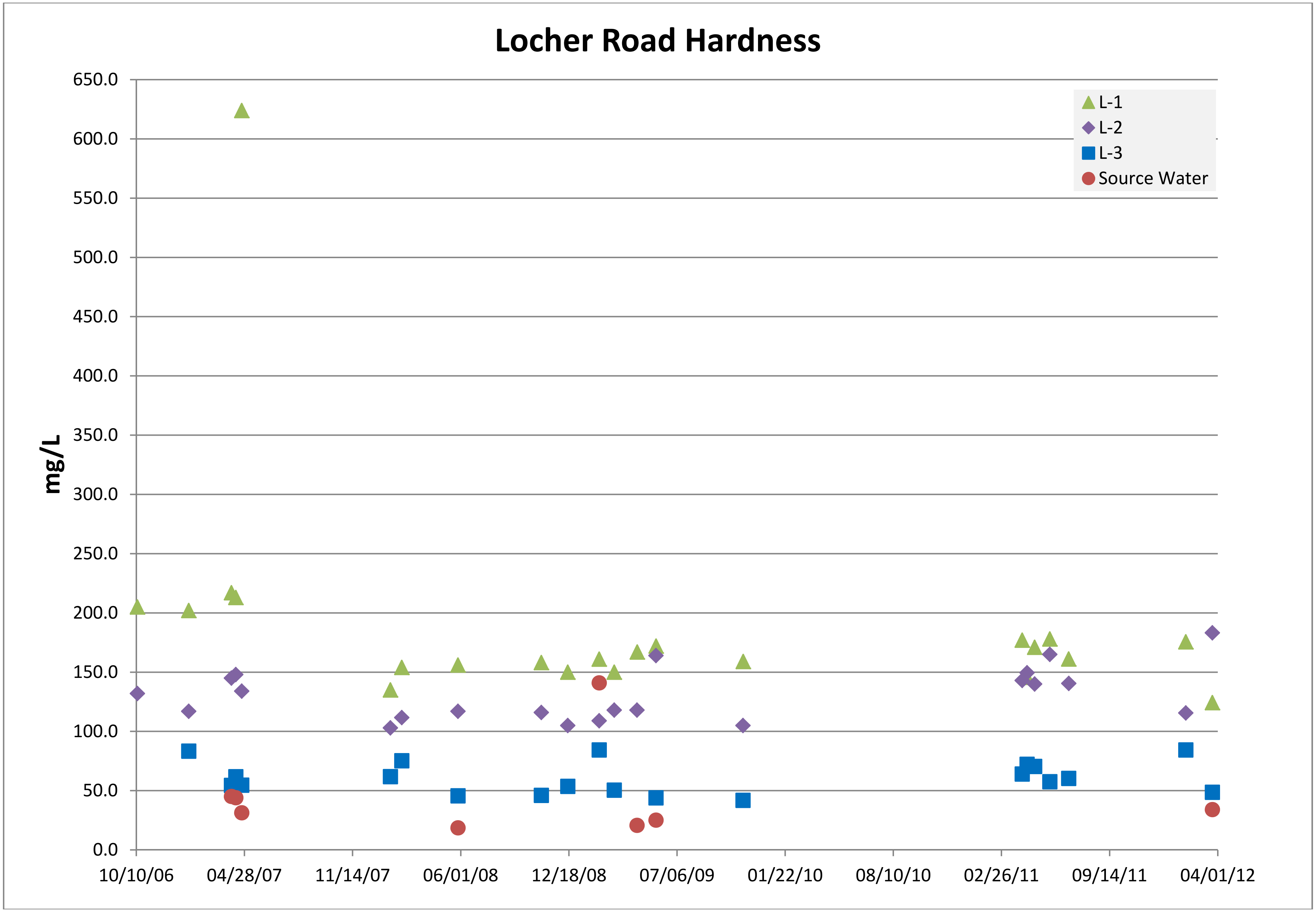

Figure C-6. Locher Road hardness. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

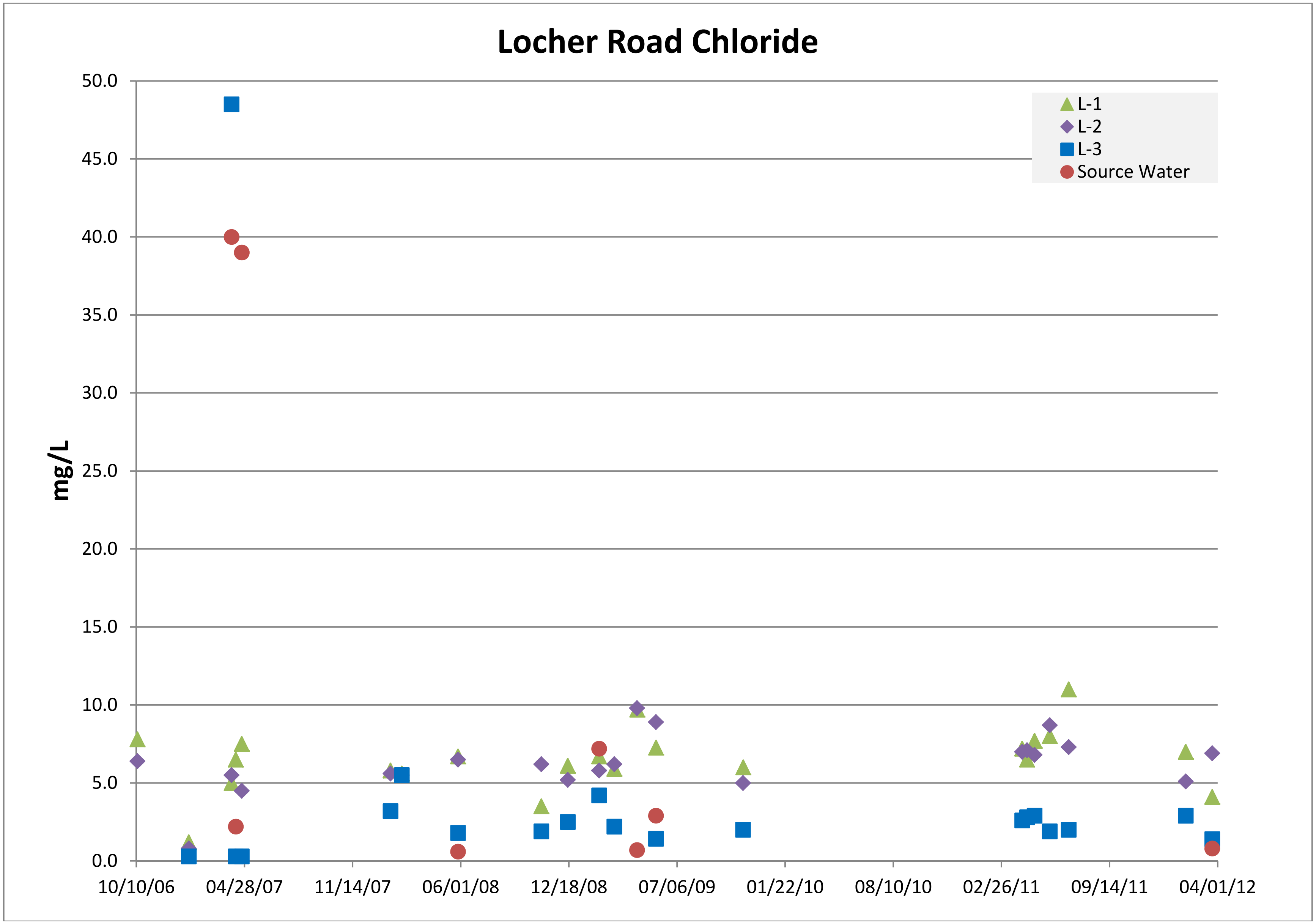

Figure C-7. Locher Road chloride. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

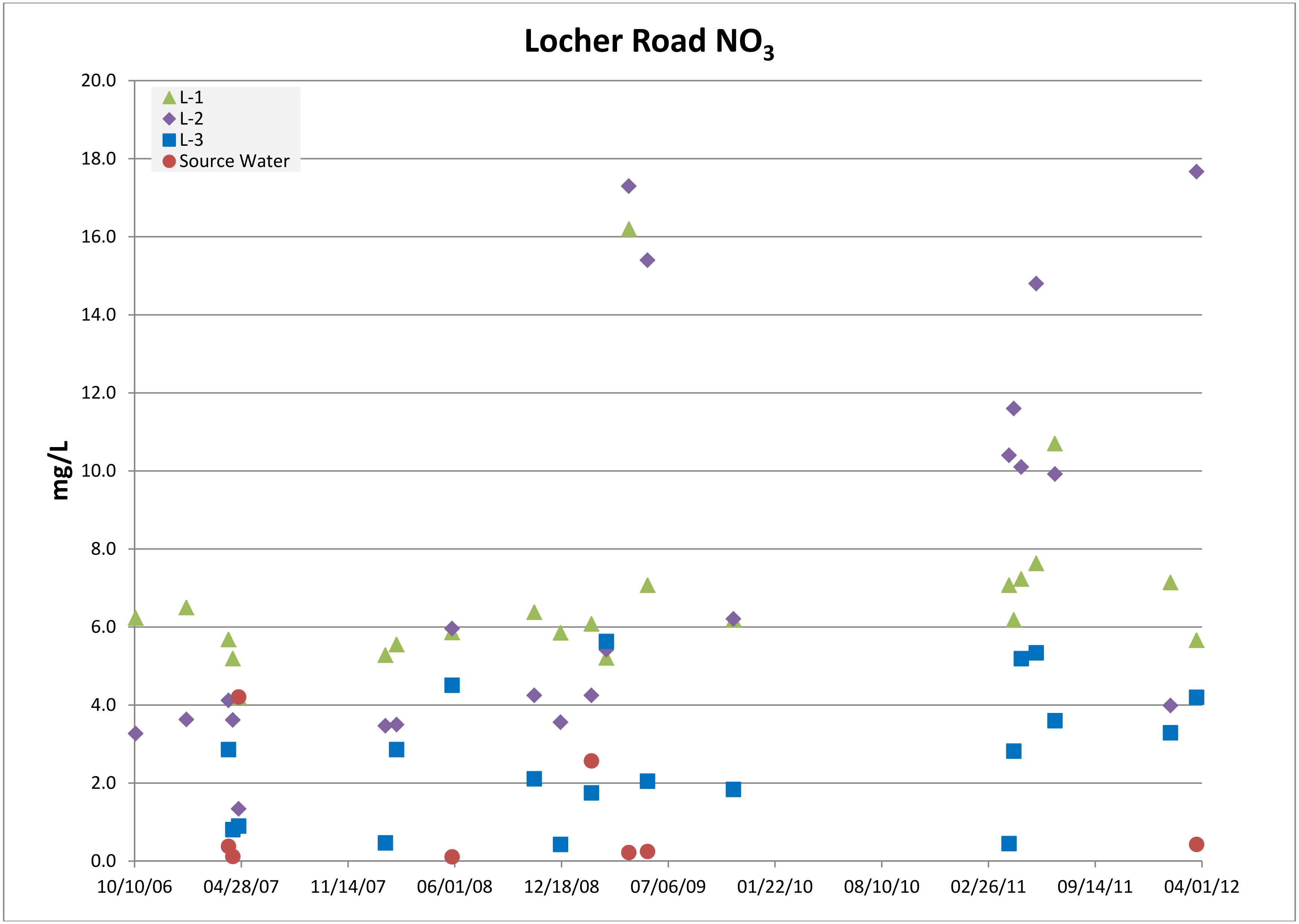

Figure C-8. Locher Road nitrate-N. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

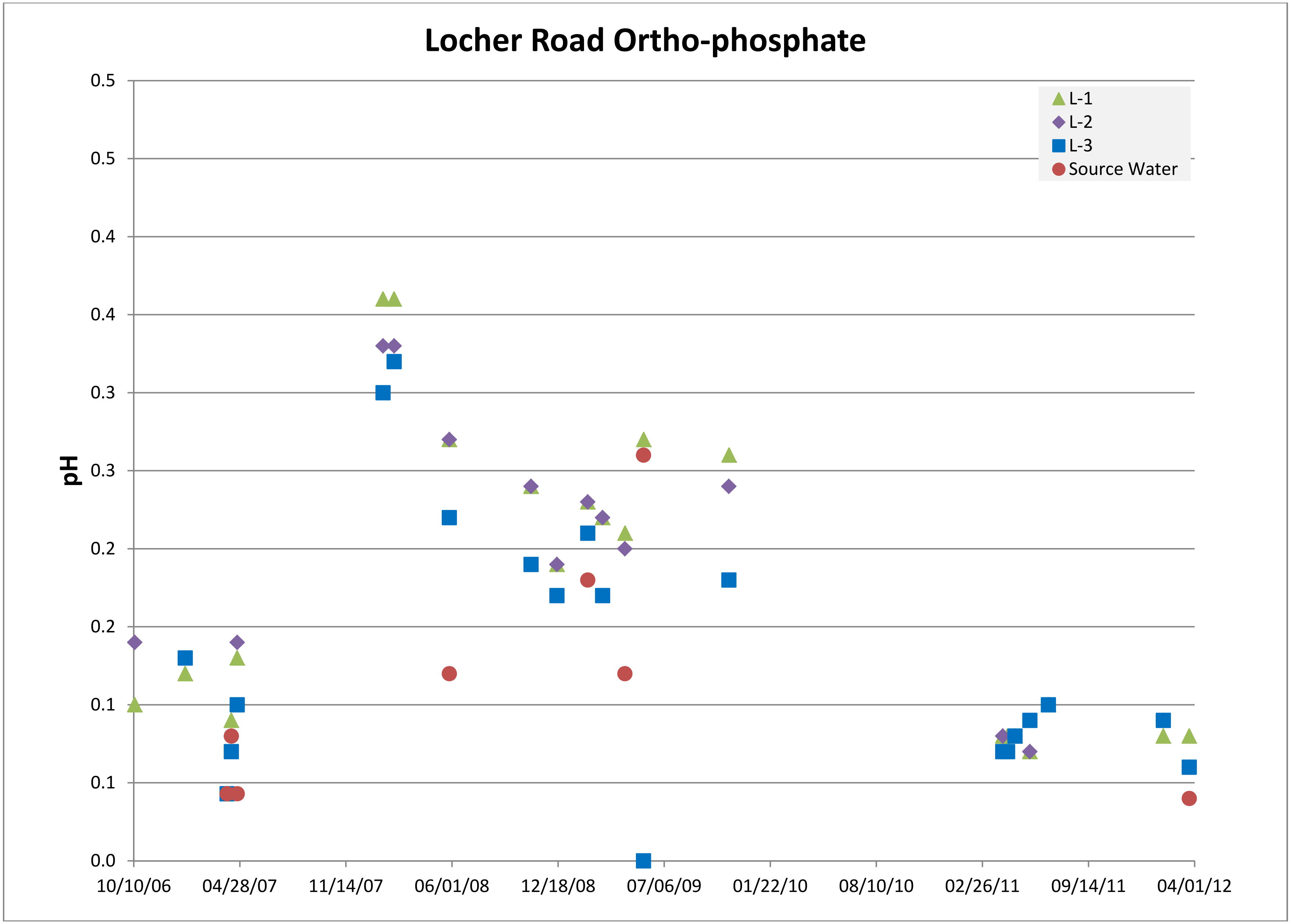

Figure C-9. Locher Road ortho-phosphate. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

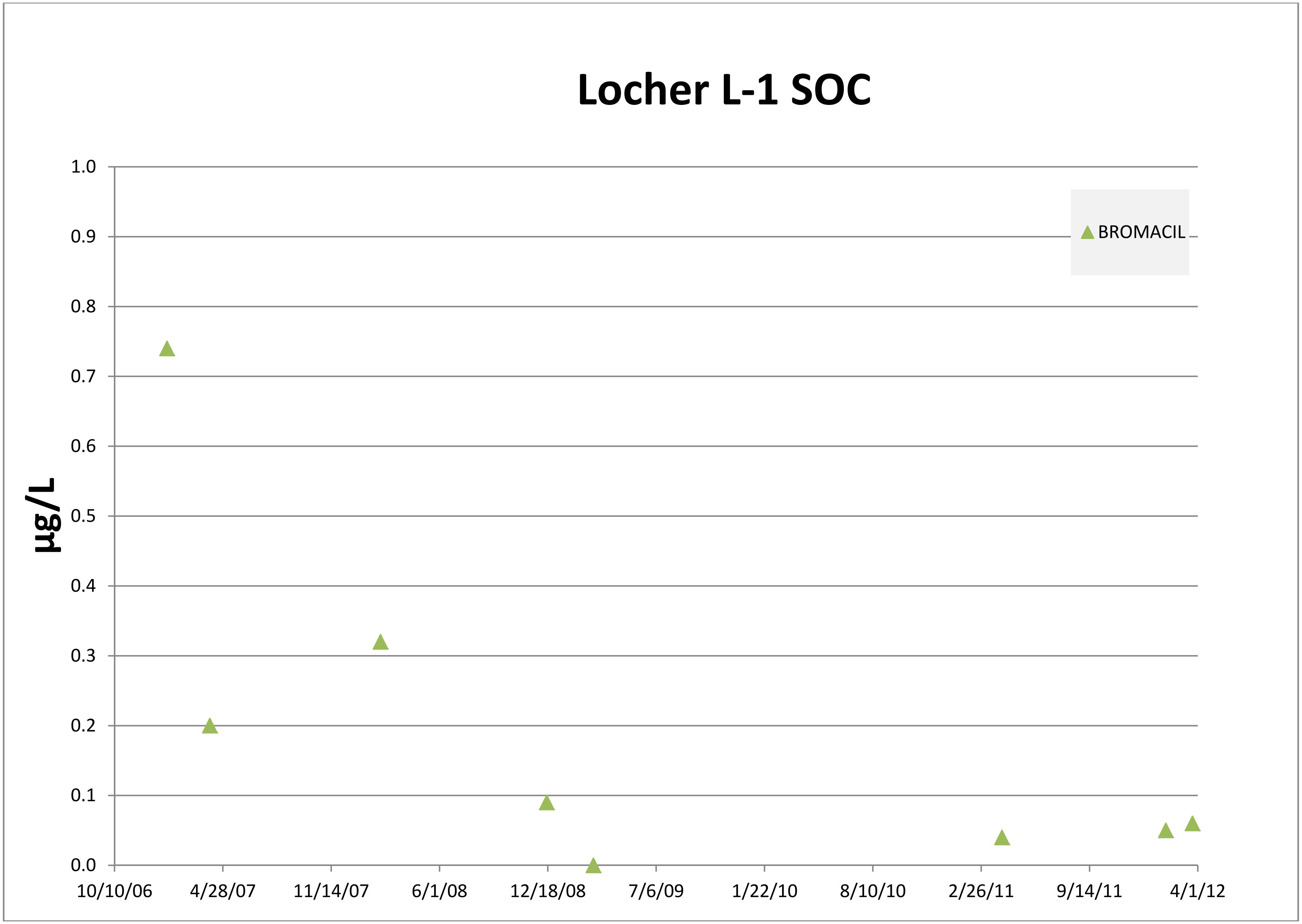

Figure C-10. Locher Road monitoring well L-1 SOC's.

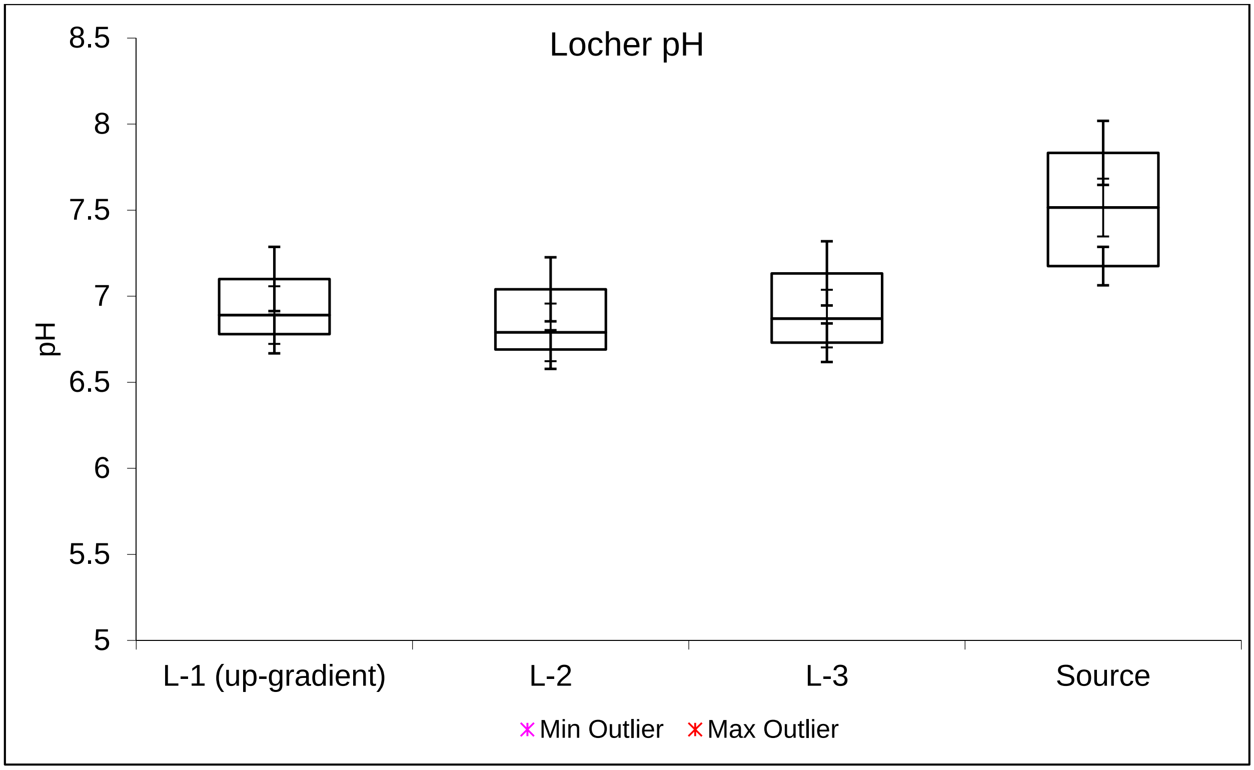

Figure C-11. Locher Road pH box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

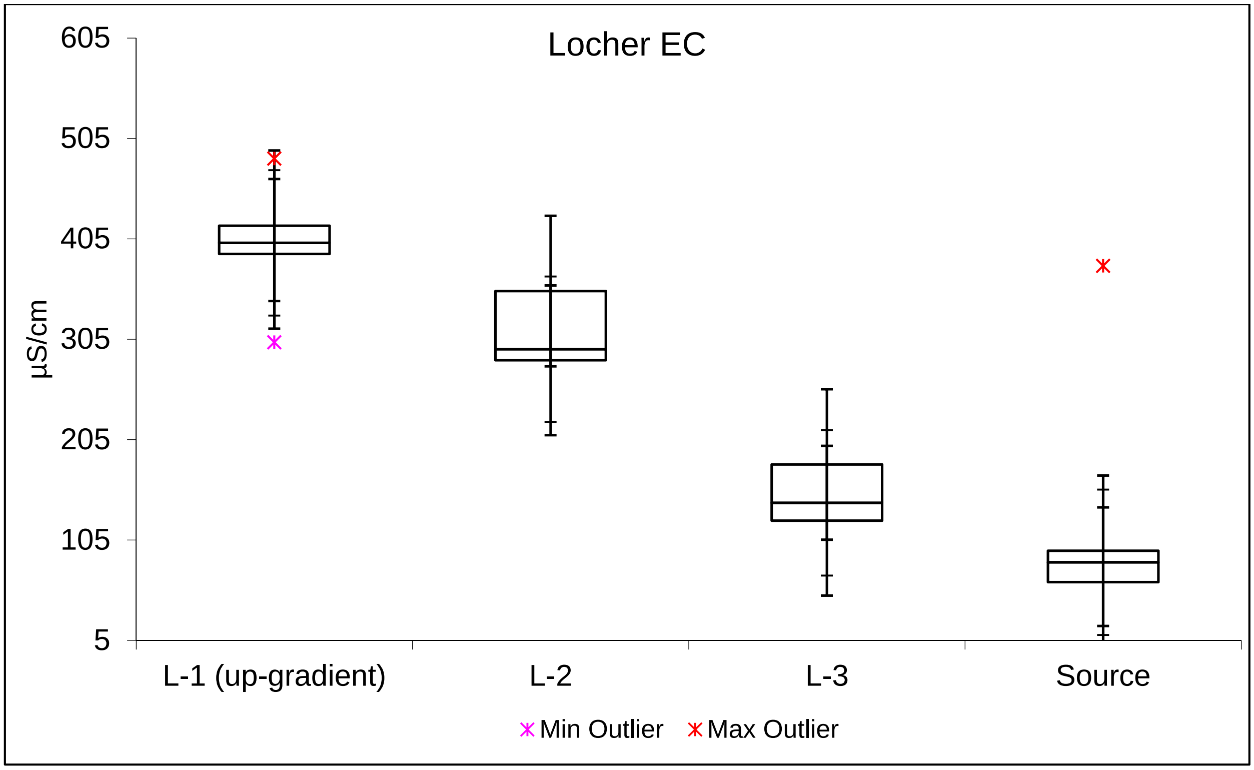

Figure C-12. Locher Road EC box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

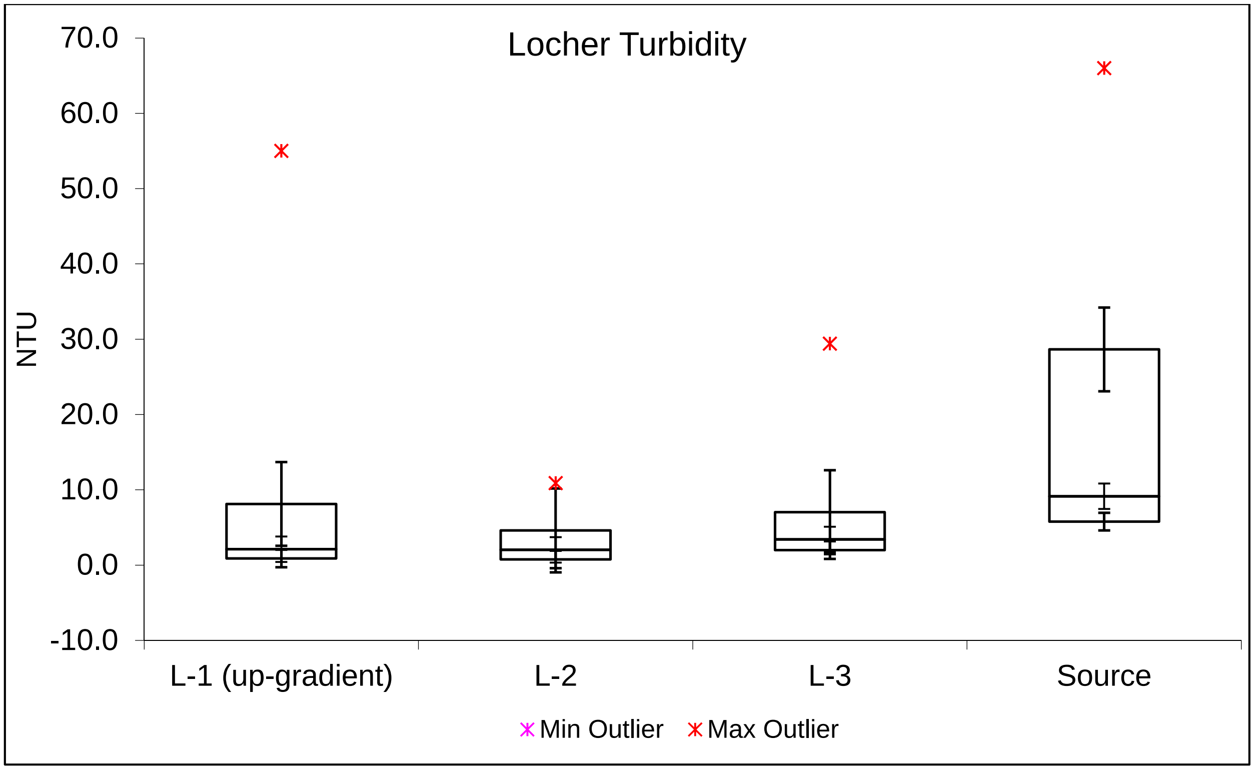

Figure C-13. Locher Road turbidity box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

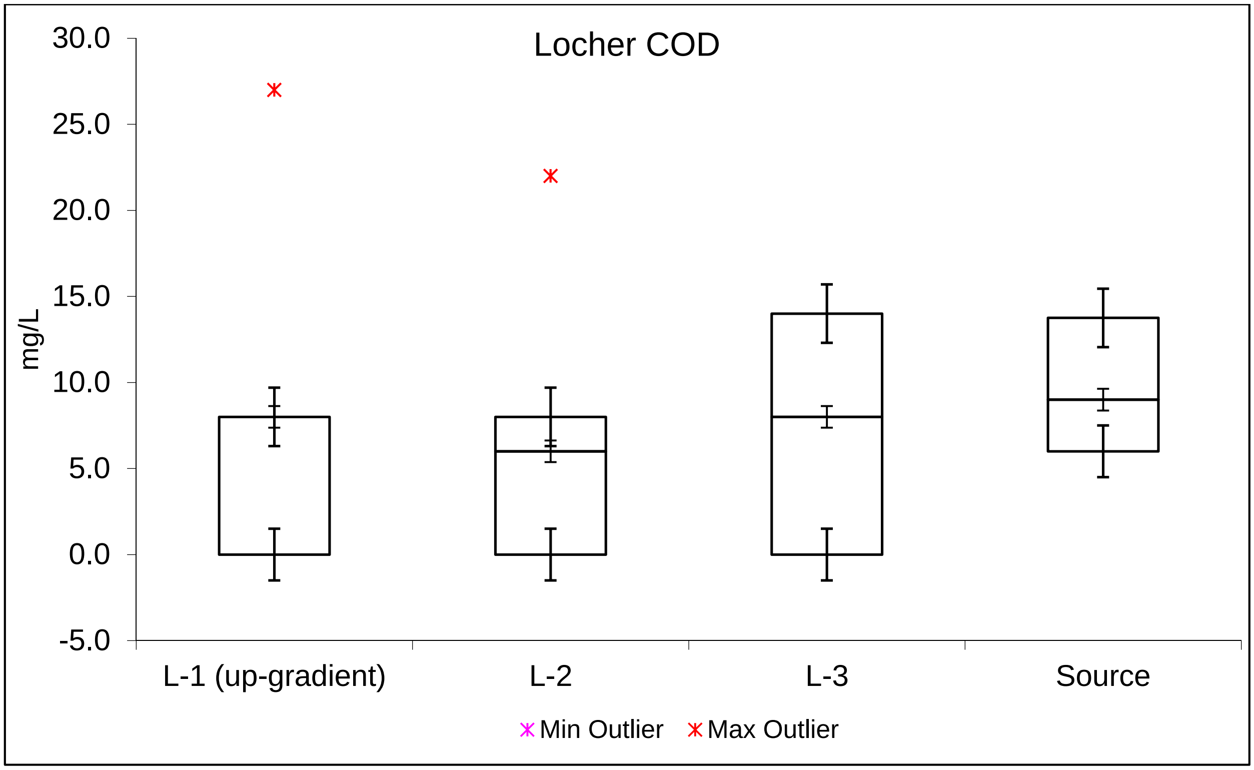

Figure C-14. Locher Road COD box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

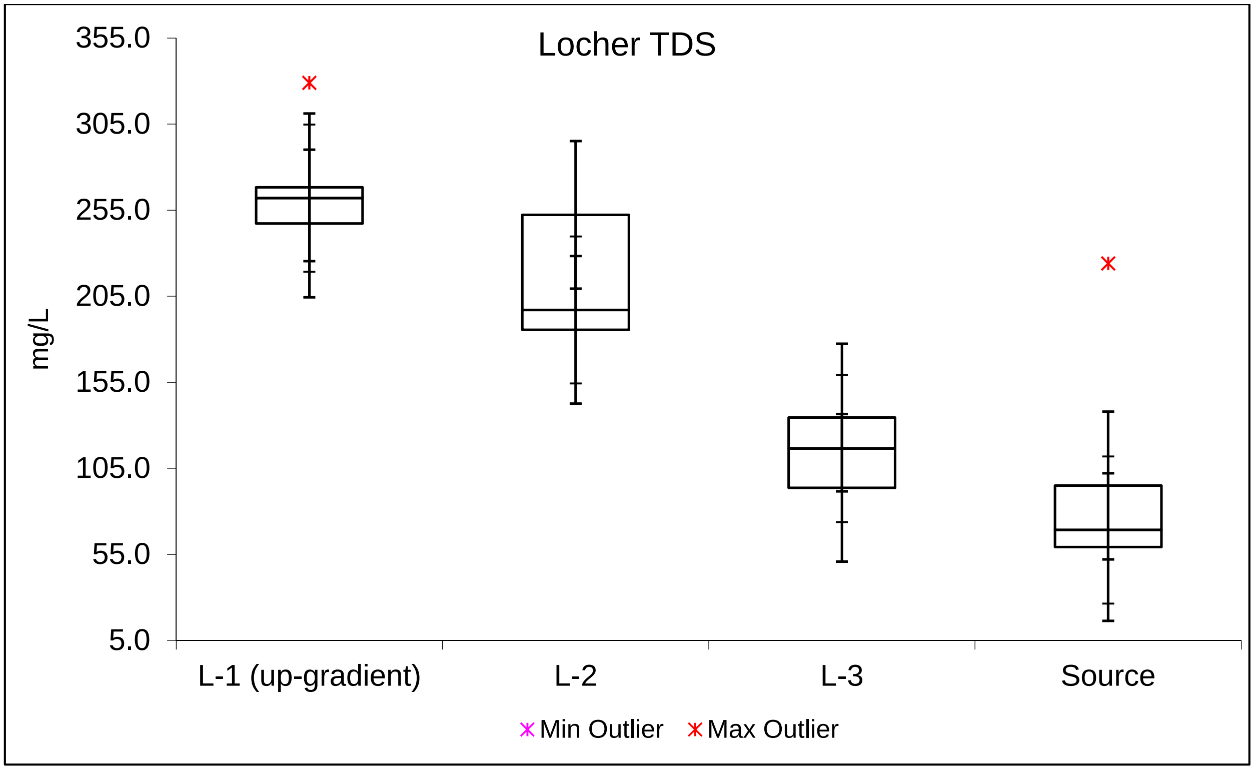

Figure C-15. Locher Road TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

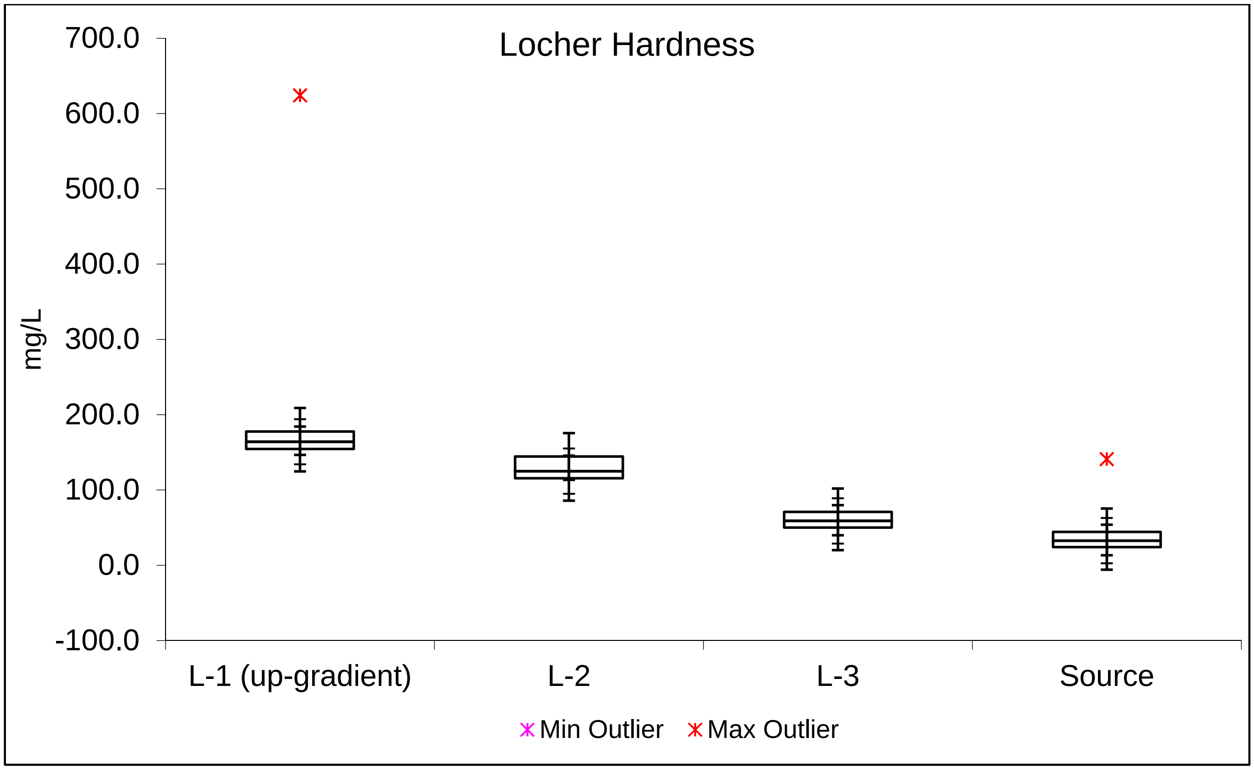

Figure C-16. Locher Road TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

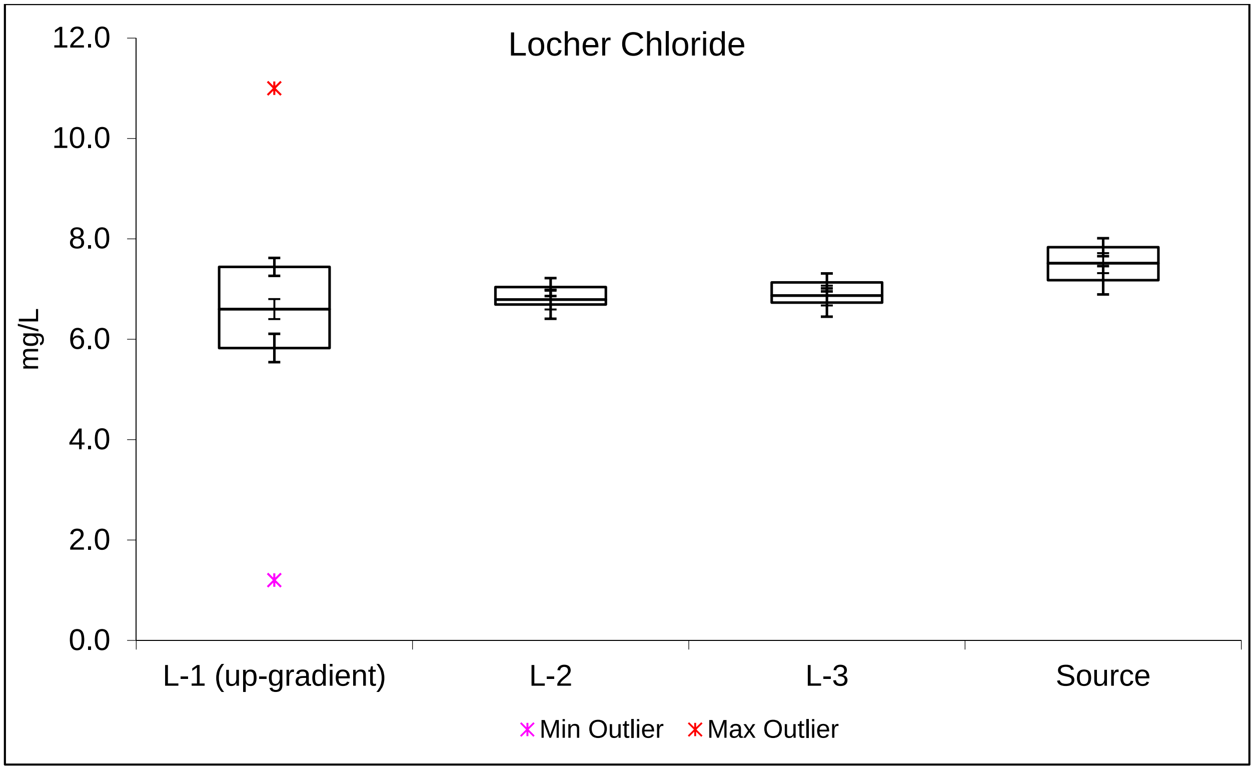

Figure C-17. Locher Road chloride box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

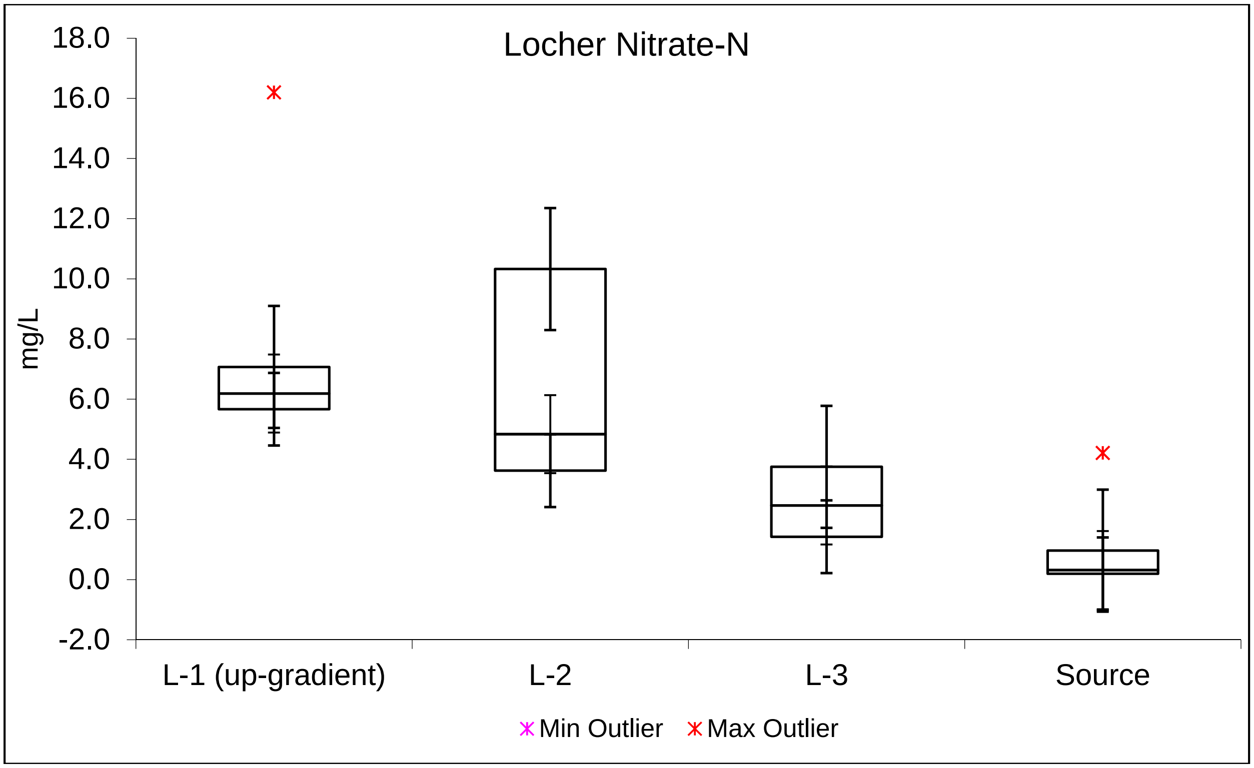

Figure C-18. Locher Road nitrate-N box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

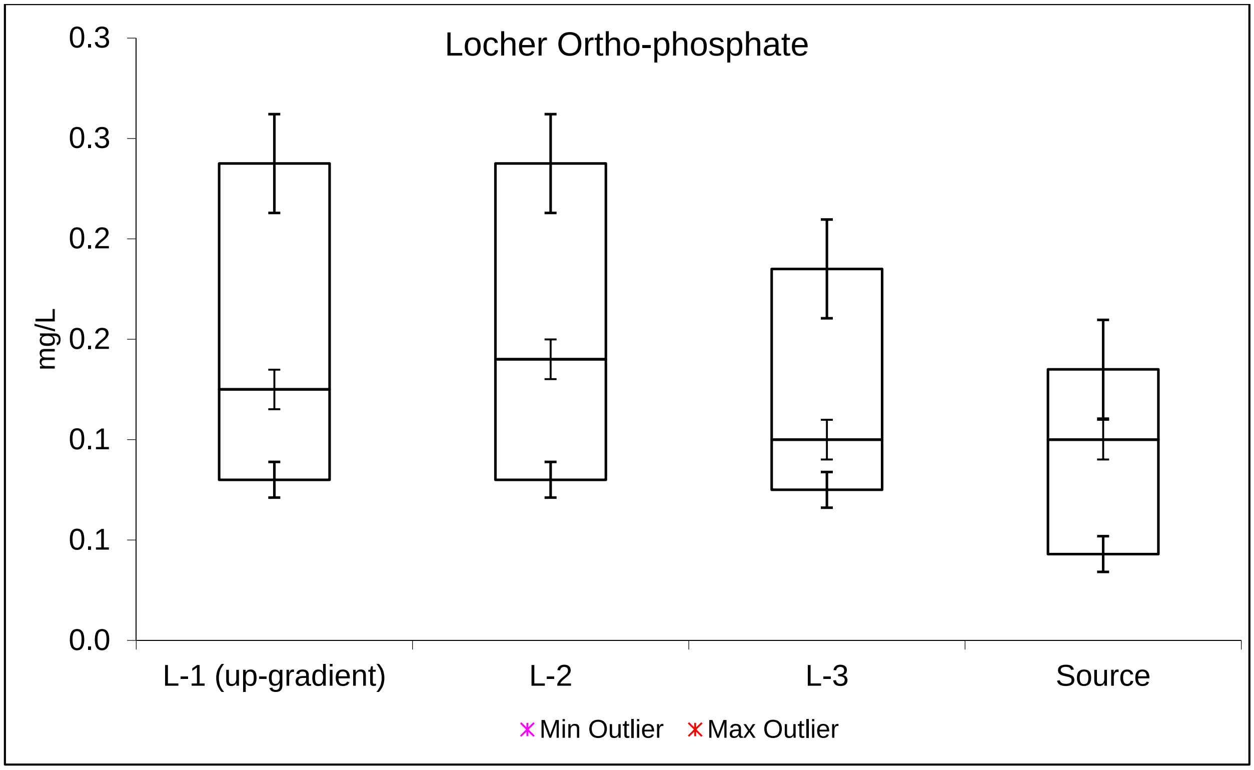

Figure C-19. Locher Road ortho-phosphate box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

Appendix D

Stiller Pond Data Comparison Histograms

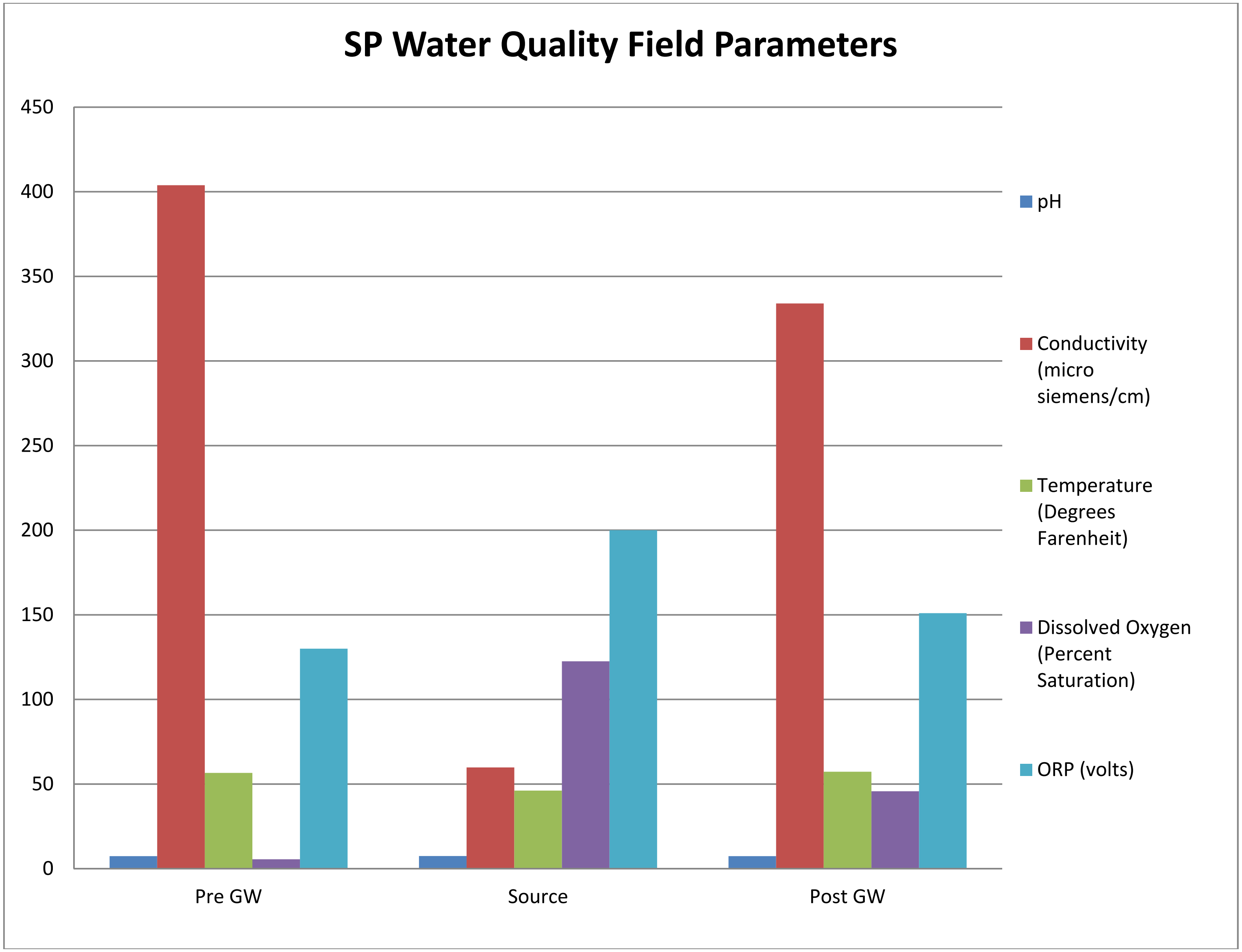

Figure D-1. Stiller Pond field parameters. Pre GW = pre-recharge groundwater sample; Source = recharge source water sample; Post GW = post-recharge groundwater sample. All groundwater samples were collected from monitoring well MWSP-1.

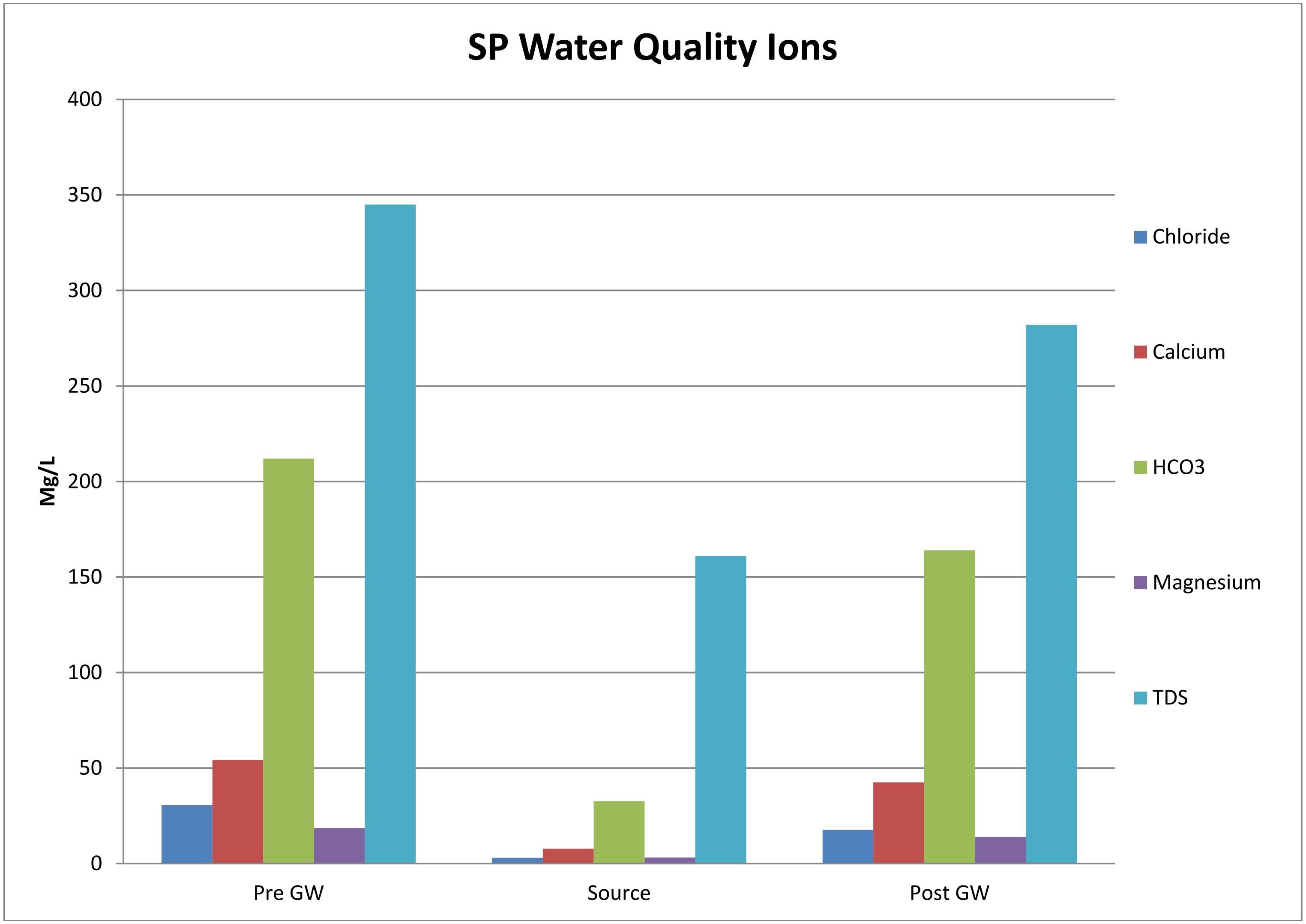

Figure D-2. Stiller Pond water quality ions. Pre GW = pre-recharge groundwater sample; Source = recharge source water sample; Post GW = post-recharge groundwater sample. All groundwater samples were collected from monitoring well MWSP-1. TDS = total dissolved solids.

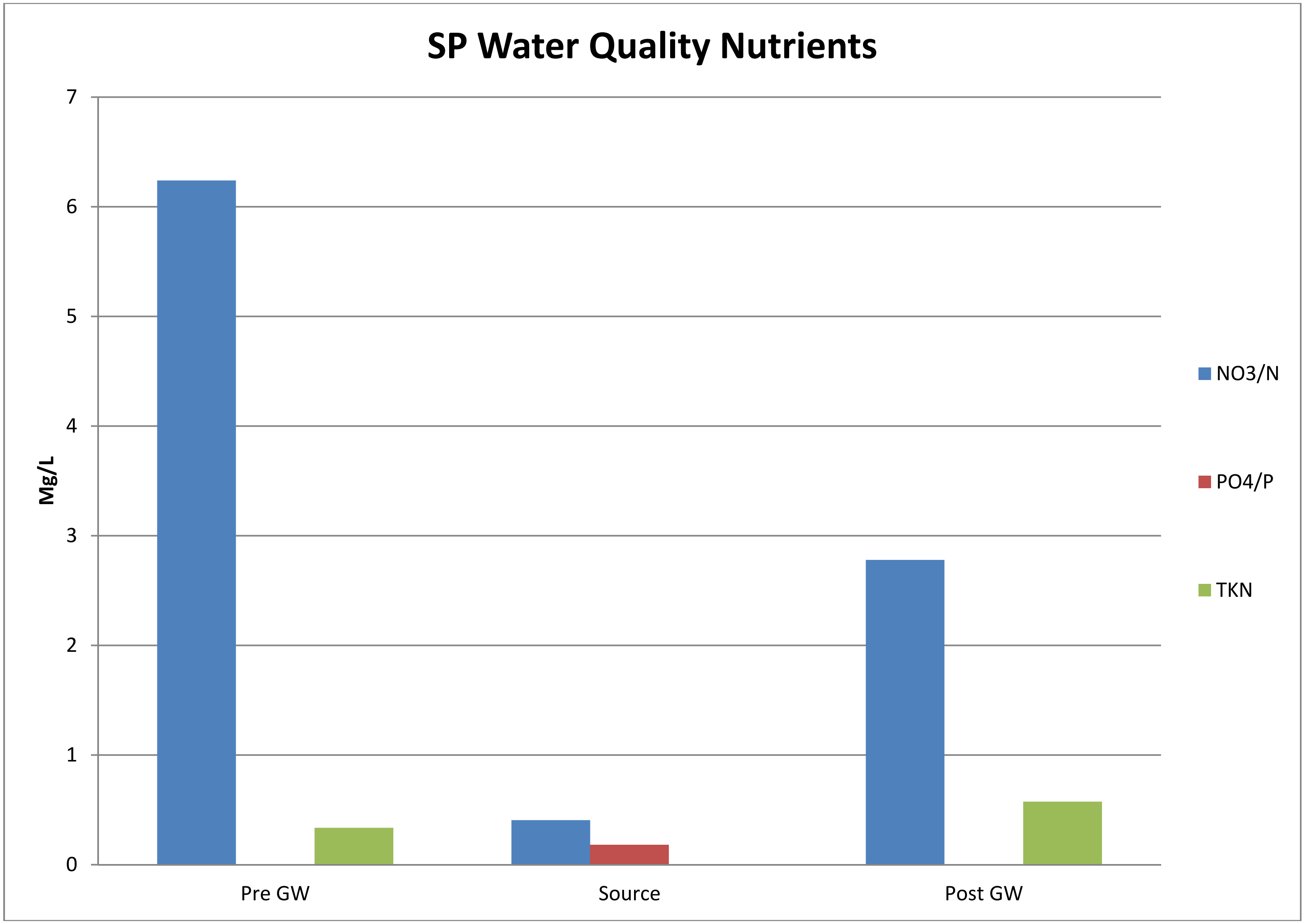

Figure D-3. Stiller Pond water nutrients. Pre GW = pre-recharge groundwater sample; Source = recharge source water sample; Post GW = post-recharge groundwater sample. All groundwater samples were collected from monitoring well MWSP-1. TKN = total Kjeldahl nitrogen.

APPENDIX E

Walla Walla Basin Aquifer Recharge Water Quality and Water Level Monitoring Quality Assurance Project Plan

www.wwbwc.org
Walla Walla Basin Watershed Council
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Walla Walla Basin Aquifer Recharge
Water Quality and Water Level Monitoring
Quality Assurance Project Plan

Steven Patten
Senior Environmental Scientist
Walla Walla Basin Watershed Council

- FINAL PLAN -

May 2013 – Version 1.2

APPROVAL SIGNATURES

Steven Patten, Walla Walla Basin Watershed Council Date

Mike Kuttel, Washington Department of Ecology (WQ) Date

Jim Ross, Washington Department of Ecology (EAP) Date

TABLE OF CONTENTS

Appendix C – Review of Previously Collected Source Water and Groundwater Quality data from Alluvial Aquifer Recharge Projects in the Walla Walla Basin, Washington and Oregon

REVISION HISTORY

Revision Date	Revision Number	Summary of Changes	Sections Changed	Reviser(s)
03/2013	1.0	Creation of QAPP Document	All	Steven Patten
04/2013	1.1	WDOE Comments/Changes	Sampling Process and Quality Control	Steven Patten, Mike Kuttel, Jim Ross
05/2013	1.2	WDOE Comments/Changes	Metals Lab Measurements	Mike Kuttel, Jim Ross

DISTRIBUTION LIST

This document will be made available to the public, agencies and grant funders through the Walla Walla Basin Watershed Council's website (www.wwbwc.org). Internal distribution of the document will occur through the WWBWC's internal server. All field and technical personnel will be given an electronic copy of this document. A printed version will be available in the WWBWC office. This document will be redistributed to personnel and uploaded to the WWBWC server and website upon revision.

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BACKGROUND AND PROJECT DESCRIPTION

The Walla Walla River basin is located in northeast Oregon and southeast Washington. The Walla Walla basin has a very productive agricultural community that relies upon the watershed's water resources, both surface water and groundwater. Most of the basin's surface water systems have been developed to benefit agricultural or municipal uses. Increasing demand for water and limited surface water supply during the summer and fall has led to extensive development of groundwater resources as well. Historically, portions of the Walla Walla River and Touchet River went dry due to diversions. With the listing of steelhead and bull trout as threatened under the Endangered Species Act, local irrigation districts signed an agreement with US Fish and Wildlife Service to leave a significant portion of their water rights (25-27 cfs in Oregon and 18 cfs in Washington) instream to benefit the ESA-listed species. This agreement led to further development of the alluvial and basalt aquifers to supplement reduced surface water diversions. Also, to increase efficiency, many of the canals and ditches across the Walla Walla Valley have been piped to reduce delivery system seepage loss. The combination of increased groundwater usage (over many decades), an expanding number of canals and ditches being piped and a reduction in floodplain function precipitated by development along surface water bodies and flood control systems has resulted in declining groundwater levels throughout much of the alluvial aquifer. The alluvial aquifer is in direct hydraulic connection with many of the basin's rivers, streams and creeks (Marti, 2005 and WWBWC, 2012a).

The Walla Walla Basin Aquifer Recharge Program is addressing the need to stabilize and restore the alluvial aquifer and thus improve low-flow conditions in hydraulically connected streams. Unlike many other aquifer recharge projects being implemented nationally and internationally, Walla Walla alluvial aquifer recharge projects are not currently being implemented for aquifer storage and recovery (commonly referred to as ASR). Although some use of the improved aquifer is likely occurring at wells down gradient of the current aquifer recharge (AR) sites, the primary purpose is for public and regional benefit to restore the aquifer and enhance or support groundwater contributions to instream flow thereby maximizing the resource's potential with multiple benefits for aquatic life, recreational water use, domestic use, and irrigation use (WWBWC, 2013).

PROJECT AREA

The Walla Walla Watershed covers approximately 1,758 square miles in northeast Oregon and southeast Washington (Figure 1). The primary water body is the Walla Walla River. The Walla Walla River's main tributaries include the Touchet River, Mill Creek, Pine Creek, Dry Creek (OR), Dry Creek (WA), and Couse Creek. Individual projects in the Walla Walla Basin Aquifer Recharge Program are located on the valley floor generally north and west of Milton-Freewater, OR, south and west of Walla Walla, WA and south and east of Touchet, WA (Figure 2).

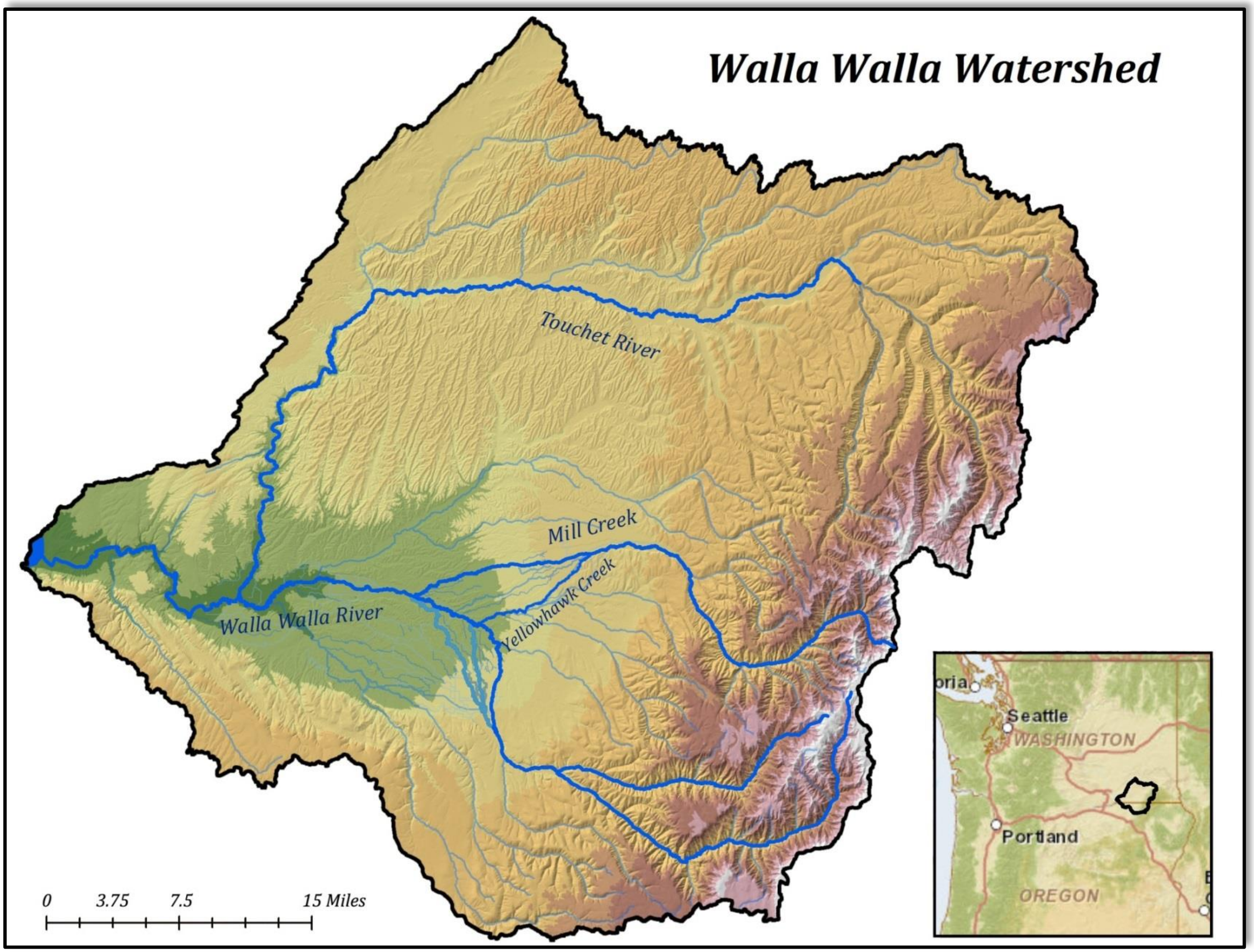

Figure 1 - Map of the Walla Walla Watershed.

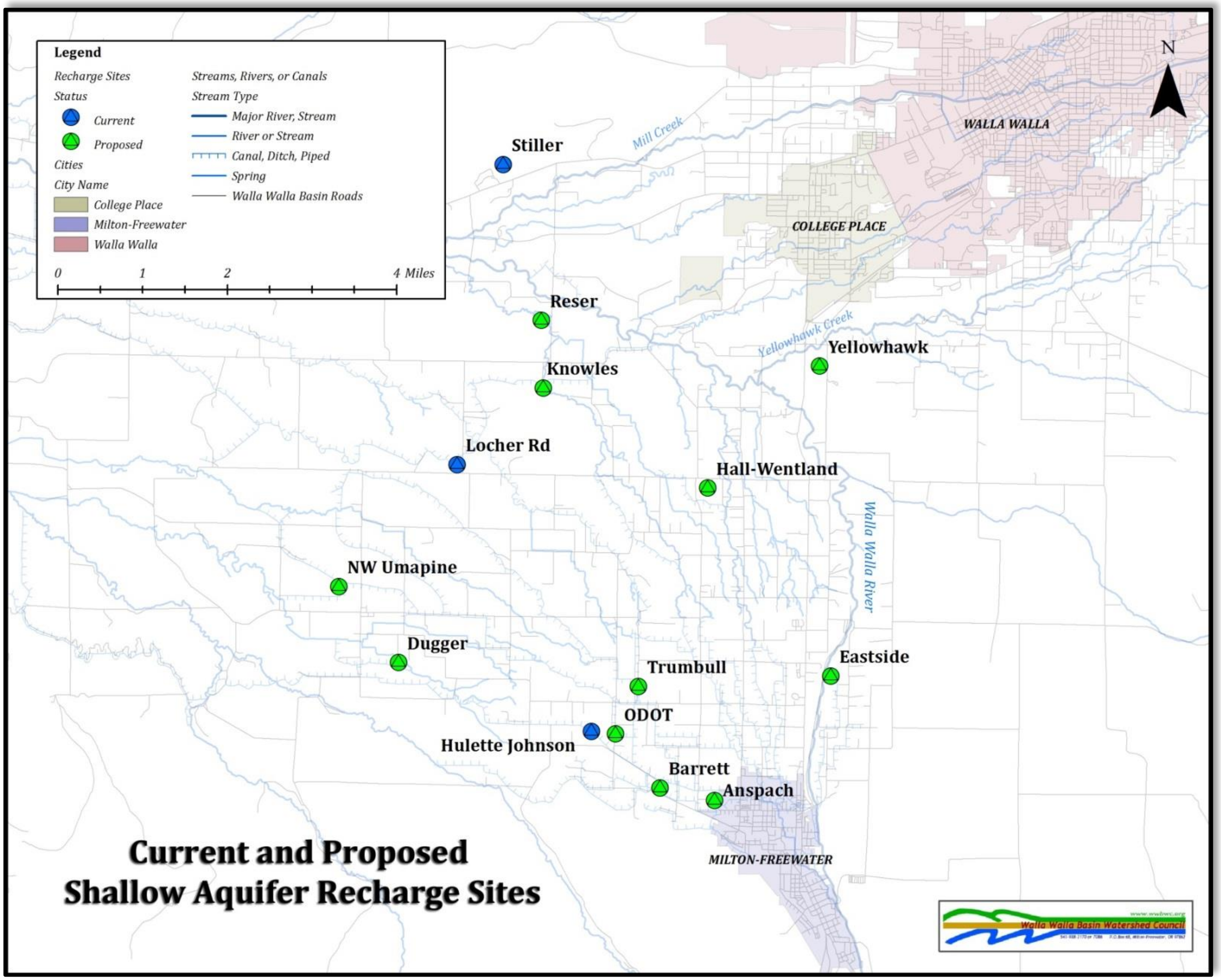

Figure 2- Individual aquifer recharge projects within the Walla Walla Basin Aquifer Recharge Program.

KNOWN CONTAMINANTS AND TMDLS

Some surface waters in the Walla Walla basin have Total Maximum Daily Loads (TMDL) Water Cleanup Plans developed for the following parameters:

- Chlorinated pesticides and Polychlorinated Biphenyls (PCBs)
- Fecal Coliform Bacteria
- Temperature
- Dissolved oxygen and pH

For this Quality Assurance Project Plan (QAPP) the first three TMDLs apply. The first TMDL, chlorinated pesticides and PCBs, requires additional monitoring to ensure groundwater quality is not degraded pursuant to WAC 173-200. The fecal coliform bacteria TMDL will also require water quality monitoring to ensure groundwater quality is not degraded. Aquifer recharge may help address this TMDL because of the natural attenuation of bacteria as recharge water migrates through the alluvial sediments before reemerging as surface water down gradient. The temperature TMDL does not require additional monitoring, but similar to the fecal coliform bacteria TMDL, aquifer recharge may help address high surface water temperatures. Recharge water, sourced during the winter and spring, typically has low water temperatures which can help reduce surface water temperatures through cool groundwater inputs down gradient of recharge sites.

PREVIOUS AQUIFER RECHARGE ACTIVITIES

Four aquifer recharge projects have operated in the Walla Walla basin. For an overview of pilot project activities and results please see WWBWC, 2010 and WWBWC, 2013.

PROJECT GOALS

The overall goal of the Walla Walla Basin Aquifer Recharge Program is to utilize aquifer recharge to stabilize and recover the Walla Walla basin's alluvial aquifer to build aquifer storage, decrease stream seepage loss, mimic floodplain processes and increase spring flows and baseflows. In conjunction with the overall goal, the program also focuses on water quality issues. The water quality goals for the program are two-fold. First to ensure that aquifer recharge does not degrade groundwater resources and second to use aquifer recharge to help improve water quality by reducing fecal coliform contamination, cooling stream temperatures and others.

PROJECT OBJECTIVES

The Walla Walla Basin Aquifer Recharge Program has three main goals (see above). Below are objectives for achieving those goals.

- Monitor groundwater levels and temperature at each recharge site as well as up and down gradient of the site.
- Monitor surface water levels and temperature at each recharge site as well as up and down gradient of the site.
- Collect water quality data during recharge operations.
- Analyze data for status/trend changes and for water quality improvements (or degradation).
- Develop reports that contain the data and Analyses for the previous objectives

To meet these goals and objectives, the following data are needed:

- Groundwater levels and temperature, monitored with pressure transducers
- Surface water stage and temperature, monitored with water level sensors
- Water quality samples (see below for details)
- Volume and timing of recharge water delivered to each site

STUDY BOUNDARY

The study boundary for this project is the extent of the alluvial aquifer in the Walla Walla basin, specifically on the Washington side of the border (Figure 3).

PROJECT TASKS

The main project tasks include:

- Surface water quantity monitoring for effectiveness monitoring, instream flow minimums and to ensure recharge activities are not impeding other water rights.
- Source water (surface water) quality monitoring to account for potential contaminants in the recharge water.
- Surface water delivery, both volume and timing, to each recharge site.
- Regional groundwater level monitoring.
- Site specific groundwater level monitoring
- Groundwater quality testing to detect existing conditions (up gradient) and influences from recharge operations (down gradient).
- Site operations – managing diversion into each project as canal/ditch levels change.

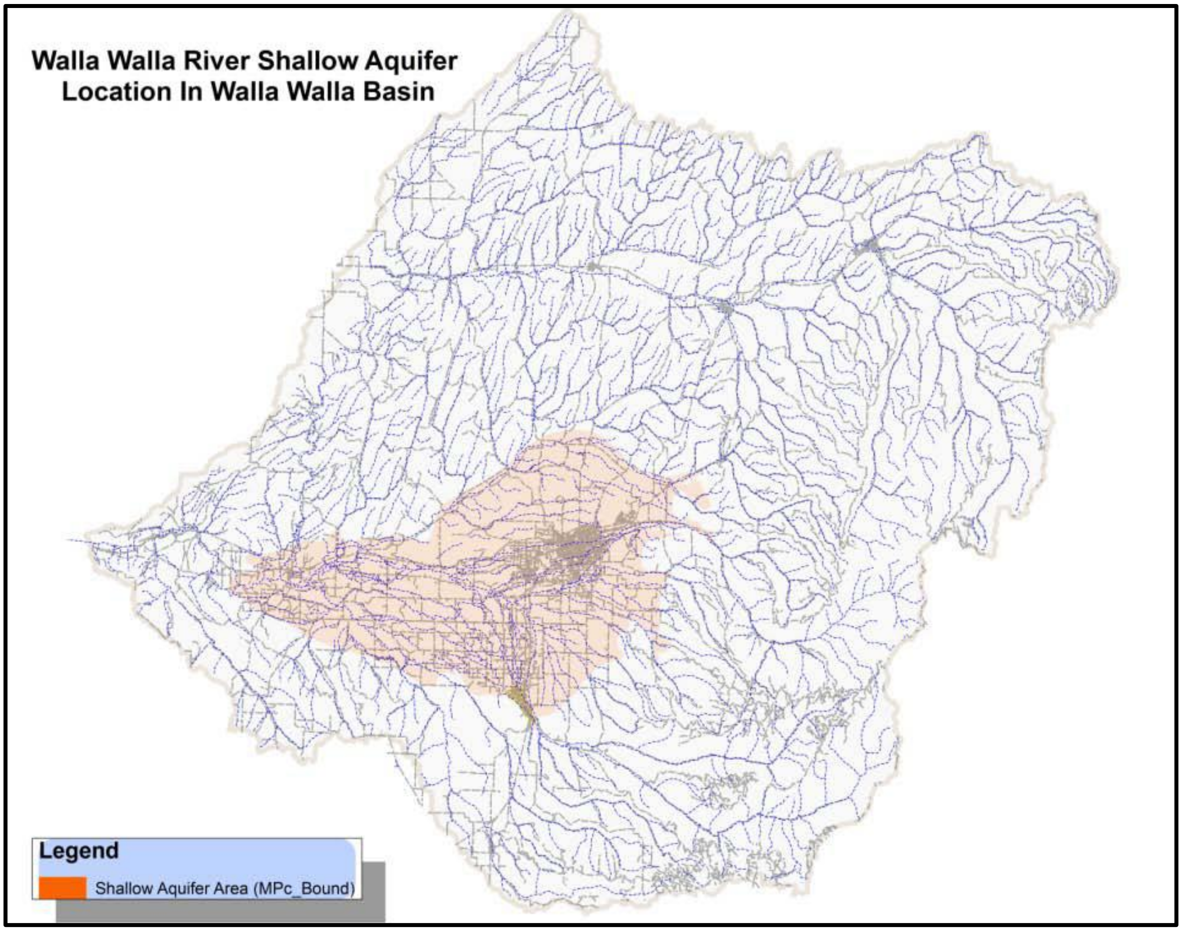

Figure 3 - The study boundary for the Walla Walla Basin Aquifer Recharge Program is the alluvial aquifer, shown in orange.

WALLA WALLA BASIN RECHARGE SITES

LOCHER ROAD

SITE DESCRIPTION

The description of the geologic and hydrogeologic setting of the project is based upon Kennedy/Jenks Consultants (2003), Initial Reconnaissance of Several Possible SAR Sites in the Walla Walla Basin.

The Locher Road Aquifer Recharge Project is located west of Walla Walla, WA and is just north of the Oregon-Washington stateline (Figure 4). The project is located at the intersection of Stateline and Locher Roads (NE ¼, NE ¼, Section 18, Township 6 North, Range 35 East). The project utilizes an excavated and shaped basin within a historic gravel quarry (Figure 5).

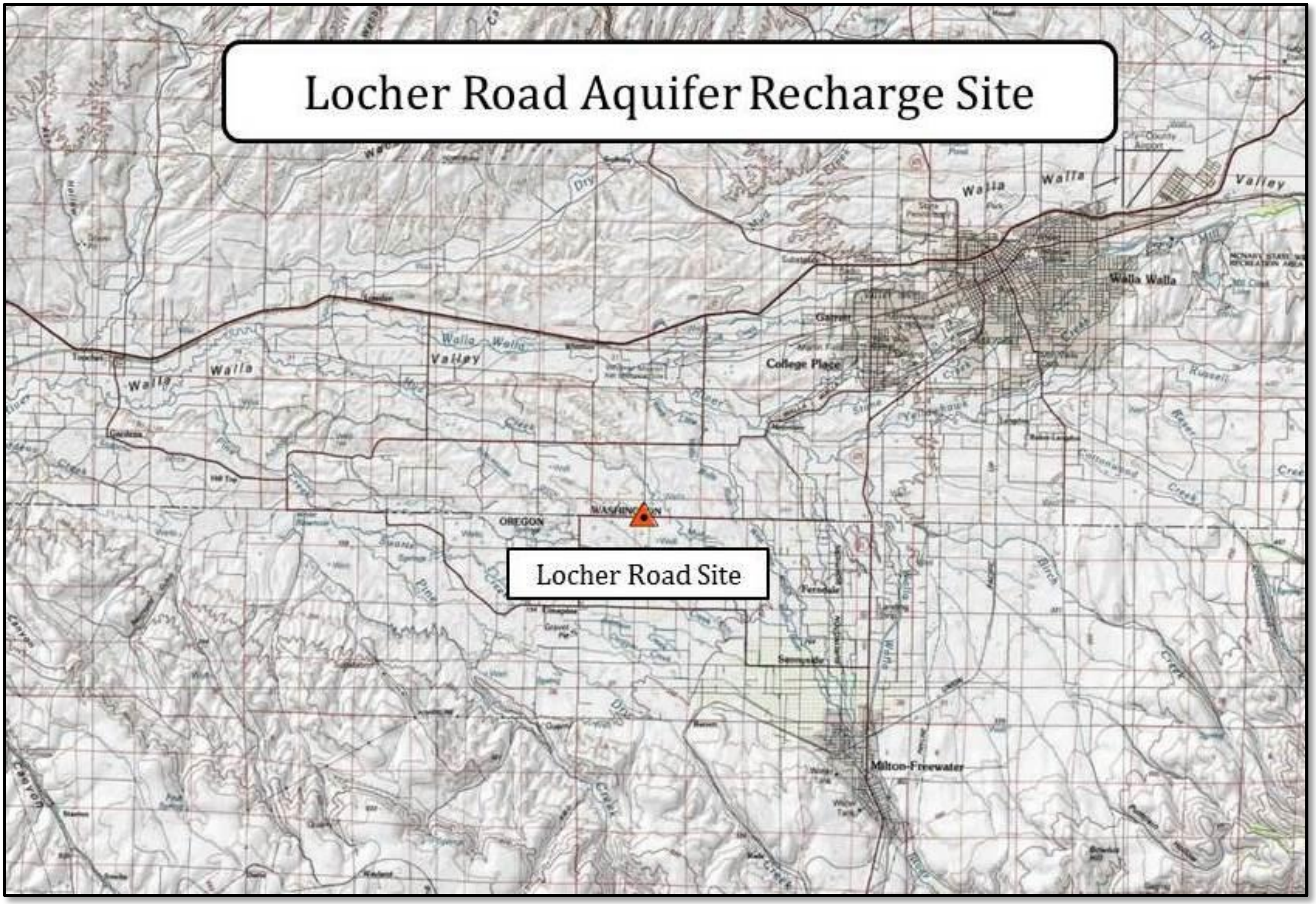

Figure 4- Location map for the Locher Road Aquifer Recharge Project in the Walla Walla Valley, Washington

Figure 5- The Locher Road Aquifer Recharge Project during expansion activities in late 2011. The project was expanded from ~1/3 acre basin to a ~2 acre basin. The project basin is located within a historic gravel quarry.

The gravel quarry is approximately 800 feet long (north to south) and approximately 500 feet wide (east to west). The quarry has a depth of approximately 15-20 feet. The north end of the gravel quarry is less than 200 feet from the Gardena Farms Canal. The project is surrounded by agricultural farming land and low density rural residential plots (including small scale farming or pastures).

GEOLOGY AND HYDROGEOLOGY

The gravel quarry is excavated into a thin (less than 5 feet thick) layer of uncemented gravel overlying red-brown (iron?) stained, partially cemented and indurated gravel assigned to the Mio-Pliocene conglomerate unit. Except for a thin (< 3 feet thick) layer of topsoil, Touchet Beds, loess and other fine-grained deposits are not found in the immediate area, the Quaternary alluvial gravel unit which normally overlies Mio-Pliocene conglomerate is interpreted to be relatively thin (< 10-15 feet-thick) in the gravel quarry area. Within the confines of the quarry, the alluvial gravel unit (Quaternary unit) has been removed and the Mio-Pliocene conglomerate unit extends from the quarry floor to an estimated depth of approximately 260 feet. A more comprehensive description of the geology of this project can be found in Kennedy/Jenks (2003), GSI (2007), GSI (2008) and GSI (2009).

The uppermost aquifer beneath the project is hosted by the Mio-Pliocene conglomerate. This aquifer is unconfined and is referred to as the suprabasalt aquifer (also known as the alluvial aquifer or the shallow gravel aquifer). The Washington Department of Ecology (Ecology) has been monitoring water levels in the suprabasalt aquifer in a well (commonly refered to as the "Ecology well" and is GW_57 in the WWBWC monitoring network) found immediately adjacent to the project. The well is located just north of the gravel quarry and south of the Gardena Farms Canal. The data from this well indicates the suprabasalt aquifer water table lies between approximately 20-45 feet below the ground surface and its depth varies with the use of the nearby Gardena Farms Canal. Based upon the results of multiple years of aquifer recharge operations, the site has demonstrated it has good infiltration rates (WWBWC, 2013a).

For additional information regarding the geology and hydrogeology please see Newcomb (1965). Also see WWBWC, 2012b for regional information on the alluvial aquifer water levels.

WATER AND SOIL QUALITY SAMPLING

The schedule for the Locher Road site is listed below. Each of the samples includes all of the water parameters listed below in the Measurement Methods. Soil samples will be collected only during the Pre-operations event. Soil samples will include 5 locations within the gravel quarry. Each location will have two samples taken: 1 – from the ground surface and 2 – from 1 foot or more below the ground surface. Parameters for soil sampling are also included in the Measurement Methods section. See Figure 6 for well and source water sampling locations.

Location	Sample	Date
Location #1 – Ground Surface	Soil Sample	~ Dec 1st - March 1st
Location #1 – 1+ Foot Below Surface	Soil Sample	~ Dec 1st - March 1st
Location #2 – Ground Surface	Soil Sample	~ Dec 1st - March 1st
Location #2 – 1+ Foot Below Surface	Soil Sample	~ Dec 1st - March 1st
Location #3 – Ground Surface	Soil Sample	~ Dec 1st - March 1st
Location #3 – 1+ Foot Below Surface	Soil Sample	~ Dec 1st - March 1st
Location #4 – Ground Surface	Soil Sample	~ Dec 1st - March 1st
Location #4 – 1+ Foot Below Surface	Soil Sample	~ Dec 1st - March 1st
Location #5 – Ground Surface	Soil Sample	~ Dec 1st - March 1st
Location #5 – 1+ Foot Below Surface	Soil Sample	~ Dec 1st - March 1st
Up Gradient Well – GW_70	Pre-operations Sample	~ Dec 1st - March 1st
Down Gradient Well (close) – GW_72	Pre-operations Sample	~ Dec 1st - March 1st
Down Gradient Well (distal) – GW_71	Pre-operations Sample	~ Dec 1st - March 1st
Source Water – S308	Pre-operations Sample	~ Dec 1st - March 1st
Up Gradient Well – GW_70	Mid-operations Sample	~April 15th
Down Gradient Well (close) – GW_72	Mid-operations Sample	~April 15th
Down Gradient Well (distal) – GW_71	Mid-operations Sample	~April 15th
Source Water – S308	Mid-operations Sample	~April 15th
Up Gradient Well – GW_70	Post-operations Sample	~ May 31st
Down Gradient Well (close) – GW_72	Post-operations Sample	~ May 31st
Down Gradient Well (distal) – GW_71	Post-operations Sample	~ May 31st
Source Water – S308	Post-operations Sample	~ May 31st

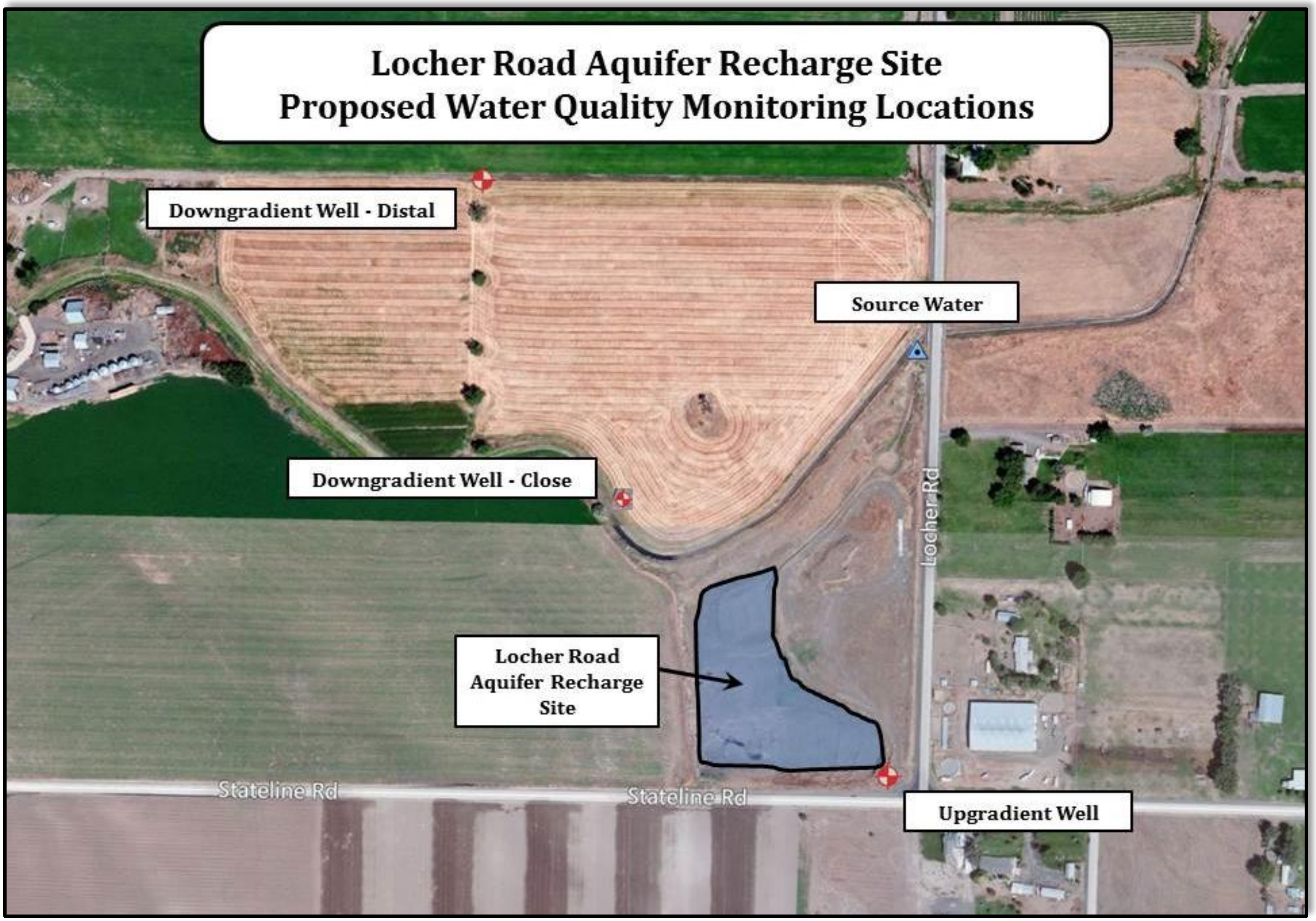

Figure 6- Locher Road aquifer recharge site water quality monitoring locations. Three groundwater wells will be sampled, one up gradient and two down gradient. Source water samples will be collected at the intake for the recharge project where water is diverted from the Gardena Farms Canal.

STILLER POND

SITE DESCRIPTION

The Stiller Pond project area (Figures 7 and 8) generally lies in and immediately east of an intermittent pond locally referred to as Stiller Pond in Walla Walla County, Washington, located in Township 7 North, Range 35 East, SW ¼ SW ¼ of Section 29. Land use around Stiller Pond currently is devoted primarily to organic irrigated agriculture and stock grazing. Historically, surface water reached Stiller Pond via a ditch connected to Mill Creek. This ditch was converted to a piped system in approximately 2004/2005. Historical evidence, based on landowner interviews, suggests Stiller Pond quickly would go dry when surface water delivery was shut off, suggesting water seeped out of the pond and into the underlying alluvial aquifer in a few days, to less than a week.

Currently, water use in the Project area focuses on winter and spring (October through May) irrigation and stock watering using surface water diverted from Mill Creek; and summer (June through September) irrigation and stock watering using groundwater. Groundwater is used from three alluvial aquifer wells (west well, middle well, east well; Figure 2) at the Project site. Winter/spring irrigation using Mill Creek water is sub-optimal because crop growing conditions are not at their best in the winter and in wet springs there is only a limited need for irrigation. In addition, the diversion point on Mill Creek is an in-stream structure that has the potential to inadvertently influence fish passage.

The basic goal of the Project is to provide surface recharge water to the alluvial aquifer to increase groundwater storage to support higher base flow to the nearby Walla Walla River and Mill Creek.

The Site lies in a shallow swale north of Mill Creek and the Walla Walla River, approximately 5.5 miles east of Lowden, Washington. This swale is located between the right-of-ways of old Highway 12 and new Highway 12. The western end of the swale is crossed by a low dike that serves to hold water in Stiller Pond when it is filled. Mill Creek flows past the Project area from the northeast and empties into the Walla Walla River southwest of the Site.

The eastern half of the Site consists of cropland that is currently undergoing the transition to organic farming practices. Stiller Pond, covering much of the western portion of the Site, has a surface area of approximately 8 acres, and an approximate average maximum depth of 4 to 5 feet when full.

The Site lies on the northern margin of the modern Walla Walla River and Mill Creek floodplain, and associated terraces, at the base of the low hills bordering the northern edge of this floodplain and terrace system. As such, the ground surface at the Site is approximately 10 to 30 feet above the Walla Walla River and Mill Creek channels at their nearest approach to the Site.

Mill Creek is the surface water body closest to the Site. The creek is an east-west flowing perennial stream located ½ to ¾ miles south of the Site. Mill Creek is a tributary of the Walla Walla River, which in the immediate vicinity of the Site lies south of Mill Creek.

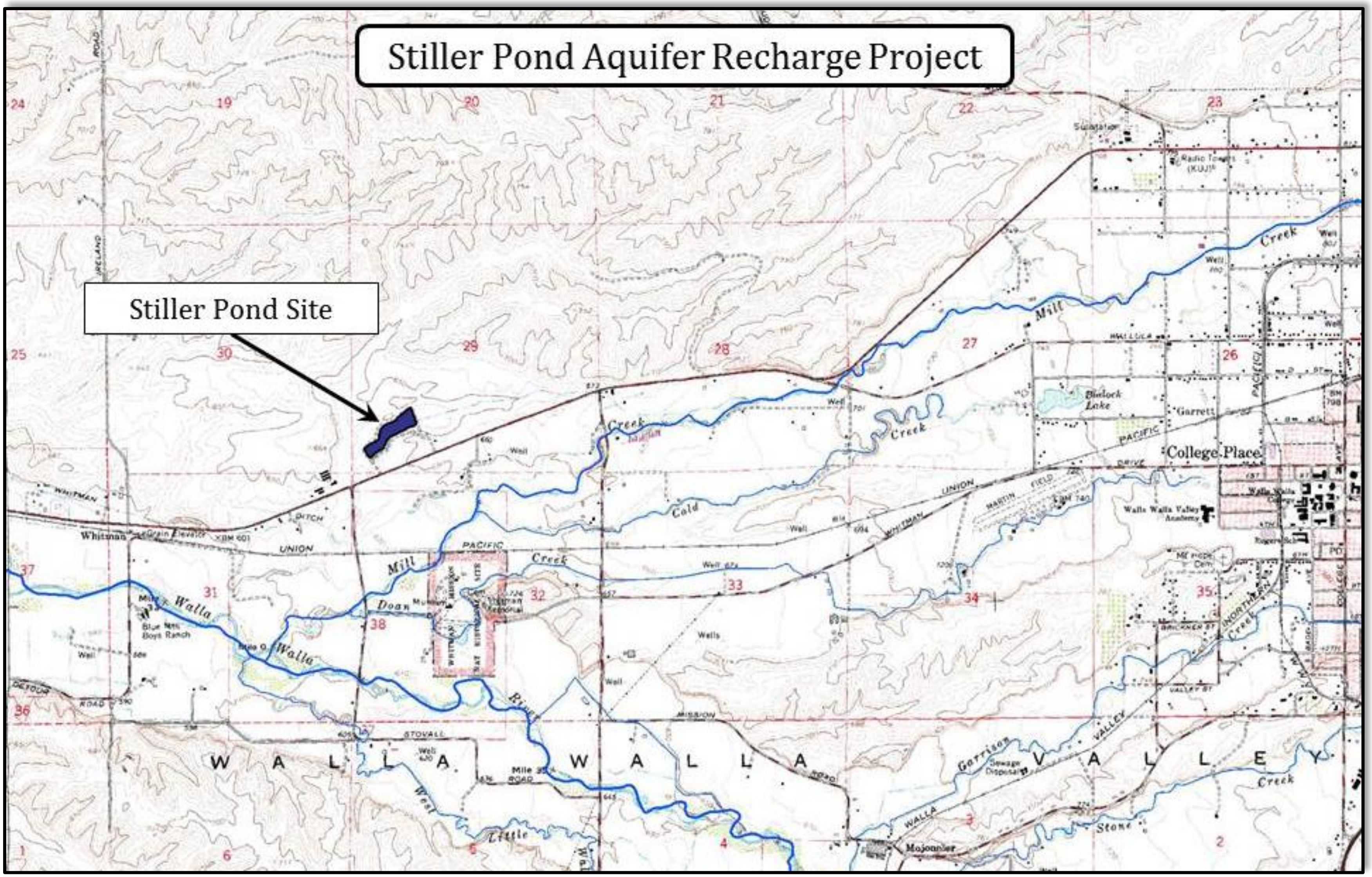

Figure 7- Location Map for the Stiller Pond Aquifer Recharge Site in the Walla Walla Valley, Washington.

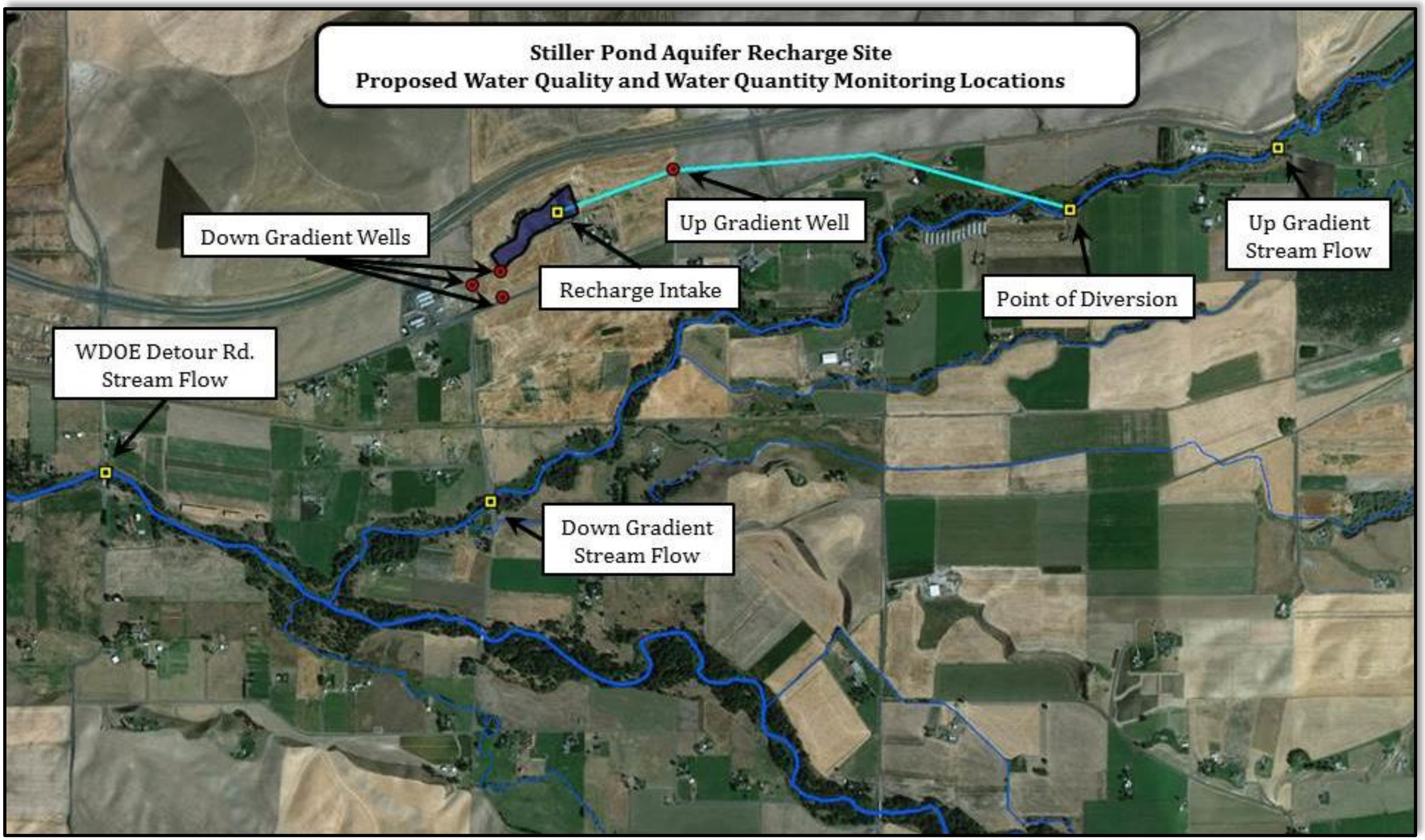

Figure 8– Stiller Pond Aquifer Recharge site water quality monitoring locations. Three groundwater wells will be sampled, one up gradient and two down gradient. Source water samples will be collected at the intake for the recharge project or at the point of di

GEOLOGY AND HYDROGEOLOGY

The shallowest aquifer underlying the Project area generally is unconfined to locally semi-confined aquifer hosted by alluvial sediments overlying the Columbia River basalts (GSI, 2010). These alluvial strata include fine- to coarse-grained continental clastic sediments referred to as the Quaternary fine unit, the Mio-Pliocene upper coarse unit, and the Mio-Pliocene fine unit (GSI, 2010). Basic observations about these units in the Project area are summarized below.

- *Quaternary fine unit* – The uppermost unit in the Project area, The Quaternary fine unit consists of fine-grained (clay, silt, and sand) deposits which were water lain and wind deposited materials derived from the Touchet Beds that comprise of the hills immediately to the North of the Project area.

- *Mio-Pliocene upper coarse unit* – In the vicinity of the Site the Quaternary fine unit is underlain by gravel and conglomerate assigned to the Mio-Pliocene coarse unit. This unit consists predominantly of indurated, slightly muddy to muddy, basaltic sand and gravel (conglomerate) and interbedded mud and it is the primary host unit for the suprabasalt (or alluvial) aquifer system. Hydrologic properties inherent in this unit are variable because of the wide range of lithologies and variable induration found within it. Crude data from step-rate pumping tests in two on-site wells yielded estimated:

    - Specific capacities of between approximately 2.8 gpm/ft, and 4.6 gpm/ft.
    - Transmissivities of between approximately 8700 ft^2/day and 24,700 ft^2/day.
    - Hydraulic conductivities of between approximately 70 ft/day and 180 ft/day.
    - The Mio-Pliocene coarse unit ranges from approximately 120 to 160 feet-thick, and well logs suggest it contains several thick muddy interbeds.

- *Mio-Pliocene fine unit* – The Mio-Pliocene upper coarse unit in the Project area is underlain by a sequence consisting predominantly of weakly indurated claystone and siltstone assigned to the Mio-Pliocene fine unit (also referred to as the old clay, or blue clay). Although not impermeable, these strata likely have significantly lower permeability than overlying strata, and functionally form the base of the alluvial aquifer system. In the Project area, these strata lie at depths of approximately 140 to 150 feet below ground surface.

The depth to groundwater, groundwater flow direction, and groundwater gradient in the alluvial aquifer system underlying the Site is difficult to deduce because of a scarcity of up-to-date data. However, based on the small amount of recent data currently available from drillers' well logs, on-site water supply wells, a single purpose built monitoring well, and recent reports related to the site Local Water Plan (GSI, 2010 and GSI, 2012) the following basic observations are reached.

- Depth to water – Historically, depth to water in the Project area may have been as little as 10 to 15 feet below ground surface. Recent well videos (from 2008 and 2009) indicate water levels are slightly deeper (15 to 25 feet below ground surface) than when the wells were first drilled. Depth to water in the on-site purpose-built monitoring well was approximately 23 feet in mid-March 2012.

- Groundwater flow direction – The general direction of groundwater flow through the greater Project area is from the east-northeast to the west-southwest, following the general orientation of the Walla Walla River valley (GSI, 2010).

- Groundwater gradient – With the data currently in-hand, estimating a gradient for the alluvial aquifer system is problematic. From what has been compiled, it appears the gradient in the general project area ranges from 5 to 25 feet/mile, possibly averaging in the range of 10 to 15 feet/mile (GSI, 2010).

Infiltration rates at the Stiller Pond site were estimated based on observations made during Local Water Plan work in the spring of 2012 (GSI, 2012). This work indicated approximate infiltration volumes per unit area of approximately 1.5 gallons/square-foot/day. It is important to note that this estimate is based on very general observations of the wetted area of the Pond, and measurements of how fast the Pond drained during this spring 2012 work. Given this, one should keep in mind that this rate is averaged across the full wetted surface of the Pond and that it likely differs across it.

GROUNDWATER QUALITY

Groundwater quality data was collected at the site during the 2012 Local Water Plan work (GSI, 2012). These data show the following:

- Pre-test groundwater, source and post-test groundwater pH values remained relatively consistent.

- Electrical conductivity (EC) in pre-test and post-test groundwater samples were 403.9 µS/cm and 334.0 µS/cm respectively. Source water EC was 59.8 µS/cm. The decrease in EC between pre and post-test EC suggests reduced EC in the groundwater resulting from recharge.

- Dissolved oxygen was higher in the post-test sample than the pre-test sample. This suggests that recent recharge water was moving in the direction of well MWSP-1.

- Oxidation-reduction potential (ORP) was higher in the post-test sample than the pre-test sample. This is likely the result of general groundwater dilution with respect to anions such as chloride. This suggests that recent recharge water was moving in the direction of well MWSP-1.

- Dissolved solids (including chloride, calcium hardness and magnesium) were all lower in the post-test sample than the pre-test sample. Source water dissolved solids were significantly lower than either groundwater sample. This observation also suggests evidence of changes in groundwater quality at MWSP-1 due to recharge.

- Total dissolved solids (TDS) were higher in pre-test groundwater than post-test groundwater and significantly lower in source water than either groundwater sample. This also is interpreted to be an indication that groundwater quality was positively influenced by the 2012 AR season.

- Nutrient concentrations (including nitrate (NO_3), phosphate (PO_4) and total Kjeldahl nitrogen (TKN)) generally suggest that AR events did not degrade groundwater quality. TKN was elevated slightly in the post-recharge sample, but this was expected due to the introduction of additional organic nitrogen, ammonia and ammonium to the groundwater via recharge through biomass on the surface of the Pond in the form of decaying plant matter. This slight rise in TKN is not interpreted to reflect groundwater degradation because the slight increase in TKN did not correspond to a matching increase in NO_3. In fact, NO_3 decreased in groundwater following the AR event.

- No fecal coliform or total coliform bacteria were detected in any sample.

Basic water quality parameters summarized above are interpreted to show that these activities did not degrade groundwater quality. This data, especially the fact that pre-test groundwater concentrations in most parameters are higher than post-test groundwater concentrations and source water, suggests operation of the Site may lead to reductions in parameter concentrations as recharge water is added to the alluvial aquifer underlying the Site. No groundwater data have been collected regarding PCBs, chlorinated pesticides or metals at the Stiller Pond site. See Appendix C for additional information on water quality collected to date.

WATER AND SOIL QUALITY SAMPLING

The water quality schedule for the Stiller Pond Recharge site is listed below. Each of the samples includes all of the water parameters listed below in the Measurement Methods. Soil samples will be collected only during the Pre-operations event. Soil samples will include 5 locations within the pond. Each location will have two samples taken: 1 – from the ground surface and 2 – from 1 foot or more below the ground surface. Parameters for soil sampling are also included in the Measurement Methods section. See Figure 8 for well and source water sampling locations.

Location	Sample	Date
Location #1 – Ground Surface	Soil Sample	~ December 1st
Location #1 – 1+ Foot Below Surface	Soil Sample	~ December 1st
Location #2 – Ground Surface	Soil Sample	~ December 1st
Location #2 – 1+ Foot Below Surface	Soil Sample	~ December 1st
Location #3 – Ground Surface	Soil Sample	~ December 1st
Location #3 – 1+ Foot Below Surface	Soil Sample	~ December 1st
Location #4 – Ground Surface	Soil Sample	~ December 1st
Location #4 – 1+ Foot Below Surface	Soil Sample	~ December 1st
Location #5 – Ground Surface	Soil Sample	~ December 1st
Location #5 – 1+ Foot Below Surface	Soil Sample	~ December 1st
Up Gradient Well	Pre-operations Sample	~ December 1st
Down Gradient Well (close)	Pre-operations Sample	~ December 1st
Down Gradient Well (distal)	Pre-operations Sample	~ December 1st
Source Water (Diversion or Intake)	Pre-operations Sample	~ December 1st
Up Gradient Well	Mid-operations Sample	~ February 15th
Down Gradient Well (close)	Mid-operations Sample	~ February 15th
Down Gradient Well (distal)	Mid-operations Sample	~ February 15th
Source Water (Diversion or Intake)	Mid-operations Sample	~ February 15th
Up Gradient Well	Post-operations Sample	~ April 30th
Down Gradient Well (close)	Post-operations Sample	~ April 30th
Down Gradient Well (distal)	Post-operations Sample	~ April 30th
Source Water (Diversion or Intake)	Post-operations Sample	~ April 30th

ORGANIZATION AND SCHEDULE

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PROJECT SCHEDULE

Activity	Schedule	General Description
Surface Level Monitoring	Year-round	Mainstem sites are visited every other week to collect staff gauge measurements and perform general site maintenance. Manual discharge measurements and other data are collected during ~4-6 visits each year. A few river sites are only monitored seasonally during summer and fall base flows.
Groundwater Level Monitoring	Year-round	Sites are visited ~4 times a year to download data, conduct manual groundwater level measurements, perform site maintenance and collect other data.
Recharge Operations	Seasonal (Winter/Spring)	Aquifer recharge sites are operated in the winter and spring when adequate water volumes are in the river. Sites can turn on as early as December and turn off near the end of May.
Water Quality Monitoring – pre-operations sample	Seasonal (Winter/Spring)	Water quality samples are collected either just before or as the site is turned on.
Water Quality Monitoring – mid-operations sample	Seasonal (Winter/Spring)	Water quality samples are collected at approximately the mid-point of recharge operations.
Water Quality Monitoring – post-operations sample	Seasonal (Winter/Spring)	Water quality samples are collected either on the last day of operations or just after shut down.
Reporting	Seasonal (Fall)	Annual report for recharge operations will be completed the following fall.

Exact dates cannot be described in the project schedule because start up and shut down dates are dependent upon instream flows, environmental conditions (freezing, etc.) and other water use conditions.

QUALITY OBJECTIVES

MEASUREMENT QUALITY OBJECTIVES

Parameter	Field or Lab	Check Standard	Duplicate Samples
Water Temperature	Field	± 0.5 °C (NIST Thermometer)	± 0.2 °C
pH	Field	± 0.1 pH units	± 0.05 pH units
Specific Conductance	Field	± 5% of standard	± 5% of reading
Dissolved Oxygen	Field	± 0.2 mg/L	± 0.1 mg/L
Groundwater Level Measurement	Field	N/A	± 0.01 feet
Manual Discharge Measurement	Field	N/A	± 10%
Tape Down Stage Measurement	Field	N/A	±0.02 feet
Vertical Staff Gage Measurement	Field	N/A	±0.02 feet
Organic Pesticides (including PCBs, Organochlorines, etc.)	Lab	N/A	50% Relative Difference
Water Quality Parameters (Metals, TDS, nutrients, etc.)	Lab	N/A	50% Relative Difference

SAMPLING PROCESS

SAMPLE CONTAINERS, PRESERVATION AND HOLDING TIMES

Sample / Parameter	Matrix	Minimum quantity required	Container	Preservative	Holding Time
Water Temperature	Water	N/A	N/A	None	N/A
Specific Conductance	Water	N/A	N/A	None	N/A
pH	Water	N/A	N/A	None	N/A
Dissolved Oxygen	Water	N/A	N/A	None	N/A
Barium	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Cadmium	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Chromium	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Lead	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Mercury	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Selenium	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Silver	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Fluoride	Water	N/A	N/A	N/A	N/A
Endrin	Water	1.0 L	Amber glass bottle w/ Teflon lid liner	Refrigerate @ 4° C	N/A
Methoxychlor	Water	1.0 L	Amber glass bottle w/ Teflon lid liner	Refrigerate @ 4° C	N/A
1,1,1-Trichloroethane	Water	1.0 L	Amber glass bottle w/ Teflon lid liner	Refrigerate @ 4° C	N/A
2-4 D	Water	1.0 L	Amber glass bottle w/ Teflon lid liner	Refrigerate @ 4° C	N/A

Sample / Parameter	Matrix	Minimum quantity required	Container	Preservative	Holding Time
2,4,5-TP Silvex	Water	1.0 L	Amber glass bottle w/ Teflon lid liner	Refrigerate @ 4° C	N/A
Total Coliform Bacteria	Water	250 or 500 mL	Polypropylene or glass bottle, autoclaved	Refrigerate @ 4° C	24 hours
Copper	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Iron	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Manganese	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Zinc	Water	500 mL	Teflon FEP bottle	5 mL 1:1 Nitric Acid & Refrigerate @ 4° C	6 months
Chloride	Water	500 mL	Polypropylene bottle	Refrigerate @ 4° C	28 days
Sulfate	Water	N/A	N/A	N/A	N/A
Total Dissolved Solids	Water	N/A	Resistant Glass or Plastic	Refrigerate @ 4 °C	< 24 hours – 7 days
Foaming Agents	Water	N/A	N/A	N/A	N/A
Corrosivity	Water	N/A	N/A	N/A	N/A
Color	Water	N/A	N/A	N/A	N/A
Odor	Water	500 mL	Glass or TFE-lined	Refrigerate	<24 hours
Chlorinated Pesticides	Water	1.0 gal.	Glass bottle w/ Teflon lid liner	Refrigerate @ 4 °C	7 days
Chlorinated Pesticides	Soil	N/A	N/A	N/A	N/A
PCBs	Water	1.0 L	Amber glass bottle w/ Teflon lid liner	Refrigerate @ 4 °C	7 days
PCBs	Soil	N/A	N/A	N/A	N/A
Nitrate as N	Water	125 mL	Polypropylene bottle	H_2SO_4 to pH<2; Cool to 4° C	28 days
Nitrate as N	Soil	N/A	N/A	N/A	N/A
Total Phosphorus	Water	60 mL	Clear polypropylene bottle	Refrigerate @ 4° C; Fill bottle completely; don’t agitate sample	14 days
Total Phosphorus	Soil	N/A	N/A	N/A	N/A

Sample / Parameter	Matrix	Minimum quantity required	Container	Preservative	Holding Time
Carbonate & Bicarbonate	Water	500 mL; No headspace	Polypropylene bottle	Refrigerate @ 4 °C	14 days
Turbidity	Water	500 mL	Polypropylene bottle	Refrigerate @ 4 °C	48 hours

MEASUREMENT METHODS

Analyte	Sample Matrix	Samples [number & arrival date]	Expected range of results	Reporting Limit	Sample Preparation Method	Analytical Method
Water Temperature	Surface Water	3 – Pre, Mid & Post Operations	0-10 °C	0.1 °C	N/A	NIST Thermometer
Water Temperature	Groundwater	9 – Pre, Mid & Post Operations	5-10 °C	0.1 °C	N/A	NIST Thermometer
Specific Conductance	Surface Water	3 – Pre, Mid & Post Operations	35-150 µs/cm	1 µs/cm	N/A	YSI 30/Orion 5-Star
Specific Conductance	Groundwater	9 – Pre, Mid & Post Operations	35-500 µs/cm	1 µs/cm	N/A	YSI 30/Orion 5-Star
pH	Surface Water	3 – Pre, Mid & Post Operations	6.5-8.0	0.1 pH units	N/A	Orion 5-Star meter
pH	Groundwater	9 – Pre, Mid & Post Operations	6.5-8.0	0.1 pH units	N/A	Orion 5-Star meter
Dissolved Oxygen	Surface Water	3 – Pre, Mid & Post Operations	5-12 mg/L	0.2 mg/L	N/A	Orion 5-Star meter
Dissolved Oxygen	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.2 mg/L	N/A	Orion 5-Star meter
Barium	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Barium	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Cadmium	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Cadmium	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Chromium	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.5 µg/L	N/A	Standard Method 3125
Chromium	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.5 µg/L	N/A	Standard Method 3125

Analyte	Sample Matrix	Samples [number & arrival date]	Expected range of results	Reporting Limit	Sample Preparation Method	Analytical Method
Lead	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Lead	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Mercury	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.05 µg/L	N/A	Standard Method 3112 B
Mercury	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.05 µg/L	N/A	Standard Method 3112 B
Selenium	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.5 µg/L	N/A	Standard Method 3125 B
Selenium	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.5 µg/L	N/A	Standard Method 3125 B
Silver	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3150 B
Silver	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3150 B
Fluoride	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 mg/L	N/A	Standard Method 4110
Fluoride	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 mg/L	N/A	Standard Method 4110
Endrin	Surface Water	3 – Pre, Mid & Post Operations	<0.1 µg/L	0.1 µg/L	N/A	EPA Method 8081
Endrin	Groundwater	9 – Pre, Mid & Post Operations	<0.1 µg/L	0.1 µg/L	N/A	EPA Method 8081
Methoxychlor	Surface Water	3 – Pre, Mid & Post Operations	<0.1 µg/L	0.1 µg/L	N/A	EPA Method 8081
Methoxychlor	Groundwater	9 – Pre, Mid & Post Operations	<0.1 µg/L	0.1 µg/L	N/A	EPA Method 8081
1,1,1-Trichloroethane	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	EPA Method 8260
1,1,1-Trichloroethane	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	EPA Method 8260

Analyte	Sample Matrix	Samples [number & arrival date]	Expected range of results	Reporting Limit	Sample Preparation Method	Analytical Method
2-4 D	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	EPA Method 8151
2-4 D	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	EPA Method 8151
2,4,5-TP Silvex	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	EPA Method 8151
2,4,5-TP Silvex	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	EPA Method 8151
Total Coliform Bacteria	Surface Water	3 – Pre, Mid & Post Operations	<2 MPN/100 ml	1/100 ml	N/A	Standard Method 9221 D and 9222 B
Total Coliform Bacteria	Groundwater	9 – Pre, Mid & Post Operations	<2 MPN/100 ml	1/100 ml	N/A	Standard Method 9221 D and 9222 B
Copper	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Copper	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.1 µg/L	N/A	Standard Method 3125
Iron	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.03 mg/L	N/A	Standard Method 3120 B
Iron	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.03 mg/L	N/A	Standard Method 3120 B
Manganese	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.005 mg/L	N/A	Standard Method 3120 B
Manganese	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.005 mg/L	N/A	Standard Method 3120 B
Zinc	Surface Water	3 – Pre, Mid & Post Operations	N/A	5 µg/L	N/A	Standard Method 3150 B
Zinc	Groundwater	9 – Pre, Mid & Post Operations	N/A	5 µg/L	N/A	Standard Method 3150 B
Chloride	Surface Water	3 – Pre, Mid & Post Operations	2-10 mg/L	0.1 mg/L	N/A	Standard Method 4110
Chloride	Groundwater	9 – Pre, Mid & Post Operations	2-50 mg/L	0.1 mg/L	N/A	Standard Method 4110

Analyte	Sample Matrix	Samples [number & arrival date]	Expected range of results	Reporting Limit	Sample Preparation Method	Analytical Method
Sulfate	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.5 mg/L	N/A	Standard Method 4110
Sulfate	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.5 mg/L	N/A	Standard Method 4110
Total Dissolved Solids	Surface Water	3 – Pre, Mid & Post Operations	100-500 mg/L	2 mg/L	N/A	Standard Method 2540 C
Total Dissolved Solids	Groundwater	9 – Pre, Mid & Post Operations	100-500 mg/L	2 mg/L	N/A	Standard Method 2540 C
Foaming Agents	Surface Water	3 – Pre, Mid & Post Operations	N/A	0.05 mg/L	N/A	N/A
Foaming Agents	Groundwater	9 – Pre, Mid & Post Operations	N/A	0.05 mg/L	N/A	N/A
Corrosivity	Surface Water	3 – Pre, Mid & Post Operations	N/A	Noncorrosive	N/A	N/A
Corrosivity	Groundwater	9 – Pre, Mid & Post Operations	N/A	Noncorrosive	N/A	N/A
Color	Surface Water	3 – Pre, Mid & Post Operations	N/A	15 Color Units	N/A	N/A
Color	Groundwater	9 – Pre, Mid & Post Operations	N/A	15 Color Units	N/A	N/A
Odor	Surface Water	3 – Pre, Mid & Post Operations	N/A	3 Threshold Odor Units	N/A	Standard Method 2150
Odor	Groundwater	9 – Pre, Mid & Post Operations	N/A	3 Threshold Odor Units	N/A	Standard Method 2150
Chlorinated Pesticides	Surface Water	3 – Pre, Mid & Post Operations	<0.0001-0.01 µg/L	0.1 µg/L	SW3510 / 3620 / 3665	EPA Method 8081
Chlorinated Pesticides	Groundwater	9 – Pre, Mid & Post Operations	<0.0001-0.01 µg/L	0.1 µg/L	SW3510 / 3620 / 3665	EPA Method 8081
Chlorinated Pesticides	Soil	3 – Pre, Mid & Post Operations	<0.0001-0.01 µg/Kg	0.1 µg/Kg	SW3510 / 3620 / 3665	EPA Method 8081

Analyte	Sample Matrix	Samples [number & arrival date]	Expected range of results	Reporting Limit	Sample Preparation Method	Analytical Method
PCBs	Surface Water	9 – Pre, Mid & Post Operations	0.001-0.005 μg/L	1 pg/L	EPA Method 1668C	EPA Method 1668C
PCBs	Groundwater	3 – Pre, Mid & Post Operations	0.001-0.005 μg/L	1 pg/L	EPA Method 1668C	EPA Method 1668C
PCBs	Soil	9 – Pre, Mid & Post Operations	0.001-0.005 μg/L	10 pg/Kg	EPA Method 1668C	EPA Method 1668C
Nitrate (as N)	Surface Water	3 – Pre, Mid & Post Operations	0-1 mg/L	0.01 mg/L	N/A	Standard Method 4500-NO_3^-
Nitrate (as N)	Groundwater	9 – Pre, Mid & Post Operations	0-10 mg/L	0.01 mg/L	N/A	Standard Method 4500-NO_3^-
Nitrate (as N)	Soil	3 – Pre, Mid & Post Operations	N/A	0.1 mg/Kg	N/A	Standard Method 4500-NO_3^-
Total Phosphorus (Dissolved & Particulate)	Surface Water	9 – Pre, Mid & Post Operations	N/A	0.005 mg/L	N/A	Standard Method 4500-P
Total Phosphorus (Dissolved & Particulate)	Groundwater	3 – Pre, Mid & Post Operations	N/A	0.005 mg/L	N/A	Standard Method 4500-P
Total Phosphorus	Soil	9 – Pre, Mid & Post Operations	N/A	0.05 mg/Kg	N/A	Standard Method 4500-P
Carbonate & Bicarbonate	Surface Water	3 – Pre, Mid & Post Operations	N/A	10 mg/L	N/A	Standard Method 2320B
Carbonate & Bicarbonate	Groundwater	9 – Pre, Mid & Post Operations	N/A	10 mg/L	N/A	Standard Method 2320B
Turbidity	Surface Water	3 – Pre, Mid & Post Operations	1-150 NTU	1 NTU	N/A	Standard Method 2130
Turbidity	Groundwater	9 – Pre, Mid & Post Operations	1-20 NTU	1 NTU	N/A	Standard Method 2130

SAMPLING LOCATIONS AND SCHEDULE

Unless otherwise stated in the Site Description (see Walla Walla Basin Recharge Sites section), the following locations and schedule will be followed at each recharge site.

LOCATIONS

Groundwater samples will be collected at three locations: an up gradient well and two down gradient wells. Samples will be collected from purpose built monitoring wells (according to WAC 173-160 monitoring well standards) that will generally be open to the upper 30-50 feet of the alluvial aquifer.

Source water samples will be collected at the diversion point or at the intake for the recharge site.

See site description (in Walla Walla Basin Recharge Site section) for details regarding sampling locations, schedules and maps.

SCHEDULE

Three samples will be taken at each site during a recharge season. The first sample will be taken just prior to the site starting recharge operations. The source water sample may be taken as the site is started if no other option is available. The second sample will be taken in the middle of the recharge season. The third sample will be taken near the end of the recharge season, ideally just before shutdown. See the table below for a generalized schedule.

Location	Sample	Date
Up Gradient Well	Pre-operations Sample	~ Dec 1st - March 1st
Down Gradient Well (close)	Pre-operations Sample	~ Dec 1st - March 1st
Down Gradient Well (distal)	Pre-operations Sample	~ Dec 1st - March 1st
Source Water	Pre-operations Sample	~ Dec 1st - March 1st
Up Gradient Well	Mid-operations Sample	~April 15th
Down Gradient Well (close)	Mid-operations Sample	~April 15th
Down Gradient Well (distal)	Mid-operations Sample	~April 15th
Source Water	Mid-operations Sample	~April 15th
Up Gradient Well	Post-operations Sample	~ May 31st
Down Gradient Well (close)	Post-operations Sample	~ May 31st
Down Gradient Well (distal)	Post-operations Sample	~ May 31st
Source Water	Post-operations Sample	~ May 31st

SAMPLING ORDER

Samples should be collected in order from least to most contaminated (if known) to prevent potential cross-contamination.

SAMPLE COMPARABILITY

Samples collected under this QAPP use the sample analytical methods used to collect data for the Walla Walla River Chlorinated Pesticides and PCBs Total Maximum Daily Load (Water Cleanup Plan) (Ecology Publication No. 05-10-079).

SAMPLING PROCEDURES

PROCEDURES

Sampling procedures for this QAPP are described in the Walla Walla Basin Watershed Council's Watershed Monitoring Program Standard Operation Procedures (Version 1.2). This SOP document is attached as Appendix A. The sampling procedures described in the WWBWC's SOP document are taken from Washington Department of Ecology's Standard Operation Procedures for Sampling of Pesticides in Surface Waters (EAP 003 SOP) – see Appendix B.

DECONTAMINATION

All non-disposable field equipment that may potentially come in contact with any soil or water sample shall be decontaminated in order to minimize the potential for cross-contamination between sampling locations. Thorough decontamination of all sampling equipment shall be conducted prior to each sampling event. In addition, the sampling technician shall decontaminate all equipment in the field as required to prevent cross-contamination of samples collected in the field. The procedures described in this section are specifically for field decontamination of sampling equipment.

At a minimum, field-sampling equipment should be decontaminated following these procedures:

- Wash the equipment in a solution of non-phosphate detergent (Liquinox® or equivalent) and distilled or deionized water. All surfaces that may come in direct contact with the samples shall be washed. Use a clean Nalgene and/or plastic tub to contain the wash solution and a scrub brush to mechanically remove loose particles. Wear clean latex, plastic, or equivalent gloves during all washing and rinsing operations.
- Rinse twice with distilled or deionized water.
- Dry the equipment before use, to the extent practicable.

SAMPLE IDENTIFICATION

Each sample will be labeled with the following information:

- Sampler's Name
- Sample Date
- Sample Time
- Sample Location (Groundwater = GW #, Source water = S #)
- Recharge Site
- Parameters & preservatives

SAMPLE TRANSPORTATION

Samples typically need to be shipped overnight to ensure delivery before holding times expire. Samples should be prepped and delivered to the UPS store before their deadline for overnight delivery. Call the UPS store beforehand to check when the samples need to arrive to ensure delivery to the lab.

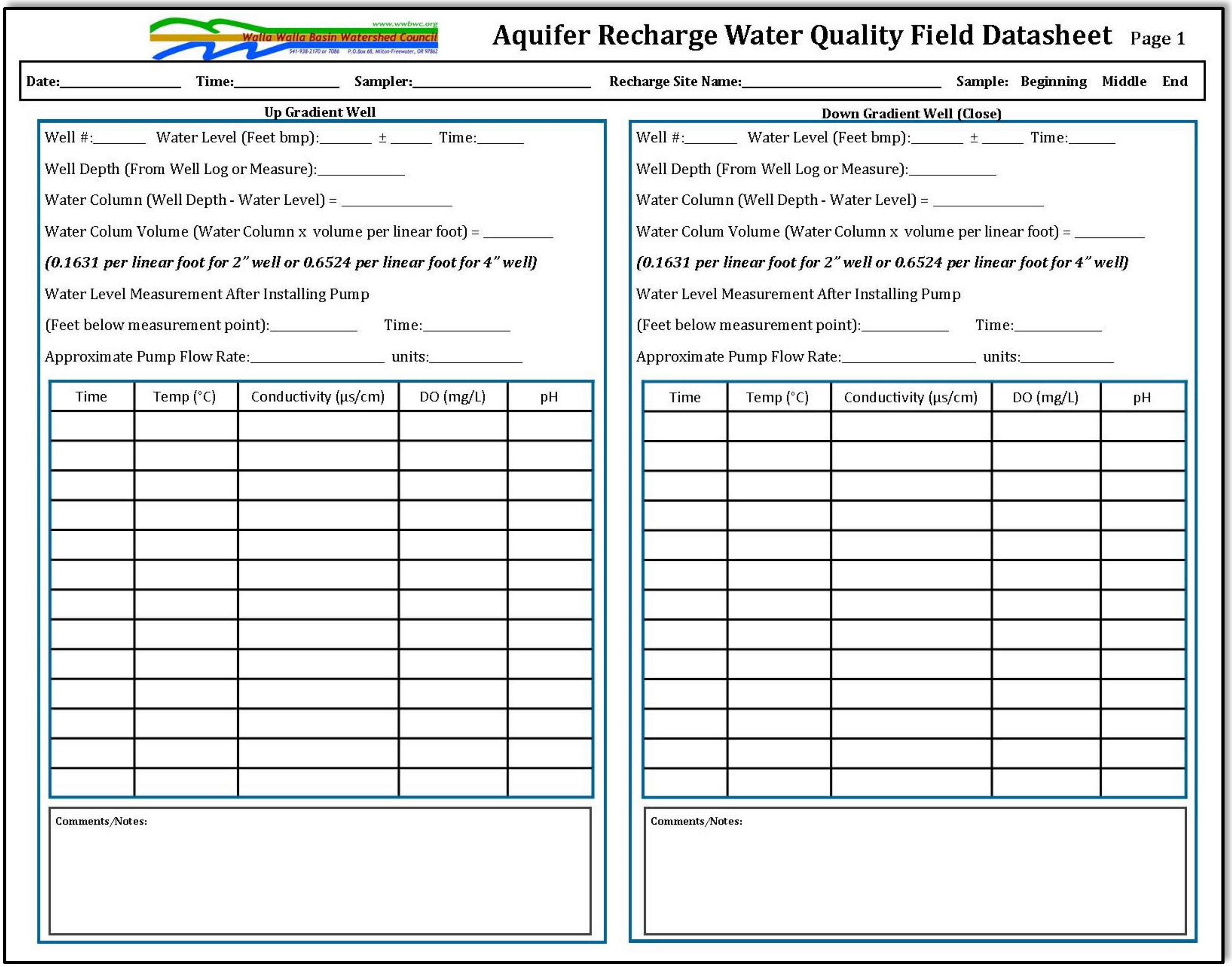
Coolers should be sealed and shipped or driven to the lab as soon as possible. The method of shipping is usually determined by the parameter having the shortest holding time. Shipping times of more than 24 hours should be avoided as the cooler(s) may warm and compromise sample quality.

CHAIN-OF-CUSTODY

A chain-of-custody form should be completed and signed by the sampler on the day samples are collected. The chain-of-custody form must be signed by laboratory personnel upon receipt and any other individuals that maintain custody of the samples in the interim (except the shipping company).

FIELD NOTES

Field notes associated with sample collection will be kept in the WWBWC's Aquifer Recharge Water Quality Field book (see below for datasheets).



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Aquifer Recharge Water Quality Field Datasheet

Page 1

Date:_______________ **Time:**_____________ **Sampler:**______________________ **Recharge Site Name:**________________________ **Sample: Beginning Middle End**

Up Gradient Well

Well #:_______ Water Level (Feet bmp):_______ ± _____ Time:______

Well Depth (From Well Log or Measure):___________

Water Column (Well Depth - Water Level) = ______________

Water Colum Volume (Water Column x volume per linear foot) = _________

(0.1631 per linear foot for 2" well or 0.6524 per linear foot for 4" well)

Water Level Measurement After Installing Pump

(Feet below measurement point):___________ Time:___________

Approximate Pump Flow Rate:________________ units:___________

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Comments/Notes:

Down Gradient Well (Close)

Well #:_______ Water Level (Feet bmp):_______ ± _____ Time:______

Well Depth (From Well Log or Measure):___________

Water Column (Well Depth - Water Level) = ______________

Water Colum Volume (Water Column x volume per linear foot) = _________

(0.1631 per linear foot for 2" well or 0.6524 per linear foot for 4" well)

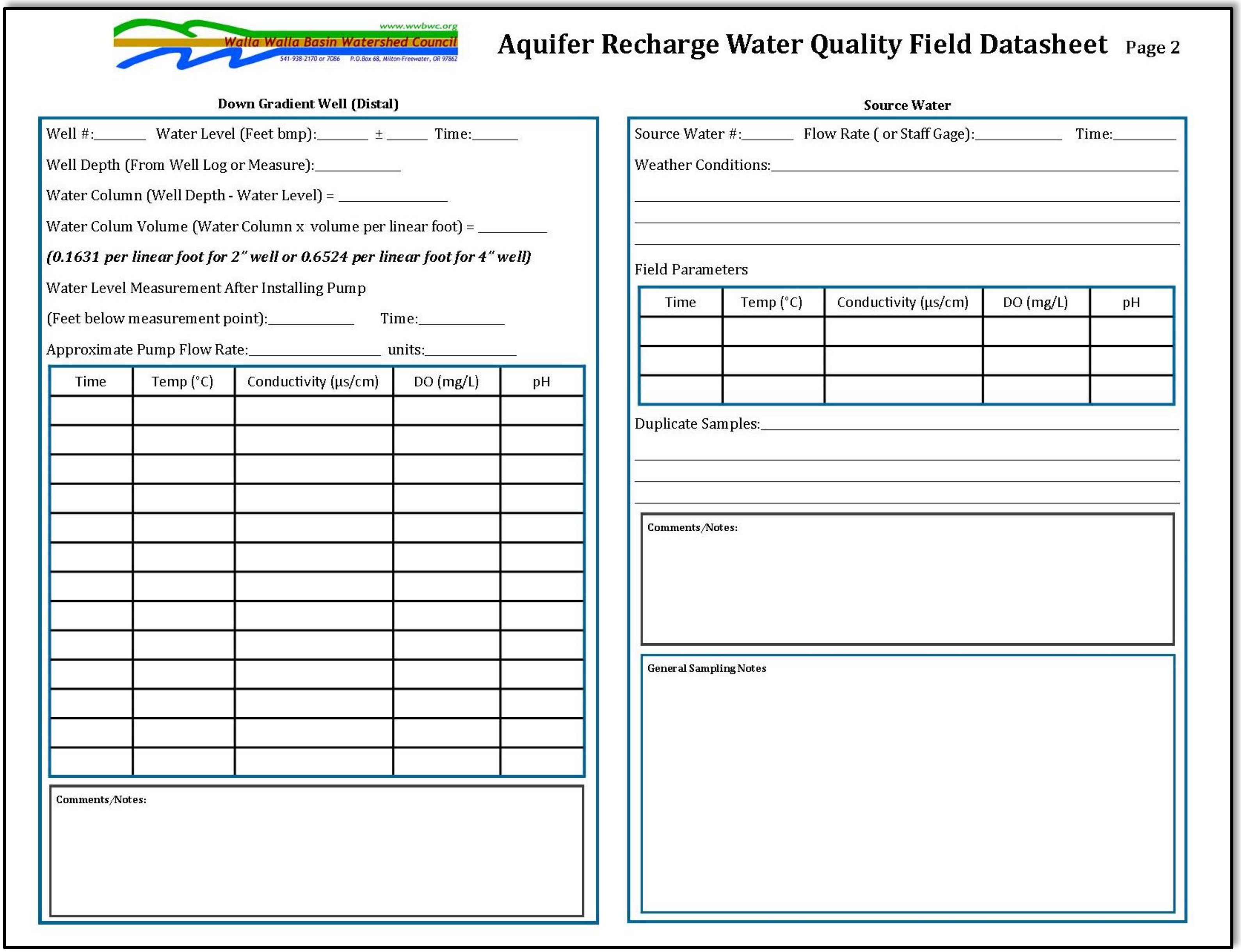
Water Level Measurement After Installing Pump

(Feet below measurement point):___________ Time:___________

Approximate Pump Flow Rate:________________ units:___________

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Comments/Notes:



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Aquifer Recharge Water Quality Field Datasheet

Page 2

Down Gradient Well (Distal)

Well #:_______ Water Level (Feet bmp):_______ ± _____ Time:______

Well Depth (From Well Log or Measure):___________

Water Column (Well Depth - Water Level) = ______________

Water Colum Volume (Water Column x volume per linear foot) = _________

(0.1631 per linear foot for 2" well or 0.6524 per linear foot for 4" well)

Water Level Measurement After Installing Pump

(Feet below measurement point):___________ Time:___________

Approximate Pump Flow Rate:________________ units:____________

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Comments/Notes:

Source Water

Source Water #:_______ Flow Rate (or Staff Gage):___________ Time:_________

Weather Conditions:____

Field Parameters

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Duplicate Samples:____

Comments/Notes:

General Sampling Notes

MEASUREMENT PROCEDURES

PROCEDURES

Sampling procedures for this QAPP are described in the Walla Walla Basin Watershed Council's Watershed Monitoring Program Standard Operation Procedures (Version 1.2). The SOP document is attached as Appendix A.

MEASUREMENT METHODS

FIELD MEASUREMENTS

Analyte	Sample Matrix	# of Samples	Expected Range of Results	Reporting Limit or Criterion	Analytical Method
Water Temperature	Groundwater	Depends upon purging values	5-10 °C	0.1 °C	YSI-30/Orion 5-Star
Specific Conductance	Groundwater	Depends upon purging values	50-500 µs/cm	1 µs/cm	YSI 30/Orion 5-Star
pH	Groundwater	Depends upon purging values	7.0 – 8.0	0.1 pH units	Orion 5-Star meter
Dissolved Oxygen	Groundwater	Depends upon purging values	0 – 10 mg/L	0.1 mg/L	Orion 5-Star meter

LABORATORY MEASUREMENTS

See table listed in Measurement Methods above.

QUALITY CONTROL

QUALITY CONTROL SAMPLING

FIELD MEASUREMENTS

Parameter	Field		Office/Laboratory	
	Blanks	Replicates	Check Standards	Calibration
Water Temperature	N/A	1/site	1/day	Yearly
Specific Conductance	1/day	1/site	1/day	Yearly
pH	N/A	1/site	1/day	Yearly
Dissolved Oxygen	N/A	1/site	N/A	Yearly

LABORATORY MEASUREMENTS

Parameter	Field		Laboratory		
	Blanks	Replicates	Method Blanks	Analytical Duplicates	Matrix Spikes
Barium	1/season	1/season	1/season	1/season	1/season
Cadmium	1/season	1/season	1/season	1/season	1/season
Chromium	1/season	1/season	1/season	1/season	1/season
Lead	1/season	1/season	1/season	1/season	1/season
Mercury	1/season	1/season	1/season	1/season	1/season
Selenium	1/season	1/season	1/season	1/season	1/season
Silver	1/season	1/season	1/season	1/season	1/season
Fluoride	1/season	1/season	1/season	1/season	1/season
Nitrate (as N)	1/season	1/season	1/season	1/season	1/season
Endrin	1/season	1/season	1/season	1/season	1/season
Methoxychlor	1/season	1/season	1/season	1/season	1/season
1,1,1-Trichloroethane	1/season	1/season	1/season	1/season	1/season
2-4 D	1/season	1/season	1/season	1/season	1/season
2,4,5-TP Silvex	1/season	1/season	1/season	1/season	1/season
Total Coliform Bacteria	1/season	1/season	1/season	1/season	1/season
Copper	1/season	1/season	1/season	1/season	1/season
Iron	1/season	1/season	1/season	1/season	1/season
Manganese	1/season	1/season	1/season	1/season	1/season
Zinc	1/season	1/season	1/season	1/season	1/season
Chloride	1/season	1/season	1/season	1/season	1/season
Sulfate	1/season	1/season	1/season	1/season	1/season
Total Dissolved Solids	1/season	1/season	1/season	1/season	1/season
Foaming Agents	1/season	1/season	1/season	1/season	1/season
pH	1/season	1/season	1/season	1/season	1/season
Corrosivity	1/season	1/season	1/season	1/season	1/season
Color	1/season	1/season	1/season	1/season	1/season
Odor	1/season	1/season	1/season	1/season	1/season
Chlorinated Pesticides (soil and water)	1/season	1/season	1/season	1/season	1/season
PCBs (soil and water)	1/season	1/season	1/season	1/season	1/season
Total Phosphorus	1/season	1/season	1/season	1/season	1/season
Carbonate & Bicarbonate	1/season	1/season	1/season	1/season	1/season
Temperature	1/season	1/season	1/season	1/season	1/season
Turbidity	1/season	1/season	1/season	1/season	1/season

- Field blanks will be transfer blanks created using deionized water with sample bottles filled at the recharge site.
- Field Duplicates are two samples collected at the same time and location and analyzed in the same batch.
- Laboratory Method Blanks are blanks prepared to represent the sample matrix and analyzed in a batch of samples.
- Laboratory Analytical Duplicates are where the laboratory analyzes duplicate aliquots of a sample within each batch.

DATA MANAGEMENT PROCEDURES

FIELD NOTES

All data collected in the field should be recorded on datasheets printed on waterproof paper (e.g. Rite-in-the-Rain). Notes should be clearly and legibly written so data and remarks are easily read and interpreted. If a mistake is made, draw a single line through the bad data and record the correct data next to it. Do not erase or completely mark out mistakes. All datasheets should be completed as fully as possible during data collection.

All datasheets will be scanned and stored on the WWBWC server. Data will also be entered into the WWBWC's AQUARIUS database. Once data have been entered into the database, visual checks will be done to detect and correct any errors.

LABORATORY DATA PACKAGE

Data package from the laboratory will include the following:

- Data
- Analytical Method used
- Quality Control results
- Field Blanks results
- Field Duplicate results
- Laboratory Method Blank results
- Laboratory Analytical Duplicate results
- Discussion of any problems

DATA STORAGE AND AVAILABILITY

All field notes, analytical results and other pertinent data associated with this QAPP will be maintained in a secure location and be archived for at least a 5 year period. Data will be made available in annual reports or by request from the WWBWC.

REPORTING

REPORTING SCHEDULE

Annual reports will be created either for each recharge site or for the program as a whole. Annual reports will be completed and submitted to Ecology by September 30th of each year.

REPORT COMPONENTS

The annual report will include the following information and data for each site:

- Annual recharge volume (acre-feet)
- Hydrograph of daily average and 15-minute inflow data
- Groundwater hydrographs for up and down gradient wells
- Water quality results for all three sampling events
- Issues, concerns or problems during the recharge season

Reports will be written by Steven Patten, WWBWC Senior Environmental Scientist, and Troy Baker, WWBWC GIS/Database Analyst.

DATA VERIFICATION, VALIDATION AND QUALITY ASSESSMENT

DATA VERIFICATION & VALIDATION PROCEDURES

After data have been entered into the AQUARIUS database, field data and laboratory data will be plotted to verify data are consistent, correct and complete. Data analysis will be conducted to ensure data collected met the requirements set forward for quality control (see above). Data will be graded and/or qualified as necessary.

Results from the QC sample analyses will be used to directly compare results to the measurement quality objectives laid out earlier in this document. Data

See Appendix A for additional information regarding data checks.

The WWBWC will work with Ecology staff to analyze collected data to determine the recharge site's impact on groundwater quality and groundwater and surface water levels (quantity). This analysis will be used in determining if the project qualifies for a permanent Environmental Enhancement Project permit.

REFERENCES

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GSI, 2008. Results of the 2008 Shallow Aquifer Recharge Season at the Locher Road Site, Walla Walla County, Washington. Consulting Report for Gardena Farms Irrigation District #13 and Washington Department of Ecology, 161 p.

GSI, 2007. Results of the First Season of Shallow Aquifer Recharge Testing at the Locher Road Site, Walla Walla County, Washington. Consulting Report for Gardena Farms Irrigation District #13 and Washington Department of Ecology, 175 p.

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WWBWC, 2013a. Walla Walla Basin Aquifer Recharge Strategic Plan. January 2013. 106 p.

WWBWC, 2013b. WWBWC Watershed Monitoring Program Standard Operating Procedures. Version 1.1, February 2013. 46 p.

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WWBWC, 2012b. Shallow Aquifer Monitoring in the Walla Walla Basin 2010-2011. 101 p.

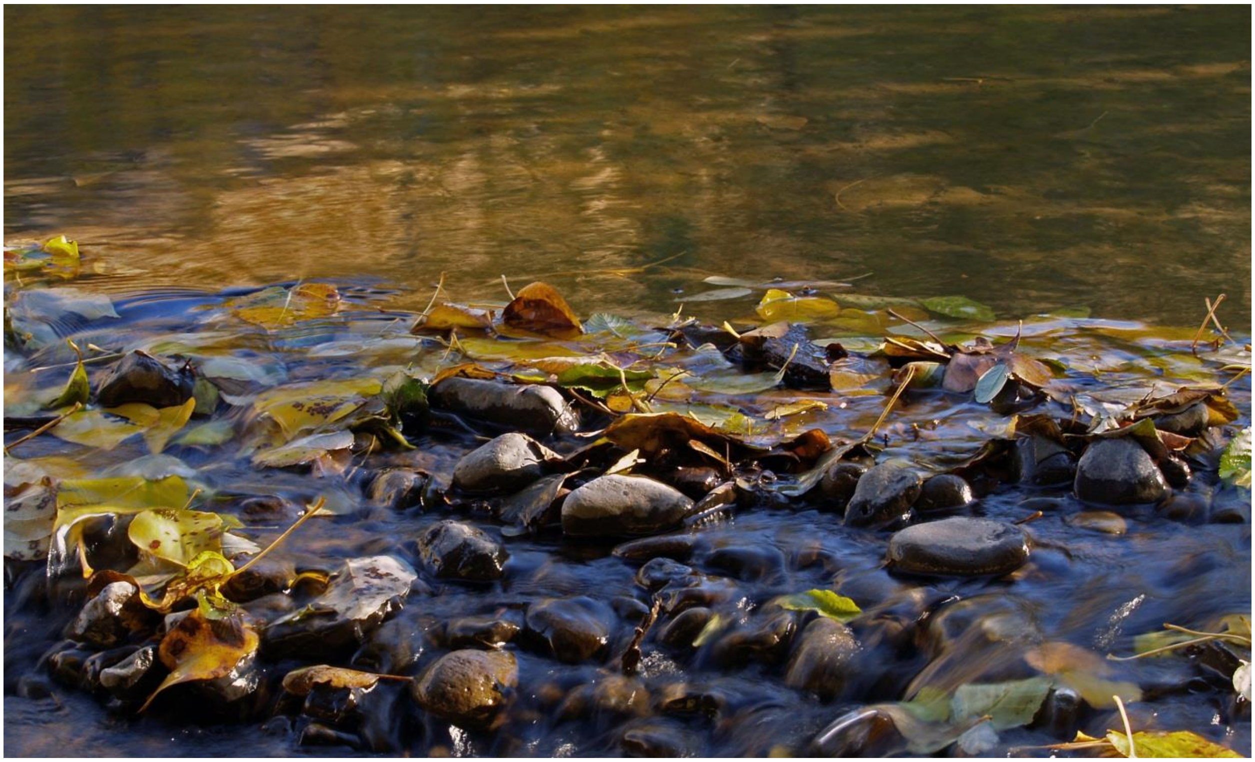
WWBWC, 2010. Aquifer recharge as a water management tool – Hudson Bay recharge testing site report (2004-2009). Report for Hudson Bay District Improvement Company and Oregon Water Resources Department.

APPENDIX A – WWBWC STANDARD OPERATING PROCEDURES

www.wwbwc.org
Walla Walla Basin Watershed Council
541-938-2170 or 7086 P.O.Box 68, Milton-Freewater, OR 97862

WWBWC Watershed Monitoring Program

Standard Operating Procedures



Steven Patten
Senior Environmental Scientist - WWBWC

Standard Operating Procedures

Version 1.2

April 2013

CONTENTS

SOP REVISION HISTORY

Revision Date	Revision Number	Summary of Changes	Sections Changed	Reviser(s)
11/2012	1.0	Creation of SOP document	All	Steven Patten
2/8/2013	1.1	Incorporated Review Comments	Study Design, Data Management, Surface Water monitoring and grammatical corrections	Steven Patten
4/1/2013	1.2	Photo Point Monitoring, Sampling Procedures and Grammatical changes	Photo Point Monitoring, Sampling Procedures and others	Steven Patten

DISTRIBUTION LIST

This document will be made available to the public, agencies and grant funders through the Walla Walla Basin Watershed Council's website (www.wwbwc.org). Internal distribution of the document will occur through the WWBWC's internal server. All field and technical personnel will be given an electronic copy of this document. A printed version will be available in the WWBWC office. This document will be redistributed to personnel and uploaded to the WWBWC server and website upon revision.

BACKGROUND AND PROJECT DESCRIPTION

The Walla Walla Basin Watershed Council's Watershed Monitoring Program includes more than 60 surface water sites, more than 100 groundwater sites, 10 water temperature sites, and more than a dozen water quality sites. The monitoring program covers almost the entire watershed starting in the upper reaches of the rivers and extending to the valley floor near where the Walla Walla River drains to the Columbia River. This document describes the WWBWC's Watershed Monitoring Program and includes the standard operating procedures used to collect environmental and hydrologic data.

PROGRAM AREA

The area of study for the Walla Walla Basin Watershed Council's Quality Assurance Program Plan includes the entire Walla Walla Watershed (Figure 1).

Monitoring locations for this program are spread throughout the valley (Figure 2), however the majority of the work conducted under this plan will take place on the valley floor Northwest of Milton-Freewater, OR, Southwest of Walla Walla, WA, and East of Touchet, WA. Aspects of the program (i.e. seepage runs) encompass other portions of the basin including almost the entire lengths of the Walla Walla River, the Touchet River and Mill Creek.

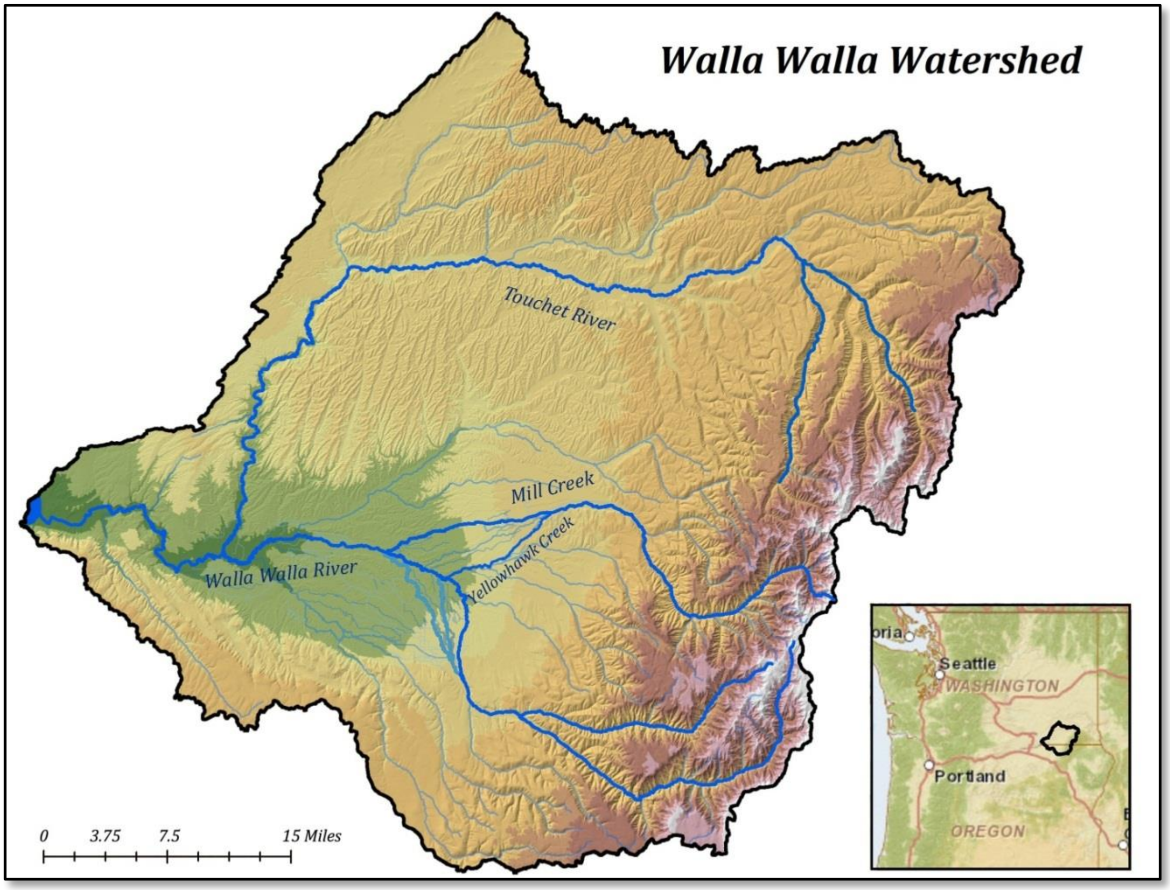


Figure 1. Map of the Walla Walla Watershed.

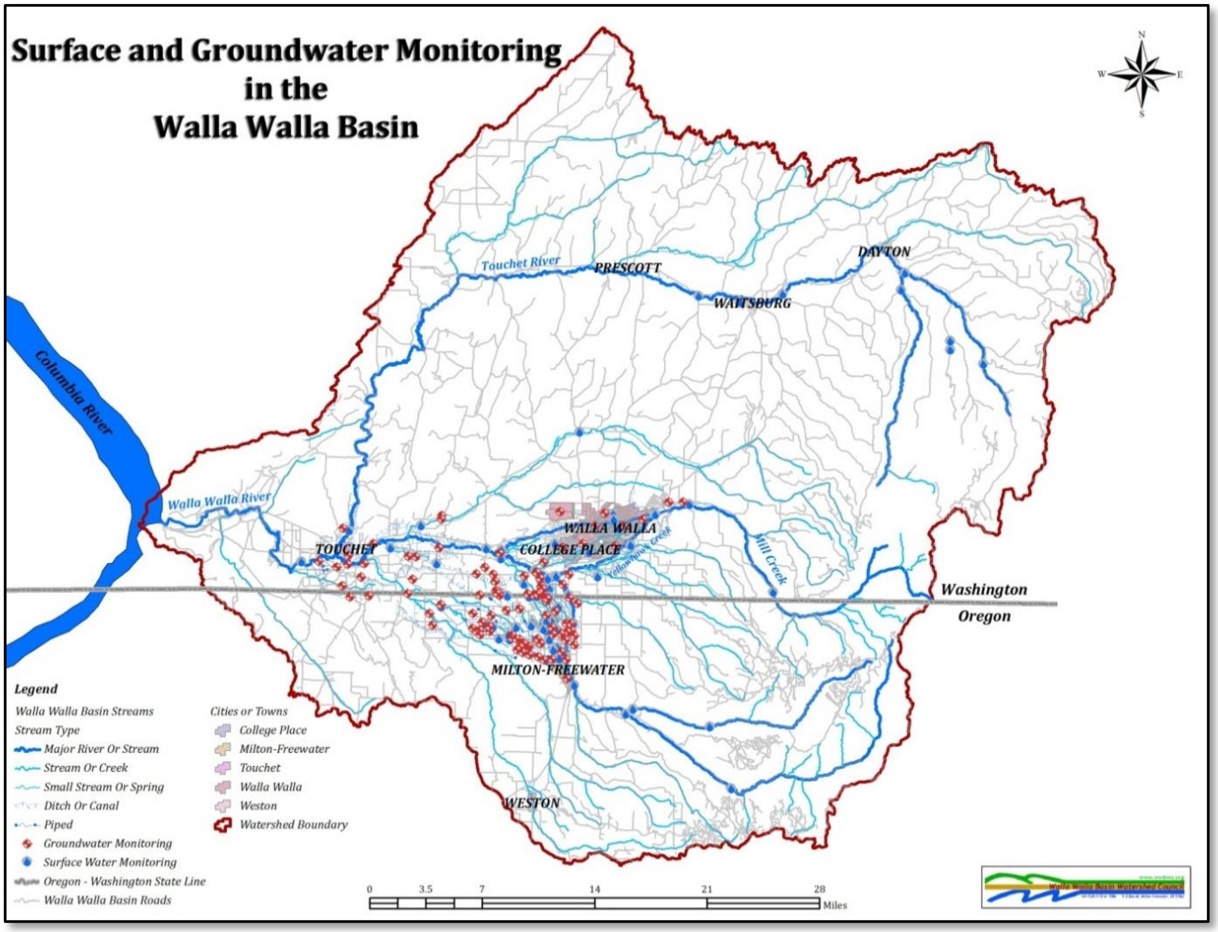


Figure 2. WWBWC Watershed Monitoring Program surface and groundwater monitoring locations.

PROJECT GOALS & OBJECTIVES

This monitoring program's goal is collect, organize, analyze and distribute hydrology related data for use by the WWBWC and other partners as projects are located, designed, installed and monitored so restoration in the Walla Walla Basin moves forward with knowledge of current and historic trends. The following objectives will achieve the program's goal.

- Collection of quality data utilizing well-established scientific protocols for monitoring activities.
- Organization of data into a functional system to allow use and analysis of data. Data must be organized and accessible for it to be useful.
- Analyzing data allows for trends and patterns to be determined. From these analyses we can determine how the basin is responding to changes (both environmental and project based).
- Distribution of data is critical. All of the above objectives can be completed, but without distribution of the data to other partners there cannot be a cohesive direction for restoration in the basin.

ORGANIZATION AND SCHEDULE

WALLA WALLA BASIN WATERSHED COUNCIL PERSONNEL

Name	Position	Main Tasks	Email
Brian Wolcott	Executive Director	Program Management	brian.wolcott@wwbwc.org
Steven Patten	Senior Environmental Scientist	Program Management & data collection and analysis	steven.patten@wwbwc.org
Troy Baker	GIS/Geodatabase Analyst	Geodatabase management & data collection and analysis	troy.baker@wwbwc.org
Wendy Harris	Operations Manager	Program/Operations Management and Oversight	wendy.harris@wwbwc.org
Will Lewis	Environmental Scientist	Data collection and analysis	will.lewis@wwbwc.org
Lyndsi Hersey	Environmental Scientist	Data collection and analysis	lyndsi.hersey@wwbwc.org
Chris Sheets	Fiscal Technician	Fiscal Oversight and management	chris.sheets@wwbwc.org
Graham Banks	Science Educator	Outreach and Education	graham.banks@wwbwc.org

The Walla Walla Basin Watershed Council's phone number is: 541-938-2170

PROGRAM PARTNERS

The Walla Walla Basin Watershed Council works with many partners throughout the basin to collect the monitoring data in the program. Program partners include: Hudson Bay District Improvement Company (HBDIC), Walla Walla River Irrigation District (WWRID), Gardena Farms Irrigation District #13 (GFID), Oregon Water Resources Department (OWRD), Washington Department of Ecology (WDOE), Confederated Tribes of the Umatilla Indian Reservation (CTUIR), City of Walla Walla, City of Milton-Freewater, City of College Place, Walla Walla Watershed Management Partnership (WWWMP), Tri-State Steelheaders (TSS), Oregon Department of Fish and Wildlife (ODFW), Washington Department of Fish and Wildlife (WDFW), Washington Water Trust, The Freshwater Trust, Walla Walla University, Whitman College, Oregon Department of Environmental Quality (ODEQ), and many businesses and individual landowners in the basin.

PROGRAM SCHEDULE

The WWBWC's monitoring program is an on-going process. A general schedule of activities is described in the table below:

Monitoring Activity	Year-round or Seasonal	General Schedule
Surface Flow (River)	Year-round and Seasonal	Sites are visited every other week to collect staff gauge measurements and perform general site maintenance. Manual discharge measurements and other data are collected during ~6 visits each year. A few river sites are only monitored seasonally during summer and fall base flows.
Surface Flow (Streams, Springs & Ditches)	Year-round	Sites are visited 4-5 times a year to download data, conduct manual flow measurements, perform site maintenance and collect other data.
Groundwater Level Monitoring	Year-round	Sites are visited ~4 times a year to download data, conduct manual groundwater level measurements, perform site maintenance and collect other data.
Water Temperature (River)	Seasonal	Data loggers are deployed in late spring or early summer and retrieved late fall or early winter dependent upon river flows.
Evaporation-Transpiration (ET) Stations	Year-round	Sites are visited ~3-4 times a year to download data and perform site maintenance.
Scour Chains and Bed Stability	Seasonal	Sites are visited ~2-3 times a year to collect data, conduct channel survey and perform any maintenance.
Seepage Analysis	Seasonal	Seepage runs occur twice a year on each river system. Typically runs are conducted late spring or early summer and late summer or early fall.
Water Quality Sampling (SAR)	Seasonal	Water quality sampling is done during the shallow aquifer recharge season which typically starts in November and continues through May.
Water Quality Sampling (PSP)	Seasonal	Water quality sampling is done from March till June during the typical pesticide application time period.
Data Analysis and Distribution	Year-round	As data are collected, analyzed and incorporated into the WWBWC's database as provisional. Data are reviewed at the end of each water year.

QUALITY OBJECTIVES

Parameter	Check Standard	Duplicate Samples
Water Temperature	± 0.5 °C (NIST Thermometer)	± 0.2 °C
pH	± 0.1 pH units	± 0.1 pH units
Specific Conductance	± 5% of standard	± 5% of reading
Dissolved Oxygen	± 0.2 mg/L	± 0.1 mg/L
Groundwater Level Measurement	N/A	± 0.01 feet
Manual Discharge Measurement	N/A	± 10%
Tape Down Measurement	N/A	± 0.02 feet
Vertical Staff Gauge Measurement	N/A	± 0.02 feet

STUDY DESIGN

Monitoring locations were determined by availability to measure parameter of interest (e.g. groundwater can only be measured at wells or bore holes or high discharge measurements can only be taken at bridges). Professional judgment was also utilized in the placement of monitoring locations if multiple sites were available. Many monitoring locations were determined based upon anthropogenic changes to the system (e.g. irrigation diversions, flood control structures or restoration projects).

Sampling locations and frequency cover temporal and spatial variability within the valley. For example, monitoring surface flow sites 4-6 times per year allows for data collection to include high and low flow periods based upon environmental changes. The schedule provided for each sampling parameter tries to accommodate temporal variability throughout the year.

The current study design is structured for two main functions. The first function is to provide baseline and/or trend monitoring for the hydrologic system within the Walla Walla Basin - are conditions improving, remaining the same or getting worse? The second function is to provide effectiveness monitoring for projects (habitat restoration, irrigation efficiency, aquifer recharge and others) occurring in the Walla Walla Basin.

The data collected under these standard operating procedures will help answer hydrologic and restoration questions such as (but not limited to):

- Are surface flows increasing in the Walla Walla River? If present, can the increases be attributed to conservation effects?
- Are groundwater levels declining in the alluvial aquifer? If so, is aquifer recharge helping to restore aquifer storage? Can declines be attributed to piping projects or other irrigation efficiency projects?
- Are water temperatures in the Walla Walla River improving over time? Where are the hottest locations? Are habitat projects improving water temperature?

FIELD MEASUREMENTS

The majority of sampling for this program will occur in the field. Refer to the table below for which samples will be collected in the field and a sampling schedule for each.

Measurement Parameter	Monitoring Program	Schedule
River/Stream Discharge	Surface Flow Monitoring	4-6 times per year
Water Temperature	Surface Flow Monitoring	4-6 times per year
Specific Conductance	Surface Flow Monitoring	4-6 times per year
Staff Gage Reading	Surface Flow Monitoring	4-6 times per year (20+ for mainstem gage locations)
Elevation Reference Checks	Surface Flow Monitoring	4-6 times per year
Channel Survey	Surface Flow Monitoring	1 every 2-3 years
Groundwater Level Measurement	Groundwater Monitoring	4 times per year
Groundwater Temperature	Groundwater Monitoring	4 times per year
Specific Conductance	Groundwater Monitoring	4 times per year
Surface/Groundwater Temperature	Recharge Water Quality Monitoring	2-3 times per year
Surface/Groundwater Specific Conductance	Recharge Water Quality Monitoring	2-3 times per year
Surface/Groundwater Dissolved Oxygen	Recharge Water Quality Monitoring	2-3 times per year
Surface/Groundwater pH	Recharge Water Quality Monitoring	2-3 times per year
Channel Survey	Scour Chains & Bed Stability	2-3 times per year
Scour Chain Measurement	Scour Chains & Bed Stability	2-3 times per year
Pebble Counts	Scour Chains & Bed Stability	1-2 times per year
Longitudinal Survey	Scour Chains & Bed Stability	1 time per year
Water Temperature	River Temperature Monitoring	2-3 time per year
River/Stream Discharge	Seepage Runs	2 times per year per river
Water Temperature	Seepage Runs	2 times per year per river
Specific Conductance	Seepage Runs	2 times per year per river

LABORATORY MEASUREMENTS

Some of the water quality sampling that is conducted under this plan requires laboratory level analysis. Some of the sampling parameters and schedules are listed in the table below.

Sampling Parameter	Monitoring Program	Schedule
pH	Recharge Water Quality Monitoring	2-3 times per year
Electrical Conductivity	Recharge Water Quality Monitoring	2-3 times per year
Dissolved Oxygen	Recharge Water Quality Monitoring	2-3 times per year
Nitrate-N	Recharge Water Quality Monitoring	2-3 times per year
Total Organic Carbon	Recharge Water Quality Monitoring	2-3 times per year
Total Kjehldahl Nitrogen (TKN)	Recharge Water Quality Monitoring	2-3 times per year
Sulfate	Recharge Water Quality Monitoring	2-3 times per year
Chloride	Recharge Water Quality Monitoring	2-3 times per year

Sampling Parameter	Monitoring Program	Schedule
Calcium	Recharge Water Quality Monitoring	2-3 times per year
Alkalinity	Recharge Water Quality Monitoring	2-3 times per year
Ortho-Phosphate	Recharge Water Quality Monitoring	2-3 times per year
Sodium	Recharge Water Quality Monitoring	2-3 times per year
Potassium	Recharge Water Quality Monitoring	2-3 times per year
Magnesium	Recharge Water Quality Monitoring	2-3 times per year
Aluminum	Recharge Water Quality Monitoring	2-3 times per year
Iron (dissolved)	Recharge Water Quality Monitoring	2-3 times per year
Manganese (dissolved)	Recharge Water Quality Monitoring	2-3 times per year
PCBs	Recharge Water Quality Monitoring	2-3 times per year
Chlorinated Pesticides	Recharge Water Quality Monitoring	2-3 times per year
Herbicides	Recharge Water Quality Monitoring	2-3 times per year
Primary and Secondary contaminants listed in WAC 173-200, Table 1	Recharge Water Quality Monitoring	2-3 times per year

SAMPLING PROCEDURES

WATER QUALITY SAMPLING (GROUNDWATER)

Groundwater sampling is conducted utilizing the following procedures. The general overview of groundwater sampling includes gathering equipment, measuring the initial water level, installing a submersible pump in the well, purging the well at a low flow rate, collecting and labeling all required samples and delivering them to the lab or shipping company. Details on parameters sampled for each site can be found in its monitoring and reporting plan.

Note: this procedure is modified from:

Marti, 2011. Standard Operating Procedure for Purging and Sampling Monitoring Wells. Washington State Department of Ecology – Environmental Assessment Program. EAP078.

EQUIPMENT

- Sampling field data sheets (see below) or field notebook
- Chain of Custody form
- Water level measuring equipment (e-tape)
- Water quality meters and probes (Temperature, Specific Conductance, pH & Dissolved Oxygen)
- Submersible pump
- Pump controller
- Tubing and connectors
- Sample bottles/containers
- Cooler
- Ice
- Deionized water
- Diluted Bleach solution
- Non-phosphate soap
- Nitrile or latex gloves

- First aid kit
- Well keys
- Camera
- Paper towels or clean rags
- Plastic sheet for keeping equipment clean
- Buckets (5-gallon or similar for purge volumes)
- 1 liter container (for purge volumes)
- Socket set
- Screwdriver(s)

PURGING AND SAMPLING

1. Check well for any changes or potential hazards.
2. Make sure equipment has been cleaned and decontaminated (see below for details). Spread plastic or other material if needed to keep equipment clean.
3. Wear clean disposable gloves (latex or Nitrile) while performing purging and sampling. If gloves become contaminated or dirty replace with new gloves.
4. Make sure field water quality meters are calibrated according to the manufacturer's instructions.
5. If well is equipped with a pressure transducer, note how it is installed and its position to replace it after sampling. Remove the pressure transducer from the well. Note the time the pressure transducer was removed from the well on the data sheet or in the field notebook.
6. Measure the static water level in the well (see Groundwater Level and Temperature protocol below for details).
7. Measure the depth of the well or refer to the well log to determine the depth of the well.
8. Calculate the length of the water column. Calculate the volume of water in the well using the following values: 2" well = 0.1631 gallons per linear foot, 4" = 0.6524 gallons per linear foot (Equation used for water volume calculation – Volume (gal/ft) = πr^2(7.48 gal/ft^3) where r is the radius of the well and 7.48 is the conversion factor).
9. Install the submersible pump into the well. Be sure to slowly lower the pump into the well and through the water to avoid stirring up particulates. Place the pump in the middle of the screen section of the well (refer to well log to determine the open interval for pump placement).
10. Once the pump is installed correctly re-measure the static water level to monitor during purging.
11. Start purging. Set the pump controller to the desired pumping rate (~1 liter/minute). See notes from previous sampling for pumping rate.
12. Ideally, wells should be purged and sampled at flow rates at or less than the natural flow conditions of the aquifer in the screen interval to avoid drawing down the water level in the well. Use water level measurements to help adjust pumping rates to prevent well drawdown. Purging should not cause significant drawdown (considered to be 5% of the total height of the water column). If drawdown is significant, reduce pumping rate until water levels stabilize at an appropriate level.
13. Record pumping rate on the data sheet or field notebook.
14. Discharge evacuated water as far as possible from the wellhead and work area.
15. During purging and sampling water flow should be smooth and consistent without bubbles in the tubing.
16. Once pumping rate has been determined and flow has stabilized, start collecting field parameters (water temperature, specific conductance, pH and dissolved oxygen) at regular

intervals. The measurement interval will depend upon the pumping rate (typically 2-5 minutes between measurements).

17. Record field parameters, water level measurement, and estimated amount of water purged. Note any changes in purged water's appearance (clear, turbid, odor, etc.).
18. Continue purging well until field parameters stabilize. Parameters should be considered to be stabilized when 3 consecutive measurements fall within the following ranges:

Field Parameter	Stabilized Range
Temperature	± 0.1 ° Celsius
Specific Conductance <1000 µs/cm	± 10 µs/cm
Specific Conductance >1000 µs/cm	± 20 µs/cm
Dissolved Oxygen < 1 mg/L	± 0.05 mg/L
Dissolved Oxygen > 1 mg/L	± 0.2 mg/L
pH	± 0.1 pH units

19. Collect samples once field parameters have stabilized. Do not stop or change pumping rate during the final phase of purging and sampling.
20. Collect most sensitive analytes first (i.e. organics) followed by less sensitive analytes (i.e. nutrients). This order can be modified if using sulfuric or nitric acid preservatives to prevent contamination of sulfate and/or nitrogen samples.
    Collect any duplicate or quality control samples (see below for details).
21. Place samples in an ice-cooled cooler for delivery to the lab or shipping company. Make sure samples do not freeze during transport.
22. Complete chain of custody form. Record sample date and time, final water level and estimated total purge volume on the data sheet or in the field notebook. Also record any comments or observations regarding the purging and sampling process.
23. Replace pressure transducer if the well was equipped with one. Note re-install time on the data sheet or in the field notebook.
24. Clean and disinfect sampling equipment for next sampling event.

DECONTAMINATION

All non-disposable field equipment that may potentially come in contact with any soil or water sample shall be decontaminated in order to minimize the potential for cross-contamination between sampling locations. Thorough decontamination of all sampling equipment shall be conducted prior to each sampling event. In addition, the sampling technician shall decontaminate all equipment in the field as required to prevent cross-contamination of samples collected in the field. The procedures described in this section are specifically for field decontamination of sampling equipment.

At a minimum, field-sampling equipment should be decontaminated following these procedures:

- Wash the equipment in a solution of non-phosphate detergent (Liquinox® or equivalent) and distilled or deionized water. All surfaces that may come in direct contact with the samples shall be washed. Use a clean Nalgene and/or plastic tub to contain the wash solution and a scrub brush to mechanically remove loose particles. Wear clean latex, plastic, or equivalent gloves during all washing and rinsing operations.

- Rinse twice with distilled or deionized water.
- Dry the equipment before use, to the extent practicable.

WATER QUALITY SAMPLING (SURFACE WATER)

Surface water sampling is conducted utilizing the following procedures.

Note: this procedure is a modified from:

Anderson, 2011. Standard Operating Procedure for Sampling of Pesticides in Surface Waters. Washington State Department of Ecology – Environmental Assessment Program. EAP003.

EQUIPMENT

- Sampling field data sheets (see below) or field notebook
- Chain of Custody form
- Water quality meters and probes (Temperature, Specific Conductance, pH & Dissolved Oxygen)
- Sample bottles/containers
- Cooler
- Ice
- Deionized water
- Diluted Bleach solution
- Non-phosphate soap (Liquinox or similar)
- Nitrile gloves
- First aid kit
- Camera
- Paper towels or clean rags
- Plastic sheet for keeping equipment clean
- Screwdriver(s)

SAMPLING

1. Check for any changes or potential hazards.
2. Make sure equipment has been cleaned and decontaminated (see below for details). Spread plastic or other material if needed to keep equipment clean.
3. Wear clean disposable gloves (Nitrile) while performing purging and sampling. If gloves become contaminated or dirty replace with new gloves.
4. Make sure field water quality meters are calibrated according to the manufacturer's instructions.
5. Collect required field water quality parameters and record on data sheet. Also note weather conditions
6. Fill out labels on each sample bottle with all necessary information.
7. Samples will be collected using the "Grab Sample" method described in EAP 003.
8. Take sample bottles and sampling equipment to the sample site and put on nitrile gloves.
9. Carefully collect samples by filling each container with water from the site. Note marked fill lines or preservatives to prevent over or under filling of the sample bottle.
10. Collect any duplicate or quality control samples (see below for details).

11. Place samples in an ice-cooled cooler for delivery to the lab or shipping company. Make sure samples do not freeze during transport.
12. Complete chain of custody form. Record sample date and time on the data sheet or in the field notebook. Also record any comments or observations regarding the sampling process.
13. Clean and disinfect sampling equipment for next sampling event.

DECONTAMINATION

All non-disposable field equipment that may potentially come in contact with any soil or water sample shall be decontaminated in order to minimize the potential for cross-contamination between sampling locations. Thorough decontamination of all sampling equipment shall be conducted prior to each sampling event. In addition, the sampling technician shall decontaminate all equipment in the field as required to prevent cross-contamination of samples collected in the field. The procedures described in this section are specifically for field decontamination of sampling equipment.

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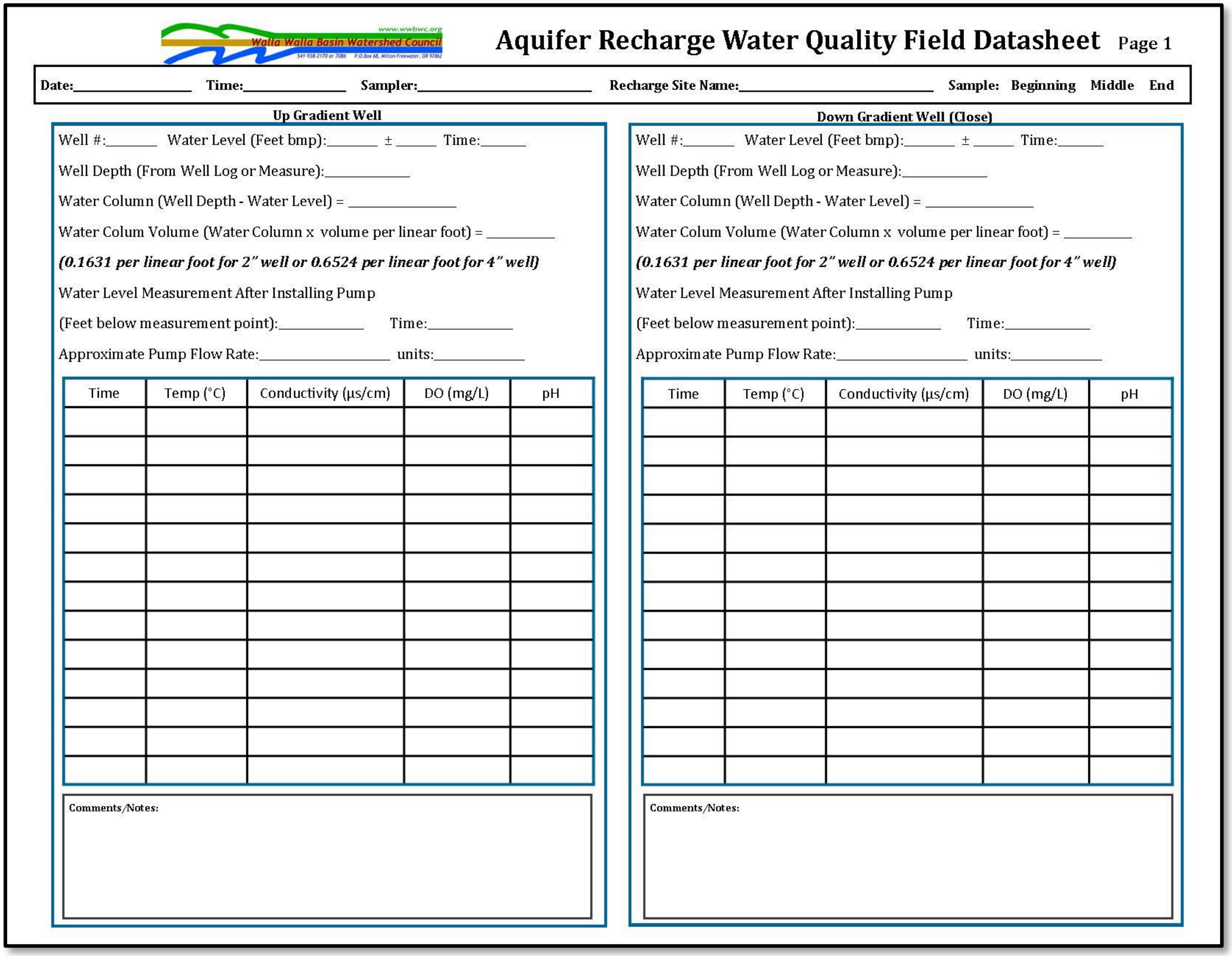
- Wash the equipment in a solution of non-phosphate detergent (Liquinox® or equivalent) and distilled or deionized water. All surfaces that may come in direct contact with the samples shall be washed. Use a clean Nalgene and/or plastic tub to contain the wash solution and a scrub brush to mechanically remove loose particles. Wear clean latex, plastic, or equivalent gloves during all washing and rinsing operations.
- Rinse twice with distilled or deionized water.
- Dry the equipment before use, to the extent practicable.

WATER QUALITY SAMPLING DATASHEET



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Aquifer Recharge Water Quality Field Datasheet Page 1

Date:________ **Time:**________ **Sampler:**____________ **Recharge Site Name:**____________ **Sample: Beginning Middle End**

Up Gradient Well

Well #:_______ Water Level (Feet bmp):_______ ± _____ Time:______

Well Depth (From Well Log or Measure):___________

Water Column (Well Depth - Water Level) = _____________

Water Colum Volume (Water Column x volume per linear foot) = _________

(0.1631 per linear foot for 2" well or 0.6524 per linear foot for 4" well)

Water Level Measurement After Installing Pump

(Feet below measurement point):___________ Time:___________

Approximate Pump Flow Rate:________________ units:___________

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Comments/Notes:

Down Gradient Well (Close)

Well #:_______ Water Level (Feet bmp):_______ ± _____ Time:______

Well Depth (From Well Log or Measure):___________

Water Column (Well Depth - Water Level) = _____________

Water Colum Volume (Water Column x volume per linear foot) = _________

(0.1631 per linear foot for 2" well or 0.6524 per linear foot for 4" well)

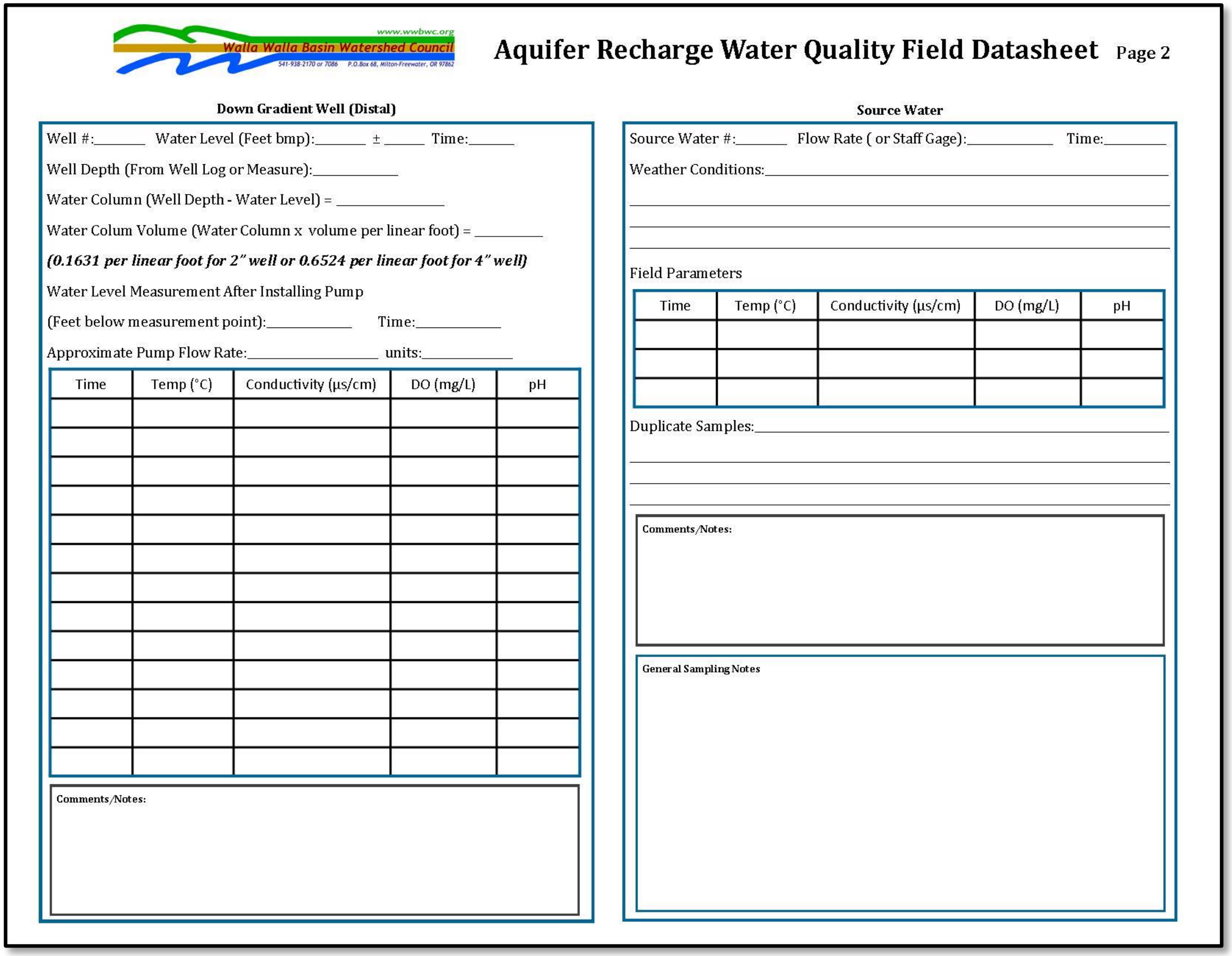
Water Level Measurement After Installing Pump

(Feet below measurement point):___________ Time:___________

Approximate Pump Flow Rate:________________ units:___________

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Comments/Notes:



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Aquifer Recharge Water Quality Field Datasheet

Page 2

Down Gradient Well (Distal)

Well #:_______ Water Level (Feet bmp):_______ ± _____ Time:______

Well Depth (From Well Log or Measure):____________

Water Column (Well Depth - Water Level) = _______________

Water Colum Volume (Water Column x volume per linear foot) = _________

(0.1631 per linear foot for 2" well or 0.6524 per linear foot for 4" well)

Water Level Measurement After Installing Pump

(Feet below measurement point):____________ Time:____________

Approximate Pump Flow Rate:__________________ units:____________

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Comments/Notes:

Source Water

Source Water #:_______ Flow Rate (or Staff Gage):____________ Time:_________

Weather Conditions:____

Field Parameters

Time	Temp (°C)	Conductivity (µs/cm)	DO (mg/L)	pH

Duplicate Samples:____

Comments/Notes:

General Sampling Notes

MEASUREMENT PROCEDURES

PHOTO POINT MONITORING

Note: these procedures are based upon and modified from:
Hall, F.C., 2002. Photo Print Handgook: Part A – Field Procedures and Part B – Concepts and Analysis.

Photo point monitoring will be used to document changes at measurement points over time. For surface sites this will include change in channel shape, vegetation, and land use changes. For groundwater sites this can include casing changes, pump changes or land use changes.

EQUIPMENT

- Camera
- GPS (to find photo point)
- Clipboard
- Pencil or pen
- Datasheet (for appropriate monitoring site)
- Previous picture or description of photo point

ESTABLISHING A PHOTO POINT

1. Reconnoiter the area to determine the best location for the photo point. Take note of sun direction, potential vegetation growth and main objectives (i.e. channel shape, well casing, pump, etc.).
2. Record GPS coordinates for the photo point and record in the comments section of the data sheet. Also note the direction the photo should be taken and include a description of the main objectives of the photo (i.e. channel shape, vegetation, etc.)
3. Take photo point picture and review. Determine if all of the main objectives are visible in the picture.

VISITING A PHOTO POINT

Photo point monitoring should be conducted during every site visit.

1. Look at previous pictures taken at the photo point to orient. Look at site data sheets to determine GPS coordinates, photo direction and main objectives.
2. Take picture of site. Determine if all of the main objectives are visible in the picture.

SURFACE WATER MONITORING

Note: These procedures are based on and modified from:

Myers, J. 2009. <u>Standard Operation Procedure for Conducting Stream Hydrology Site Visits.</u> Version 1.0. Washington Department of Ecology – Environmental Assessment Program. EAP057.

ODEQ, 2009. Water Monitoring and Assessment Mode of Operations Manual. Watersheds Quality Monitoring Field Sampling Standard Operating Procedure – Laboratory and Environmental Assessment Division. Version 3.2

Rantz, S. E., and others. 1982 <u>Measurement and Computation of Streamflow: Volume I. Measurment of Stage and Dischage.</u> U.S. Geological Survey Water-Supply Paper 2175.

Rantz, S. E., and others. 1982 Measurement and Computation of Streamflow: Volume II. Computation of Discharge. U.S. Geological Survey Water-Supply Paper 2175.

Shedd, J. R. 2011. Standard Operating Procedure for Measuring and Calculating Stream Discharge. Version 1.1. Washington Department of Ecology – Environmental Assessment Program. EAP056.

Shedd, J.R. 2008. Standard Operating Procedure for Measuring Gage Height of Streams. Version 1.0. Washington Department of Ecology – Environmental Assessment Program. EAP042.

EQUIPMENT

- Four foot top set wading rod
- Mechanical Current Meter (Price AA or pygmy), Swoffer, or Marsh-McBirney Velocity Meter
- AquaCalc computer
- Bridge Board
- Sounding Reel
- Columbus sounding weight
- Tape Down Measuring Tape (with weight attached)
- Laser Level
- Stadia Rod
- NIST Thermometer
- YSI-30 Temperature and Conductivity Meter
- Measuring tape (100' or 200')
- Chest or Hip Waders
- Laptop Computer
- Cables for connecting to Data logger
  - LT-300 Cable
  - LT-500 Cable
  - WaterLog Cable or Memory Card
  - Campbell Scientific Cable or Card
- Pen or Pencil
- Data sheets

VERTICAL STAGE MEASUREMENT

Vertical stage measurements are obtained from mounted staff gauges. Most staff gauges used by the WWBWC are graduated in 0.01 feet increments. Measurements should be recorded to 0.01 feet resolution. Below is a photo of a typical WWBWC staff gauge.

1. Read the water level on the staff gauge to the nearest 0.01. If the water level is fluctuating during the reading take the average water level and note the range of fluctuation (1.25 ±0.04 where 1.25 is the average water level and 0.04 is the range above or below the average).
2. If water level fluctuations are excessive you can create a temporary stilling well around the staff gauge to get a more accurate reading. You can use a 5-gallon bucket with the bottom cut out for the temporary stilling well.
3. Take the necessary time to obtain an accurate staff gauge reading – both the water level and uncertainty.
4. Record the date, time and measurement data on the data sheet.

TAPE-DOWN STAGE MEASUREMENT

Measuring tape-down stage involves lowering a measuring tape with a weight attached to the end to the water surface from a reference point. Often the reference point is a metal washer attached to a bridge railing.

1. Locate the reference point
2. Lower the weighted tape down to the water surface. The weight should only just touch the water surface creating a small "V" shape on the water surface.
3. Read the tape at the edge of the reference point and record to the nearest 0.01. Include uncertainty caused by wave action or wind.
4. Because the weight is attached to the end of the measuring tape, record the correction factor that needs to be applied to the reference point reading.

LASER LEVEL STAGE MEASUREMENT

Laser levels are used to measure stage height from a known elevation and allow a check on the vertical staff gauge elevation.

1. Place the laser level on the platform of known elevation.
2. Confirm that the platform's elevation has not changed by measuring the elevation of reference marks/points with the stadia rod. Record data on the Stream Gage Logger Notes datasheet. Reference marks or points are placed near the laser level platform and are typically bolts in large boulders or other stable objects. Compare reference point elevations to ensure platform has not moved.
3. Place the stadia rod as close as possible to the primary staff gauge (typically the vertical staff gauge).
4. Read the laser level using the laser sensor on the stadia rod. Record level.
5. Observe and record the water level (including level of uncertainty) on the stadia rod.
6. Complete the calculations on the Stream Gage Logger Notes datasheet to compute the laser level stage. For the calculations you take the laser rod reading minus the depth of water and that equals the differential laser to water surface. Take the elevation of the laser beam minus the differential to get the laser level stage.

DISCHARGE MEASUREMENT (WADING)

1. Select an appropriate location to perform a discharge measurement (refer to Rantz, 1982 for full details). A good cross section will typically have the following characteristics: relatively straight channel with parallel edges, defined edges, uniform shape, free of vegetative growth and large cobbles or boulders, free of eddies, slack water and turbulence, depths greater than 0.5 feet, velocities greater than 0.5 feet per second that are evenly distributed, close to the gauging station. Often some or many of the above criteria cannot be met. The best available cross section location should be chosen.
2. Stretch a measuring tape across the channel where the measurement will be taken. The tape should be perpendicular to as much of the flow as possible to reduce oblique flow angles.
3. Determine the width of the wetted channel and divide the width into 25-30 segments. Cells should be divided such that each cell has approximately 5% of the total flow and no more than 10%. Segments should be shorter where flow is more concentrated or the bottom is irregular. The width of any segment should not be less than three tenths of a foot (0.3 feet).
4. Start at either the right or left edge of water (REW or LEW). Record tape distance for edge of water.
5. Set wading rod at location for the first measurement. Determine the depth of water.
6. If depth is less than 1.5 feet use the one point method of measuring velocity at 0.6 of the depth.
7. If depth is equal to or greater than 1.5 feet use the two point method of measuring at both 0.2 and 0.8 of the depth and average the velocities.
8. In cases where there is no logarithmic relationship to the velocities in the water column (this is when the 0.2 velocity is less than the 0.8 velocity or the 0.2 velocity is more than twice the 0.8 velocity) the three point method should be used. The three point method measures at 0.2, 0.6 and 0.8. The 0.2 and 0.8 velocities should be averaged and then that result should be averaged with the 0.6 velocity. This weights the 0.6 velocity at 50% and the 0.2 and 0.8 each at 25%.
9. Each velocity measurement should average velocity data for 40 seconds to address variations in water velocity over time at a single measurement point.
10. If water flow direction is not perpendicular to the measuring tape the meter should be pointed directly into the direction of flow. Use the data sheet to measure the angle coefficient (and apply a correction to the velocity) for velocity measurements not perpendicular to the measuring tape (see figure below). Align the point of origin on the measuring tape. Rotate the data sheet until the opposite long edge is parallel to the direction of flow (the same direction the meter is pointed). The angle coefficient is read where the measuring tape intersects the data sheet. Multiply the velocity measurement by the angle coefficient to calculate the perpendicular velocity.

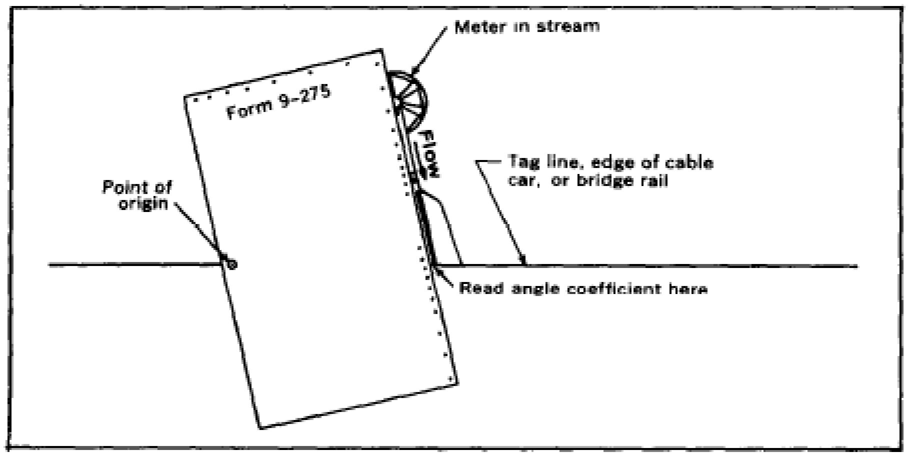


Figure taken from Rantz, 1982.

11. Repeat steps 5-10 for each of the subsequent measurement locations across the cross section until you reach the opposite edge of water.
12. Rate the measurement on a scale from excellent to poor. Rating can be based upon observed conditions as well as information from the AquaCalc file. Observations that can influence the rating of a measurement include (but are not limited to): channel characteristics, proximity to bridges or other structures, number and degree of oblique current angles, condition of equipment, weather, water level bounce and velocity pile up on wading rod and others. Use observations and professional judgment in rating a measurement. Measurements are rated excellent if the discharge value is with 2% of the actual flow value, good if within 5%, fair if within 8% and poor if within 13%.

DISCHARGE MEASUREMENT (BRIDGE)

This section will describe differences between wading and bridge discharge measurements. Follow the procedure for wading discharge measurements above with the following changes:

1. The choice of cross section locations is obviously limited when measuring from a bridge.
2. Use a bridge board, sounding reel, and Columbus weight instead of a wading rod
3. Increase velocities measurements near bridge piers
4. Use the one point method on depths less than 2.5 feet and the two point method on depths equal to or greater than 2.5 feet.
5. Sometimes, water flow direction is all oblique to the bridge. In these cases multiply the raw average velocity of the measurement by the cosine of the angle between current direction and the cross section.

DISCHARGE CALCULATION

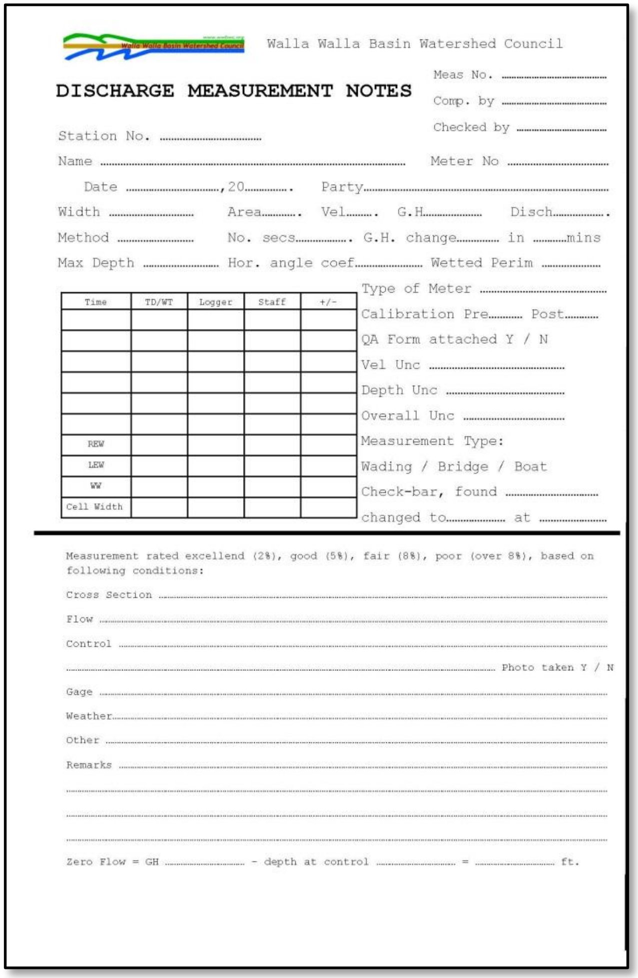
Discharge is calculated using the mid-section method in which each section extends halfway between measurement locations. The flow through each section is calculated by multiplying the average velocity with the cross-sectional area of the section. See references for a complete description of discharge calculations.

STATION VISIT (WITHOUT DISCHARGE MEASUREMENT)

River gauging stations and real-time stations are visited twice a month to collect staff gauge readings, perform any site maintenance and download data. These visits do not include a discharge measurement.

1. Open gauge station and retrieve data sheet.
2. Record primary gauge reading in the PGI row (see above for procedure). This is often a vertical staff gauge.
3. Record secondary gauge reading in the SGI row (see above for procedure). Often this is a tape-down measurement.
4. Record auxiliary gauge reading if present in the AUX row. Used for alternate staff gauge readings.
5. Record water temperature from the gauge station.
6. Record water temperature with the NIST thermometer or the YSI-30.
7. Record air temperature from the gauge station.
8. Record air temperature from the NIST thermometer or the YSI-30.
9. Record battery volts.
10. Download data from the data logger and record on the data sheet.
11. Purge the pressure sensor (if equipped).
12. Record battery minimum and maximum.
13. Reset Stats screen.
14. Note any problems, maintenance issues or other information at the bottom of the data sheet.
15. Close and secure the gauge station.

DISCHARGE NOTES DATA SHEET



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DISCHARGE MEASUREMENT NOTES

Meas No. ....
Comp. by ....
Checked by ....

Station No. ....
Name .... Meter No ....
Date ...., 20.......... Party..................................
Width .... Area.......... Vel......... G.H.............. Disch.............
Method .... No. secs............. G.H. change........... in ....mins
Max Depth .... Hor. angle coef.................. Wetted Perim ....

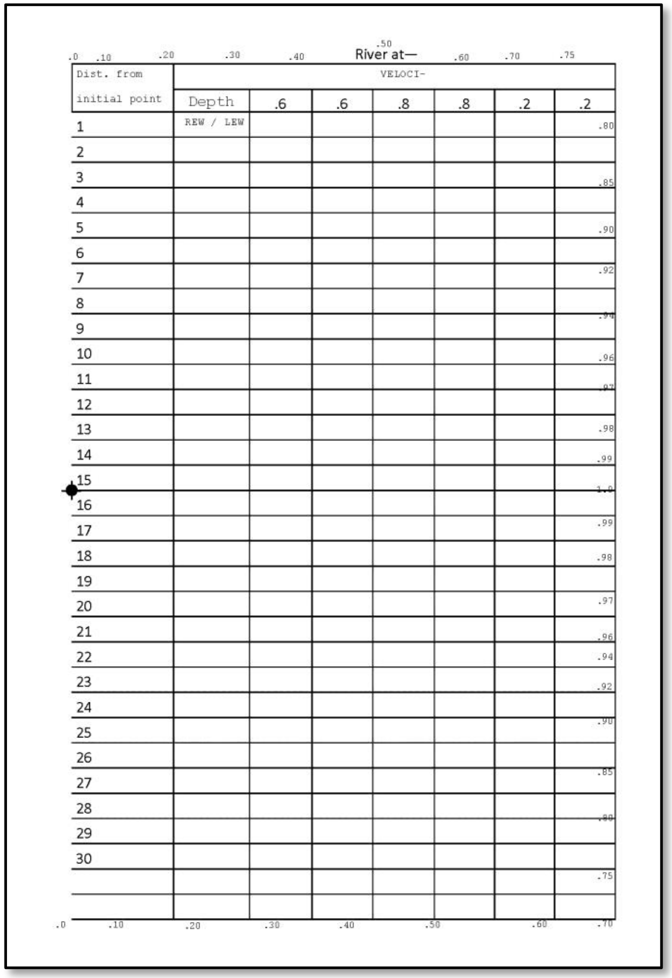
Time	TD/WT	Logger	Staff	+/-
REW				
LEW				
WW				
Cell Width				

Type of Meter ....
Calibration Pre.......... Post..........
QA Form attached Y / N
Vel Unc ....
Depth Unc ....
Overall Unc ....
Measurement Type:
Wading / Bridge / Boat
Check-bar, found ....
changed to.............. at ....

Measurement rated excellend (2%), good (5%), fair (8%), poor (over 8%), based on following conditions:

Cross Section ....
Flow ....
Control ....
.... Photo taken Y / N
Gage ....
Weather..................
Other ....
Remarks ....
....
....
....

Zero Flow = GH .... - depth at control .... = ... ft.



.0 .10 .20 .30 .40 .50 River at— .60 .70 .75

Dist. from initial point	Depth	VELOCI-					
		.6	.6	.8	.8	.2	.2
1	REW / LEW						.80
2							
3							.85
4							
5							.90
6							
7							.92
8							
9							.94
10							.96
11							.97
12							
13							.98
14							.99
15							1.0
16							
17							.99
18							.98
19							
20							.97
21							.96
22							.94
23							.92
24							
25							.90
26							
27							.85
28							.80
29							
30							
							.75

.0 .10 .20 .30 .40 .50 .60 .70

GAGING STATION LOG DATA SHEET

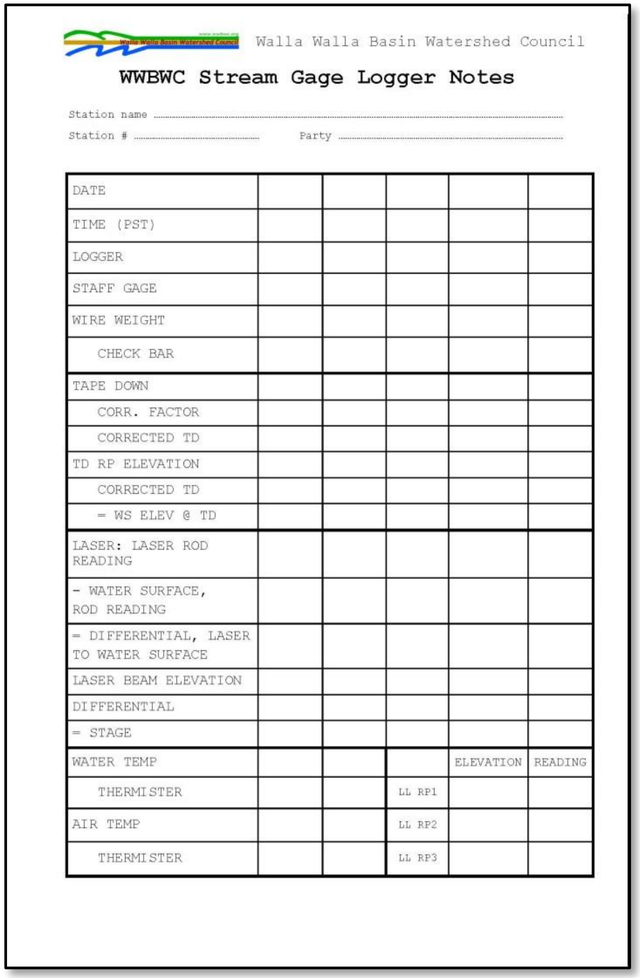
Walla Walla Basin Watershed Council

Gaging Station Log

Station Name: ______________________________ Station Number ________________ Water Year __________

Party												
Date												
Time												
PGI												
SGI												
AUX												
LOGGER												
H20 TEMP.												
THERMISTOR												
AIR TEMP.												
THERMISTOR												
BATT. V												
REPLACED (Y / N)												
DOWNLOADED (Y / N)												
PURGE (Y / N)												
SYNCED (Y / N)												
SYSTEM RESETS												
BATT. V (MIN/MAX)												
RESET STAT SCREENS (Y / N)												
MEASUREMENT (Y / N)												
MGH												
MEASURED Q												
PROFESSIONAL RATING												
METHOD												
LOCATION												
MAX DEPTH												
MAX VELOCITY												
PZF												
CONTROL (LOCATION, CONDITION, ETC.)												

STREAM GAGE NOTES DATA SHEET



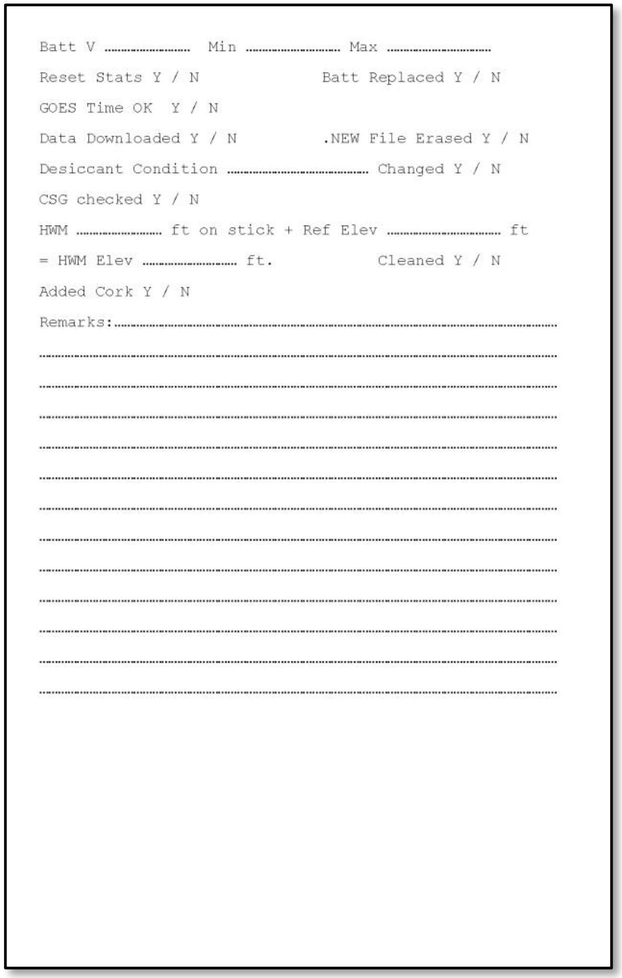
Walla Walla Basin Watershed Council

WWBWC Stream Gage Logger Notes

Station name ....

Station # .... Party ....

DATE					
TIME (PST)					
LOGGER					
STAFF GAGE					
WIRE WEIGHT					
CHECK BAR					
TAPE DOWN					
CORR. FACTOR					
CORRECTED TD					
TD RP ELEVATION					
CORRECTED TD					
= WS ELEV @ TD					
LASER: LASER ROD READING					
- WATER SURFACE, ROD READING					
= DIFFERENTIAL, LASER TO WATER SURFACE					
LASER BEAM ELEVATION					
DIFFERENTIAL					
= STAGE					
WATER TEMP				ELEVATION	READING
THERMISTER			LL RP1		
AIR TEMP			LL RP2		
THERMISTER			LL RP3		



Batt V .... Min .... Max ....

Reset Stats Y / N Batt Replaced Y / N

GOES Time OK Y / N

Data Downloaded Y / N .NEW File Erased Y / N

Desiccant Condition .... Changed Y / N

CSG checked Y / N

HWM .... ft on stick + Ref Elev .... ft

= HWM Elev .... ft. Cleaned Y / N

Added Cork Y / N

Remarks:..

....

....

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GROUNDWATER MONITORING

These procedures are for monitoring groundwater levels and groundwater temperature and specific conductivity. The procedure covers equipment needed, establishing a measuring point, manual water level measurements, pressure transducer deployment, download and maintenance, groundwater grab samples for temperature and specific conductivity and site maintenance.

Note: These procedures are modified from Drost, B.W., 2005, Quality-assurance plan for ground-water activities, U.S. Geological Survey, Washington Water Science Center: U.S. Geological Survey Open-File Report 2005-1126, 27 p.

EQUIPMENT

- E-tape (Solinst model 102 Water Level Meter)
- Laptop
- Extra pressure transducers (if available)
- Cables for downloading pressure transducers
  - LT-300
  - MicroDiver/Solinst
  - MicroDiver (direct connect cable)
  - Solinst (direct connect cable)
  - MiniTroll
- Bailer
- Graduated Cylinder
- Temperature and Conductivity meter (YSI 30)
- Sounding Tape
- Measurement tape (measured in tenths of a foot)
- Data sheet (waterproof paper)
- Pen (waterproof) or pencil
- Well keys
- Battery removal tool for MiniTroll pressure transducers
- GPS
- Extra Batteries (AA lithium for pressure transducers & 9v for E-tape)
- Flashlight
- Screwdrivers
- Hammer
- Pipe wrench
- Socket set
- Crescent wrench
- Cable snips
- Pliers (preferably needle-nose)
- Camera
- Well Field Instructions and Procedures binder
- WellNet binder for site references and maps
- Business cards
- U-bolts and cable crimps
- Inverter (for charging laptop from vehicle)
- Cable (speaker wire or 1/16" aviation cable)
- Extra sacrificial weights for E-tape
- Work gloves

- Disposable gloves (nitrile)
- Disinfectant (Lysol or diluted bleach)
- Sharpie or other marking device (for measuring point)
- WD-40

ESTABLISHING A MEASURING POINT

This procedure is for establishing a measuring point on wells from which all water levels are measured.

1. Measuring point (MP) must be permanent as possible, clearly defined and easily located. Typical locations include the top of the well casing or access ports.
2. MP should be located so that the measuring tape can hang freely during water level measurements.
3. Mark MP with Sharpie or other marker (paintstick, etc).
4. Measure distance from the MP to the land surface and record on the data sheet. This measurement is called the top of grade (TOG) for the well. MP's located below the land surface are positive and MP's located above the land surface are negative. If the well has been GPS surveyed, measure TOG from the MP to the surveyed elevation.
5. Take a photograph of the MP to document location Well Network Database or in case the marker wears off.

MANUAL GROUNDWATER LEVEL MEASUREMENT (E-TAPE)

1. Before measuring the water level in a well utilized for drinking-water supply, disinfect the first 5-10 feet of the E-tape with diluted bleach water and dry with single-use towels (e.g. Kimwipes). Use latex or nitrile gloves for drinking-water supply wells and disinfection.
2. Review well info page in the Well Network binder for the MP.
3. Record if the Pump is On (1) or Off (0) in the "Pump" field.
4. Test the E-tape by turning it to "test" or by pressing the "test" button. If the E-tape does not buzz, check the battery. Start with sensitivity set to the mid-range and adjust as necessary.
5. Carefully lower the tape (and weight) into the well. The tape should be lowered slowly to prevent splashing or excess wear on the E-tape.
6. When the E-tape buzzes, pull the tape up and down a few inches to determine the exact level. Hold the tape at the MP and record the value to the nearest 0.01 feet in the "Static" field.
7. Repeat water level measurement. If measurements differ by more than 0.02 feet determine why (well pumping, well recovering, etc) and document reason on data sheet.
8. Periodically check the E-tape to make sure it is in good working condition.

PRESSURE TRANSDUCER DEPLOYMENT

1. Sound well and record measurement or, if available, consult the well log to determine well depth and pump location.
2. Take a manual water level measurement (see above) and record measurement on data sheet.
3. Program and start the pressure transducer. Pressure transducers should collect data every 15 minutes. Pressure transducer should be started so that data will be recorded on the hour (i.e. 12:00, 12:15, 12:30, 12:45, 13:00…). Program transducer with the well's GW

number. Follow the manufacturer's instructions on how to program and start the transducer.

4. Attached pressure transducer to one end of the cable using two wire crimps and a stainless steel U-bolt. Do not use crimps and do not over tighten the U-bolt if using a communication cable.
5. Measure and cut aviation cable or speaker wire to suspend the pressure transducer approximately 5-10 feet above the bottom of the well. This value can change depending upon the depth of the well and the pressure range of the pressure transducer. Make sure to not deploy the pressure transducer below its rated pressure range (typically marked on the side of the device). If the well is deeper than the pressure range, place the pressure transducer at a depth so there is 10-15 feet of pressure range still available (to account for potential water level increases). Pressure transducers should not rest on the bottom of the well or be surrounded by silts/fines that have accumulated in the well. Remember to account for the length of the logger when measuring the length of the cable.
6. If using a communication cable for the manufacturer, following the steps above to determine cable length.
7. Record length of cable, pressure transducer serial number and communication cable serial number if used.
8. Slowly lower pressure transducer and cable into the well making sure the transducer is not free falling. Take extra care as the transducer passes through the water-air interface to prevent damage to the transducer or entrainment of air bubbles.
9. Attach cable to the well at the surface using wire crimps and a stainless steel U-bolt.
10. Mark the cable so that cable slippage, if it occurs, can be accounted for during future site visits.
11. Make sure that all of the cable is deployed and the transducer is hanging on the cable rather than caught on a pump or some other obstruction.
12. Photograph the well to document the pressure transducer deployment and well. Try to capture the area around the well, any well apparatus and the measuring point. Multiple photos may be required.

PRESSURE TRANSDUCER DOWNLOAD AND MAINTENANCE

1. Record manual water level measurement, date, time and whether the well is being pumped.
2. Retrieve pressure transducer to the surface (if not attached to a communication cable).
3. Connect the pressure transducer, using the appropriate cable, to the field laptop.
4. Record the following information on the data sheet: Download start time (DL), Logger Time (LT – difference between pressure transducer time and computer time), Restart Time (RT – if the pressure transducer was stopped and restarted), Serial number (S#), Battery level (Batt - % of battery left or if batteries were replaced) and U-bolt and crimp conditions (Ubolts).
5. Follow manufacturer's protocol for downloading, saving and exporting data from the pressure transducer. Data should be saved in the proprietary format and in comma separated value format (.csv). File names should be in the following format: GW_xx_Data start date_Data end date_data collector's initials (For example: GW_129_3-3-11_7-6-11_sp – This file is for well GW_129 and the data in the file is from March 3rd through July 6th and was collected by Steven Patten).
6. Visually check the graphed data to ensure there are not any major issues that should be addressed. Raw data visual checks may be able to determine if the transducer came out of the water, the cable slipped/shifted or other issues that can be resolved through site

maintenance. Potential fixes could include readjusting/lengthening cable length or tighten U-bolts.

7. Note when the pressure transducer will run out of memory so a future visit will occur before that time.
8. Examine the pressure transducer for indications of damage or wear. Make sure access ports for the pressure diaphragm are clear of obstructions so the pressure transducer performs correctly.
9. Slowly lower transducer back into the well taking extra care as it transitions between air and water.

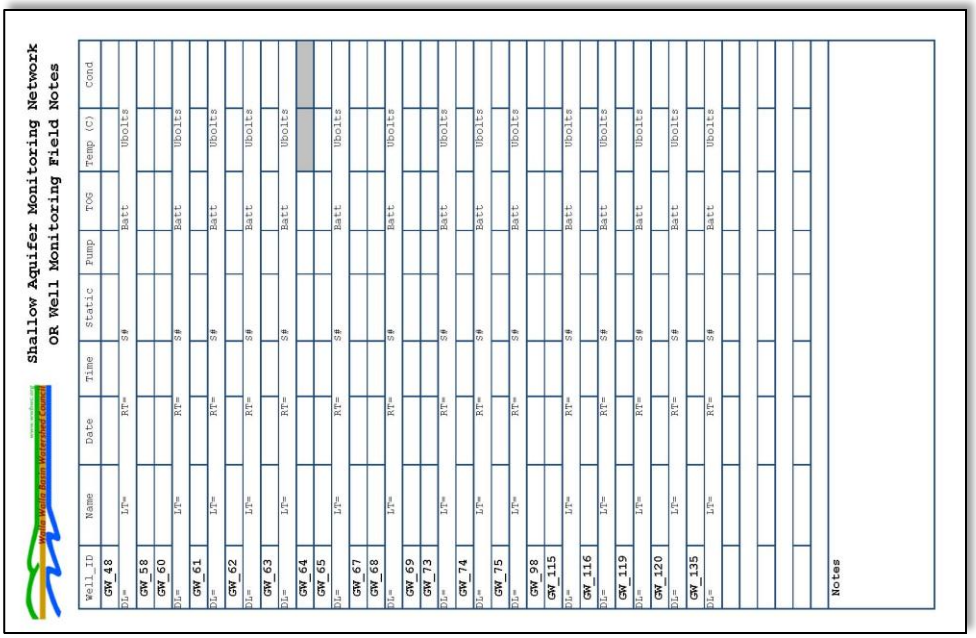
GRAB SAMPLES FOR GROUNDWATER TEMPERATURE AND SPECIFIC CONDUCTIVITY

1. Check the bailer to determine if the string/cable is attached properly and that it is not frayed or damaged and that the bailer is in proper working order.
2. Slowly lower the bailer into well until is below the water level and fills with water. NOTE: Do not put the bailer down access or vent holes. If unsure do not put the bailer down the well. The data sheet indicates which wells should have water grab samples taken – if the temperature and conductivity fields are grayed out do not take a sample. The Well Network database also indicates whether a water grab sample should be collected.
3. Slowly reel the bailer back to the surface taking care to limit it banging/hitting the well casing.
4. Empty the water in the bailer into the graduated cylinder.
5. Put the temperature/EC probe into the water in the graduated cylinder.
6. Turn on the YSI-30 (temperature/EC meter). Ensure that the meter is correctly set to measure temperature in degrees Celsius and specific conductivity in µs/cm.
7. Wait for the reading to stabilize and then record temperature and conductivity values in their appropriate fields on the data sheet. In the summer or winter water temperature may increase or decrease depending upon the ambient air temperature. If the reading does not stabilize in 15-20 seconds, record the mean value over the 15-20 second period.
8. Turn off the YSI-30.
9. Discard water from the graduated cylinder.

SITE MAINTENANCE

1. Check the well casing and surrounding area for any changes that have occurred since the last field visit. If needed document the changes on the data sheet and with photographs.
2. Check TOG measurement approximately once a year to determine if there are any changes.
3. If well has not been surveyed in, survey well using Magellan ProMark 3 GPS system at earliest opportunity.
4. Check cable integrity and other well monitoring components for wear or damage. Replace as needed.
5. Photograph the site during every field visit to visually track changes to the site.

GROUNDWATER MONITORING DATA SHEETS

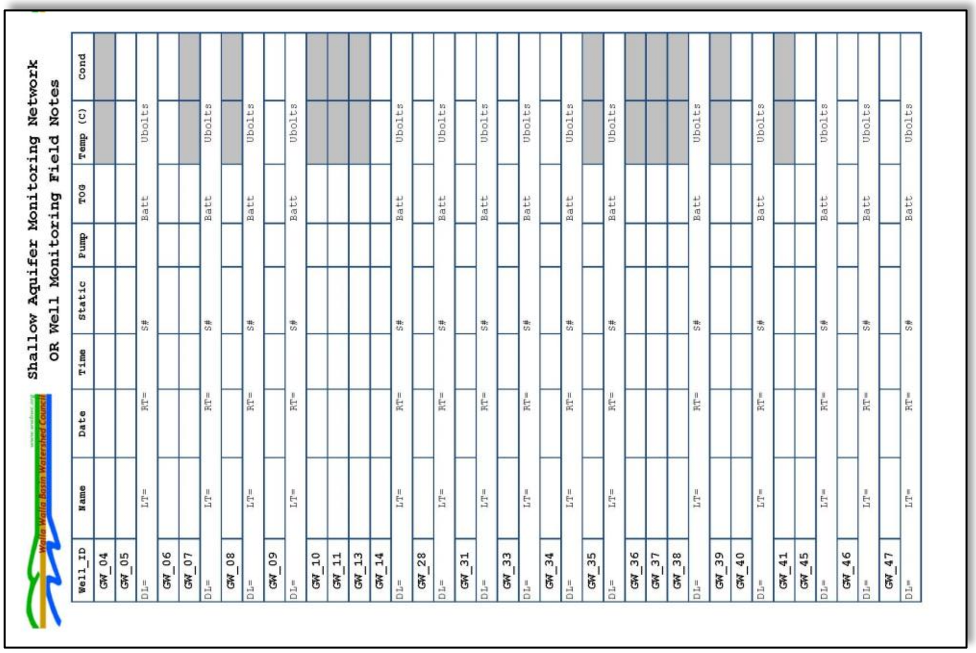


Walla Walla Basin Watershed Council

Shallow Aquifer Monitoring Network
OR Well Monitoring Field Notes

Well_ID	Name	Date	Time	Static	Pump	TOG	Temp (C)	Cond
GW_48								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_58								
GW_60								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_61								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_62								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_63								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_64							▨	▨
GW_65								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_67								
GW_68								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_69								
GW_73								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_74								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_75								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_98								
GW_115								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_116								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_119								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_120								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_135								
DL=	LT=	RT=		S#		Batt	Ubolts	

Notes



Walla Walla Basin Watershed Council

Shallow Aquifer Monitoring Network
OR Well Monitoring Field Notes

Well_ID	Name	Date	Time	Static	Pump	TOG	Temp (C)	Cond
GW_04							▨	▨
GW_05								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_06								
GW_07							▨	▨
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_08							▨	▨
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_09								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_10							▨	▨
GW_11							▨	▨
GW_13							▨	▨
GW_14								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_28								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_31								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_33								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_34								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_35							▨	▨
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_36							▨	▨
GW_37							▨	▨
GW_38							▨	▨
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_39							▨	▨
GW_40								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_41							▨	▨
GW_45								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_46								
DL=	LT=	RT=		S#		Batt	Ubolts	
GW_47								
DL=	LT=	RT=		S#		Batt	Ubolts	

WATER TEMPERATURE MONITORING

This procedure is for monitoring water temperature in rivers and streams using data loggers. The procedure covers equipment needed, pre & post deployment accuracy check, field accuracy check (site visits), deployment, and recovery.

Note: this procedure is modified from the following references:

Water Quality Monitoring – Technical Guide Book, 2001. Oregon Watershed Enhancement Board.

ODEQ, 2009. Water Monitoring and Assessment Mode of Operations Manual. Watersheds Quality Monitoring Field Sampling Standard Operating Procedure – Laboratory and Environmental Assessment Division. Version 3.2

EQUIPMENT

- Data Logger (Vemco, Tidbit, etc)
- Laptop/Computer
- Computer interface cable for Data Logger
- NIST-traceable thermometer
- 1 medium sized cooler
- Ice
- Temperature Accuracy Check form (see below)
- 1 ½” PVC Pipe (to reduce temperature variations due to solar radiation)
- 1/16” aviation cable
- Wire cutters
- Cable crimps
- Pliers or other device to secure crimps and cut the cable
- Forestry Flagging/Surveyors Tape
- GPS unit
- Camera
- Waders
- Field Notebook
- First Aid Kit

PRE & POST DEPLOYMENT ACCURACY CHECK

1. For 20°C calibration test, pour room temperature water into the cooler. Adjust temperature in the cooler with ice, cold water or hot water to the desired 20°C. If ice is used make sure it is completely melted. Close lid.
2. Insert the NIST thermometer probe into the cooler. Pull it through enough so that when the lid is closed, the probe will be suspended midway (or slightly lower) in the water bath.
3. Use the computer and manufacturer’s software to start the temperature data loggers and set them to record data every 1-minute.
4. Place temperature data loggers directly into the water bath.
5. Allow water bath to stabilize (for 15-30 minutes) before recording NIST thermometer temperatures. After stabilization, record temperatures from the NIST thermometer every minute for ten minutes. More readings may be necessary if there is suspicion the water bath temperature changed or was not stabilized.

6. Download data from the temperature data loggers and audit thermometer results with time of record on an audit form. Water temperatures should not vary more than ± 0.5°C between the NIST thermometer and the data logger's temperature. Units not passing this accuracy test should not be used.
7. Repeat accuracy test for cold water bath at 5°C.

FIELD ACCURACY CHECKS (SITE VISITS)

During a typical season of water temperature monitoring (June-November), two field accuracy checks will be conducted using the following procedure:

1. Determine if the data logger is still adequately placed in the river (see deployment procedure for details) to record water temperatures.
2. Place field thermometer (NIST thermometer) in the water directly next to the temperature data logger. (Note: if a NIST thermometer is not available use a thermometer with an accuracy of ± 0.5°C and a resolution of ± 0.2°C)
3. Allow field thermometer to stabilize and then record the temperature reading.
4. After the temperature data loggers have been retrieved and data download, compare the field thermometer's reading to that from the temperature data logger. Data accuracy should be ± 0.5°C.

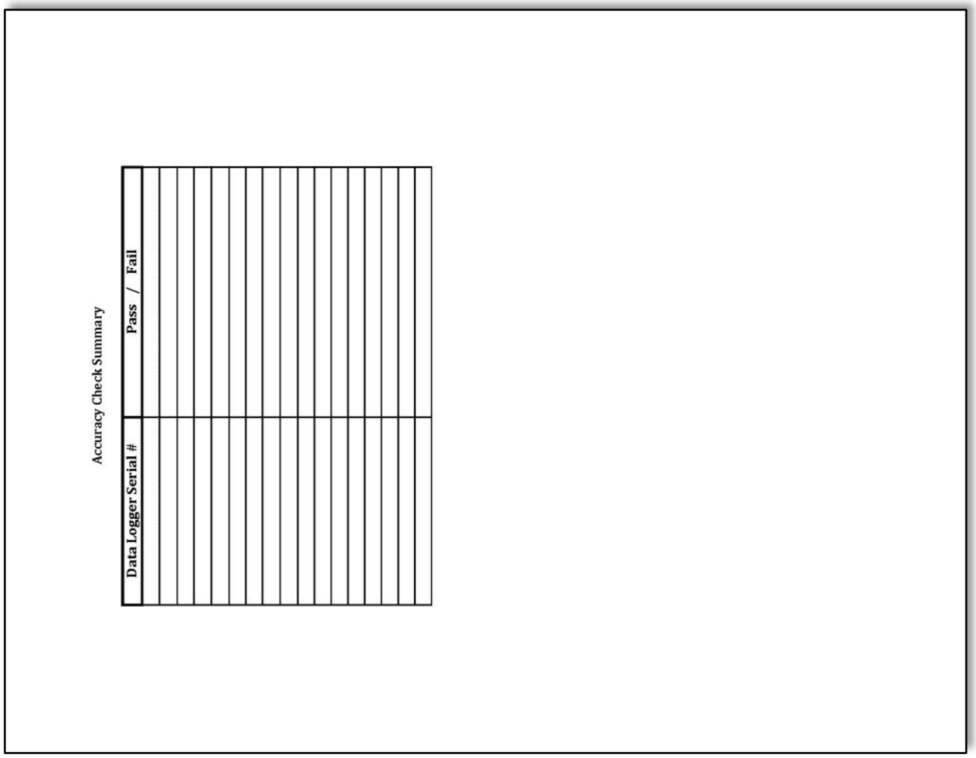
DEPLOYMENT

1. Start temperature data logger either prior to going to the field or in the field with a laptop. Data loggers should be set to record data every thirty minutes. Data loggers should be set to start collecting data either at the hour or half hour (e.g. 12:00 or 12:30).
2. Secure data logger inside of the 1 ½" PVC pipe using the aviation cable ensuring that the entire length of the logger is covered by the PVC.
3. Secure data logger at the site using the aviation cable. Often the cable can be secured to trees, logs, large rocks or other stable structures. Make sure that the logger is in a well-mixed portion of the river to ensure accurate readings. Also, place the data logger to ensure that it will stay submerged in the water as river flows drop.
4. Record in the fieldbook the time of deployment and when the data logger will run out of memory for logging data. Record site name and data logger serial number. Check stream temperature as an additional accuracy check.
5. Record site GPS coordinates using a GPS unit.
6. Take pictures of site for future reference and recovery.
7. Write a short description and create a sketch of the site including approximate distances from structures (bridges, log jams, etc.).

RECOVERY

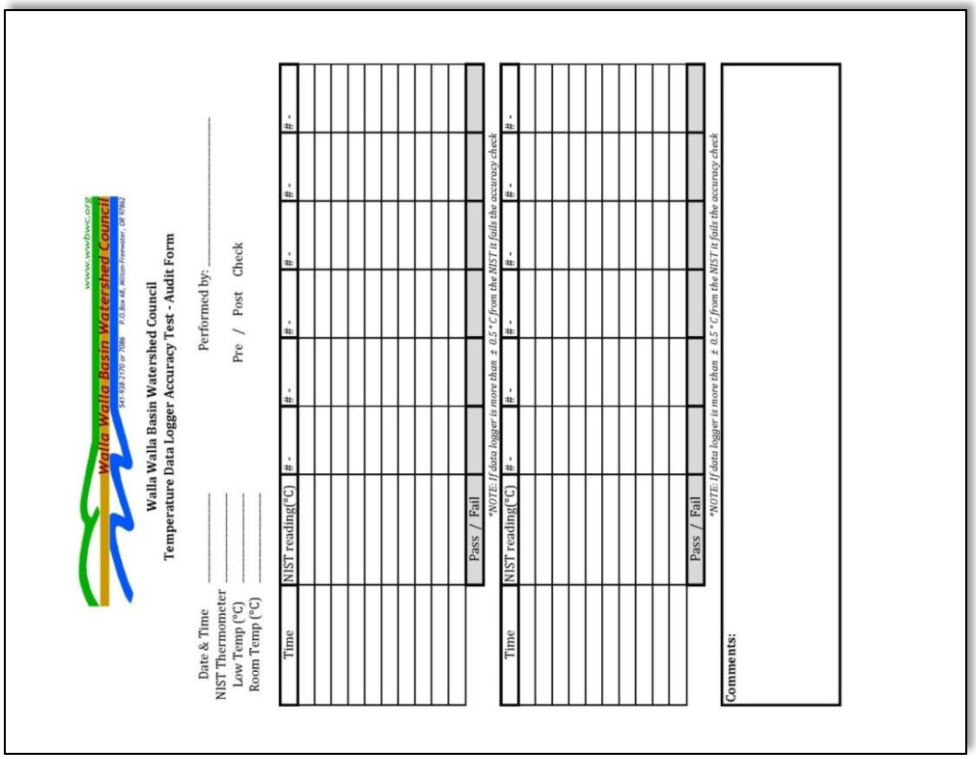
1. Locate Temperature data logger and check stream temperature with a field thermometer.
2. Record time of data logger recovery and note any site conditions that may have affected data accuracy or reliability. Cut the cable to free the data logger and return to the office and download the data. Data loggers should be stopped after data download to prevent unnecessary battery use.

PRE & POST DEPLOYMENT ACCURACY CHECK DATA SHEET



Accuracy Check Summary

Data Logger Serial #	**Pass / Fail**



www.wwbwc.org
Walla Walla Basin Watershed Council
541-938-2170 or 7086 P.O.Box 68, Milton-Freewater, OR 97862

Walla Walla Basin Watershed Council
Temperature Data Logger Accuracy Test - Audit Form

Date & Time __________
NIST Thermometer __________
Low Temp (°C) __________
Room Temp (°C) __________

Performed by: ____________________

Pre / Post Check

Time	NIST reading(°C)	# -	# -	# -	# -	# -	# -
	Pass / Fail						

**NOTE: If data logger is more than ± 0.5 °C from the NIST it fails the accuracy check*

Time	NIST reading(°C)	# -	# -	# -	# -	# -	# -
	Pass / Fail						

**NOTE: If data logger is more than ± 0.5 °C from the NIST it fails the accuracy check*

Comments:

SCOUR CHAINS AND BED STABILITY

This procedure is for monitoring bed scour and fill to look at river bed stability and river bed conditions. The procedure covers the construction, installation and monitoring of scour chains (including cross-sectional surveys) and pebble counts.

Note: Scour chain procedures were based upon the following sources:

Lisle and Eads. 1991 Methods to measure sedimentation of spawning gravels. Res. Note PSW-411. Berkley, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 7 p.

Nawa and Frissell. 1993. Measuring Scour and Fill of Gravel Streambeds with Scour Chains and Sliding-Bead Monitors. North American Journal of Fisheries Management. 13: 634-639.;

Leopold, Wolman and Miller. 1964. Fluvial Process in Geomorphology. Freeman, San Francisco.

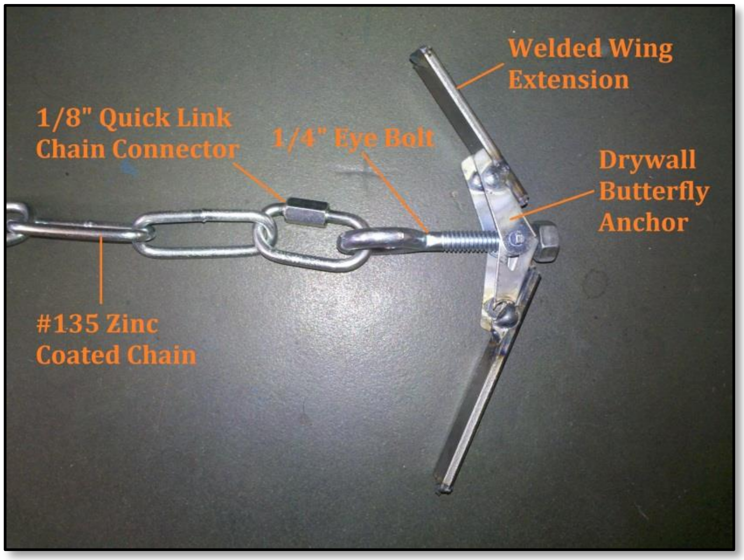
Pebble count procedures where based upon Wolman, M.G. 1954. A Method of Sampling Coarse River-Bed Material. Transactions of the American Geophysical Union. 35(6):951-956.

EQUIPMENT

- Scour Chains
  - 2.5-3.0 feet of #135 Zinc Coated Chain (links are ~1.5”)
  - Chain Quick-Link Connector (1/8”)
  - Anchor (Modified Drywall Butterfly Anchor)
  - Eye bolts
- 100' or 200’ tape
- Waders (hip or chest)
- Laser Level with Stadia rod
- Flow meter
- Shovel
- Hand Trowel
- Fence Post Driver
- 1 ½” galvanized steel pipe
- 1” metal rod
- Rubber bands
- Fishing line
- Forestry Flagging Tape
- Pipe Wrenches
- Data Sheets or Field Notebooks
- Pen or Pencil
- First Aid Kit

SCOUR CHAIN CONSTRUCTION

Scour chains are constructed by WWBWC staff to help reduce costs. Scour chain anchors are created by modifying drywall butterfly anchors (1/4” bolt/screw). Extensions (1/2” flat metal) are welded to each wing of the anchor creating ~2-3 inch wing on each side. Eye bolts are then welded on to the anchor to prevent them from detaching. A ~2.5-3.0 foot section of #135 chain is attached to the eye bolt with a quick link chain connector. See figures below.

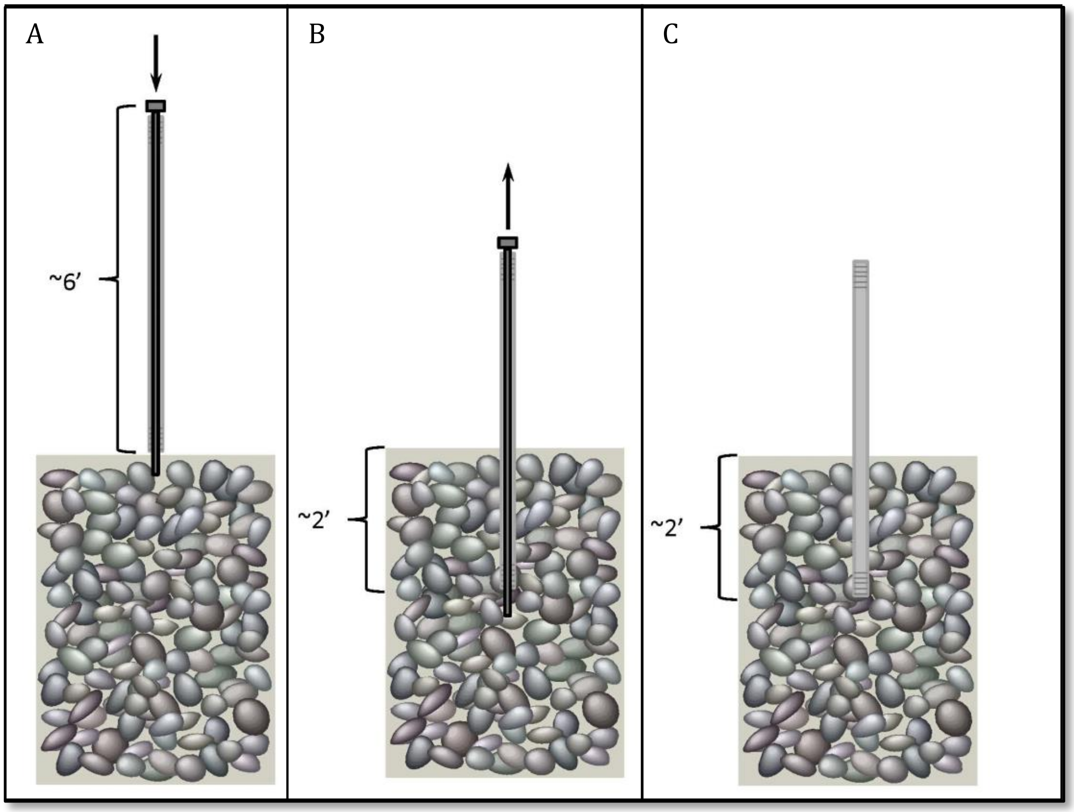


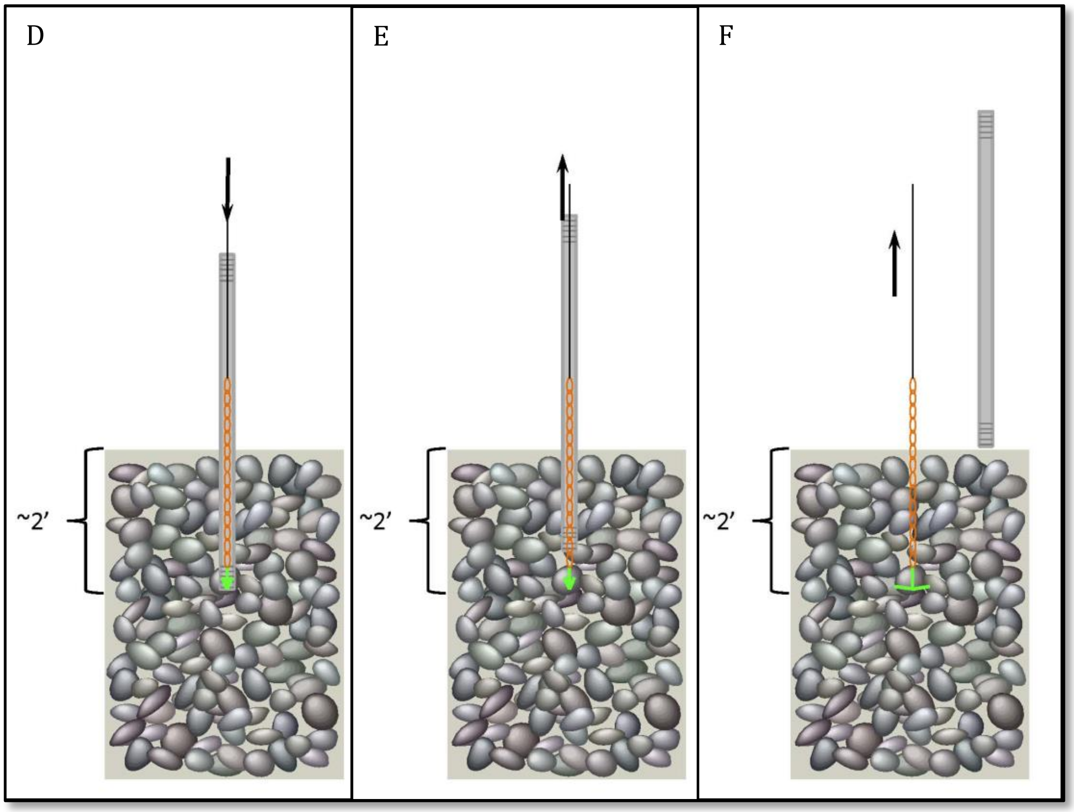
SCOUR CHAIN INSTALLATION

Scour chains are installed perpendicular to the direction of flow in the river (similar to a discharge measurement). 4-5 chains are typically installed across the width of the river, but this will increase or decrease depending upon the width of the river. Chains are installed approximately 10-12 feet apart across the channel.

1. Determine location for scour chain installation.
2. Establish a control point on both banks. Make sure the location of each control point is as stable as possible and will not be damaged by higher flows. Preferably the control points should be located above the bank full width to avoid frequent flood damage. Drive a piece of ½" rebar into the ground as far as possible. Place a blue WWBWC control point marker on the end of the rebar and flag it with forestry flagging.
3. Run a tape across the width of the channel between the control points on either bank. You can tie off the tape to the control points or to rocks/trees on the shore. If not tying off to the control points make sure the tape goes directly over each of the control points.
4. Determine the width of the river – typically this will be the bank full width as to capture river scour/fill influences during frequent high flow events.
5. Decide how many scour chains to install based upon width. Chains are installed ~10 feet apart. So if the river is 40 feet across plan on installing 4 chains.
6. Divide the river into approximately even sections and make note where each scour chain should be installed. The exact location of each chain will vary side to side by a small amount based upon sediments present at each location (see 7 below).
7. Drive pipe and metal rod into the river bed substrate using the fence post driver to a depth of ~2 feet. Because river bed sediments in the Walla Walla Basin are often gravels and cobbles (and sometime boulders) you may have to try multiple locations to find a successful spot where the pipe can be driven in ~2 feet (Figure A).
8. Remove metal rod from inside the pipe. Be sure to not remove the pipe. You may have to turn the metal rod using pipe wrenches to loosen it before it can be removed. (Figure B & C)

9. Prepare a scour chain anchor with ~2.5-3.0 feet of chain attached to it with the 1/8" quick link connector. Attach fishing line to the end of the chain to allow it to be lowered into the pipe. Count the number of links and record on the datasheet or in the field notebook.
10. Use a small rubber band to hold the two wings of the anchor device together so it will slide down into the pipe. When the anchor wings are held together the anchor is considered "closed" and when the rubber band is removed to allow the wings to spring apart the anchor is considered "open." Tie fishing line on to the rubber band so it can be pulled off and allow the wings to spread and anchor the device.
11. Slowly slide the "closed" anchor down the inside of the pipe (Figure D).
12. Once the anchor is at the bottom of the pipe (make sure by slowly pulling up and dropping the anchor) gently lift the pipe 6-8" upwards. This should allow the "closed" anchor to be exposed to the sediments (Figure E).
13. Pull on the fishing line attached to the rubber band to release the wings and "open" the anchor.
14. Remove the pipe completely making sure to keep holding the fishing line attached to the chain to prevent the chain from falling into the hole.
15. Gently pull up on the chain/fishing line to set the anchor in the sediments. Once the anchor is set you can pull harder to verify it is solidly anchored (Figure F).
16. Count the number of links that are exposed above the river bed and lay chain downstream. Record number of links on the data sheet or in the field notebook (Figure G).
17. Take note of the distance from both the left and right bank control points to the scour chain.
18. Repeat process for the other scour chains to be installed in the set.
19. After all scour chains have been installed conduct a perpendicular channel survey (see below for procedure). Scour chain location accuracy is extremely important for finding each scour chain in the future especially since some chains will be covered by sediments.
20. Also conduct a river discharge measurement at or near the site (see above for procedure).

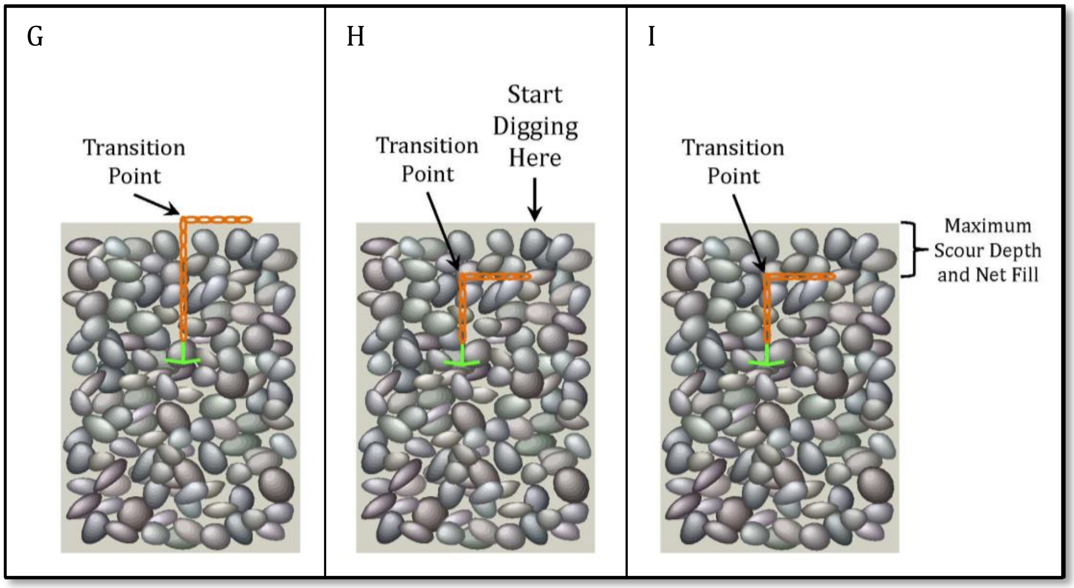

A
~6′
B
~2′
C
~2′


D
~2′
E
~2′
F
~2′

SCOUR CHAINS SCOUR/FILL MONITORING

This procedure will provide information on how to locate and measure scour chain data. Data collected at each chain will provide information on maximum scour since the last monitoring and net fill since last monitoring.

1. Locate both left and right bank control points.
2. Using a 100' or 200' tape, measure from the control points to the find the scour chain closest to the right bank (you can also start near the left bank if that is more convenient). Note – refer back to installation notes on datasheet or the field notebook to determine the location for each scour chain.
3. Once you have determined the location for the first scour chain, look to see if the chain is exposed. If the chain is not exposed on the river bed it may be buried under the sediments. Carefully and slowly dig just downstream of where the chain was installed. Dig until you find the chain and then slowly work upstream until the chain changes from lying horizontally to vertical. This transition point is the maximum scour depth. (Figure G & H)
4. Measure the vertical distance between the transition point and the river bed surface (see figures below). (Figure I)
5. Count the number of links from the transition point to the end of the chain. This can be used to verify the vertical measurement taken in step 4.
6. Hold scour chain vertically while excavated sediments are replaced.
7. Count the number of links that are exposed above the transition point (on the river bed surface).
8. Place the exposed chain on the river bed surface facing downstream.
9. Repeat process for other scour chains in the set.



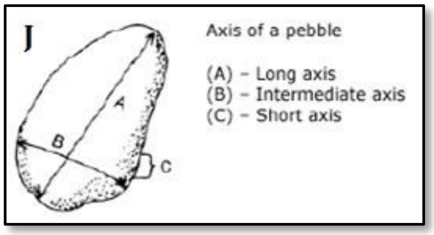
CHANNEL SURVEY

This procedure provides information for preforming a channel survey for scour/fill within a scour chain set. All changes are relative to the control point(s) established for the scour chain set (see above).

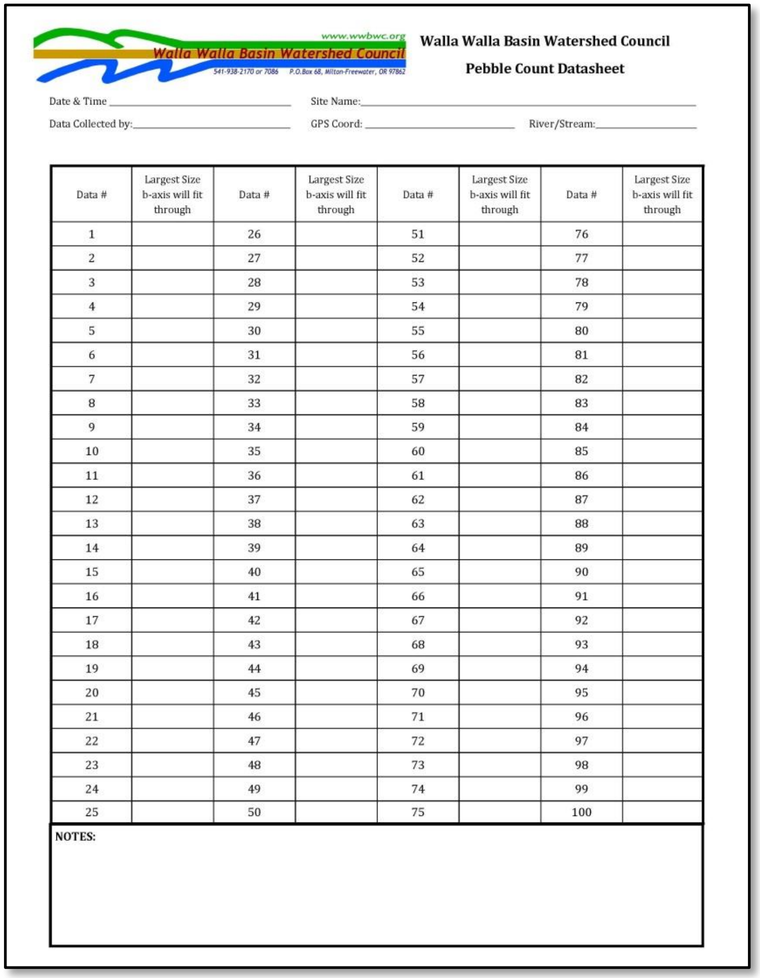
1. Place the laser level in a location where it will be visible when measuring at each scour chain in the set and visible at each control point.
2. Adjust laser as close to level as possible.
3. Turn on laser and allow it to auto level. Once the laser has leveled it should start spinning. If it does not the laser may be tilted too much and cannot level itself – turn the laser off, readjust it and turn it back on to auto level.
4. Stretch a 100' or 200' tape across the channel. Make sure the tape goes directly over each of the control points.
5. Take the stadia rod with the laser sensor attached to the control point on the right bank (you can start on the left bank if that is more convenient). Place the stadia rod on the control point and read the height with the laser sensor. Record laser height value, depth of water and the tape distance on the datasheet or field notebook.
6. Continue measuring height and tape distance values as you move across the channel until you reach the opposite control point. Make sure to capture changes in the river bed as well as important locations such as edge of water, gravel bars, thalweg and each scour chain.
7. Return to the first control point and measure the height and tape distance a second time to verify that the tape or the laser has not moved.

PEBBLE COUNTS

1. Select reach of the river for sediment particle size distribution (typically between two closely spaced scour chains sets).
2. Start transect randomly between the scour chain sets by throwing a rock along the stream edge. Take a step into the river, perpendicular to the flow, from that point and pick up the first pebble you touch with your index finger next to your big toe. Avert your eyes to prevent as much bias as possible when pick up pebbles.
3. Measure the intermediate axis (see Figure J below) by determining the smallest hole the pebble will fit through using the gravelometer. For embedded pebbles or those too large to pick up, use the side of the gravelometer to measure the shortest visible axis
4. Record info on the datasheet.
5. Take another step across the river and repeat the steps of picking and measuring pebbles until you reach the opposite bank. Once you reach the opposite bank, throw another rock and start back towards the first bank repeating the steps above.
6. Continue collecting pebble data until you have recorded 100 measurements.



PEBBLE COUNT DATA SHEETS



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Walla Walla Basin Watershed Council
541-938-2170 or 7086 P.O.Box 68, Milton-Freewater, OR 97862

Walla Walla Basin Watershed Council

Pebble Count Datasheet

Date & Time ____________________ Site Name: ____________________

Data Collected by: ____________________ GPS Coord: ____________________ River/Stream: ____________________

Data #	Largest Size b-axis will fit through	Data #	Largest Size b-axis will fit through	Data #	Largest Size b-axis will fit through	Data #	Largest Size b-axis will fit through
1		26		51		76	
2		27		52		77	
3		28		53		78	
4		29		54		79	
5		30		55		80	
6		31		56		81	
7		32		57		82	
8		33		58		83	
9		34		59		84	
10		35		60		85	
11		36		61		86	
12		37		62		87	
13		38		63		88	
14		39		64		89	
15		40		65		90	
16		41		66		91	
17		42		67		92	
18		43		68		93	
19		44		69		94	
20		45		70		95	
21		46		71		96	
22		47		72		97	
23		48		73		98	
24		49		74		99	
25		50		75		100	

NOTES:

Data Computation

Inches	PARTICLE	Millimeters		Particle Count	Total #	Item %	% Cum
< 0.08	Sand	< 2	**Silt/Clay/Sand**				
0.08—0.16	Very Fine	2—4	Gravels				
0.16—0.22	Fine	4—5.7					
0.22—0.31	Fine	5.7—8					
0.31—0.44	Medium	8—11.3					
0.44—0.63	Medium	11.3—16					
0.63—0.89	Coarse	16—22.6					
0.89—1.26	Coarse	22.6—32					
1.26—1.77	Very Coarse	32—45					
1.77—2.5	Very Coarse	45—64					
2.5—3.5	Small	64—90	Cobbles				
3.5—5.0	Small	90—128					
5.0—7.1	Large	128—180					
7.1—10.1	Large	180—256					
10.1—14.3	Small	256—362	Boulders				
14.3—20	Small	362—512					
20—40	Medium	512—1024					
40—80	Large	1024—2048					
80—160	Very Large	2048—4096					
	Bedrock		Bedrock				
			TOTALS				

SEEPAGE ANALYSIS

Seepage analysis protocols are discussed in the Seepage Report (found on the WWBWC website – www.wwbwc.org). The WWBWC performs seepage analyzes on multiple stream systems within the Walla Walla Basin to determine the water budget for each system and to determine gain/loss reaches. The primary measurement procedure used during a seepage analysis is a stream discharge measurement. The procedure described above for stream discharge measurements is used during seepage measurements.

WATER QUALITY MONITORING (FIELD MEASUREMENTS)

ODEQ, 2009. Water Monitoring and Assessment Mode of Operations Manual. Watersheds Quality Monitoring Field Sampling Standard Operating Procedure – Laboratory and Environmental Assessment Division. Version 3.2

WATER TEMPERATURE AND CONDUCTIVITY (YSI-30)

1. Check sensor calibration to NIST thermometer and standard conductivity solution (typically done in the office before field visit). Recalibrate if necessary.
2. Turn the YSI-30 unit on.
3. Make sure units are set to °C for temperature and to µs for conductivity. The °C should blink indicating the YSI-30 is in temperature compensating mode.
4. Gently place the sensor in the water. Make sure that the sensors are completely covered by water. Gently agitate the probe to ensure air bubbles are dislodged.
5. Allow the values to stabilize and then record on the data sheet or field notebook.
6. Replace the sensor in the holder and turn the unit off.

DISSOLVED OXYGEN

1. Connect the dissolved oxygen sensor to the meter.
2. Turn on the Thermo Scientific Orion 5-Star meter.
3. Check sensor calibration (typically done in the office before field visit). Recalibrate if necessary.
4. Make sure units are set correctly for dissolved oxygen (mg/L).
5. Gently place the sensor in the water. Make sure that the sensor is completely covered by the water.
6. Allow the value to stabilize and then record on the data sheet or field notebook.
7. Replace the sensor in the holder and turn the unit off.

PH

1. Connect the pH sensor to the meter.
2. Turn on the Thermo Scientific Orion 5-Star meter.
3. Check sensor calibration using a standard pH solution (typically done in the office before field visit). Recalibrate if necessary.
4. Gently place the sensor in the water. Make sure that the sensor is completely covered by the water.
5. Allow the value to stabilize and then record on the data sheet or field notebook.
6. Replace the sensor in the holder and turn the unit off.

CONDUCTIVITY

1. Connect the conductivity sensor to the meter.
2. Turn on the Thermo Scientific Orion 5-Star meter.
3. Check sensor calibration using a standard conductivity solution (typically done in the office before field visit). Recalibrate if necessary.
4. Gently place the sensor in the water. Make sure that the sensor is completely covered by the water.
5. Allow the value to stabilize and then record on the data sheet or field notebook.
6. Replace the sensor in the holder and turn the unit off.

TURBIDITY

1. Turn on the Hach 2100P Turbidimeter.
2. Check sensor calibration using a standard turbidity solution (typically done in the office before field visit). Recalibrate if necessary.
3. Collect water sample in glass vial and wipe clean. Insert the vial into the turbidimeter, cover and read the sample.
4. Record the value on the data sheet or field notebook.
5. Empty the vial and turn on the meter.

QUALITY CONTROL

QUALITY CONTROL FOR LABORATORY MEASUREMENTS

Field duplicates and blanks will be used to ensure quality control for lab samples.

- Field blanks: Once per sampling even a blank sample with known concentrations of the monitored constituent will be included in the samples sent to the analytical laboratory. The field blank will be purchased from a scientific supply vender.
- Field duplicates: Once per sampling event one additional sample will be collected from one of the sites.
- Analytical laboratory will also have internal QA/QC procedures to ensure data validation.

QUALITY CONTROL FOR FIELD MEASUREMENTS

FIELD RECORDS

Field notes and other pertinent data associated with the monitoring program will be maintained at the WWBWC office and archived for reference. Completeness of data sheets and chain of custody forms and verifying holding times for samples will also be used for data validation.

SURFACE WATER MONITORING

Surface water monitoring will use the following quality control measures:

- Measure a duplicate discharge measurement on approximately 5% of field visits.
- Field equipment will be maintained and calibrated to ensure proper operation and accuracy.
- Comparison of equipment to other equipment or rated structures (such as flumes, etc).
- Primary and secondary stage height values are referenced to benchmarks to ensure no elevation changes.
- Comparison of primary, secondary and laser level stage height values.

GROUNDWATER MONITORING

Groundwater monitoring will use the following quality control measures:

- Yearly comparison of E-tape measurements against other tapes.
- Duplicate groundwater level measurements during every field visit.
- If available, comparison of manual measurements to other agencies' data.
- Duplicate water sample for groundwater temperature and conductivity at approximately 5% of the sites.

WATER TEMPERATURE MONITORING

Water temperature monitoring will use the following quality control measures:

- Pre and Post data logger accuracy testing.
- Manual field checks during deployment.

WATER QUALITY MONITORING

Water quality monitoring will use the following quality control measures:

- Field equipment will be maintained and calibrated to ensure proper operation and accuracy.
- Duplicate samples will be taken at approximately 5% of the sites.
- Comparison of field and laboratory values.

DATA MANAGEMENT PROCEDURES

FIELD NOTES

IN THE FIELD

Data should be recorded on WWBWC datasheets (if available) printed on waterproof paper (Rite-in-the-Rain). Notes should be clearly and legibly written so data and remarks are easily read and interpreted. If a mistake is made, draw a single line through the bad data and record the data next to it. Do not erase or completely mark out mistakes. All datasheets should be completed as fully as possible during data collection.

AT THE OFFICE

Upon returning to the office scan all datasheets and place a scanned copy on the WWBWC server in the appropriate location and incorporated into the AQUARIUS database. After scanning the datasheets, use them to input the data into the appropriate software (AQUARIUS, Excel, etc.). After all data from the datasheet has been incorporated into the software, place the datasheet in the project's 3-ring binder.

DATA LOGGERS

IN THE FIELD

Data loggers should be downloaded during every site visit if practical. Data from the data logger should be downloaded and saved to the field laptop before the data logger file(s) is deleted or restarted to ensure data are not lost. After restarting a data logger take note of when the logger's memory will be full so a site visit can be scheduled before that date. Files should be saved in the following format: type of file (gh = gauge height, mmt = measurement and temp = temperature)_site number_data start date_data end date_downloader's initials. For a surface water example the file format for site S105 with stage data from March 1st, 2012 through July 15th, 2012 and downloaded by Steven Patten would look like: gh_S105_3-1-12_7-15-12_sp. For a groundwater example the file format for site GW_115 with water level (stage) data from May 1st, 2012 through September 29th, 2012 and downloaded by Steven Patten would look like: gh_GW115_5-1-12_9-29-12_sp.

AT THE OFFICE

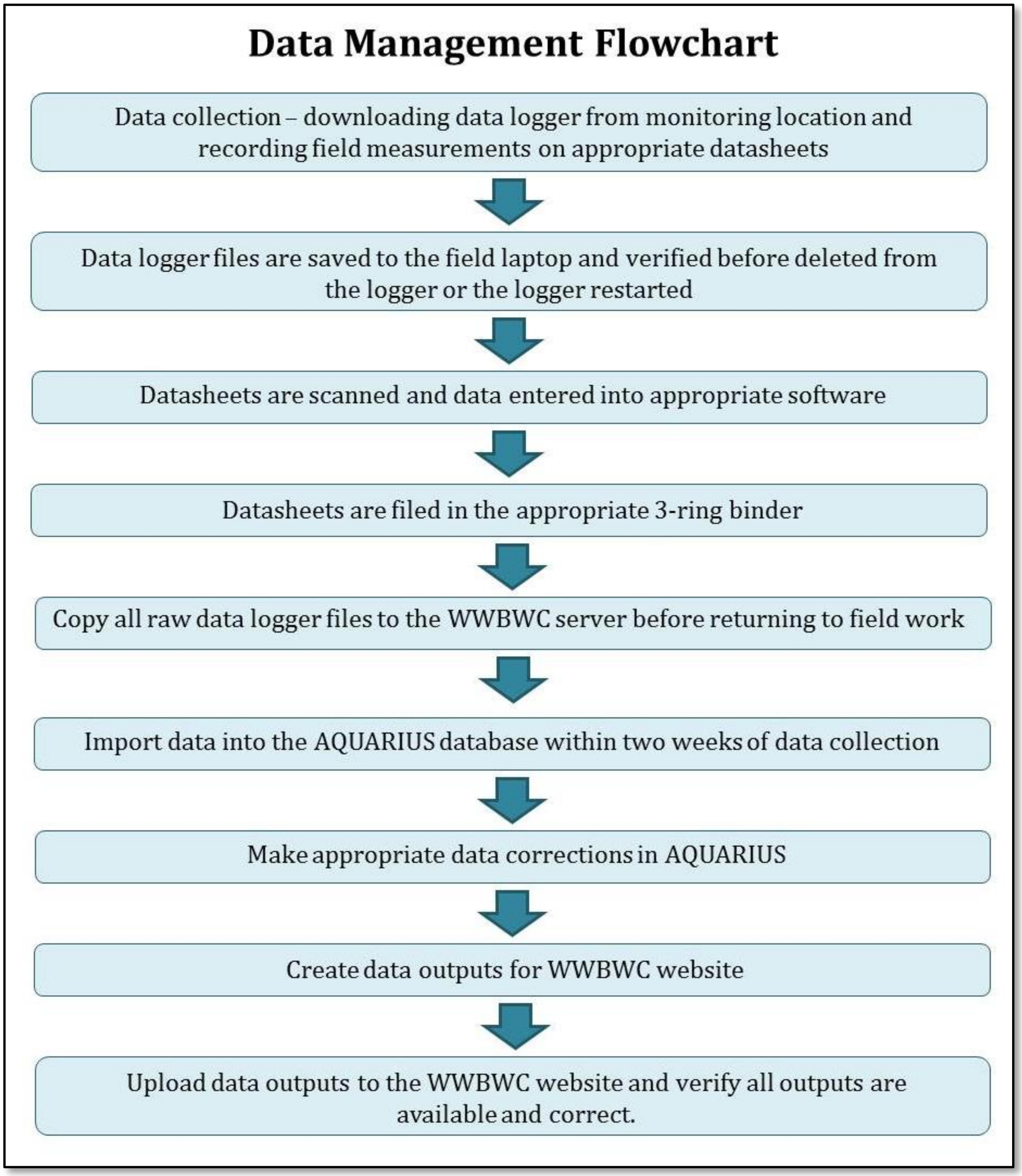
All raw data logger files collected during a day of field work should be transferred to the WWBWC server before going back out in the field to ensure data are not lost due to laptop failure or damage.

DATA INPUT (AQUARIUS)

Data should be incorporated into the AQUARIUS database within two weeks of data collection. Both manually collected data and data logger files should be imported into the AQUARIUS database. After data have been imported, data should be adjusted to account for stage shifts or cable length corrections. For surface monitoring locations, the rating curve should be checked to ensure the new discharge measurement does not indicate a change in the stream channel. If needed, adjust the rating curve with the new discharge measurement. After data are imported and corrected, outputs should be created including a hydrograph (or similar data graph), hourly data set for the entire range of data, and daily average data set for the entire range of data. All data in AQUARIUS should be rated as "unverified" until the end of the water year (Sept 30th) and a review of the entire water year's data can be completed.

DATA ACCESS (WWBWC WEBSITE)

AQUARIUS data outputs should be uploaded to the WWBWC's website (typically accomplished through Fling software). Verify that all data outputs have been successfully uploaded to the website for public and agency access. Data and information for each surface monitoring location includes: current hydrograph, hourly data set, daily average data set, rating curve, metadata and site photograph. Data and information for each groundwater monitoring location includes: current hydrograph, hourly data set, daily average data set, metadata and manual water level measurements.



Data Management Flowchart

Data collection – downloading data logger from monitoring location and recording field measurements on appropriate datasheets

Data logger files are saved to the field laptop and verified before deleted from the logger or the logger restarted

Datasheets are scanned and data entered into appropriate software

Datasheets are filed in the appropriate 3-ring binder

Copy all raw data logger files to the WWBWC server before returning to field work

Import data into the AQUARIUS database within two weeks of data collection

Make appropriate data corrections in AQUARIUS

Create data outputs for WWBWC website

Upload data outputs to the WWBWC website and verify all outputs are available and correct.

DATA SECURITY AND BACKUPS

All data incorporated into the AQUARIUS database or located on the WWBWC server has redundancy backup (i.e. stored on multiple hard drives through the use of RAID). The WWBWC server and AQUARIUS database are backed-up monthly and stored at the WWBWC office and off-site for additional security.

DATA QUALITY ASSESSMENT

INITIAL POSTING OF DATA/NEAR-REAL TIME DATA

All data posted to the WWBWC website should be considered provisional unless otherwise stated. Near-real time data from surface gauges and other sites goes through an automated process without constant human oversight. Data discrepancies will be fixed as soon as possible. Until data are reviewed and published (see below) data quality will remain "unverified" or "provisional" and are subject to change. Data may be given an initial estimated data quality (estimated excellent, good, fair or poor) however this quality rating should be considered provisional and subject to change during review.

DATA QUALITY REVIEW

After each water year (typically in October), "unverified" or "provisional" data will be reviewed by WWBWC staff and any necessary changes will be made. After any revisions, data quality will be changed to "published" and a quality grade will be assigned. The published data will be available at the WWBWC's website

DATA QUALITY RATING

SURFACE WATER

Surface water data will be given a quality rating based upon the following factors:

- Rating curve distribution and number of discharge measurements for rating curve development.
- Accuracy of discharge measurements to calculated discharge flow from stage data.
- Site maintenance issues including sediment build-up, vegetation growth, channel migration and other localized influences.
- Accuracy of individual discharge measurements including variation in duplicate discharge measurements.
- Gauge location (e.g. concrete structure, silty channel, or stable stream bed).
- Site manipulation (especially in irrigation canals or ditches).
- Data set completeness.

All stage height measurements will include a margin of error.

GROUNDWATER

Groundwater data will be given a quality rating based upon the following factors:

- Number of manual water level measurements.
- Accuracy of manual water level measurements to cable-length adjusted transducer data.
- Accuracy of manual water level measurements (e.g. cascading well, pumping well, etc.).
- Data set completeness

All manual water level measurements will include a margin of error.

TEMPERATURE

Temperature data will be given a quality rating based upon the following factors:

- Accuracy of data logger's Pre and Post deployment accuracy checks.
- Accuracy of field accuracy checks with thermometer (NIST or YSI-30).
- Data set completeness.

APPENDIX B – STANDARD OPERATING PROCEDURES FOR SAMPLING OF PESTICIDES IN SURFACE WATERS – EAP 003. ENVIRONMENTAL ASSESSMENT PROGRAM, WASHINGTON STATE DEPARTMENT OF ECOLOGY.

Washington State Department of Ecology

Environmental Assessment Program

Standard Operating Procedures for Sampling of Pesticides in Surface Waters

Version 2.1

Revised: Paul D. Anderson
Date: December 19, 2011

Reviewer : Debby Sargeant
Date: December 21, 2011

Author - Paul Anderson
Date - August 18, 2006

QA Approval William R. Kammin, Ecology Quality Assurance Officer
Date - February 8, 2012

EAP003

APPROVED: February 8, 2012

Signatures on File

SOP Revision History

Revision Date	Rev number	Summary of changes	Sections	Reviser(s)
4/21/2010		Updated staff requirements, Updated cleaning procedures for US DH 79 and 81 nozzles and caps Updated bottle size/type Updated (added to) replicate MS/MSD sample collect method.	4.1, 4.11.1, 6.3.5 5.2; 6.5.2; 6.5.5 8.1.1	Debby Sargeant
12/19/2011	2.1	Updated definitions Updated carbamate bottle and preserv. Updated use of DH-81 Changed DH-76 sampler to DH-95 Changed procedure for DH-76 to DH-95 Changed reference for DH-76 to DH-95	3.9 5.3; 6.5.2; 6.5.5 5.9; 6.4.2 5.10-5.10.7; 6.4.3 6.7-6.7.9 10.5	Paul D. Anderson

Environmental Assessment Program

Standard Operating Procedure for Sampling of Pesticides in Surface Waters

1.0 Purpose and Scope

1.1 This document is the Environmental Assessment Program (EAP) Standard Operating Procedure (SOP) for collecting samples to monitor pesticides in surface waters.

1.2 Monitoring pesticides in surface waters can and often does cover a wide range of objectives. Some studies are designed to look for a few specific chemicals and others are designed to look for a wide range of compounds. The term pesticide is used as a general term to group together many different use classes (herbicides, insecticides, and fungicides) of chemicals. For hydrophobic compounds a relationship between Total Suspended Solids (TSS) and pesticides may exist. This leads many monitoring projects to collect TSS samples alongside pesticide samples.

2.0 Applicability

2.1 This procedure is being used in the Washington State Department of Ecology Surface Water Pesticide Sampling Project. It is recommended that this procedure be followed by the Environmental Assessment Program when sampling surface waters to determine the presence and concentration of pesticides.

3.0 Definitions

3.1 Certificate of Analysis: Certificate provided by manufacturer ensuring bottles have been cleaned to EPA specifications.
3.2 EPA – Environmental Protection Agency
3.3 FISP – Federal Interagency Sedimentation Project
3.4 MSDS – Material Safety Data Sheet: These data sheets provide important information about a chemical’s properties along with health and safety data. Other information about the chemical manufacturer, fire-fighting procedures, protective equipment requirements, and spill clean up procedures are also provided.
3.5 MS/MSD – Matrix Spike/Matrix Spike Duplicate
3.6 MEL – Manchester Environmental Laboratory: Ecology laboratory that analyzes all pesticide samples.
3.7 TSS – Total Suspended Solids: A measure of the total amount of suspended material found in the water column.
3.8 US DH-81: depth integrating sampler designed by the USGS for use in wadeable rivers and streams between 1 and 4 feet.
3.9 US DH-95: depth integrating hand line sampler designed by the USGS for use in waters that are unsafe to wade but are not deeper than 15 feet and velocities not greater than 7.4 ft/sec.
3.10 US D-77: Teflon nozzle and cap for the US DH-81

3.11 USGS – United States Geological Survey

4.0 Personnel Qualifications/Responsibilities

4.1 Personnel collecting pesticide samples in surface waters should have prior experience conducting water sampling and should have a job classification equivalent to an Environmental Specialist 1 or higher.

5.0 Equipment, Reagents, and Supplies

5.1 1-liter manufacturer cleaned clear glass jars that are organic free with Teflon lid liners and a Certificate of Analysis

5.2 1000 milliliter manufacture cleaned amber glass jars that are organic free with Teflon lid liners and a Certificate of Analysis

5.3 20-milliliter manufacturer cleaned clear amber volatile organic analysis bottles that are organic free with Teflon lid liners and a Certificate of Analysis (preserved by MEL with 0.05 milliliter of acetic acid)

5.4 Coolers and wet ice

5.5 Talc-free Nitrile gloves

5.6 Sample tags

5.7 Chain of custody seals

5.8 TSS bottle (only necessary for studies collecting TSS samples)

5.9 US DH-81 (used in waters between 1 and 4 feet but still wadeable and that are not well mixed and have upstream water inputs) (Figure 1)

5.9.1 Wading Rod Handle and extension

5.9.2 Teflon US D-77 Caps pre-cleaned[1] to EPA specifications (EPA 1990) and wrapped in aluminum foil with dull side in

5.9.3 Teflon US D-77 Nozzles pre-cleaned to EPA specifications (EPA 1990) and wrapped in aluminum foil with dull side in

5.9.4 US DH-81A adapter

5.9.5 1-liter glass bottles that will fit US D-77 nozzle pre-cleaned to EPA specifications (EPA 1990) with opening covered by dull side of aluminum foil

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[1] The cleaning procedure for the sampling equipment that needs to be pre-cleaned is provided in Section 6.0.

5.10 US DH-95 (used in waters to deep or swift to safely wade but not deeper than 15 feet and velocities not greater than 7.4 ft/sec.) (Figure 2)

5.10.1 US DH-95

5.10.2 Hanger bar and pin used to attach sampler to rope or cable

5.10.3 A length of rope appropriate for the distance to be lowered to and into the water or a bridge crane with the appropriate length of cable

5.10.4 1-liter Teflon bottles with lids pre-cleaned to EPA specifications (EPA 1990)

5.10.5 Teflon nozzle holder cap pre-cleaned to EPA specifications (EPA 1990) and wrapped in aluminum foil with dull side in

5.10.6 Teflon nozzles (1/4" or 5/16") pre-cleaned to EPA specifications (EPA 1990) and wrapped in aluminum foil with dull side in

5.10.7 O-Ring retainer or rubber bands to secure the bottle in the sampler

5.11 Supplies Needed for Cleaning Sampling Equipment

5.11.1 Pesticide grade acetone and hexane – Acetone and hexane are not known to be carcinogenic or teratogenic. The MSDS for acetone can be found at http://www.vwrsp.com/msds/10/BJ0/BJ010-4.pdf and for hexane at http://www.sciencelab.com/msds.php?msdsId=9927187

5.11.2 Aluminum foil

5.11.3 Liquinox soap

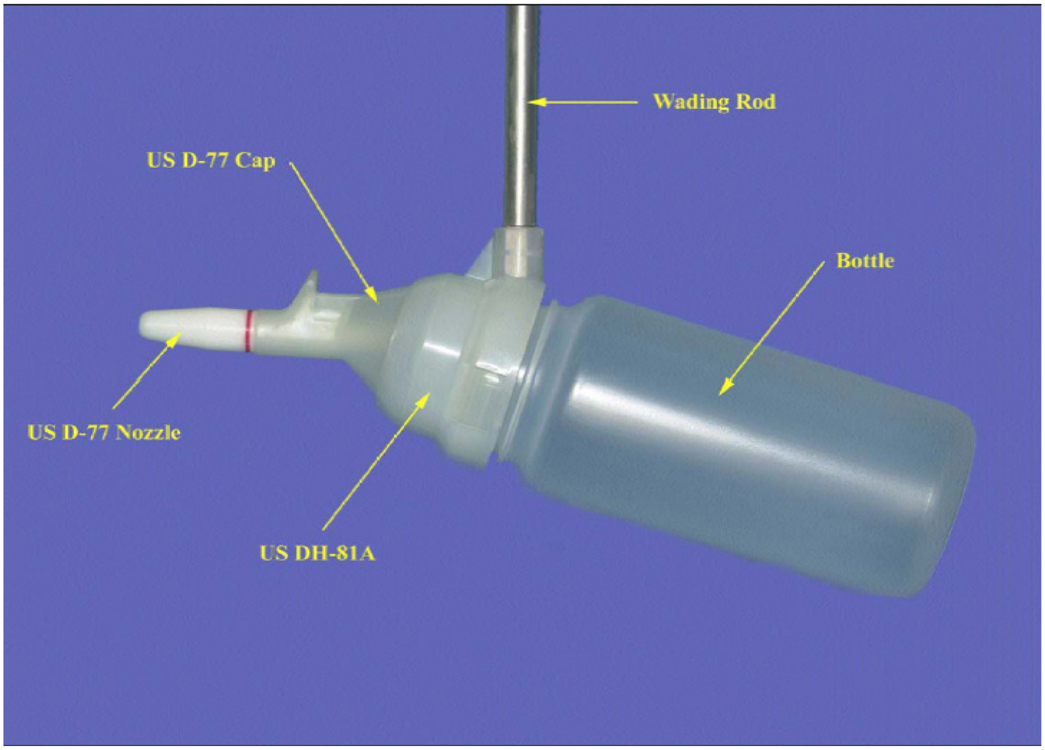

Figure 1. US DH-81 complete assembly.

Figure 2. US DH-95 complete assembly.

6.0 Summary of Procedure

6.1 General Sample Collection Techniques

6.1.1 Samples will be collected at quarter point transects unless the width of the river or stream makes doing so impractical or useless. A quarter point transect consists of collecting water at 3 points on a line perpendicular to the stream. The points are generally near the right and left bank and near the center of the river or stream.

6.1.2 Always collect the sample facing upstream to avoid collecting what is re-suspended by wading. In slow moving waters movement upstream after each transect may be necessary to avoid the plume of re-suspended material.

6.1.3 Always were Nitrile gloves when sampling. The use of the Nitrile gloves protects the sample from contamination from the hands of the sampler.

6.1.4 Take care not to bias the sample at any one depth of water. Pesticides may be distributed throughout the water column and by taking a sample at one depth the sampler may miss what is present elsewhere. Particular care should be taken to avoid collecting a disproportionate quantity of water or suspended sediment at the surface of the river or stream. Some pesticides may partition to the surface layer or sorb to bedload constituents. Collecting water in a single region may bias the concentration in the sample.

6.1.5 When possible keep the lid on the sample containers between transect points. This will avoid contamination from atmosphere and rain. This is not always possible and should be assessed on a case by case basis.

6.1.6 When possible keep the sample containers out of the sun during sample collection. In addition, use amber bottles for those pesticides susceptible to photolysis.

6.1.7 Fill sample containers to the shoulder. If testing for highly volatile products, sample containers should be filled to the top of container (no headspace). In this instance, volatile products are compounds with a Henry's Law constant greater than or equal to 10^{-3} atm*m^3/mole.

6.1.8 Take care not to disturb the substrate with the transfer bottle or collect anything from the substrate.

6.2 Handling of Sampling Equipment and Bottles

6.2.1 No part of any piece of sampling equipment that will come into contact with the sample during collection should be touched without wearing Nitrile gloves.

6.2.2 Never touch the inside of a sample container or Teflon lid liner even if wearing Nitrile gloves.

6.3 Pre-Cleaning Procedure for US DH-81 and DH-76 parts and bottles, or other pieces of equipment that will come into contact with the sample water

6.3.1 When cleaning sampling equipment follow all safety procedures and wear all necessary safety equipment as detailed in the Ecology Chemical Hygiene Plan.

6.3.2 Wash with hot tap water and brush with Liquinox detergent.

6.3.3 Rinse with tap water 3 times.

6.3.4 Rinse with deionized water 3 times and let drain.

6.3.5 Rinse with pesticide grade acetone and let dry in fume hood.

6.3.6 Rinse with pesticide grade hexane and let dry in fume hood.

6.3.7 Wrap in aluminum foil with dull side towards sampling equipment.

6.4 Types of Sampling

6.4.1 Grab Sampling – Water collection method using a handheld 1 liter jar in waters less than or equal to 1 foot.

6.4.2 US DH-81 Depth Integrated Sampling – Water collection method using a 1 liter jar attached to a nozzle that is raised and lowered in the water column by a metal handle. This method is used in waters greater than 1 foot but less than 4 feet in depth, not well mixed, and have upstream water input.

6.4.3 US DH-95 Depth Integrated Hand Line Sampling – Water collection method using a 1 liter jar placed in the housing of a weighted sampling devices lowered by a rope or cable. The US DH-95 method is used in waters greater than or equal to 4 feet but not greater than 15 feet in depth and with maximum velocities of 7.4 ft/sec.

6.4.4 Automatic Sampling – water collection method where an automated mechanical sampling device is used to collect water over a period of time or a time specified by the user. This is a specialized type of sampling and will not be covered in this procedures manual.

6.5 Grab Sampling

6.5.1 The sampler fills out a field sheet with the date, time, samplers, station name, method of collection, sample number, and weather observations. At this time the sampler will also fill out the sample label with all necessary information. This part of the procedure may be done in the office prior to sampling with the exception of the noting sample time and collection method.

6.5.2 The sampler will need 2 1000-milliliter amber bottles, 1 20-milliliter amber bottle, 1 1-liter transfer jar and 1 1-liter polypropylene bottle (optional). One of the 1000-milliliter bottles will be used for the herbicide analysis and the other will be used for the remainder of the pesticide analysis except for carbamates. The 20-milliliter bottle will be used for carbamate analysis. The 1-liter polypropylene bottle will be used for TSS.

6.5.3 The sampler will then take all of the containers and sample equipment to the sample site and put on Nitrile gloves.

6.5.4 The sampler removes the lid from the transfer jar.

6.5.5 The sampler then uses the 1 liter transfer jar to collect water at each point of the transect. The 1000 milliliter amber bottles will be filled by compositing 1/3 of the transfer bottle from each point of the transect. This equates to filling the 1000-milliliter jar 1/3 full at each point on the transect. In most cases a small amount more from each point will be needed to fill the jar to the shoulder. The 20-milliliter bottle and the 1-liter polypropylene bottle will be filled 1/3 full from each transect point.

6.5.6 After each sample container has been filled the sampler will place a sample tag with the date, time, study name, station name, laboratory sample number, and type of analysis filled out. Take care to make sure the proper tags are placed on the correct sample containers.

6.5.7 Once the sample containers are labeled the samples must be put in ice in a cooler. Placing the samples in a cooler in ice will bring down the temperature and preserve the samples before they are extracted and analyzed.

6.5.8 Upon return to the point of departure the sampler will need to fill out a laboratory analysis required sheet and place chain of custody seals on the cooler(s). Laboratory analysis sheets and chain of custody seals may be found at the Operations Center or may be obtained from MEL.

6.6 Sampling Using the US DH-81 Depth-Integrating Sampler

6.6.1 The sampler will follow most of the directions listed above in the grab sampling section. What is described here pertains mainly to the set-up and use of the US DH-81 depth integrating sampler.

6.6.2 Before leaving the van screw the DH-81A adaptor to the wading rod. All other parts of the US DH-81 should be left wrapped in foil until reaching the sample location.

6.6.3 Follow procedures 6.4.2-6.4.4. Sampling equipment for the US DH-81 are the US D-77 cap and nozzle, US DH-81A, and wading rod.

6.6.4 Remove the foil from the US D-77 nozzle and D-77 cap and put them together. Place the single piece into the US DH-81A and turn the piece to lock it in place.

6.6.5 Remove the foil from the opening of the 1-liter pre-cleaned sample jar that fits the DH-81 and screw it into the UD D-77 cap. The US DH-81 is now fully assembled.

6.6.6 Fill the bottle at each transect point by moving the assembly up and down in the water column. The rate of movement up and down depends on the velocity of the water. If the water moves fast then the rate will be fast. If the water is slow then the rate will be slow. The rate of upward and downward movement determines how much water from each part of the water column enters the bottle. Rate of movement should be consistent in the vertical profile and between transect points at individual sample sites.

6.6.7 Once the bottle is full unscrew it and put the water into one of the sample containers. Repeat this process following procedure 6.5.5.

6.6.8 Complete sampling following procedures 6.5.6-6.5.8.

6.6.9 When sampling at the station is complete, remove the US D-77 cap and nozzle out of the US DH-81A and place it in a bag for cleaning. These pieces are expensive and should be re-used.

6.6.10 Further information on the use of the US DH-81 may be found in the Operator's Manual for the US-DH-81 Depth Integrating Suspended-Sediment Sampler, produced by the Federal Interagency Sedimentation Project (FISP).

6.7 Sampling Using the US DH-95

6.7.1 The sampler will use most of the procedures described in the grab sampling section. What is described here mainly pertains to the set-up and use of the US DH-95 sampler.

6.7.2 Follow procedures described in the Grab Sampling section (6.5.1-6.5.3. Sampling equipment for the US DH-95 is the sampler, cap and nozzle, 1-liter Teflon bottle, O-Ring or rubber band, hanger and pin, and rope or bridge crane with cable.

6.7.3 Once at the sample site remove the sampler from the box and attach the hanger using the pin. Tie the rope to the hanger using a secure knot or attach the cable from the bridge crane. If possible tie the bitter end of the rope or secure the bridge crane to a solid object to prevent loss of the sampler.

6.7.4 Remove the nozzle and cap from the foil and screw the nozzle into the cap. Make sure that the nozzle is only finger tight. Remove the cap from the bottle and screw the bottle onto the cap and nozzle. Place the entire set-up into the sampler and secure it with an O-Ring or rubber band.

6.7.5 Lower the sampler to the water at the first transect point. Lower the sampler into the water until the tail of the sampler just touches the bottom. Move the sampler up and down until the sampler is filled to 80% or 800 milliliters. Movement should be at a constant rate and the same at each transect point.

6.7.6 Raise the sampler set it up on ground making sure not to let the nozzle come into contact with any surface. If using a bridge crane keep the sampler suspended. Remove the bottle and fill each sample container 1/3 full. Repeat this process following procedure 6.5.5.

6.7.7 Complete sampling following procedures 6.5.6-6.5.8.

6.7.8 When sampling is complete, remove the cap and nozzle put them in a bag for cleaning and re-use. Parts are cleaned and re-used because they are expensive. Remove the hanger and rope from the sampler and put the sampler back in it box.

6.7.9 Further information on the use of the US DH-95 may be found in the Sampling with the US D-95TM Depth-Integrating Suspended-Sediment Sampler, produced by FISP.

7.0 Records Management

7.1 For each site where pesticides samples are collected, the following must be recorded in a field book:
7.1.1 Station name
7.1.2 Date and time of collection
7.1.3 Person or persons collecting samples
7.1.4 Weather observations
7.1.5 Method used for collection
7.1.6 Any field notes that may be pertinent to the investigation (e.g., dead fish)
7.2 All incoming MEL data should be stored in an organized manner for easy retrieval and review at a later date (e.g., File folders with the week number and date).

8.0 Quality Control and Quality Assurance Section

8.1 Field Quality Control Samples

8.1.1 Replicate Samples: Replicate samples consisting of two samples collected at the same time or in series should be included at the discretion of the project lead. Water for the replicate sample shall be collected at the same time as the regular sample at each point on the transect. These samples will estimate the total random variability (precision) of individual results.

8.1.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples: MS/MSD samples consisting of 2 extra volumes of water collected at one station should be included at the discretion of the project lead. These samples are used to evaluate the potential for significant bias in the results due to the interference of the water matrix.

8.1.3 Field Blanks (transfer blanks): A transfer blank is prepared by filling a sample container with pure water during routine sample collection to check for possible contamination from the surroundings. The transfer blank will also detect contamination from the containers or from cross-contamination during transportation and storage of the samples. Transfer blank samples should be included at the discretion of the project lead.

8.2 Results Quality Control

8.2.1 After MEL performs the sample analysis and obtains numerical results the analyst and the lab QA/QC officer will review data and write up a case narrative. The results and narrative will be compiled into a report.

8.2.2 After laboratory review the report will be given to the project lead or other designated project personnel. The person receiving the report will review the results and case narrative and look for any errors, omissions, or inconsistencies. It is the responsibility of the reviewer to investigate any issues and notify the project lead.

9.0 Safety

9.1 Field work done in connection with collecting pesticide samples in surface waters should follow the protocols described in the Environmental Assessment Program Safety Manual, paying special attention to those parts devoted to working in rivers and streams and working near traffic and from bridges.

10.0 References

10.1 Ecology. 2006. Environmental Assessment Program Safety Manual. Washington State Department of Ecology. Olympia, WA.

10.2 Ecology. 2006. Chemical Hygiene Plan & Hazardous Materials Management Plan. Washington State Department of Ecology. Olympia, WA.

10.3 EPA. 1990. Specifications and Guidance for Obtaining Contaminant-Free Sample Containers. OSWER Directive #93240.0-05.

10.4 FISP. 2001. Operator's Manual for the US DH-81 Depth-Integrating Suspended-Sediment Sampler. http://fisp.wes.army.mil/Instructions%20US_DH-81_010612.pdf

10.5 FISP. 2000. Sampling with the US D-95TM Depth-Integrating Suspended-Sediment Sampler. http://water.usgs.gov/fisp/docs/Instructions_US_D-95_000608.pdf

APPENDIX C – REVIEW OF PREVIOUSLY COLLECTED SOURCE WATER AND GROUNDWATER QUALITY DATA FROM ALLUVIAL AQUIFER RECHARGE PROJECTS IN THE WALLA WALLA BASIN, WASHINGTON AND OREGON

Contents

Introduction

Present and future alluvial aquifer recharge (AR) projects in the Walla Walla Basin (the Basin) must proceed with the assurance that these projects not only provide recharge to the alluvial aquifer but also that the additional recharge does not degrade native, or background, groundwater quality. Traditionally water quality monitoring focuses on project-by-project and/or site specific up-gradient and down-gradient sampling. For Walla Walla Basin AR projects this has resulted in each individual AR site having a water quality monitoring program specific to that site, and independent of other AR sites.

In reviewing water quality data collected at multiple AR sites in the Basin, Walla Walla Basin Watershed Council (WWBWC) staff and consultants have made a preliminary observation that AR in the Walla Walla Basin has not resulted in detectable degradation of native groundwater quality. Given this preliminary observation and the desire to streamline water quality monitoring associated with multiple, but inter-related AR sites, the WWBWC decided to do a more comprehensive review of the historical water quality monitoring data collected at the four AR sites it has worked on since AR began in the Walla Walla Basin in 2004. Two of these sites, Hall-Wentland and Hulette Johnson (formerly referred to as the Hudson Bay site) are located in Oregon. The other two, Locher Road and Stiller Pond, are located in Washington (Figure 1). Based on that effort the WWBWC, would like to eliminate synthetic organic compounds (SOC's) from the analyte list for the proposed multi-site AR monitoring program.

This report presents the results of this review of available AR water quality monitoring data, and WWBWC's recommendations for a single, multi-site water quality monitoring program to be used in lieu of a series of independent site-specific monitoring efforts, including the elimination of SOC sampling from normal AR monitoring for the proposed multi-site AR project.

To that end, the purpose of the analysis is twofold:

1. Evaluate water quality data collected before, during, and following various AR events at the four AR sites in an effort to identify analyte trends that may indicate any possible negative or positive effects with respect to water quality on the alluvial aquifer from AR operations.
2. Using that evaluation, propose removing synthetic organic compounds (SOC's) from the list of sampled parameters is plausible.

The remainder of this report focuses on a review of water quality data collected to-date at each of the four AR sites, the evaluation of the impacts of AR on groundwater quality, and recommendations for the scope of a potential future multi-site AR monitoring effort that eliminates expensive and time consuming SOC sampling. Details of AR operations at the four sites are found in Kennedy/Jenks (2006), GSI (2007a, 2007b, 2008a, 2008b, 2009, 2012), and WBWC and GSI (2010). Alluvial aquifer geology and hydrogeology are discussed in detail in Newcomb (1965), Barker and McNish (1976), and GSI (2007c).

Alluvial Aquifer Water Quality

Alluvial aquifer water quality data collected from the various AR sites and evaluated for this effort varies from site-to-site. However, they generally included field parameters, major ions, nutrients (nitrate-N, total Kjeldahl nitrogen (TKN) and ortho-phosphate), PCB's, bisphenol-A (BPA), and agricultural synthetic organic compounds (SOC's).

AR Site Water Quality Findings

Hulette Johnson

The Hulette Johnson site (Figures 1 and 2) is a fully developed AR site that has been in operations since 2004. Both recharge basins and infiltration galleries are used at this site. It is the most up-gradient of all the sites evaluated herein (WWBWC, 2012) and is located about 2 miles northwest of Milton-Freewater, Oregon. Water quality data used in this evaluation come from two monitoring wells (HJ-1 and HJ-2) and from the source water intake at the site. The source water is Walla Walla River water delivered to the site via the White Ditch operated by HBDIC. This site has been operated under a Limited License issued to the HBDIC.

The samples evaluated herein were collected periodically between 2006 and 2012. Water quality parameters evaluated from the Hulette Johnson site include nitrate-N, total Kjeldahl nitrogen (TKN), ortho-phosphate, chloride, total organic carbon (TOC), total suspended solids (TSS), total dissolved solids (TDS), hardness, and a suite of synthetic organic compounds (SOC's). Field parameter data, consisting of pH and electrical conductance (EC), where only collected at this site during its early years of operation. Plots for many of the parameters collected at this site are provided in Appendix A.

A range of source water and groundwater quality relationships are found in the Hulette Johnson site data. Some parameters display higher values in groundwater, while others display higher values in the source water. In other data sets groundwater quality parameter values are similar to those from source water samples. Specific observations are as follows.

Ortho-phosphate, nitrate-N (nutrient type parameters) and TDS generally are lower in source water during the same sampling events as compared to local groundwater. Slightly negative correlations (Table 1) between both source and alluvial groundwater ortho-phosphate data with sampling dates over time suggest that with respect to this parameter groundwater quality is not degraded but improved during AR operations. Groundwater nitrate-N concentrations have a slightly positive (0.02) correlation to sampling date but source water nitrate-N has a negative correlation (-0.45). The slightly increasing nitrate correlation in groundwater with sampling date over time, as compared to decreasing correlation in surface water, is interpreted to show that surface water introduced via AR is not degrading groundwater quality.

Chemical oxygen demand (COD) data exhibit no trends in groundwater and surface water, but do show generally values with the range of concentrations measured to-date in both systems overlapping (Appendix A Figure A-12). A slightly negative correlation between the data from each sampling location at this site and the sampling date suggests that groundwater quality at this site is not degraded but improved with respect to organic constituents.

TKN and TOC in groundwater and surface water generally show similar values with the range of concentrations measured to-date in both systems overlapping (Appendix A Figures A-17 and A-19). A slightly negative correlation (TKN = -0.31, TOC = -0.52) between the data from each sampling location at this site and the sampling date suggests that groundwater quality at this site is not degraded but improved with respect to TKN and TOC.

Chloride and TSS in source water generally is the same as, or higher than is seen in local groundwater (Appendix A Figures A-15 and A-13). The parameter concentrations measured to-date are low in general and suggest no contamination issues related to TSS and chloride. A positive correlation of chloride data to sampling date (0.54) suggests that chloride in groundwater may be increasing slightly over time. TSS source water data also has a positive correlation to sampling date (0.11), also suggesting that it could be slightly increasing over time. For both parameters though negative correlation in groundwater of -0.03 for chloride and -0.54 for TSS is interpreted to show that AR is not degrading local groundwater quality with respect to these two parameters.

Bisphenol-A (BPA) is the only ***SOC*** at this site with repeat detections, being detected intermittently in site groundwater between 2008 and 2012. BPA has not been detected at this site in source water. To-date, these measured BPA concentrations are two orders of magnitude lower than EPA toxic levels for aquatic organisms. EPA toxic levels for aquatics are between 1100 and 10,200 µg/L for aquatic organisms (EPA, 1988). Insufficient data is available for statistical and long term trend evaluation of BPA at this site.

In summary, these data are interpreted to show that to-date, AR operations at the Hulette Johnson site generally have not lead to degradation of local groundwater. Nutrients in source water are lower than seen in groundwater; therefore if they have any influence on groundwater, they decrease down gradient concentrations. Although Chloride and TSS are higher in source water, the relatively low concentrations seen in local groundwater are interpreted to reflect a minimal impact on local groundwater quality by AR operations. With respect to other parameters TDS, TKN, and TOC in both groundwater and surface water overlap to such a degree that they are interpreted to reflect a similar origin and AR operations has a minimal influence on them. SOC data collected to-date do not show any impact to groundwater by AR activities. BPA when found in groundwater is not detected in source water, suggesting its introduction to groundwater via other means than AR activity at this location.

Hall-Wentland

The Hall-Wentland site (Figures 1 and 3) hosted AR activity between 2006 and 2009. This site is located 4 miles southwest of Walla Walla, WA and about 6 miles northeast of the Hulette Johnson site. The Hall-Wentland site is on irrigated pasture and adjacent cropped ground which was flooded for AR operations. Water was delivered to the Hall-Wentland site via a small canal, the Wells ditch. Wells ditch is sourced from a weir structure on the East Branch of the Little Walla Walla River less than one mile south-southeast of the site. When operated, this AR project was operated under a Limited License issued to the WWRID, but operated by a local land owner.

WQ samples were collected in 2006, 2007, 2008, and 2009 from one up-gradient monitoring well (HW-2), two down-gradient monitoring wells (HW-1 and HW-3), and from source water before, during, and after AR operations. Parameters used in this evaluation of AR influences on groundwater at the Hall-Wentland site include pH, EC, turbidity, nitrate-N, hardness, TDS, chloride, and SOC's. Plots for these data are provided in Appendix B. As with the Hulette Johnson site, water quality data from the Hall-Wentland site shows that for some constituents source water and groundwater geochemistry are similar, while for others they differ, but without a significant change, or degradation, in groundwater conditions resulting from AR operations.

With respect to the ***field parameters (pH and EC)*** source water pH generally is higher than groundwater pH, and while there is a slight increase in down-gradient pH the differences between the two are small (Appendix B Figures B-13 and B-14), and up-gradient to down-gradient changes are not consistent. Source water EC generally is lower than groundwater EC, and groundwater EC does not show any clear up-gradient to down-gradient changes that are interpreted as indicative of AR influences on groundwater quality (Appendix B Figure B-14). These trends are exemplified with a positive correlation (0.23) between pH and sampling date over time in source water and slightly negative correlations between groundwater data sets (-0.05, -0.23 and -0.23 for HW-1, HW-2 and HW-3 respectively).

Turbidity also appears to be generally higher in source water when compared to groundwater. With that though, there is no readily apparent increase in groundwater turbidity from up-gradient to down-gradient at the Hall-Wentland site (Appendix B Figure B-15). This likely reflects the filtration of fines from the source water as it migrates through the vadose zone to the water table.

Source water generally displays lower values for ***hardness, TDS, and nitrate-N*** than groundwater (Appendix B Figures B-16 and B-19). Given that, if there were significant changes in groundwater quality caused by AR operations at the Hall-Wentland site one should expect to see up-gradient to down-gradient decreases in these parameters. Such trends are not readily apparent in the data collected to-date. Negative correlations (see Table 1) between source and groundwater samples at this site for all but one sampling location (HW-3, which is the furthest down-gradient) indicate that groundwater quality with respect to TDS could have improved due to AR at this site. All sampling locations at this site exhibited positive correlations between nitrate values and sampling dates over time (See Table 1). Being that groundwater values are higher than source water values (Appendix B Figure B-19), it is most likely that nitrate-N levels in groundwater are influenced by other activities than AR.

Ortho-phosphate in groundwater and surface water generally show similar values with the range of concentrations measured to-date in both systems overlapping (Appendix B Figure B-20). Positive correlations between ortho-phosphate values and sampling times (See Table 1) showed that values increased over the time of sampling at this site.

The ***chloride*** data collected during Hall-Wentland operations contains some anomalously high values which may mask a trend indicative of AR influences on groundwater quality (Appendix B Figure B-18). Although chloride concentrations generally are low in both groundwater and source water (<5 mg/L) high and low source water values do seem to generally be reflected in down-gradient increases and decreases. Given that though, negative correlations between chloride data and sampling dates over time for all sampling locations at this this site suggest that chloride over time could be decreasing.

Three ***SOC's, di(ethylhexyl)-phthalate, diethyl phthalate, and Malathion***, were detected in 4 different sampling events. However, in only one sampling event were SOC's (di(ethylhexyl)-phthalate and diethyl phthalate) detected in the source water. In all cases, the detected concentrations were below EPA drinking water standards, as follows:

- Di(ethylhexyl)-phthalate values ranged from 1.6 to 4.1 µg/L. The EPA drinking water standard is 6.0 µg/L.
- Diethyl phthalate values ranged from 0.5 to 2.2 µg/L. The EPA drinking water standard for diethyl phthalate is 5000 µg/L.
- Malathion was detected only for the 04/11/07 sampling event in the three wells and not in the source water. Malathion levels ranged 0.3 to 0.4 µg/L. This is far below the EPA drinking water standard of 500 µg/L.

Insufficient data is available for statistical and long term trend evaluation of SOC's at this site.

In summary data from the Hall-Wentland site are interpreted to show that AR operations generally had little or no significant influence on local groundwater quality. There are likely several reasons for this, including:

- The general similarity of the source water and the groundwater at the Hall-Wentland site may be related to the location and leaky nature of the Wells ditch with respect to the monitoring wells and the AR site. Wells ditch was shown during work on the AR project to be a leaking ditch, supplying recharge to local groundwater. The ditch is in-turn located up gradient of the up gradient well, HW-2. Given this relationship, water leaking from the canal to the aquifer has already influenced local groundwater up gradient of the AR site, masking any potential AR site influence on local groundwater. This relationship is one we have come to expect across much of the Basin, the surface water system contributes significant recharge to the alluvial aquifer, and as such, exerts a strong influence on local groundwater quality quite independently of any AR activity.
- For some constituents the soil column (vadose zone) acts as a filter and these constituents are held up, or filtered, by the soil column as water infiltrates from the surface to the underlying alluvial aquifer.
- In other cases, where constituents are present in groundwater but not in source water, such as is usually the case with SOC's, we infer that these entered the groundwater system at a location(s) other than the AR site.

Based on what was seen at the Hall-Wentland site when it was operated, AR activity may have influenced down-gradient water quality, but the changes from up to down-gradient are relatively small, with the total potential change caused by AR less than variation occurring independent of AR resulting from natural (or normal) canal and ditch operations. With that though, even normal operation generally appears to not cause degradation of the underlying alluvial aquifer.

Locher Road

The Locher Road site is an excavated basin specifically designed for AR located within a larger, inactive gravel pit. It is cross gradient of the Hall-Wentland site and down gradient from the Hulette Johnson site. It is located about 5 miles southwest of College Place, WA (Figures 1 and 4). AR operations occurred seasonally at the site in 2006, 2007, 2008, 2009, 2011, and 2012. The Locher Road site is operated by GFID#13 under an agreement with the owner of the site.

Water quality samples have been collected from one up gradient monitoring well (L-1), two down gradient monitoring wells (L-2 and L-3), and from the source water diversion on GFID's Burlingame Canal. Parameters used in this evaluation of potential AR influences on the alluvial aquifer include the field parameters pH and EC, turbidity, nitrate-N, hardness, TDS, chloride, and SOC's. Plots for these data are provided in Appendix C.

Locher Road groundwater monitoring data is interpreted to show that AR at this site does influence groundwater quality. In addition, some of the data may show the influence of local land uses.

TDS, hardness, and EC data are interpreted to show up gradient to down gradient decreases directly related to AR. Generally source water values are lower than down gradient groundwater, and down gradient groundwater values are lower than up gradient (Appendix C Figures C-15, C-16 and C-12). Scatter plot trends and positive correlations between TDS data and sampling dates over time for all site source and all groundwater datasets indicates a slight increasing trend over time. However, this trend appears to be slight enough as to not be indicative of any groundwater degradation by AR operations at the site (Appendix C Figures C-5, C-15 and Table 1). EC at this site exhibits slightly increasing trends on scatter plots and positive correlations between EC values and sampling dates over time in source water and all monitoring wells except the up-gradient well LR-1 which exhibits a slightly negative trend and negative correlation (Appendix C Figures C-2, C-12 and Table 1). However actual values of EC from LR-1 average higher than all other locations and source water at this site which is typical for up-gradient conditions. LR-1 is very close to the recharge basin and the decreasing trend and negative correlation with sampling date over time could be due to some groundwater dilution caused by possible groundwater mounding from AR.

Chemical oxygen demand (COD) show concentration ranges where both source water and groundwater overlap (Appendix C Figure C-14 and Table 1). These data are interpreted to show that there are no trends in groundwater and surface water.

Locher Road site ***nitrate- N*** data is interpreted to in part reflect groundwater impacts unrelated to AR operations. Source water nitrate-N is very low and prior to 2009 there was an up gradient to down gradient decrease in constituent concentration that is interpreted to result from source water dilution of groundwater nitrate -N. In the 2009, 2011, and 2012 there is elevated nitrate-N in the most down gradient well, L-2, while source nitrate-N is extremely low, less than 1 mg/L. Elevated nitrate-N in well L-2 is interpreted to be because the well is down gradient of an actively farmed field and results from fertilizer application on that field, and not AR operations. Box-plot analysis and positive correlation coefficient comparisons between sampling location datasets at this site indicate dilution of groundwater with respect to nitrate-N in a down gradient direction (Appendix C Figure C-18 and Table 1). This is interpreted to show no alluvial groundwater quality degradation, but possibly improvement, because of AR operations with respect nitrate-N.

Source water generally displays lower values for ***ortho-phosphate*** than groundwater. These values do trend together and are relatively close suggesting a common source of ortho-phosphate for both systems. These observations can be seen in box-plots comparing sampling location datasets for this site (Appendix C Figure C-19). Source water ortho-phosphate correlation with sampling date over time is slightly positive but moderately negative for all monitoring wells. This suggests that AR operation at Locher Road does not degrade alluvial groundwater quality with respect to ortho-phosphate.

Chloride, pH, and turbidity data are less clear, and at this time are interpreted to show that source water and local groundwater have many similarities. With that general interpretation groundwater chloride generally is higher than source water, groundwater pH generally is lower, and turbidity does not seem to show a clear trend because of intermittent elevated levels in L-1. On box-plots, source and groundwater chloride ranges overlap, further illustrating the similarity between them (Appendix C Figure C-17). Turbidity does exhibit slightly negative correlations with sampling dates over time suggesting some possible flushing of fine materials from the alluvial aquifer in the vicinity of Locher Road due to AR (Table 1).

With respect to ***SOC's***, the Locher Road SOC data collected in 2007 and 2008 is similar to the other SOC data sets, showing intermittent low concentration detections of just a few parameters ***(Bromacil, Malathion, Di-N-Butyl-Phthalate)***, although these parameters differ somewhat from the other sites. Bromacil is detected in some of the up gradient groundwater samples, but not in the down gradient samples, suggesting potential down gradient dilution from AR activities. The other low concentration SOC detections for Malathion (detected once in all three wells) and Di-N-Butyl-Phthalate (detected in 2 sampling events in 2007) are sporadic, low concentration in nature, and show down gradient reduction in concentrations when seen. These are interpreted to show that Locher Road AR activities are not causing degradation of local groundwater by introducing SOC's to the alluvial aquifer system. Insufficient data is available for statistical and long term trend evaluation of SOC's at this site.

Stiller Pond

The Stiller Pond AR site is an artificial pond that has been used historically as an irrigation water storage impoundment. Unlike the other three sites it is located north of the Walla Walla River and several miles west of Walla Walla (Figure 1 and 5). The source of water for the Stiller Pond site is Mill Creek, and water is delivered via a pipeline that extends from the creek to the site. The Stiller Pond site was operated by the WWCCD, under an agreement with the land owner.

AR operations first began at Stiller Pond in the spring of 2012 and lasted approximately 3 weeks. During this AR event water quality samples were collected at one down gradient well and from the source water. Parameters used in this evaluation of potential AR influences on the alluvial aquifer include the field parameters pH, EC, dissolved oxygen (DO), and oxidation-reduction potential (ORP) and hardness, chloride, magnesium, TDS, nitrate-N, phosphate, and TKN.

SOC's were not collected at the Stiller Pond site. Comparative histograms for the data collected are provided in Appendix D.

Like the other AR sites described herein, at Stiller Pond, the influence of AR operations on local groundwater is apparent but impacts are not major and do not appear to lead to degradation of local groundwater quality. Specifically:

- Pre- and post-test groundwater and source water ***pH*** remained relatively consistent.
- ***EC and ORP*** appear to have decreased as a result of AR activities, with the down gradient well dropping soon after the start of AR operations and infiltration of low EC and anion source water.
- ***Chloride, hardness, magnesium, and TDS*** were all lower following the AR event. This is again inferred to result from dilution of groundwater constituents as low concentration source water infiltrated to and recharge the local alluvial aquifer.
- Nutrient concentrations, which include ***nitrate-N, phosphate, and TKN*** are interpreted to show that AR at this site did not degrade groundwater quality. TKN was elevated slightly in the post-recharge sample, but this was expected due to the introduction of additional organic nitrogen, ammonia and ammonium to the groundwater via recharge through the biomass on the surface of the Pond in the form of decaying plant matter. This slight rise in TKN is not interpreted to reflect groundwater degradation because the slight increase in TKN did not correspond to a matching increase in nitrate-N. In fact, nitrate-N decreased in groundwater following the AR event.

Basic water quality parameters summarized above are interpreted to show that AR activities at the Site did not degrade groundwater quality during the 2012 AR season. This data, especially the fact that pre-test groundwater concentrations in most parameters are higher than post-test groundwater concentrations and source water, suggests AR operations at the Site may lead to reductions in parameter concentrations as recharge water is added to the alluvial aquifer underlying the Site.

Summary

Review of the groundwater quality monitoring data collected to-date at the three active AR sites, Hulette Johnson, Locher Road, and Stiller Pond and at the inactive Hall-Wentland site we conclude that while AR operations conducted in the Walla Walla Basin does influence local groundwater quality, this influence should not be construed as degradation. Based on the data reviewed here the basic changes seen include the following:

- With respect to nutrient type constituents, including nitrate-N, TKN, phosphate, and ortho-phosphate the groundwater changes we see generally show down gradient declines in constituent concentrations, which we interpret to reflect dilution of groundwater concentrations by AR water.
- Other parameters, such as TDS, chloride, and EC also commonly show evidence of down gradient reductions through AR sites that we again interpret as evidence of dilution of these parameters in groundwater by AR water.
- The SOC data available for these sites is interpreted to show that AR operations have essentially no influence on SOC's present in groundwater. Based on what we reviewed

SOC detections are sporadic, not systematic, and at very low concentrations. With that observation, we interpret the few detections to result from background conditions reflective of activities other than AR operations.

- In addition to these observations, the Hall-Wentland data is instructive as it shows the importance of natural leakage from surface waters (which typically are the same waters these AR sites use for source water) influencing local groundwater chemistry.

The water quality data collected over several AR seasons from four different sites are interpreted to have not resulted in alluvial aquifer water quality degradation. Field parameters and major ion hydrochemical trends seen in monitoring well data commonly show reduced concentrations, indicating dilution of groundwater concentrations by AR operations. A few anomalies did occur in these trends, but low source water concentrations versus high monitoring well concentrations strongly suggest that AR operations were not the cause of these anomalies. There were no significant SOC detections from any site. Of the SOC detections seen in the data sets, SOC concentrations are low enough to be considered background levels and/or these detections were instances of localized transient introduction to the water table from an unaltered ground surface AR site (specifically HW).

Recommendations

Based on our interpretation that AR has led to little to no degradation of groundwater quality in the Walla Walla Basin, we recommend that future monitoring of AR projects exclude extensive sampling and testing for SOC’s. The data collected to-date is interpreted to show very low, and sporadic background SOC concentrations not related to AR activities. Rather SOC detections are likely related to transient events originating at sites other than the AR sites. Thus it is unlikely that SOC’s have been or would be introduced to the alluvial groundwater by AR source water.

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Table 1. Correlation Coefficients between Water Quality Parameters and Sampling Dates over Time. EC =electrical conductivity, COD = chemical oxygen demand, TDS = total dissolved solids, TSS = total suspended solids, TKN = total Kjeldahl nitrogen and TOC = total organic carbon.

Site/ Well	**Correlation Coefficient**											
	pH	**EC**	**Turb.**	**COD**	**TDS**	**TSS**	**HCO3**	**Cl-**	**NO3-**	**TKN**	**Ortho-phos.**	**TOC**
Hall-Wentland												
Source	0.23	0.34	0.16	-0.33	-0.23	N/A	-0.15	-0.44	0.07	N/A	0.42	N/A
HW-1	-0.05	0.66	0.61	-0.28	-0.06	N/A	-0.08	-0.36	0.52	N/A	0.61	N/A
HW-2	-0.23	0.57	0.18	-0.28	-0.02	N/A	-0.36	-0.27	0.32	N/A	0.59	N/A
HW-3	-0.23	0.86	0.12	-0.25	0.21	N/A	0.05	-0.37	0.64	N/A	0.71	N/A
Hulette-Johnson												
Source	N/A	N/A	N/A	-0.89	0.33	0.11	N/A	-0.03	-0.45	-0.31	-0.15	-0.52
HJ-1	N/A	N/A	N/A	-0.57	0.30	-0.54	N/A	0.54	0.02	-0.25	-0.20	-0.35
Locher Road												
Source	-0.50	0.01	0.76	0.31	0.14	N/A	0.00	-0.57	-0.25	N/A	0.14	N/A
LR-1	-0.43	-0.16	-0.11	0.03	0.44	N/A	-0.37	0.40	0.28	N/A	-0.40	N/A
LR-2	-0.69	0.54	-0.03	-0.05	0.68	N/A	0.42	0.55	0.63	N/A	-0.42	N/A
LR-3	-0.65	0.12	-0.22	-0.09	0.33	N/A	0.07	-0.27	0.43	N/A	-0.39	N/A

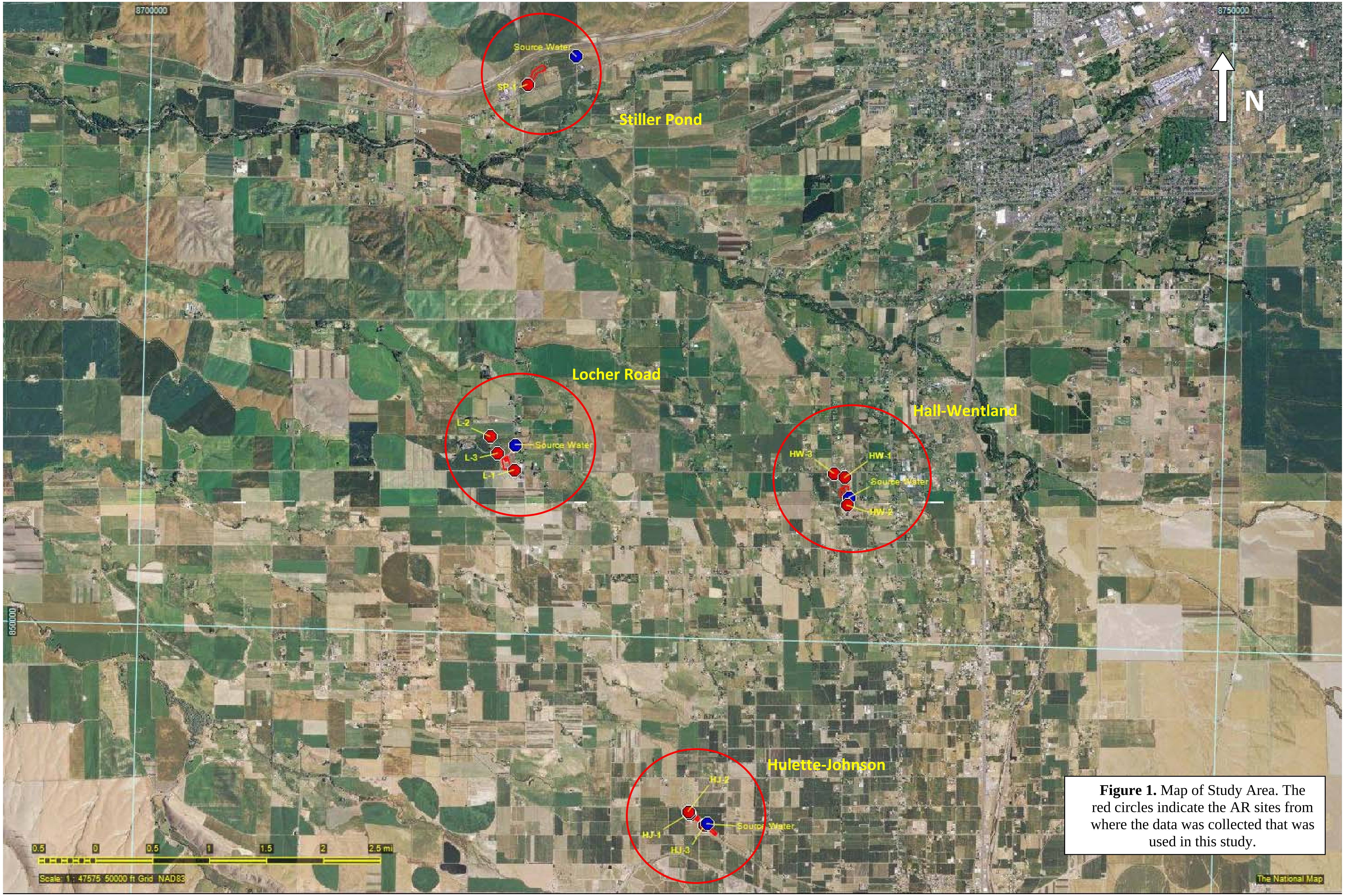

Figure 1. Map of Study Area. The red circles indicate the AR sites from where the data was collected that was used in this study.

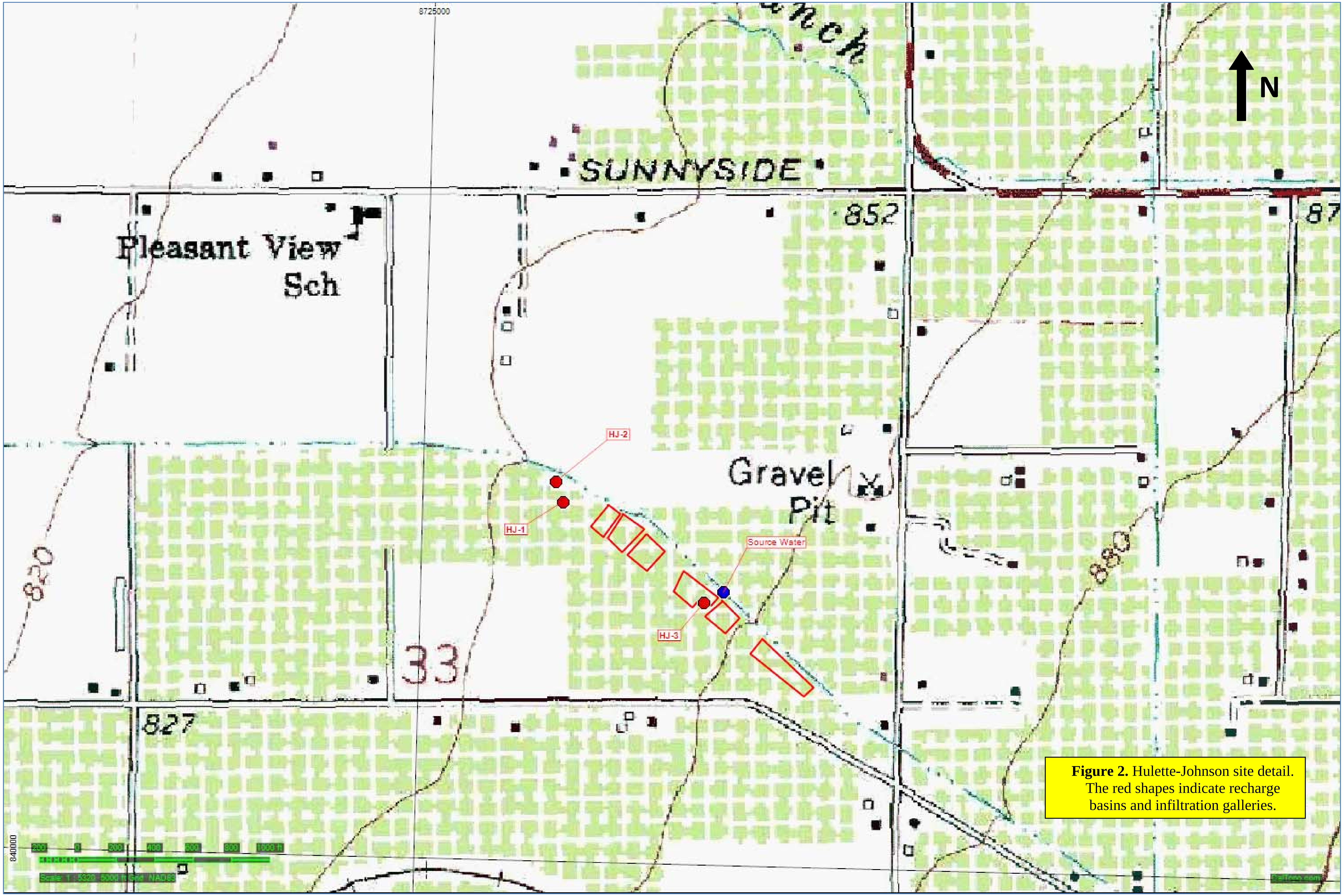

Figure 2. Hulette-Johnson site detail. The red shapes indicate recharge basins and infiltration galleries.

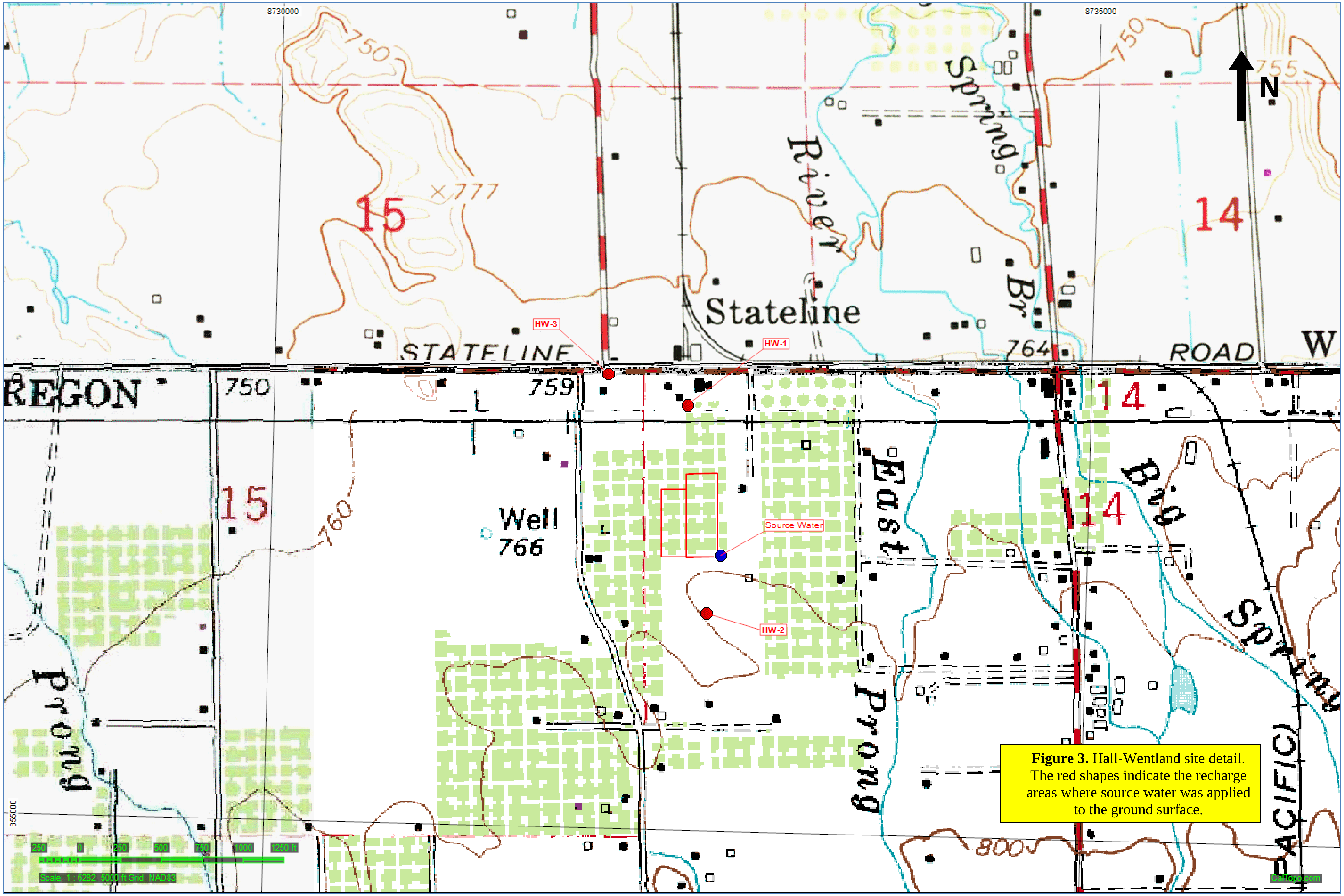

Figure 3. Hall-Wentland site detail. The red shapes indicate the recharge areas where source water was applied to the ground surface.

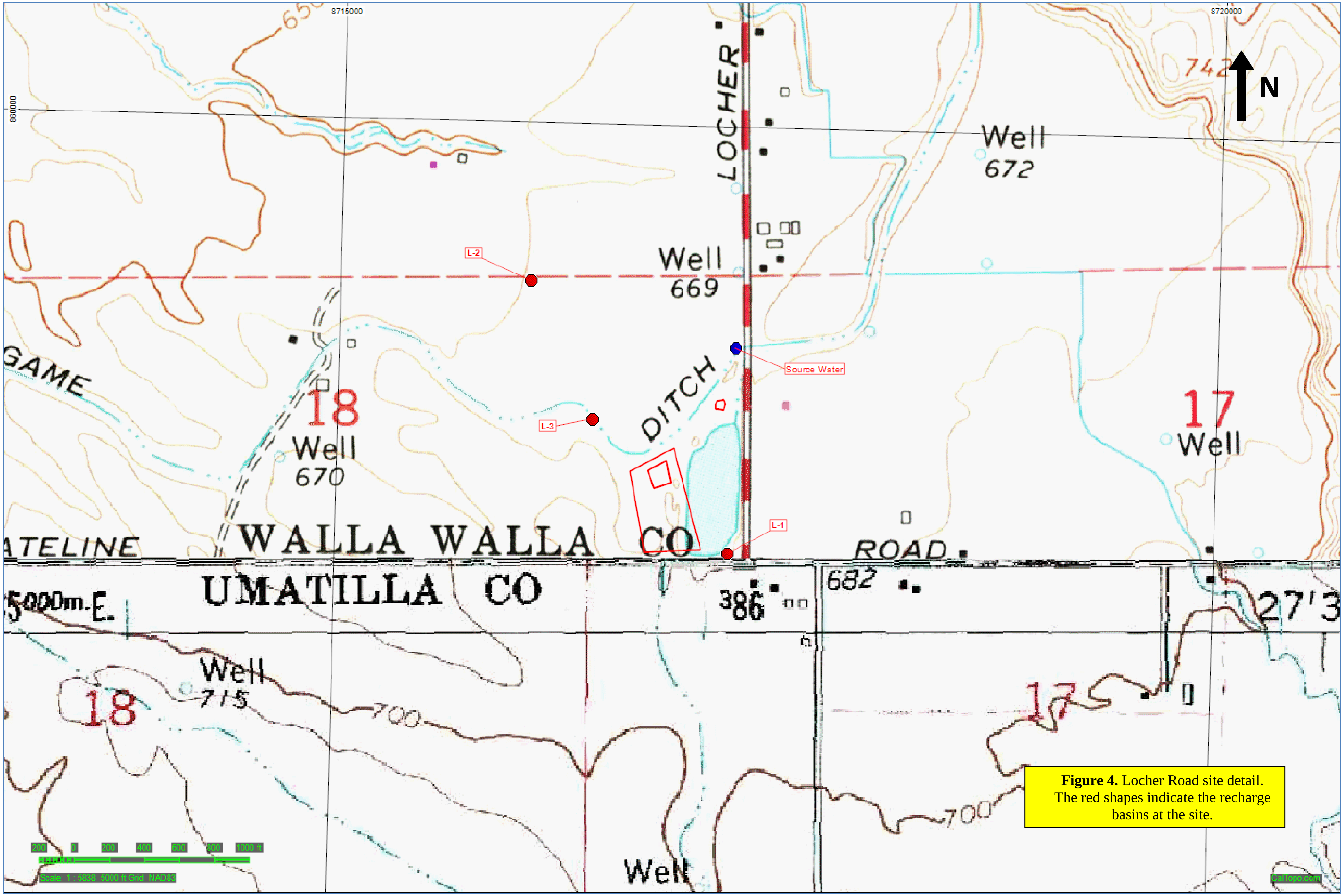

Figure 4. Locher Road site detail. The red shapes indicate the recharge basins at the site.

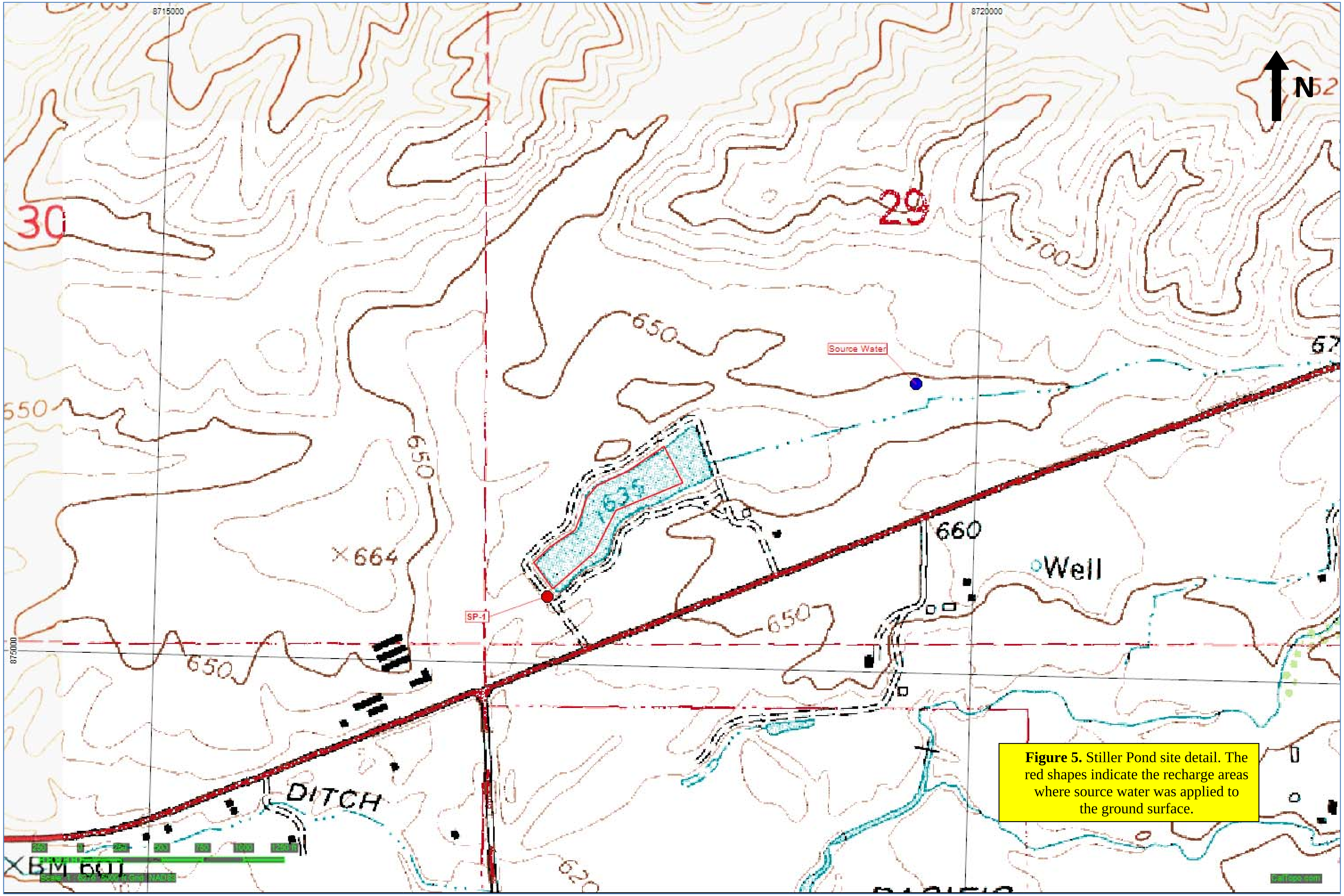

Figure 5. Stiller Pond site detail. The red shapes indicate the recharge areas where source water was applied to the ground surface.

Appendix A

Hewlett-Johnson Data Plots

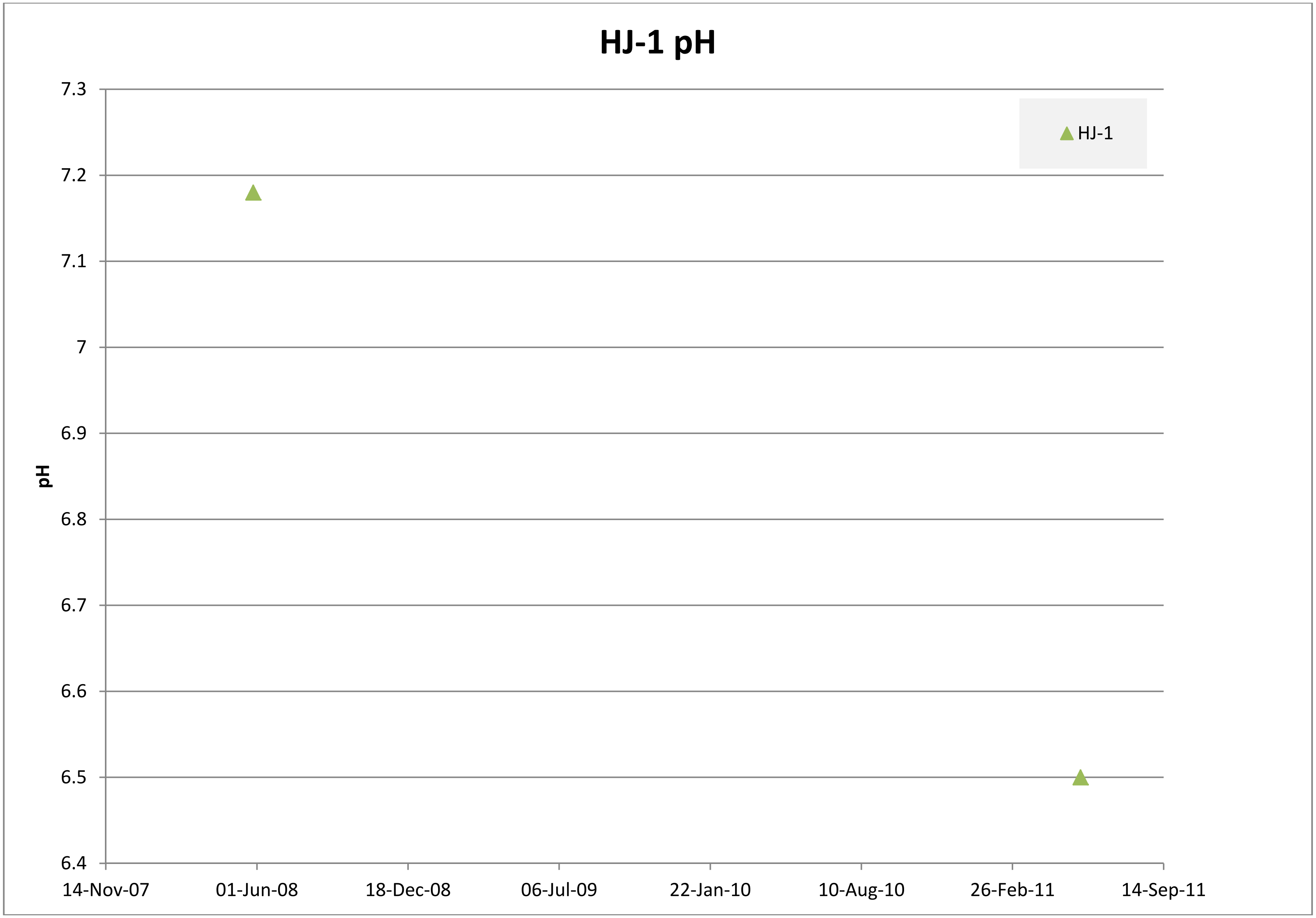

Figure A-1. Hewlett-Johnson pH. HJ-1 = Hewlett-Johnson monitoring well 1.

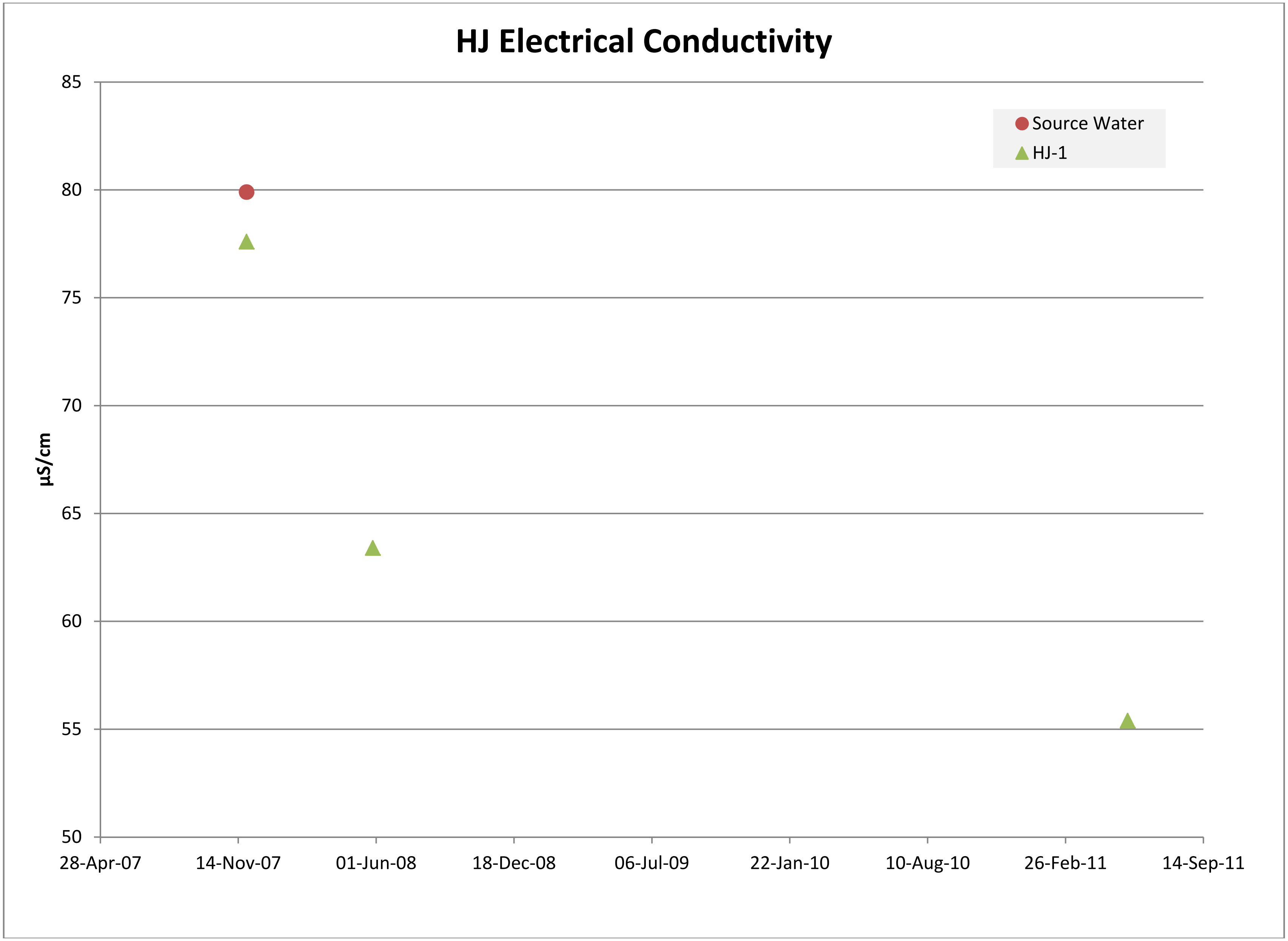

Figure A-2.Hewlett-Johnson electrical conductivity (EC). HJ-1 = Hewlett-Johnson monitoring well 1.

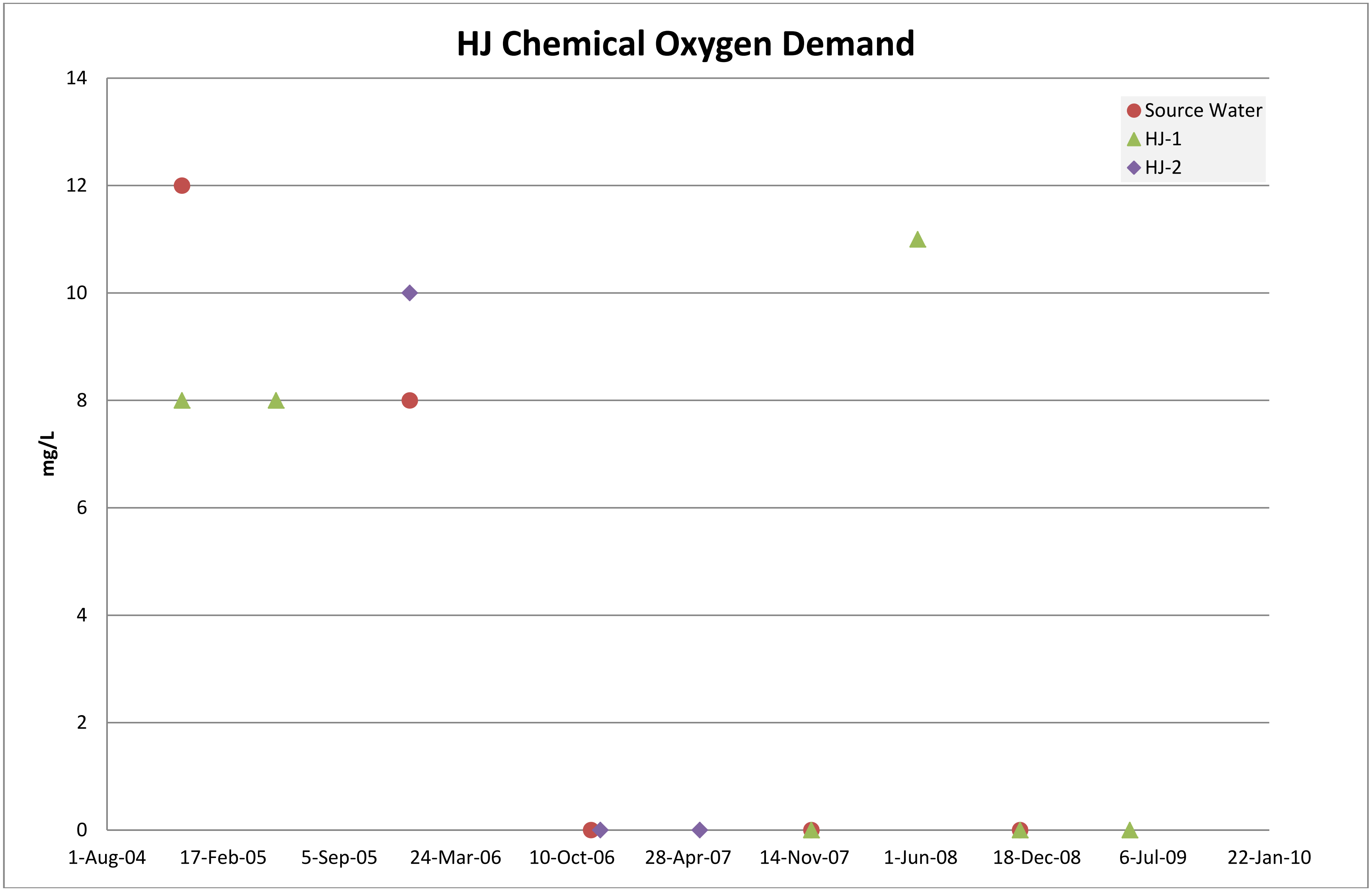

Figure A-3. Hewlett-Johnson chemical oxygen demand (COD). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

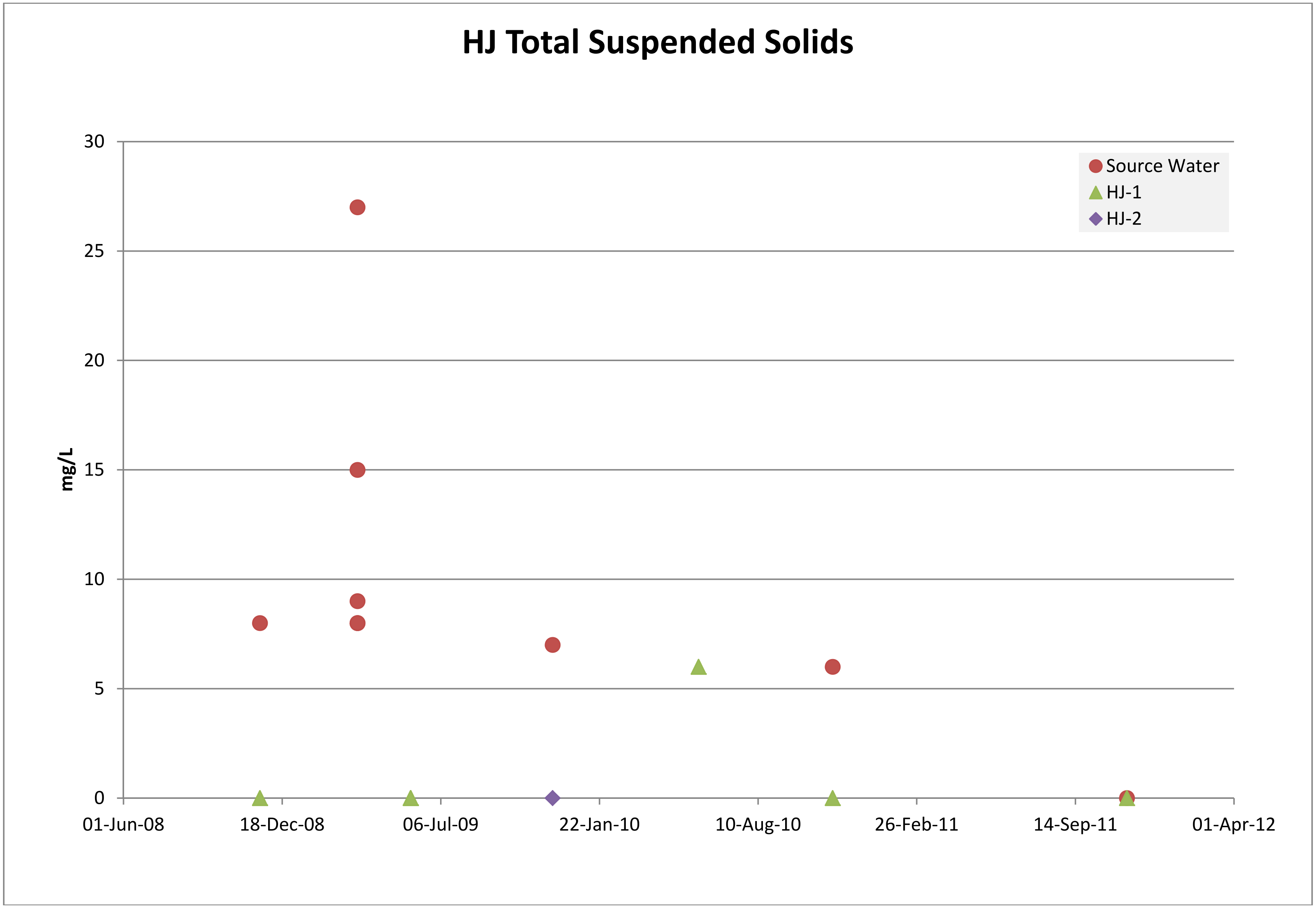

Figure A-4.Hewlett-Johnson total suspended solids (TSS). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

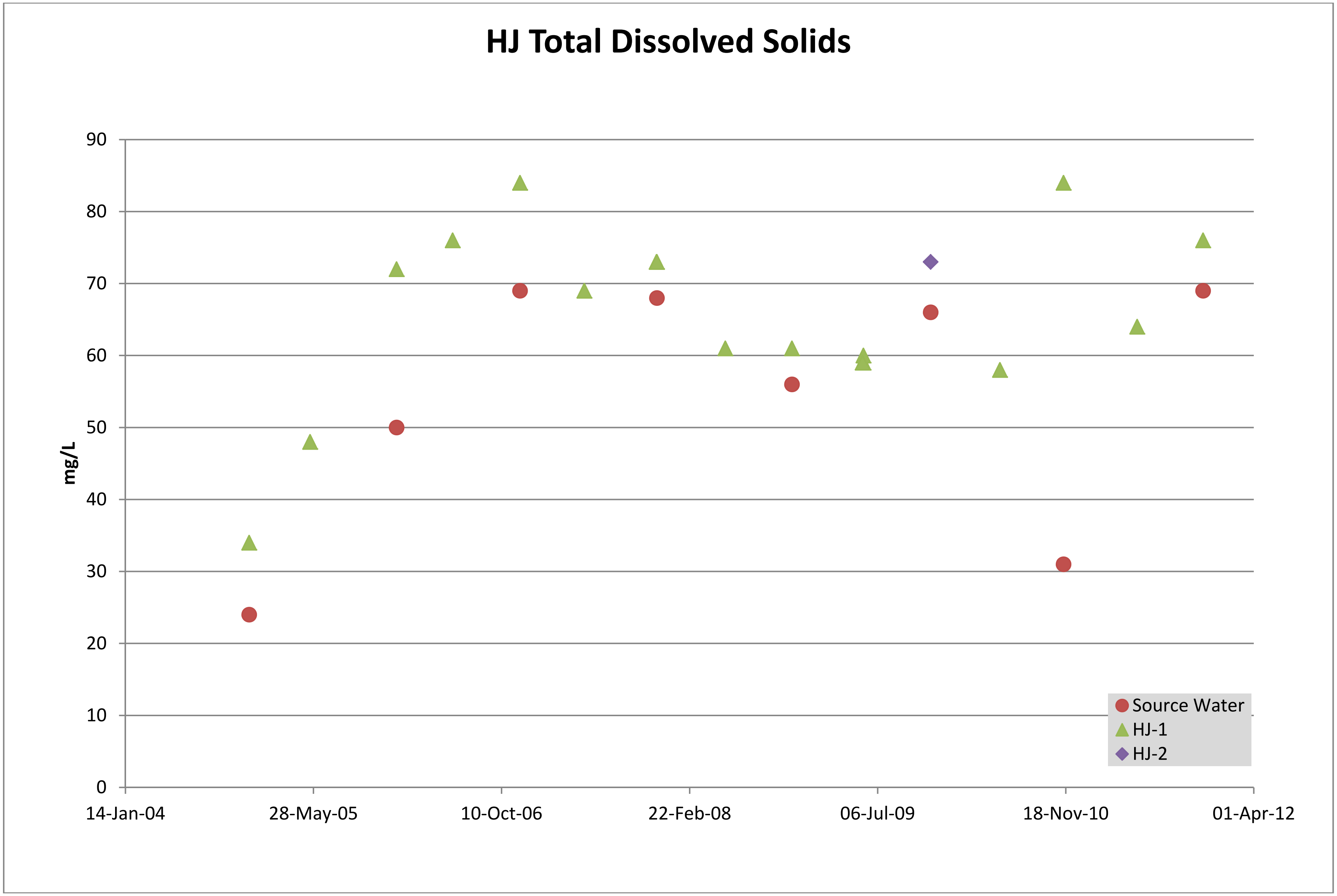

Figure A-5. Hewlett-Johnson total dissolved solids (TDS). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

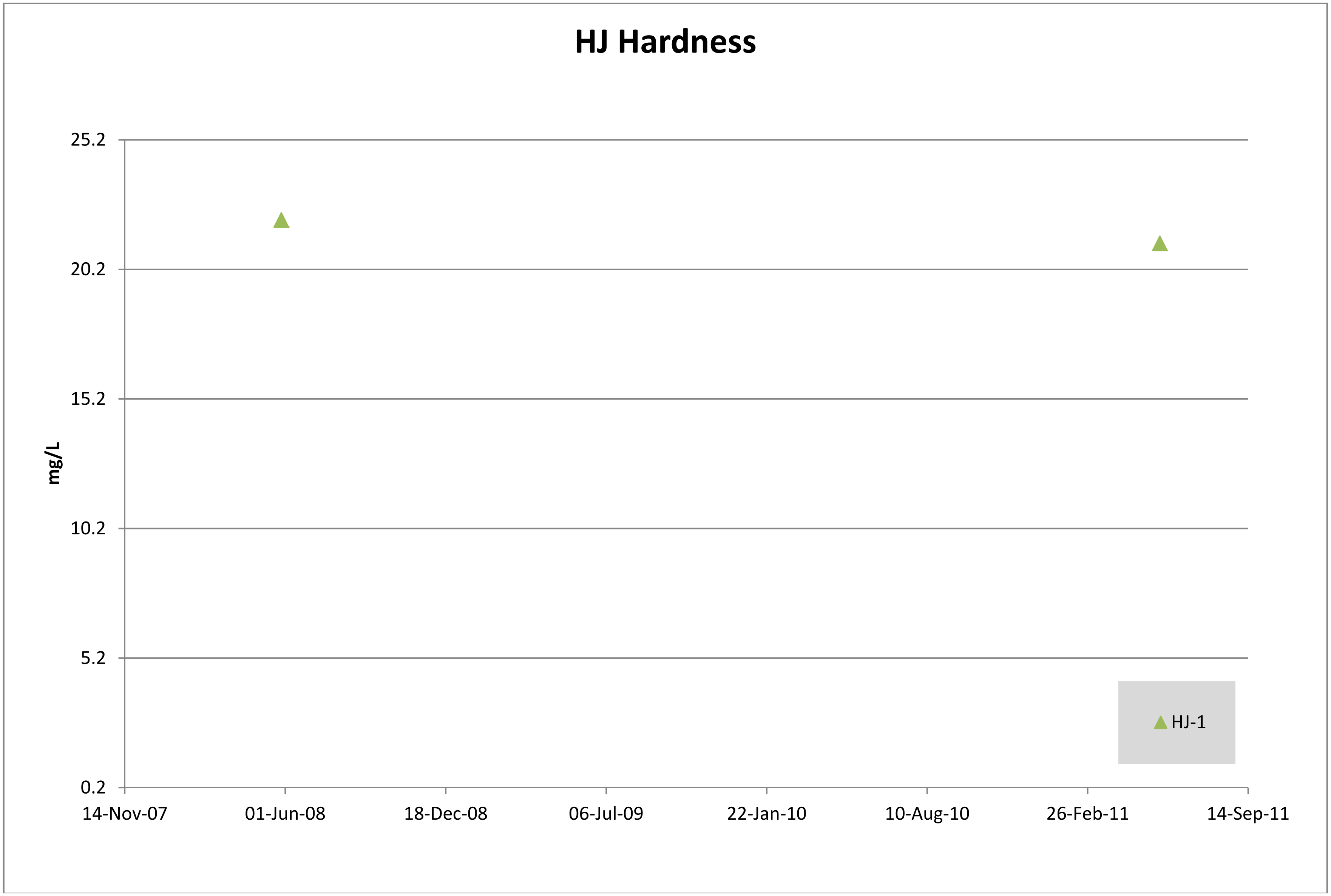

Figure A-6. Hewlett-Johnson hardness. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

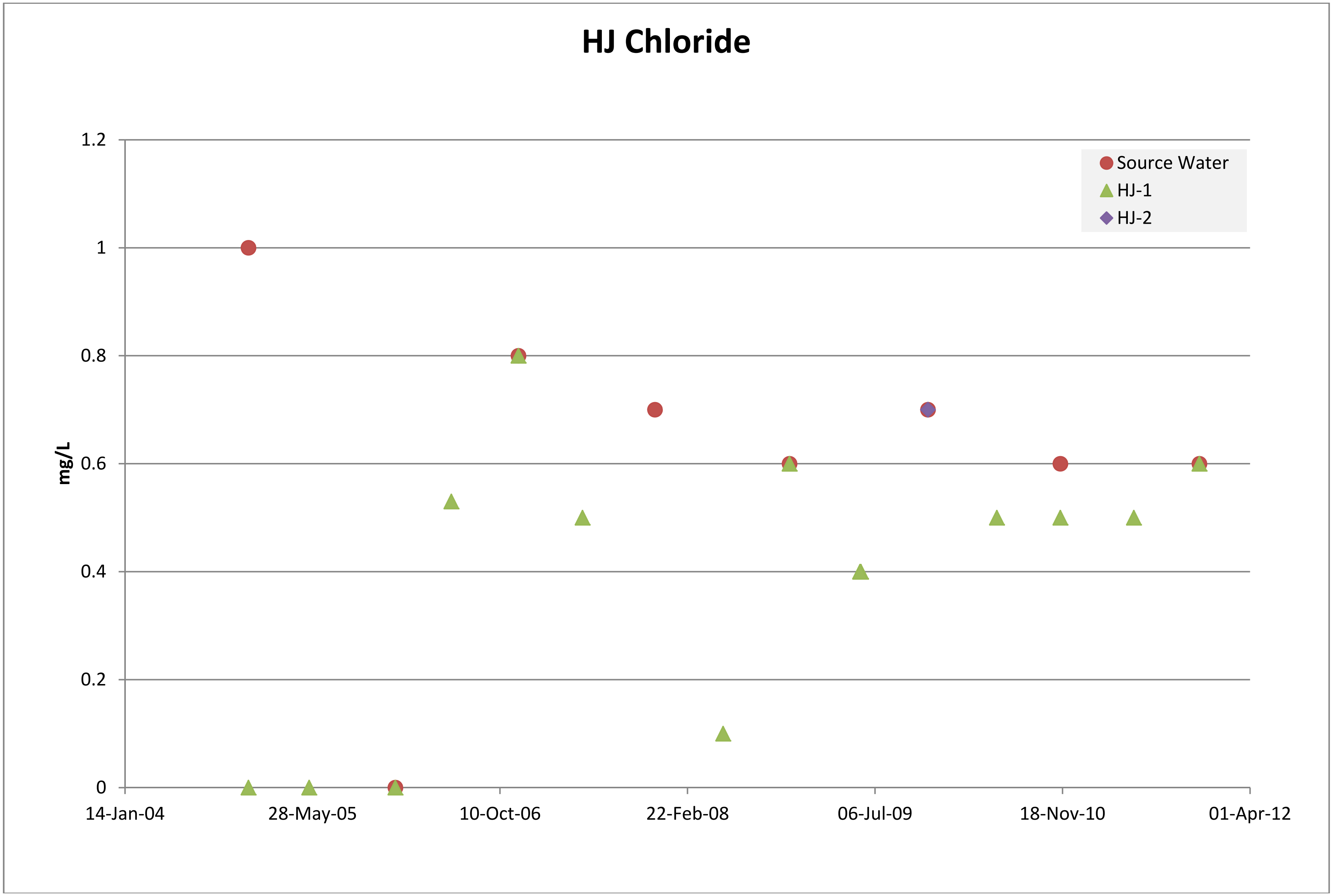

Figure A-7. Hewlett-Johnson chloride. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

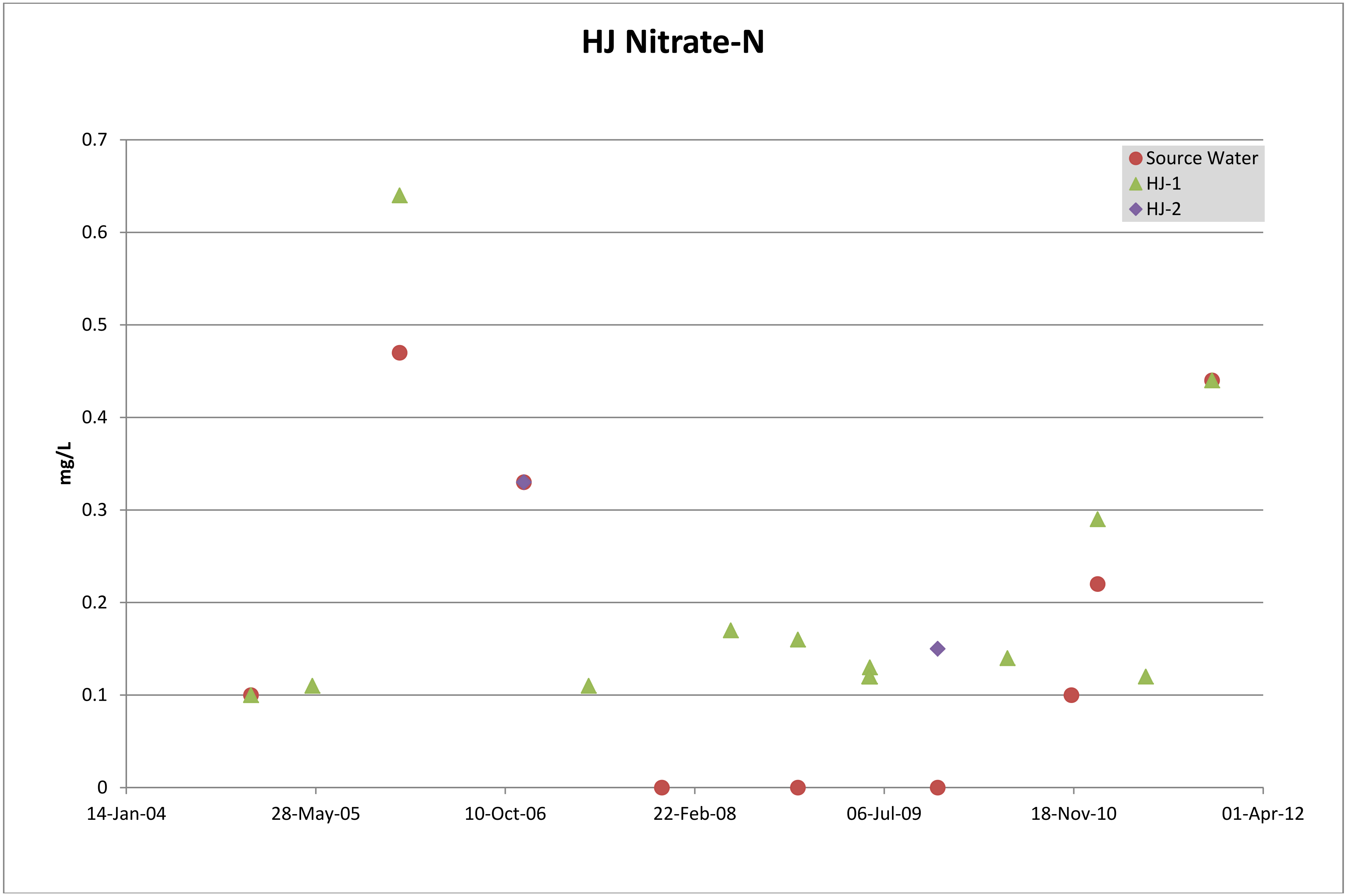

Figure A-8. Hewlett-Johnson nitrate. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

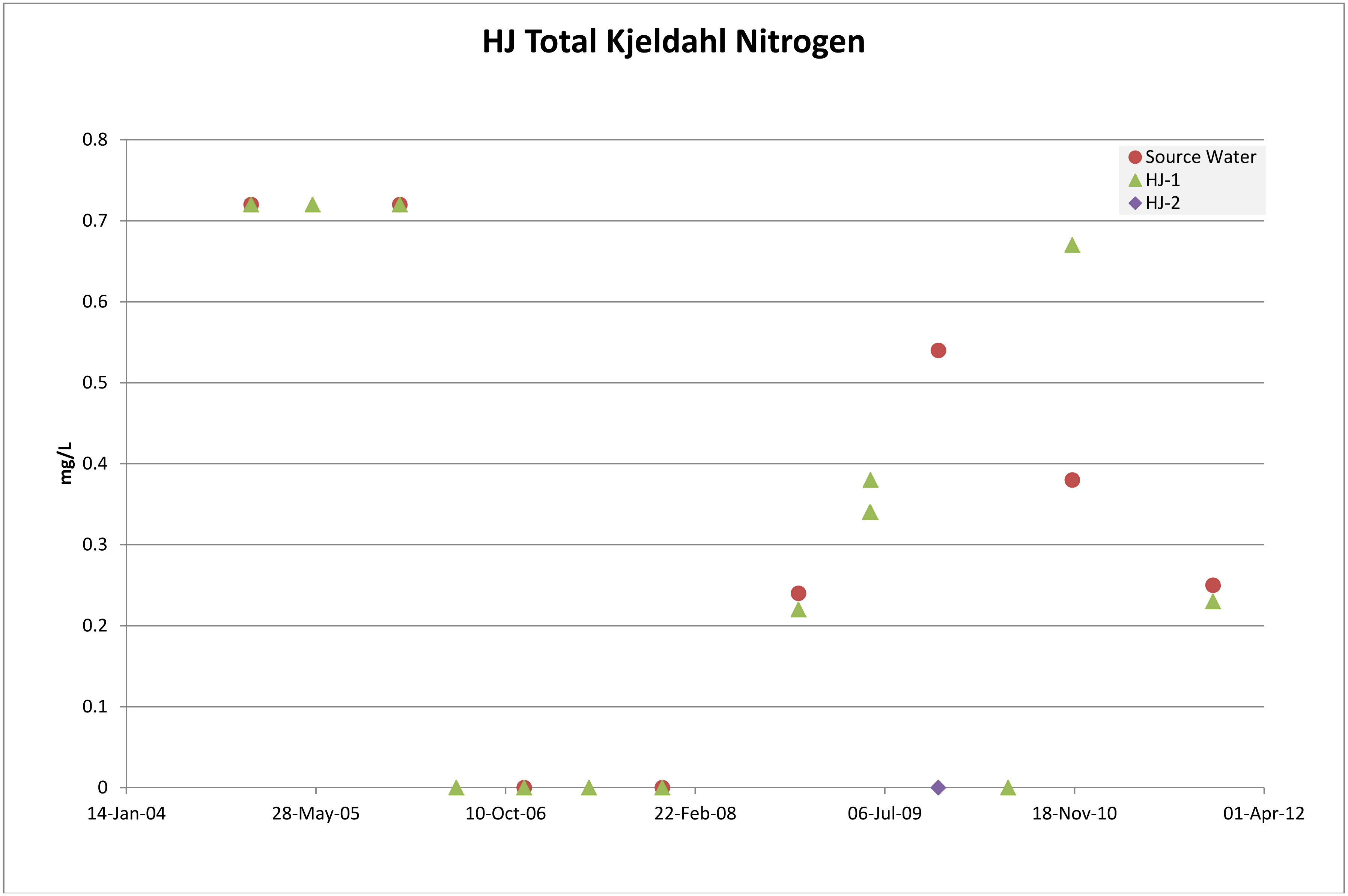

Figure A-9. Hewlett-Johnson total Kjeldahl nitrogen (TKN). HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

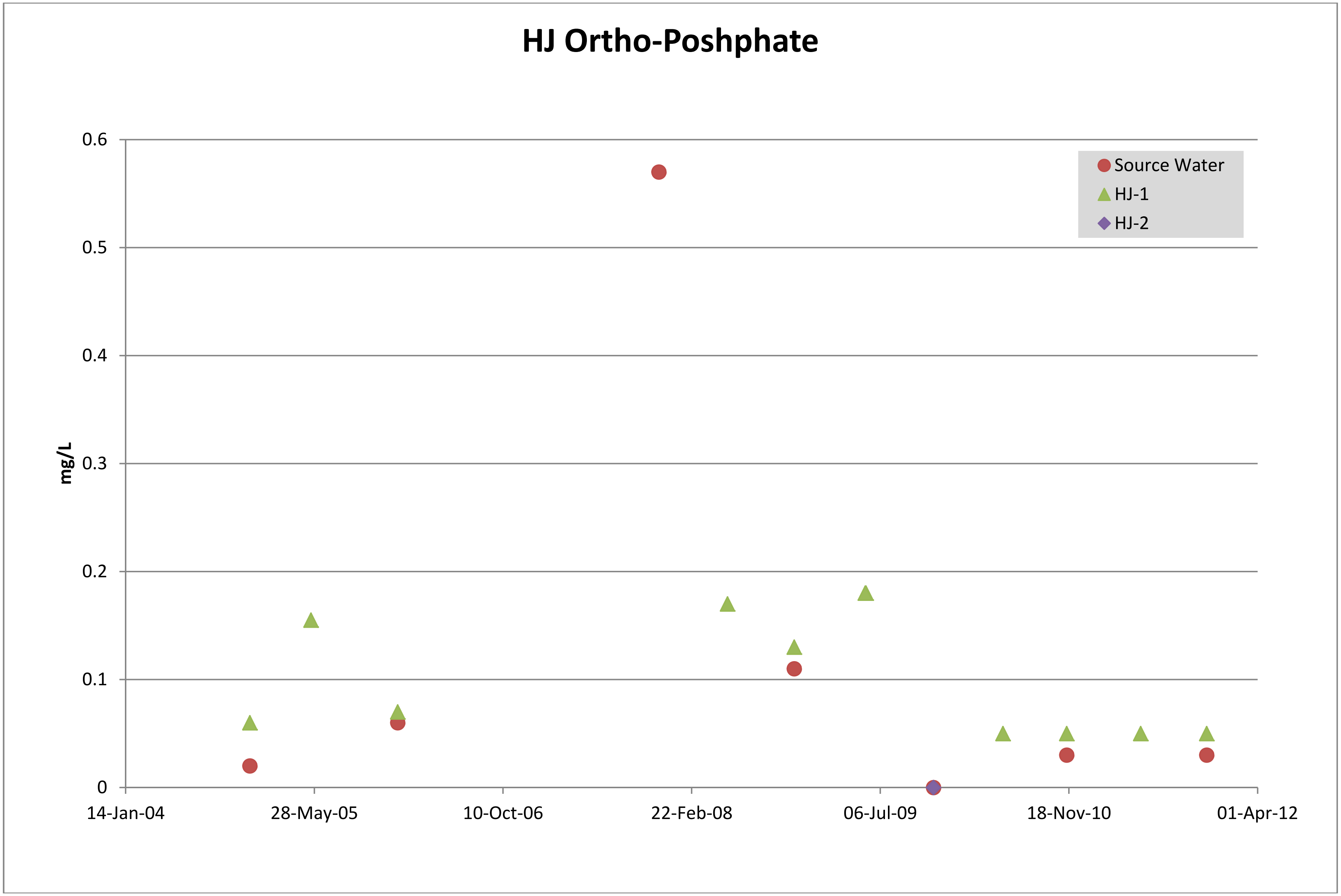

Figure A-10. Hewlett-Johnson ortho-phosphate. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

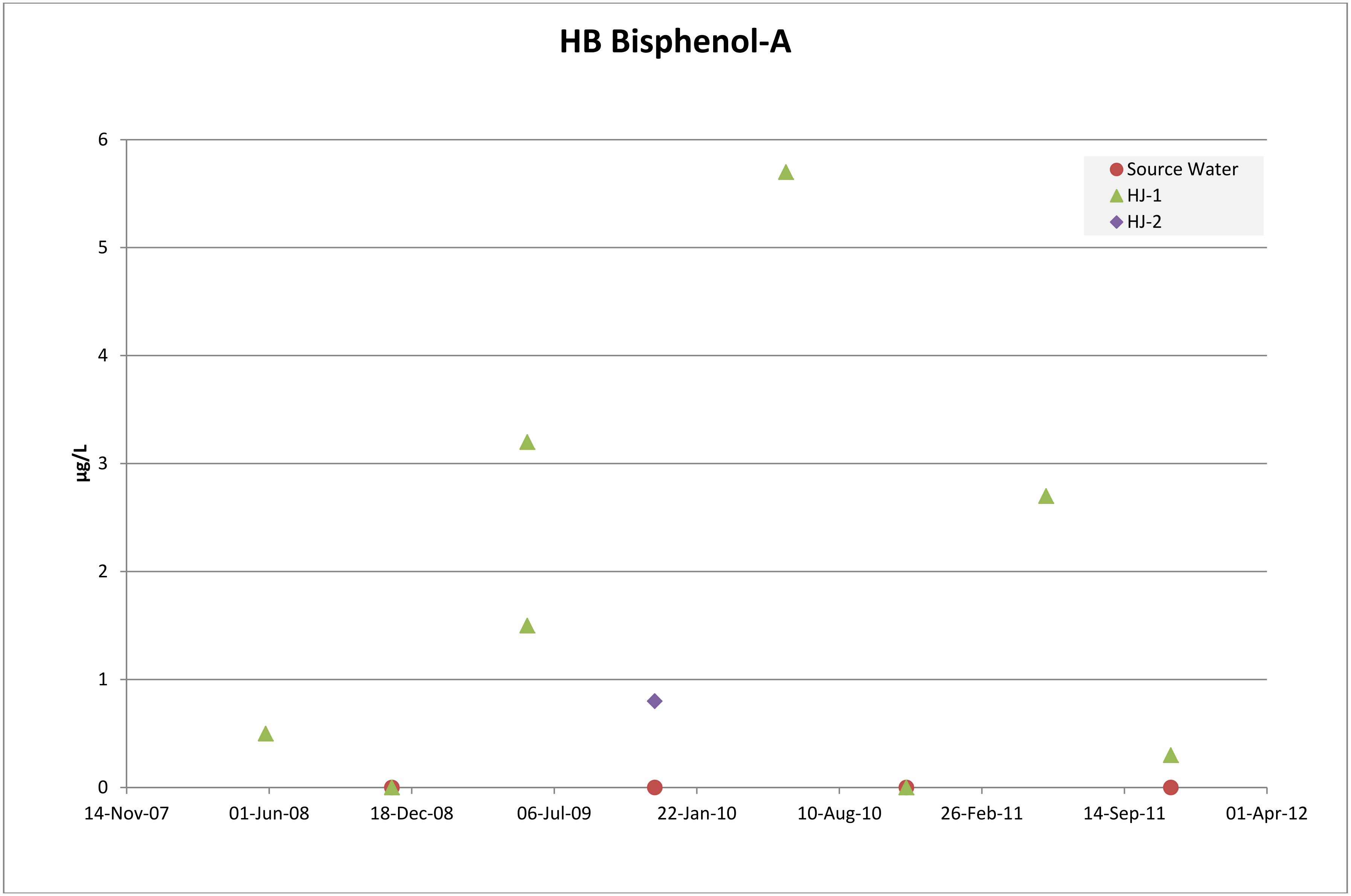

Figure A-11. Hewlett-Johnson bisphenol-A. HJ-1 = Hewlett-Johnson monitoring well 1. HJ-2 = Hewlett-Johnson monitoring well 2.

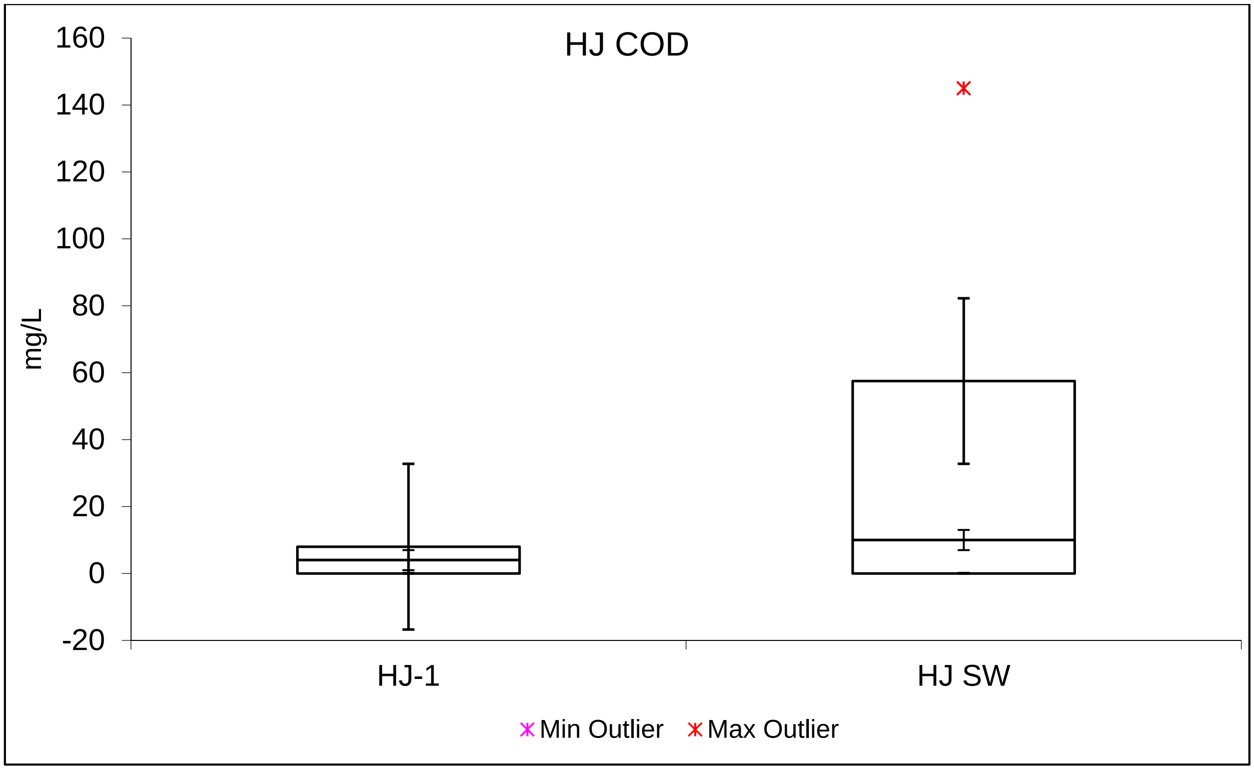

Figure A-12. Hewlett-Johnson pH box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

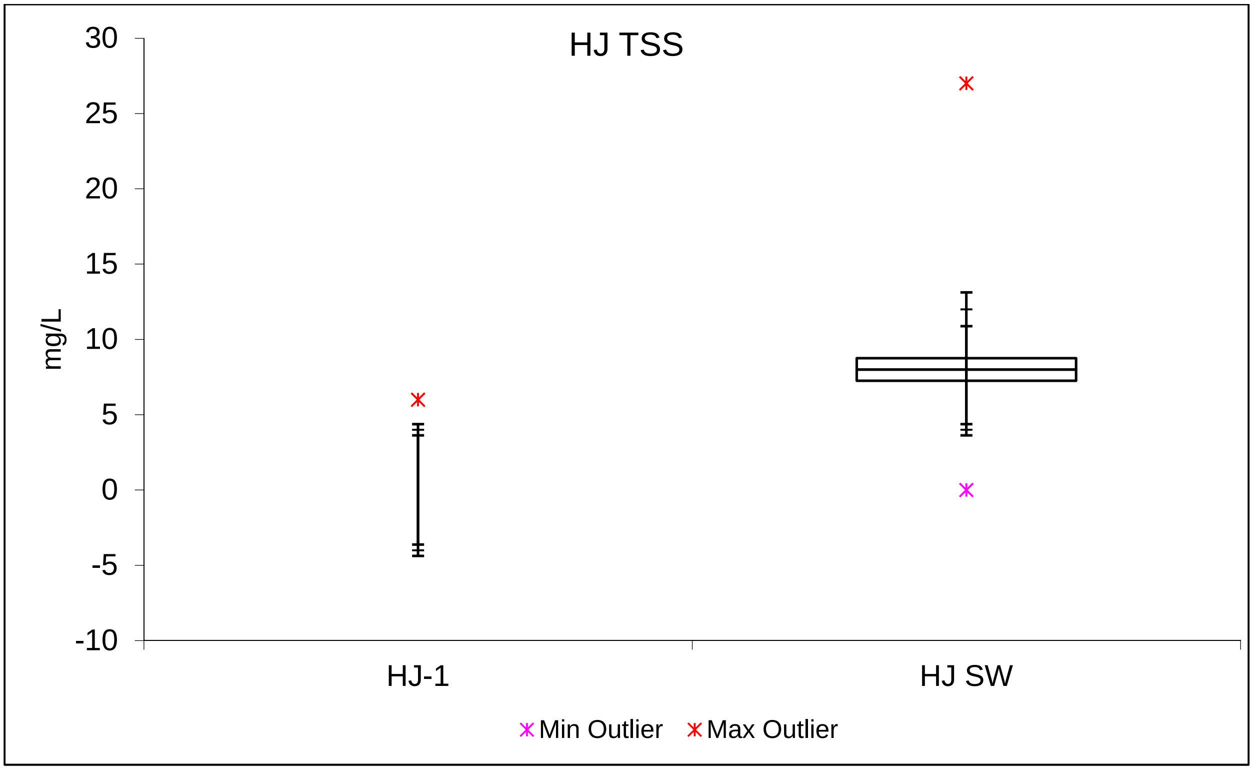

Figure A-13. Hewlett-Johnson TSS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

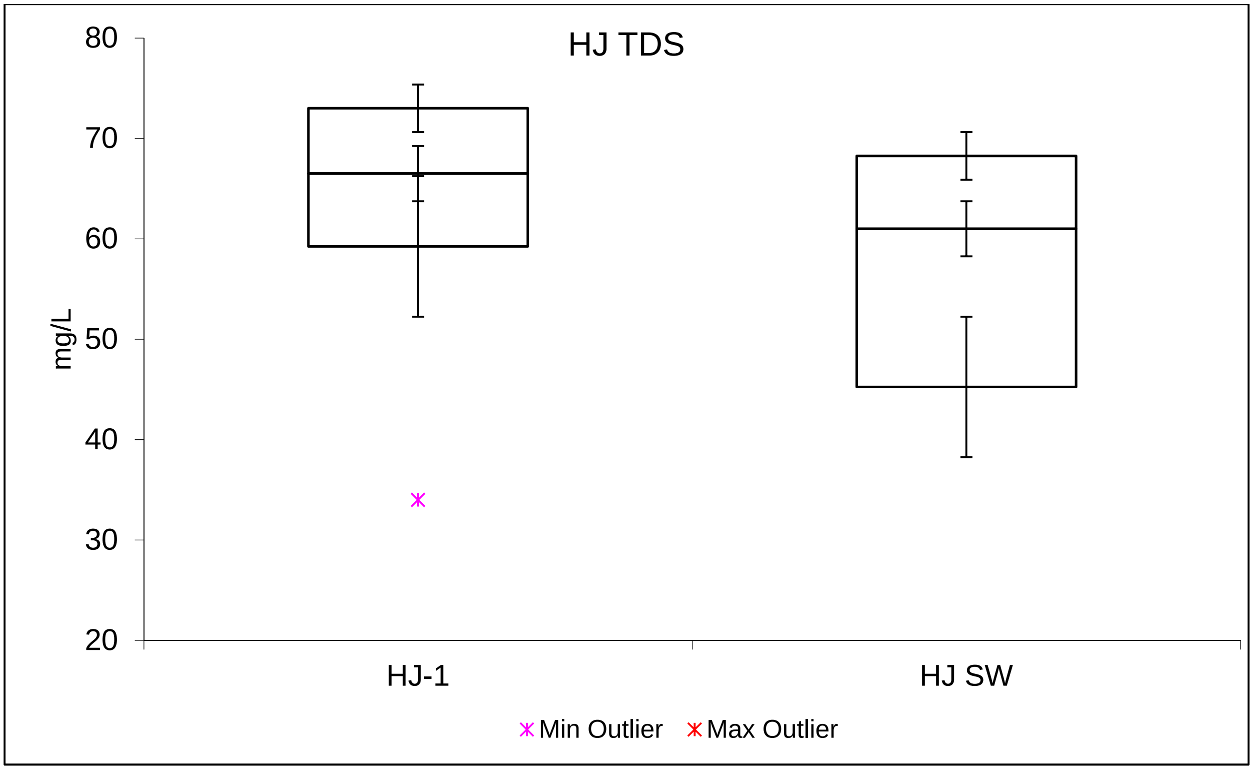

Figure A-14. Hewlett-Johnson TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

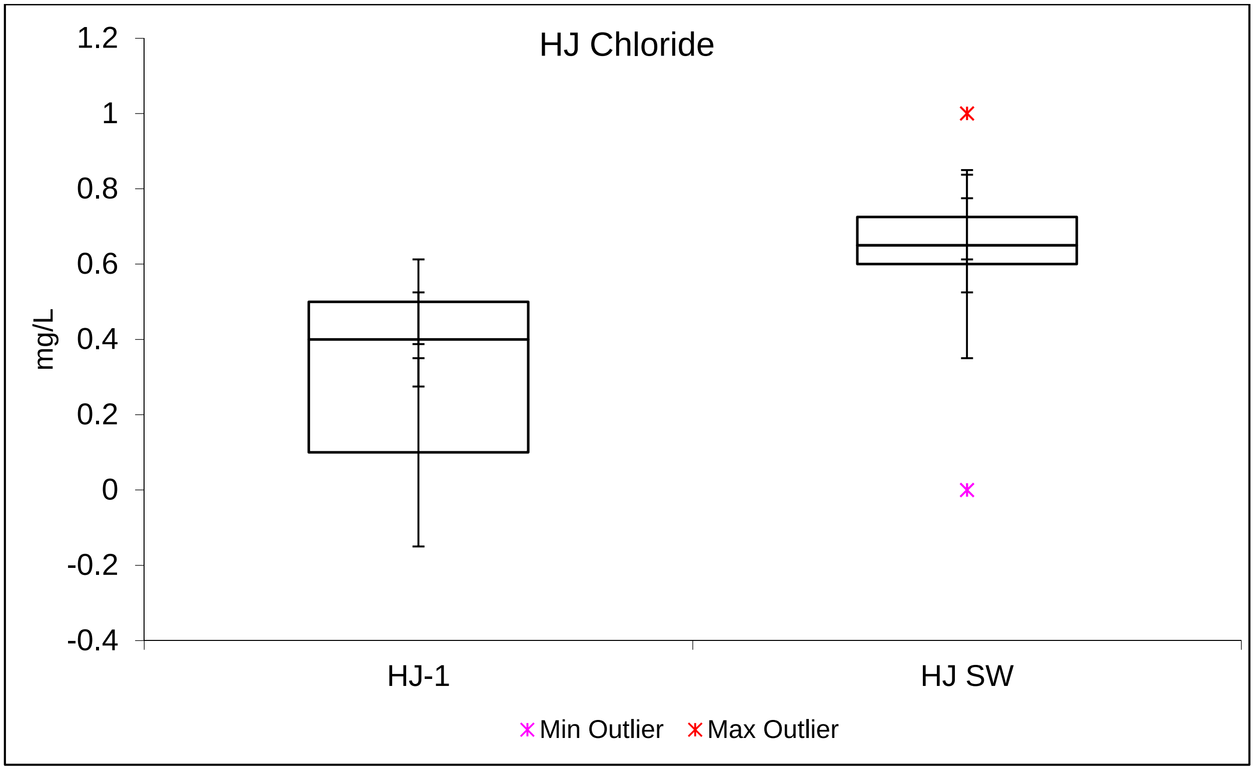

Figure A-15. Hewlett-Johnson chloride box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

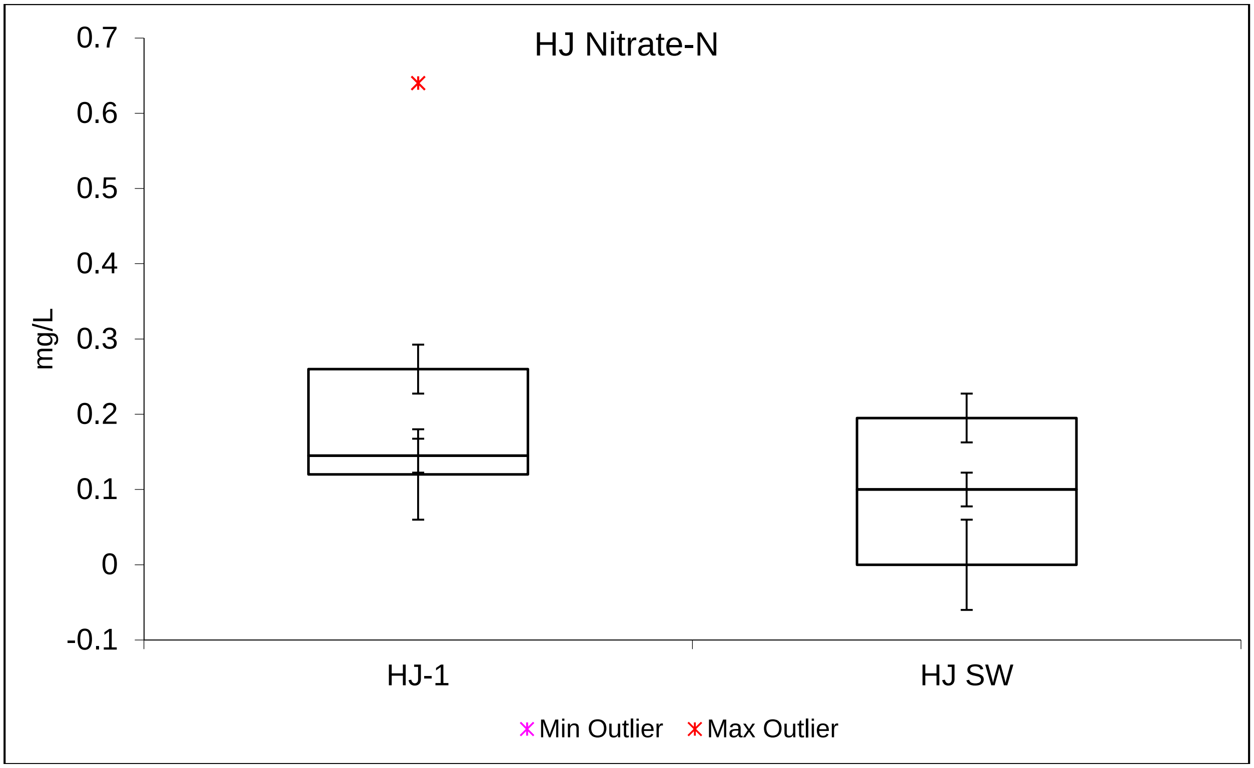

Figure A-16. Hewlett-Johnson nitrate-N box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

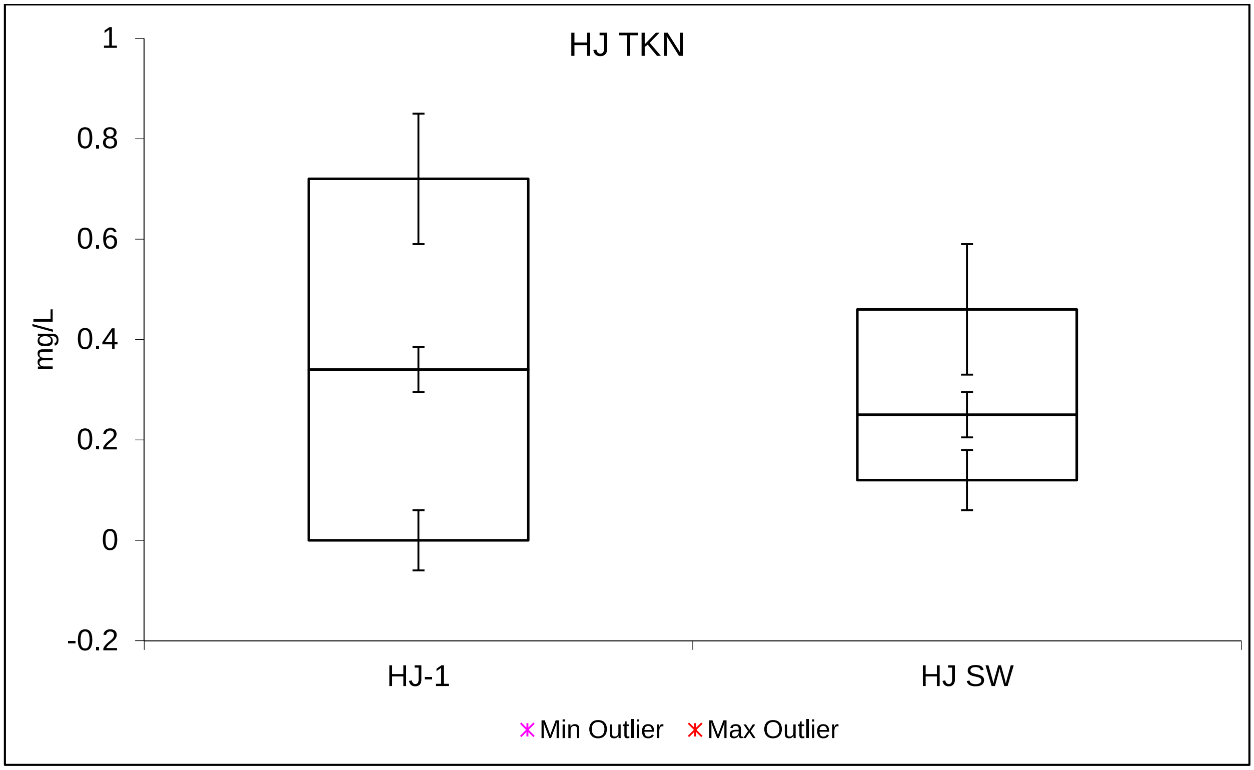

Figure A-17. Hewlett-Johnson TKN box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

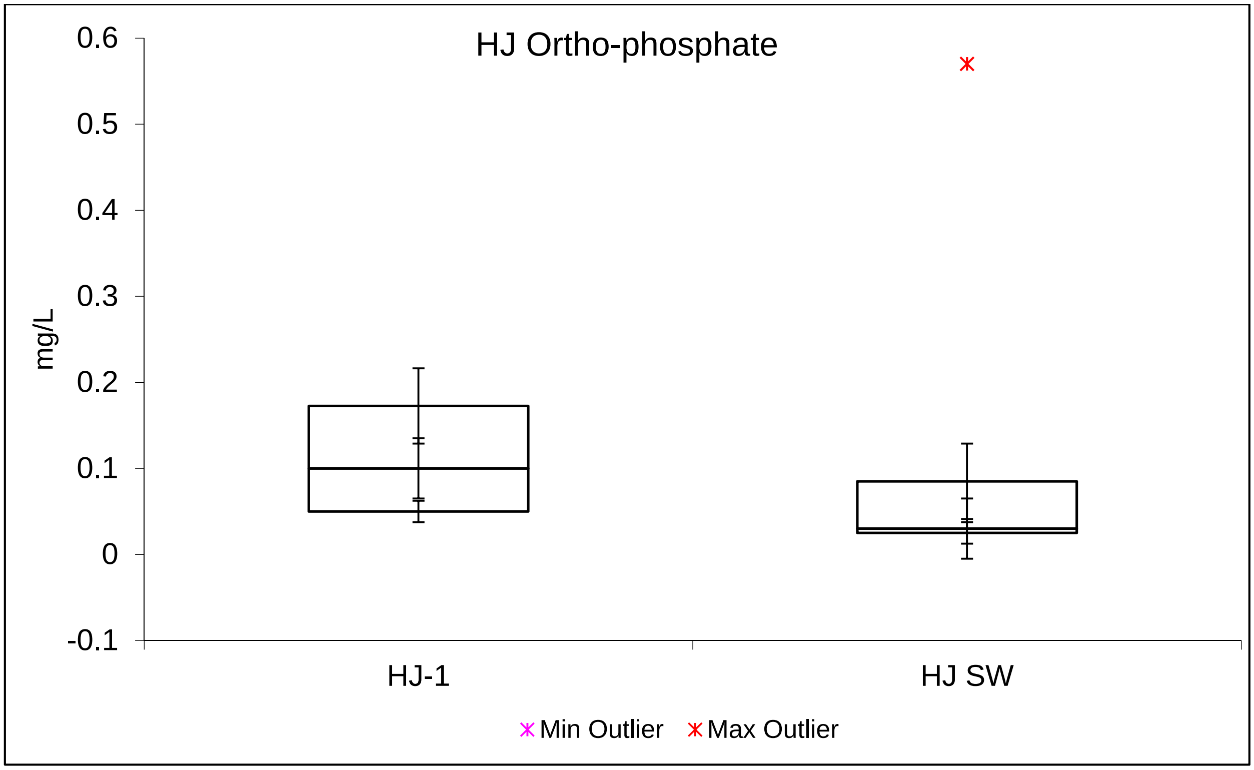

Figure A-18. Hewlett-Johnson ortho-phosphate box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

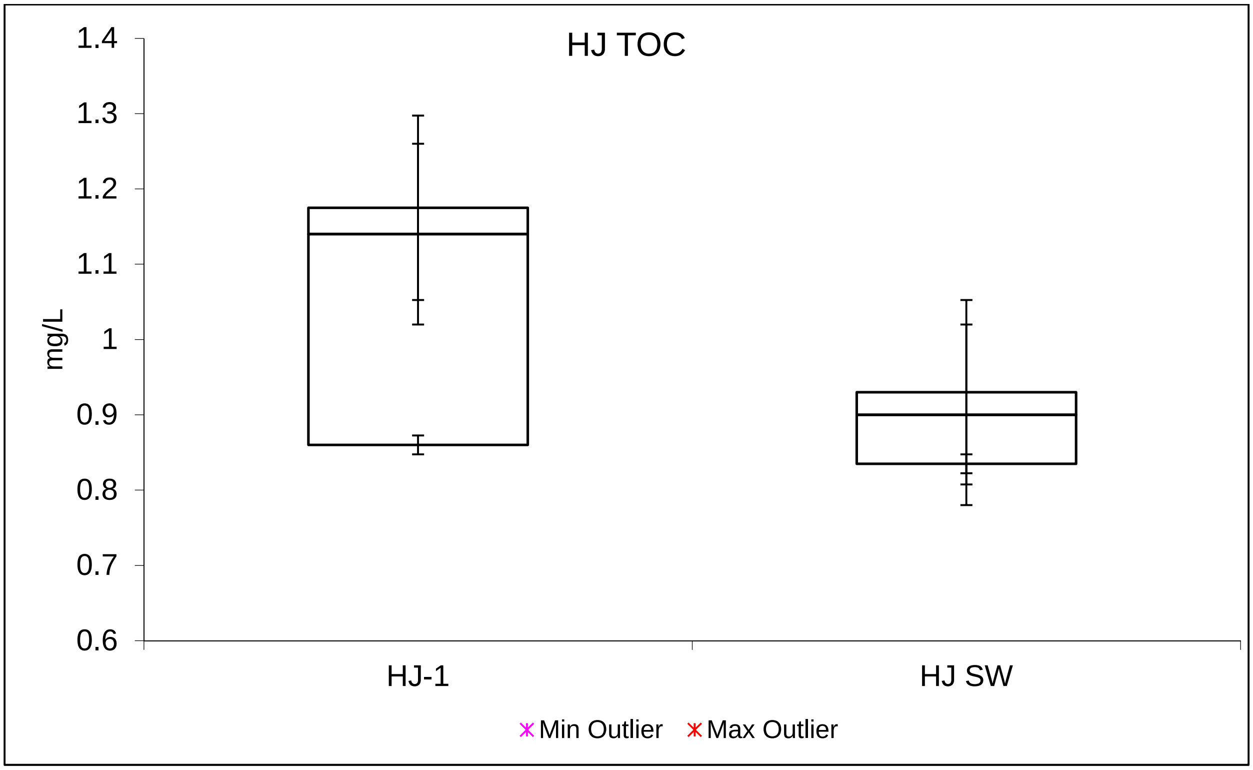

Figure A-19. Hewlett-Johnson TOC box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

Appendix B

Hall-Wentland Data Plots

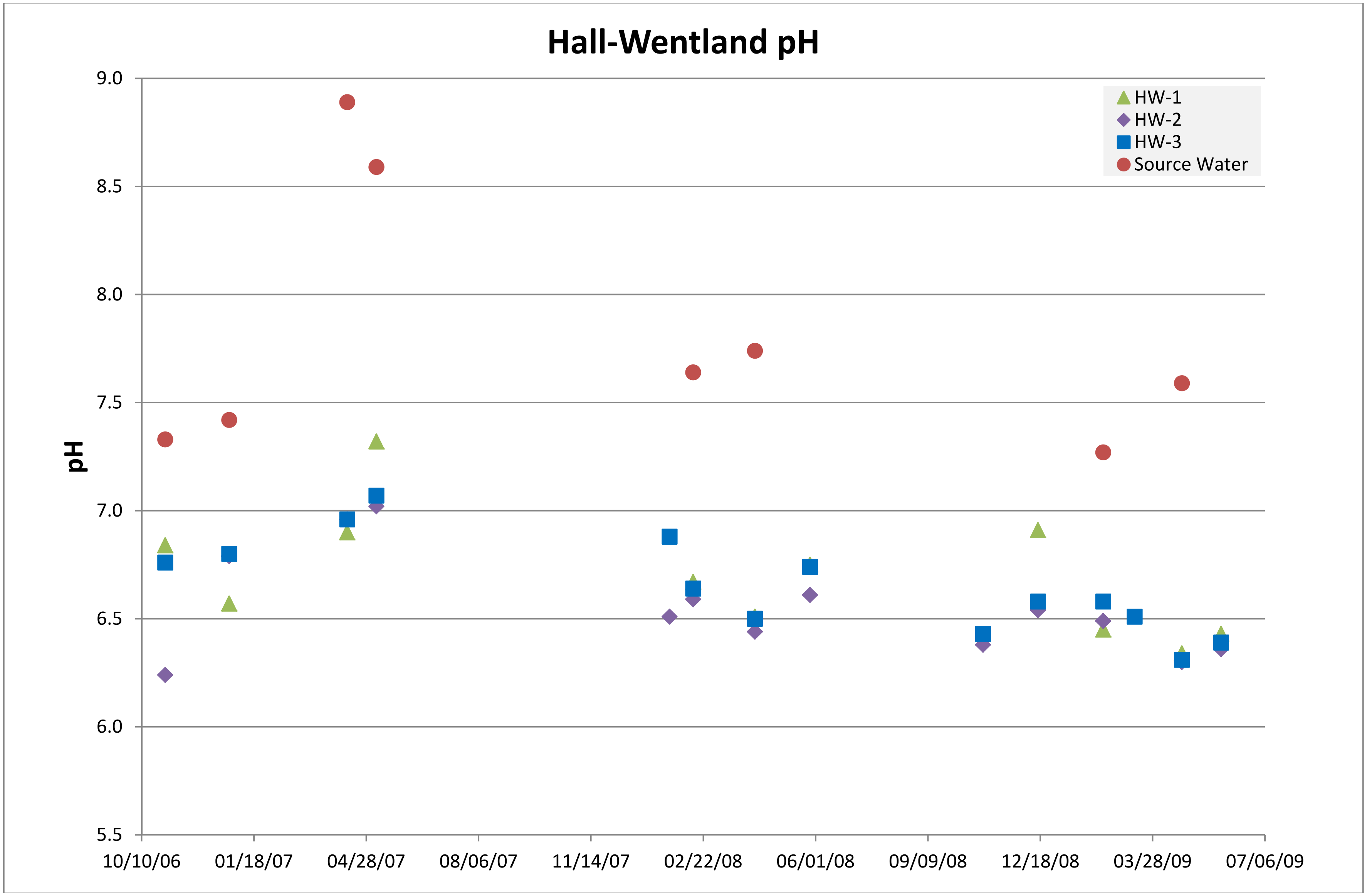

Figure B-1. Hall-Wentland pH. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

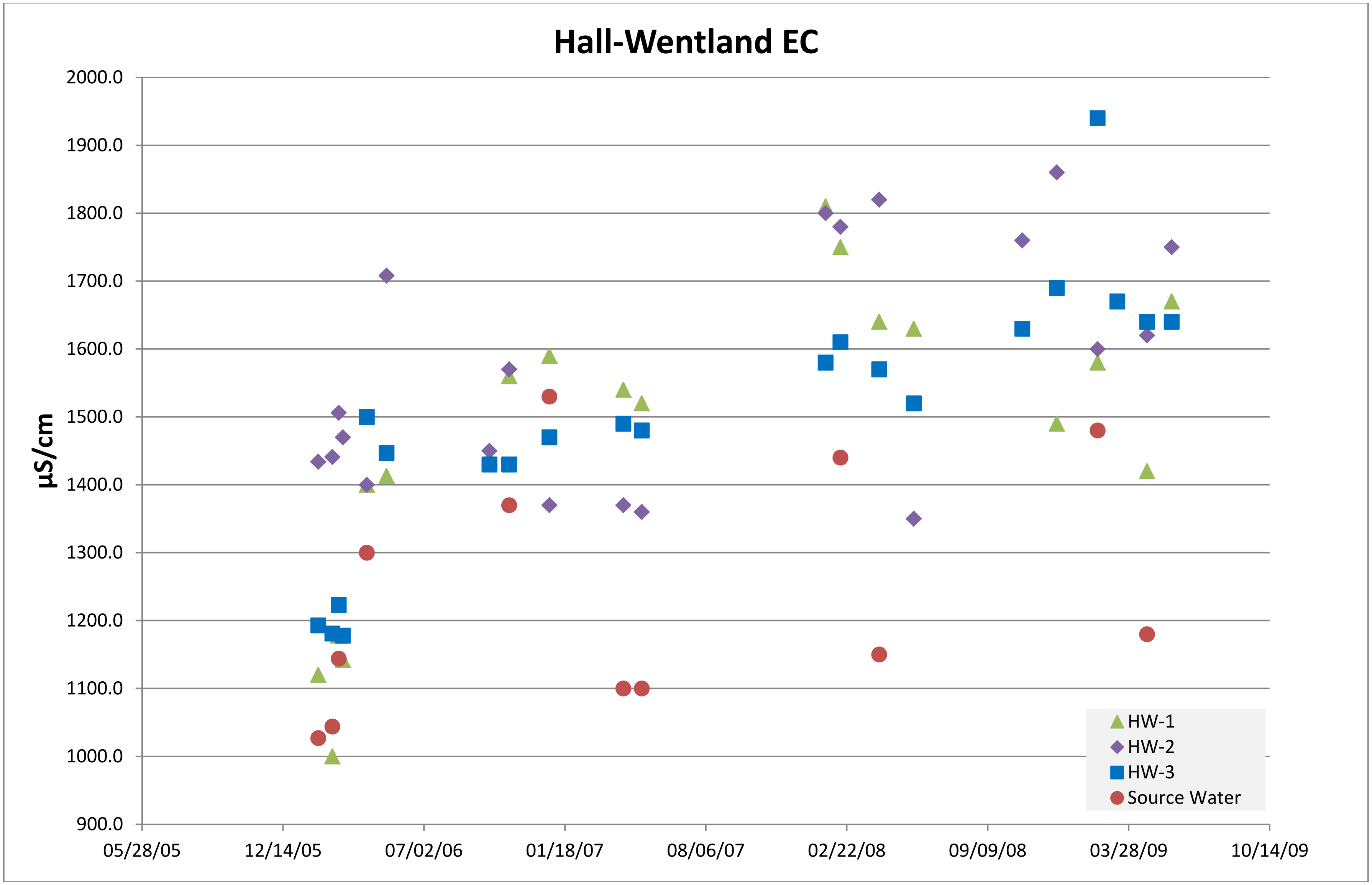

Figure B-2. Hall-Wentland electrical conductivity. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

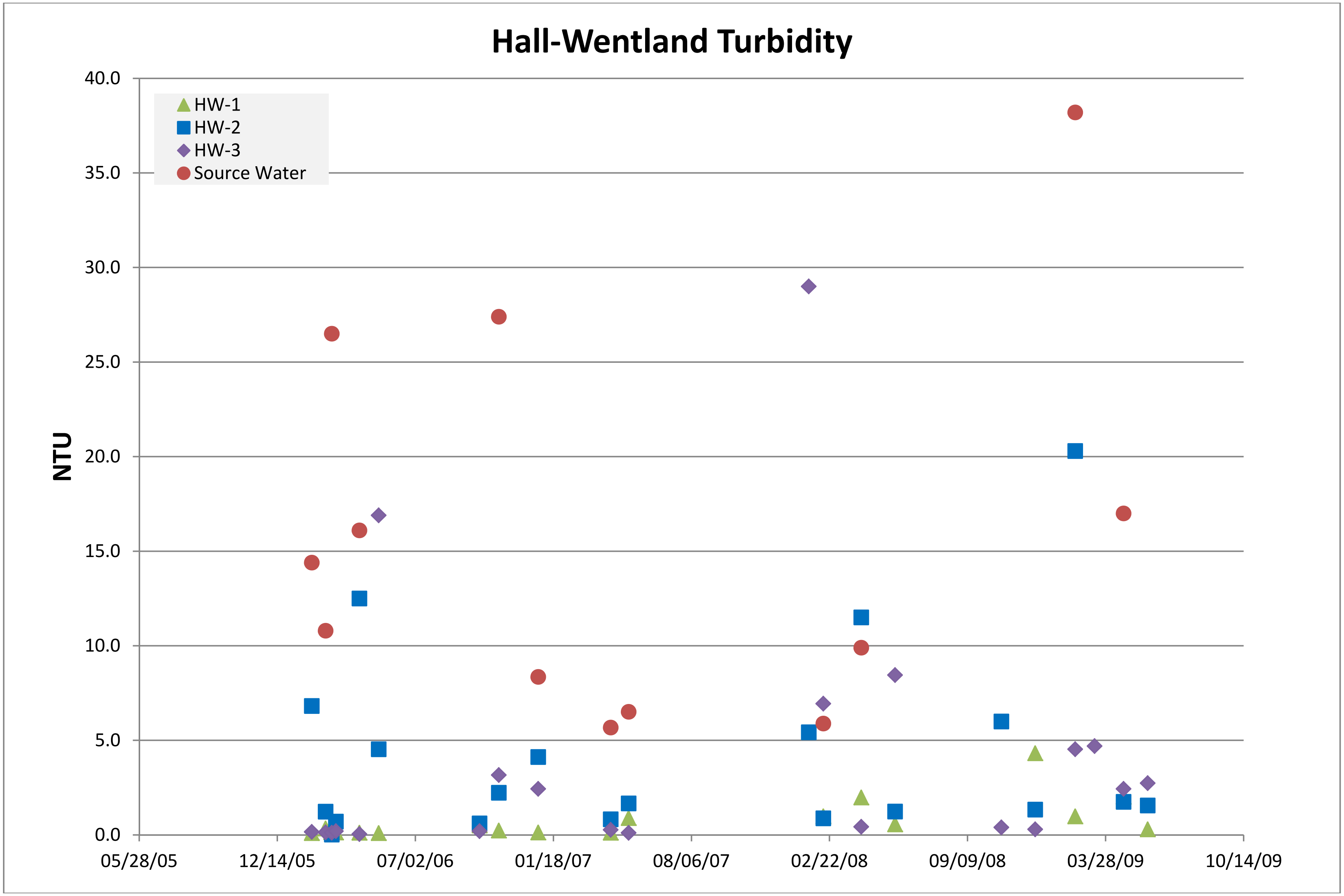

Figure B-3. Hall-Wentland turbidity. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

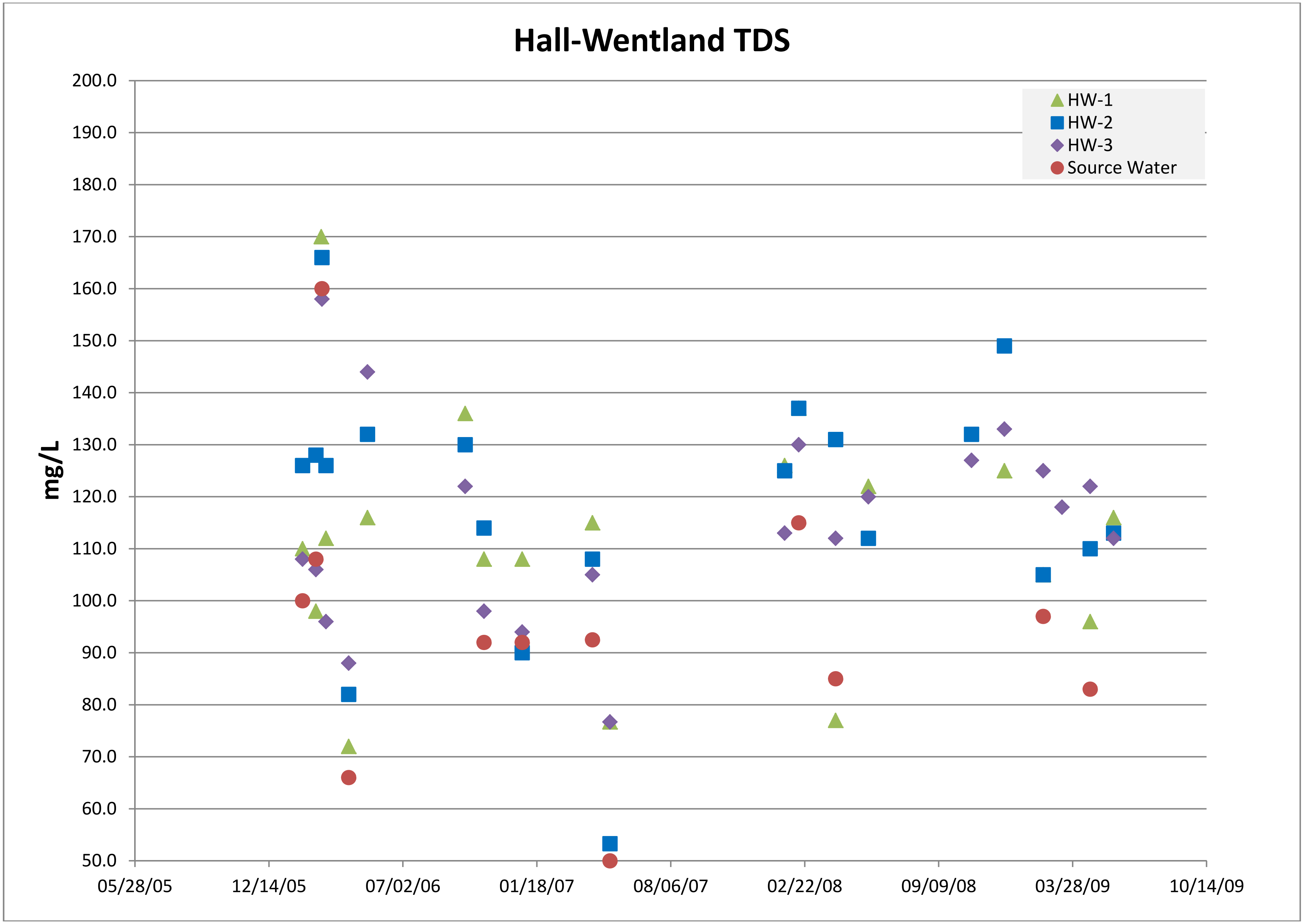

Figure B-4. Hall-Wentland total dissolved solids (TDS). HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

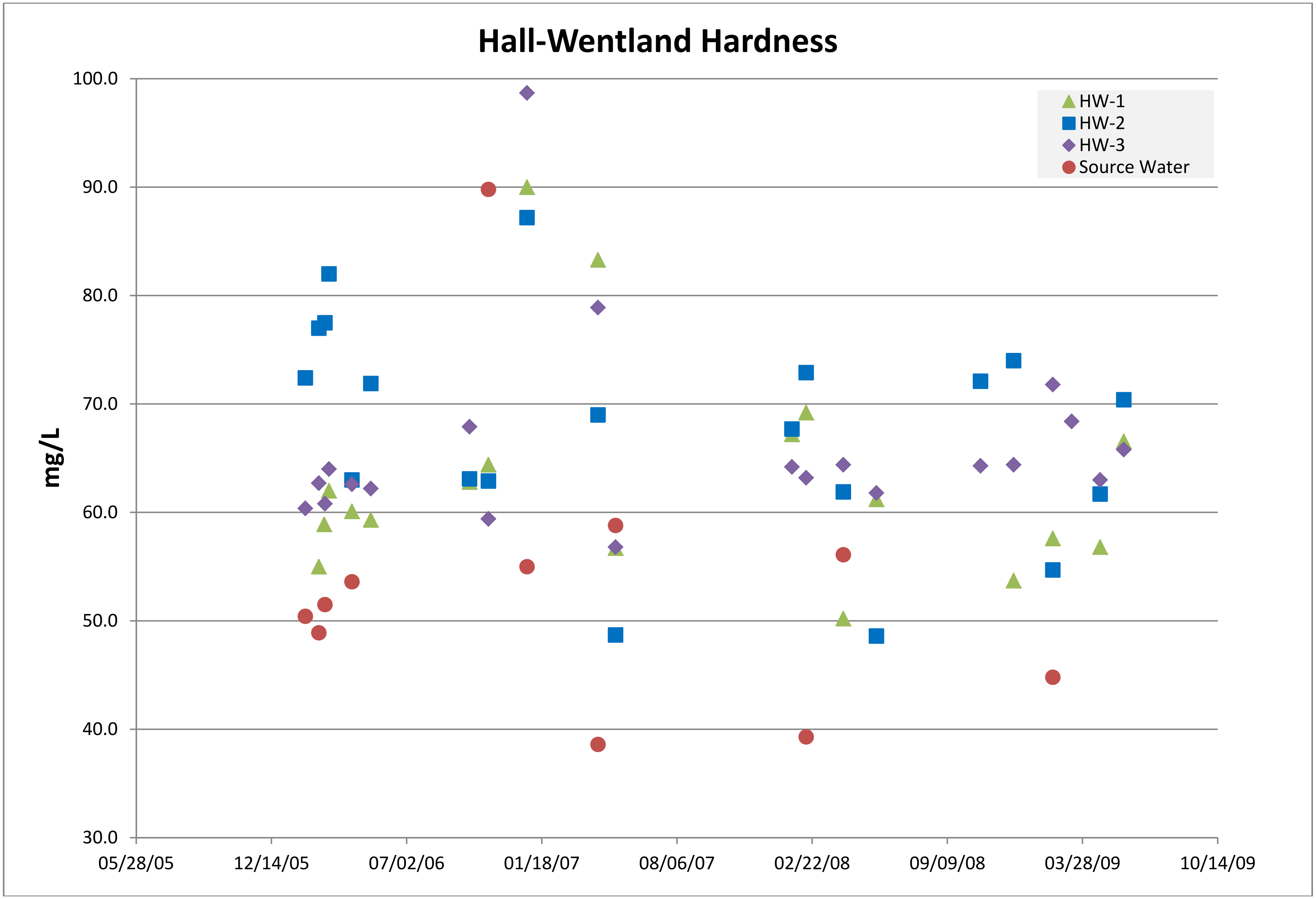

Figure B-5. Hall-Wentland Hardness. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

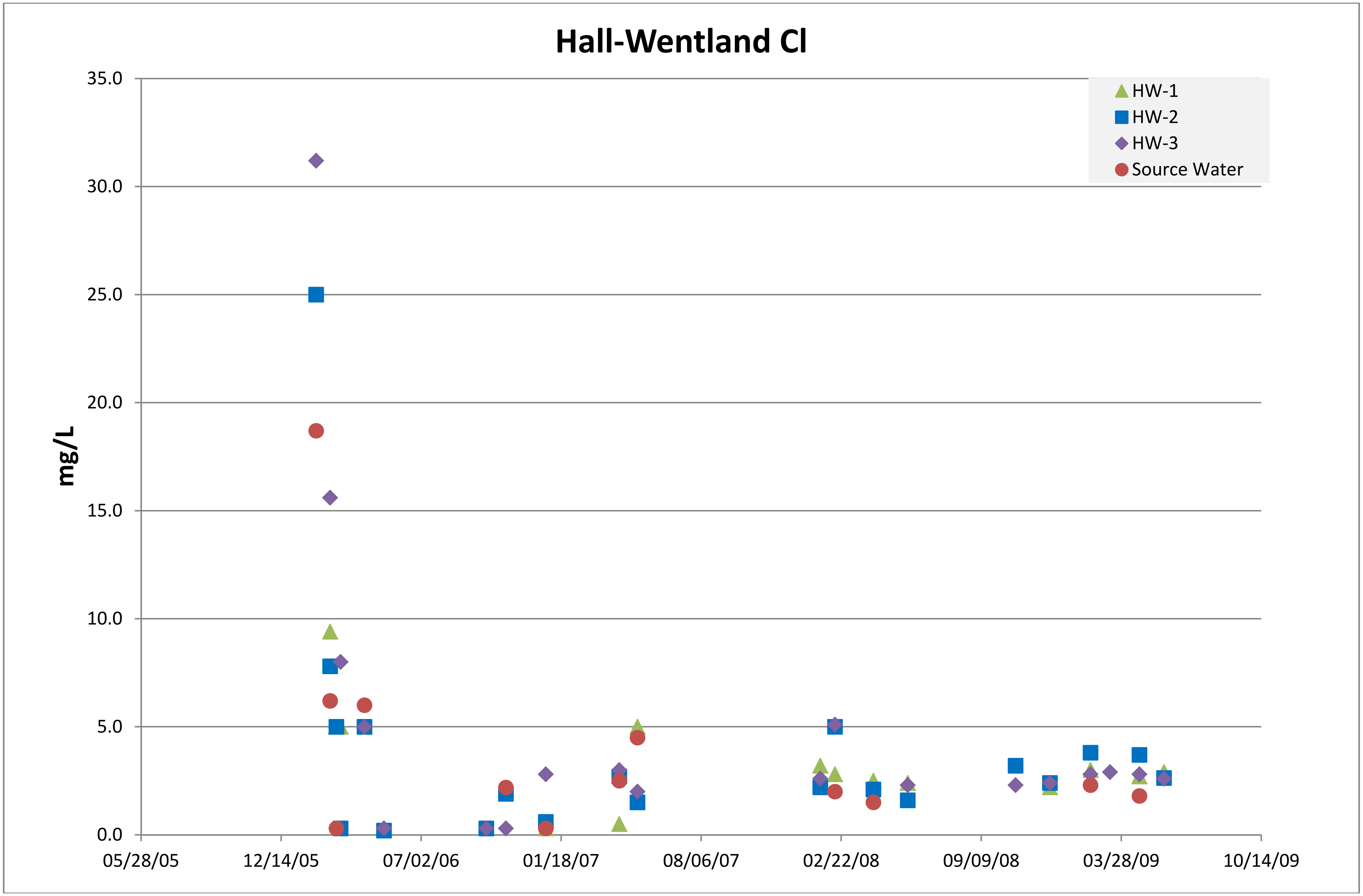

Figure B-6. Hall-Wentland chloride. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

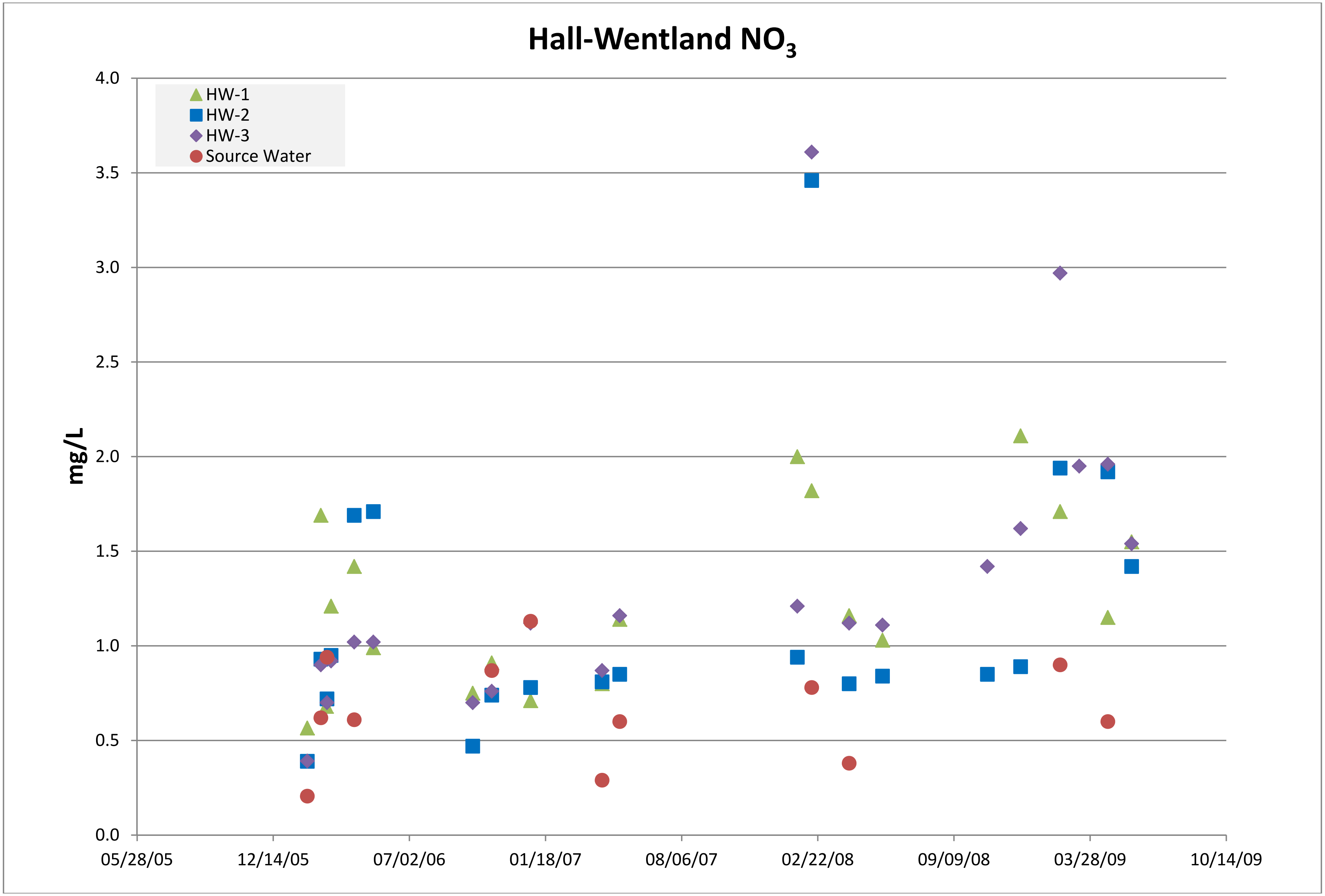

Figure B-7. Hall-Wentland nitrate-N. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

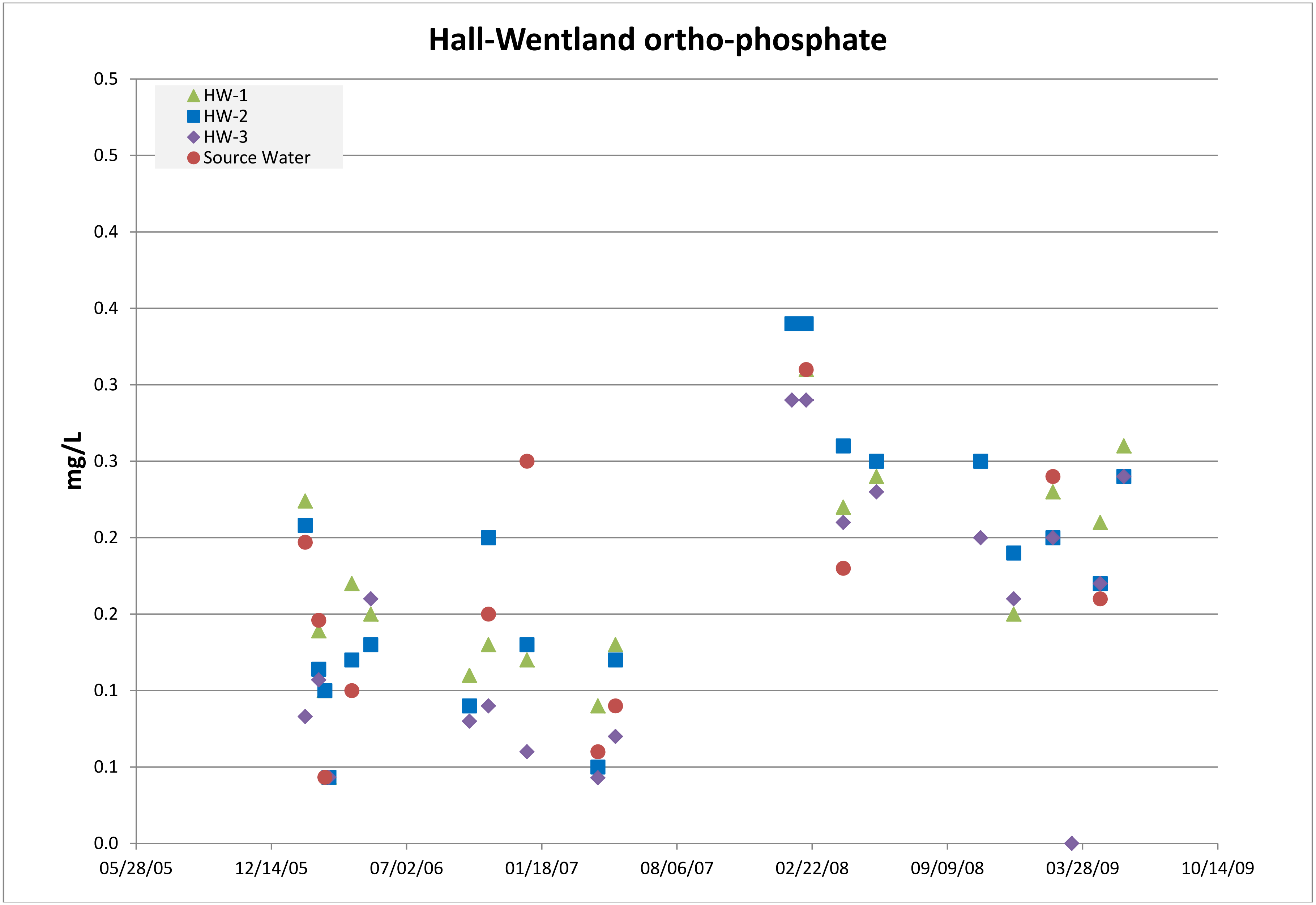

Figure B-8. Hall-Wentland ortho-phosphate. HW-1 = Hall-Wentland monitoring well 1. HW-2 = Hall-Wentland monitoring well 2. HW-3 = Hall-Wentland monitoring well 3.

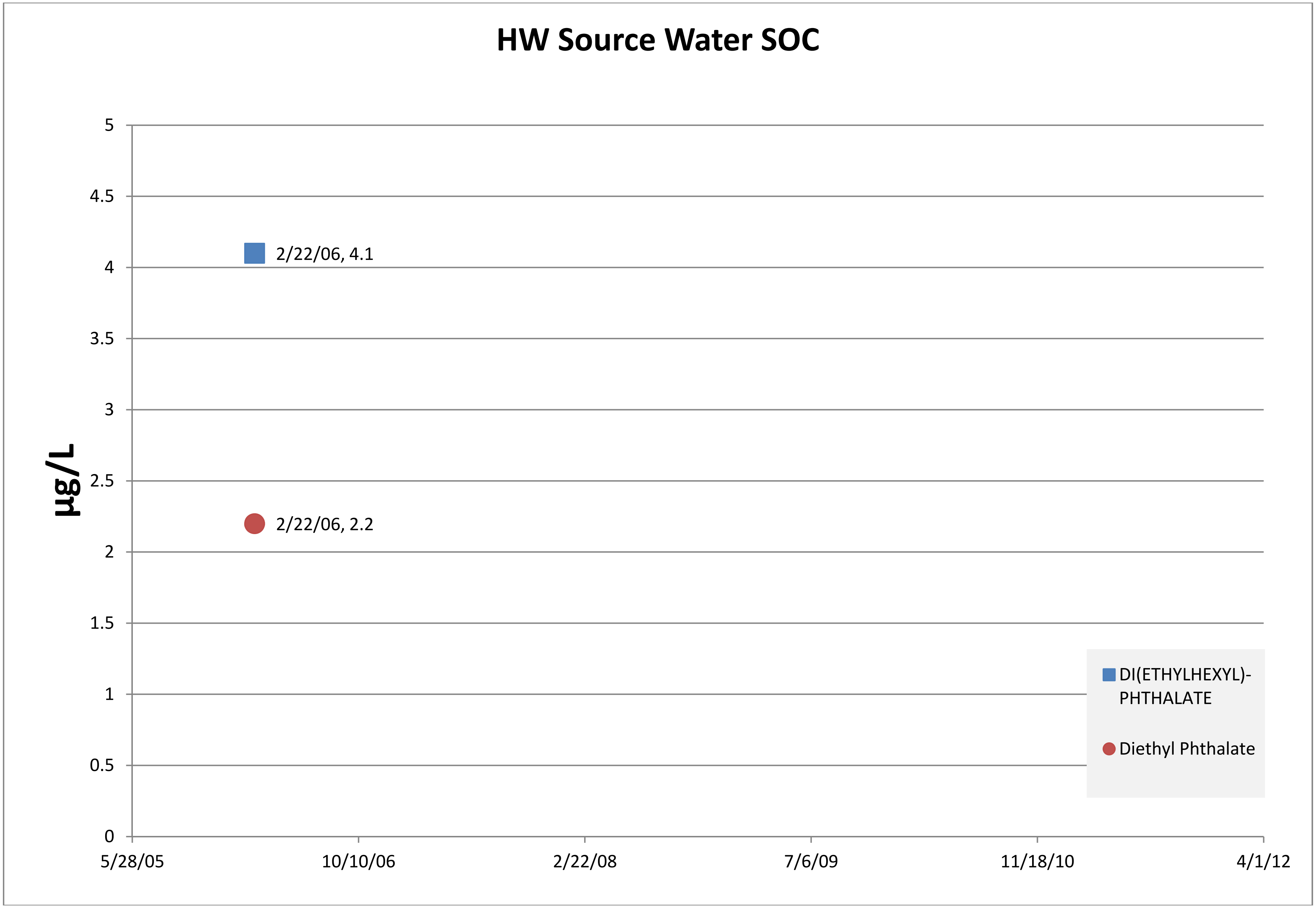

Figure B-9. Hall-Wentland source water SOC's.

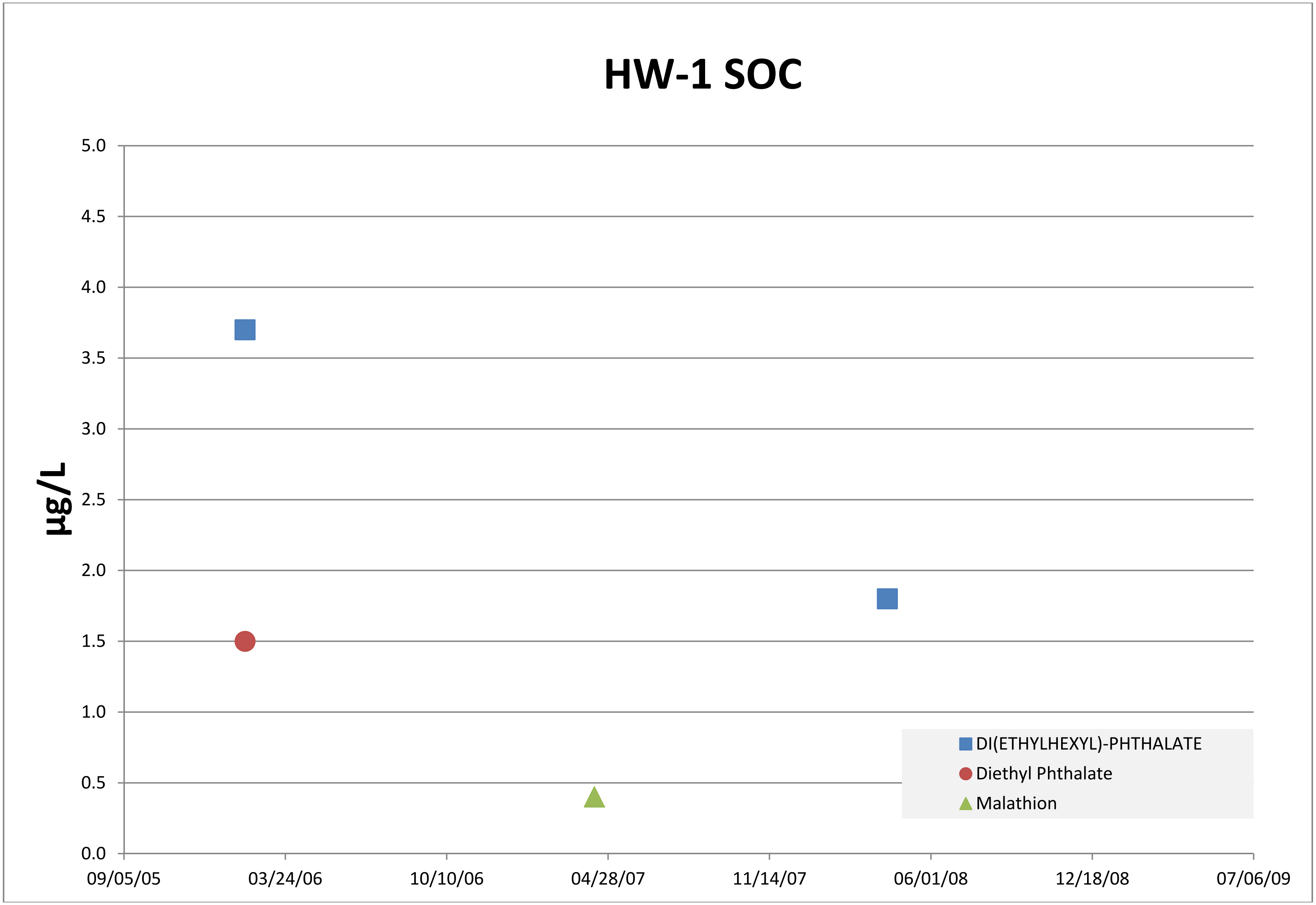

Figure B-10. Hall-Wentland monitoring well HW-1 water SOC's.

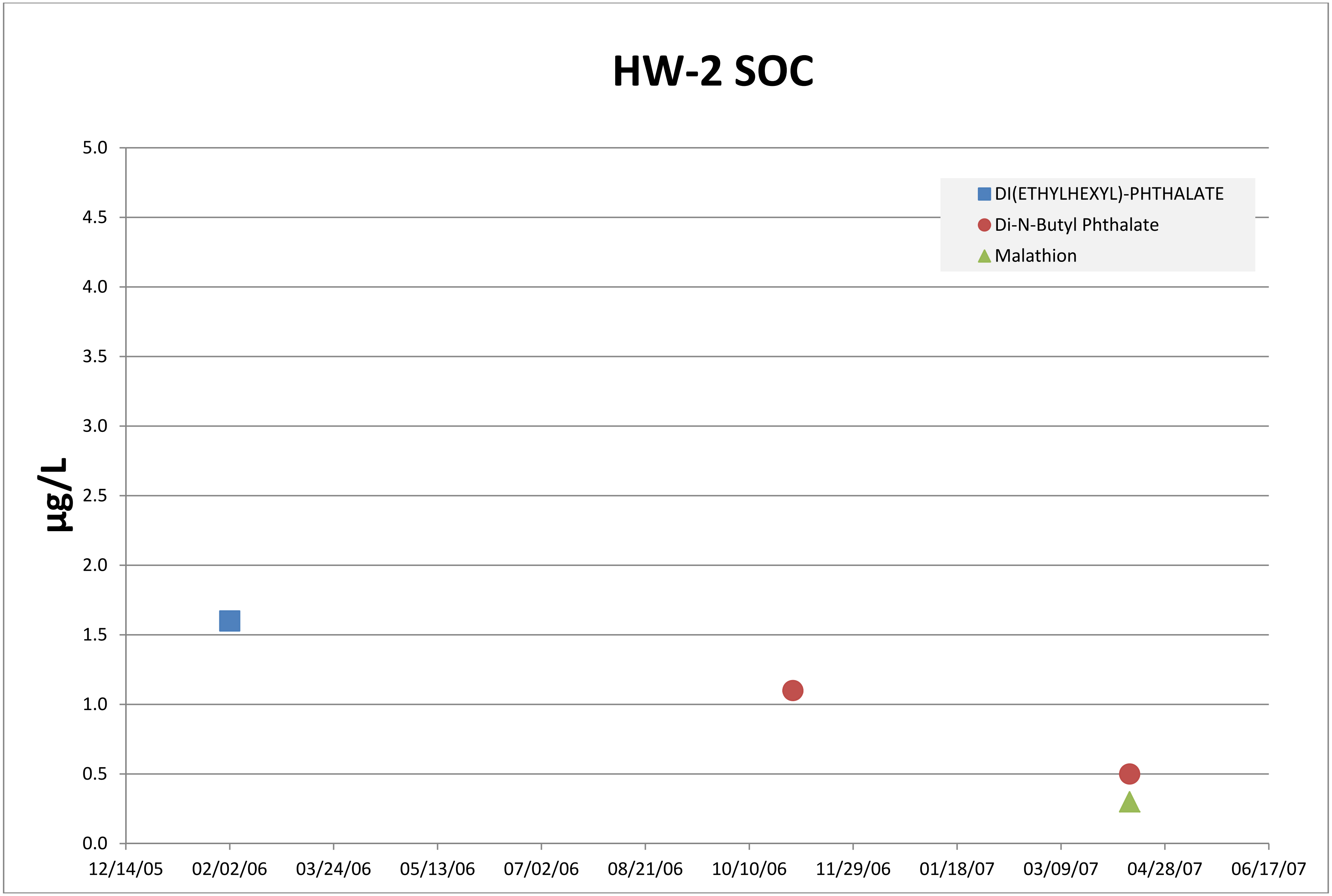

Figure B-11. Hall-Wentland monitoring well HW-2 water SOC’s.

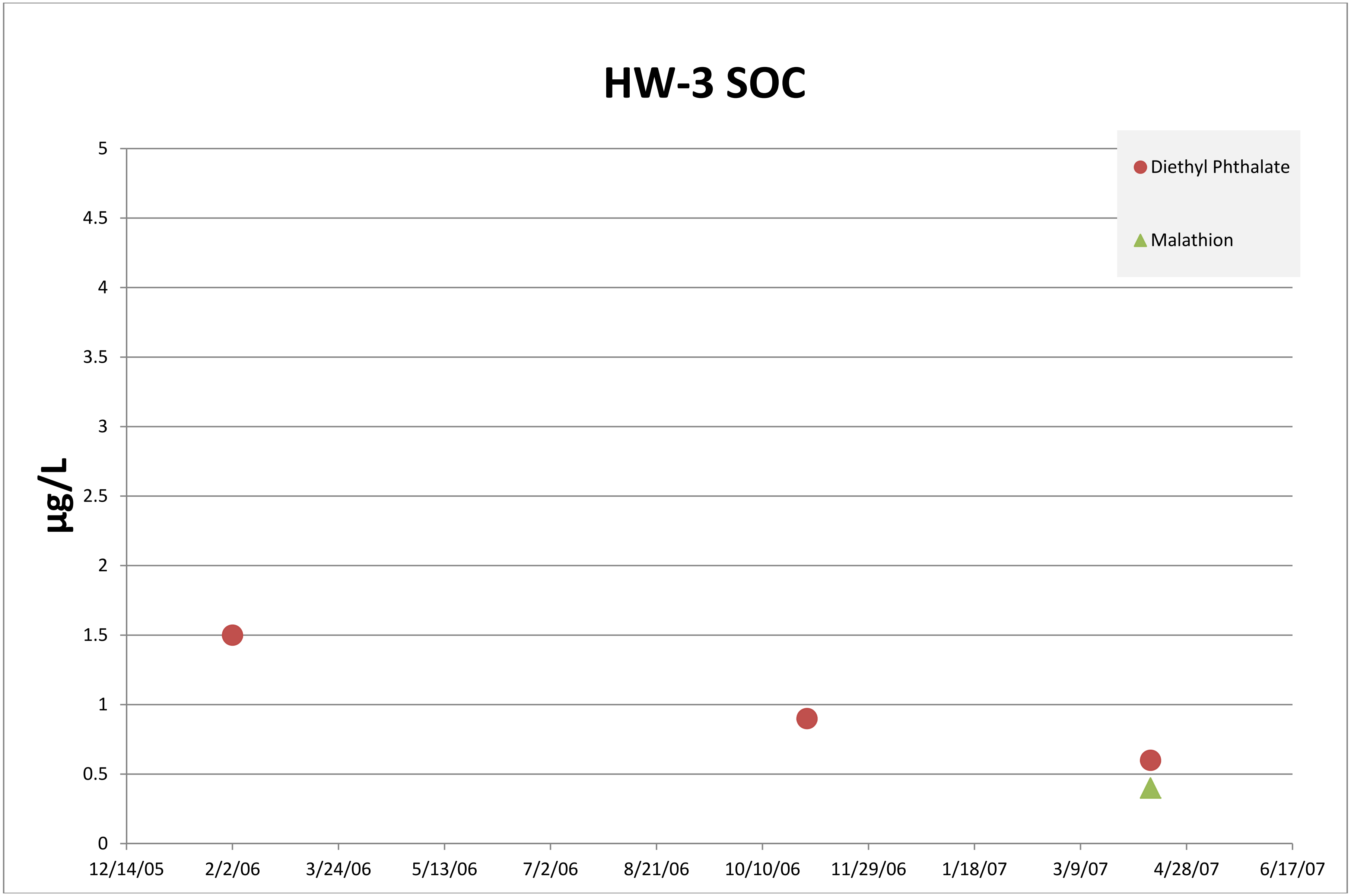

Figure B-12. Hall-Wentland monitoring well HW-3 water SOC’s.

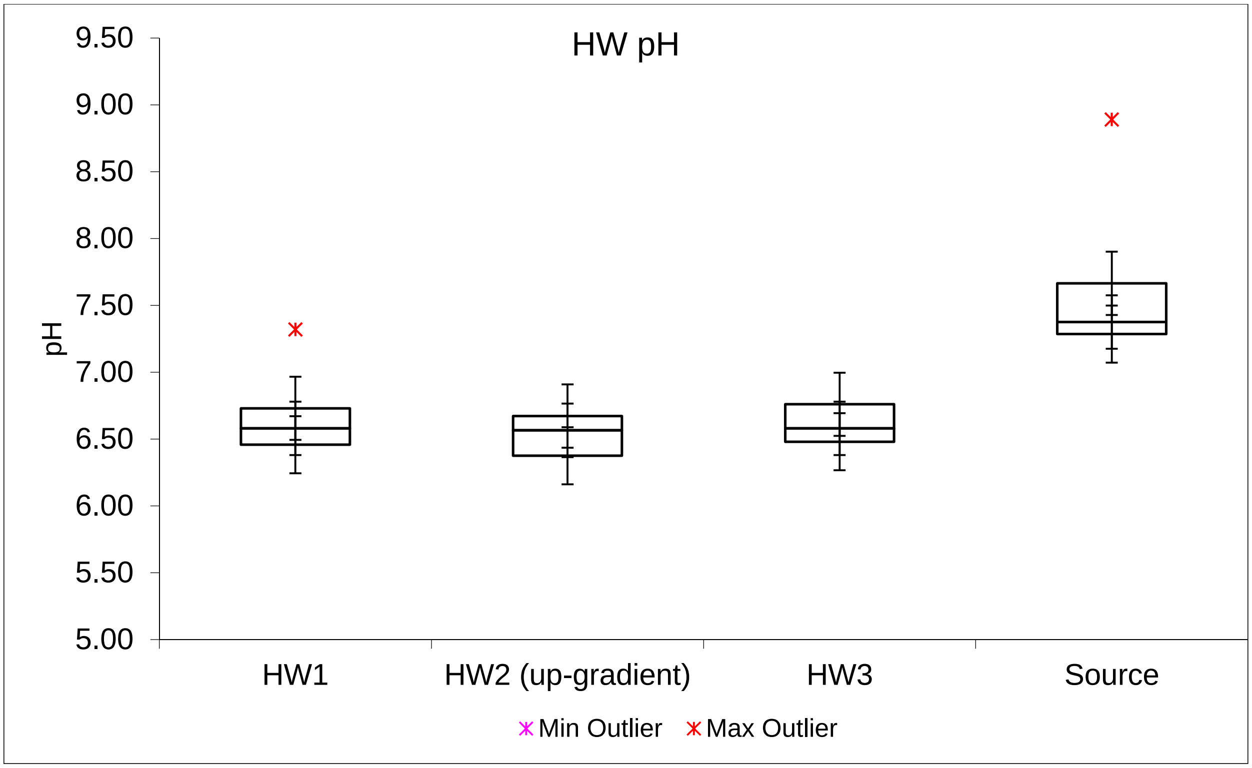

Figure B-13. Hall-Wentland pH box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

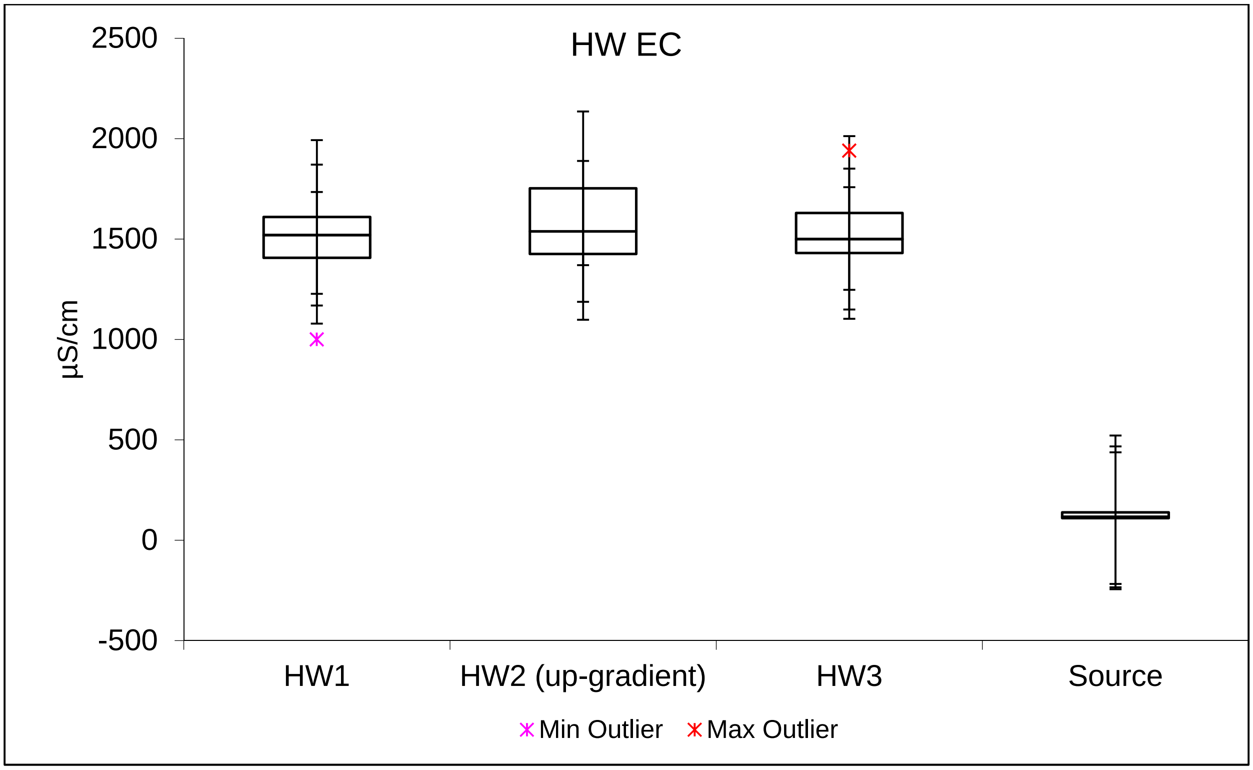

Figure B-14. Hall-Wentland EC box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

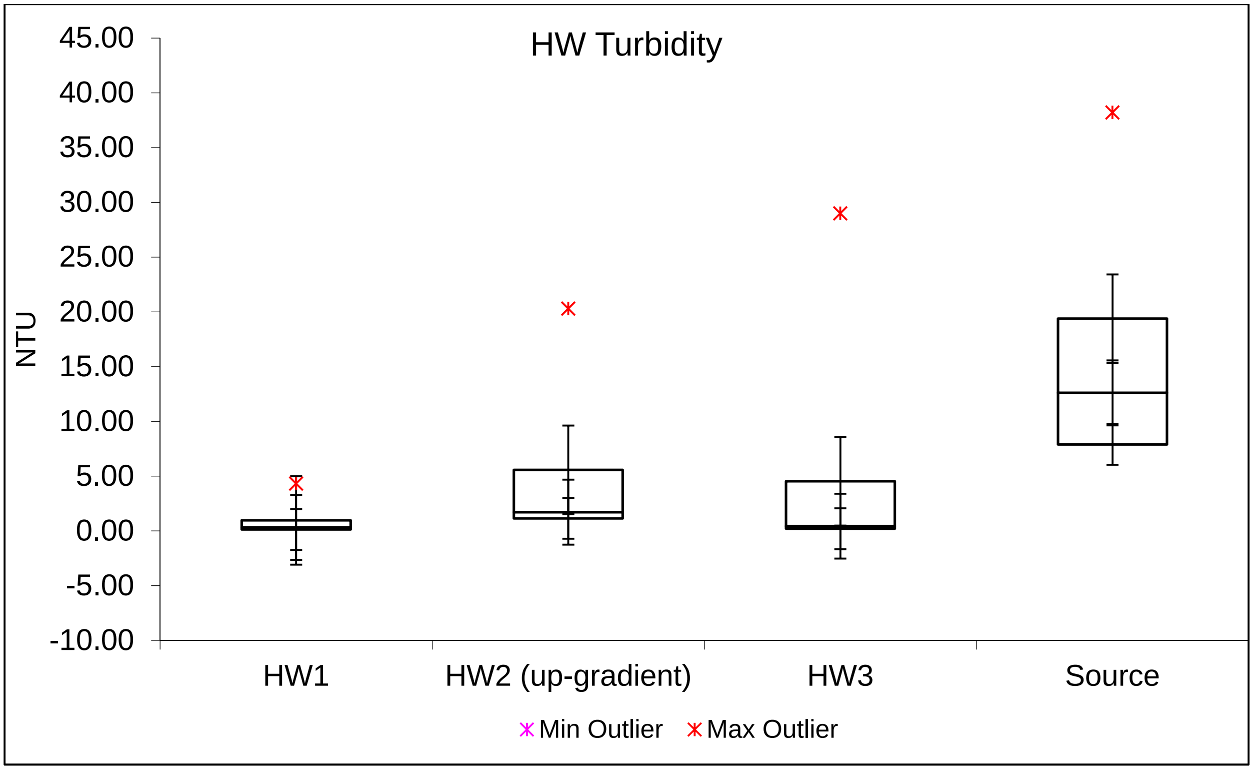

Figure B-15. Hall-Wentland turbidity box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

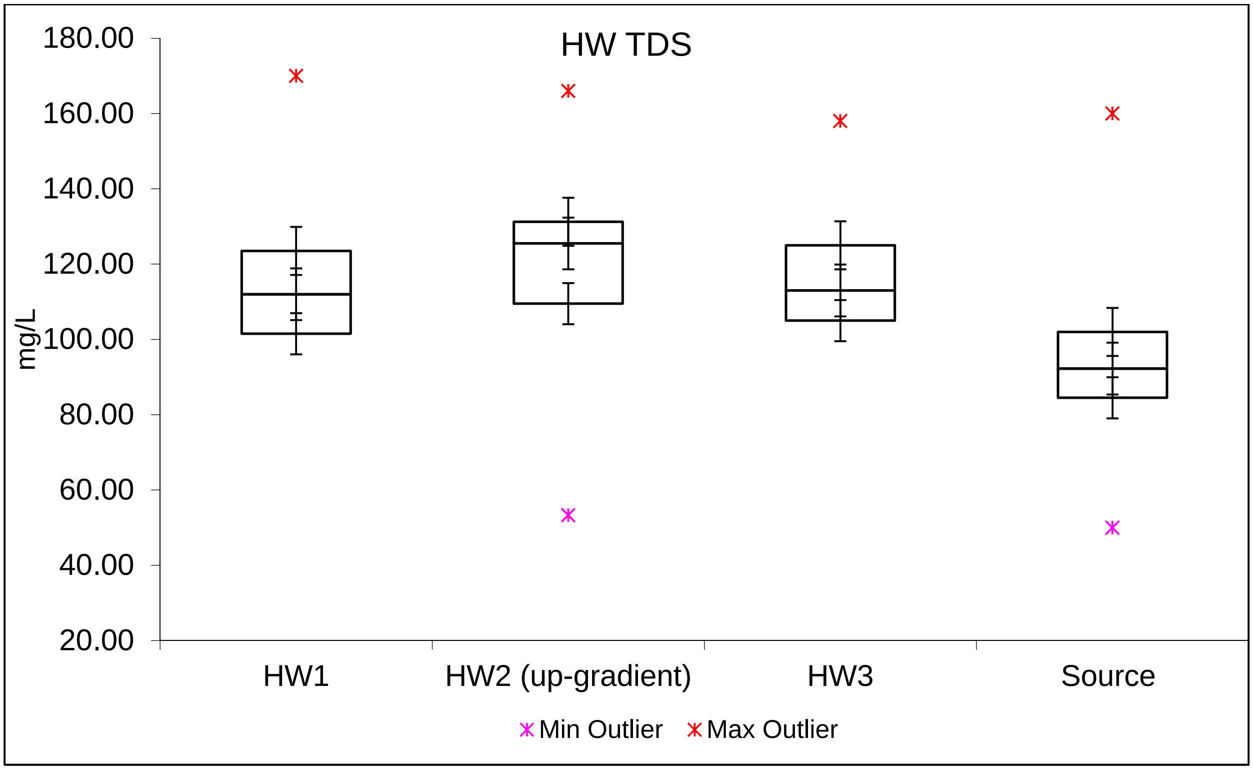

Figure B-16. Hall-Wentland TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

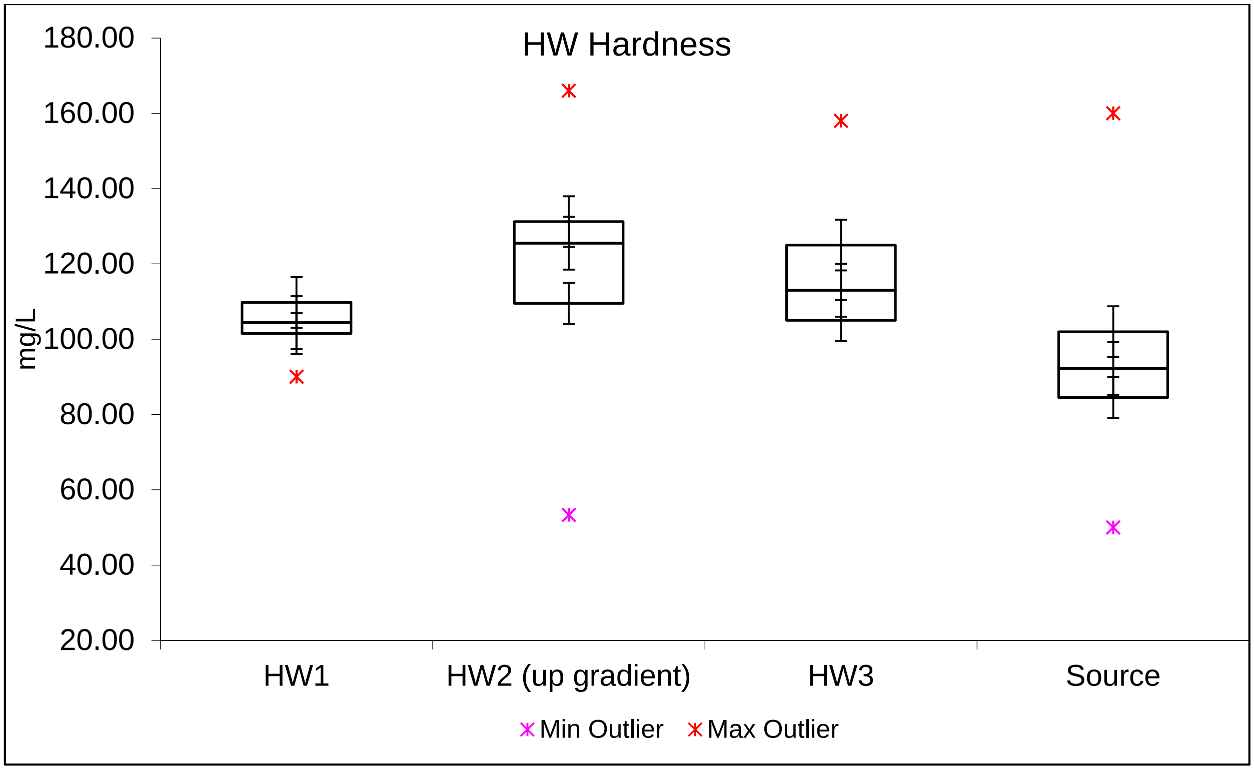

Figure B-17. Hall-Wentland hardness box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

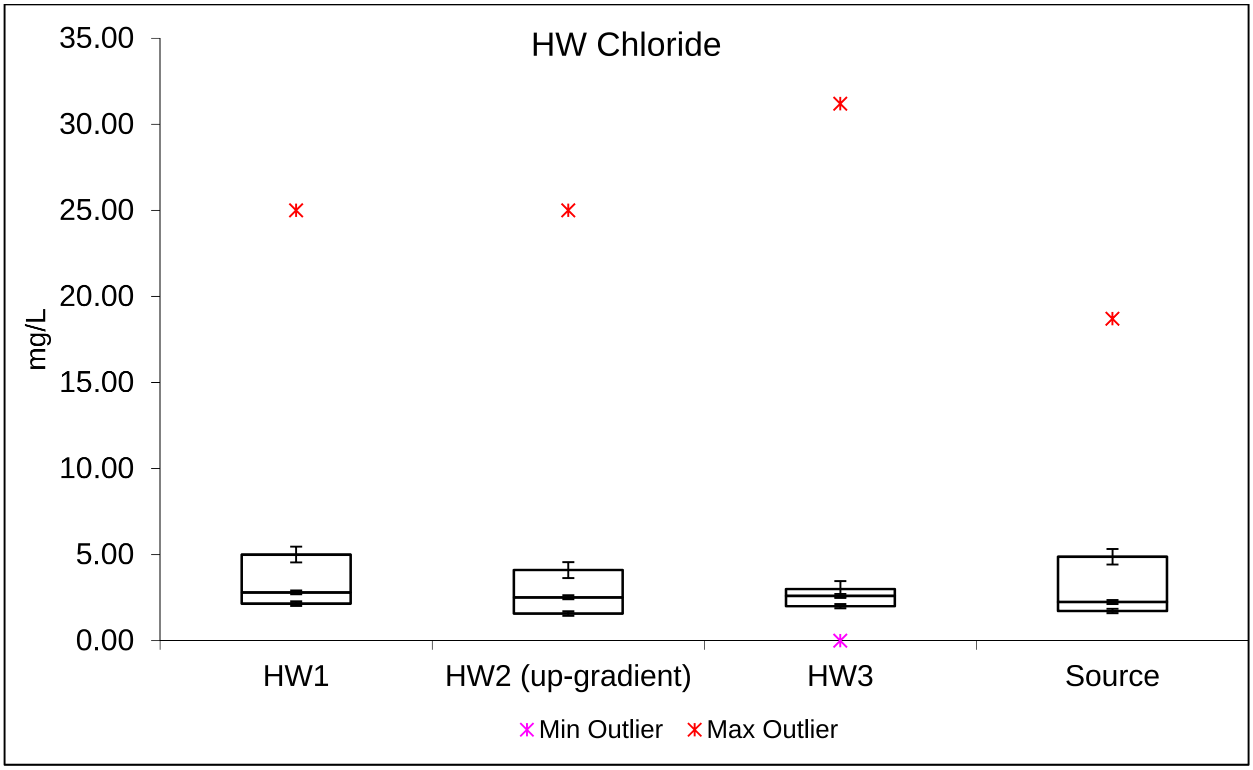

Figure B-18. Hall-Wentland chloride box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

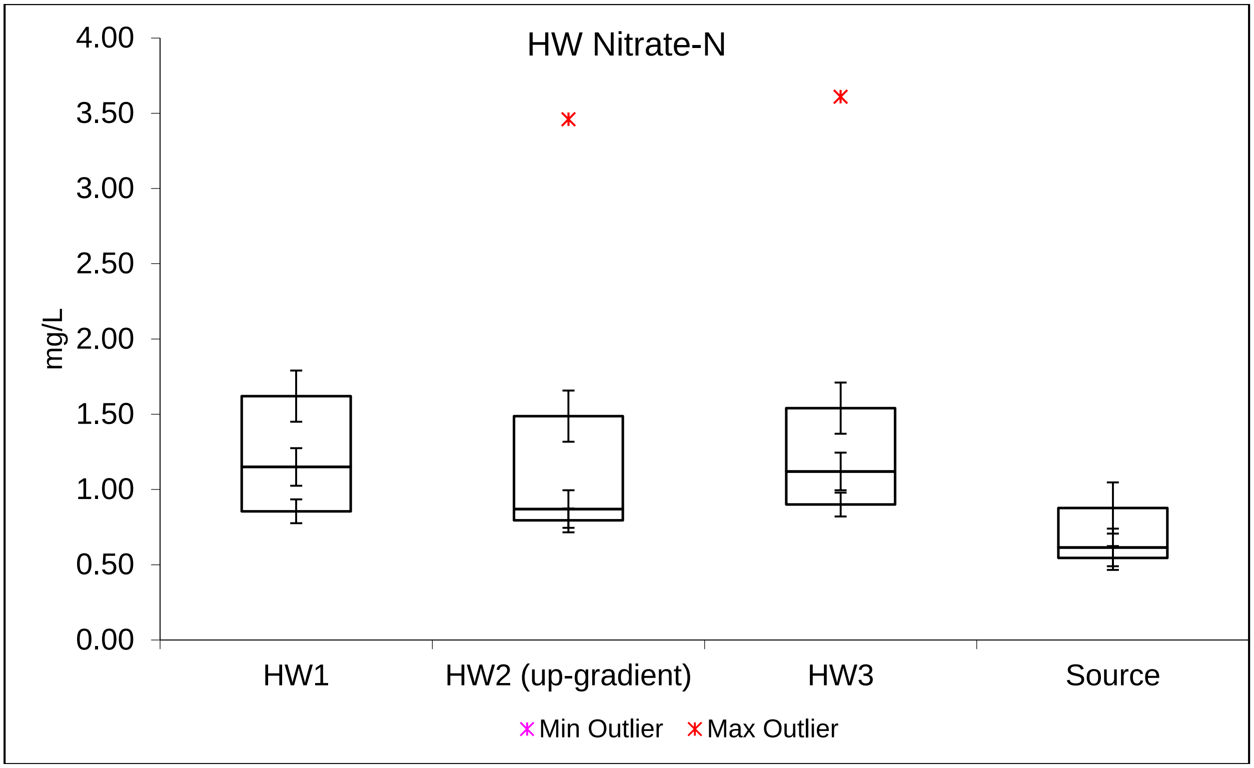

Figure B-19. Hall-Wentland nitrate-N box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

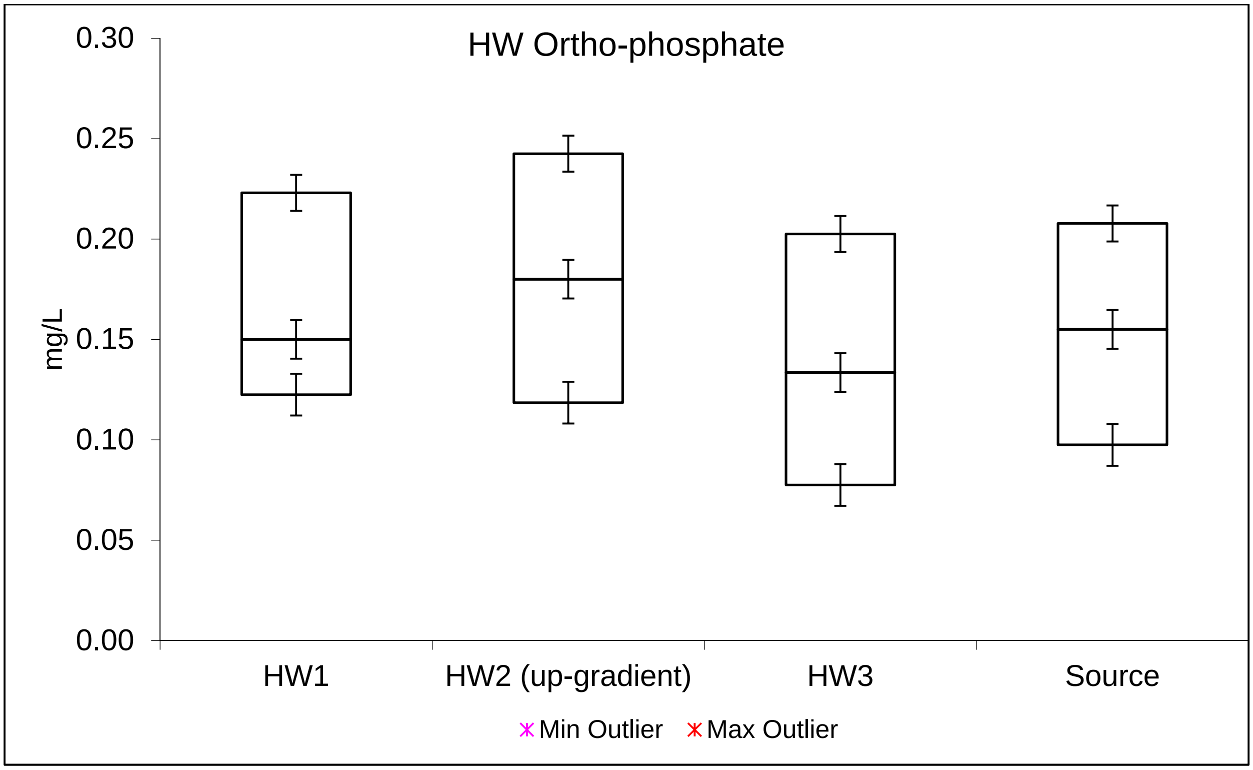

Figure B-20. Hall-Wentland ortho-phosphate box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

Appendix C

Locher Road Data Plots

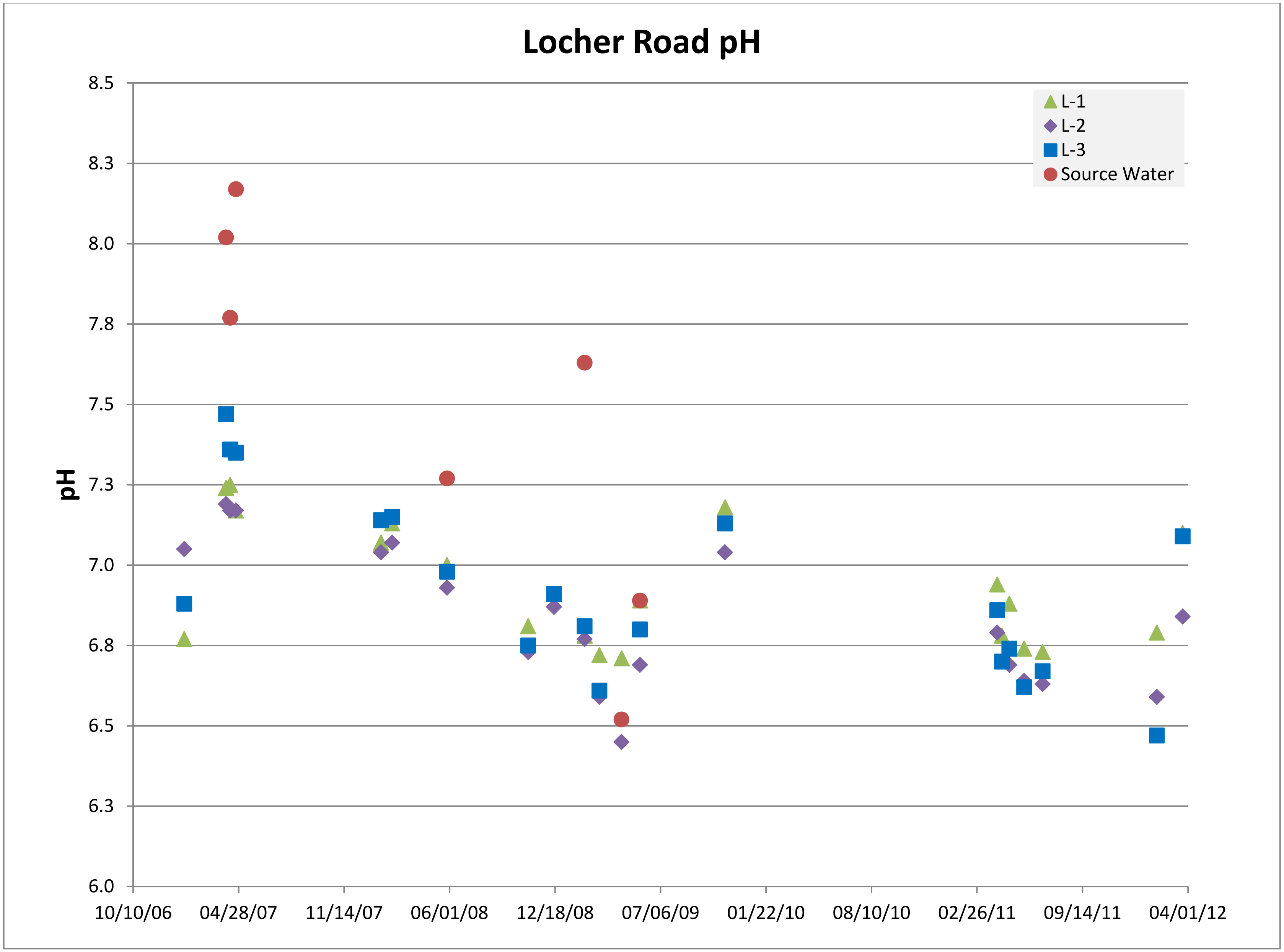

Figure C-1. Locher Road pH. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

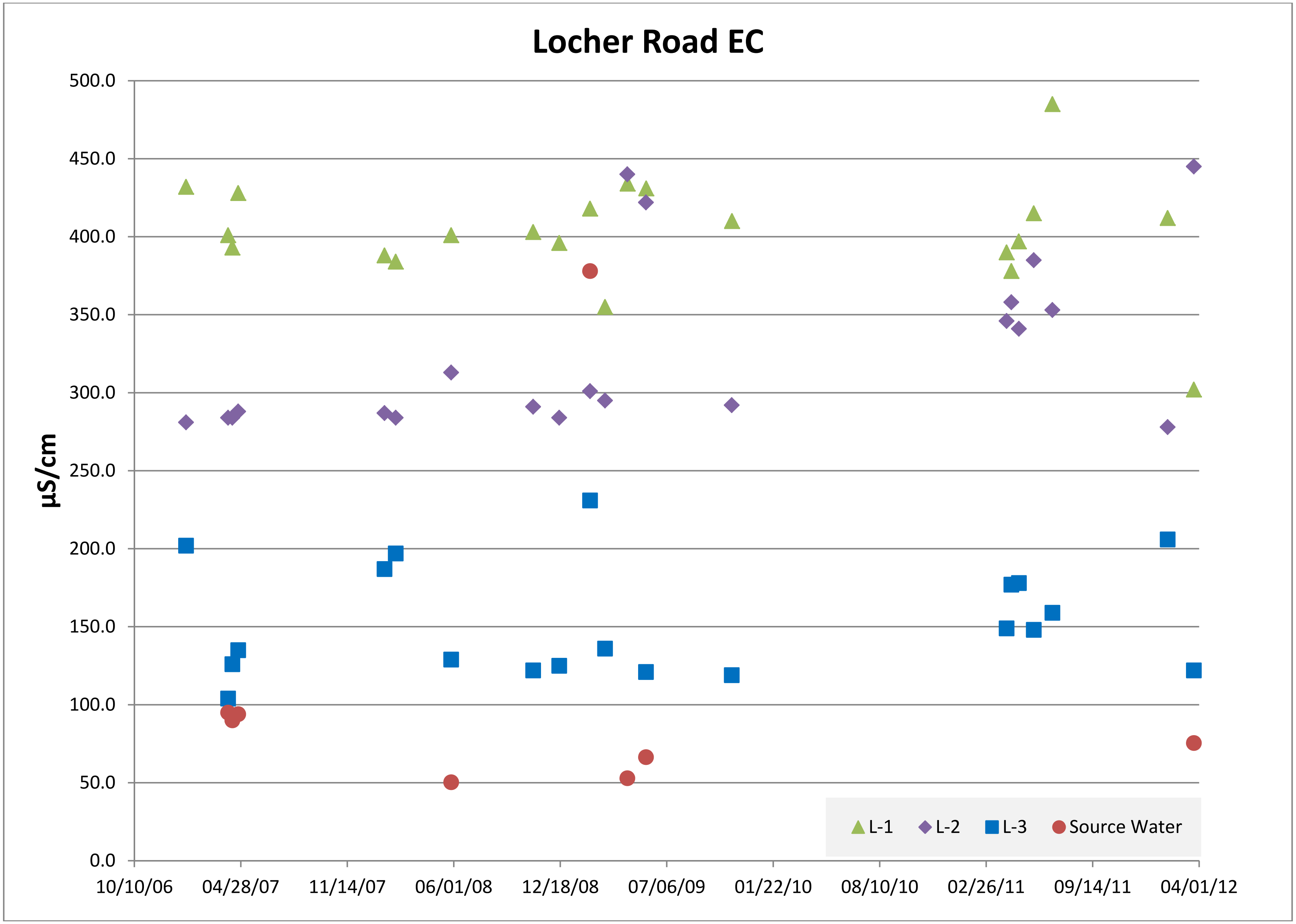

Figure C-2. Locher Road electrical conductivity (EC). L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

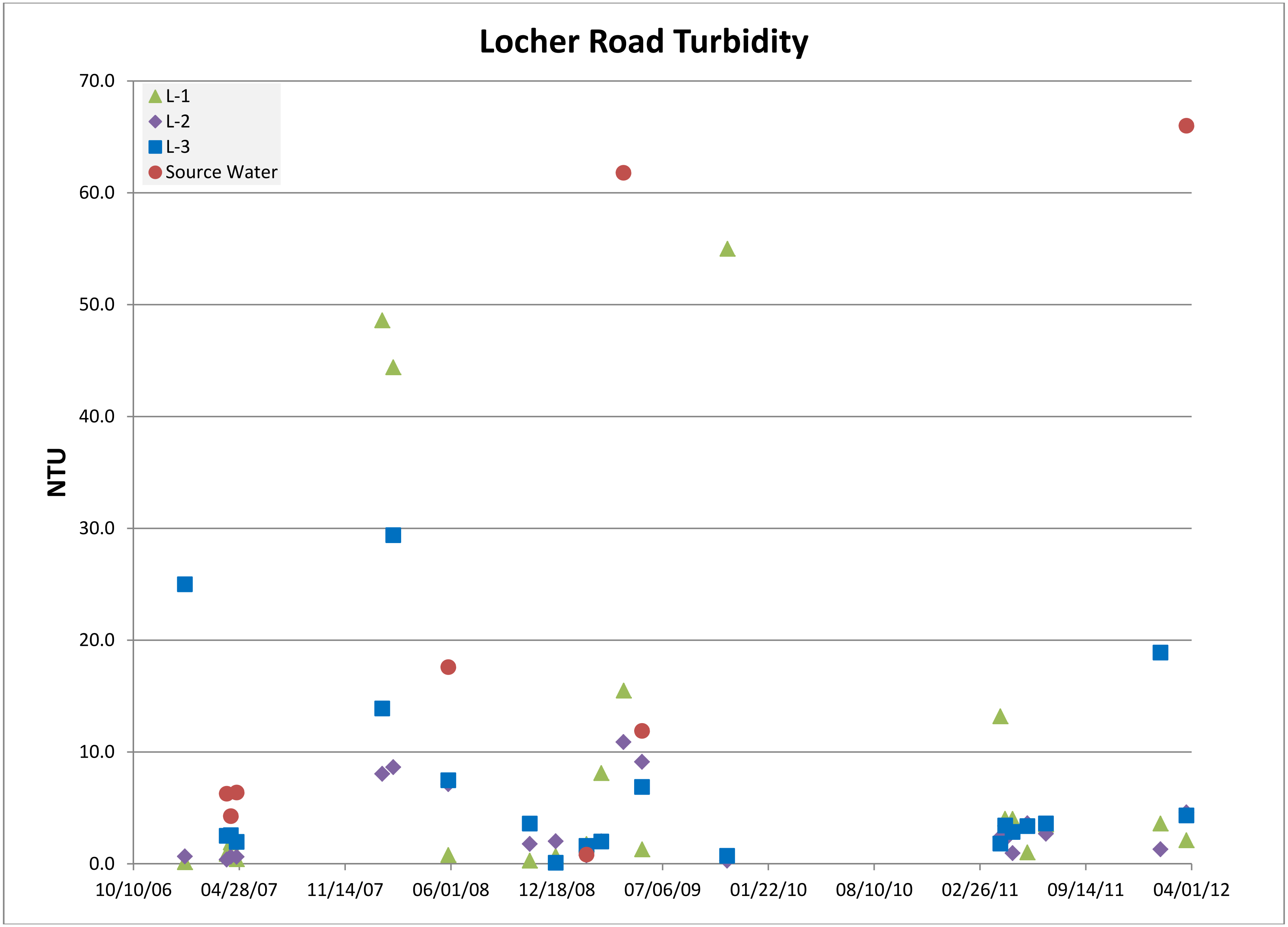

Figure C-3. Locher Road turbidity. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

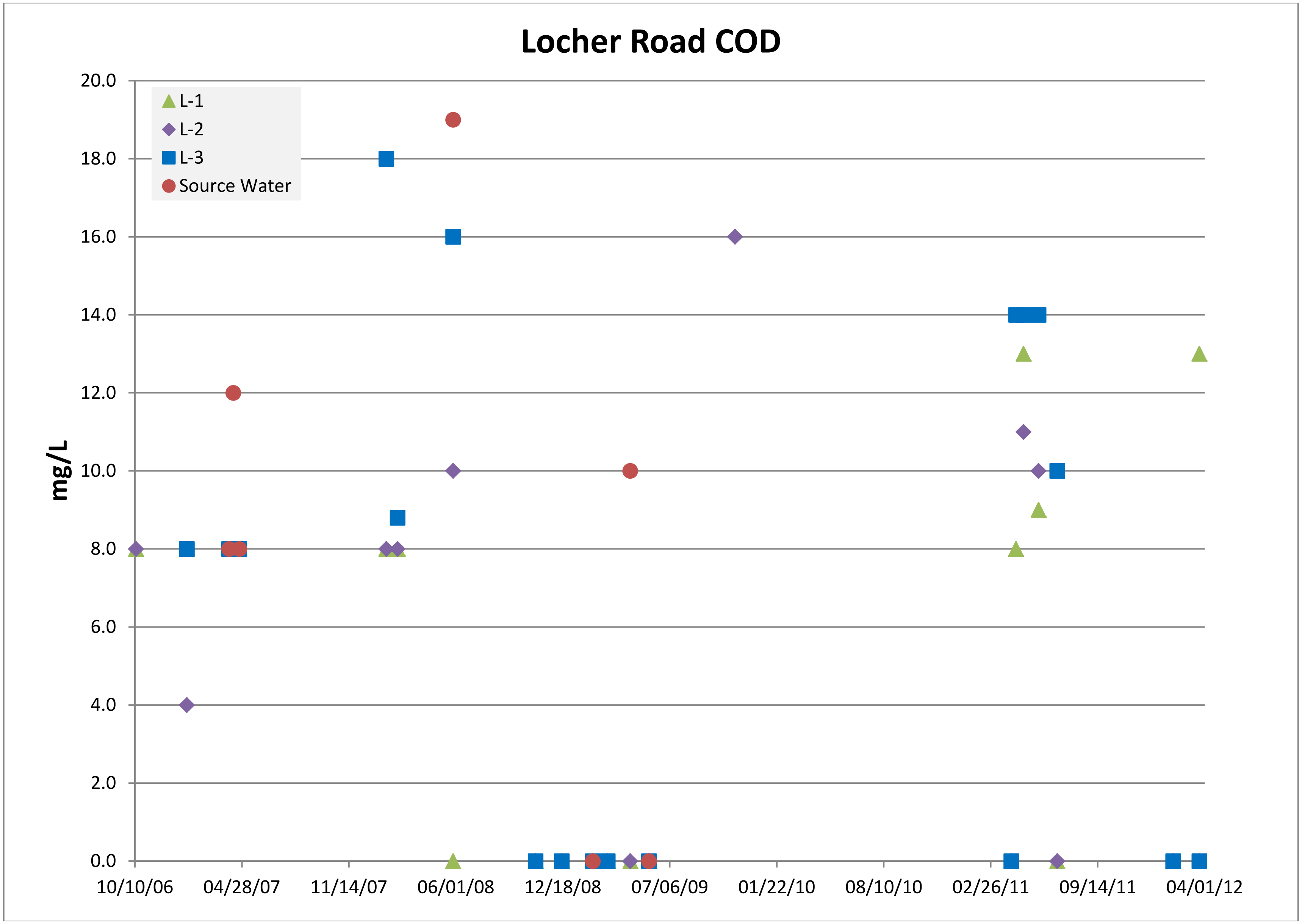

Figure C-4. Locher Road chemical oxygen demand (COD). L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

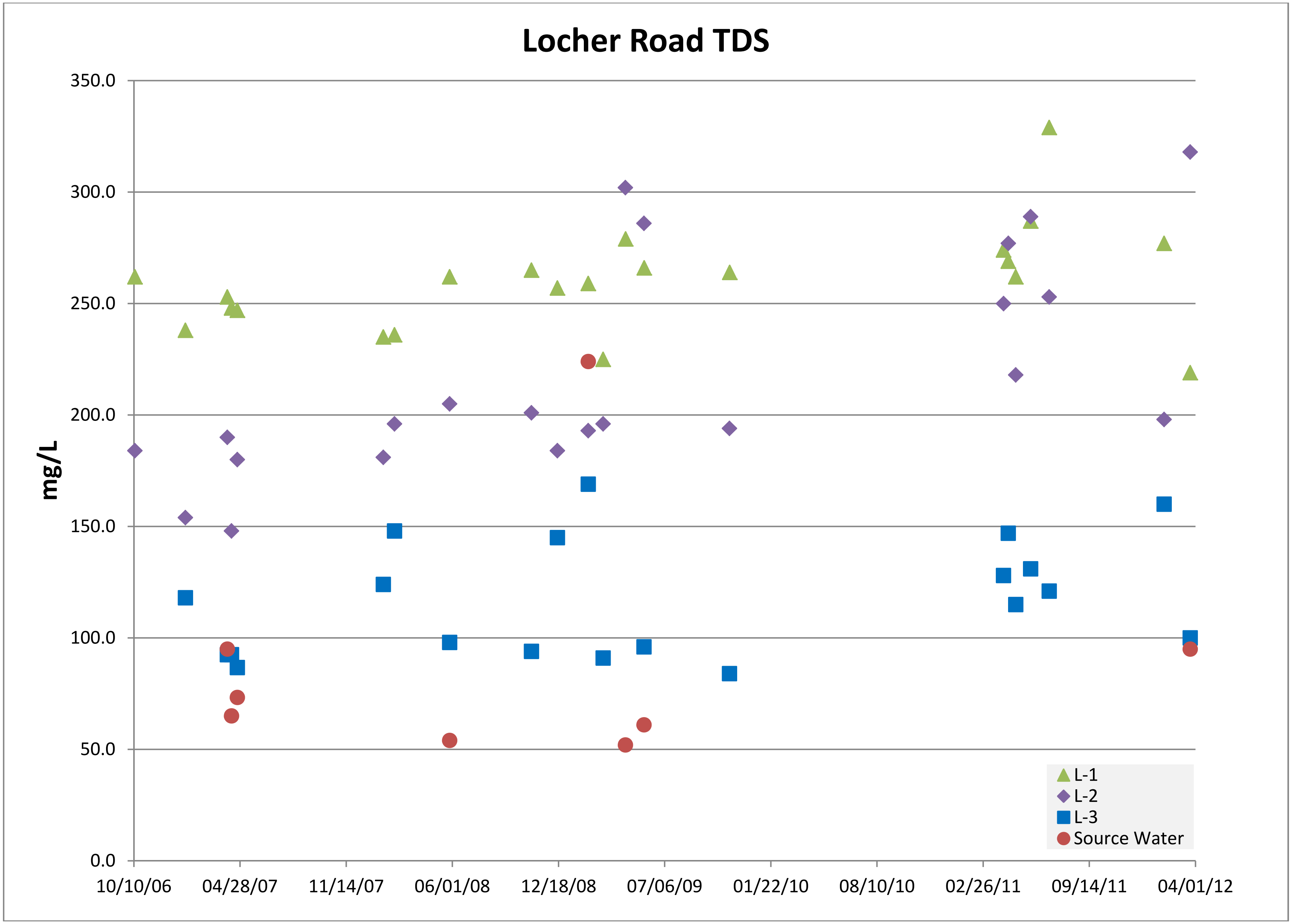

Figure C-5. Locher Road total dissolved solids (TDS). L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

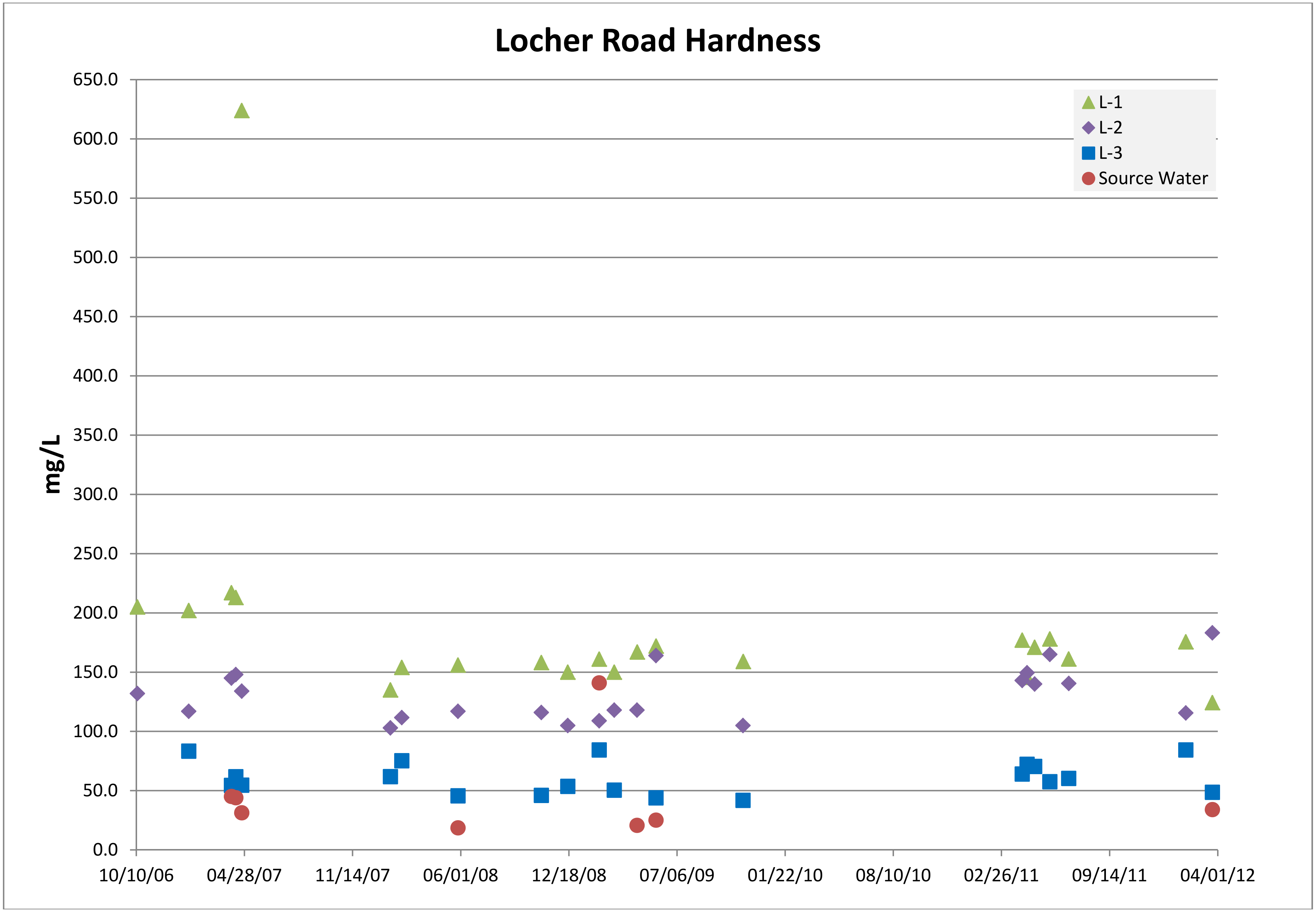

Figure C-6. Locher Road hardness. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

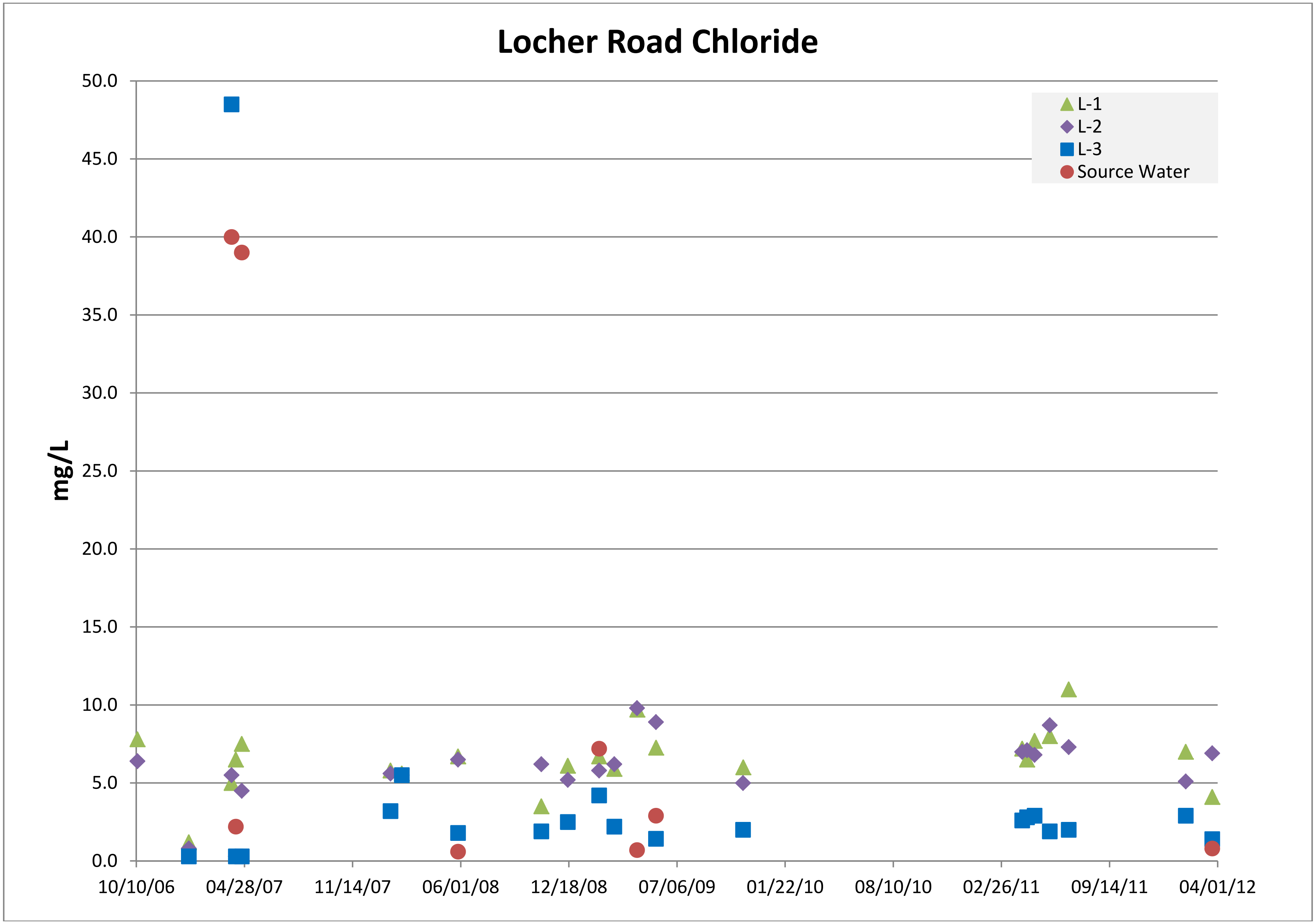

Figure C-7. Locher Road chloride. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

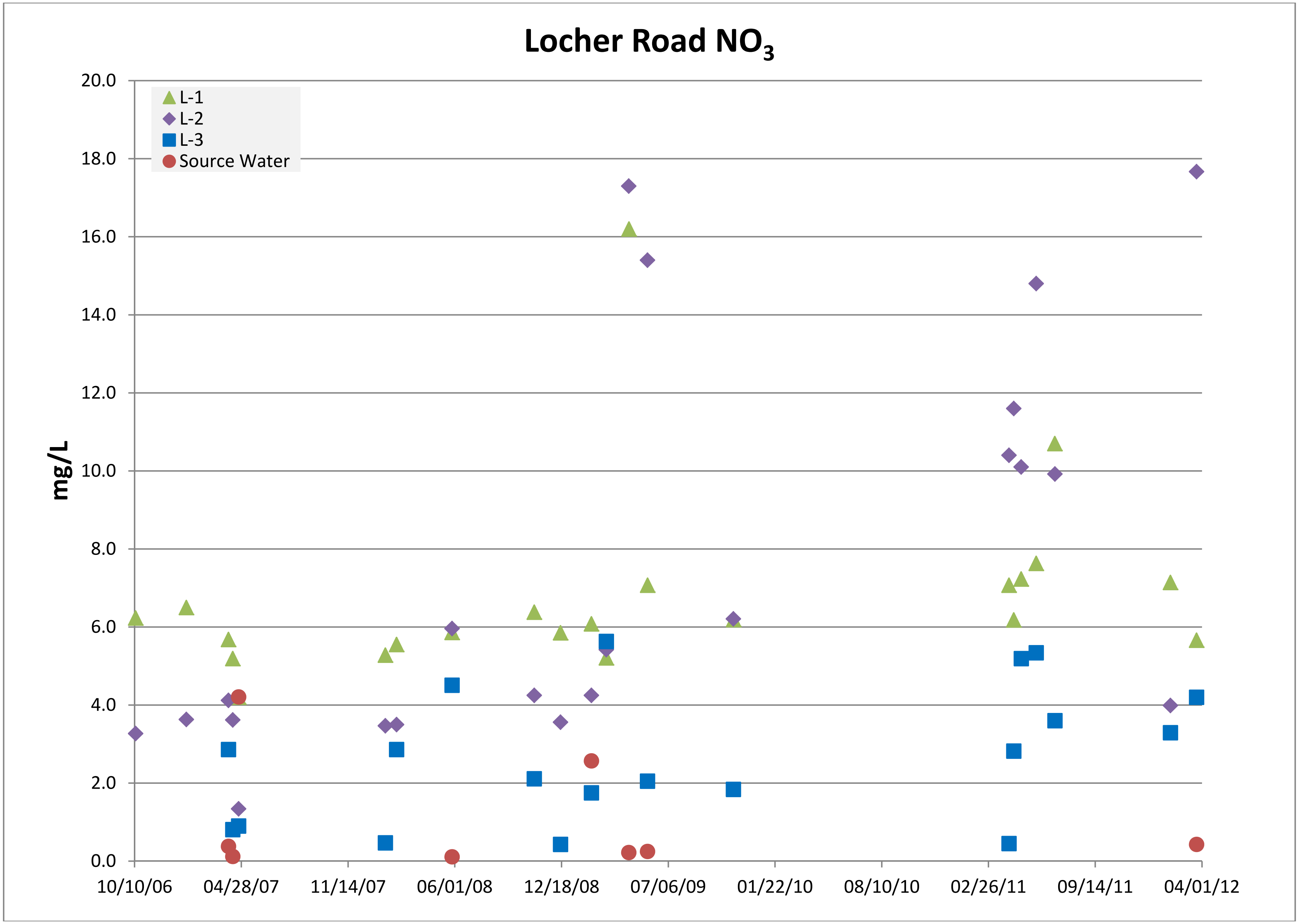

Figure C-8. Locher Road nitrate-N. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

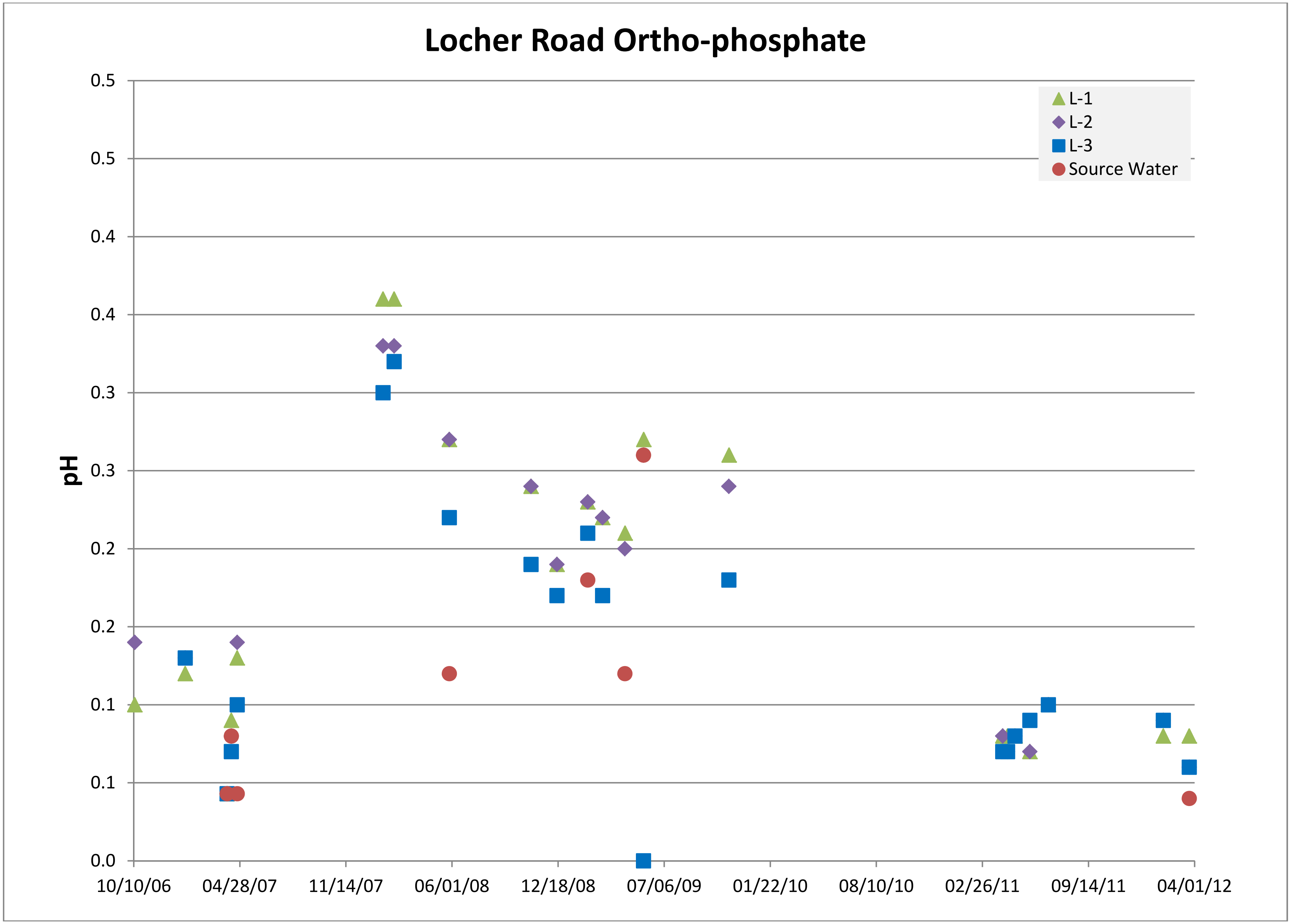

Figure C-9. Locher Road ortho-phosphate. L-1 = Locher Road monitoring well L-1. L-2 = Locher Road monitoring well L-2. L-3 = Locher Road monitoring well L-3.

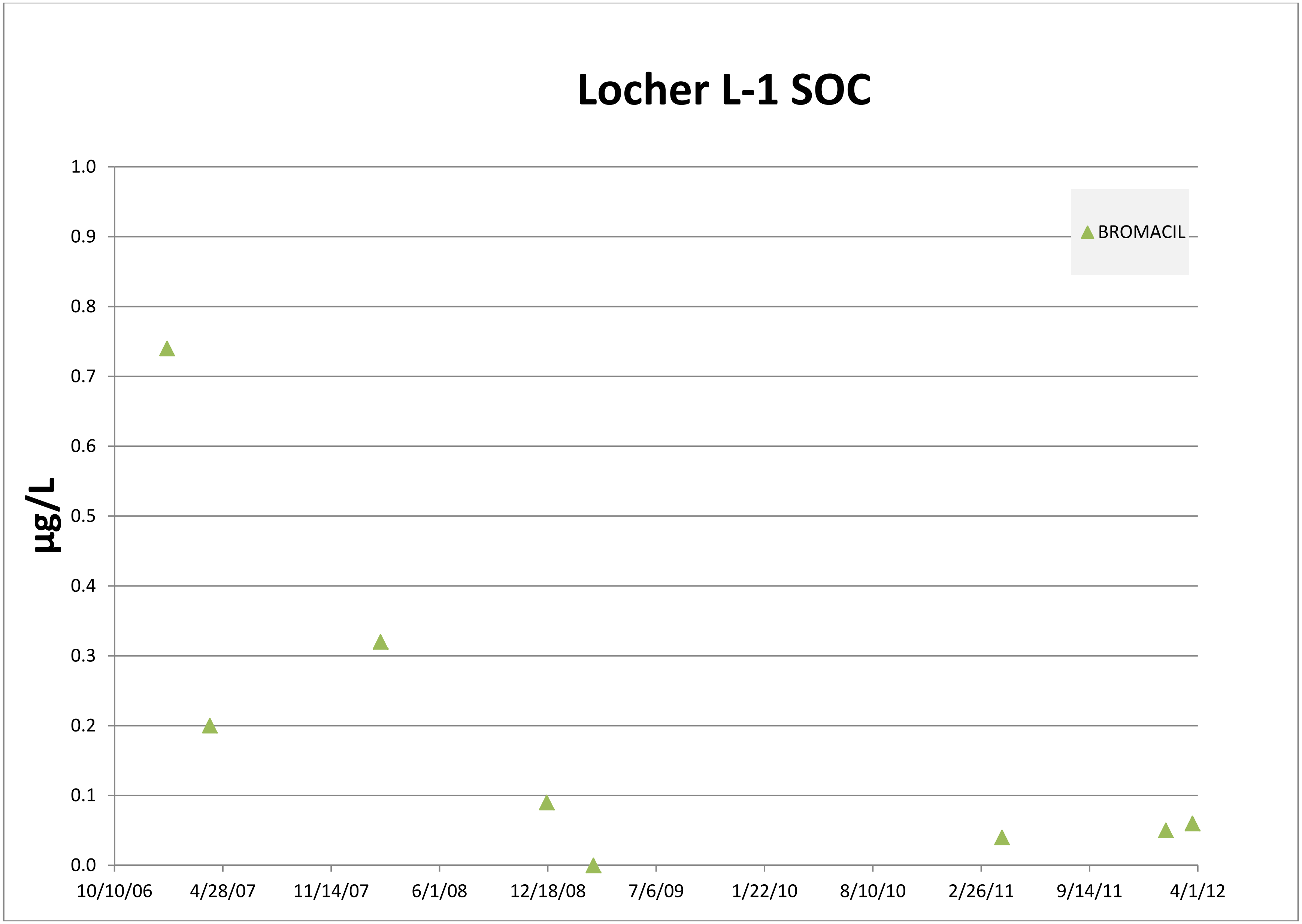

Figure C-10. Locher Road monitoring well L-1 SOC's.

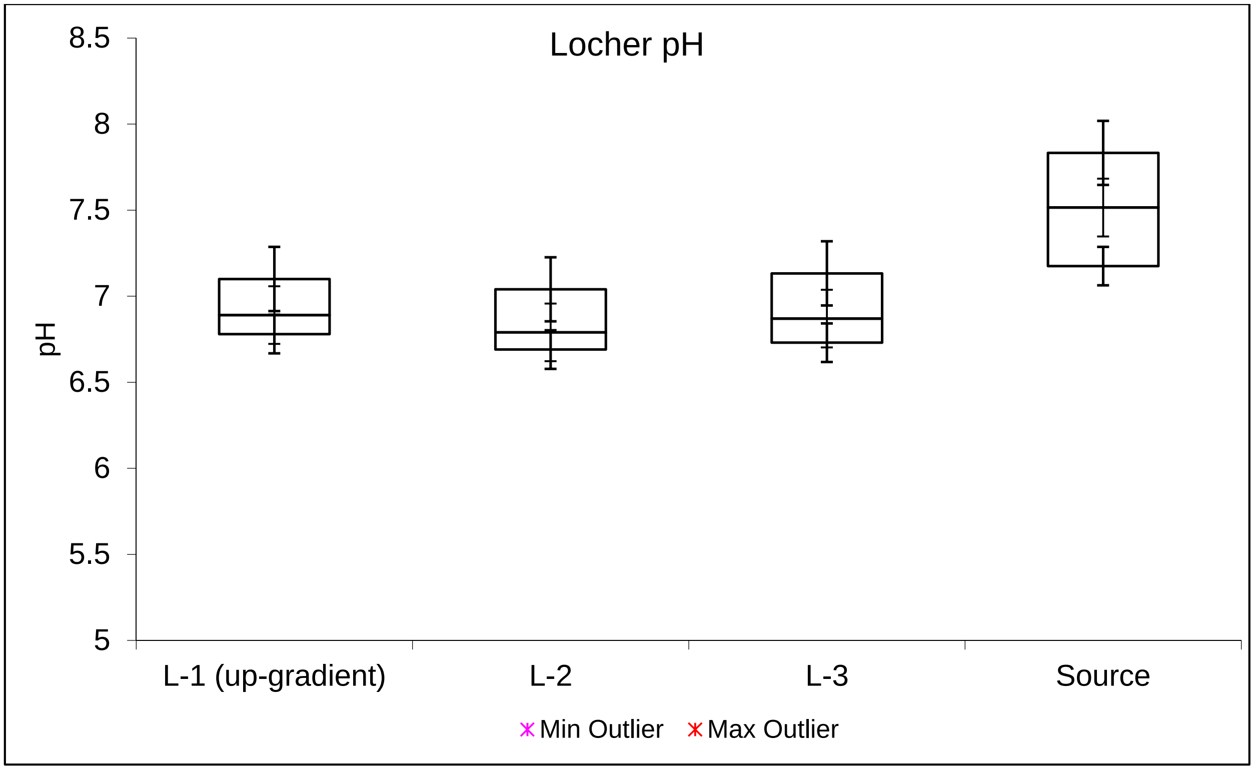

Figure C-11. Locher Road pH box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

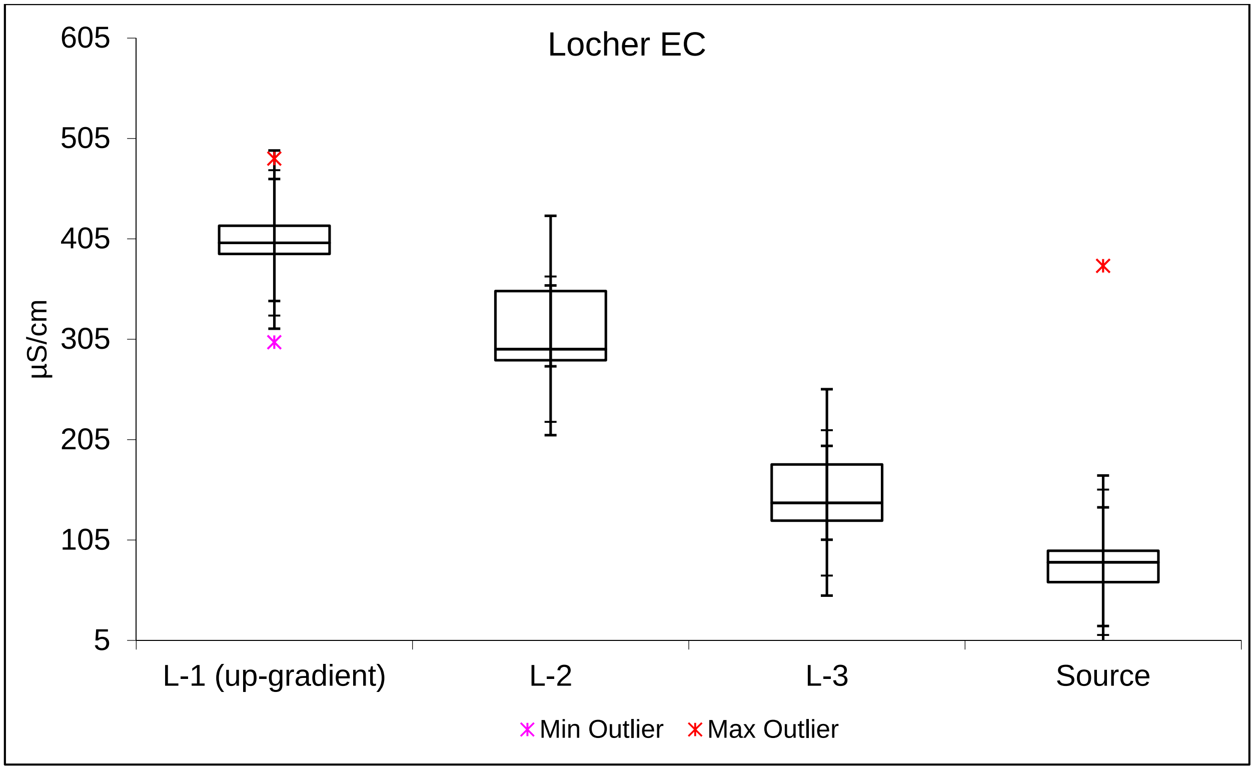

Figure C-12. Locher Road EC box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

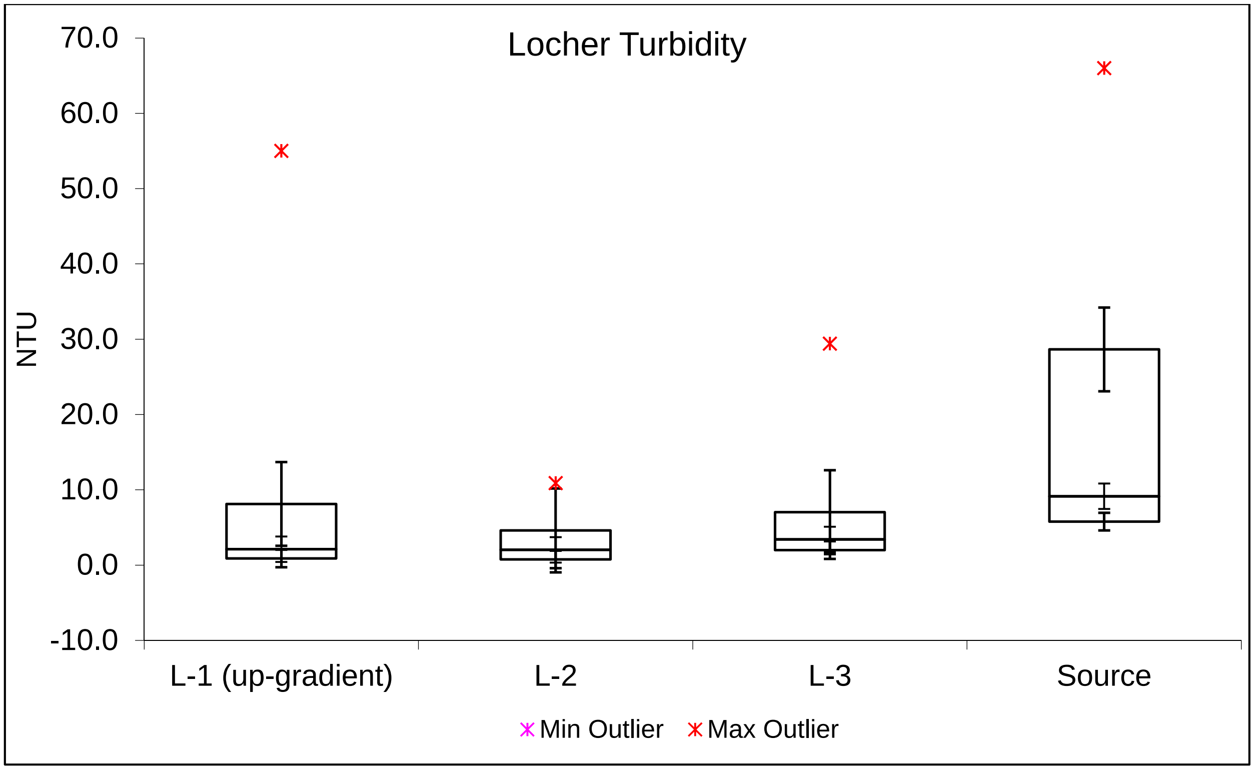

Figure C-13. Locher Road turbidity box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

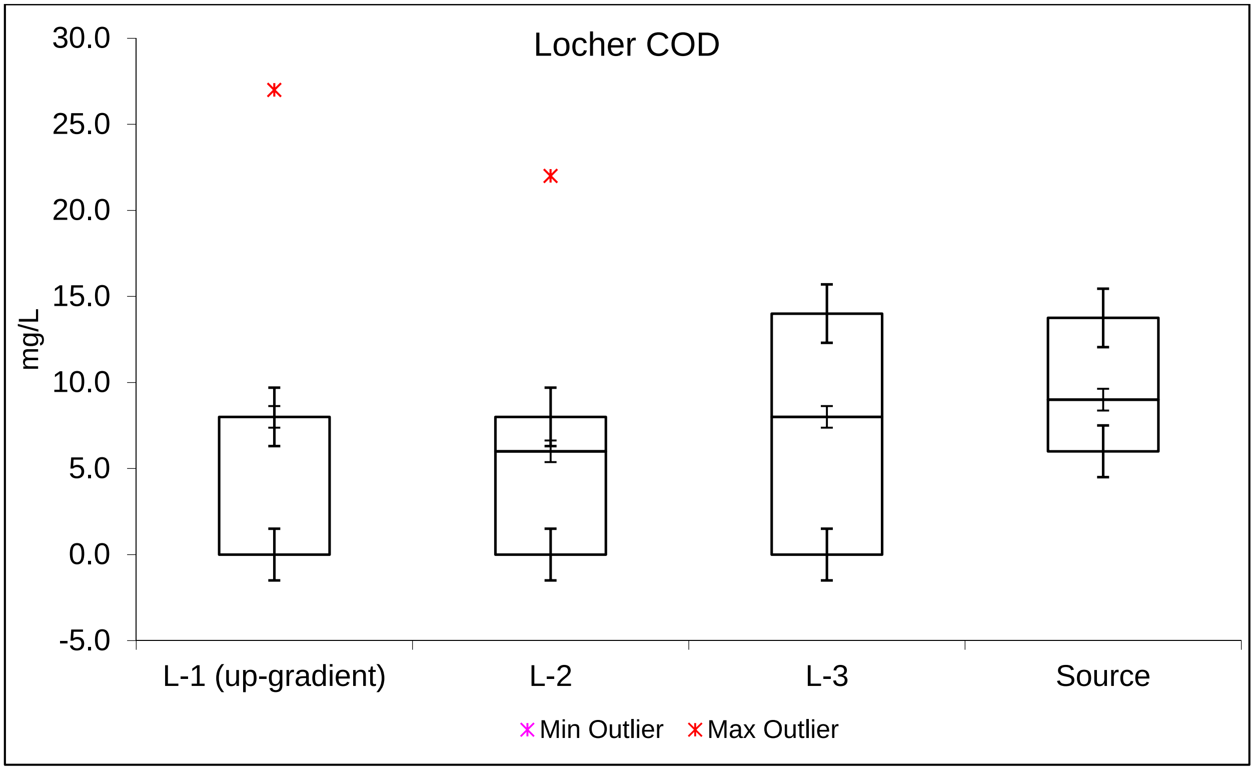

Figure C-14. Locher Road COD box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

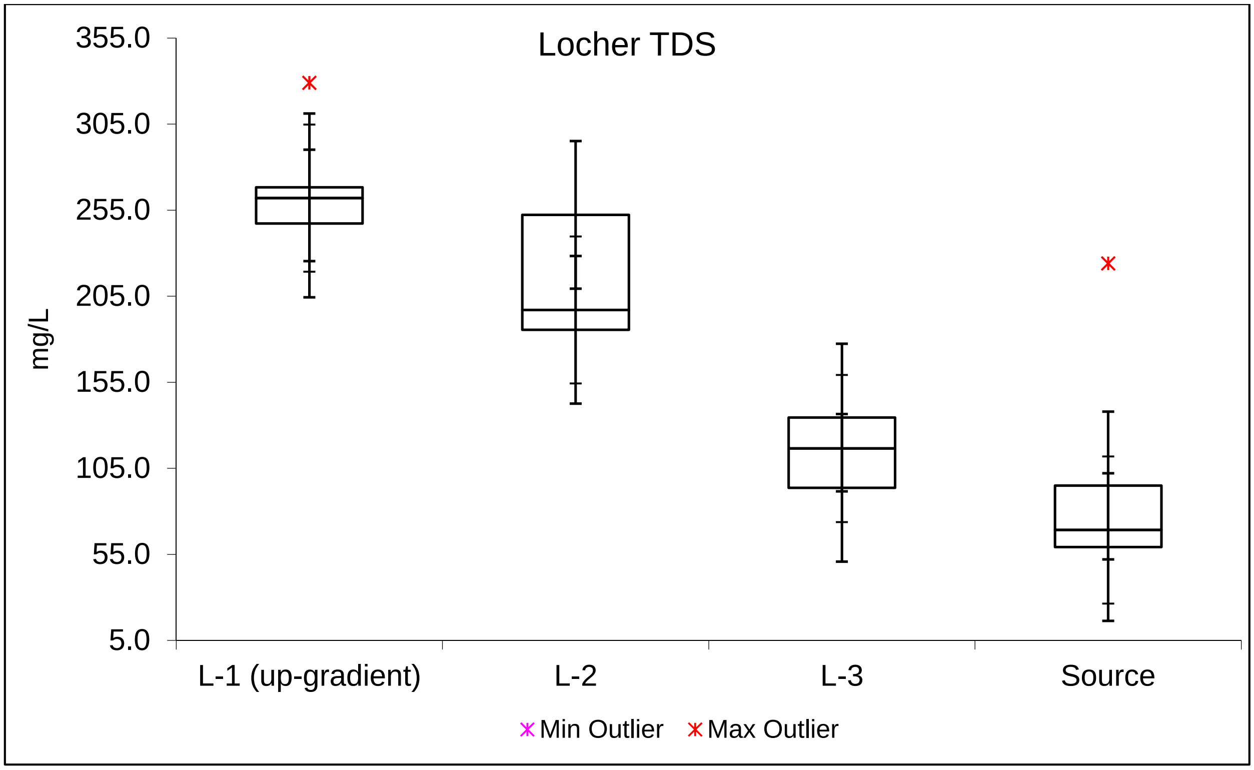

Figure C-15. Locher Road TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

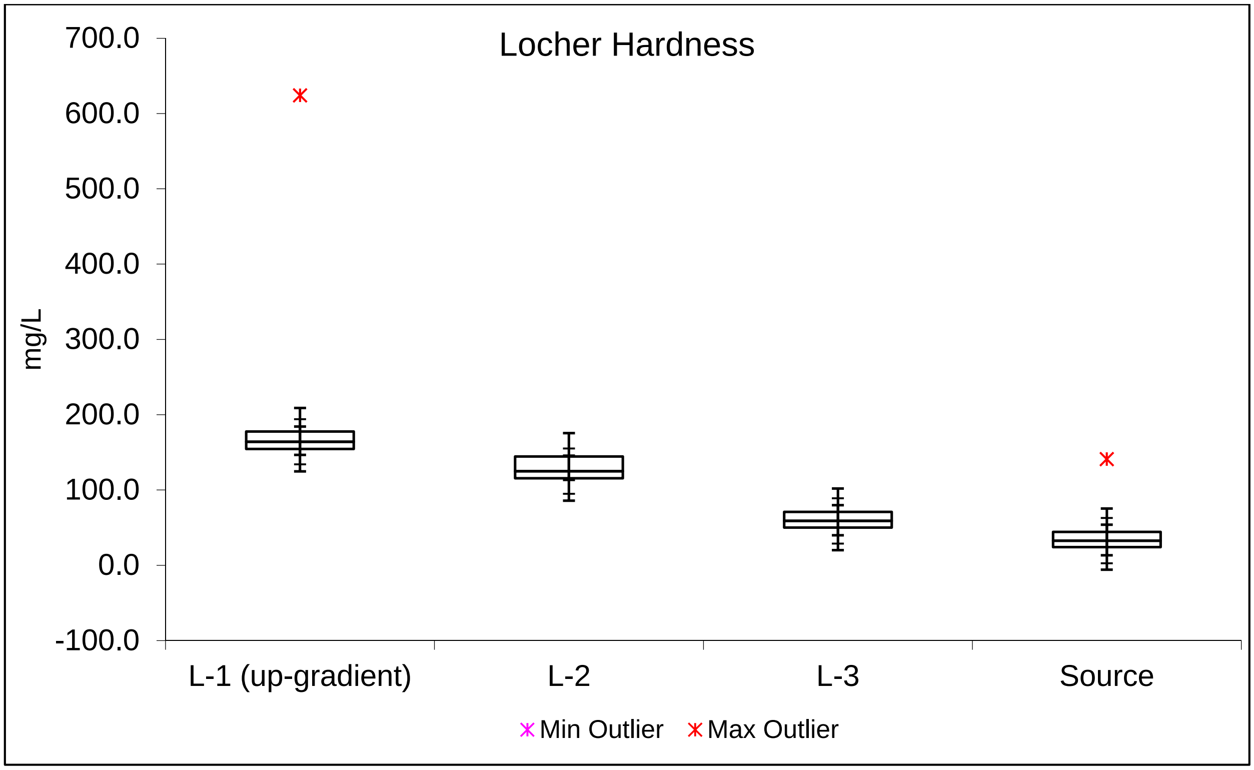

Figure C-16. Locher Road TDS box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

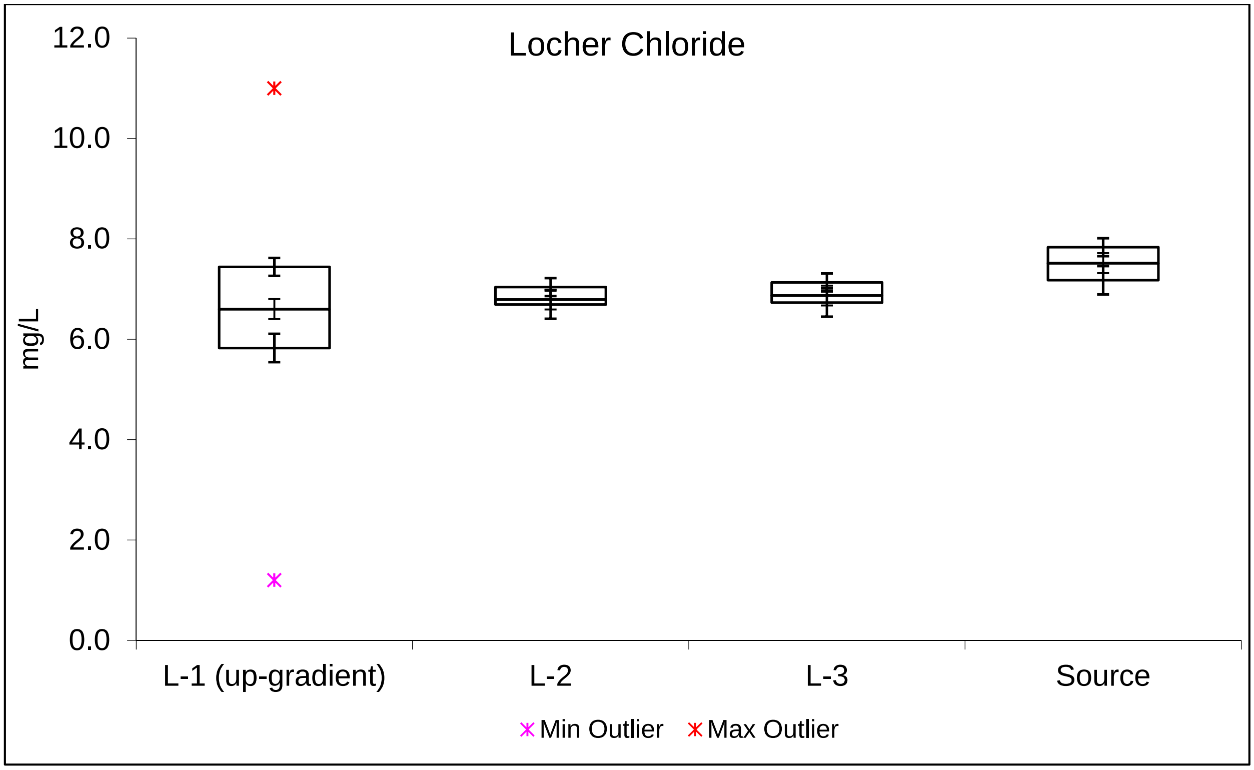

Figure C-17. Locher Road chloride box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

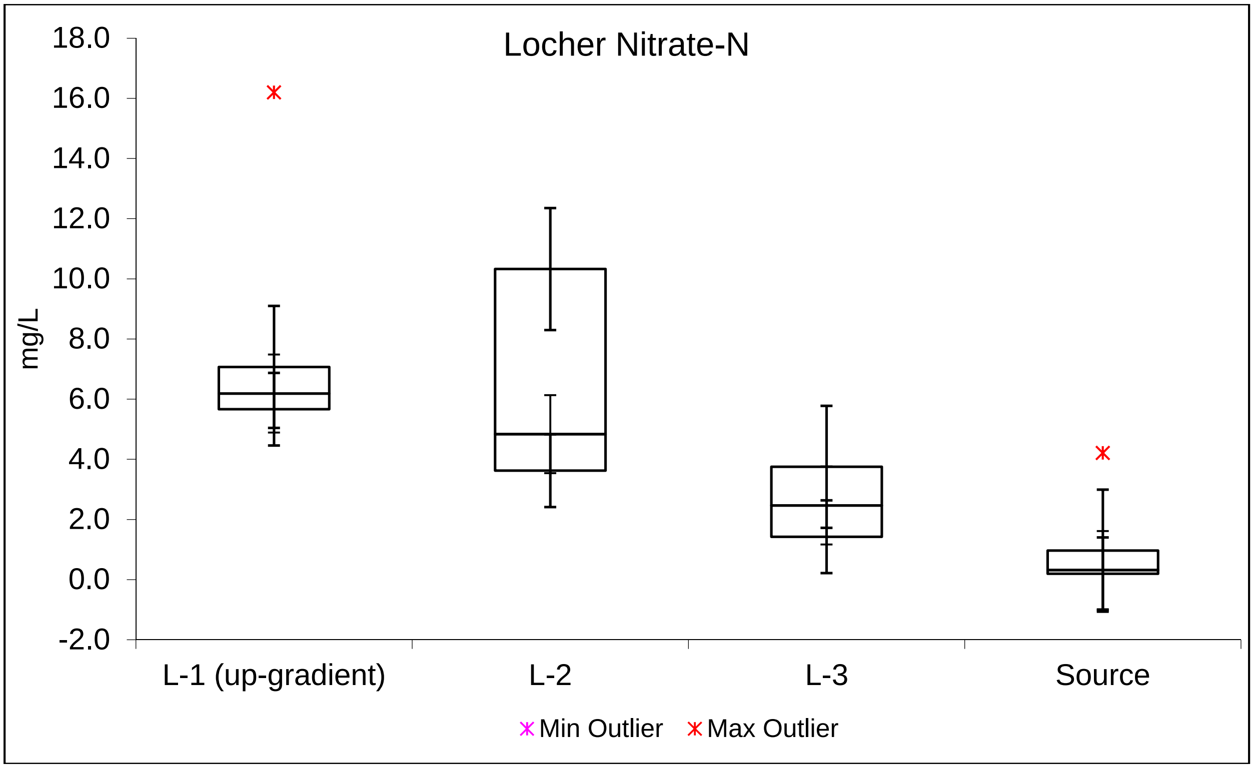

Figure C-18. Locher Road nitrate-N box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

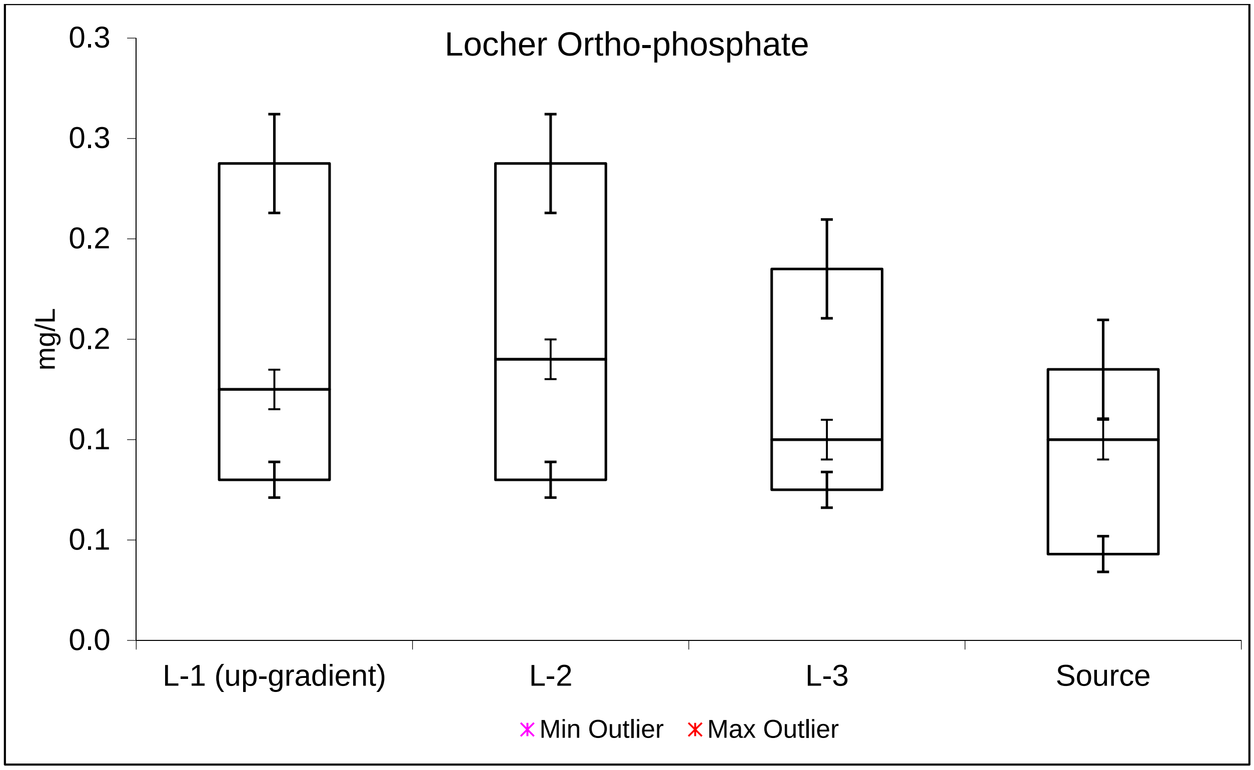

Figure C-19. Locher Road ortho-phosphate box-plot comparison displaying standard error bars for the median, upper and lower interquartile ranges.

Appendix D

Stiller Pond Data Comparison Histograms

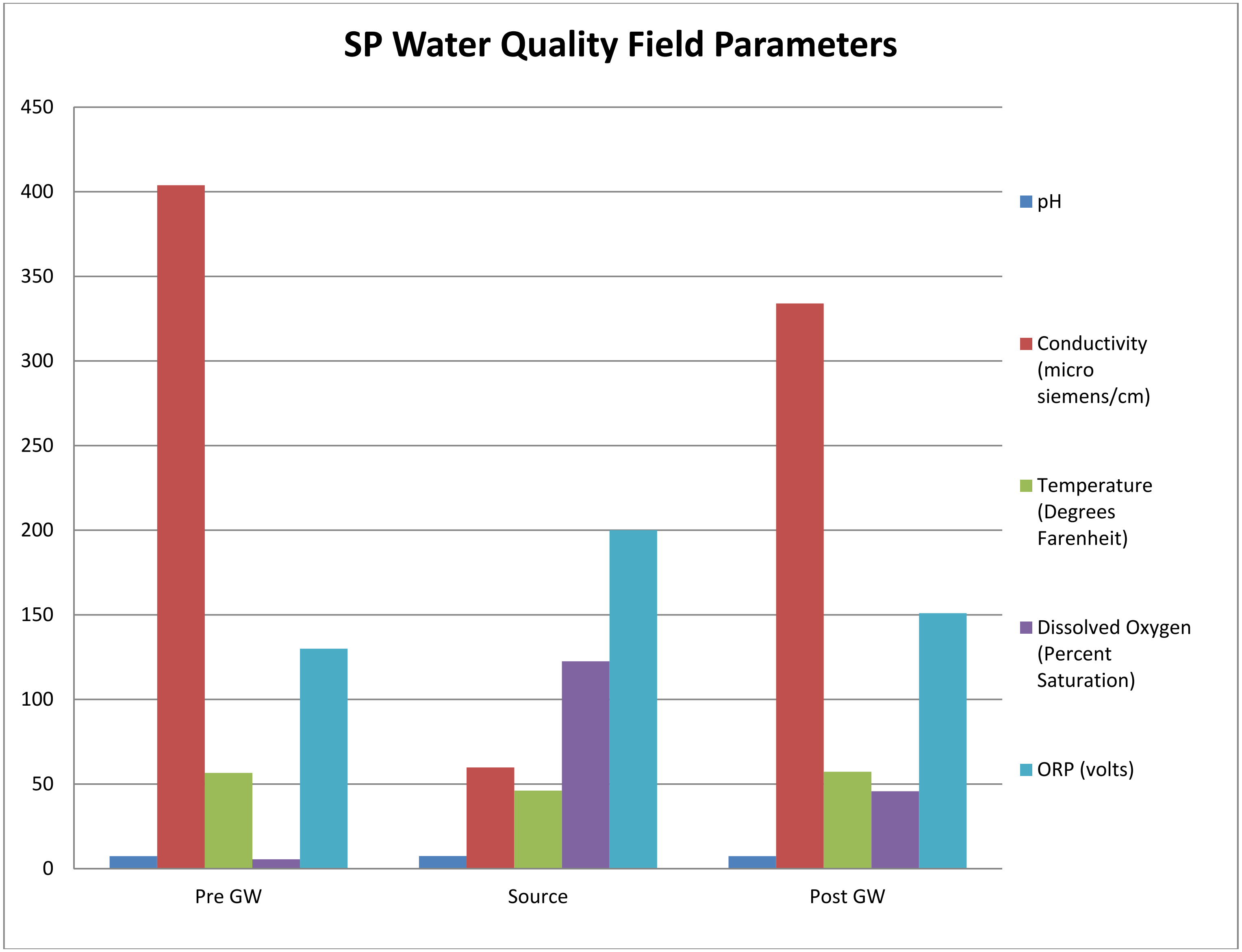

Figure D-1. Stiller Pond field parameters. Pre GW = pre-recharge groundwater sample; Source = recharge source water sample; Post GW = post-recharge groundwater sample. All groundwater samples were collected from monitoring well MWSP-1.

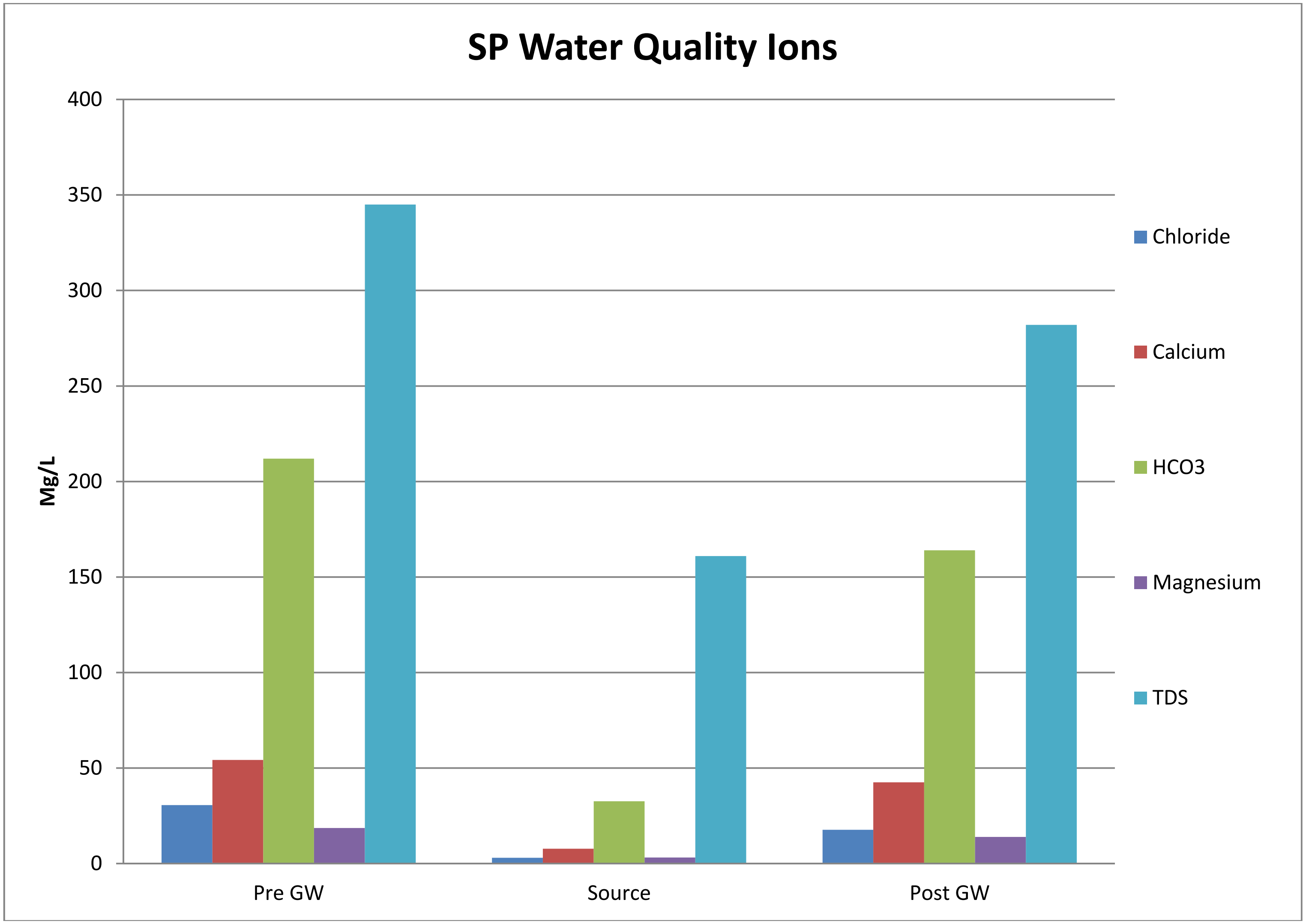

Figure D-2. Stiller Pond water quality ions. Pre GW = pre-recharge groundwater sample; Source = recharge source water sample; Post GW = post-recharge groundwater sample. All groundwater samples were collected from monitoring well MWSP-1. TDS = total dissolved solids.

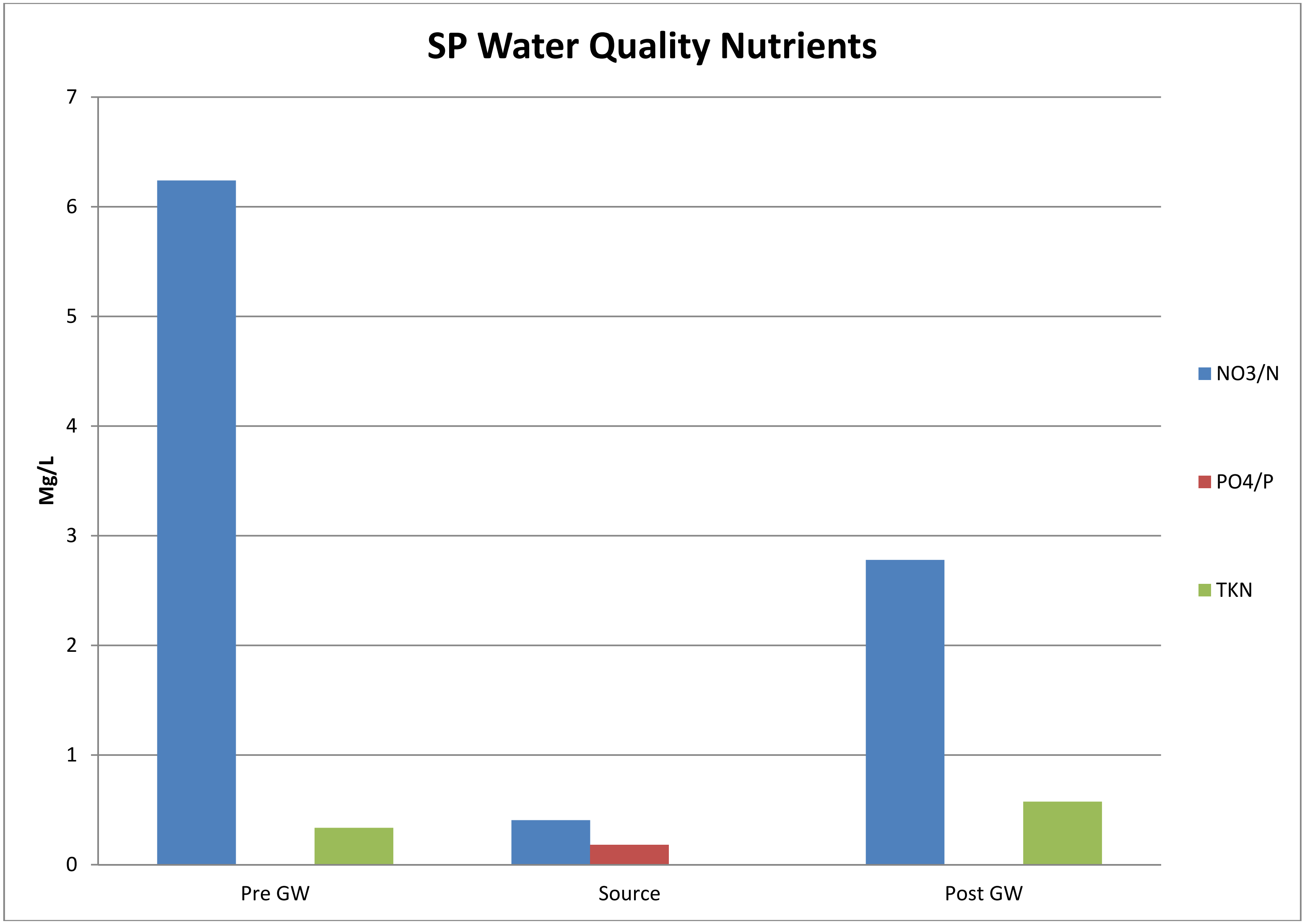

Figure D-3. Stiller Pond water nutrients. Pre GW = pre-recharge groundwater sample; Source = recharge source water sample; Post GW = post-recharge groundwater sample. All groundwater samples were collected from monitoring well MWSP-1. TKN = total Kjeldahl nitrogen.